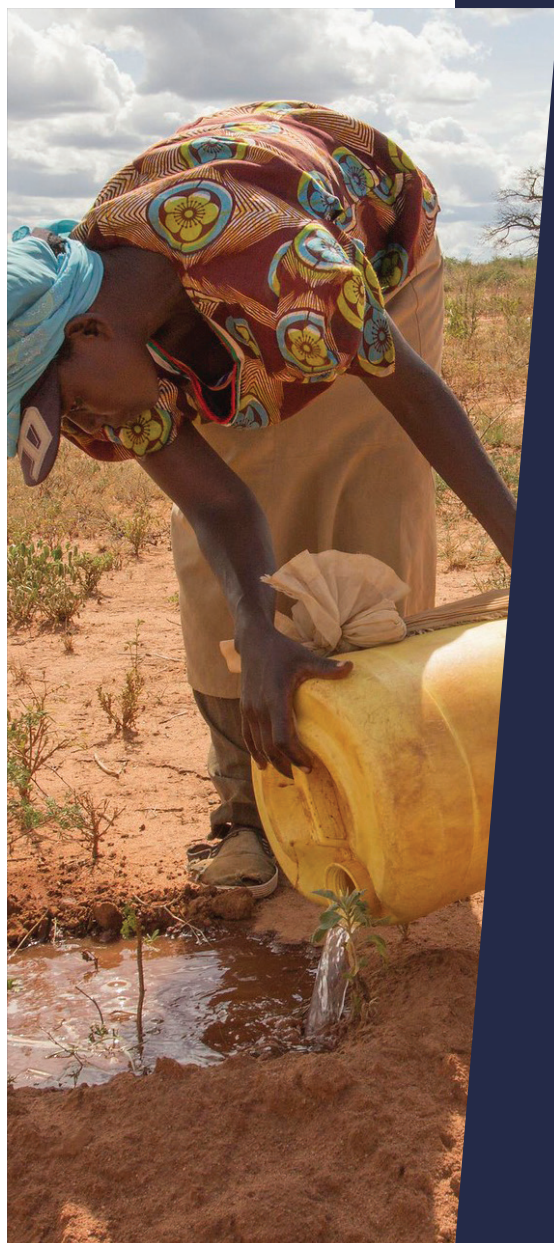# Her4Climate

A women-centered tool for assessing responses to climate impacts in cities

Cities Alliance
Cities Without Slums

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CONTENTS

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ABOUT THE TOOL

Her4Climate is a participatory assessment tool developed by Cities Alliance in collaboration with Arup to mainstream gender considerations in climate adaptation. Designed primarily for international development practitioners, in-country facilitators, government representatives and urban professionals, this tool is centred on the knowledge and capacities of women in urban areas, providing a framework for understanding women's exposure and their capacity to respond to climate change in urban areas, including the identification of key climate impacts that require action, and the level of climate adaptability in the future. The tool also aims at promoting women's participation, leadership, and empowerment in the design and management of climate adaptation initiatives (i.e., strategies, policies, action plans, interventions).

Her4Climate was developed through a phased process of desk-based research and consultations with key informants, considering both literature on, and experts in, climate change, urban development, gender, social inclusion, informality, and disaster risk reduction in urban areas.
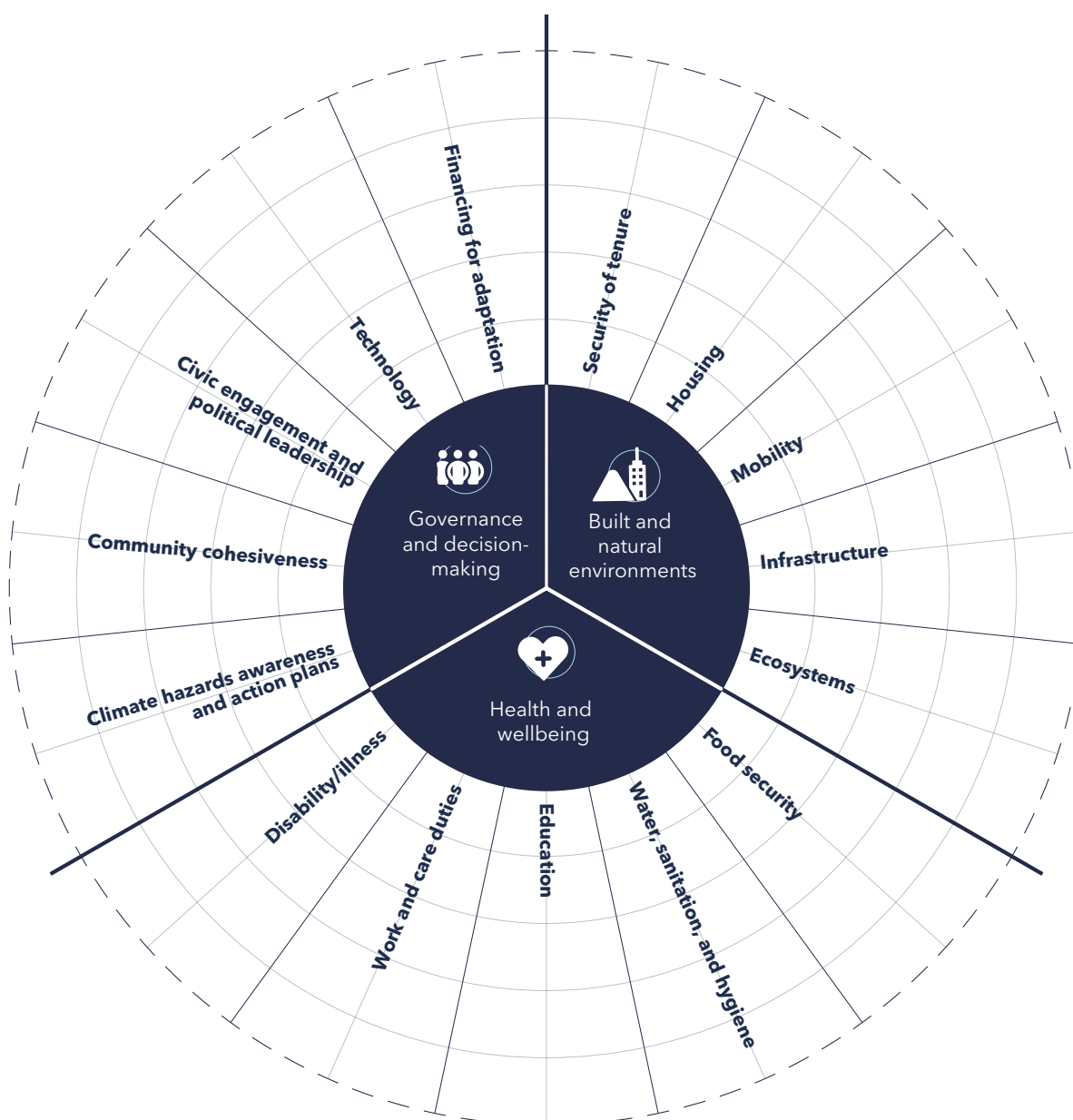
WHY GENDER MATTERS IN CLIMATE ADAPTATION IN CITIES

Cities are on the frontline of climate change. Dense networks of people and infrastructure make them highly vulnerable to cascading damage. Cities house the majority of the global population.[1] They generate 80 per cent of GDP,[2] and they face many stresses, among them rural-urban migration, social exclusion, rising seas and the urban heat island effect, which interact with and compound climate hazards.

The frequency and scale of climate events are increasing in cities globally.[3] Around the world, heatwaves, unpredictable climate cycles and extreme weather are growing in significance. Climate events can destabilise food and water supplies, cause the failure of critical infrastructure and displacement, and can disrupt livelihoods. The damage is enormous. By 2050, drought, flooding and coastal erosion will cost cities nearly $200 billion per year,[4] and an estimated 800 million people in 570 cities will be at risk of rising seas.[5]

The impacts associated with climate change vary from one country to another, from one region to another, within the same community, and through time. They depend on the combination of natural and human factors. They can be sudden/short-term climate events, such as floods and storms, and gradual/long-term events such as changes in water/soil salinity. Short-term events tend to have a severe, immediate impact on the wellbeing of women, where in long-term events people are more willing and able to adapt in situ.[6]

Some of the key climate events affecting urban contexts today include:

INCREASED TEMPERATURES

Rising temperatures are a well-recognised impact of climate change. Cities will face even higher temperatures due to the urban heat island effect (UHI), whereby buildings and infrastructure 'pull' heat in, turning cities into 'islands' of higher temperatures than their surroundings. By 2050, urban heat island warming could be half that of regular climate-related warming.[7] For instance, a city that experiences two degrees of climate-related warming could see an additional one degree warming due to UHI. High temperatures in combination with high levels of humidity, or strong winds are detrimental for human health. The severity of this impact also depends on the duration of the high-temperature events.

DROUGHT

Warmer weather and changing rainfall patterns can dry out soils and vegetation and affect ecosystems. Drier weather can reduce renewable surface water and groundwater resources. In fact, almost 5 billion people (and approximately half of global grain production) could be at risk due to water stress by 2050.[10] Cities are exposed as burgeoning populations exert immense pressure on food and water systems. In 2014, an estimated one-in-four cities were already water stressed.[11] By 2050, an estimated 2.5 billion city dwellers could see their food supply threatened by climate change.[12] Key factors to consider are the duration of drought events and their spatial extent. The longer they last, and the bigger area they cover, the greater risk they impose for human and environmental health.

FLOODING

Climate change is increasing flood risks around the world. Flooding can be fluvial, coastal and pluvial. In most places, heavy precipitation will become more frequent and intense with additional global warming.[8] In cities, a high proportion of paved surfacing and pressure on drainage systems can lead to increased surface runoff and limited absorption capacity. At the same time, an estimated 800 million city dwellers will be at risk of rising sea levels by 2050.[9] The severity of flooding events depends on its extent, flow rate and depth.

WINDSTORMS

Strong windstorms are subject to warmer sea temperatures. Tropical cyclone intensities globally are projected to increase on average by 1 to 10 per cent according to model projections for a 2 degrees Celsius global warming. Stronger hurricanes will be far more costly in terms of damages and deaths without action to make coastal (and inland) areas more resilient. Wind disasters in the United States cost the country 160 billion USD between 1980 and 2019.[13] They are responsible for destroying buildings and structures, killing plants on their paths, and inducing respiratory diseases in humans.

The list of potential short- and long-term climate events is much longer, and it depends on the specific location. Some of the other climate-related hazards include: heatwaves, forest and wildfires, fluvial flooding, pluvial flooding, coastal flooding, storm surges, cyclones, hail, frost, heavy fog, snowfall, convective wind gusts, tornadoes, black ice and freezing rain.

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Climate change related hazards can have a variety of direct and indirect consequences for society. Their impact on society depends on how society is structured, organised, and geographically located. They impact a vast range of sectors, and can have both local and transboundary impacts. Compound or cascade events occur when multiple events overlap. For instance, windstorms can also cause different types of flooding. Importantly, their impact depends on the vulnerability of social and environmental contexts.

The impacts of climate events are exacerbated in resource-restricted and otherwise fragile urban areas and groups. Climate impacts in these areas fall disproportionately on certain vulnerable or marginalised groups, including ethnic minorities, displaced people and women. This is because climate events compound with other challenges facing these groups, including discrimination, multidimensional poverty, insecure land tenure, inadequate basic services, and limited say in decision making, all of which reduce their ability to cope with the impacts of climate events.[14]

Governing climate change adaptation and building resilience in urban areas takes place at the local, regional and national levels, and across time, and is as effective as it is able to integrate complex interactions between human and natural systems. The more integrated these complex interactions between human and natural systems are, the more effective the governance will be.

Women's vulnerability to climate effects in cities

Women are especially vulnerable to climate hazards because they face a range of unique barriers, such as gender-based violence and unpaid care work, limited control of assets, and unequal participation in private and public decision-making.[15] Women make up the majority of climate-related deaths[16] and displacement.[17] There is growing evidence that women bear the brunt of climate-related security risks in urban areas.[18] For instance, eighty per cent of people displaced by climate change are women.[19]

At the same time, women living in vulnerable urban areas are resourceful and resilient. Often, women are stewards of household and natural resources. They have intimate knowledge of local contexts, usually sitting at the heart of diverse social networks. In this way, women become 'gatekeepers' for community-led climate action.[20]

There is a lack of evidence on gender-related impact of climate change in cities. The current lack of gender-disaggregated data prevents gender from being integrated into existing and new climate initiatives. There is a need to build a strong evidence base that would compel decision-makers to make gender-sensitive climate action a priority. More tangible evidence is urgently needed on the gender inequalities of climate change, and the effects of addressing gender and climate issues in a coherent way.

