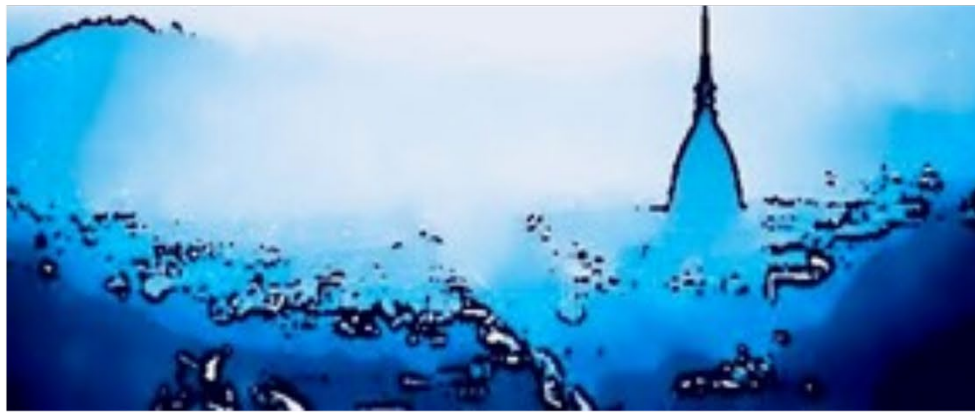
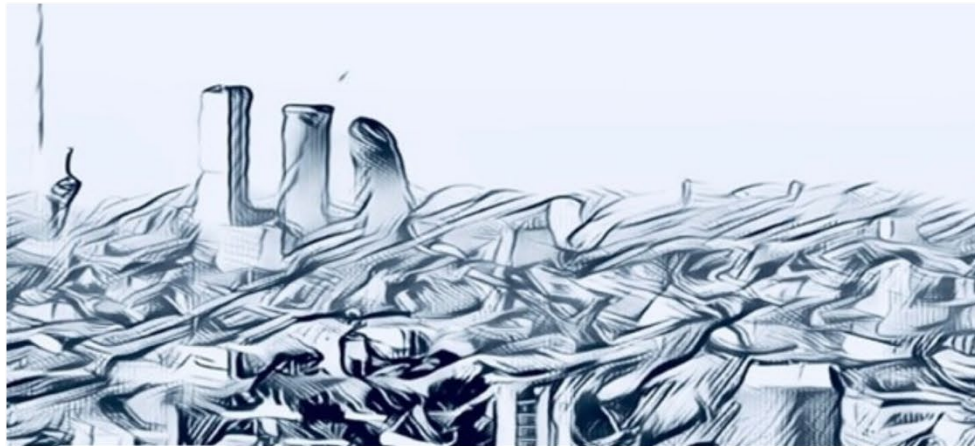




Cofinanziato  
dall'Unione europea

# GREEN RIGHTS



**for a sustainable future**

*Enhancing citizens' involvement in  
the EU's climate ambitions*

Exploring Italy's Key Climate Priority Zones: Analysis of  
Target Cities and Perspectives of Vulnerable Communities  
(D3.1 - Country Report, Italy)

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## Abstract

This document serves as Deliverable D3.1 - Country Report: Italy for the project "Green Rights for a Sustainable Future: Enhancing Citizens' Involvement in the EU's Climate Ambitions," funded by the European Union through the CERV <sup>(1)</sup> programme and promoted by five organizations from the Member States of Romania, Hungary, and Italy <sup>(2)</sup>.

The report aims to analyze and synthesize the areas of high climate priority in Italy, with specific sections on target cities elaborated from available documentation and the perspective of disadvantaged people gathered through debates held from June to November 2023.

Currently, to stimulate and strengthen citizens' participation and involvement in the policies implemented by the EU regarding climate ambitions, it is crucial to examine the links between environmental resources and inequality in a bottom-up approach.

Contemporary environmental transformations resulting from climate change and biodiversity loss intersect with existing social and economic inequalities, outcomes of the global socio-economic system and the lack of redistribution of generated wealth.

The biosphere is inherently unequal, exhibiting a diversity of resources worldwide and within regions or countries. Not all people have equal access to energy resources, freshwater reserves, or biophysical conditions suitable for large-scale agricultural production. Disparities in natural resources translate into varied opportunities for social development and economic expansion across different territories of the Earth. This same trajectory is traversed by the ongoing climate change.

Concerning topics of inequality, climate change, and their impact on sustainable economic growth, numerous researchers, including economists Thomas Piketty<sup>(3)</sup> and Kate Raworth<sup>(4)</sup>, have contributed important analyses and theoretical frameworks.

This report aims to delve into the Italian landscape by spotlighting the personal and community perspectives and experiences of particularly disadvantaged groups in the cities of Turin and Milan (in northern Italy). These groups include migrant women, the elderly, young students, the homeless, the disabled, and certain segments representing crucial climate change observers, such as beekeepers and water sports instructors.

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<sup>(1)</sup> *Citizens, Equality, Rights and Values programme*, CERV-2022-CITIZENS-CIV, GA n. Project 101081526

<sup>(2)</sup> ASOCIATIA CENTRUL ROMAN DE POLITICI EUROPENE (RO) COORDINATOR, AMAPOLA - PROGETTI PER LA SICUREZZA DELLE PERSONE E DELLE COMUNITÀ, ASSOCIAZIONE (IT) PARTNER, UNIVERSITÀ DEGLI STUDI DI TORINO (IT) PARTNER, LEVEGO MUNKACSOPORT ORSZAGOS KORNYESZETVEDO EGYESULET (HU) PARTNER, ASOCIATIA GROUP 4 MEDIA FREEDOM AND DEMOCRACY (RO) PARTNER

<sup>(3)</sup> PIKETTY T., *Le Capital au XXIe siècle*, Edition Seuil, Paris 2013

<sup>(4)</sup> RAWORTH K., *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*, Penguin Random House UK, 2018

# The: "Green Rights for a Sustainable Future: Enhancing Citizens' Involvement in the EU's Climate Ambition" Project and the Research Methodology Used

The European Union stands as the primary proponent of climate action on the global stage. Throughout the years, it has championed the adoption of multilateral instruments and issued a range of acts, some of which carry legal obligations. These initiatives are aimed at addressing both the root causes and consequences of the ongoing climate change.

The project, "Green Rights for a Sustainable Future," is designed to enhance citizen engagement in the EU's climate ambitions. This involves a comprehensive exploration of the European Union's efforts and commitments in the realm of climate action. Additionally, the project employs a rigorous research methodology to gather relevant insights and perspectives. Further details regarding the research method and its application will be provided in subsequent sections of this report

## Climate Change Initiatives Prior to 2020

- **2000:** Launch of the European Climate Change Programme (ECCP)
- **2003:** Adoption of Directive 2003/87, establishing the EU Emissions Trading Scheme (ETS). This initiative operationalized the EU's climate change policy, founded on the principle of the 'cap and trade' system.
- **2008:** The European Commission inaugurated the Covenant of Mayors. By 2014, it transformed into the 'Mayors Adapt' initiative, aiming to engage and support local authorities in both climate change mitigation and adaptation actions. In 2016, the EU further championed the Covenant of Mayors for Climate and Energy, aligning with combined targets, including the reduction of pollutant emissions by 2030 and 2050, enhancing adaptation and climate resilience, and addressing energy poverty as outlined in the EU 2021 Strategy, the commitments of the Paris Agreement, and the European Green Deal. The Covenant of Mayors initiative is dedicated to involving and supporting cities in achieving the EU's goals for climate change mitigation and adaptation. Cities signing the covenant commit to supporting the implementation of the EU's greenhouse gas reduction target of 40% by 2030 and adopting a unified approach to climate change mitigation and adaptation.
- **2012:** The launch of the Climate-ADAPT Platform (<https://climate-adapt.eea.europa.eu>) aimed to support the EU in adaptation by facilitating user access and sharing of climate-related data and information.
- **2013:** The Commission adopted the first European Strategy specifically focused on adaptation, known as the EU Strategy for Adaptation to Climate Change (COM(2013) 216 final, dated 16 April 2013). This strategy, later replaced by the new 2021 Strategy, marked a significant step in addressing climate change impacts.
- **2018:** The issuance of Regulation (EU) 2018/1999 on the governance of the Energy and Climate Action Union primarily focused on mitigation but also included provisions relevant to adaptation.
- **2019:** European Commission Communication COM(2019) 640, adopted on 11 December 2019, introduced the 'European Green Deal: A Strategy for Climate-Neutral, Fair, and Prosperous EU Growth.' This strategy outlines the EU's commitment to becoming an equitable, healthy, sustainable, and prosperous society. It emphasizes the restoration of the way we interact with nature and, concerning climate change, sets the ambitious goal of achieving zero net emissions by 2050 while reaffirming the commitment to adaptation.

