SOCIAL PERCEPTION OF CLIMATE CHANGE IN URUGUAY

EXECUTIVE SUMMARY - MAY 2021

CLIMATE PROMISE PNUD
UN FUTURO SEGURO Y SOSTENIBLE A TRAVÉS DE UNA ACCIÓN CLIMÁTICA AMBICIOSA

Ministerio de Ambiente

SNRCC Uruguay
Sistema Nacional de Respuesta al Cambio Climático y Variabilidad

Suecia Sverige

SOCIAL PERCEPTION OF CLIMATE CHANGE IN URUGUAY

This report was developed within the framework of the Climate Promise initiative of the United Nations Development Programme (UNDP), together with the National Directorate for Climate Change of the Ministry of the Environment of Uruguay, with the cooperation of the National Climate Change Response System.

The Climate Promise initiative is implemented globally by UNDP, and funded by the Government of Sweden, with the objective of fostering greater understanding, ownership and involvement of the countries in the climate agenda, to strengthen and promote compliance with their current Nationally Determined Contributions.

This report is based on the findings of a study commissioned to Opción Consultores.

Technical team: Opción Consultores
Project Director: Rafael Porzecanski
Coordinators: Viviana Fraga, Florencia Alonso.
Field Managers: Mateo Celiberti, Paula Falero.

Interviewers / Qualitativists: Victoria Vega, Lucía del Castillo, Mauro Conti, Magdalena Mier.
Group Moderators: Regina Castro, Laura Cerruti, Viviana Fraga, Diego Sarroca.

Design: SALVO Comunicación

ISBN: 978-92-95114-14-2

Photographs: UNDP / Carlos Lebrato (pages 6, 14, 20 and 27), Ministry of the Environment (pages 23 and 30).

The generic use of the masculine form in this publication is intended to simplify the wording and reduce reading fatigue. Therefore, it is in no way intended to discriminate between women and men, which is a concern for this work team.

FOREWORD

Uruguay is highly vulnerable to climate change. Its economy has a strong agro-industrial base that is developed throughout the national territory, while strategic infrastructure, tourism services and 70% of the population are concentrated in the coastal areas. In recent years, the damage caused by extreme weather events such as floods, droughts, cold and heat waves, strong winds and severe storms has been very significant, highlighting the fragility of some sectors of the population and activities. In addition to the risks of climate events, climate change has negative impacts on the quality of the environment, the availability of food and resources, and human health.

Because of this, the country has been implementing measures to promote resilience, mitigate and adapt to climate change, with a cross-cutting approach to the dimensions of governance, capacity building, human rights and gender equality.

In 2017, Uruguay presented its first Nationally Determined Contribution (NDC) that aims to address the provisions established in the Paris Agreement and promote adaptation and mitigation under the National Climate Change Policy. It counts 106 measures covering a variety of sectors.

Through the global Climate Promise initiative, the United Nations Development Programme aims to scale up its support for climate action in more than 100 countries. In Uruguay, the Climate Promise, which has the financial support of the Government of Sweden, aims to ensure greater understanding, ownership and involvement in the climate agenda on the part of society and, at the same time, contribute to present a more ambitious NDC in 2022.

Within this framework, UNDP together with the Ministry of Environment led the process of diagnosing the social perception of the impact and responses to climate change, a fundamental input for the development of the stakeholder engagement strategy.

This study, conducted by the consulting firm Opción Consultores, provides an approximation of how to understand climate change, what impacts are perceived in the daily lives of people and sectors of the national economy, identifying needs, challenges and opportunities for action.

This is the first study of this scope on the perception of climate change in Uruguay, and we hope that the results of the process will be the basis for future comparative studies, as well as an input for the long-term National Climate Strategy and that it will inform future climate change policies.

Climate action is urgent. Empowering citizens is part of the solution to the climate crisis and perception information is a fundamental step to promote the necessary change to face this global emergency.

Adrián Peña
Minister of the Environment of Uruguay

Stefan Liller
Resident Representative of the United Nations Development Programme in Uruguay

1

INTRODUCTION

The Diagnosis of the Social Perception of the Impact of and the Response to Climate Change was a social research consultancy commissioned to Opción Consultores by the United Nations Development Program (UNDP), jointly with the National Directorate for Climate Change of the Ministry of the Environment (MA) in 2020.