It is important that climate actions and responses are developed with the meaningful participation, knowledge, and interpretation of women. Decision makers and practitioners need to understand how women are impacted by climate hazards, in order to adopt measures that address women's priorities and specific needs. Also, rather than focusing only on women's vulnerabilities, women should be featured as key actors and agents of change, as important stakeholders in contributing to climate adaptation responses. Climate solutions need to be designed and implemented with women through a participatory approach and support their leadership at community level. To date, however, little guidance and tools exist to do this.

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Gender-transformative climate adaptation

The gender dimension of climate change is increasingly recognized under the United Nations Framework Convention on Climate Change (UNFCCC).[21] The UNFCCC helps eliminate gender disparities through the recognition of gender equality and women's empowerment, guiding principles under the Paris Agreement.[22] Furthermore, all the main climate financing institutions—the Green Climate Fund (GCF)[23], the Climate Investment Funds (CIF)[24], the Adaptation Fund (AF)[25], and the Global Environmental Facility (GEF)[26] —have gender strategies guiding their portfolio investments.
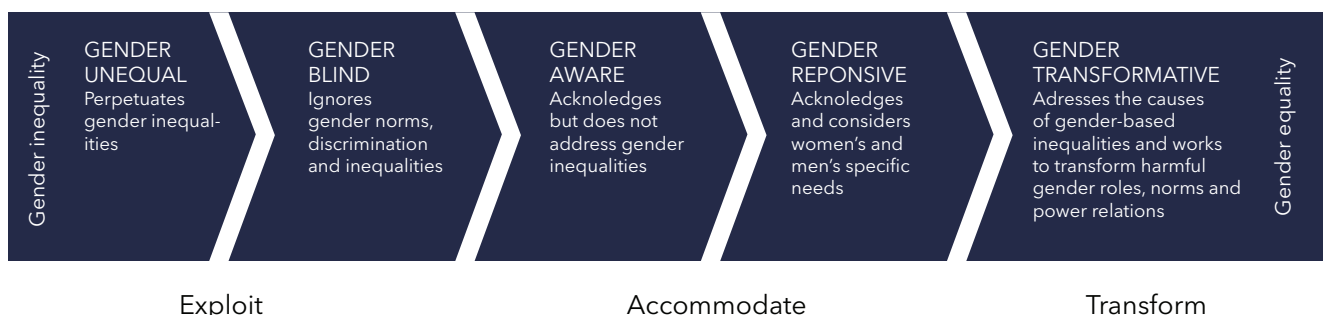
Gender equality exists when all people enjoy equal rights, opportunities, and responsibilities. It is a human right and a prerequisite for sustainable development, as acknowledged under Sustainable Development Goal 5 (SDG 5) of the 2030 Agenda for Sustainable Development.

Climate actions can become gender-transformative by considering and acting upon differences between the conditions, situations, and needs of women and men in every step of implementation. This systematic process is known as gender mainstreaming and must start with baseline generation and participatory design processes. The diagram below shows the gender spectrum according to UNICEF.[27]

Gender mainstreaming in climate strategies advocates for the recognition of gender differences in climate adaptation needs and capacities, gender-equitable decision-making processes and strategies. For instance, it includes un-biased discussions of division of labour in disaster responses, for sensitive approach against gender-based violence in all its forms, for seeing women as not only mothers and carers, but also as landowners, workers, and climate-adaptation knowledge-holders.[28] This approach leads to the prevention of gender-based violence, to equitable resource distribution and strong commitment to empowering strategies for women. Gender mainstreaming ensures that women's rights and needs are addressed and that inequitable gender relations are challenged in short- and long-term climate change events.

The gender continuum

| Gender inequality | GENDER UNEQUAL Perpetuates gender inequalities | GENDER BLIND Ignores gender norms, discrimination and inequalities | GENDER AWARE Acknowledges but does not address gender inequalities | GENDER REPONSIVE Acknowledges and considers women's and men's specific needs | GENDER TRANSFORMATIVE Adresses the causes of gender-based inequalities and works to transform harmful gender roles, norms and power relations | Gender equality |

Exploit   Accommodate   Transform

Adapted from UNICEF (2020), Gender Dimensions of Violence Against Children and Adolescents, page 15 (https://www.unicef.org/media/93986/file/Child-Protection-Gender-Dimensions-of-VACAG-2021.pdf)

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HER4CLIMATE TOOL

Her4Climate is a rapid assessment tool designed to help mainstreaming gender considerations in climate adaptation in cities. Its application helps to:

1. Understand key climate hazards in target urban areas, as well as their gender implications, and women responsive capacity.

2. Inform the design and management of gender-responsive climate adaptation policies, strategies, action plans and pilot interventions in cities.

The **Her4Climate** identifies the main dimensions and factors through which women's exposure, sensitivity and adaptive capacity to climate change events becomes visible and actionable. The tool examines the short- and long-term climate impacts through the lens of three **dimensions**, essential for the understanding of women's and city's gender-transformative responses:

- Health and Wellbeing
- Built and Natural Environments
- Governance and Decision-making

The framework further identifies **a series of factors** within each dimension. These factors guide the assessment and enable users of the tool to understand how differences in gender roles, needs and opportunities affect the exposure, sensitivity and adaptive capacity of women to climate change in a given context or situation. The factors help users of the tool to address the gaps that exist in relation to gendered norms and power dynamics, therefore leading to gender-transformative climate action. For example, assessing these factors might reflect the gendered gaps in access to education, job opportunities, health services, or other areas, and the associated differences in climate impacts or responsive capacity.

The assessment, therefore, indicates where actions may be required to close these gaps, ensuring equal access to opportunities and benefits resulting from climate action. Strong support and gender-responsive spatial and policy interventions can help women to better adapt to climate impacts and to therefore improve the adaptive capacity of cities as well.

Dimensions

BUILT AND NATURAL ENVIRONMENTS

Climate change can impact women's health and wellbeing in multiple ways, such as an increase in water-borne diseases due to rising water levels, higher rates of malnutrition due to food shortages, increase in heat-related mortality and morbidity or an increase in respiratory diseases where air pollution worsens. For instance, heatwaves expose women to greater risks of heat stress.[29] Drought and water scarcity increase the time spent collecting water (a burden that falls overwhelmingly on women),[30] while decreasing time for education and employment.[31] Flooding and storms damage health and education facilities, disconnecting women from essential services.[32]

HEALTH AND WELLBEING

Any discussion on the impacts of climate change on daily life must inevitably draw attention to the built and natural environment, referring not only to buildings, streets, infrastructure, land ownership and natural resources, but also to the people acting on them. The emphasis on the built environment arises from the argument that "natural disasters" are not as natural as they may first appear, as there are significant human-induced aspects to such events. Also, these factors have a high impact on women's vulnerability in relation to climate effects and events: women's roles are often connected to the household and land, and can be directly dependent on the natural and built environment conditions in which they are situated or relocated.

GOVERNANCE AND DECISION-MAKING

Women's actions and insights are often side-lined in climate discussions and decision-making. For instance, women are underrepresented at UN COP events.[33] In 2020, just 15 per cent of environment ministries in 187 countries were led by women[34], and only 20 per cent of mayors around the world were women. Only a small proportion of climate finance includes gender equality as a main objective.[35] This is despite the fact that improving gender equality is shown to improve environmental governance and strengthen climate resilience.[36] At community level, women also generally have limited involvement in leadership and decision-making, and their participation in formal or informal consultations is limited. When women are not consulted, they can feel the effects in material ways: housing affects all household members, and when decisions are made by a single male member it may mean sub-standard shelter for all, with implications for vulnerability and adaptation to climate extremes.
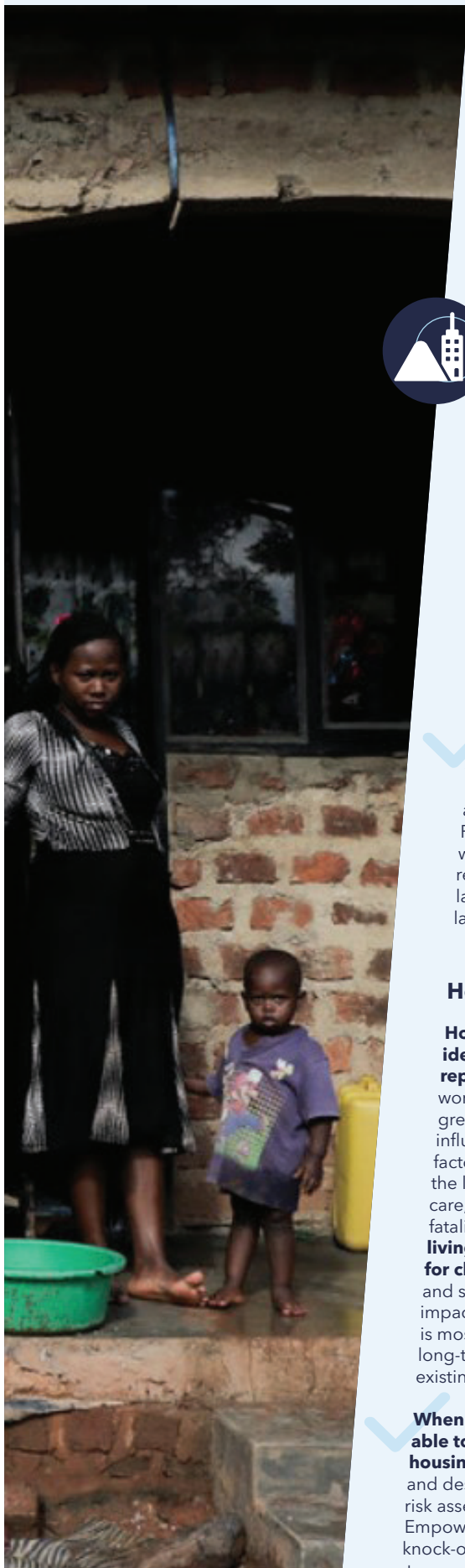
Factors

The following section describes factors listed within each of the three dimensions. **Factors represent areas that directly contribute to women's and city's preparedness for, and responses to, climate change effects and related hazards.** Therefore, factors help in identifying zones where strong support and relevant interventions can help women to better adapt. When assessing women's adaptive capacity to climate impacts, users should refer to the following descriptions for understanding key challenges, as well identify possible solutions and related benefits.

BUILT AND NATURAL ENVIRONMENTS

Security of tenure

Women are disproportionately impacted by climate change and climate shocks when they have weak land tenure.[37] Inheritance laws, lack of land-rights, customary and cultural practices and insufficient financial resources are just some of the constraints that women face in relation to security of tenure. **Currently an estimated 1 billion women living in urban areas cannot access secure tenure,**[38] which increases their vulnerability to climate hazards. Land rights and secure tenure create a foundation for women to develop resilience to climate impacts, which in turn supports their families and communities. Secure land tenure in this way also supports food security, economic resilience, and women's ability to connect to governance systems and achieve political and economic recognition.

Women with secure tenure and home ownership enjoy a range of rights and freedoms over those who do not. They have greater economic opportunity, are more likely to engage with government authorities, and face fewer risks of exploitation and violence.[39] Following a climate event, secure tenure reduces the likelihood that women are permanently displaced – because they have a property to return to and the means to improve its resilience. Innovative strategies in land tenure systems that favour women's access to land (e.g., collective land titles) are critical for climate adaptation.

Housing

Housing forms the basis of a safe environment, belonging and identity, mental and physical health, and economic livelihoods and representation. Housing is also essential for climate resilience, with women living in poorly constructed and rudimentary housing having far greater sensitivity to climate hazards. Socioeconomic status has a large influence on the survival rate of a climate event, and housing is the key factor within this.[40] With less than 40 per cent of women participating in the labour force globally, and 21.7 per cent of women providing full-time care, women and children are most often the victims of housing-related fatalities since they have to spend more time at home.[41] Therefore, **women living in formal, high-quality and stable housing are better prepared for climate shocks**. More resilient housing can better withstand flooding and storm surges. And more spacious, ventilated housing reduces the impact of increased temperatures. When climate events destroy housing, it is most often replaced by more expensive housing developments, leading to long-term displacement and housing insecurity. Upgrading the resilience of existing housing pre-climate event can therefore mitigate this effect.

