



Climate justice in an ageing world

Discussion paper

HelpAge

International



Le Minh Duc/HelpAge International – Vietnam

Acknowledgements HelpAge International would like to thank the authors, HelpAge teams and network members for their work in developing this paper, along with all participants engaged as part of consultations, discussions, and interviews, for giving their time and sharing their experiences and knowledge.

HelpAge International is a global network of organisations promoting the right of all older people to lead dignified, healthy and secure lives.

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Published by HelpAge International
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Registered charity no. 288180

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Front cover photo: Jatani Guyo Jawe is a pastoralist, who lives in the Borena district of Dubluk, Ethiopia with his wife Dhaki and children. They lost all their cattle to drought – since then, lack of food has become the greatest challenge for Jatani and his family.

Admasu Brook/HelpAge International – Ethiopia



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This discussion paper encourages further reflection and debate. We look forward to these discussions as well as the opportunities and inspirations to raise our ambitions and goals for supporting older people in climate actions.

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Glossary

AFCC	Age-friendly cities and communities
APAA	Arab Plan of Action on Ageing
AR6	Sixth annual assessment report
AR7	Seventh annual assessment report
COVID-19	Coronavirus 19
COP28	UN Climate Change Conference 28
DLS	Decent Living Standards
EHRA	Extreme Heat Resilience Alliance
FOPDEV	Foundation for Older Persons' Development
GDP	Gross Domestic Product
GET	Global Education Trend
GHG	Greenhouse gas
IIASA	International Institute for Applied Systems Analysis
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
MENA	Middle East and North Africa
MIPAA	Madrid International Plan for Action on Ageing
NCAR	National Center for Atmospheric Research
OECD	Organization for Economic Co-operation and Development
OPA	Older People's Associations
OPC	Older People's Club
PIK	Potsdam Institute for Climate Impact Research
PTSD	Post-traumatic Stress Disorder
RCP	Representative Concentration Pathway
SDGs	Sustainable Development Goals
SSPs	Shared Socioeconomic Pathways
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHCR	United Nations Refugee Agency
VID	Vienna Institute of Demography
VNR	Voluntary National Review
WCDE	Wittgenstein Centre of Human Capital Data Explorer
WHO	World Health Organization

Executive summary

The ageing of the world's population will become one of the most significant social transformations of the 21st century. Virtually every country in the world is experiencing growth in the number and proportion of older people in their population. In 2018, for the first time in history, people aged 65 or over outnumbered children under five years of age globally.¹ Similarly, climate change has the potential to deter health, well-being, and livelihoods of the ageing population. Yet, the repercussions of global ageing for climate action remains absent from debates on climate change.

To address this gap, this discussion paper makes the following key recommendations for action to governments, donors and the international climate community ahead of the global stocktake at the COP28 climate talks and beyond:

Key recommendations

- **Integrate ageing into climate analysis** especially future scientific climate reports such as the Intergovernmental Panel on Climate Change (IPCC)'s next, seventh annual assessment report (AR7) and the United Nations Environment Programme (UNEP)'s mitigation and adaptation gap reports, by increasing understanding of the impact of ageing on economic growth, consumption patterns, vulnerability and capacity.
- **Strengthen life-course resilience through targeted public policies at the national level**, starting with age-sensitive climate risk and needs assessments and with mainstreaming of ageing into policies aimed at preventing, responding and recovering from natural disasters.
- **Empower older people in the transition** towards a just, low-carbon and resilient future through meaningful engagement in decision-making. Also design and implement targeted age-sensitive, awareness-raising campaigns on climate change and environmental activism.
- **Support intergenerational solidarity** through intergenerational dialogues and interventions that inform decision-making, and climate mitigation and adaptation projects co-designed by youth groups, Older People's Associations (OPAs) and age-friendly cities and communities.
- **Tackle injustice by addressing intra- and inter-country carbon inequalities** in terms of contribution to climate change through consumption-based greenhouse gas (GHG) emissions and exposure to its effects – providing adequate levels of support to the most vulnerable older people, including the rural poor, women-headed households and indigenous groups, and harnessing the financial potential of pension funds for climate actions and the just transition.



Usman Ghani/HelpAge International – Pakistan



Mr. Prem Teng/FOPDEV - Thailand

Introduction

This discussion paper analyses the interplay between global ageing and climate action towards 2050. According to the 2015 Paris climate agreement, the world needs to achieve carbon neutrality by 2050, at which point there will be a significantly higher proportion of older people in the global population. In assessing the situation of low- and middle-income countries, this paper seeks to inform national and international climate policies ahead of the global stocktake of COP28 and beyond.

To project global ageing to 2050, this paper uses the dataset of the International Institute for Applied Systems Analysis (IIASA), which informs the projections of Shared Socioeconomic Pathways (SSPs)² and the related Integrated Assessment scenarios of the IPCC.³ Shared Socioeconomic Pathways describe socio-economic characteristics that influence greenhouse gas emissions in a standardised way. The three scenarios developed by IIASA (see Section 2 →) give an indication of the societal pathways associated with different levels of global average temperatures, including modelling the influence of population, economic growth, urbanisation, and the rate of technological development. In this paper, we consider older people to be aged 60-plus. Annex 1 → provides details about the methodology, data and assumptions used.

In the three potential scenarios developed by IIASA, (Sustainability road: SSP1 / Middle road: SSP2 / Stalled development: SSP3), global ageing differs due to varying assumptions about fertility and mortality, ranging from 37 per cent to 45 per cent of the global population in 2050. By this date, there will be around 3.7 billion older people in the world, whose specific consumption needs, capacities and vulnerabilities should be considered when designing climate mitigation and adaptation pathways.⁴

The challenge posed by ageing is high in low- and middle-income countries where 80 per cent of the world's older people will be living by 2050.⁵ Challenges will also occur in countries where the population is continuing to grow, and where healthcare systems struggle to cope with the needs of older people.

The IPCC's sixth annual assessment report (AR6) of climate change, refers to 'demographic pressures'. It includes a graph with projections about what mean temperatures a baby born in 2020 will experience by the age of 70 and shows the impact of current climate policy decisions for future generations.⁶ But it does not reflect global ageing as a relevant and current trend for climate action.

Section 1: Ageing in a changing climate

Almost 138 million people aged over 60 (close to 14 per cent of the global over-60 age group) are already exposed to climate risks, many of whom live in low- and middle-income countries in the Global South, according to the United Nations Population Fund (UNFPA).⁷

But as the population of older people increases, an even larger proportion of older people will be on the frontline of climate change, as average global temperatures continue to rise and climate-related hazards increase.

The UN High Commissioner for Human Rights (UNHCR) has already stated that climate change will undermine the human rights of older people. This includes their right to health, life, and safety; their right to housing, mobility, food, and decent livelihoods; to cultural heritage; and to non-discrimination.⁸ However, not all older people will be affected in the same way.

Several factors act as risk multipliers – compounding the adverse effects of climate change – including where older people live, their social relationships, educational status, material conditions, income and occupation, access to public services, gender, ethnicity, and health status.⁹ The climate emergency will affect women more than men in both affluent and poorer countries and regions, as women have a longer life expectancy than men, with some regions having only women in the oldest age group.¹⁰ Other environmental threats, such as air, water and soil pollution and the biodiversity crisis, also represent severe risks to communities including older people.

In some countries, the risk will materialise in the near to medium future, but many older people around the world are already experiencing the effects of climate change (see Box 1 below).

Box 1

Older women are more vulnerable to climate change

Mai Safoora, aged 73, from Qadan Mashi village in Pakistan, is one of many older people whose lives have been deeply affected by extreme weather events.



HelpAge International – Pakistan

After her husband passed away because of a chronic respiratory disease, Mai lived with her two sons and their families in a small house. Her sons, who both depended on their daily wages for survival, migrated, along with their families, to a different city in search of work. During the floods in Pakistan in 2022, the continuous heavy rain destroyed the roof of Mai's home and damaged the entire structure of her house.

She was forced to live under a plastic sheet that provided shelter from the heavy rains. With no food or cash to buy food, Mai became weak and caught a fever. Lack of medical facilities in the village forced her to rely on homemade remedies.

“Everyone asked me to leave my house, but I stayed here because I was alone and had nowhere to go. My children left me all alone, and this house is all I have left.

I am very upset, I have been facing various issues such as lack of medicine, food, and shelter. I don't know if I will be able to reconstruct the rooms or if my children will ever come back to this house” said Mai.

Source: HelpAge International, 21 September 2022 – Pakistan Flood Assessment.