## The Latest European Instruments: 2020-2023

- **2020:** Regulation (EU) 852/2020: On 18 June 2020, the European Parliament and the Council established a framework to promote sustainable investments through the 'Taxonomy Regulation.' This regulation includes six environmental objectives, one of which focuses on adaptation to climate change. The Regulation upholds the principle of Do No Significant Harm (DNSH), preventing significant environmental damage related to the six objectives, including adaptation to climate change ;
- **2020:** Communication COM(2020) 788 final: On 9 December 2020, the Commission introduced the European Climate Pact through this communication. This initiative aims to engage various stakeholders and civil society in committing to climate action and fostering more sustainable behavior. The European Climate Pact emphasizes raising awareness and supporting action to encourage collective efforts toward a greener future;
- **2020:** DG Climate Action 2020 Management Plan: DG Climate Action unveiled a 2020 Management Plan, outlining CLIMA's strategic plan for 2020-2024. This plan reflects the priority actions identified in the Commission Work Programme for 2020;
- **2021:** Communication COM(2021) 82 final - 24 February 2021. The new Strategy sets four main adaptation goals, emphasizing actions to enhance knowledge and manage uncertainties: 1. Smarter and Sharper Adaptation: Elevate adaptation knowledge by improving the quality and quantity of data on climate-related risks and losses. Make this data accessible to all. Expand and reinforce the Climate-Adapt Platform, complemented by an Observatory to enhance understanding of climate-related health risks. 2. Systemic and Integrated Adaptation: Implement systemic and integrated adaptation measures in macro policies, nature-based solutions, and local adaptation actions. 3. Faster Adaptation: Accelerate adaptation efforts to swiftly respond to changing climate conditions. 4. Intensify International Action on Adaptation: Strengthen international collaboration and actions to address adaptation to climate change globally.
- This comprehensive approach is designed to guide the European Union in building resilience and effectively adapting to the challenges posed by climate change ;
- **2021:** Regulation (EU) 2021/1119 - 30 June 2021: The European Parliament and the Council approved Regulation (EU) 2021/1119 on 30 June 2021, establishing the framework for achieving climate neutrality, known as the 'European Climate Act.' Aligned with the objectives outlined in the European Green Deal, this regulation sets the binding target of achieving climate neutrality in the Union by 2050. It also establishes a framework for progressing towards the global adaptation goal, thereby integrating the content of the Paris Agreement and the 2030 Agenda (specifically Goal 13) into the legal framework of the European Union ;
- **2021:** 'Ready for 55%' Package - 14 July 2021: On 14 July 2021, the European Commission presented the 'Ready for 55%' package, often referred to as the 'Green Package.' This initiative aims to achieve emission reduction targets of 55% by 2030 compared to 1990 levels, as outlined in the Green Deal and made binding by the European Climate Act. The package also includes relevant elements for adaptation ;
- **2022:** Communication COM(2022) 548 final - October 2022: In October 2022, the European Commission released Communication COM(2022) 548 final, reiterating its priorities and unity in achieving ambitions, notably the European Green Deal. This communication is in response to the evolving global landscape and changes in energy supply agreements ;
- **2023:** State of the Energy Union Report 2023 - October 2023: In late October 2023, the State of the Energy Union Report 2023 (eighth report) was published. This report holds crucial importance for accelerating adaptation to climate change, providing a comprehensive overview of the current state of energy affairs within the Union.

Within the current policy framework, updated during the drafting of this report, the project "Green Rights for a Sustainable Future: Enhancing Citizens' Involvement in the EU's Climate Ambition" is being developed. The project places particular emphasis on empowering local authorities, recognizing them as the primary institutions at the territorial level. Additionally, the project aligns with the objectives outlined in Communication COM(2020) 788 final of 9 December 2020. This communication advocates for the dissemination of awareness and support for the European Climate Pact, involving diverse stakeholders and civil society to commit to climate action and adopt more sustainable behavior.

Specifically, the project aims to engage and shed light on the perspectives of citizens in three-member countries (Romania, Hungary, and Italy) who face greater disadvantages, making them more fragile and vulnerable to the impacts of climate change. By doing so, the project seeks to address the unique challenges and concerns of these communities within the broader context of climate action and sustainability.

In alignment with the needs analysis and the objectives set forth by the Green Rights project, Work Package No. 3, AMAPOLA, actively engaged citizens, with a particular focus on underrepresented groups. The goal was to enhance understanding of key priorities and actions in Italy aimed at reducing greenhouse gas emissions. Additionally, the project aimed to involve vulnerable segments of the population to encourage carbon-neutral behavior at both individual and community levels. The overarching objective was to decouple economic growth from resource use, adhering to the principle of *just resilience and ensuring that no one, and no territory, is left behind*. This principle underscores the commitment to inclusivity and equitable resilience.

The initial step in guiding discussions with citizens involved the definition of the most relevant and urgent needs and priorities in the fight against the climate crisis. This foundational approach ensured that the dialogue and subsequent actions were rooted in a thorough understanding of the challenges and requirements essential for effective climate action.

A total of ten debates, employing the focus group methodology, were organized in Turin (Piedmont) and Milan (Lombardy). These Italian cities are situated in the high-priority area of northern Italy. Both Milan and Turin, being large urban centers <sup>(5)</sup>, intersect with data on absolute poverty incidence in the northern region. Additionally, they exhibit air quality that deviates furthest from the European targets for 2030 <sup>(6)</sup>. Piedmont and Lombardy, the respective eighth and fourth <sup>(7)</sup> regions in order of flood and inundation risk, face notable environmental challenges.

The Piedmont Region <sup>(8)</sup> serves as the coordinator for the Action Plan for Energy and Climate of Local Authorities (PAESC) and provides mentorship to municipalities interested in joining the Covenant of Mayors <sup>(9)</sup>. In contrast, Lombardy municipalities enjoy more autonomy in the accession process. Milan <sup>(10)</sup> joined the Covenant in 2008 <sup>(11)</sup>, followed by Turin in 2009. Both cities hold a position among the 100 NetZeroCities.

The primary objective of these debates was to inform and engage participants, encouraging discussions and the sharing of visions to foster the development of collective knowledge on the issue of climate change. By creating a platform for dialogue, the debates aimed to cultivate a shared understanding and awareness of the challenges posed by climate change. Notably, senior citizens and individuals facing disadvantages and low income (both men and women) were actively involved, recognizing that they tend to be among the least attentive to environmental issues due to limited access to essential resources for subsistence.

Stakeholders were brought together through first- and second-level representative aggregations of civil society and intermediate bodies, such as associations and trade unions. The discussions yielded various considerations, and key small actions were identified to contribute to environmental protection. These actions emerged as a result of collaborative efforts and diverse perspectives, demonstrating the importance of inclusive engagement in addressing climate-related challenges

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<sup>(5)</sup> ISTAT, Le statistiche sulla Povertà, Report del 25 ottobre 2023

<sup>(6)</sup> LEGAMBIENTE, Mal d'Aria di città, cambio di passo cercasi, campagna Clean Cities 2023 [https://www.legambiente.it/wp-content/uploads/2021/11/Rapporto\\_Malaria\\_2023.pdf](https://www.legambiente.it/wp-content/uploads/2021/11/Rapporto_Malaria_2023.pdf)

<sup>(7)</sup> LASTORIA B., BUSSETTINI M., MARIANI S., PIVA F., BRACA G., Rapporto sulle condizioni di pericolosità da alluvione in Italia e indicatori di rischio associati. Istituto Superiore per la Protezione e la Ricerca Ambientale, Rapporti 353/21, Roma / ISPRA, Mosaicatura 2021

<sup>(8)</sup> <https://www.regione.piemonte.it/web/temi/sviluppo/sviluppo-energetico-sostenibile/patto-dei-sindaci-piemonte>

<sup>(9)</sup> <https://eu-mayors.ec.europa.eu/en/home>

<sup>(10)</sup> <https://eu-mayors.ec.europa.eu/en/signatory/11832>

<sup>(11)</sup> <https://eu-mayors.ec.europa.eu/en/signatory/11840>

## General aspects of the most relevant needs and priorities in the climate crisis for disadvantaged people

The issue of inequalities in relation to the environment can be analyzed on various levels, encompassing disparities between generations, developed and developing regions, economically disadvantaged and non-economically disadvantaged citizens, those with direct access to resources, and those without. It also considers vulnerability to climate risk hazards.