When women take the lead through collective action, they are more able to design locally relevant, gender-sensitive, and climate-resilient housing solutions. When women are provided with support, technology and design knowledge, they are better able to undertake vulnerability and risk assessments, and undertake effective upgrading of housing supply.[42] Empowering women to take the lead on improving housing can also lead to knock-on effects on greater participation in wider governance decisions and demand for improved services.
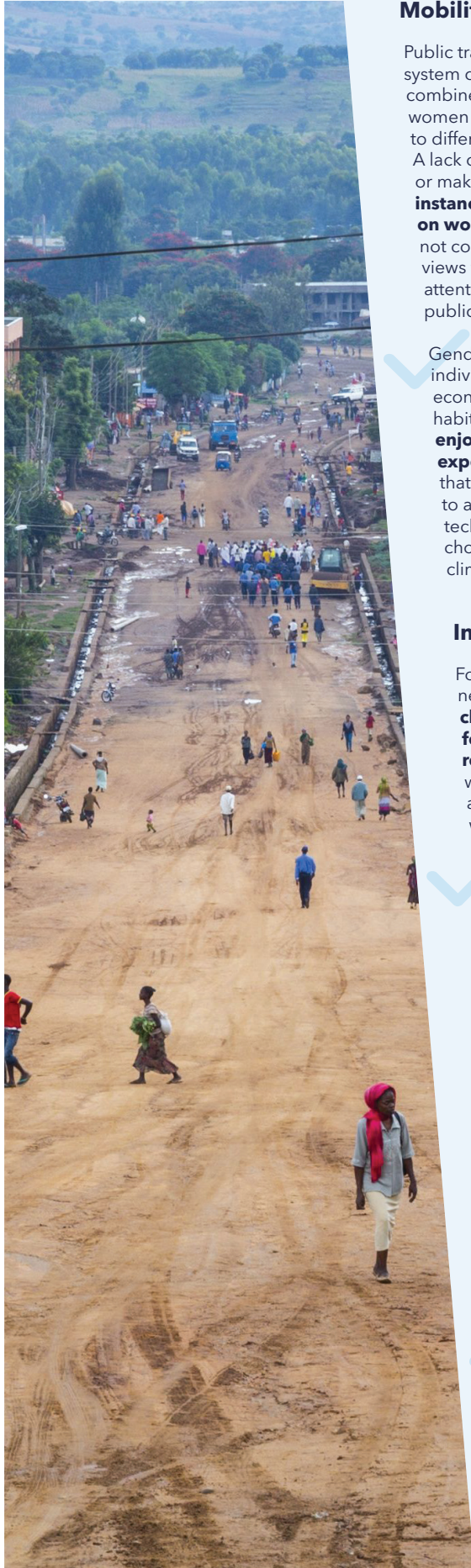
Mobility

Public transport is designed along inflexible trunk lines and schedules. Such system cannot meet the complex patterns of mobility of women who must combine their caring role with their income activities. For example, in most cases, women are responsible for accompanying their children (and other dependents) to different locations including day-care centres, school or leisure activities. A lack of mobility options leaves women with few options other than to walk or make cumbersome and dangerous journeys. **Climate change effects (for instance, flooding or increase in temperatures), have a significant impact on women's mobility challenges**. Despite this data, mobility plans often do not consider the needs of women and girls, and consequently neglect their views for safety, security and comfort. Beyond physical infrastructure, specific attention needs to be given to gender-based violence and harassment in public transport.

Gender-transformative transport strategies need to be developed for individual locations because of the multiple and varying cultural, social, economic and topographical factors that shape mobility infrastructure and habits. **Women with access to reliable and high-quality mobility options enjoy a range of economic and social opportunities, and are less exposed to climate impacts, crime and violence**. Good mobility networks that withstand climate hazards can help women evacuate, for instance to avoid rising flood levels. Flexible and adaptable mobility networks, technologies and strategies have the power to support communities that choose in situ adaptations over migration, in case of gradual/long-term climate events.[43]

Infrastructure

For purposes of this tool, infrastructure is defined as a set of different networks that enable the flow of people and services. For example, **climate events can significantly impact the availability of energy for cooking and heating, which is predominantly seen as women's responsibility**. This leads to the transition to traditional fuels (such as wood, charcoal, agricultural waste), that may cause indoor air pollution and affect the health of women and children. Household air pollution was responsible for an estimated 3.2 million deaths per year in 2020, including over 237 000 deaths of children under the age of five.[44]

Infrastructure is important for women's access to services, development and livelihood opportunities and for their resilience. Where women are surrounded by **robust critical infrastructure** that remains operational following a shock, they can go about their lives largely uninterrupted. Furthermore, when **infrastructure is resilient** to long-term effects of climate change, it is able to provide safe and secure access and control over resources to women.

Ecosystems

Nature plays a pivotal role in climate resilience, but women's access to nature (green and blue spaces) have been reduced overtime, especially in vulnerable contexts. Furthermore, due to their roles in using resources like wood, water, forest products, and subsistence agriculture, women have a unique understanding of the natural resources and hold a disproportionate share of responsibilities for resource procurement and environmental maintenance. Yet they have limited formal rights and political and economic means to determine the future of resource availability and environmental quality.[45]

Studies have shown that where women live near green space and nature-based defences like mangroves, the impacts of climate events are reduced. In turn, women's sensitivity to climate shocks decreases. Building on this, nature provides a diverse range of benefits that extend beyond climate resilience. It is important to take gender-differentiated approaches to management of natural resources, as this can make adaptation interventions more sustainable and cost-effective. Also, a growing number of studies demonstrates the importance of gender-transformative approach to nature-based solutions for climate adaptation.[46]

HEALTH AND WELLBEING

Food security

Women have a greater role than men in natural resource management and ensuring nutrition, particularly in vulnerable urban contexts: they grow, process, manage and market food and other natural resources, raise livestock, manage vegetable gardens and collect fuel and water.[47] **Climate hazards decrease access, stability, and quality of food systems**. For low-income households already experiencing food insecurity, the impacts are severe. Female-headed households often have a higher likelihood of food insecurity,[48] making them highly sensitive to an increased frequency of drought and flooding in particular.[49]

To effectively adapt to climate change effects and related hazards, women should be entitled to easily access credit and agricultural extension services, receive incentives to engage in environmentally sustainable farming practices, and make long-term investments in land rehabilitation and soil quality. Their food-related knowledge should be integrated in decision-making and strategizing. Reinforcing women's solidarity networks is seen as critical to increasing their resilience and adaptive capacity to climate change effects.[50]

### Water, sanitation, and hygiene (WASH)

Climate events affect the availability of water for domestic and productive tasks, and can disconnect women from good sanitation and hygiene facilities, exposing people to health risks. Women pay the heaviest price because they are responsible for managing water at the household level, particularly in vulnerable urban contexts.[51] For instance, in 80 per cent of households facing water shortages, women are responsible for collecting water.[52] Often, this involves cumbersome journeys with increased risks of exhaustion, harassment, violence and sexual assault. Time spent for water fetching influences the available time they could use for income generating activities, education, civic participation, etc. Degraded or non-existent sanitation increases sensitivity to a variety of diseases, and women face disproportionately high health risks compared to men.[53]

Women need to have access to resilient water and sanitation infrastructure, including diversified water supply (such as rainwater tanks and solar pumps) and drinking water points in proximity to the household. Sanitation capture and treatment options need to be approached systemically, on the community level. **These assets need to be functional during climate events and appropriate for the biophysical and cultural contexts**. Also, mechanisms must be put in place to manage and distribute water equitably and effectively, and reduce water-related conflicts during time of water stress (for example, women-led water governance groups). Women's perceptions and opinions need to be taken into account for WASH infrastructure design, evaluation and operation.

Education

Studies show that without urgent action, climate change will make it increasingly difficult to achieve a quality education for disadvantaged girls and young women. **During climate related shocks, families are more likely to withdraw children from school**.[54] Additionally, women with lower education are more likely to live in poverty, with fewer resources to sustain themselves and withstand climate shocks. Illiterate women are especially sensitive because they are less likely to communicate with decision-makers and understand climate-related information, for instance early warning alerts.
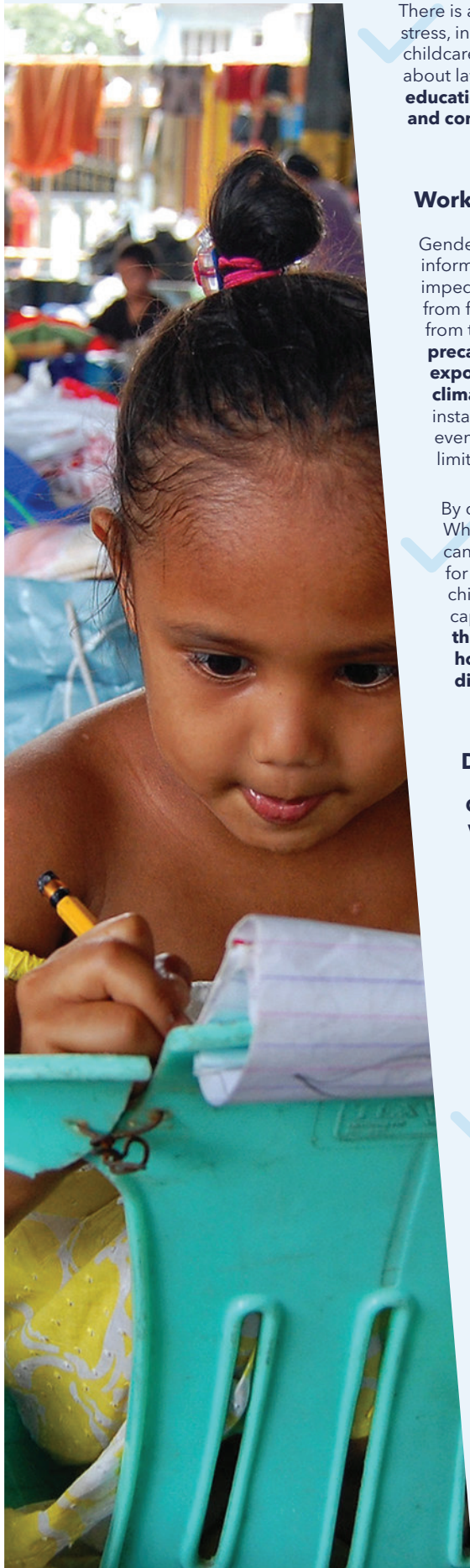
There is an urgent need to enable actions to help keep girls in school in times of stress, including practical measures to relieve burdens of household work and childcare responsibilities.[55] Education helps women to access the information about laws, policies, institutions and structures which govern their lives. **Through education, they gain confidence, self-esteem, and the skills to challenge and confront existing power structures and unsustainable livelihoods.**

Work and care duties

Gender gap in earnings exists across all employment categories, including informal and self-employed sectors.[56] Nine in ten countries have laws impeding women's economic opportunities, such as those which ban women from factory jobs, working at night, or getting a job without permission from their husband.[57] **Women concentrated in insecure, exploitative and precarious employment are less likely to earn a stable income, are more exposed to violence and harmful behaviours, and are more sensitive to climate shocks.** Furthermore, women in climate-dependent economies, for instance agriculture, are more sensitive to changing climate cycles. Climate events significantly increase the time women spend doing unpaid care work, limiting time available for economic activities.[58]

By contrast, secure employment provides a stable income for women. When a climate hazard strikes, this increases the likelihood that women can afford services, shelter and sustenance. Having access to care facilities for people living with disabilities or health conditions, for maternity and childcare is a necessary requirement for strengthening women's adaptive capacity to climate impacts. **Adaptation initiatives must explore options that reduce women's care work responsibilities, including care for household, children, family, elderly, and for those that are living with disability or health conditions.**

Disability/illness

Climate change disproportionately impacts women with disabilities, who suffer higher morbidity and mortality rates during climate events. Often, they have little emergency support, especially in dense informal settlements where mobility is restricted. Women living with disability face higher risks, including discrimination, a lack of access to evacuations and recovery, and limited say in decision making. Furthermore, women are most often the ones that provide care and support for people with disability and other health conditions, which is the main contributor to "time poverty" – the lack of time for education, income generation, or participation in decision-making processes. Compounding this, many national policies fail to include persons with disabilities.[59]

State parties to the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) are obliged to develop and implement evidence-based climate mitigation and adaptation policies to prevent and minimize the adverse impacts of climate change on persons with disabilities; and to provide accessible information on climate change to persons with disabilities, strengthen their capacity to participate in climate decision-making that concerns them, and ensure that they have access to effective remedies when they suffer harm from climate action and inaction.[60]

GOVERNANCE AND DECISION-MAKING

Climate hazards awareness and action plans

Where women lack access to reliable and up-to-date information on climate risks and events, they cannot adequately prepare. Existing analyses show that 43 per cent of global cities do not have adaptation plans to keep people safe from climate threats, even though awareness of climate risks has never been higher (93 per cent of the 812 disclosing cities report that they are at risk from climate change).[61] A key impact of the lack of adaptation strategies and plans is that the vulnerable groups, such as women, are left unprotected against climate change hazards.