Jorge Panchoaga/Fairpicture/HelpAge International
- Colombia

Climate change poses a significant risk to human health and well-being. Under a high emission scenario 9.25 million excess deaths are predicted, worldwide, each year, by the end of the century. Without adaptation and economic growth the estimated annual death toll could reach 24 million.¹¹ Together with children, older people are at greatest risk of excess deaths due to several principle factors:

1 Vulnerability to climate-related natural disasters



Older people are often at higher risk from extreme weather events such as tropical cyclones, flooding, drought, heatwaves and wildfires. In the Philippines, more than 40 per cent of the people who died because of Typhoon Haiyan in 2013 were older.¹² Likewise, in the 2009 Australian 'Black Saturday' bushfires which resulted in 172 deaths,¹³ almost 30 per cent of these deaths were among people aged 60 or older; 9 per cent had a chronic disability and were aged 70 or over.¹⁴ Almost three-quarters of deaths from Hurricane Katrina in 2005 and over half the deaths from Hurricane Sandy in 2012 occurred among older Americans.¹⁵

2 Sensitivity to extreme hot and cold temperatures



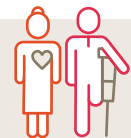
Older people are more susceptible to heat and cold stress. They have a lower ability to self-regulate their body temperature and often have poor access to cooling technologies. In the short-term, a warmer climate may reduce net temperature-related deaths, because of fewer extreme cold deaths.¹⁶ However, over time global heating is expected to raise the number of heat-related deaths,¹⁷ especially in lower-income nations with hotter climates.¹⁸ In the past two decades, heat-related deaths among people aged 65 and over have almost doubled globally, reaching approximately 300,000 deaths in 2018.¹⁹ The 2022 European summer, for example, resulted in 9,226 heat-related deaths among people aged 65–79 years, increasing to 36,848 deaths for those aged 80 and over.²⁰

3 Prolonged exposure to pollution



Long-term exposure to traffic-related air pollution increases the risk of hospitalisation for asthma in older people.²¹ A study of the long-term exposure of older adults to outdoor air pollutants in Hong Kong, China was found to increase the risk of cardiovascular death.²² High levels of fine particulate matter from agriculture and wildfires were also associated with greater rates of dementia.²³

4 Pre-existing health conditions



Chronic diseases such as heart disease, lung disease, dementia, and diabetes, which are more prevalent amongst older people, heighten vulnerability to the health effects of climate change, especially in situations when access to care might be reduced because of extreme weather events.

Specific challenges for low- and middle-income countries

When it comes to the intersection between ageing and climate change, low- and middle-income countries will be one of the worst affected groups of countries. By 2050, globally one in five people will be over 60 years of age²⁴ but debates around ageing typically focus on developed countries, as they will undergo greater ageing as a share of their population. This does not account for the fact that by 2050, about 80 per cent of the world's older people will live in low- and middle-income countries.

Low- and middle-income countries will also face a combination of greater climate-related hazards and a higher socioeconomic vulnerability because of increasing debt burden, deteriorating natural ecosystem and slow progress on development indicators.

Around 30 million individuals currently live in hot areas, primarily in the Sahara Desert and Gulf Coast. By 2070, two billion people could live in extremely hot areas.²⁵

Figure 1 below, shows that the risk of heatstroke is concentrated around the tropics.

One in seven people globally do not have access to climate-friendly cooling solutions, putting them at potentially fatal risk from heat, especially in low- and middle-income countries.²⁶ Conventional cooling, such as air conditioning, is responsible for over seven per cent of global greenhouse gas emissions. If not managed properly, energy needs for space cooling will triple by 2050, together with associated emissions.²⁷

Figure 1: Global distribution of population exposed to hyperthermia from extreme heat and humidity for (a) 2020, and projections from selected Representative Concentration Pathways (RCPs) in (b) the mid-21st century, and (c) the end of the 21st century

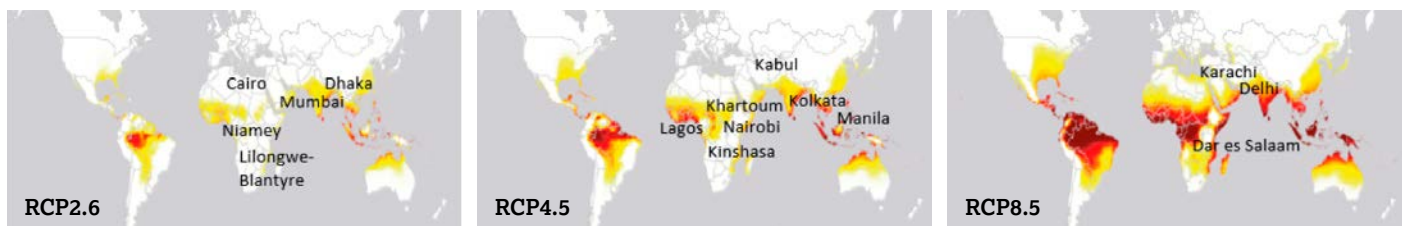
a. 2020



b. 2050



c. 2100



Source: IPCC's sixth assessment report, 2023.

0 days | 365 days | Projected number of days per year when air temperature and humidity conditions turn deadly and pose a risk of death. Named cities are the top 15 urban areas by population size during 2020, 2050 and 2100.

The Middle East and North Africa: killer heatwaves, water stress and a fast-ageing population

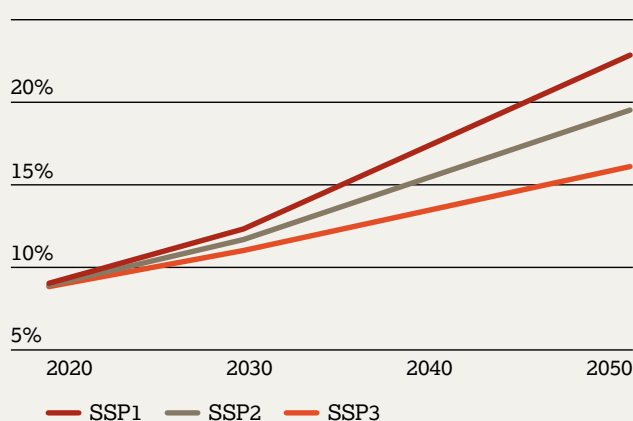
By the end of the century, about half the population in the Middle East and North Africa (MENA) (approximately 600 million people) could be exposed to annually recurring super- and ultra-extreme heatwaves. It is expected that most of the exposed population (more than 90 per cent) will live in urban centres.²⁸ Living in maladapted urban areas means being exposed to the so-called ‘heat island effect’ which is caused by the absorption of sunlight by concrete and asphalt, and which can increase intra-urban temperatures by up to 10 degrees.²⁹ Combined with air pollution, extreme heat creates a high risk of respiratory and cardiovascular conditions. Apart from increased risk of disease and death, indirect effects of extreme heat include a higher propensity to interpersonal violence within affected areas.³⁰

Water stress in MENA countries will also be extremely high. A 2023 World Bank report states that by:

*“the end of this decade, the amount of water per capita annually will fall below the absolute water scarcity threshold of 500 cubic metres per person, per year”.*³¹

Besides experiencing harsher weather, in a few countries in MENA (Iraq, Palestine and Sudan) the population is projected to increase by at least 50 per cent from their 2015 levels.³² According to IIASA’s middle road scenario, MENA’s total population could reach 715 million by 2050, representing a 36 per cent increase from 2020.³³ The population over 60 will increase from 46 million in 2020 to 139 million in 2050, making up 20 per cent of the region’s population (see Figure 2 below).

Figure 2: Proportion of older population, aged 60–99, in the Middle East and North Africa



The 2002 Arab Plan of Action on Ageing (APAA), the Madrid International Plan of Action on Ageing (MIPAA) and the Arab Regional Ageing Strategy (2019–2029) prompted Arab States to develop and implement national strategies and policies targeting the well-being of older people. While their implementation would contribute to improving living conditions of older people in the region, several gaps remain. For instance, countries with lower levels of economic development and access to adequate healthcare will be hard-pressed to meet the challenges of a rising number of older people in a changing climate, while traditional family support systems for older people might not cater for their additional needs. This will place greater demands on the region’s healthcare systems, many of which are ill-prepared.



Low- and middle-income countries are already affected by extreme weather events. They are likely to be more vulnerable to climate instability due to their high level of dependence on natural resources and agriculture. Also, more older people in these countries will live in densely populated areas with high levels of poverty and a lack of social protection.³⁴

For instance, the agricultural sector, including semi-subsistence agriculture, occupies a much greater proportion of the labour force in low- and middle-income countries, which means crop failures have a larger aggregate impact on livelihoods. Over 34 per cent of crop and livestock production loss in low- and middle-income countries is because of drought and costs the sector US\$37 billion overall.³⁵

Globally, 800 million to 3 billion people are projected to experience chronic water scarcity because of more severe and frequent droughts at 2°C warming, and up to approximately four billion at 4°C warming, most of them living in low- and middle-income countries.³⁶

Climate change is also driving up migration in and from low- and middle-income countries. Since 2010, weather emergencies have displaced around 21.5 million people a year³⁷ and, according to the World Bank 2021 report, around 216 million people, mostly from developing countries, will be forced to flee their homes because of climate change impacts by 2050 unless radical action is taken.³⁸ Around 90 per cent of refugees already come from countries that are the most vulnerable and least ready to adapt to the effects of climate change.³⁹

The 2030 Agenda for Sustainable Development outlines 17 interlinked global Sustainable Development Goals (SDGs) designed to be a blueprint to achieve a better and more sustainable future for all. However, many low- and middle-income countries are unlikely to have achieved the SDGs by 2030 with lack of capacity, skills and resources being a significant barrier. In Sub-Saharan Africa and South Asia, current rates of progress suggest that both regions will fall short of attaining the SDGs for health, education, and water and sanitation.⁴⁰ Low- and middle-income countries struggle with fragile and under-resourced health and social care systems to support older people, and their health systems are unable to respond to the effects of climate change. In fact, 75 per cent of low- and middle-income countries have little or no data to inform health and social care planning for older people.⁴¹