For instance, the study "Inequality and the Biosphere"<sup>12)</sup> explored socio-ecological connections between inequality and the biosphere. It delved into how changing conditions in the biosphere contribute to either the increase or decrease of inequality in communities. This impact can occur through sudden shocks like extreme weather events or more gradual environmental changes, such as alterations in climate patterns.

Natural disasters, including storms, floods, droughts, heatwaves, epidemics, and wildfires, pose threats to a diverse range of communities and often worsen existing inequalities. This is since the risks associated with natural hazards are influenced by both the exposure and vulnerability of the system<sup>13)</sup>. Vulnerability, in this context, refers to the propensity or predisposition to be negatively affected and to lack the means to restore the situation to its pre-shock state.

The individuals most vulnerable to natural hazards and shocks are those from low-income population groups, considered disadvantaged in terms of access to natural resources, secure housing, and other essential aspects such as adequate nutrition. Climate change impacts various sectors, including agriculture, livestock breeding, and the distribution of marine species.

Examining income inequalities, the observed increase in the Gini coefficient in some European countries, including Italy (GINI index in 2021 +31.2, in 2012 +34.04, indicating an increase of +0.5), underscores the concerning trend and the associated risks.

Although the impacts of climate change affect everyone, they have a disproportionate impact on vulnerable groups. These groups encounter fewer opportunities to restore conditions to their pre-shock state and are additionally weakened by unforeseen events.

As a result, there is a critical need to prioritize exploration and intervention within these already vulnerable and disadvantaged groups.

The European Institute for Gender Equality Groups defines disadvantaged people as "persons that experience a higher risk of poverty, social exclusion, discrimination and violence than the general population, including, but not limited to, ethnic minorities, migrants, people with disabilities, isolated elderly people and children"<sup>14)</sup>.

In Italy, ISTAT (Italian National Institute of Statistics)<sup>15)</sup> illustrates various forms of inequality among specific groups of Italian citizens, considering factors such as the labor market, access to education, and poverty status.

As of 2022, 2.18 million households (8.3% of the total, up from 7.7% in 2021) and more than 5.6 million individuals (9.7%, an increase from the previous 7.7% in 2021) in Italy are in absolute poverty. Additionally, over 1.3 million children and young people (13.4%) live below the poverty line.

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<sup>12)</sup>HAMANN M., BERRY K., CHAIGNEAU T., CURRY T., HEILMAYR R., HENRIKSSON P. J.G., HENTATI-SUNDBERG J., JINA A., LINDKVIST E., LOPEZ-MALDONADO Y., NIEMINEN E., PIAGGIO M., QIU J., ROCHA J. C., SCHILL C., SHEPON A., TILMAN A. R., VAN DEN BIJGAART I., WU T., *Inequality and the Biosphere*, 2018, Annual Review of Environment and Resources

<sup>13)</sup> Op. Cit., *Inequality and the Biosphere*, p. 67

<sup>14)</sup> EIGE, [https://eige.europa.eu/publications-resources/thesaurus/terms/1174?language\\_content\\_entity=en](https://eige.europa.eu/publications-resources/thesaurus/terms/1174?language_content_entity=en)

<sup>15)</sup> ISTAT, *Le Diverse forme di Diseguaglianza*, cap. 4 del Rapporto Annuale 2022



In terms of geographical distribution, among impoverished households in Italy, 41.4% are located in the South (a slight decrease from 41.7% in 2021), while 42.9% are in the North (a slight increase from 42.6% in 2021).<sup>(16)</sup>

It's noteworthy that in this study, the focal point is on the impact from the perspective of the most vulnerable and disadvantaged groups.

The document for the Italian National Climate Change Adaptation Plan (currently undergoing validation proceedings), specifies that climate change induces intricate variations in climate characteristics across diverse spatial and temporal scales. This information aligns with findings extensively documented in the IPCC literature.<sup>(17)</sup>

Climate change influences various aspects, including the frequency, intensity, spatial extent, and duration of extreme weather events but also phenomena like sea-level rise, impacting broader spatial-temporal scales. When these variations in various climate characteristics reach a magnitude that can cause adverse effects on environmental and socio-economic systems, they are typically termed 'climate hazards.' Consequently, climate hazard is a pivotal element in the study and assessment of climate risk. Understanding the characteristics of climate hazards, which can be counter-intuitive and complex, is fundamental for the correct and adequate definition of adaptation strategies.<sup>(18)</sup>

In addition to general considerations, it is possible and proper to point out some particular considerations regarding specific vulnerabilities.

### *Climate change and disabilities*

The Convention on the Rights of Persons with Disabilities<sup>(19)</sup> is the framework for actions, promoting a human rights-based approach to climate resilience<sup>(20)</sup>.

A disability-inclusive human rights-based approach to climate change necessitates full integration of human rights and disability into climate action, involving persons with disabilities and their representative organizations actively, ensuring non-discrimination, accessibility, and evidence-based decision-making. It also emphasizes international cooperation and resource mobilization to support this approach. Consultation with persons with disabilities in the development of climate action plans, their meaningful participation in decision-making, and the adoption of inclusive practices are vital for resilience and adaptive capacity building.

International climate agreements recognize the importance of respecting human rights, including those of persons with disabilities.<sup>(21)</sup> Various decisions support the involvement of persons with disabilities in climate-related activities, including education and adaptation planning. Participatory approaches and stakeholder engagement, including persons with disabilities, are encouraged in climate change policies and adaptation planning.

The last Report of the Office of the United Nations High Commissioner for Human Rights<sup>(22)</sup> highlights how climate change has a disproportionate impact on individuals with disabilities, exacerbating existing health disparities. Stigma, social exclusion, poverty, and limited services hinder their access to healthcare and lead

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<sup>(16)</sup> ISTAT, Le Statistiche sulla povertà, report ottobre 2023

<sup>(17)</sup> [https://www.ipcc.ch/site/assets/uploads/2018/03/SREX-Chap3\\_FINAL-1.pdf](https://www.ipcc.ch/site/assets/uploads/2018/03/SREX-Chap3_FINAL-1.pdf)

<sup>(18)</sup> MASE, Piano Nazionale di Adattamento ai Cambiamenti climatici (PNACC), U.V. dicembre 22 (in procedimento Valutazione Ambientale Strategica), p.15

<sup>(19)</sup> ONU, 13 dicembre 2016

<sup>(20)</sup> ITALY - Contribution of Italy to the Office of the United Nations High Commissioner for Human Rights in relation to the Human Rights Council Resolution A/HRC/RES/41/21 of 12 July 2019 entitled "Human Rights and Climate Change".

<sup>(21)</sup> IDA, IDDC, Persons with Disabilities and Climate Action, COP 28, novembre 2023

<sup>(22)</sup> Analytical study on the promotion and protection of the rights of persons with disabilities in the context of climate change, Report of the Office of the United Nations High Commissioner for Human Rights, 15 June–3 July 2020

to adverse health outcomes. Extreme weather events disrupt healthcare services, making emergency information and assistive devices inaccessible. Women and girls with disabilities are at increased risk of violence during emergencies. Food security is threatened by climate change, affecting crop and livestock production, water availability, and food storage, disproportionately affecting people with disabilities in poverty-stricken areas. Rising sea levels and flooding put those who have the greatest difficulty in moving to shelters and safe spaces during emergencies at greater risk.

Extreme weather events displace millions of people, but marginalized groups, such as people with disabilities, face mobility challenges.

In Italy, as in other European countries, the growing concern over the effects of extreme heat on mortality has intensified. This concern is particularly notable as vulnerability to high temperatures continues to rise, driven by factors such as an aging population and an increased number of at-risk groups, notably those with disabilities. Individuals with disabilities face significant challenges in adapting to climate-related issues, especially heatwaves, as they often struggle to respond effectively to physical emergencies. Moreover, cognitive and mental disorders further complicate their ability to adapt to temperature changes.

Italy has recognized the urgency of addressing these challenges and has developed a National Climate Change Adaptation Strategy <sup>(23)</sup> (since 2014) and an Operational Plan aimed at mitigating the impact of extreme temperatures on health. These efforts extend to combating the effects of cold waves and floods, incorporating various measures such as predictive systems like the *Heat Health Watch Warning Systems* <sup>(24)</sup> (HHWWS). This system provides alerts and forecasts for 27 cities and offers a mobile app to track potential risks.

In 2018, Italy initiated the Country Profile Italy Program to address climate and health risks and develop adaptation and mitigation strategies. Additionally, Italy has developed guidelines and charters to enhance emergency management and safety for persons with disabilities during disasters <sup>(25)</sup>, emphasizing participation, technology, psychological support, accessible information, and the preparedness of all stakeholders.