Its overall goal was to map the perception of climate change (CC) in Uruguay, both on the part of the general population and on the part of key organizations and stakeholders. It thus aimed to generate relevant inputs to develop a national engagement strategy for climate action.

The study was divided in two independent modules targeting different populations, which were rolled out simultaneously between October 2020 and February 2021. A telephone survey was conducted to approach the general population, which was representative of the Uruguayan population over 18 years of age, a total of 1,500 people interviewed.

A qualitative approach was applied to the specific sectors of interest, conducting 20 focus groups and 80 in-depth interviews. This document summarizes the main findings of both sections of the study.

2

QUANTITATIVE CHAPTER

INTRODUCTION

The Climate Change Perception Survey (CCPS) is the quantitative chapter of the study entitled Diagnosis of the Social Perception of the Impact and Response to Climate Change.

The main informational objectives of the survey comprise the following dimensions:

- Knowledge and beliefs about the causes and consequences of climate change (CC), as well as the most affected social groups
- Related behaviors and willingness to act in response to CC
- Resources and sources of information, media and mediators on CC used to build the representation of this phenomenon
- Knowledge and assessment of current or potential institutions, policies and response actions

The survey was conducted by telephone in November and December 2020, and applied to a representative and random sample of 1,500 members of the Uruguayan adult population (over 18 years of age), based on a questionnaire designed by Opción Consultores, supported and validated by the members of the Education, Communication and Awareness Working Group of the National Climate Change Response System and the UNDP team appointed to the project.