Ben Small/HelpAge International – Myanmar

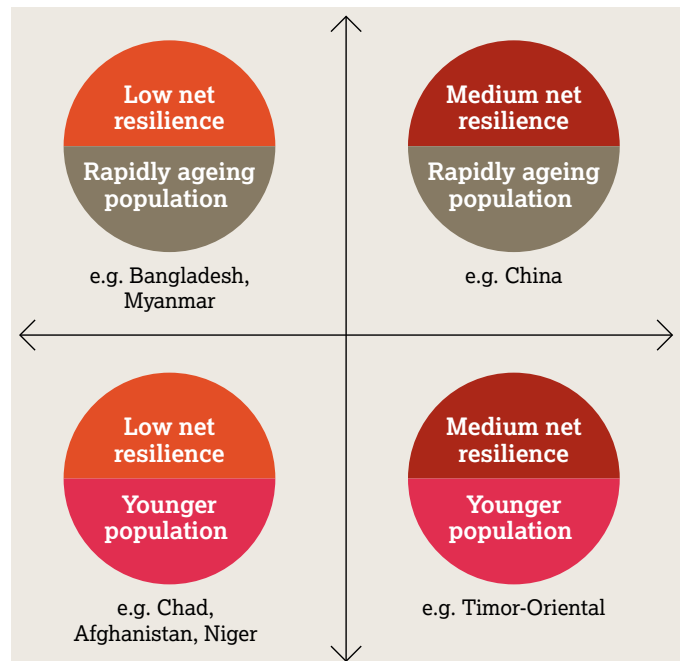
Differences between countries

Low- and middle-income countries have many characteristics in common, it is also important to highlight some critical differences between their risk profiles.

While Africa’s population is expected to triple by 2100, the population of Asia and Latin America will stagnate. Although all regions will see a rise in the share of older people in their population, this rise will be more pronounced in some regions than others.⁴² The resilience levels of countries will also vary based on their vulnerability and readiness.⁴³

At the country level, there are also marked differences within each region in terms of population growth and ageing. Some countries are still witnessing a rapid population growth with a high proportion of youth, while others are shrinking and ageing rapidly. By 2050, the changes will be substantial, for instance, according to IIASA’s middle scenario, China’s population will fall from 1,397 million (2015) to 1,301 million, with the share of older population reaching 37 per cent. In India, 20 per cent of the total population will be aged 60–99 in 2050. In contrast, Afghanistan’s older population will only represent 6.5 per cent of the country’s total population by 2050.⁴⁴

Amongst low- and middle-income countries, an analysis of country profiles shows four broad categories:





Gramin Vikas Vigyan Samiti (GRAVVIS) – India

Section 2: Global ageing and climate mitigation pathways

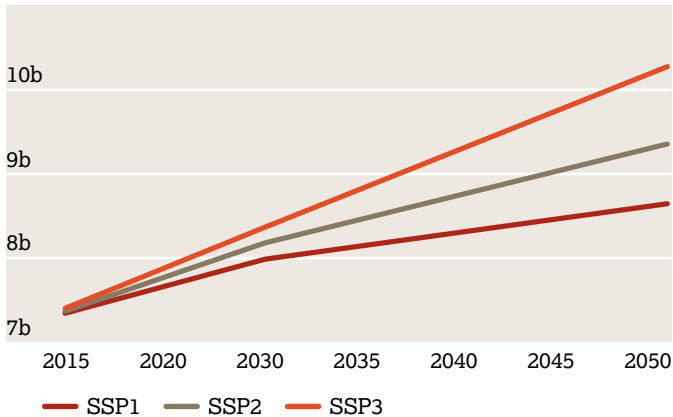
When developing climate mitigation pathways, it is important to consider different scenarios based on demography, urbanisation, education and gross domestic product (GDP). In the 2023 update of the SSPs, IIASA foresees three potential scenarios (see Table 1 below).

Table 1: Potential Shared Socioeconomic Pathways

SSP1 – Sustainability road	SSP2 – Middle road	SSP3 – Stalled development
<p>This scenario assumes a future that is moving toward a more sustainable path, with educational and health investments speeding up the demographic transition, leading to a low world population. The emphasis is on strengthening human well-being. This is associated with high education, low mortality and low fertility. Migration levels are assumed to be medium for all countries under this SSP.</p>	<p>This is the middle of the road scenario that can also be seen as the most likely path for each country. For all countries, it combines medium fertility with medium mortality, medium migration, and the Global Education Trend (GET) education scenario.⁴⁵</p>	<p>This scenario portrays a world separated into regions characterised by extreme poverty, pockets of moderate wealth, and many countries struggling to maintain living standards for rapidly growing populations. This is associated with low education, high mortality and high fertility. Because of the emphasis on security and barriers to international exchange, migration is assumed to be low for all countries.</p>

Depending on scenarios, the global population will range between 8.6 and 10.3 billion in 2050 (see Figure 3 below).

Figure 3: Global population to 2050 according to the SSPs (in billions)



Source: Own calculations of authors based on IIASA's data, www.wittgensteincentre.org/dataexplorer/

In all SSPs, we see a major increase in the number of older people and in their share of the total population (see Table 2 below).

The IPCC uses the middle of the road scenarios (SSP2) for its own modelling. Under this scenario the number of older people will more than double in 2050, with over 3.5 billion people over 60 by this date, representing 38 per cent of the total population. Women will represent 54 per cent of older people. Within the 60+ category, 51 per cent will be between 60 and 65, 38 per cent will be between 65 and 80 and the remaining 11 per cent will be over 80.⁴⁶

Table 2: Number of older people by 2050 according to the SSPs

	Number of 60+ by 2050 (billion)	Share of total population (%)	Growth compared with 2015 (billion)
SSP1	3.897	45%	+ 1.941
SSP2	3.585	38%	+ 2.122
SSP3	3.766	37%	+ 2.253

Source: IIASA, Op. cit.



Nur Mohamed/HelpAge International – Somalia

Ageing and its impact on the economy

At an economy-wide level, there is no clear understanding of the impact of ageing on the demand for energy and high-carbon emission goods and services. While ageing populations and changes in household size will affect consumption patterns and carbon emissions, the aggregate carbon impact of population ageing remains inconclusive.⁴⁷ On the one hand, a large proportion of older people follow low-carbon lifestyles due to low-income levels. On the other, there is a rising number of ‘young old’ that are demanding more energy-intensive goods and services.

The contribution of older people to national total consumption-based emissions increased from 25.2 per cent to 32.7 per cent in 32 countries in the Global North between 2005 and 2015.⁴⁸ The key reasons driving this result seem to be a higher use of carbon-intensive cooling and heating solutions. This suggests that ageing societies, at least in the north, will face long-term emissions increases if measures are not taken.⁴⁹ In low- and middle-income countries, in which there is no data, effects will depend on the wealth of older people, with a major gap in consumption-based emissions between rich and poor.

Indeed, the rise of affluence in some low- and middle-income countries could also have a profound effect as it would lead to an increase of consumption emissions per capita. In Asia, an expected three billion people (or 70 per cent of the population compared with 15 per cent now) will join the ‘consuming class’, leading to a change in consumption patterns.⁵⁰ How this new consuming class will behave will have a major impact on emissions – seniors’ consumption may grow twice as fast as that of the rest of the population in many Asian countries.⁵¹

Evidence suggests that consumption patterns of older people differ according to their generation and might also affect greenhouse gas emissions through their impact on economic growth.

In 2050, the older generation will have been born between 1960 and 1990. The consumption profiles of these generations provide an indication of how they would consume and what lifestyle they would pursue. A key variable will be their share of national income, assets and level of poverty since affluence is a more accurate prediction of carbon footprint than age. In addition, life events such as changes in employment, marriage, and childbirth, can result in changes in the consumption of goods and services.

Climate change is likely to have a negative impact on growth, inflation, and the debt-to-GDP ratio due to the costs associated with responding to natural disasters, coupled with rising global demand for materials. This will lead to inflation being higher than otherwise, with adverse distributional effects. According to an International Monetary Fund (IMF) study, this will require tighter fiscal and monetary policies.⁵²

Since many older people live on a fixed income, inflation will increase the need for public-funded safety nets. A higher debt-to-GDP ratio reduces the availability of public finance to pay pensions and to support the growing burden of care linked with ageing.

In low- and middle-income countries, there may be significant changes in old age care provision which might also affect carbon footprints, infrastructure, and consumption patterns. In China, for example, investors have been supporting the retirement home model, as standards of care for older adults.⁵³ In 2022, total investment in the senior living market was about US\$1 trillion, up from US\$200 billion a decade ago. The Chinese government is expected to spend 35 billion yuan (US\$5.1 billion) to build retirement facilities to improve senior care.⁵⁴ Health sector growth and investment in care provision coupled with trajectory to zero emissions can decrease healthcare's footprint significantly.⁵⁵

The IPCC comprehensive assessment report (AR6) recommends using an approach to costing the increasing demand for senior care needs based on Decent Living Standards (DLS). Such an approach would serve as a socio-economic benchmark as it views human welfare not in relation to consumption but in terms of services which together help meet human needs (e.g., nutrition, shelter and health). It also recognises that these service needs may be met with different emissions implications depending on local contexts, cultures, geography, available technologies, social preferences, and other factors.