### *Climate change and Homelessness*

Extreme weather events not only cause human suffering and mortality but also lead to a decrease in economic output. Globally, homelessness is a pervasive concern affecting millions of people. In Italy, the civil registry reports a homeless population of 96.197 <sup>(26)</sup>.

Homeless individuals are particularly exposed to the impacts of climate change, exacerbating various associated economic and social problems. Despite the severe consequences faced by these individuals, this issue has received limited attention <sup>(27)</sup>.

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<sup>(23)</sup> MINISTERO DELL'AMBIENTE E DELLA SICUREZZA ENERGETICA - MASE, Strategia Nazionale di Adattamento ai cambiamenti climatici <https://www.mase.gov.it/notizie/strategia-nazionale-di-adattamento-ai-cambiamenti-climatici-0>

<sup>(24)</sup> EUROPEAN CLIMATE AND HEALTH OBSERVATORY, Sistemi nazionali di allarme termico e piani d'azione <https://climate-adapt.eea.europa.eu/it/observatory/evidence/national-and-sub-national-warning-systems/national-and-sub-national-warning-systems#:~:text=A%20HHWS%20uses%20meteorological%20forecasts,heat%20index%20exceeds%20specified%20thresholds.>

<sup>(25)</sup> CARTA DI VERONA SUL SALVATAGGIO DELLE PERSONE CON DISABILITÀ IN CASO DI DISASTRI, 2007

<sup>(26)</sup> ISTAT, Censimento permanente della Popolazione e delle Abitazioni, svolta nell'autunno 2021

<sup>(27)</sup> SEAN A. KIDD, PH.D. UNIVERSITY OF TORONTO, DEPARTMENT OF PSYCHIATRY MARIYA BEZGREBELNA, YORK UNIVERSITY SAMANTHA WELLS, PH.D. VICKY STERGIPOULOS, MD ARUN RAVINDRAN, MD SUSAN GRECO, MD UNIVERSITY OF TORONTO MARDI DALEY, B.A. CENTRE FOR ADDICTION AND MENTAL HEALTH JULIA CHRISTENSEN, PH.D. MEMORIAL UNIVERSITY NEWFOUNDLAND MICHAEL KRAL, PH.D. WAYNE STATE UNIVERSITY ELLIOTT CAPPELL WSP CANADA KWAME MCKENZIE, MD WELLESLEY INSTITUTE, Climate Change and Homelessness: Generating a Response Framework Final Report – Year 1 March 17th, 2021

The connection between climate change and homelessness is multi-faceted, operating at both individual and societal levels. Identifying effective counteracting actions and risk mitigation strategies for vulnerable populations is complex.

The literature highlights several key risk factors for homelessness related to climatic events, including health issues, structural challenges, and factors related to housing in social shelters.

Within the framework of the human rights approach, extreme poverty is acknowledged as a violation of human rights.

A notable concern with extreme heat is the challenge of informing homeless individuals about peak temperatures through public health messages. Homeless populations experience heightened exposure to climatic events, and social shelters, grappling with energy insecurity, may struggle to sustain consistent services in the short term.

Moreover, extreme weather conditions often increase the incidence of infectious and vector-borne diseases among homeless individuals. Green infrastructure, such as urban parks, positively influences both the social and biophysical well-being of the homeless, with trees serving as crucial points of reference that are at risk due to climate change.

Finally, health forecasts predict a worsening of mental health problems among the homeless population due to the disorientation caused by impending climate change.

### *Change and ageing*

The Lancet Countdown in Europe notes a steady increase in the population's vulnerability to heat, attributed to factors such as ageing, urbanization, and disease prevalence. It's important to mention that Europe is warming faster than the global average and is experiencing rapid ageing. Specifically, in-depth analysis reveals that the northern regions, affected by heat and urbanization, are grappling with chronic respiratory diseases. In the south, there's an impact on diabetes and kidney diseases, while central and eastern Europe face heightened stress from cardiovascular diseases.

Heat stress exacerbates pre-existing health issues in the elderly due to increased inefficiency in regulating their own body temperature and drug-related sensitivities. Moreover, psychological impacts, social isolation, and difficulties in mobility further amplify their vulnerability. <sup>(28)</sup>

In particular, elderly people face difficulties in escaping emergencies due to reduced mobility, and they often develop mental and physical health problems as a result of climate disasters <sup>(29)</sup>. Unfortunately, regions with a high number of hot days tend to have a higher percentage of elderly individuals, such as Greece, Italy, Portugal, and parts of Spain.

According to ISTAT data <sup>(30)</sup>, as of January 1, 2023, the population over 65 years old in Italy amounts to 14 million 177 thousand individuals, constituting 24.1 percent of the total population. Therefore, it is essential to investigate this particularly vulnerable and quantitatively significant segment of the population.

From a regulatory perspective, Italy's Ministry of Health has established a National Plan for the Prevention of Heat Effects on Health <sup>(31)</sup>, providing guidelines for prevention. Urban centers are mandated to develop a local plan annually, in consultation with social partners <sup>(32)</sup>

### *Climate change and gender equality*

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<sup>(28)</sup> EUROPEAN ENVIRONMENTAL AGENCY, Towards 'just resilience': leaving no one behind when adapting to climate change, 29 Jun 2022

<sup>(29)</sup> DEBORAH CARR, PHD, GIACOMO FALCHETTA, PHD, IAN SUE WING, PHD, Population Aging and Heat Exposure in the 21st Century: Which U.S. Regions Are at Greatest Risk and Why?, Avril 2023, *The Gerontologist*, gnad050, <https://doi.org/10.1093/geront/gnad050>

<sup>(30)</sup> ISTAT, Rapporto Annuale 2023, la situazione del Paese, 7 luglio 2023

<sup>(31)</sup> MINISTERO DELLA SALUTE ITALIANO, Piano Nazionale di Prevenzione degli effetti del caldo sulla salute, 2019

<sup>(32)</sup> COMUNE DI TORINO Piano Emergenza caldo del comune di Torino, luglio 2023

<http://www.comune.torino.it/pass/anziani/2023/07/17/piano-operativo-emergenza-caldo-2023-consigli-e-numeri-utili-per-non-sentirsi-soli/>

The impact of climate change varies not only between different age groups, such as the young and the elderly, but also between men and women. The type of action aimed at mitigating or counteracting the adverse effects of climate change differs based on the territories and the social and economic organization in terms of access to essential resources for life and income generation from work.

The impacts of climate change, including its effects on access to productive and natural resources, exacerbate existing gender inequalities. Climate change affects the assets and well-being of women and men differently, influencing areas such as agricultural production, food security, health, water and energy resources, climate-induced migration and conflict, and climate-related natural disasters.<sup>(33)</sup>

The Paris Agreement also mandates gender-responsive adaptation actions and capacity-building activities. In article 7.5, “Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach ... with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions”. Article 11.2 states that “...Capacity-building should be guided by lessons learned ... and should be an effective, iterative process that is participatory, cross-cutting and gender-responsive”.<sup>(34)</sup>

As noted by the UNFCCC in 2016, gender mainstreaming for climate change is the process of assessing and responding to the differentiated implications for women and men of any planned climate action. It goes beyond simply adding a 'gender equality' component to a planned activity; instead, it involves thinking differently.<sup>(35)</sup>

In this sense, some Italian local authorities, such as Tuscany<sup>(36)</sup>, explicitly highlight the specific risks faced by women due to climate change in their health policies. Recent scientific studies point to differential impacts on women, including risks in reproductive health<sup>(37)</sup> and psychological well-being.<sup>(38) (39)</sup>

## *Climate change and Migration*

Climate change, environmental degradation, and natural disasters are significantly altering global migration patterns. People may move in response to sudden events like floods, droughts, and extreme weather intensified by climate change. Additionally, slow-onset events such as desertification, coastal erosion, sea-level rise, and ecosystem loss influence migration decisions directly and indirectly. Non-climate-related factors, including earthquakes, volcanic activity, industrial pollution, and chemical spills, can also contribute to migration choices. These processes have profound effects on the lives, livelihoods, habitats, and human rights of affected populations. In turn, migration itself can impact the environment, ecosystems, and the availability of natural resources.<sup>(40)</sup>

The issue of climate change and migration in Italy can be articulated into three strategically important points for the country:

Increased Inflow from Southern Countries:

- This is driven by competition for resources necessary for subsistence in the countries of origin, resulting from environmental degradation and population growth.