By contrast, the frequency and severity of anticipated hazards must be communicated through formal and informal channels, recognising the different capacities of women (e.g., access to internet, disability, language spoken). With climate action plans and response strategies in place, women can prepare for the impacts of climate hazards and possibly reduce them to a large extent. **Women are more likely to acknowledge ecological problems and risks, express higher levels of concern, adopt new habits and engage in activities that are beneficial to the environment because of the social roles they play**.[62] Therefore, it is critical to involve them in decision-making, incorporate their day-to-day knowledge of the immediate environment and account for their ways of coping and managing economic, social and ecological stresses.

Community cohesiveness

Living in communities with weak or non-existent social ties can leave women isolated, increasing their sensitivity and eroding their adaptive capacity, during and following a climate event. Women usually play the role of resource management in relation to food, water and the natural environment, and when this knowledge is not shared within the community, adaptation to climate impact is significantly reduced.[63] **When social cohesion amongst women in a community is low, conflict and gender-based violence also increases, reducing capacity for innovation and response to climate solutions**.[64]

By comparison, women living in communities with strong social ties have greater support systems to rely upon. Community groups can help channel funding and resources towards vulnerable groups, increasing the likelihood that women can access financial, health and social assistance to stave off the worst effects of a climate event. It is through community and collaboration that women gain access to support networks and positive role models. Community groups can pool resources and capacity, and form saving groups which can allow land to be purchased or housing to be upgraded to improve climate resilience. Strong community cohesiveness amongst women is also necessary in dismantling gender stereotypes and empowering women to contribute to decision-processes within their communities.[65]

Civic engagement and political leadership

In many regions, it is difficult for women to achieve positions of political leadership through traditional routes. Barriers to meaningful political participation can be structural (such as illiteracy, reduced mobility), institutional (such as representation in decision-making groups), or related to social and cultural norms (such as biases for acceptable roles for men and women).[66] Nonetheless, women throughout the world are developing leadership skills in non-governmental and community-based organisations.

It is crucial to create an enabling political, legal, economic and cultural environment that allows women to engage in decision-making processes

in an effective and sustainable way. Where women participate in the definition of climate action plans and solutions, their distinct sensitivities can be minimised, and their adaptive capacity supported. Civic engagement mechanisms in place need to be diversified, in order to allow for different levels of participation and leadership, and to adjust to different availabilities of women (for example, women's formal presence in local authorities, gender quota, structured dialogue with women's groups, participatory processes).

Technology

Technology is not only important for timely responses during extreme climate events, but is also seen as a climate adaptation strategy (e.g. storage systems, solar stoves, mobile phones, water reservoirs). However, the limited understanding of gender roles often results in the design of new technologies that produce greater gender inequalities, or identifies women as being solely responsible for climate adaptation and thus producing an unequal and unrealistic burden for them.[67]

Women with access to the internet, mobile phones and/or radios can stay updated with early warnings and climate updates. Furthermore, they can find information on evacuation procedures, safe spots and government support following an event. **Technological innovation can contribute to gender-transformative practices, as well as to climate adaptation**. To achieve this, a deep understanding of gender roles, relative powers and responsibilities need to be part of every stage of the design, operation and maintenance process. Designers of climate adaptation technologies need to be trained for gender-transformative approaches, women's participation need to be actively included in the development and use of climate technologies, and pre-existing women-led climate adaptation responses need to be identified, supported and funded.

Financing for adaptation

Economic dependency and a lack of adequate financial resources are major constraining factors for women in climate adaptation strategies.[68] 25 per cent of cities report budgetary constraints as a barrier to further action on climate change.[69]

The effectiveness of climate finance mechanisms in building climate resilience depends on the capacity of national institutions to prioritise and coordinate effectively, and to monitor and ensure the distribution of costs and benefits does not reinforce vulnerabilities or exclusion for marginal groups such as women.[70] **Public, private or community-based funding structures that aim to enhance adaptation to the climate change events need to consider women extensively**.

APPLYING THE TOOL

The application of Her4Climate is based on three guiding principles:

PARTICIPATION

The tool promotes meaningful participation of women in the assessment as the best way to understand women's exposure to climate impacts in urban contexts, and their capacity for response. Also, the tool promotes women's empowerment and active participation in defining and implementing strategies and actions. Hence, data and information should be collected in a participatory way to capture women lived experience, combining desk research with in-depth interviews, focus groups and workshops with women, local communities, experts, and decision makers.

INTERSECTIONALITY

The tool emphasises the importance of including intersectional considerations wherever possible, particularly how overlapping identities and experiences (such as age, ethnicity, indigeneity, (dis)ability, socioeconomic class) can compound the marginalisation of certain social groups. Women are not a homogenous group, hence the tool considers the diverse elements and influencing factors that shape a person's lived reality in addition to gender, given the deeply entrenched and gendered sociocultural norms across all regions of the world. It also encompasses experiences beyond the gender binary (i.e., "man" and "woman"). For example, people identifying as part of the LGBTQIA+ community can be particularly at risk and excluded from climate-related disaster preparedness and recovery efforts.

VIABILITY

Her4Climate applies two generalisations to answer the specific requirements in time-constrained and data-limited situations. First, the tool refers to "women" as a homogenous group when discussing climate impacts and gender-responsive interventions, and users are invited to apply the concept of intersectionality wherever possible. Second, the tool refers to "climate change effects and related hazards", when discussing short-, medium- and long-term impacts of climate change. This means that detailed understanding of specific hazards is beyond the scope of this tool. It also focuses on climate adaptation and excludes considerations on climate mitigation.

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Stages

Her4Climate tool provides two stages, which users can follow as they work towards understanding which elements and actions should be considered to ensure a gender-transformative approach to climate change adaptation. They include:

Stage 1: Baseline and Exposure
Stage 2: Sensitivity and Adaptive Capacity

When measuring women's vulnerability to climate change, and their transformative adaptive capacity, there are three important concepts to consider[71]:

EXPOSURE: The level of climate stress on a city or community, including the frequency, severity and type of climate change effects and related hazards.

SENSITIVITY: The level of impact a climate stress has on specific individuals and groups, including the economic, physical and social characteristics which increase the likelihood of negative impacts.

ADAPTIVE CAPACITY: The ability of individuals and groups to adjust to and withstand climate change effects and related hazards in the short-term, and fully recover in the long-term.

Activities in each stage are undertaken through the lenses of the three dimensions covered in the previous section, and their underlying factors.

Performance analysis

The tool uses scores ranging between 1 (inner circle) and 5 (outer circle) to indicate how well a city/community performs against each factor, where 1 indicates "poor performance" and 5 indicates "excellent performance". A consolidated score for each factor can be developed to enable users to analyse results and assess the performance of the site against benchmarks. The Assessment team/facilitator will decide on the score for the Baseline and Exposure stage, while women directly will assign a score to the questions on Sensitivity and Adaptive Capacity through a participatory process (consensual manner).

Stage 1   Stage 2

1 Poor   2 Fair   3 Sufficient   4 Good   5 Excellent
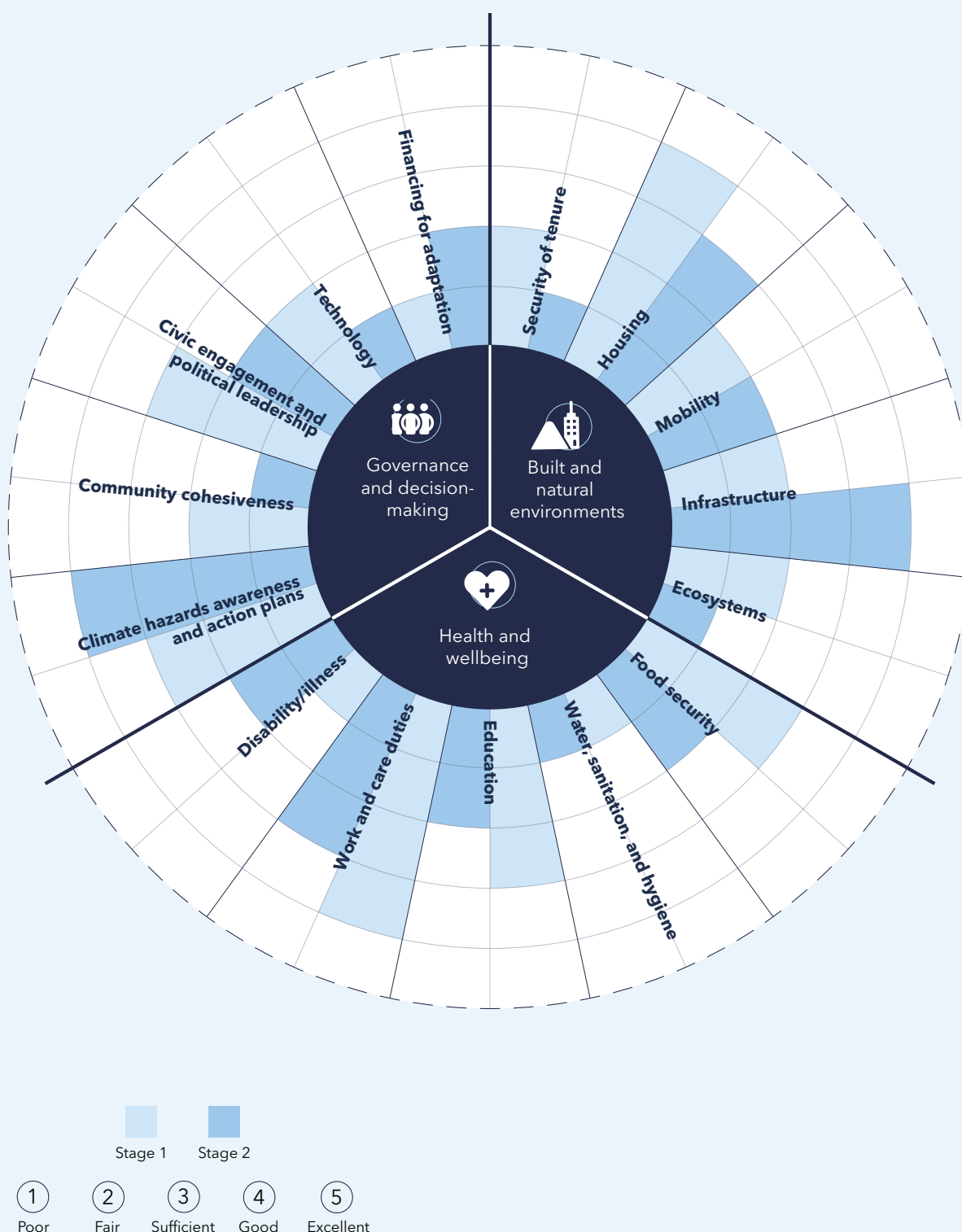
STAGE 1

Baseline and Exposure

AIM

The aim is to understand the level of climate stress on women living in the targeted area from a high level/city perspective, including the frequency, severity and type of climate change effects and related hazards on physical infrastructures, ecosystems, people and communities. This include collecting data related to the targeted area's social, political, economic and gender equality conditions; climate change risks, hazards and scenarios; existing climate policies and plans, including issues/barriers for implementation and gaps; as well as perceived climatic trends, variability and extremes. This stage includes both quantitative and qualitative data, and shall employ sex-disaggregated data and gender indicators for context setting and baseline definition. This stage targets mainly the city or neighbourhood/community scales.

TOOLS

This stage consists of **desk-based research** and **semi-structured interviews** with key institutional stakeholders (e.g., selected municipal officials) and local experts (e.g., practitioners, academics). The desk-based research explores the available data sets (such as the number of households in the targeted area, socio-economic data, existing gender analysis, climate data, climate and gender policies) as well the past, existing and planned projects and initiatives that consider gender and climate adaptation. Semi-structured interviews should be conducted with municipality officers (department of stormwater management, public works, environmental planning, climate protection), local scientists (university staff, councils, institutes), NGOs (environmental, human rights, humanitarian assistance programmes), community champions and leaders. This stage may also include an initial **survey** with stakeholders in the targeted area.