Jorge Panchoaga/Fairpicture/HelpAge International – Colombia

However, the IPCC is not yet considering the impact of ageing on the demand for goods and services in countries which undergo rapid ageing. It is critical for policymakers to look at how needs for high carbon goods and services develop with age to design life-course, age-inclusive decent living standards, differentiating essential carbon emissions from luxury ones at different life stages. For instance, older households might prioritise different basic needs such as good health, affordable/clean transport and social relations over general consumption, with positive effects on both carbon footprints and well-being.



Section 3: Towards age-inclusive climate action

Since the adoption of the 2002 UN-led Madrid International Plan for Action on Ageing (MIPAA), progress has been slow, with developing countries failing to act due to competing priorities and a lack of international support and finance. A key challenge seems to be the approach and attitude towards ageing by governments and other institutions. Climate change will impact the delivery of goals under MIPAA and will require a more coherent policy approach in achieving the objectives of MIPAA and the SDGs.⁵⁶

Most governments in low- and middle-income countries still work on the premise that families will take care of older people. Climate change will affect family structures, with multiple shocks on income, assets, health and security, reducing their ability to take care of older people. Given the hard lessons learnt from the COVID-19 pandemic, it is essential to develop new ageing policies which assess the nature of climate and other environmental risks to older people's rights and well-being. Conversely, climate policies must fully integrate the reality of ageing to protect the rights of older people in a changing climate as well as enable their full participation in the just transition to a low-carbon society. This could start with a dedicated session in the relevant work programmes within the climate negotiations, especially the post-2020 adaptation framework.

In this section we identify five policy priorities which are discussed on the following pages.

3.1 Integrating global ageing into climate analysis

A key challenge stems from the fact that:

*“scenario-based analysis of the physical climate focuses on the emerging signals of climate hazards, with limited consideration of how non-hazard drivers of climate risks might evolve”.*⁵⁷

There are several knowledge gaps regarding the intersection of global ageing and climate change. To effectively reduce greenhouse gas emissions related to consumption, policymakers need to gain a better understanding of the interplay between individual life courses, local determinants and consumption patterns. It is essential to understand the trends in demand for goods and services associated with ageing to avoid a mismatch between infrastructure and service provision and demand. Ill-designed infrastructure will have a negative impact on older people and potentially increase carbon emissions. This requires designing demand-based modelling that considers societal trends in terms of household size and composition. For all countries, this means looking at the significant increase in older people headed, single households, their lifestyle effect, and their level of awareness on renewable energy options, as well as the finance and technology required to access it.⁵⁸

There is also a need for a more nuanced understanding of differences within the older people cohort, as people in their 60s, 70s, 80s and above might have unique and different patterns of behaviours and needs. For instance, based on the medium scenario of the UN 2019 World Population Prospects, low-income countries will witness a 30-fold increase in the number of people over 85 years of age by the end of the century.⁵⁹ Consumption patterns of 85-year-olds differ from that of 60-year-olds.

Understanding the specific barriers faced by ageing households can contribute to low-carbon transition. For instance, older people headed households may have a harder time adopting new technologies and lack borrowing capacity for investing in more sustainable energy sources or house insulation. Knowing which percentage of the housing stock and other relevant assets (pension funds) is owned by older people can show where mitigation action would be most effective for the transition. This would enable specific awareness-raising and behaviour change campaigns in terms of low-carbon consumption by segmenting population according to age and socio-economic status.

To integrate ageing into climate analysis, we recommend the following policy changes:

- **Include global ageing as a key trend in climate scenarios** and analysis for future scientific climate reports, including AR7, the UNEP mitigation and adaptation gap reports.
- **Analyse the twin effects of ageing and climate change** on productivity, tax revenues and economic growth to inform age and climate sensitive macroeconomic policies.
- **Improve the understanding of older people's consumption patterns and lifestyles** (taking into consideration divergences between different cohorts), with a focus on how to change behaviours of middle-class and affluent older people, and design targeted campaigns in the Global North and South, given their increasing market power but also asset ownership (housing and financial assets).
- **Better disaggregate the concept of 'population ageing'**, and how this translates to specific age structure changes (as well as corresponding policy priorities) for different regions around the world.
- **Analyse the impact of climate change on projected regional population scenarios** in terms of fertility, mortality and migration. Also account for and analyse the impact of climate change on all domains of functional ability and intrinsic capacity that will ultimately deliver on healthy ageing.

3.2 Strengthening life-course climate resilience through local and national policies and programmes

Resilience refers to the ability of individuals, communities or countries to withstand the effects of climate change. Older people are at higher risk of death and disability from climate effects; they are also disadvantaged in recovery assistance. Reducing their vulnerability to extreme weather events means ensuring they reach later life with the capacity to better manage the challenges they face in old age, and to provide them with adequate healthcare and social protection.⁶⁰

Strengthening resilience requires a long-term approach, over one's life. In fact, the roots of old age vulnerability often stem from a lack of access to opportunities or to essential rights during earlier stages of life. For instance, half of the Asia-Pacific population has no access to social protection. There are also remaining gaps in pension coverage and pensions are not always high enough to cover basic needs.⁶¹ It is therefore crucial to have a twin-track approach that builds present and future resilience.

An analysis of 20 national adaptation plans of low- and middle-income countries shows that there are gaps in knowledge on ageing and the needs of older people. The national adaptation plans of most countries barely refer to the demographic changes that their populations will be facing. Countries such as the Democratic Republic of Congo, Ethiopia and Palestine mention the word 'elderly' once. Other countries (such as Brazil, Kuwait, South Africa and Sri Lanka) acknowledge the issue, especially regarding health questions and diseases made worse by climate change, but lack strategies to address the issue. There are notable exceptions: Bangladesh has a comprehensive National Adaptation Plan which mentions the word 'elderly' 32 times and includes several sections addressing the risks climate change poses to this group. The Plan also foresees the organisation of early warning and training programmes and the creation of safe shelters for older people (see Annex 3 →).

To strengthen resilience to climate change over the life-course of an individual, HelpAge propose the following key policy recommendations for local and national governments in low- and middle-income countries, with support from donors:

- **Develop age- and climate-friendly urban adaptation programmes**, such as the World Health Organization (WHO) age-friendly cities and communities (AFCC) framework that address barriers to older adult well-being and participation,⁶² including:
 - Investments into low-carbon affordable and age-friendly public transport, which also contributes to reducing air pollution.
 - Re-introduction of green spaces and community vegetable gardens into cities with major health co-benefits for older people.
 - Investments into age-friendly housing development and informal settlement renovation in high-risk areas.

The Asian Development Bank's Urban Climate Resilience Trust Fund⁶³ has supported expanding cities in reducing people's vulnerability to floods, storms or droughts through 25 infrastructure projects benefiting around two million poor and vulnerable people. The Extreme Heat Resilience Alliance (EHRA) also facilitates access to low-carbon, cost-effective, replicable, cooling options for vulnerable dwellers in several vulnerable cities, such as Chennai and Mexico City.⁶⁴

- **Design age-sensitive climate risk and needs assessments:** Building on the existing risk assessment frameworks, technical support should be provided to low- and middle-income countries to assess the specific risk and needs of older people in National Adaptation Plans and to develop corresponding action plans along with monitoring frameworks. In Bangladesh, the government has mainstreamed ageing into several climate policies, by assessing risks and ensuring that older people can be located, and catered for, during times of climate-related emergencies.⁶⁵
- **Address the needs of older people in disaster risk reduction:** Implement existing United Nations Office for Disaster Risk Reduction (UNDRR) guidelines for incorporating the needs of older people in disaster risk reduction during the prevention, response and recovery phases.⁶⁶ The special needs of older people can include reduced mobility, high psycho-social vulnerability and financial support required to recover from the loss of housing or livestock. Older people can also contribute to risk reduction activities to strengthen the resilience of the community (see Box 3 on Pakistan below).

Box 3

Building community resilience in flood-affected areas of Pakistan

Pakistan's devastating floods in 2010 resulted in a major humanitarian crisis, affecting more than 20 million people. The floods caused extensive damage to homes, crops and infrastructure, leaving millions of individuals susceptible to malnutrition and waterborne diseases.

Through training on community-based disaster risk management and climate adaptation organised by HelpAge, members of the OPA gained knowledge on how to minimise potential losses in the face of natural and human-induced hazards.

This led to older people and communities starting efforts in four key areas: disaster prevention and mitigation; disaster preparedness; emergency response; and recovery and rehabilitation. They incorporated climate adaptation practices into all these initiatives.

A significant outcome observed by HelpAge because of the training was the start of tree-planting campaigns by communities in flood-affected regions. These were planned as prevention measures to address the effects of climate change, including weather- and climate-related natural disasters such as floods and heatwaves.

Source: HelpAge International.