Internal Displacements:

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<sup>(33)</sup> GOH A. Literature review of the gender differentiated impacts of climate change on women's and men's assets and well-being in developing countries, University of Maryland, 2012

<sup>(34)</sup> <https://unfccc.int/process-and-meetings/the-paris-agreement>

<sup>(35)</sup> ONU WOMAN, Leveraging co-benefits between gender equity and climate action for sustainable development, Mainstreaming Gender Considerations in Climate Change Projects, 2016

<sup>(36)</sup> NETWORK BIBLIOTECARIO SANITARIO TOSCANO a cura di Agenzia regionale di sanità Toscana  
<https://www.nbst.it/1613-cambiamenti-climatici-donne-vulnerabili-differenze-di-genero.html>

<sup>(37)</sup> PANDIPATI S, ABEL DE. INT J., Gynaecol Obstet. Anticipated impacts of climate change on women's health: A background primer, 2023

<sup>(38)</sup> ROTHSCHILD J, HAASE E. INT J, Gynaecol Obstet, The mental health of women and climate change: Direct neuropsychiatric impacts and associated psychological concerns, Feb 2023

<sup>(39)</sup> ROTHSCHILD J, HAASE E. INT J, Gynaecol Obstet, Women's mental health and climate change Part II: Socioeconomic stresses of climate change and eco-anxiety for women and their children, 2023

<sup>(40)</sup> INTERNATIONAL ORGANIZATION FOR MIGRATION (IOM), Institutional Strategy on Migration, Environment and Climate Change 2021–2030 For a comprehensive, evidence and rights-based approach to migration in the context of environmental degradation, climate change and disasters, for the benefit of migrants and societies. Geneva, 2021

- Internal movements from rural and coastal areas to cities.
- Depopulation of mountain areas at risk.
- Temporary displacements during heatwaves from cities to greener and cooler areas, primarily by those with the means to move.

Migrant Workers in the Countryside:

- Growing involvement of migrant workers in summer harvests.
- Associated challenges include issues related to decent work, the prevalence of 'caporalato' (a form of illegal intermediation and exploitation of migrant workers in the agricultural sector), and inconsistencies with European policies regarding language learning, housing, and other minimum conditions for inclusion.

## High priority climate areas in Italy, environmental issues in Italian urban areas

Anthropogenic activities are among the main causes of global warming. Simultaneously, ongoing climate change is deteriorating air quality, and human activities are exacerbating the situation by using more energy for cooling and heating.

In the international context, Italy experiences the **most significant impacts of heat on daily mortality**. Air pollution alone is responsible for approximately 30,000 deaths each year in Italy due to fine particulate matter (PM 2.5), constituting 7% of all deaths. <sup>(41)</sup>

Estimates from an international multicentre study <sup>(42)</sup> <sup>(43)</sup> reveal Italy as one of the countries significantly affected by high temperatures and heatwaves. Beyond the direct impact of heatwaves on physical and psychological well-being, such as heatstroke, stress, lipothymia, and dehydration <sup>(44)</sup>, the scientific sources of the National Plan for the Prevention of the Effects of Heat on Health report additional health effects due to extreme temperatures. These effects include increased mortality, hospitalizations, emergency room admissions, as well as impacts on the cardiovascular and respiratory systems and the exacerbation of pre-existing chronic pathologies. Notably, **the cities of Turin and Milan are among the populations most at risk**. The effects of heat in Italian cities vary based on climate conditions and the vulnerability of the population. Italy operates a daily mortality surveillance system (SiSMG) to monitor daily deaths in the elderly population, allowing real-time analysis of the effects of extreme weather on health. SiSMG is part of the European EuroMOMO network, which publishes weekly mortality surveillance reports covering 19 European countries.

**Regarding agro-livestock production**, in spring and summer 2022, a severe drought impacted various European areas, including the Po Valley. Unprepared for the event, production activities suffered significant losses, and the coastal areas of the Po River Delta experienced extensive saltwater intrusion. Such events may become more frequent as temperatures rise. <sup>(45)</sup>

The lack of information or policies indicating the adaptation strategy for Italian agro-livestock producers poses a danger to the food security and sovereignty of territories, **including urban food systems**. This issue also impacts wealth more generally. It is well-known that the Italian agro-food system contributes about 15% to the country's overall wealth.

If we consider the beekeeping value chain, data reveals that approximately 75% of the world's 115 major food crops depend on pollination. <sup>(46)</sup> According to FAO data on world honey production in 2020, the European Union is the world's second largest producer after China. Countries with the largest number of hives include Spain, Romania, Greece, Poland and France, with Italy following closely behind with around 1,717,000 hives.

The impact of climate change is one of the most critical factors <sup>(47)</sup> affecting beekeeping. Specifically, the alternation and succession of aridity, violent rains, temperature extremes, wind, and typical situations of

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<sup>(41)</sup> MINISTERO DELLA SALUTE ITALIANO, Piano Nazionale della prevenzione degli effetti del caldo sulla salute, linee di indirizzo per la prevenzione, ondate di calore ed inquinamento atmosferico, luglio 2019

<sup>(42)</sup> GUO Y, GASPARRINI A, ARMSTRONG B, ET AL. Global variation in the effects of ambient temperature on mortality: a systematic evaluation. *Epidemiology*. 2014 Nov; 25(6):781-9

<sup>(43)</sup> GUO Y, GASPARRINI A, ARMSTRONG BG, ET AL. Heat Wave and Mortality: A Multicountry, Multicommunity Study. *Environ Health Perspect*. 2017 Aug 10;125(8):087006.

<sup>(44)</sup> WHO, MINISTERO DELLA SALUTE, ISS, MASE *Country profile Italy*, nell'ambito Effetti sulla salute dei cambiamenti climatici nella *vision Planetary health*

<sup>(45)</sup> BONALDO D., BELLAIORE D. VITELLETI D E ALTRI , The summer 2022 drought: a taste of future climate for the Po valley (Italy)?, *Regional Environmental Change*, 6 December 2022

<sup>(46)</sup> FAO, Allier la tradition et la science pour proteger les pollinisateurs  
<https://www.fao.org/in-action/blending-tradition-and-science-to-protect-pollinators/fr/>

<sup>(47)</sup> FAO, L'importanza des abeilles et des pollinisateurs, journée mondiale des abeilles 2023  
<https://www.fao.org/publications/home/news-archive/detail/the-importance-of-bee-ing-pollinators/fr>

extreme events result in serious production difficulties for honey and other hive products <sup>(48)</sup>. These challenges include the shortening and damage to blooms, poor operability of bees, and a slowdown in family development, creating a mismatch between blooms and families. <sup>(49)</sup>

According to the National (Italian) Honey Observatory <sup>(50)</sup>, as of 2022, there are 72,020 beekeepers in Italy. Among them, 53,464 beekeepers produce for self-consumption, accounting for 74% of the total, while 18,556 are VAT-registered beekeepers producing for the market, making up 26% of the total. The presence of such a significant number of 'non-professional' beekeepers, which is continually increasing, has both positive and problematic aspects. The positive aspect primarily relates to the pollination function for agriculture and the ecosystem, while the critical aspects involve the potential negative influence on the health status of bees, especially when these activities are carried out outside any associative context.

Italian beekeepers manage a total of 1,573,967 hives and 208,138 swarms. Commercial beekeepers, who keep bees for income, manage 79% of the hives.

The significant prevalence of hives held by VAT-registered beekeepers underscores the high professionalism of the beekeeping sector and its importance in the agro-economic context. Piedmont is the region with the largest number of hives, totaling 201,151 hives, which account for 12.8% of the national total. The majority of these hives (89.3%) are managed by commercial entities for business purposes, aligning with the national trend. Due to the described weather conditions, both the early spring harvests (heather, spring wildflowers, and Mediterranean shrubs) and the summer harvests from the second half of June onward were significantly reduced or completely lost in 2022.

**Italy, being geographically surrounded by the Mediterranean Sea**, has a historical connection deeply intertwined with the sea. According to findings from MedECC (Mediterranean Experts on Climate and Environmental Change), temperatures in the Mediterranean are rising at a much faster rate than the global average, and its waters are becoming increasingly saline. The impact of climate change on the sea along Italy's coasts is diverse. For instance, tropicalization is a well-advanced process in the eastern part and has begun in the western part, posing a threat to ecosystems.

In the western Mediterranean, the process of tropicalization is evident, leading to the movement of tropical herbivorous species into waters that were previously colder. This shift is transforming coral areas, previously dominated by complex and biodiversity-rich algal forests. Near the Protected Marine Area of Portofino in Liguria, local fishermen have observed an increase in tropical species such as barracuda (*Sphyraena viridensis*) and grouper (*Epinephelus marginatus*) in the warmer waters of the Ligurian Sea. This demonstrates how tropical species are reproducing in more northerly latitudes.