OUTPUT

After the desk review and semi-structured interviews with local authority representatives, the facilitator is ready to assess the baseline and exposure with respect to the assessed climate hazard on a scale from 1-5:

Level 1 - Poor Adaptive Capacity of the City - No policies/plans or projects
Level 2 - Lacking Capacity of the City - Policy Debate existing
Level 3 - Medium Capacity of the City - Ad hoc projects in place but no cohesive plans/policies
Level 4 - Good capacity - Policies/ Strategies adopted but not yet implemented
Level 5 - Excellent capacity - City Scale Projects implemented

The output is a short profile for the city or neighbourhood, that explores the urban context on adaptation to climate change and on gender equality. Information collected through this analysis is further verified and integrated in Stage 2, where women's direct experiences and perceptions are recorded.

Guiding questions: Baseline and Exposure

The table below contains suggested thematic areas for the baseline and exposure study. The questions are divided according to the structure of the tool, across 3 dimensions and 15 factors. In addition to that, Stage 1 involves the group of questions related to the understanding of climate events in the targeted area. The Assessment team/facilitator should re-design the questions according to the bio-physical and cultural context in focus, and in relation to the main climate events in the locality.

Understand climate events	Question
Climate exposure	Describe sudden/short-term and gradual/long-term climate events in the city and/or the community.
	How exposed to climate effects is the community in relation to its location? Consider the present and future time. Are some parts more affected than the others (e.g. in terms of infrastructure disruption, human losses)?
	When was the latest major climate event? What damage did it cause in economic costs, destruction of infrastructure, fatalities and injuries?
	What was the response to this event? Who was affected and who was excluded? Who is responsible for emergency response and aid provision? (Discuss the existing social and institutional networks, local knowledge, institutional arrangements, natural and economic resources)

Dimension	Factor	Question: Baseline and Exposure
Built and Natural Environments	Tenure security	Does the city have up-to-date cadastre records and/or initiatives/investments supporting land tenure security? Are women entitled to individual or collective land-ownership arrangements?
	Housing	What are the main housing typologies in the targeted area? What's the percentage of women headed households? What measures are in place to prevent/restore safe and adequate housing conditions in case of climate events? (temporary shelter provision, early warning system, resilient planning, water drainage systems, sea walls, retention ponds, construction with sustainable materials) How are women's needs considered in these measures?
	Mobility	How secure is the physical and social access to different city services (e.g., hospitals, schools, emergency services, city government)? Consider flexibility, proximity and availability of these services. Does the municipality have a spatial understanding of high-risk areas and actions in place to maximise access of vulnerable areas and prioritise evacuation?
	Infrastructure	How have climate events impacted critical infrastructures (e.g electricity outage, phone infrastructures, warehouse etc) in the city? How will they impact in the future, under different Representative Concentration Pathway scenarios? What policies and projects are in place to respond to the frequent climate events? (e.g public information campaigns, mini/solar grids, investments in critical infrastructures in vulnerable areas, collaboration across sectors)
	Ecosystems	How have climate events affected, and will affect the environment and nature benefits/resources (e.g food/seafood, forest products, marine products, raw material, fresh water, tourism)? What nature-based solutions are in place as part of the climate action? (e.g ecological conservation and preservation, risk assessment, water-sensitive infrastructure systems) Are women included in or lead these actions?

Health and Well-being	Food security	What actions have been taken to adapt the food systems to climate change effects (e.g planning systems, water drainage, zoning laws, support to small farmers, infrastructures for sustainable food production)? In what way are these actions supporting women? What actions are being led by women?
	WASH	How have women's access to water, sanitation, and hygiene systems been affected by climate events? What actions/policy/projects are in place to prevent the disruption of the WASH services? (e.g planning systems, water-sensitive interventions, service design innovation, collaborative services)
	Education	How have the climate events impacted the education opportunities/system for women? What actions are in place to restore/prevent the disruption of the education system?
	Work and earings	How have climate events affected work opportunities of the community/city, and women specifically (e.g informal work, tourism, fisheries, agriculture etc)? What are the actions/policies in place to prevent/restore the livelihoods? What are the everyday responsibilities of women ("care work") of different age in the targeted area?
	Disability/ illness	What livelihoods/ groups/ individuals are the most vulnerable and why? What are the major impacts of climate events to health challenges in the area (e.g. water borne diseases)? Are there policies and systems in place to support persons living with disability and their care in case of climate events?
Governance and Decision-making	Climate hazard aware-ness and action plans	Does the city have climate policies and action plans in place (e.g. climate hazard hotspots identified, environmental impact assessment procedures, water management plan, water infrastructures in place, special working groups focused on climate issues)? What are the main challenges for their implementation? Which locations/ sectors/ populations/ ecosystems are the most vulnerable and difficult to reach? Are any of these programmes targeting women specifically? How is the city creating awareness of citizens about climate events and action plans?
	Community cohesiveness	Outline the community's socioeconomic characteristics and major ethnic, political or religious trends in the area (including arrivals of displaced persons and refugees). Are some community groups better informed and more active about climate events?
	Civic engagement and political leadership	How many community groups/organisations operate in the community/city? What services do they specialise in? Are there organisations that target women and/or climate change specifically?
	Technology	What mechanisms and/or platforms are in place to share information on climate events, plans and policies? Are they measuring the participation of women and men?
	Financing for adaptation	Are there any financing projects/initiatives in place that target climate change related challenges (e.g. cash assistance, training courses, alternative source of income, material supply)? Are women explicitly involved? In what ways?

STAGE 2

Sensitivity and Adaptive capacity

AIM

The aim is to collectively assess the level of impact that climate events have on women living in the targeted area from the perspective of their lived experiences. This stage further examines women's ability to adjust to and withstand climate change effects and related hazards in the short-term, and fully recover in the long term. This is done in consideration of women's socioeconomic status, knowledge and resources, and the built environments they live in.

TOOLS

This stage is a participatory assessment comprising **focus groups** and **co-creation workshops** with women, representatives of the city government, and community groups. Guided by the guiding questions (see below), the Assessment facilitator encourages the participants to share their insights regarding the Sensitivity and Adaptive Capacity of women on a community and neighborhood scale. Depending on the aim of the assessment and resources available, they can be assessed simultaneously or separately. However, the final score for each factor of stage 2 should be only one incorporating both concepts.

The assessment centres on the insights of women and is accompanied by background desk-based research undertaken beforehand. It is a participatory approach that captures women's lived experiences and ambitions, and connects them to the identified climate change effects and predictions.

OUTPUT

The assessment of this stage is **perception-based**, through engagement with women, community and local CSOs, etc. In a consensus-based approach, the workshop and focus groups participants jointly decide on the final score for this stage. Consider printing the Her4Climate diagram on a large paper, and using it for the collaborative scoring during the workshop:

Level 1 - Poor Adaptive Capacity of Women - No awareness of the issue and how to cope with it

Level 2 - Lacking Capacity - Awareness of the climate issue but no capacity to cope with it

Level 3 - Medium Capacity - Awareness and some ad hoc actions in place to cope with the climate risk

Level 4 - Good capacity - Presence of organised groups focusing on climate actions and/or support from the Municipal/Government

Level 5 - Excellent capacity - Municipal Plans/Policies implemented or designed where women are engaged/led, community-based practices are strong and implemented

The full assessment emerges from the integration of these two perspectives (Stage 1 and Stage 2) and levels of gender-transformative climate action – high level/city perspective, and on the ground/lived experience perspective.

Below are suggested areas to focus the participatory assessment on.

Guiding questions: Adaptive Capacity and Sensitivity

The table below suggests questions to assess both the sensitivity and adaptive capacity of women for the different factors. Appendix I lists the detailed questions and considerations in the case of the earlier identified climate events. The Assessment team/facilitator should re-design the questions according to the bio-physical and cultural context in focus, and in relation to the main climate events in the locality. The combined consideration of women's sensitivity and adaptive capacity through the consensus-based participatory approach yields the score for Stage 2.

Dimension	Factor	Question: Adaptive Capacity and Sensitivity
Built and Natural Environments	Tenure security	To what extent do you feel safe in the land you live or work in? Discuss ownership, opaque land tenure, state-owned, private-owned, marginal land vulnerable to climate hazards. Are you and your neighbours doing anything to prepare your land (house, garden) for the future climate events? (e.g. promoting more equitable distribution of land after the climate event, relocation strategies, communal leases, agricultural land ownership schemes)
	Housing	To what extent have your houses been damaged/affected by climate events? Were there any particular groups/individuals that were impacted more by those events and how? What kind of housing solutions have been put in place to protect women and vulnerable people from climate events (e.g. new housing owned by women, drainage systems, warning systems, new materials, protecting houses with sandbags)?
	Mobility	What modes of transport are you usually using and are they affected by climate events? To what extent were you able to access critical locations (e.g schools, hospitals) and everyday locations (e.g. be in contact with family and friends) during and after climate events? How have you reacted to the changed/disrupted mobility networks during and after the climate event? (e.g. alternative transportation means, work from remote locations, alternative routes, home-schooling, alternative work locations)
	Infrastructure	To what extent were you able to do your everyday tasks during or after the climate event? What was the most challenging? What did you do to go back/continue with your everyday tasks in the house? (e.g. keeping food dry, building makeshift high platform, accessing electricity, energy and water networks, getting food)
	Ecosystems	How do you think the climate events impact your surrounding environment and natural resources? Are you aware of actions led by women/communities that protect the environment from climate risks? (e.g restauration of water bodies, planting mangroves, urban reforestation, risks awareness)
Health and Well-being	Food security	To what extent was your capacity to provide/produce food for you and your family impacted by climate events? Have you been involved in activities that improve food security (e.g community-based farming, flood based farming)? Why are they (not) successful?
	WASH	Can you access clean water during a climate event? Is the water contaminated? Can you access health and sanitation facilities during a climate event? Are there any initiatives that improve access to water or toilets? (e.g. women-led water governance groups, use of chemical toilets in the community, water retention systems, construction of flood barriers)
	Education	To what extent have the climate events impacted your or your children's ability to go to school? With which results? (consider long school closures, destruction of schools, early marriages, less education opportunities)? Are you aware of any activities to prevent children and especially girls from dropping out of schools during climate events? (e.g. community education/ schooling, organised transport to schools further away)

Health and Well-being	Work and earnings	Are women in this neighbourhood in control of revenues generated through projects, activities and communal work (e.g. home gardens, livestock-rearing, other income-generating activities)? How have climate events impacted your ability to work? (consider both sudden and gradual climate events)
	Disability/ illness	Where and how do you go for support if you have an illness/ injury? (e.g. involvement of men/ husband, awareness/ pre-preparation, healthcare equipped boats, community assistance) Are there any people living with disability in this area? Are there support mechanisms in place that would protect people living with disability from climate hazards and effects?
Governance and Decision-making	Climate hazard awareness and action plans	What are the climate events that you have experienced in the past? What was their frequency, timing, duration and extent? How do you share/get the information about climate events? During the past climate events, what was the community's response? What is the response of the municipality, scientists, NGOs, civil society organisations? To what extent are you aware of current plans/strategies the city is undertaking to adapt to climate events? In the event of a climate hazard, what evacuation plans and procedures are in place?
	Community cohesiveness	Is it common for people in your community to argue/disagree/conflict with each other during or after climate events (e.g. about access to clean water)? Who manages the conflicts? How do they usually resolve? In case of necessity do you have somebody to reach out to within the community/neighbourhood?
	Civic engagement and political leadership	How do you consider your direct contribution in leading and implementing actions against climate events? Do you feel listened to by local politicians? Have women (and to what extent) been able to influence the design of climate action innovation and interventions?
	Technology	Are you aware of technologies for forecasting and coping with climate risks in your area? Do you use them? (e.g. mobile phone warning systems, weather forecast)
	Financing for adaptation	To what extent do you have access to finance and insurance programmes for you to cope with the impacts of climate events? (e.g. supporting risk-reduction measures, transition to diversified sources of income, safety nets) Are there any programmes that enable you to secure control (individually or collectively) of resources such as land, irrigation, improved seeds, livestock or credit?

SIX SUGGESTIONS FOR A SUCCESSFUL ENGAGEMENT APPROACH

This section expands upon the ways of engaging, outlining six suggestions that can significantly impact the overall success and relevance of the Her4Climate assessment tool.