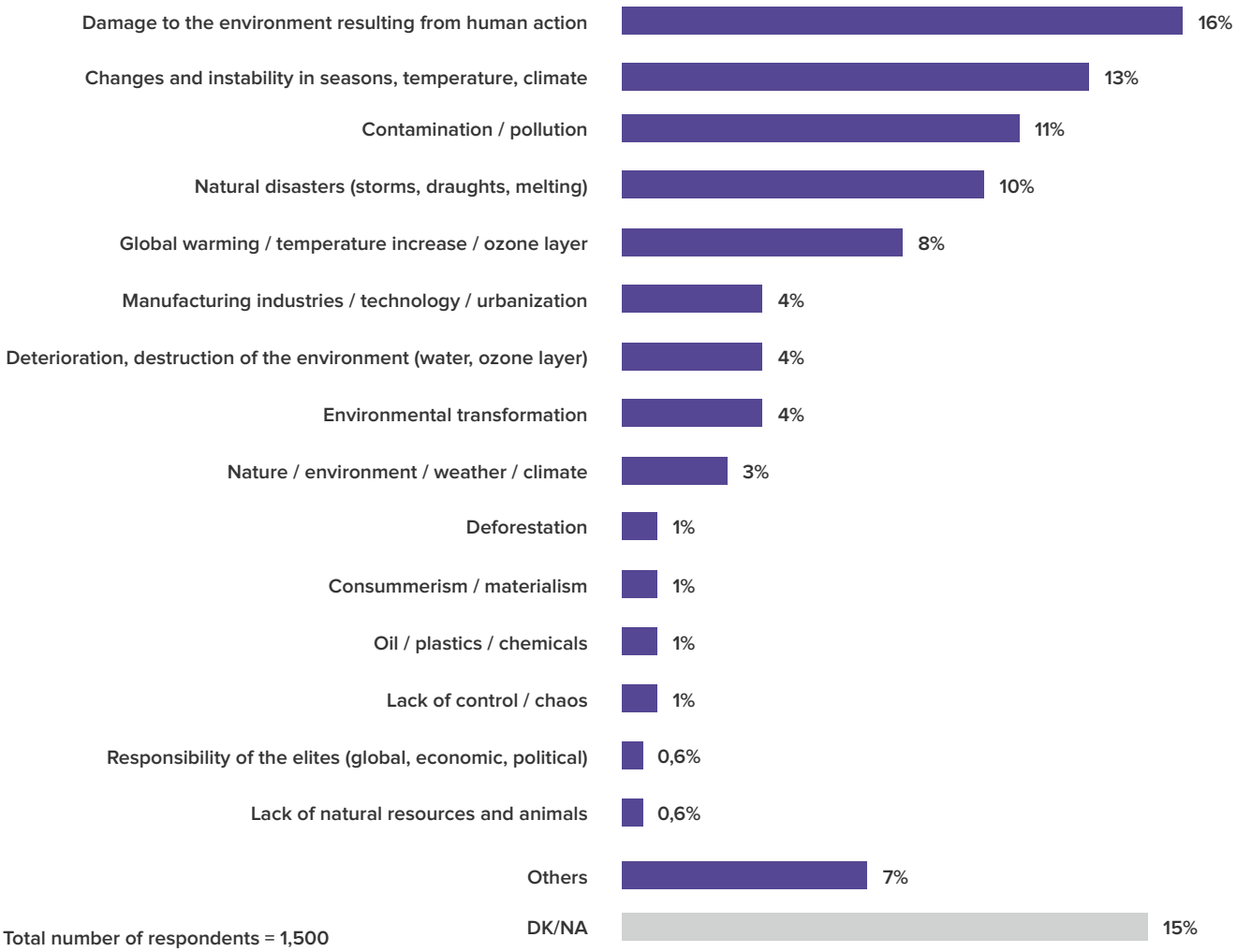
MAIN FINDINGS

Spontaneous Associations

Uruguayan men and women massively associate CC with an environmental phenomenon with negative effects. In some cases, the term is related to phenomena directly linked to climate, such as climatic or temperature variations or instabilities (13 percent), natural disasters such as droughts or tornadoes (10 percent) or global warming and related phenomena (8 percent). In other cases, the expression is associated in a more generic sense with ecosystem issues such as environmental transformations (24 percent) — generally viewed as harmful— or pollution (11 percent).

Spontaneous Associations about climate change

In just a few words, what do you associate the expression “climate change” with? (Spontaneous) (*)

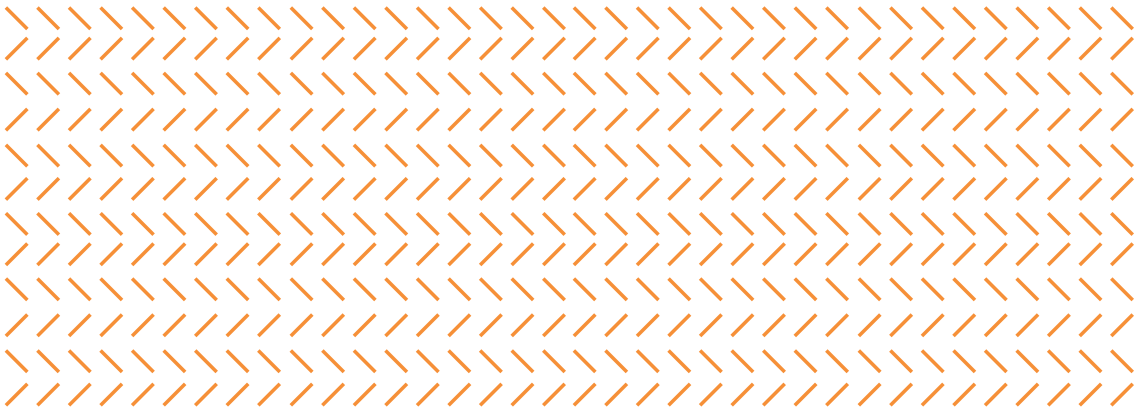


Total number of respondents = 1,500

Methodological note: In some graphs, the sum of the total percentages may be 99 or 10, instead of 100, this is due to the rounding up of decimals.

Knowledge

Although the spontaneous associations of the term are the expected ones, a significant percentage acknowledge that they do not have a detailed knowledge about climate change. Although 76 percent say they are very or fairly interested in the issue of climate change, only 42 percent state that they are very or fairly informed about it. Furthermore, 40 percent do not know about measures to minimize the negative impacts of CC on the planet, and 53 percent cannot recall any governmental measures on CC in Uruguay. Moderate knowledge about climate change requires a cautious interpretation of trends, since the lower the self-perceived knowledge about a specific issue, the less firm and more volatile the convictions about it tend to be.