The invasion of tropical species, such as scorpion fish, poses a threat as they feed on native species. Additionally, there is an annual increase in jellyfish in the Mediterranean Sea, which is detrimental to both the fishing and tourism industries. This surge in jellyfish is attributed to the excessive use and runoff of fertilizers in agriculture, leading to eutrophication. Eutrophication is characterized by a reduction in the deep distribution of macroalgae and seagrasses due to an excess of phosphates and nitrates. This, in turn, results in the death of fish and other organisms due to oxygen depletion. However, jellyfish can easily adapt and thrive in this environment, as they lack natural predators. <sup>(51)</sup>

Furthermore, prolonged heat and powerful storm surges cause damage to the seabed, including the destruction of certain corals like the 'gorgonia' in Liguria, the decline of 'posidonia' (both vital protectors of the ecosystem), and the mass mortality of the 'pinna nobilis,' which contributes to water clarity by filtering large quantities of detritus.

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<sup>(48)</sup> CARA DONNA P. Signatures of increasing environmental stress in bumblebee wings over the past century: Insights from museum specimens, *Journal of Animal Ecology*, Agosto 2022

<sup>(49)</sup> FAO, Action mondiale en faveur des services de pollinisation pour une agriculture durable, lancée par la FAO <https://www.fao.org/pollination/background/fr/>

<sup>(50)</sup> OSSERVATORIO NAZIONALE DEL MIELE, Miele andamento produttivo e di mercato per la stagione 2022, n. 1/2023

<sup>(51)</sup> MEDECC (MEDITERRANEAN EXPERTS ON CLIMATE AND ENVIRONMENTAL CHANGE), Climate and Environmental change in the Mediterranean Basin, Current situation and risks for the future First Mediterranean Assessment, First Rapport, 2020

According to data collected by Legambiente, an environmental association, in 2023 <sup>(52)</sup>, **32% of sea and lake water samples monitored in 18 regions exceeded legal limits. The most critical points are river mouths, canals, and waterways that flow into the sea or lake.** This situation has a profound impact on the seabed and the overall health of the Mediterranean.

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<sup>(52)</sup> LEGAMBIENTE Goletta verde e goletta dei laghi 2023, <https://www.legambiente.it/comunicati-stampa/goletta-verde-e-goletta-dei-laghi-2023-bilancio-finale/>



## Focus on Turin and Milan: the disadvantaged citizens point of view

### *A brief profile of the environmental risk for the city of Turin*

As described earlier, among the various Mediterranean countries, Italy stands out as the country with the highest heat-related effects on daily mortality, particularly during summer temperatures. The northern regions of the country, in particular, have experienced a higher excess of heat-related mortality since the turn of the century.<sup>(53)</sup>

The city of Turin, situated in the north-west of the country, exhibits a significant positive association between summer mortality and average daily temperatures. This correlation between heat and mortality is not consistent across various aspects of social vulnerability, and **factors influencing the population's vulnerability to temperature may be connected to demographic, social, and economic aspects.**<sup>(54)</sup>

The city of Turin, with its 848,748 inhabitants, is the most populous city in the northwest area and the fourth most populous city in Italy<sup>(55)</sup>. In the 1980s and 1990s, the city underwent a social and economic transformation that resulted in a legacy of 10 million square meters of abandoned industrial space and a socio-economic fabric characterized by significant disparities in terms of income, territorial services, and access to resources. According to the latest Caritas report<sup>(56)</sup>, an estimated 40,000 people in Turin are living in poverty, and this trend is on the rise<sup>(57)</sup>.

Currently, the urban area in question is highly developed, with 8,418.35 hectares of land consumed, corresponding to 64.69% of the total surface area<sup>(58)</sup>. Furthermore, due to the morphology and geography of the city, the concentration of pollutants (such as CO<sub>2</sub> or PM 2.5/10) builds up, forming pollution levels that are damaging to the health of the population<sup>(59)</sup>.

In the list of 375 cities monitored by the European Environment Agency (EEA) for air quality, Turin ranks 347th<sup>(60)</sup>.

Turin joined the Covenant of Mayors in 2009 and approved its first Sustainable Energy Action Plan in September 2010<sup>(61)</sup>.

In 2019, the city renewed its commitment to the Covenant of Mayors, which not only requires cities to reduce their CO<sub>2</sub> emissions by 40% by 2030 but also integrates mitigation and adaptation policies.

"In 2015, the city participated as a case study in the Life DERRIS Project<sup>(62)</sup>, which, in collaboration with private insurance partners, not only developed a specific analysis on the industrial context but also formulated the IDAP (Integrated District Adaptation Plan), the city's adaptation plan. Consequently, in July 2020, the Climate Resilience Plan<sup>(63)</sup> was published. In addition to highlighting main observed and expected vulnerabilities, it includes a list of actions to enhance the city's preparedness for the impacts of climate change. Studies and analyses reveal that 44% of the analyzed territory falls into the 'moderate' danger zone due to the majority of the urbanized fabric of the city.

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<sup>(53)</sup> MICHELOZZI P. , ET AL. Assessment and prevention of acute health effects of weather conditions in Europe, the PHEWE project: background, objectives, design. *Environ Health*, 2007 pagg 6-12.

<sup>(54)</sup> ELLENA ET AL, Social inequalities in heat-attributable mortality in the city of Turin, northwest of Italy: a time series analysis from 1982 to 2018, 2020

<sup>(55)</sup> ISTAT, 2021

<sup>(56)</sup> CARITAS, Tutto da perdere, Rapporto 2023 su povertà ed esclusione sociale in Italia, 2023

<sup>(57)</sup> CARITAS TORINO, Poveri in mezzo a noi, Smart report 2022 per il territorio diocesano torinese, 2023

<sup>(58)</sup> SISTEMA NAZIONALE PER LA PROTEZIONE DELL'AMBIENTE, 2020

<sup>(59)</sup> CITTÀ DI TORINO, ARPA, Analisi di vulnerabilità climatica della città di Torino, 2020

<sup>(60)</sup> CITTÀ DI TORINO, ARPA, Analisi di vulnerabilità climatica della città di Torino, 2020

<sup>(61)</sup> CITTÀ DI TORINO, ARPA, Analisi di vulnerabilità climatica della città di Torino, 2020

<sup>(62)</sup> DisastEr Risk Reduction InSurance

<https://www.unipolsai.com/en/about-us/sustainability/life-derris-disaster-risk-reduction-insurance>

<sup>(63)</sup> CITTÀ DI TORINO, ARPA, Piano di resilienza climatica, 2020

In recent years, the increasingly evident effects of recorded climate change impacts have raised public awareness about the risks and dangers associated with ongoing changes.

The city boasts a diverse and multi-voiced fabric of environmental associations, allowing for effective action at the local level (neighborhood, small areas). However, this fragmentation proves less effective at the city level. International youth associations and movements are present in the area, focusing on denunciation rather than active policies due to the lack of spaces for structured dialogue. Similarly, the more structured Civil Society organizations, aligned with regional policies, do not seem to prioritize environmental protection in their programs.

### *A Brief profile of the city of Milan*

Especially in the summer season, Milan experiences intense rainfall events and heatwaves, rendering its population highly vulnerable to climate change, akin to other urban centers in Europe and worldwide. <sup>(64)</sup>

Between 2010 and 2020, the city of Milan witnessed the highest number of calamitous events in Italy, with the majority falling into the category of river floods. <sup>(65)</sup>

The results of the analyses outlined in the City's Territorial Government Plan indicate that, in Milan, 46% of heatwaves have occurred during the last decade, spanning from the 1970s to the present day. Due to its population density and the built environment characterizing the city, Milan serves as an ad hoc case study for the development of the Urban Heat Island (UHI) phenomenon. The substantial presence of impermeable surfaces, combined with the configuration of various urban areas, creates a notably significant thermal stress for the population during the summer season, which is generally hot and not particularly windy. Heatwaves, as verified by the European Health Service system (Copernicus Climate Data Store 2021), exhibit greater intensity in urban areas compared to rural ones.

According to the Legambiente report <sup>(66)</sup>, Milan is among the Italian cities most affected by the consequences of climate change, experiencing extreme heat events and extreme flooding events. The presence of an urban hydrographic network has historically exposed the City of Milan to urban flooding phenomena, particularly during intense rainfall events. Structural works were initiated from the second half of the last century until recent years to manage the network with the goal of reducing water volumes entering the urban area. However, these efforts have only been partially effective, leading to a significant alteration of the natural catchment area and complicating the analysis of meteoric event impacts.