1. Before and After the Application

Before beginning, the Assessment Team should identify and connect with local stakeholders and organisations, including local researchers and universities, community gatekeepers, leaders and champions, local organisations working with gender and/or climate change. They should also explore and connect with past and current projects and initiatives in the targeted area. Careful consideration needs to be given to the involvement of the most relevant expert and contextual knowledge.
After the assessment, the Team should convene in a sense-making workshop. The aim should be to discuss and share the findings from Stage 1 and 2, identify the missing and incomplete information, and prioritise further actions and research. The Assessment team should be ready to co-identify the main gaps and action areas for gender-transformative climate action. The rapid assessment should also provide insight into the required time, expertise, themes and methods for further gender analysis of climate change vulnerabilities and adaptations. The outputs should support knowledge distribution among the discussion participants and interviewees, as well as the organisations and institutions that are key actors in the future processes.

2. Identifying Participants

There are several techniques to identify participants for focus group discussions and co-creation workshops. Below are two common approaches.
Speak with community leaders, chiefs and elders who are most familiar with the community. Explain to these individuals the purpose of your work, your objectives in the short- and long-term, and the types of individuals (for example, caregivers) you would like to speak with. Should these community leaders agree with your aims and objectives, their social standing grants them legitimacy and trust that can generate interest among the community to participate. Their familiarity with the community also helps identify which groups or individuals are best-placed to participate.
Reach out to local NGOs and community-based organisations operating in the community. In particular, organisations that focus on social inclusion and gender equality may be more familiar with the groups and individuals that are vulnerable in your focus site. Provided it raises no ethical or safeguarding challenges, you may be able to contact participants who are already involved in a local organisation's projects and ask these individuals if they would like to participate in a focus group discussion.
Whichever of the above options are most suited to your context and needs, it's recommended that you maintain records of each request for participation, including the individual's name, contact details, organisation (where appropriate) and availability. Reflect on what and whose values are represented in the assessment process; this will allow you to better target and define further actions.

3. Preparing for the Focus Group and Co-creation workshop

There are different methods to engage women such as focus groups, co-creation workshops and interviews. These participatory assessment methods should always be designed in relation to the local and project contexts. To ensure that your participants are comfortable and at ease to discuss their experiences, follow these steps when you are preparing for the focus group and the co-creation workshop:
- Secure participants' consent using a standard form that is stored safely.
- Select a private, safe and quiet space in which to conduct the focus group or the workshop. Accessing this space should be as convenient as possible for the participants. If space and

time resources allow, it's recommended that you ask the participants to suggest the most convenient space for them.
- Agree on the time and day that is most suitable for everyone. As women are often busy with care work, approach this issue in a sensitive way. For example, consider organising a side-activity (games or other stimulation) for children, so women can take part in the discussion. A safe space in which the participant is at no risk should be available if this is necessary.
- Ahead of the focus group, it's recommended that you share the questions with participants. Ahead of the workshop, it's recommended that you share a brief description of the project, and the aim of the workshop. This familiarises them with the aims of the conversation, avoids them being caught 'off guard' during the session, and encourages them to prepare more comprehensive and, potentially, insightful answers than if they were asked on the spot. Think about what is in the discussion for them – why would participants find it meaningful.

4. During the Focus Group and Workshop

To ensure your participants can speak freely about the challenges and opportunities they experience, follow these steps when you are conducting the session:
- Use questions as a guiding, flexible structure. Some participants might be reluctant to answer certain questions, or they may discuss important issues that you hadn't previously considered. Be flexible and open to this change in tack and be respectful of the themes or topics that the participant shows particular interest in discussing.
- Where a participant shows distress or unease towards one or a group of questions, do not be impatient and certainly do not push them to answer. Use your intuition to identify 'pain points' and move on if necessary. Make it clear to your participants that they can stop the conversation at any time.
- Be conscious of participants' sensitivities regarding gender, ethnicity and religion. Respect local regulations, customs and traditions as regard gender-, age- or class-segregated spaces. Avoid certain individuals being 'drowned out' by others; the facilitator should encourage equal and fair participation in the session.
- Use local languages and expressions to better communicate concepts related to vulnerability and climate change. For example, use the local metaphors to explain causes and effects of climate hazards and effects, and rely on the guidance of local organisations and communities regarding scientific concepts.
To ensure that your participants feel safe in sharing their perceptions, follow these steps when you are delivering the Focus Group or the Workshop:
- Apply the Research ethics and Health and safety rules and procedures, be respectful of privacy throughout. If you plan to make an audio or video recording of the focus groups or workshop, ensure that the participants consent to being recorded.
- Be conscious of participants' sensitivities regarding gender, ethnicity and religion. Respect local regulations, customs and traditions as regard gender-, age- or class-segregated spaces.
- Where necessary, be cautious of social distancing regulations and ensure that all participants are comfortable with the physical layout (i.e. the distance between chairs, the use of shared surfaces like tabletops and physical aids, the available sanitary equipment) of the workshop.
- Whenever possible, ensure to have a social worker, an educator or a phycologist present during the workshop, to facilitate the dialogue and address sensitive issues that may arise during the discussion.
- Keep the number of participants to the focus groups between 3 and 10, and the workshop between 20 and 30 people.
- Ensure health and safety measures are in place at the venue where the workshop will take place (e.g. emergency exits, healthcare assistance, refreshments).

5. Closing Remarks after the Focus Group and Workshop

It is essential that you thank participants for their participation. Facilitators should provide information on next steps. A clear channel for feedback and updates should be agreed upon, so the participants know where and who they should go to for further information. If the session is recorded, all recordings must be stored in a safe location, accessible only by the research team. Similarly, recording transcripts must be anonymised to protect participants' identity.

6. A Note on Facilitation

Climate hazards are a considerable challenge, especially for women living in vulnerable urban contexts. Climate issues might not come up in the discussion explicitly, such as through the more technical terms that have been discussed in Stage 1. Instead, participants might have heir own terms for certain natural phenomena, or lack the ability to identify direct impacts of complex climate effects. Facilitators need to be sensitive to this, and able to adjust their language and descriptions. It is likely that focus groups and workshops will centre on sensitive topics, including issues of poverty. Facilitators should be familiar with conducting focus groups and workshops and the challenges this entails. Where possible, facilitators will be trained in social science methods, and they will have experience in gender-sensitive research. Facilitators should look to community representatives to determine what is and is not appropriate, and to ensure conversations are respectful of local conditions. Consider the gender dynamics between facilitators and the female participants. Ideally, female facilitators are used to run focus groups.

APPENDIX I

Specific questions per hazards for stage 2

The table below lists specific guiding questions that the user can use to explore some of the most frequent climate hazards, such as drought, increased temperatures, floods and storms. These questions can be adapted for other hazards identified through the assessment.

Climate hazard to assess: drought and increased temperature

Droughts and Increased temperatures do not always come together, and could combine with other climate hazards; for example increased temperatures could also lead to flooding (such as glacier flood).

Dimension	Factor	Sensitivity	Adaptive Capacity
Built and Natural Environments	Tenure security	To what extent do you feel safe in the land you live or work in? (ownership, opaque land tenure, state-owned, private-owned, marginal land vulnerable to wildfires, heatwaves)?	Are you and your neighbours doing anything to prepare your land (house, garden, fields) for the future droughts/ increased temperatures? (e.g. promoting more equitable distribution of land after the droughts, sharing of available resources, relocation strategies, communal leases, agricultural land ownership schemes)
	Housing	To what extent have your houses been damaged/affected by increased temperatures? Are these events repeating (every summer/ dry season)? Were there any particular groups/individuals that were impacted more by those events and how?	What kind of housing solutions have been put in place to protect women and vulnerable people from climate events (new housing owned by women, shading systems, warning systems, new materials, green roofs/walls, water harvesting strategies)?
	Mobility	What modes of transport are you usually using and are they affected by droughts/high temperatures? (asphalt heat, overcrowding, interruption of service due to wildfires, longer commuting times) To what extent were you able to access critical locations (e.g schools, hospitals) during and after the events?	How have you reacted to the changed/disrupted mobility networks during and after the climate event? (e.g. alternative transportation means, work from remote locations, alternative routes, home-schooling, alternative work locations)
	Infrastructure	To what extent were you able to do your everyday tasks during or after the drought? (cleaning, cooking, working, home schooling)? What was the most challenging and why? (lack of water/extreme heat/ lack of time due to other care activities)	What did you do to go back/continue with your everyday tasks in the house? (e.g. protecting crops from extreme sun, increasing distance for water collection, improved access to electricity, energy and water networks, getting food from other sources)
	Ecosystems	How do you think the droughts impact your surrounding environment and natural resources? (dryland and desertification, wildfires, lack of water, less crops, unbalanced ecosystem, reduced fish and infestations)	Are you aware of actions led by women/communities that protect the environment from droughts? (e.g. restauration of water bodies for irrigation/inundation, urban reforestation, risks awareness, prevention of desertification)
Health and Well-being	Food security	To what extent was your capacity to provide/ produce food for you and your family impacted by the droughts? (death of crops, lack of irrigation, lack of water for livestock, changes in seasonal foods available, costs increases)	Are you aware of actions led by women/communities that protect the environment from droughts? (e.g. restauration of water bodies for irrigation/inundation, urban reforestation, risks awareness, prevention of desertification)
	WASH	Can you access clean water during the drought? Is the available water contaminated? Can you access health and sanitation facilities during the droughts? Are there community facilities in case of emergency lack of water? (water retention tanks, trucks distributing water)	Are there any initiatives that improve access to water, toilets or wastewater treatment? (women-led water governance groups, use of chemical toilets in the community, water retention systems, water rationing, wastewater treatment systems)

Health and Well-being	Education	To what extent have the droughts impacted your or your children's ability to go to school? With which results? (consider long school closures, destruction of schools, early marriages, less education opportunities)?	Are you aware of any activities to prevent children and especially girls from dropping out of schools during droughts? (e.g. community education/ schooling, organised transport to schools further away, online schooling, emergency water sources for sanitation in school, time poverty consequences).
	Work and earnings	Are women in this neighbourhood in control of revenues generated through projects, activities and communal work (e.g. home gardens, livestock-rearing, other income-generating activities)? How have droughts and extreme high temperatures impacted your ability to work? (consider: death of crops/livestock, other livelihood loss, /disruption, illness and care of ill relatives, lack of funds, reduced mobility)	How did the community and the city support you while you couldn't work? (subsidies, community support, saving groups, alternative livelihoods, cash /food assistance)
	Disability/ illness	Where and how do you go for support if you or your family members have an illness/ injury? Are there any people living with disability in this area? How are they impacted by droughts/high temperatures? (lack of water for sanitation and consequent risks of sickness)	In times of difficulty, which individuals/groups do you go to for support? (e.g. involvement of men/ husband, healthcare equipped groups, community assistance, extended family, women support groups, international NGOs) Are there support mechanisms in place that would protect people living with disability from droughts and increased temperatures?
Governance and Decision-making	Climate hazard awareness and action plans	Have you experienced any drought/ increased temperatures in the past? What was their frequency, timing, duration and extent? How do you share/get the information about the droughts? Do you consider them a big threat to you and your household? What do you think is the cause of each of the events mentioned?	During the past droughts, what was your community's response? What is the response of the municipality, scientists, NGOs, civil society organisations? To what extent are you aware of current plans/ strategies the city is undertaking to adapt to droughts? In the event of a drought, what plans and procedures are in place already?
	Community cohesiveness	Is it common for people in your community to argue/disagree/conflict with each other during or after the droughts (e.g. about access to water, alternative food sources, cross-support)? Who manages the conflicts? How do they usually resolve? Would you know who to contact in your community for support?	In case of necessity do you have somebody to reach out to within the community/neighbourhood? Who would be the first number to call? Is there any active support system you are aware of?
	Civic engagement and political eadership	How do you consider your direct contribution in leading and implementing actions to prevent and react to droughts? Do you feel listened to by local politicians?	Have women (and to what extent) been able to influence the design of drought prevention plans and interventions? Are there some groups or individuals that represent you and your community in political meetings about issues connected with droughts? (e.g. women's collective action groups, women's water management groups, agricultural cooperatives)
	Technology	In past drought events, have you used any technology to cope with the hazards? (mobile phone alert, weather forecast, water retention tanks, desalination systems)	Are you aware of technologies for forecasting and coping with droughts and increased temperatures in your area? Have you been trained on how to use and maintain them? Do you make use of any of them? (mobile phone alert, weather forecast, water retention tanks, desalination systems)
	Financing for adaptation	To what extent do you have access to finance and insurance programmes for you to cope with the impacts of droughts? (e.g. supporting risk-reduction measures, transition to diversified sources of income, safety nets)	Are there any programmes that enable you to secure control (individually or collectively) of resources such as land, irrigation, improved seeds, livestock or credit? (community saving groups, cooperatives, reduced taxation, payment in installments, insurance schemes to housing or agricultural/livestock)