Climate Change and the Media

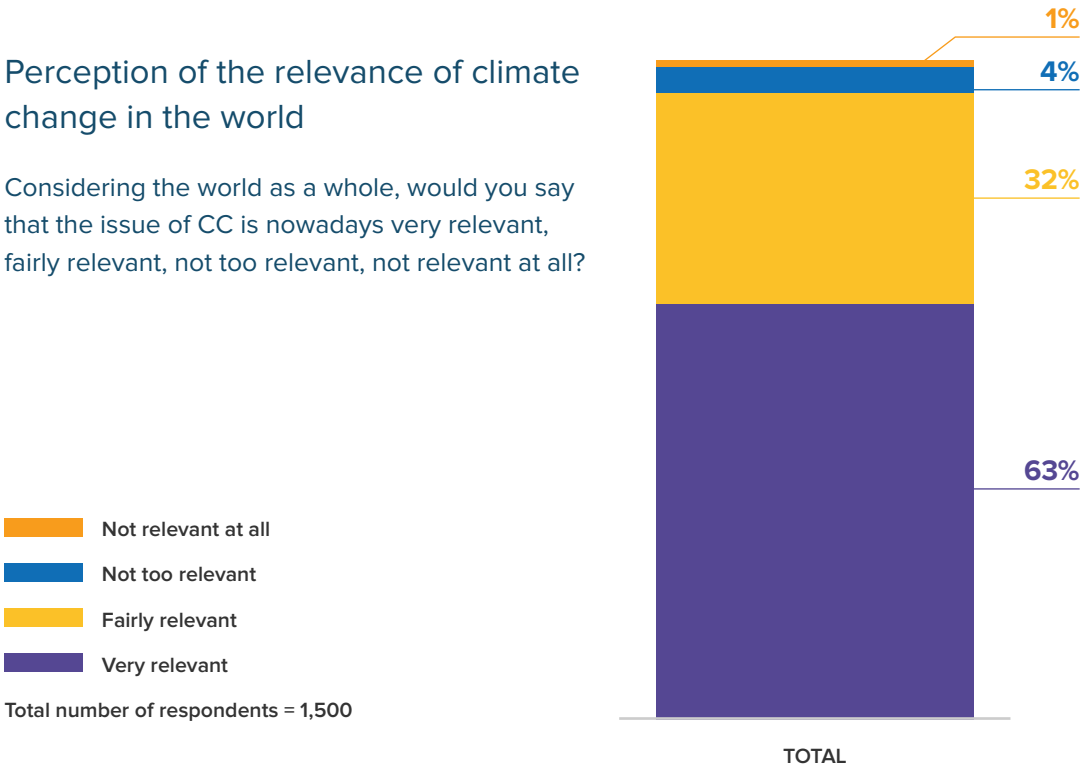
The majority of citizens also consider that the flow of information about CC in the media is poor: 78 percent say that there is little or no talk about CC in the press. Strikingly, the level of trust in information about CC is low, regardless of the source. This impression could be affected by the perception that little is said about the subject and this does not necessarily reflect the general trust in these sources. In fact, 35 percent of the population states that they trust press information on CC, while in another public opinion survey conducted in October 2020, the general trust in the press reached 57 percent.

Importance Given to Climate Change as a Global Issue

In addition to giving it a clearly negative connotation, almost all the population recognizes that CC is a very or fairly important global issue (94 percent). Thirty-six percent even perceive CC as the greatest global threat above other risks such as poverty, unemployment, health crises or wars. Although this data could be distorted by the fact that it comes from a survey on CC (due to the effect of social desirability bias, some people could be induced to give CC priority over other concerns), in other global surveys CC has also emerged as one of the main perceived global threats (regardless of whether or not the study was specifically on CC). In fact, Latin America is one of the regions where the population that perceives CC as a significant threat to their country is highest, with figures usually ranging between 70 and 80 percent [1]. From our inquiry regarding the reasons why most Uruguayans consider CC to be a relevant issue, there arose that the main negative impact perceived on a global scale is the deterioration of natural resources such as water or air (52 percent), followed by the extinction of various species of flora and fauna (23 percent) and the deterioration of human health (16 percent).

Perception of the relevance of climate change in the world

Considering the world as a whole, would you say that the issue of CC is nowadays very relevant, fairly relevant, not too relevant, not relevant at all?