Over the past 140 years, almost 150 flooding events have impacted the northern area of the city. Among these, recent catastrophic events have caused significant disruptions and damage to infrastructure. <sup>(67)</sup>

The Legambiente report also highlights an increase in Milan's residents (+4% in the last four years) despite a decrease in land consumption (-3% in the last four years). <sup>(68)</sup>

In the air quality ranking of the 375 cities monitored by the European Environment Agency (EEA), Milan holds the 349th position. <sup>(69)</sup>

To address the impacts of climate change, the city formally joined the Covenant of Mayors for Climate in 2008. The city administration took significant steps in this regard, establishing the Resilient Cities Directorate in 2017. Following the Declaration of Climate and Environmental Emergencies in 2019, the new Environmental Transition Directorate was created to oversee the coordination of the Air and Climate Plan (2021) and the Climate Risk Assessment. This decision underscores the city's commitment

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<sup>64</sup> MARGARETHA BREIL, CLARE DOWNING, ALEKSANDRA KAZMIERCZAK, KIRSI MÄKINEN, LINDA ROMANOVSKA, Social vulnerability to climate change in European cities- state of play in policy and practice ETC/CCA, EEA Technical paper 2018/1

<sup>65</sup> Componente Geologica PGT Milano 2030

<sup>66</sup> LEGAMBIENTE, Ecosistema urbano, rapporto sulle performance ambientali delle città, ottobre 2023

<sup>67</sup> CENTRO EURO MEDITERRANEO SUI CAMBIAMENTI CLIMATICI - CCCM, Analisi del rischio, I cambiamenti climatici in sei città italiane, 2021 - <https://www.cmcc.it/it/rischio-clima-citta-2021>

<sup>68</sup> LEGAMBIENTE, OP CIT.

<sup>69</sup> EUROPEAN ENVIRONMENT AGENCY EEA European city air quality viewer <https://www.eea.europa.eu/themes/air/urban-air-quality/european-city-air-quality-viewer>

to aligning its policies with a long-term resilient vision, emphasizing a participatory approach by involving key actors and stakeholders.

While the city's environmental association fabric exhibits greater coordination with institutions, its effective outreach remains limited.

### *The debate-workshops organization*

To amplify the voices of disadvantaged individuals in the cities of Turin and Milan, ten debates and workshops were organized in collaboration with local associations between June and November 2023.

These activities aligned with the needs analysis and objectives set forth by the Green Rights project. The workshops, conducted from June to November 2023, were designed to address the needs analysis and objectives outlined by the Green Rights project. The main focus was on involving citizens, particularly those from under-represented groups, to comprehend priorities and actions essential for mitigating greenhouse gas emissions and promoting carbon-neutral behavior at both individual and community levels. The primary objective was to enhance the understanding of climate change by capturing the perspectives of the most vulnerable individuals, aligning with the principle of just resilience and transition.

The initial step involved identifying the most relevant and urgent needs and priorities in tackling the climate crisis to guide discussions with citizens. To engage groups facing language barriers and the most vulnerable individuals, the photovoice method was employed. This method used photographs to convey an awareness-raising message by stimulating individual and communal emotions and awareness.

Guidelines for conducting focus groups can be broadly categorized into three groups: those designed for the direct involvement of vulnerable individuals, those tailored for service workers for these individuals, acting as privileged witnesses, and those for the involvement of practitioners whose work is directly affected by climate change (honey producers and diving instructors).

**In the first case, the outline used was as follows:**

Free expression on what climate change is.

Questions to stimulate debate:

- Have you been informed about it?
- Have you already experienced climate change?
- If you have not experienced it directly, do you have any idea how it affects you or could affect your daily life?

Projection with evocative images

- melting of glaciers
- flooding
- heat waves
- Park closed due to danger of flooding, falling trees due to rain or hail

Free debate on the photographs.

Open question: what can we do to adapt to or mitigate climate change?

- To secure ourselves when there is a threat of flooding, heavy rain, hail... we must...
- to make ourselves safe when the heat is very hot... we must...

**In the second case, the outline used was as follows:**

Free expression on what climate change is and its causes.

- Have you already directly experienced the effects of climate change?
- If you have not experienced it directly, do you have any idea how it affects or could affect your daily life?
- And on that of the frail people who use the services? And of their families?
- What is the effect of climate change that impacts most on the quality of life in your/your city?

Closing open questions

- what can we do to adapt to or mitigate climate change?
- what can we do to protect and secure the most fragile?

**In the third case, the interview outline for privileged witnesses to climate change such as honey producers and diving instructors, the outline was as follows:**

Free expression on what climate change is and its causes.

- Have you already directly experienced the effects of climate change?
- How does it affect your daily life?
- And on future projects?
- And on that of your customers?
- Have you noticed an increased sensitivity in them?
- What is the effect of climate change that impacts most on the quality of life in your/your city?

Closing open questions

- what can we do to adapt to or mitigate climate change?
- what can we do to protect and secure our ecosystem?

## The workshops

**Workshop 1.** The first workshop occurred on June 8, 2023, at the University of Turin, with 16 participants consisting of NGO operators, volunteers in charity associations, and employees in social housing. The group comprised 5 women and 11 men.

Key takeaways from the discussion include the participants' access to national and international information. However, their actual perception of climate change, shared among themselves, is rooted in personal experiences, such as changes in the mountain landscapes they frequent or concerns about the poor quality of city air.

Participants observed a notable increase in poverty and related material needs in Turin and the areas where NGOs operate. During discussions, participants intuitively linked this rise in poverty to the scarcity of environmental resources, particularly in the contexts of the Global South.

Regarding concrete actions, the meeting deliberated on possible individual micro-actions aimed at reducing ecological footprints. Examples include increasing the use of collective transport or cycling, reducing online shopping and overall consumption (e.g., meat), favoring local food purchases, and promoting environmental awareness in communities and workplaces. Additionally, there was discussion on the necessary guidelines in national and territorial policies essential for environmental protection.

**Workshop 2:** The second workshop, held on June 22, 2023, took place in Turin at the Almamater association, which provides inclusion services, including language learning, to women of migrant origin. The photovoice animation method was employed in this workshop to facilitate the participation of 29 women.

Key insights from the discussion can be summarized by the immediate recognition of the impact of climate change in the countries of origin of the migrant women (e.g., Nigeria, Morocco). Participants highlighted the challenge of relating their experiences with the effects of climate change to the Turin area, where they have resided for a relatively shorter period. In all speeches, climate change in the country of origin was cited as one of the reasons for migration to Europe, and there was a concern that this new territory might also face resource shortages, such as water.

Regarding potential actions, the participants suggested increased dissemination of information about the risks of the territory and its mitigation plans, not to induce climate anxiety, but rather to foster greater awareness. Additionally, there were discussions about potential information activities focusing on improved household waste management in the city's working-class neighborhoods.

It is important to note that, although the participants were encouraged to explore the connection between gender vulnerability and climate change during the discussion, this aspect did not come to the forefront.

**Workshop 3.** On the same day, on the evening of June 22, 2023, at AMAPOLA's operational headquarters in Turin, a combined session was held involving both online (4) and in-person (2) participants with the board of the Italian Water Sports Association (FISA). Only those physically present were considered valid participants, and all attendees were men.

Key points arising from this discussion revealed a significant awareness within the FISA National Association's board concerning climate change in the Mediterranean Sea, particularly along the Italian coast. Concrete examples and arguments were provided, highlighting the degradation of the seabed and the loss of biodiversity. Causes were identified, including endogenous factors stemming from freshwater pollution entering the sea.

Potential micro-actions were proposed for development, involving water sports enthusiasts directly in contact with nature, such as sailors, divers, canoeists, and fishermen. Additionally, the discussion touched on critical aspects of national and European policies. For instance, concerns were raised about the absence of civil society involvement in the PNRR MER programme <sup>(70)</sup>.

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<sup>(70)</sup> MER programme, funds PNRR <https://www.isprambiente.gov.it/istituto-informa/comunicati-stampa/anno-2023/il-progetto-pnrr-mer-ricostruisce-i-nostri-mari>

**Workshop 4.** The fourth workshop took place on July 13, 2023, at the University of Turin (Department of Economics) with 9 representatives (6 men and 3 women) from the beekeeping organization ASPROMIELE, affiliated with Coldiretti.

Key insights from the discussion with participating honey producers were drawn from a historical overview of the impact of climate change on beekeeping. Commencing with the first major drought in 2017 and the notable observation of changes in flowering periods, producers adapted their breeding methods. This adaptation included increasing the number of hives, altering their positioning, and introducing feeding during periods of severe drought.