- **Reduce existing vulnerabilities as a pathway for greater resilience to climate-related shocks:** Many poor older people continue working informally until a late age and tend to lack access to pensions or health insurance. They also often carry the burden of caring for their grandchildren. As a result, they need specific income security and social protection programmes, which are adapted to their needs and make them resilient to climate-related shocks. Approaches could include basic income schemes for older people, or public employment programmes that contribute in restoring nature as well.⁶⁷
- **Introduce agricultural development programmes** to build the capacity of older farmers to cope with climate effects. As the climate changes, farmers will need to deal with greater water scarcity, reduced productivity, and more frequent harvest losses. In addition, many older women are left living on farms with their grandchildren while other adults go to nearby towns for work (see Box 4 on biochar initiative below). A gendered approach towards agricultural development programmes might therefore be essential to ensure effective access for older women.

Box 4

Older people-led biochar initiative in Chiang Mai, Thailand

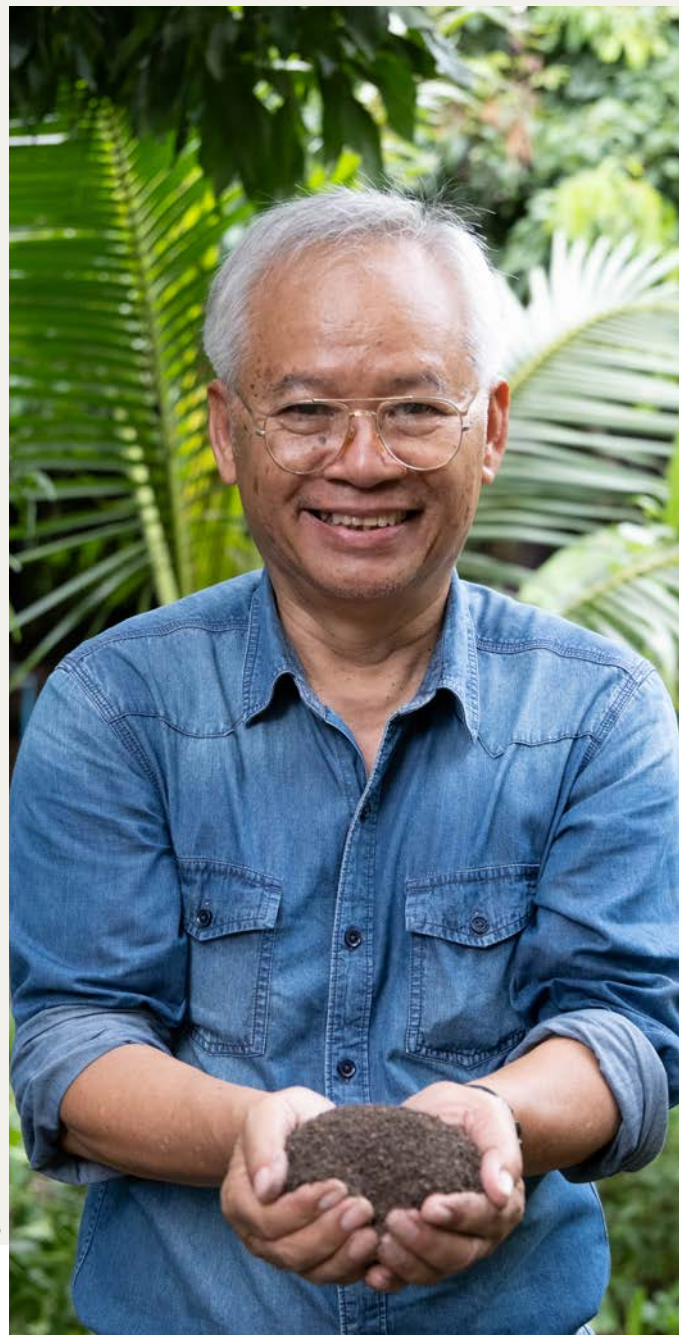
This innovative programme involves older people in making and using biochar, a sustainable by-product of organic biomass waste. This is used to improve soil quality to support agricultural productivity and food security, and as a fuel that reduces the air pollution hazards of fine particulate matter and contributes to carbon sequestration. Biochar slows the rate at which carbon is returned to the atmosphere. In addition, biochar can improve agricultural productivity, particularly in low-fertility and degraded soils; reduce the losses of nutrients and agricultural chemicals in run-off; and improve the water-holding capacity of soils.

The Older People's Clubs (OPCs) in Chiang Mai have been running the programme since 2021 in close collaboration with farmers, local authorities and the Foundation for Older Persons' Development (FOPDEV), with support from HelpAge. Participating older people produce the biochar for household use and sell it to earn an income. They encourage wider take-up by training others.

"I am working with farmers to produce biochar and use it as a soil enhancer mixed with compost. This project has been expanded and integrated with organic farming networks in Chiang Mai province" says Boonrat Mihittri, 67, project advisor, pictured right.

While the project's primary aim is to reduce greenhouse gas emissions, it brings many other benefits to older people and their communities. There are now around 100 people benefiting from capacity and leadership development, income generation, and soil enhancement which contributes to food security and reduces outdoor pollution from burning waste biomass.

Source: Field research by HelpAge partner, FOPDEV



Mr. Prem Teng/FOPDEV – Thailand

- **Develop healthy-ageing policies:** New policies and interventions are needed to address the most significant effects of climate change and pollution on older people, including hyperthermia, air pollution and vector-borne diseases. This involves awareness-raising of citizens on health problems related to climate change, the redesign of healthcare infrastructure and training community healthcare providers on how to deal with climate sensitive health concerns. The government of Qatar, for example, has developed an emergency distress alarm (*Aounak*) which is a device to enable older adults, people with special needs and those with chronic diseases to easily contact the emergency services.⁶⁸



Usman Ghani/HelpAge International
– Pakistan

3.3 Empowering older people in the transition towards just, low-carbon and resilient societies

Too often, a lack of awareness on climate change and blatant ageism leave older people as passive bystanders and victims of climate change rather than actors or change-makers. Yet, older people have distinctive capacities and contributions to make:

- **Knowledge:** Older people have gained experience, skills and capabilities that allow them to make significant contributions to climate action. For instance, traditional and indigenous peoples' environmental knowledge has the potential to play a crucial role in mitigating and adapting to climate change by defining earlier environmental baselines. They can identify the impacts that need to be mitigated against, providing observational evidence for modelling on climate change; and advice on adopting low-carbon technologies. They can also identify culturally appropriate values to protect people from the direct effects of climate change or from the effects of adaptation measures themselves.⁶⁹
- **Activism and mobilisation capacity:** Groups of older people across the world are starting climate litigation, because the effects of climate change are already affecting them. They also take part in protests and other forms of political action and have generated innovative forms of activism,⁷⁰ such as campaigns towards pension funds, and adopting peer-to-peer approaches, e.g. older people are more likely to engage with ideas if they are presented by people they know and trust could give credibility to awareness-raising and behaviour-change campaigns.⁷¹
- **Organisational and leadership capacity:** Older people can take advantage of their high social standing in many communities, to act as mobilisers and organisers (see Box 5 →).

- **Caregiving role:** Many older people provide a valuable role through informal care in their communities, for their grandchildren and others. They also share their knowledge on caring for nature and the environment. Harnessing these capacities for climate and biodiversity action will be vital in an ageing world.⁷²
- **Volunteering:** While patterns vary from one country to another, many older people volunteer in their communities and through engagement with OPAs. This also provides enormous benefits for their own health and well-being.⁷³

It is crucial to avoid generalised approaches when dealing with older people. Factors like health, economic and social status, family situation, geographical location, occupation and standing in society need to be considered as older people might have unequal capacities and constraints.

To empower older people in the transition towards just, low-carbon and resilient societies, it will be essential to take the following policy measures:

- **Include older people in decision-making:** This means considering the needs and concerns of older people in decision-making at all levels. For instance, web-based citizen consultations might lead to a lower participation by older people. Inappropriate consultation approaches at a design stage for adaptation projects might reduce take-up by older citizens or produce solutions that are ill-adapted to their needs.
- **Design community-based mitigation and adaptation solutions** which capitalise on older people's knowledge, allow for their active participation and provide co-benefits in terms of resilience, health and income generation.
- **Conduct age-sensitive awareness-raising** campaigns on low-carbon consumption and environmental volunteering, which are suitable for older people, considering the digital divide and their specific knowledge needs and gaps.
- **Support older people to mobilise through OPAs and other groups such as religious groups:** building the capacity of older people as stakeholders to advocate and mobilise is important to inform and change climate action policies and to curb fossil fuel consumption. This mobilisation will dismiss a notion that older people care less about climate change.

3.4 Building intergenerational solidarity

Studies on attitudes towards climate change have found older people share similar outlooks with other generations. For instance, according to the People's Climate Vote, 50 per cent of people over 60 say climate change is an emergency, compared to an 'all ages average' of 64 per cent.⁷⁴

A study of nearly 90,000 individuals across 19 countries found little correlation between age and opinions on climate change⁷⁵ except in four countries (Australia, France, the Philippines, and the USA). Contrary to some people's perceptions, the same study showed that older people appeared *more* likely to engage with nature and in behaviours aimed to conserve natural resources and avoid environmental harms.