Climate hazard to assess: floods and storms

Dimension	Factor	Sensitivity	Adaptive Capacity
Built and Natural Environments	Tenure security	To what extent do you feel safe in the land you live or work in? (ownership, opaque land tenure, state-owned, private-owned, marginal land, land vulnerable to storm surges, landslides and flooding)?	Are you and your neighbours doing anything to prepare your land (house, garden) for the future floods/storms? (e.g. promoting more equitable distribution of land after the floods, sharing of available resources, relocation strategies, communal leases, agricultural land ownership schemes)
	Housing	To what extent have your houses been damaged/affected by floods/storms? Are these events repeating (every monsoon/rainy season)? Were there any particular groups/individuals that were impacted more by those events and how?	What kind of housing solutions have been put in place to protect women and vulnerable people from floods (new housing owned by women, better drainage systems, community shelter, warning systems, new materials and construction techniques, elevation of houses, retention ponds and green areas, etc.)?
	Mobility	What modes of transport are you usually using and are they affected by floods/storms? (power outage, flooding of streets, landslide) To what extent were you able to access critical locations (e.g schools, hospitals) during and after the events? Were there emergency camps/hospitals set up?	How have you reacted to the changed/disrupted mobility networks during and after flooding? (e.g. alternative transportation means, work from remote locations, alternative routes, home-schooling, alternative work locations)
	Infrastructure	To what extent were you able to do your everyday tasks during or after the floods? (cleaning, cooking, working, home schooling) What was the most challenging and why? (displacement, lack of food resources, lack of time due to other care activities) Did you experience more power outages or telecommunication breakdowns?	What did you do to go back/continue with your everyday tasks in the house? (e.g. keeping food dry, building makeshift high platform, accessing electricity, energy and water networks)
	Ecosystems	How do you think the floods / storms impact your surrounding environment and natural resources? (landslides, water contamination, saltwater infiltration, trees falling, unbalanced ecosystem)	Are you aware of actions led by women/communities that protect the environment from flooding? What green/environmental solution contributed to reduce the risk of flooding? (e.g. restauration of river banks and borders, urban reforestation to prevent landslide, risks awareness, cleaning of water bodies and sewage to prevent clogging from waste and debris)
Health and Well-being	Food security	To what extent was your capacity to provide/produce food for you and your family impacted by the floods? (death of crops and livestock, groundwater contamination, impossibility of accessing tools and resources, inundation of fields, unbalanced ecosystem, changing eating patterns, seasonal food availability)	Do you know about or have you been involved in activities that improve yours and your community's food security (e.g community-based farming, hydroponic systems, moving of agricultural production to different areas)? Why are they (not) successful?
	WASH	Can you access clean water during the floods? Is the available water contaminated? Can you access health and sanitation facilities during flooding? Are there community facilities to use in case of flooding? Do they allow for safe and dignified menstrual hygiene? Do you have issues with wastewater during flooding events (toilet blockages, wastewater entering houses, septic tanks overflow gets blocked)?	Are there any initiatives that improve access to water or toilets? (women-led water governance groups, use of chemical toilets in the community, protective infrastructure, improved sewage to prevent water contamination) Are drainage and wastewater treatment systems separated? What happens after flooding events - does the water pool and stay in certain areas, or drains away (how long does this last?)?
	Education	To what extent have the floods impacted your or your children's ability to go to school? With which results? (consider long school closures, destruction of schools, early marriages, less education opportunities)?	Are you aware of any activities to prevent children and especially girls from dropping out of schools during/after floods? (e.g. community education/ schooling, organised transport to schools further away, online schooling, building alternative routes and infrastructure, etc)

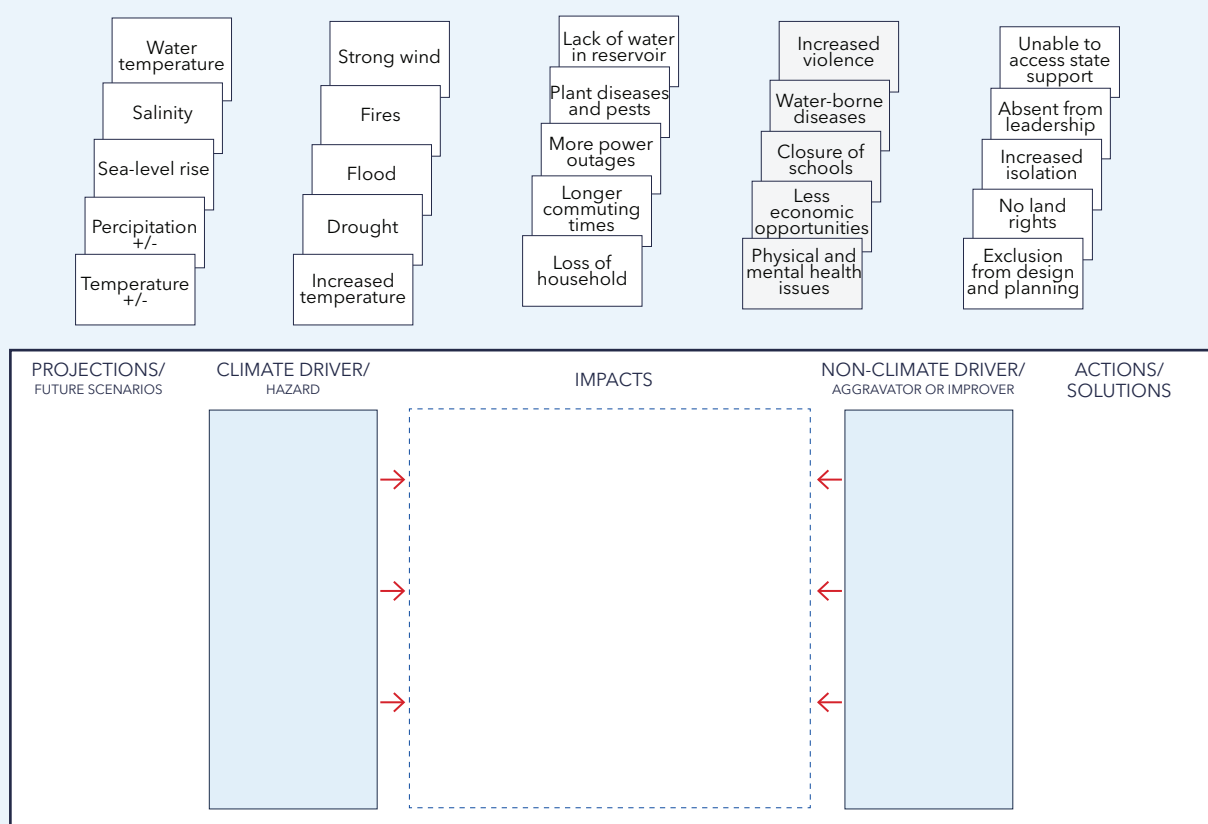|			
Health and Well-being	Work and earnings	Are women in this neighbourhood in control of revenues generated through projects, activities and communal work (e.g. home gardens, livestock-rearing, other income-generating activities)? How have floods/storms impacted your ability to work? (consider: saltwater infiltration, soil contamination, livelihood loss, /disruption, care of ill relatives, injury, lack of funds, lack of working area)	How did the community and the city support you while you couldn't work? (subsidies, community support, saving groups, alternative livelihoods, cash /food assistance)
	Disability/ illness	Where and how do you go for support if you or your family members have an illness/ injury? Are there any people living with disability in this area? How are they impacted by the flooding? Have you noticed the emergence of any vector/water borne disease after the flooding? (yellow fever, malaria, dengue etc.)	In times of difficulty, which individuals/groups do you go to for support? (e.g. involvement of men/ husband, healthcare equipped groups, community assistance, extended family, women support groups, international NGOs) Are there support mechanisms in place that would protect people living with disability from floods/storms?
Governance and Decision-making	Climate hazard awareness and action plans	Have you experienced any flooding /storms in the past? What was their frequency, timing, duration and extent? How do you share/get the information about the floods? Do you consider them a big threat to you and your household? What do you think is the cause of each of the events mentioned?	During the past flood/storm, what was the community's response? Were you helped by the municipality or NGOs? To what extent are you aware of current plans/ strategies the city is undertaking to adapt to flooding? In the event of a flood/storm, what plans and procedures are in place already?
	Community cohesiveness	Is it common for people in your community to argue/disagree/conflict with each other during or after the floods / storms (e.g. about access to shelter and resources, reconstruction costs, cross-support)? Who manages the conflicts? How do they usually resolve?	In case of necessity do you have somebody to reach out to within the community/neighbourhood? Who would be the first number to call? is there any active support system you are aware of?
	Civic engagement and political leadership	How do you consider your direct contribution in leading and implementing actions to prevent and react to floods? Do you feel listened to by local politicians and/or your community?	Have women (and to what extent) been able to influence the design of flooding/storms prevention plans and interventions? Are there some groups or individuals that represent you and your community in political meetings about issues connected with flooding? (e.g. women's collective action groups, women's water management groups, river flow restoration groups, reforestation groups)
	Technology	In past flooding events, have you used any technology to cope with the hazards? (mobile phone alert systems, weather forecast, water management systems, drainage systems, mobile barriers)	Are you aware of technologies for forecasting and coping with floods/storms in your area? Have you been trained on how to use and maintain them? Do you make use of any of them? (mobile phone alert systems, weather forecast, water management systems, drainage systems, mobile barriers)
	Financing for adaptation	To what extent do you have access to finance and insurance programmes for you to cope with the impacts of floods? (e.g. supporting prevention measures, transition to diversified sources of income, relocation to less vulnerable areas, safety nets)	Are there any programmes that enable you to secure control (individually or collectively) of resources such as land, water, improved seeds, livestock or credit? (community saving groups, cooperatives, reduced taxation, payment in installments, insurance schemes to housing or agricultural/livestock)

APPENDIX II

Workshop design: Mapping climate change impacts and actions

This section outlines one possible workshop activity that can be organised as part of the Stage 2. It is based on the dimensions and factors from the Her4Climate framework, put into relation to the main climate hazards and future scenarios for the targeted area. The user is invited to facilitate the workshop using the card set with possible primary and secondary impacts and cause-and-effect relations between them.

DURATION: 2-3 hours

PARTICIPANTS: Women from the targeted area of different age, with different abilities, and different roles within the community.

Before the workshop, the *Facilitator* gained an understanding of the main climate events, exposure and vulnerable aspects of the area (Stage 1). From the card deck containing four sets of cards, *Facilitator* chooses the relevant ones, therefore designing the focus of the workshop. *Facilitator* prints the **cards** (including the empty ones), and draws or prints the **board** on an A2 (or flipchart) paper.