Producers also adjusted their marketing strategy, placing greater emphasis on the final product's value and seeking outlets in the short supply chain rather than at the national level. These shifts affected the balance of honey imports and exports, leading to an increased import of the product into the industry.

The discussion revealed a lack of early information about the phenomena caused by the effects of climate change and a failure of communication from national farmers' organizations at the onset of these manifestations. Notably, growing awareness among customers regarding the life of bees and their importance in biodiversity was observed. This heightened awareness is attributed to increased information dissemination and awareness campaigns through national media channels. With regard to possible actions, activities have been identified to further strengthen and spread awareness among urban citizens about the centrality of bees in the preservation of biodiversity, starting with the youngest segments of the population, through schools.

#### **Workshop 5:**

The fifth workshop, held on October 5, 2023, at AMAPOLA's operational headquarters in Turin, gathered 7 scuba diving instructors (all men) with valuable insights into climate change occurring in the Mediterranean Sea.

Key insights from the discussion focused on the participatory observation of divers, as suggested by FISA during Workshop No. 3. Despite belonging to different schools, all the instructors unanimously agreed on their observations of the tangible and visible effects of climate change on the seabeds of the seas they have explored throughout their professional lives.

Notably, the observation highlighted an exceptionally positive impact of the creation of Marine Protected Areas (MPAs), such as those in Liguria. The Ligurian Sea now boasts the presence of 6 stretches of sea included in national and regional marine protected areas, complementing the international reality of the Cetacean Sanctuary and the 26 sites of Community importance. Existing national parks, like the Portofino Protected Marine Area and the Cinque Terre Protected Marine Area, were noted for their diverse diving spots, showcasing seabeds populated by gorgonians, red corals, and sponges. Other areas, like the Gallinara Island and Bergeggi Island, are in the process of being established, and two more marine areas have been included in the regional nature parks of the Hanbury Botanical Gardens (Capo Mortola) and Portovenere.

In addition to advocating for policies supporting the creation and preservation of MPAs, the workshop highlighted numerous micro-actions initiated by the participants. They spontaneously organize regular actions to protect the seas and introduce other enthusiasts to the sport of diving, providing necessary training to preserve biodiversity and ensure their safety while diving.

**Workshop 6.** The sixth workshop took place on October 20, 2023, at the University of Turin and involved 9 European students (2 men and 7 women) pursuing degrees in Global Law and Transnational Legal Studies.

The key insights from the debate, attended by young European students interested in understanding the impact of climate change from a justice perspective, centered on individual perceptions. These perceptions revolved around the places they frequented and the varying environmental challenges in the cities they came from or where they spent brief study periods. It's noteworthy that these young students exhibit a high level of awareness regarding both individual and collective risks, often attributing greater responsibility to companies than individuals.

Consequently, the proposed actions aimed to elevate the information level of peers not directly involved in environmental justice. Additionally, there were significant aspirations for macro-level changes, particularly

at the European level. The students expressed trust in institutions and their regulatory capacities, emphasizing the importance of systemic change.

**Workshop 7.** The seventh workshop occurred on October 22, 2023, at the union headquarters, engaging 14 senior community leaders (10 men and 4 women) from the local provincial and city branches of the SPI CGIL union.

Key insights from this discussion, participated in by seniors actively involved in citizenship and dedicated to trade union activities, stem from personal and collective experiences related to the impact of climate change. Notably, participants highlighted shifts in climate and seasonality, influenced by both industrialization and de-industrialization processes in the city area.

The seniors shared numerous experiences, including involvement in complaints about land pollution (soil, groundwater, surface water), active surveillance of isolated elderly individuals during the summer and heatwaves, and personal encounters with gender-related issues (such as women's and neonatal health problems) attributable to air and drinking water pollution. Additionally, the union actively promotes renewable energy communities in small Piedmontese territories where local mayors are receptive to activities aimed at mitigating the effects of climate change.

Several possible local micro-actions were discussed, particularly those targeting the elderly. These actions aim to inform citizens about the risks of climate change and possible mitigation measures. Moreover, the workshop emphasized the importance of structured dialogues with other local organizations and authorities.

**Workshop 8:** The eighth workshop unfolded on October 30, 2023, at the Opera Cardinal Ferrari, a charitable organization based in Milan. This session involved 35 homeless people, including some living outside Europe, who are users of the day center. Similar to Workshop 2, the photovoice animation method was employed to facilitate the participation of these disadvantaged citizens.

Key insights from this discussion, attended by numerous homeless individuals, some facing mental disorders, revolved around their direct experiences with climate change. These experiences were gleaned from their lives on the streets and the extensive journeys through various territories on foot and in shelters. Participants shared encounters with climate change both in the city of Milan and their respective places of origin, including major heatwaves, the tropicalization of the climate, risks of tree felling, poor soil permeability, and an increase in pests. Notably, participants cited the rise in bedbugs as an effect of climate change, expressing dissatisfaction with the lack of responsiveness from authorities tasked with detecting and addressing the issue for public hygiene.

Despite their challenging circumstances, participants proved to be active, informed, and sensitive to the issue. They proposed small activities aimed at addressing their needs from public authorities, although these authorities were perceived as distant and difficult to reach.

**Workshop 9.** Conducted on the same evening as the previous one, this workshop engaged 19 volunteers and social workers from the Opera Cardinal Ferrari center.

Key insights from this discussion were drawn from both personal experiences of the participants and the collective experience gained through volunteering at the Opera Cardinal Ferrari in Milan a historical and vital reference point for the homeless in the city.

Regarding awareness of the effects of climate change, participants shared significant personal experiences, mirroring those expressed in the first workshop held in Turin. Notably, the connection between the increase in poverty, the demand for essential services, and the effects of climate change in Italy or the users' original territories was not immediate.

The workshop generated numerous proposed activities, particularly with a significant impact on the approach to aid. For instance, suggestions included the distribution of drinking water with heightened awareness of plastic use and a reduction in packaging for the emergency kits distributed.

**Workshop 10.** Conducted on November 13, 2023, this workshop engaged employees from private companies and the university, with 13 men and 7 women in attendance.

Once again, personal experience emerged as the primary filter through which participants understand climate change. Even those with a higher educational background consistently grounded their knowledge in experiential data. University professors noted a high awareness among a significant proportion of their students, albeit sometimes sector specific. Awareness was also noted to be high regarding individual behavior in transportation but lower when it came to clothing purchases.

Similar to other workshops, some participants leaned towards attributing more responsibility for climate change to companies rather than individuals.



## Suggestions to involve disadvantaged citizens of urban areas, for a horizon of green rights, through the construction of common knowledge

To address the consistent themes that emerged from the ten organized debates, direct engagement (or mediated engagement involving operators) of disadvantaged individuals is indispensable. This approach aims to enhance the efficiency of climate change mitigation policies in urban areas, anticipate the needs of the more fragile and vulnerable to shocks, and develop the most comprehensive understanding possible of the impact of climate change.

As articulated by the European Commission <sup>(71)</sup>, addressing the current situation requires the adoption of Climate Justice, guided by three principles of 'just resilience': distributive justice and fair allocation of burdens and benefits among communities; procedural justice and the inclusion of vulnerable groups in decision-making policies; recognition and consideration of diverse cultures and perspectives. Achieving a climate-resilient society while 'leaving no one behind' necessitates an equitable distribution of the benefits and burdens of adaptation measures, which are currently unevenly distributed across society.

In terms of potential instruments, it is well-acknowledged that the redistribution of tax revenues can significantly reduce the vulnerability of low-income groups, especially in territories where pockets of poverty are most concentrated.

From a practical standpoint, enhancing the lives of disadvantaged individuals in urban areas, particularly in adapting to heat waves, requires an increased investment in more accessible public spaces. Additionally, specialized training for first aid responders, along with investments in energy-efficient transportation and refrigeration systems, is essential.

In addressing the mitigation of the climate crisis, even for the most vulnerable populations, there is a pressing need to accelerate the transition from a fossil-based economy to one centered on energy efficiency and renewable, affordable sources. Tangible improvements in conditions and attention to vulnerable population groups would not only facilitate their participation but also foster the emergence of ideas beneficial for the collective betterment of the population.

Another crucial suggestion arising from this work is the importance of engaging civil society that is not only environmentally conscious but also attentive to economic and social vulnerabilities, both at the local and national levels. Ideally, given the current situation and identified risks, it would be desirable to broaden the participation of small private consortia, such as diving instructors, sailors, canoeists, fishermen, etc., in protective actions, such as strengthening Marine Protected Areas (MPAs).

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<sup>(71)</sup> EUROPEAN COMMISSION, ENERGY, CLIMATE CHANGE, ENVIRONMENT, Nature restoration law, 22 June 2022