Box 5

Older people speak and act on climate change

Globally, older people living at the frontline of climate change are acutely aware of its impact. They are witnessing and speaking out about dramatic changes in weather patterns, which impact on their living conditions.

"A long time ago, when we experienced a harsh dry season, we depended on camels for food and milk. This time, the situation is different because even the camels are dying of hunger. I have never seen or heard of this kind of drought before" says Bokayo Boboo, a 75-year-old herder in Kenya, pictured below.

Older people are also mourning the loss of healthy ecosystems and voicing concerns over the impact on future generations:

"I miss the river, it's where we come from, it's who we are. Now, everything has changed, the youngsters can't swim in the river and we've no choice but to fish in polluted water" laments Doña Inocencia González Saiz in Northern Mexico.

In communities badly hit by air pollution, they are calling for urgent action.

"We don't have clean air to breathe. The impact of high levels of pollution for older people and their communities is significant. The government encourages older people to stay indoors to avoid the pollution, a form of self-isolation that makes life hard for them. Existing government actions are short-term and don't deliver long-term, sustainable improvements" says 75-year-old Sawang Kawwkantha in Thailand.

Older people are also taking part in adaptation and mitigation actions at the local and national level. For example, local OPAs in low- and middle-income countries are restoring ecosystems, finding innovative solutions to water scarcity and contributing to improved agricultural practices. The Senior Environmental Corps are active in 20 countries worldwide to protect the environment both in communities and globally. Many older people are leading on climate advocacy: a group of Swiss older women brought a lawsuit to the European Court of Human Rights for failure by duty bearers to protect their right to health against deadly heatwaves.

Source: HelpAge International, UNESCAP 2022, www.reuters.com/world/europe/elderly-swiss-women-bring-european-courts-first-climate-case-2023-03-29/

Steve Okumu/HelpAge International – Kenya



There are benefits to bringing the generations together on climate change to share experience and respond collectively. For instance, children and older people share vulnerabilities to climate change in terms of health, risk of disaster-related post-traumatic stress disorder (PTSD) and the impact of grief.⁷⁶

Bringing older and younger people together to co-design solutions offers multiple benefits. In many countries, older people play an important role in the lives of their grandchildren, taking care of them but also providing emotional and financial support. Conversely, younger people can support their grandparents with chores which are too physically taxing – and give them joy and purpose (see Box 6 below).

Box 6

Clean cooking and intergenerational solidarity in Mozambique

In Manhiça, a rural district of Mozambique, 95 per cent of people use firewood and charcoal for their household needs. This contributes to deforestation and biodiversity destruction, bringing soil erosion, prolonged droughts, and floods. The costs of energy for cooking and lighting have also risen because of high fuel prices and the long distances travelled to source wood and charcoal.

A community initiative introduced charcoal briquettes and clean stoves for 100 vulnerable households, training young people to produce stoves for the older generation. This has helped strengthen awareness of the benefits of the sustainable use of natural resources, protecting forests, and harnessing renewable energy.

“If we produce briquettes in large quantities, we will not need to cut trees for cooking” says Telecina Macandza, a 78-year-old woman from a local community (pictured on the last page of this paper).

Grandma Laurinda Mahumana (pictured left) is an 83-year-old widow, mother of six and a member of the OPA who has taken part in the project:

“I am very pleased to have received the stove and the briquettes, I am really satisfied, this stove is very good. I have people who want to buy it, even my daughters, when they come to visit me. I suffered a lot to cook and since they offered me these, I stopped suffering, even though it was only six briquettes I managed to cook for three days, heat water for my bath and warm up my house.”

The project helped build intergenerational solidarity and provide income generation opportunities for younger people in the community, as one of them explained:

“We stepped in as we understood that our grandparents did not have the strength to go down to the riverbanks to harvest the clay, transport it to the workshop, knead the clay and bake it, it is our turn to support them.”

Another noted the learning opportunity the project offered:

“Learning on how to produce briquettes is a life opportunity for us as youth, as there are no jobs around Manhiça district, and with the skills learnt we can create a source of income to support ourselves and our families.”

Source: Testimonies gathered by HelpAge Mozambique office, 28 March 2023.



HelpAge International – Mozambique

In the case of younger adults, income generation opportunities could be designed to co-benefit younger and older people in the household, complementing income from parents. The climate activism of older people can also complement youth activism. Older people in positions of power or with higher legitimacy because of their age and standing in the community could use those positions to amplify the voices of younger people and others that are often neglected in climate action.

Intergenerational solidarity can be enabled through the following policy measures:

- **Support intergenerational dialogues** to develop mutual understanding of respective capabilities and vulnerabilities and to define a common action agenda for climate change adaptation, mitigation and nature conservation.
- **Support youth groups and OPAs** to co-design climate adaptation and mitigation projects, including nature-based solutions, building on best practice.
- **Provide opportunities for adults and youth in rural areas** to prevent older people being left behind and find ways to reduce the burden of care for grandparents in areas at risk of climate change.

3.5 Tackling inequality

The accumulation of wealth typically comes with age, meaning that older people represent the richest quintile of the population. But this is very far from representative of many older people around the world.

According to Oxfam,⁷⁷ investments by billionaires emit three million tonnes of carbon a year – more than one million times the average of someone in the bottom 90 per cent of humanity. Extreme wealth is mostly concentrated in the hands of older people, both in developed countries and in the Global South, where older billionaires are on the increase. Of the 3,311 billionaires worldwide, nearly half were aged between 50 and 70 years old and 40 per cent were aged over 70.⁷⁸

This wealth will, however, change hands in the next decade when it is inherited by the next generation. At a global level, an estimated US\$15 trillion of wealth will be passed down by 2030.⁷⁹ A new avenue for mobilising finance streams could be taxing the transfers of wealth at the point of inheritance to invest for climate action.

Retirement policies also matter – a significant proportion of world assets is held by pension funds, largely in developed countries – the USA had the largest amount of assets in pension funds at the end of 2019 (US\$18.8 trillion), followed by the United Kingdom (US\$3.6 trillion), Australia (US\$1.8 trillion), the Netherlands (US\$1.7 trillion), Canada (US\$1.5 trillion), Japan (US\$1.4 trillion) and Switzerland (US\$1.0 trillion).⁸⁰ How these funds are invested has a decisive impact on the sustainability transition: an estimated €238–828 billion⁸¹ (2020) of European pension funds are invested in liquid fossil fuel assets.⁸²



Jorge Panchoaga/Fairpicture/HelpAge International – Colombia

Unfortunately, most pensioners are unaware of the options they have in terms of pushing for greener investments by their respective pension funds and few countries provide fiscal incentives for switching from brown to green saving schemes.⁸³

In contrast with billionaires who are aged over 70, most older people around the world have low-carbon footprints and less affluent lifestyles because their lower incomes mean they are more likely to live in poverty than other adults. For instance, in Zambia the incidence of poverty among people aged 60 years and older reaches 80 per cent.⁸⁴ A lack of equality between generations is also high in some low- and middle-income countries, where inequality worsens with age because the formal pension system covers only a minority of the population. According to the World Bank (2020), the poverty gap ratio among older-headed households in 11 out of 15 countries in East and West Africa was higher than the national average, with the largest difference in rural areas.⁸⁵

Climate justice could be delivered by new tax regulations focused on a minority of older people (aged over 70) who are the wealthiest internationally and within each country. This would provide support to many vulnerable older people whose energy consumption is below what is required to have decent health and living standards, and whose vulnerability to climate change is greatest. According to the IPCC, the two bottom quintiles amongst households, live well below the energy consumption required to reach decent living standards. Providing appropriate services in a low-carbon and fair way will improve well-being and standards of living, while reducing carbon consumption.⁸⁶

- **Address carbon inequalities:** Taxing extreme wealth and curbing excessive consumption emissions internationally and within each country will lead to a fairer distribution of carbon budgets.
- **Put the furthest behind first in climate policies:** This means providing adequate support to the most vulnerable, to converge living standards and carbon footprints. Amongst older people, this means targeting those with pre-existing health conditions, the rural poor, women-headed households and indigenous groups.
- **Harness the potential of pension funds for a just transition** by incentivising greener investment decisions, providing transparent information, and offering pensioners greener options, and fully integrating climate risk into operationalisation of pension funds.



Conclusion: Opportunities for action by the international community

There is an urgent need to address the twin challenges of global ageing and the climate crisis. This is especially the case in low- and middle-income countries which are disproportionately affected by the impacts of a changing climate.

There is a shrinking window of opportunity to stabilise the climate and take action to respond to the challenges of global ageing and climate change.

Many older people are demanding climate action and are ready and able to take part. Building on the 2022 recommendations from the fourth review of MIPAA and IPCC which both identify gaps in making progress on climate change and ageing, the international community must grasp all opportunities to make meaningful progress through the following international processes:

COP Climate Talks

The impact of ageing and the rights of older people must be addressed at the COP28 global stocktake and best practice policies must be encouraged and scaled up. This critical challenge must be included in the definition of the global adaptation goal and the post-2020 adaptation framework, so that older people's needs are integrated into relevant work programmes. National and international finance needs to be mobilised to meet these challenges.