Water temperature	Strong wind	Lack of water in reservoir	Increased violence	Unable to access state support
Salinity	Fires	Plant diseases and pests	Water-borne diseases	Absent from leadership
Sea-level rise	Flood	More power outages	Closure of schools	Increased isolation
Percipitation +/-	Drought	Longer commuting times	Less economic opportunities	No land rights
Temperature +/-	Increased temperature	Loss of household	Physical and mental health issues	Exclusion from design and planning

Board columns: PROJECTIONS/ FUTURE SCENARIOS | CLIMATE DRIVER/ HAZARD | IMPACTS | NON-CLIMATE DRIVER/ AGGRAVATOR OR IMPROVER | ACTIONS/ SOLUTIONS

Step 1
After the introductions and the explanation of the aim of the workshop, *Facilitator* introduces the concept of a **climate event** or **hazard**: *What do you call a 'climate hazard'? What changes in the climate have you experienced in the last years? What do you think will continue changing in the future?*

Step 2
By assuming the most important impacts, *Facilitator* starts the discussion, drawing causal relationships between **Projections**, **Climate drivers**, and **Impacts** – primary and secondary. For example: *So, the Flooding last year blocked the roads. Could you access your work/school/clinic? Did you have to commute for longer? How did you evacuate? How did you feel passing through that new area (safe/unsafe)? Why?* Every time a new impact is approved by the group as relevant, Facilitator adds a card to the board, drawing the cause-and-effect arrows. If a new impact appears through the discussion, Facilitator and the group members add new cards to the board.
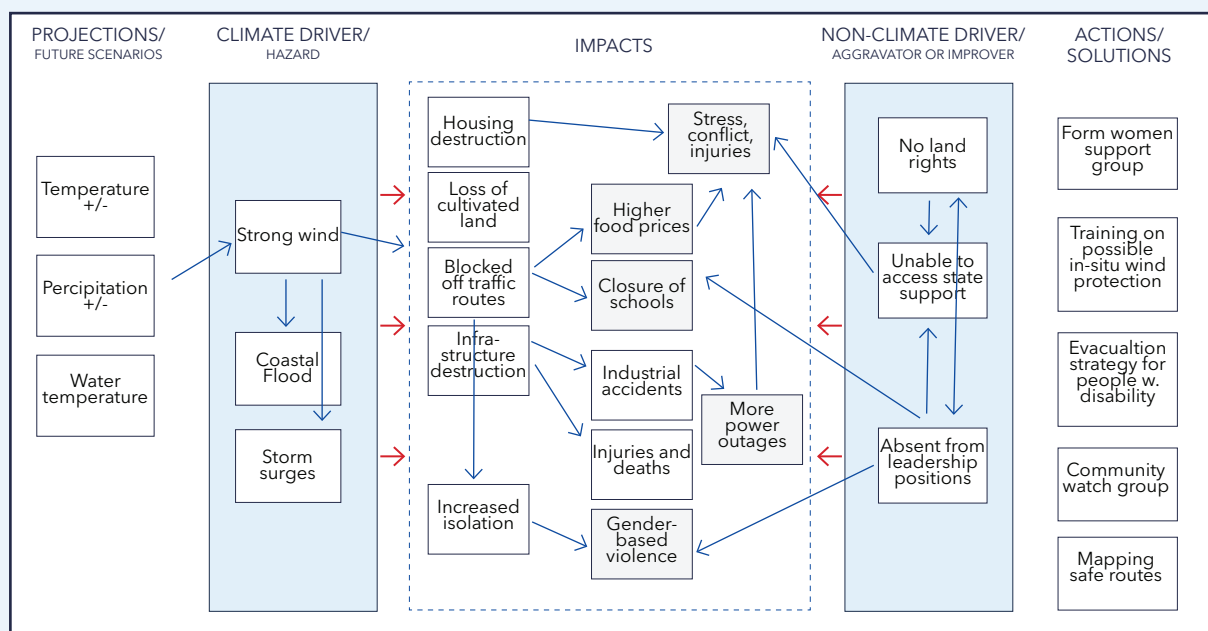
Step 3
Facilitator brings in the **Non-climate drivers** of sensitivity and adaptive capacity, exploring the challenges in the community that aggravate or ameliorate the climate change impacts. By using the existing cards (or adding new ones), *Facilitator* places them in the allocated area on the board, drawing cause-and-effect arrows.
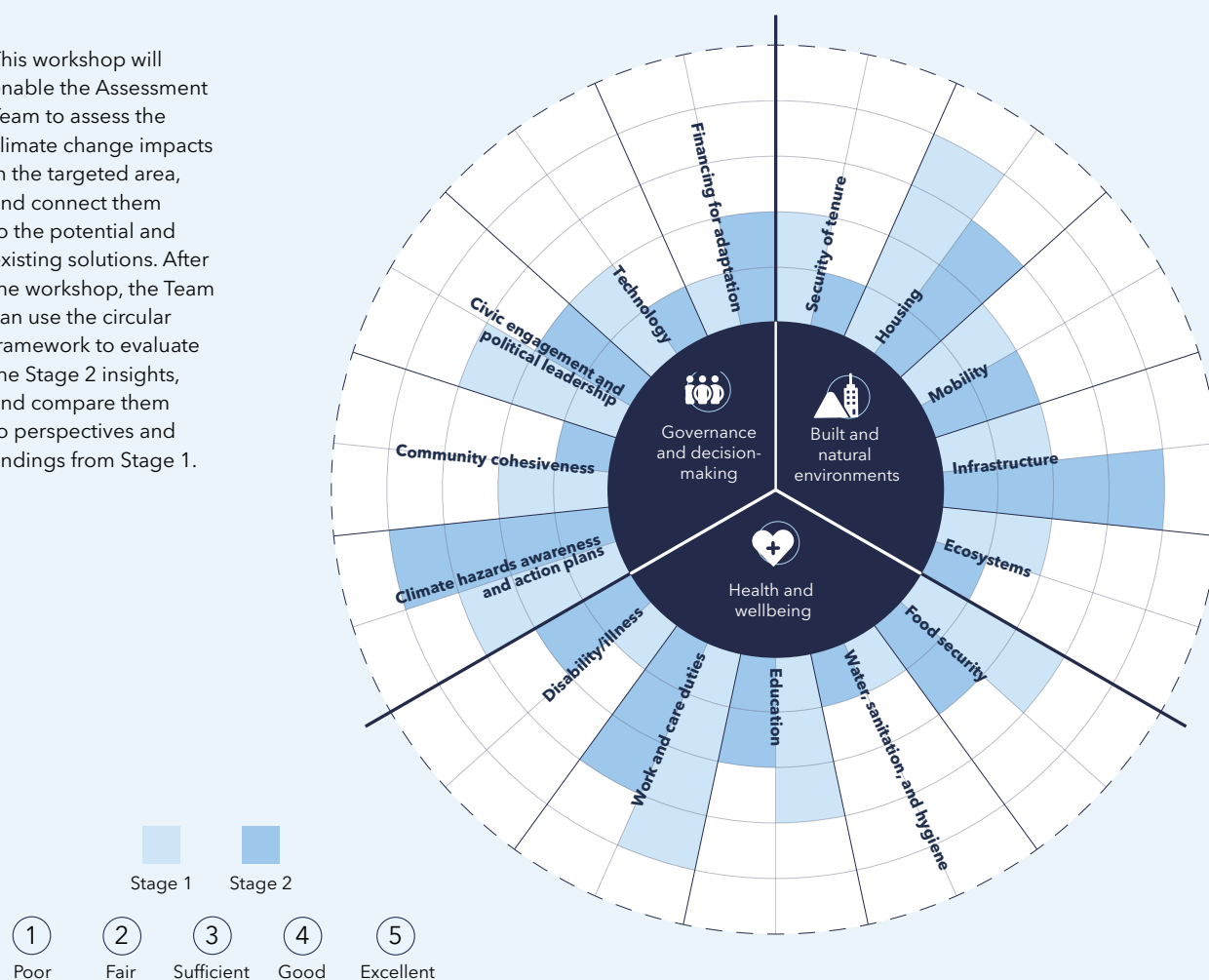
Step 4
Finally, the last column is reserved for mapping the **Climate actions and solutions**. These can be actions or programmes that already exist in the community, or suggested actions and ideas that appear throughout the workshop.

Expected outcome

PROJECTIONS/ FUTURE SCENARIOS	CLIMATE DRIVER/ HAZARD	IMPACTS	NON-CLIMATE DRIVER/ AGGRAVATOR OR IMPROVER	ACTIONS/ SOLUTIONS

PROJECTIONS/ FUTURE SCENARIOS
- Temperature +/-
- Percipitation +/-
- Water temperature

CLIMATE DRIVER/ HAZARD
- Strong wind
- Coastal Flood
- Storm surges

IMPACTS
- Housing destruction
- Loss of cultivated land
- Blocked off traffic routes
- Infra-structure destruction
- Increased isolation
- Stress, conflict, injuries
- Higher food prices
- Closure of schools
- Industrial accidents
- Injuries and deaths
- More power outages
- Gender-based violence

NON-CLIMATE DRIVER/ AGGRAVATOR OR IMPROVER
- No land rights
- Unable to access state support
- Absent from leadership positions

ACTIONS/ SOLUTIONS
- Form women support group
- Training on possible in-situ wind protection
- Evacualtion strategy for people w. disability
- Community watch group
- Mapping safe routes

This workshop will enable the Assessment Team to assess the climate change impacts in the targeted area, and connect them to the potential and existing solutions. After the workshop, the Team can use the circular framework to evaluate the Stage 2 insights, and compare them to perspectives and findings from Stage 1.

Stage 1   Stage 2

1 Poor   2 Fair   3 Sufficient   4 Good   5 Excellent

Possible card options

Projections/ Future scenarios	Temperature (increase/decrease, number of hot and cold days)		
	Precipitation (increase/decrease, duration of wet/dry season)		
	Sea-level rise		
	Salinity		
	Water temperature (increase/decrease)		
Climate driver/ hazard	Increased temperature	could influence: heatwave, drought, forest and wildfires	
	Drought		
	Flood	could be fluvial, pluvial/ flash, coastal, storm surges, sea-level rise	
	Fires		
	Extreme cold		
	Heavy rains	could influence: flooding, flash floods, mud/ landslides	
	Hail		
	Frost		
	Heavy fog		
	Snowfall	Could influence flooding	
	Strong wind	including: windstorms, convective wind gusts, tornadoes	
	Cyclone		
	Black ice/ freezing rain		
Impacts **Built and Natural Environments**	Security of tenure	primary	Loss of household and cultivated land
			Displacement or forced evictions
			Increase in coastal erosion impacting private property
		secondary	Less options for in-situ adaptations
	Housing	primary	Housing destruction
			Exacerbated negative weather effects (e.g. due to lack of insulation)
		secondary	Physical and mental health issues due to inadequate housing
			Lack of sense of belonging and identity
	Mobility	primary	Increased mobility challenges
			Longer commuting times
			Lack of evacuation routes
		secondary	Less economic and social opportunities
			More exposure to crime and violence
			Less options for in-sity adaptations
			Less time for earning income, education, public participation
	Infrastructure	primary	Insufficient energy for cooking and heating
			Increased isolation
			Infrastructure destruction
			More power outages
			Destruction of telecommunication systems
		secondary	Health issues (e.g. air pollution indoor due to inadequate fuel)
			Closure of schools
			Lack of safety outside the house
	Ecosystems	primary	Reduced access to natural resources
			Biodiversity loss
			More urban heat islands
			Plant diseases and pests, animal diseases
		secondary	Physical and mental health issues due to inaccessible nature
			Less economic and social opportunities

(continued) **Impacts** **Health and Wellbeing**	Food security	primary	Decreased access, stability and quality of food systems
			Reduced crop yields
			Increased land erosion in cultivated areas
			Disruption of crops, livestock, farming, fisheries
			Loss in livestock
			Rise of food prices
		secondary	Inability ot invest in long-term agricultural solutions
	WASH	primary	Lack of water in reservoir
			Polluted water
			Lack of sanitation treatment options
			Lack of hygiene facilities
			Time-consuming and risky management of WASH faciltities/ systems
			Cannot adequately irrigate crops
			Salinization of soil/ water
		secondary	Water-borne diseases
			Increased harassment and gender-based violence
			More resource-related conflicts
			Increased health risks
	Education	primary	Irregular or inaccessible education
			Lack of specified education on climate change impacts
	Work and care duties	primary	Insecure, exploitative and risky employment
			Increased sensitivity to climate cycles
			Increased time for unpaid care work
			Inaccessible care facilities
			Loss of jobs
			Decreased tourism
			Lack of time for economic activities
	Disability/ illness	primary	Lack of access to evacualtion and recovery
			Increased isolation
			More diseases and pandemics, decline in public health
		secondary	Lack of time for income generation, education, participation in decision-making processes
			Increased violence and crime
Non-climate driver / aggravator or improver	Climate hazard awareness and action plans	Lack of access to reliable and up-to-date information	
		Exclusion from design, maintenance and operation design and training	
		Ignoring day-to-day knowledge in planning for climate action	
		General, decontextualised climate strategies	
		Weak emergency support for people with disabilities	
		Weak participation of vulnerable groups in climate decision-making	
	Community cohesiveness	Increased isolation	
		Increased conflict; gender-based violence	
		Weak solidarity/ support networks	
		Inability to pool resoures and capacity	
	Civic engagement and political leadership	Weak involvement in decision-making; engagement mechanisms general/decontextualised	
		Absent from leadership positions	
		Leaving people behind	
		No land rights	
		Lack of acknowledgement of women's knowledge and ability	
	Technology	Failure to understand local ways of communicating and different communication capacities	
		Failure to account for gender roles; greater gender inequality in technology design, operation and maintenance	
		Weak emergency response	
	Financing for adaptation	Lack of adequate financial resources; inability to access state support	
		Lack of participation in resource management	

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