SDG Mid-term Review

The SDG country reports submitted by governments (Voluntary National Reviews – VNRs) raise concerns over the impact of ageing on economic prosperity and society, but few propose new policies or action. If current trends continue, the SDGs will not be achieved by 2030 and climate change will continue to undermine nearly all SDGs. Upcoming VNRs should analyse climate change intersection with ageing population and identify synergies with policy frameworks like the UN Decade of Healthy Ageing (2021–2030), MIPAA and SDGs with the support of donors.

2024 Summit of the Future

The governance reforms to be discussed at the Summit should support intergenerational solidarity by including specific language on older people and global ageing in the proposed declaration on future generations.

The UN Social Summit in 2025

The Summit should propose substantial reforms in labour, social protection and health policies to support older people in the context of multiple crises including climate change, biodiversity loss and pollution.

Annex 1:

Methodology note

This paper uses the Wittgenstein Centre of Human Capital Data Explorer (WCDE) developed by researchers at the IIASA World Population Program, in partnership with the Australian Academy of Sciences' Vienna Institute of Demography (VID), under the umbrella of the Wittgenstein Center for Demography and Global Human Capital (IIASA, OeAW, University of Vienna).

This Data Explorer provides data, projection assumptions and results on the population of all countries (201) and regions by age, sex and education for alternative scenarios from 2015 to 2100, based on different scenarios of future population and human capital trends. It also includes the reconstruction of population by levels of educational attainment from 1950 to 2015 for 185 countries.

Shared Socioeconomic Pathways developed by IIASA were also used. These are part of a framework that the climate change research community has adopted to facilitate the integrated analysis of future climate impacts, vulnerabilities, adaptation, and mitigation.

Information about the scenario process and the SSP framework can be found in Moss et al. (2010), Arnell et al. (2011), van Vuuren et al. (2012) and Kriegler et al. (2012).

The framework is built around a matrix that combines climate forcing on one axis (as represented by the Representative Forcing Pathways) and socio-economic conditions on the other. Together, these two axes describe situations in which mitigation, adaptation and residual climate damage can be evaluated.

For each SSP a single population and urbanisation scenario is provided, developed by IIASA and the US National Center for Atmospheric Research (NCAR).

For GDP, three alternative interpretations of the SSPs have been developed from the Organization for Economic Co-operation and Development (OECD), IIASA and the Potsdam Institute for Climate Impact Research (PIK).



Resource Integration Centre (RIC) – Bangladesh

Annex 2:

Regional demographic trends, exposure to climate risks and resilience⁸⁷

Demographic scenario (Middle-ground scenario of IIASA or SSP2)	Key climate-related risks	Country ranking in terms of resilience
<h3>Africa</h3> <ul style="list-style-type: none"> • Total population: 2.254 billion in 2050. • Fertility rate to decrease from 3.88 to 2.4 in 2050. • Older population to increase from 76 million in 2020 to 217 million in 2050. • Proportion of people aged 60–99 in the total population will double in 30 years, going from 5 per cent in 2020 to almost 10 per cent in 2050. • The youth dependency ratio is also projected to decrease and the old age dependency ratio to increase. • Life expectancy at birth for men will be 67.3 and 71.3 for women for the period 2050–2055. 	<ul style="list-style-type: none"> • Risks of loss of life, livelihoods and infrastructure. • Water and energy insecurity. • Reduced economic output and growth, and increased inequality and poverty rates. • Mortality and morbidity from increased heat and infectious diseases. • Loss of food production from crops, livestock and fisheries. 	<p>Resilience of the region amongst the lowest in the world, the worst-off being Chad contrasting with Mauritius.</p> <p>In terms of ageing the higher rate of ageing will be in Mauritius. In contrast Niger will have more young people in the population.</p>
<h3>Latin America</h3> <ul style="list-style-type: none"> • Total population: 763 million in 2050. • Older population to represent 26 per cent of the total population or 198 million people aged 60–99 in 2050, compared to 85 million in 2020. • Fertility rate not heavily impacted, with the youth dependency ratio projected to decrease slightly from 0.36 to 0.32 and old age dependency ratio to increase. • Life expectancy at birth for men to reach 80.3 and 86.2 for women for the period 2050–2055. 	<ul style="list-style-type: none"> • Extreme weather events such as heatwaves, droughts, heavy rainfall, and storms. • Water availability. • Habitat loss, species extinction, and altered ecological dynamics. • Crop failures and reduced yields. • High-risk coastal regions because of sea-level rise and increased storm surges. 	<p>Mid-range in the world ranking, with the lowest level in Venezuela and the highest in Chile.</p> <p>In terms of ageing the oldest country will be Cuba and the youngest Guatemala.</p>
<h3>Asia</h3> <ul style="list-style-type: none"> • Total population: 4.365 billion in 2050, with older population increasing from 605 million in 2020 to 1.684 billion in 2050 (185 per cent). • Proportion of people aged 60–99 to increase from 13 per cent in 2020 to 25.41 per cent in 2050. • Youth dependency ratio projected to decrease and old age dependency ratio to decrease. • Life expectancy at birth for men 77.4 and 81.5 for women for the period 2050–2055. 	<ul style="list-style-type: none"> • Heatwaves and extreme temperatures. • Flooding and sea-level rise. • Megacities such as Bangkok, Manila, and Kolkata are particularly at risk. • Changes in monsoon patterns. • Increased tropical cyclone intensity (hurricanes and typhoons). 	<p>Large disparity with Singapore being the best off in the region and Afghanistan being the most vulnerable.</p> <p>In terms of ageing the oldest country will be Japan and the youngest Afghanistan.</p>

Sources: IPCC 2023 and IIASA 2023.

Annex 3:

Taxonomy of climate-related risks to human rights of older people

The table below lists all potential climate hazards, vulnerability factors of older people, impacts as well as evidence to date, including examples. It should be noted that pre-existing diseases, which are extremely common amongst older people, heighten vulnerability to health effects of climate change.

Rights to life, health and safety

Predictions about occurrence of hazards due to climate change	Vulnerability factors of older people	Impact	Evidence and examples
Rapid onset disasters (storms, flash floods, wildfires)	<p>Reduced capacity to seek shelter in climate-related rapid onset disasters.</p> <p>Disruptions in, or de-prioritisation of, necessary healthcare and services for older persons.</p> <p>Reduced capacity to recover from extreme weather events.</p>	<ul style="list-style-type: none"> • Higher mortality risk. • Negative cognitive and memory effects. • Longer time needed to recover from the physical effects of disasters. • Higher risk of survivor's guilt, post-traumatic stress and depression. 	<p>Almost three-quarters of deaths from Hurricane Katrina in 2005 and over half of deaths from Hurricane Sandy occurred among older Americans.⁸⁸</p> <p>One year after the 2011 Pakistan floods, field evidence shows that many older people will not recover.⁸⁹</p> <p>Older people are over-represented in fire related death statistics across the globe.⁹⁰</p>
Heatwaves	Reduced capacity for the body to self-regulate temperature.	<ul style="list-style-type: none"> • Higher risk of death during heat and cold waves. 	Nearly 80 per cent of the excess deaths following the 2003 Paris heatwave were among people aged 75 and older. ⁹¹
Air pollution	Prolonged exposure to pollution.	<ul style="list-style-type: none"> • Co-morbidity. 	In the US, nearly 95 per cent of older people have at least one chronic condition. ⁹² Air pollution, which is intimately linked to climate change via fossil fuels, is a potential cause of dementia and has disproportionate health effects for older persons. ⁹³
Climate-related diseases	Increase in climate-related infectious diseases.	<ul style="list-style-type: none"> • High morbidity and fatality risk. 	<p>“Projections suggest elevated rates of death from diarrhoeal diseases under SSP1 and SSP5 in South Asia and sub-Saharan Africa in 2080.”⁹⁴</p> <p>Older people are more susceptible to be affected by diarrhoea than other adults.⁹⁵</p>
Slow onset disasters such as drought	<p>Out migration of younger people in climate-affected areas, leaving older family members behind.</p> <p>Distress displacement.</p>	<ul style="list-style-type: none"> • Loss of access to family and community-based care. • Morbidity and fatality linked with displacement. 	In some rural areas of Ethiopia affected by recurrent drought, older people now account for 30–50 per cent of the population, compared to the national average of 5 per cent. ⁹⁶

continued over >

Right to adequate housing

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> • Reliance on traditional building materials which might be scarce. • Energy efficient dwellings are becoming less available. • Lack of access to safe, clean, healthy and sustainable energy sources. • Barriers to the uptake mitigation or adaptation solutions by older people. 	<p>More exposure to temperature extremes or inability to afford energy costs of heating and cooling.</p> <p>In India, many older people are increasingly exposed to extreme heat without proper housing to cope. Within the slums of Indian cities, dwellings frequently feature tin roofs and tin walls, resulting in extremely high temperatures within dwellings. According to a study conducted by Vidhee Kiran Avashia,⁹⁷ living in such houses significantly increases the likelihood of heat-related fatalities among women aged 60 and above.</p>

Right to food and to decent livelihoods

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> • Fixed income. • Higher dependence on semi-subsistence farming. • Reduced access to food aid. • Disproportionately affected by rationing within households and communities especially in countries with population growth (food and land). • Reduced quantity, quality and types of foodstuffs available. 	<p>Reduced capacity to cope with the rising costs of food.</p> <p>Higher risk of malnutrition linked with reduced agricultural productivity.</p> <p>Higher risk to lose access to productive land due to theft, planned relocation and the conversion of land for biofuels production.⁹⁸</p> <p>Less access to cutting edge and/or relevant adaptation technologies and practices.</p> <p>Unintentional omissions or deliberate age cut-offs in agricultural programmes.</p> <p>In Nepal, one study showed that “the prevalence of food insecurity among households with a senior citizen in Kanchanpur district was high”.⁹⁹</p>

Right to water and sanitation

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> • Aggravation of structural physical, financial and design barriers to existing water and sanitation services. 	<p>Greater water insecurity and risk of displacement.</p> <p>Higher risk of dehydration and water sanitation related diseases.</p> <p>Older individuals living in rural areas of South Africa, especially those with limited incomes, have been identified as a vulnerable group for water insecurity, particularly in situations where water supply services are inadequate or unreliable.¹⁰⁰</p>

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Right to mobility

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> Physical limitations, unwillingness to 'burden' family members during a journey or in a new location, strong ties to the lands and places where they have been living. Lack of investment capacity into low-carbon mobility solutions (EVs). Disruptions in public transportation because of extreme weather events or reduced availability of services as climate change burdens budgets and people move out of climate-affected areas. 	<p>Lower capacity to move out of immediate danger or to use moving as a long-term risk reduction strategy.</p> <p>Higher risk of loneliness and losing meaningful relationships with out-migrating relatives.</p> <p>The US environmental protection agency highlights that in the US "many older adults have limited mobility, increasing their risks before, during, and after an extreme weather event".¹⁰¹</p>

Cultural rights

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> Loss of cultural heritage. 	<p>Feeling significant loss when cultural heritage sites are lost, when culturally important foodstuffs or materials become less available, when traditional ecological knowledge becomes unreliable or when climate change adaptation measures that involve distancing from, or loss of, cultural practices or heritage sites.</p> <p>In northern Burkina Faso, a study¹⁰² investigated the extreme droughts that occurred in the Sahel region in 2004 and 2010 also examined¹⁰³ besides the material losses, that many pastoralists experienced a loss of cultural identity as they had to change their occupations to adapt.</p>

Rights to non-discrimination

Vulnerability factors of older people	Impacts/evidence
<ul style="list-style-type: none"> The combined effects of ageism and other forms of discrimination such as gender, the indigenous peoples, people living with disabilities and racial and ethnic minorities. 	<p>Specific needs and capacities of older people not considered in policies.</p> <p>"Marginalised women and girls, the disabled and the elderly are more vulnerable to death and injury in the face of a natural disaster."</p> <p>Because of their traditional given roles as caretakers, women and girls often stay back in a disaster to protect their children or adults in their care, while men sometimes escape.</p> <p>Deeply ingrained social norms may dictate that women and girls need to get permission from men in the household to leave their houses. Women are also often unable to escape when caught by sudden floods or earthquakes as they are not encouraged to learn to swim.¹⁰⁴</p>

Annex 4:

Analysis of National Adaptation Plans of 20 countries

These 20 low- and middle-income countries were selected based on the following criteria:

- National Adaptation Plan available in English on the United Nations Framework Convention on Climate Change (UNFCCC) website
- Geographical and regional diversity.

Country	Release date	National Adaptation Plans (UNFCCC) – mention of ‘age’, ‘older’, ‘demography’, ‘elderly’
Albania	27 Oct 2021	<ul style="list-style-type: none"> • No mention of any of the key words.
Armenia	24 Sep 2021	<ul style="list-style-type: none"> • No mention of any of the key words.
Bangladesh	23 Mar 2023	<ul style="list-style-type: none"> • ‘Elderly’ mentioned 32 times. • NAP ensures the inclusion of the elderly. • Whole section on risks and vulnerabilities among women, the elderly, children and youth. • Training programmes, early warning programmes, safe shelters, capacity developments for the elderly. • P.119 includes a box on adaptation for women, the elderly, persons with disabilities and other disadvantaged people.
Bosnia & Herzegovina	21 Dec 2022	<ul style="list-style-type: none"> • ‘Age’ / ‘elderly’ mentioned in the section on impacts that climate parameters have on socio economic and ecological systems and in the human health section. <ul style="list-style-type: none"> – Age identified as a cause of death in cardiovascular diseases, cancers, diabetes, or chronic respiratory diseases. – Acknowledgment that the elderly are vulnerable to these conditions.
Brazil	12 May 2016	<ul style="list-style-type: none"> • Section on vulnerabilities highlights how the elderly are more at risk of air pollution and respiratory diseases. • Implementing the Sentinel Units for Monitoring of Populations Exposed to Air Pollution (VIGIAR) that monitors incidences of respiratory diseases attributable to atmospheric pollutants in children under the age of five years and the elderly over the age of 60, the age-groups most vulnerable to air pollution.
Burkina Faso	15 Oct 2015	<ul style="list-style-type: none"> • Acknowledgment that elderly people are more vulnerable to cardiovascular and respiratory diseases.
Cambodia	7 July 2021	<ul style="list-style-type: none"> • No mention of any of the key words.
Chad	15 Feb 2022	<ul style="list-style-type: none"> • No mention of any of the key words.
Democratic Republic of Congo	6 July 2022	<ul style="list-style-type: none"> • ‘Elderly’ mentioned once: says the plan will account for demography in the introduction but not mentioned again.

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Annex 4 continued

Country	Release date	National Adaptation Plans (UNFCCC) – mention of ‘age’, ‘older’, ‘demography’, ‘elderly’
Ethiopia	1 Mar 2019	<ul style="list-style-type: none"> • ‘Elderly’ mentioned once: “measures to address climate change will be planned and implemented in a manner that addresses the well-being of the elderly, persons with disabilities and environmental refugees”. But no actual developed plan on how this will be implemented.
Fiji	12 Dec 2018	<ul style="list-style-type: none"> • States that NAP will support women, children, elderly and disabled as requested by the NAP framework. • “Preparation, translation, printing and distribution of information brochures combined with TV and radio shows about the impact of climate change and response on health and protection measures during extreme weather events and other measures to prevent occurrence of climate-sensitive diseases with specific attention on vulnerable population groups.” p.88
Kenya	28 Feb 2017	<ul style="list-style-type: none"> • Elderly people designated as part of vulnerable groups. • Plan to strengthen the adaptive capacity of these vulnerable groups focusing largely on gender equality and children’s rights.
Kiribati	21 Jan 2020	<ul style="list-style-type: none"> • Plan states it aims to enhance gender inclusiveness, disability involvement, youth engagement and elderly respect. • Very young population: The median age of the I-Kiribati population is 22 years and 34.9 per cent of the population is younger than 15 years of age. • Various actions in the NAP include considerations regarding gender, youth and children, the elderly, people with disabilities and other vulnerable groups. • Focus on gender equality and the diversity of populations within those groups: old, young, able-bodied, disabled.
Kuwait	11 Feb 2021	<ul style="list-style-type: none"> • ‘Elderly’ mentioned three times. • Dust storms will disproportionately affect the elderly. • Section on demography: mention of youth and elderly dependency ratio for the year 2015. • Section on age structure does not look at any future scenarios.
Liberia	16 Dec 2021	<ul style="list-style-type: none"> • Acknowledgment that older people are more vulnerable to extreme heat and the fact that population ageing could exacerbate increases in heat-stress mortality brought on by climate change. • Graph on population distribution by age and gender shows a very young population.
Sierra Leone	8 Feb 2022	<ul style="list-style-type: none"> • Elderly people listed as one of the cross-cutting priorities and identified as a vulnerable group.

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Annex 4 continued

Country	Release date	National Adaptation Plans (UNFCCC) – mention of ‘age’, ‘older’, ‘demography’, ‘elderly’
South Africa	29 Sep 2021	<ul style="list-style-type: none"> • Acknowledgment that vulnerability depends on gender, age, wealth and social status. • ‘Age’, ‘demography’ and ‘elderly’ mentioned one time each.
South Sudan	1 Nov 2021	<ul style="list-style-type: none"> • Young population: 50 per cent of population under 18. • Extreme heat will disproportionately affect women, children and the elderly: they contribute to deaths from cardiovascular and respiratory disease, especially among elderly people.
Sri Lanka	1 Nov 2016	<ul style="list-style-type: none"> • Acknowledgment that Sri Lanka has an ageing population which would particularly be vulnerable to climate-related health hazards. • Action plan on health including adaptation options, actions, responsible agencies and key performance indicators. • ‘Demographic’ and ‘ageing’ mentioned once.
State of Palestine	11 Nov 2016	<ul style="list-style-type: none"> • No mention of key words. • The report addresses “highly vulnerable” issues but only mentions that children and women will be disproportionately affected.

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- Annex 2: Regional demographic trends, exposure to climate risks and resilience**
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- Annex 3: Taxonomy of climate-related risks to human rights of older people**
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HelpAge International - Mozambique.
Photo shows Telectina Macandza, see page 20.

Find out more:

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