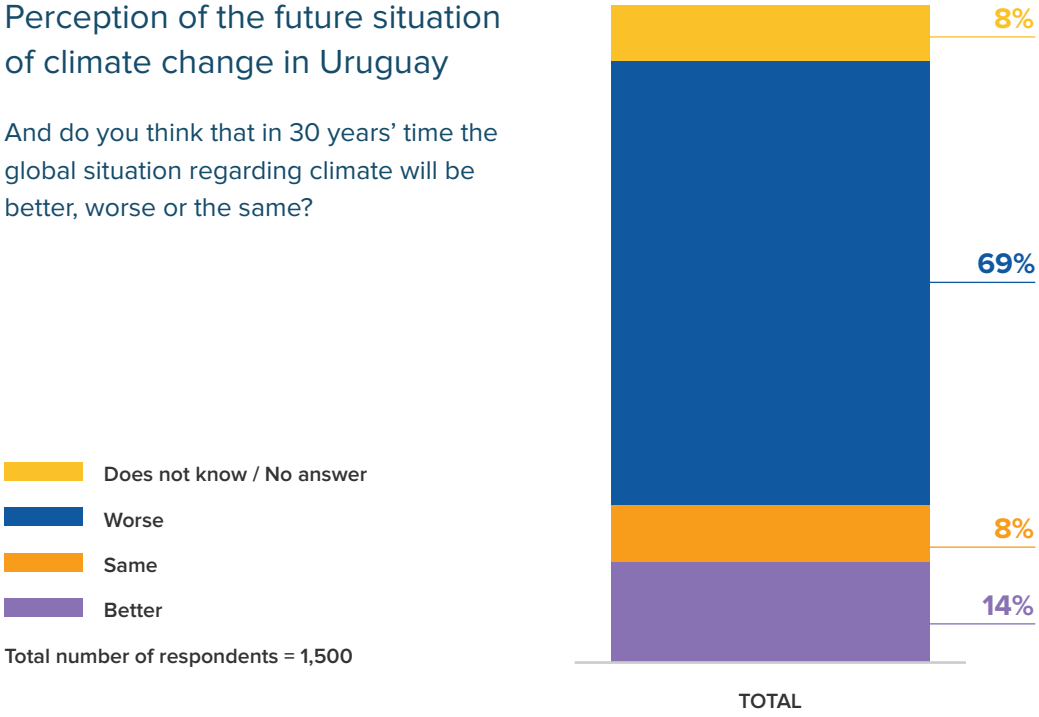


Total number of respondents = 1,500

[1] https://www.pewresearch.org/global/2019/02/10/climate-change-still-seen-as-the-top-global-threat-but-cyberattacks-a-rising-concern/

Perception of the future situation of climate change in Uruguay

And do you think that in 30 years' time the global situation regarding climate will be better, worse or the same?



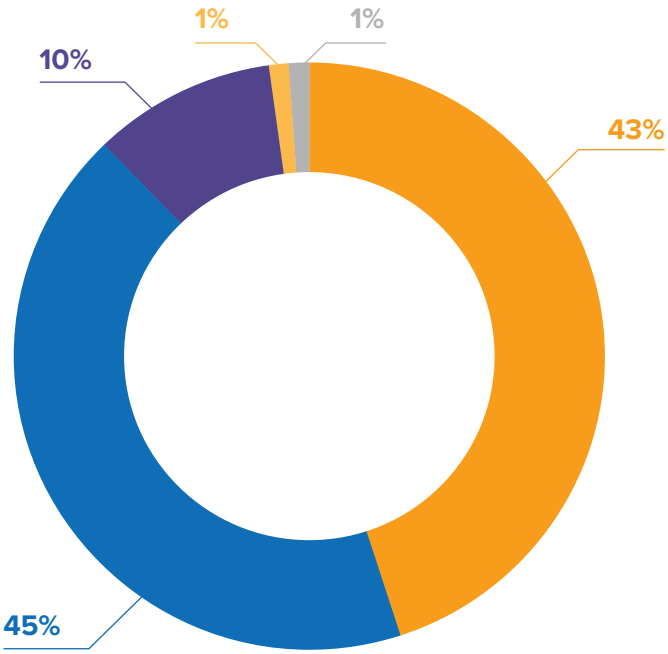
Methodological note: In some graphs, the sum of the total percentages may be 99 or 10, instead of 100, this is due to the rounding up of decimals.

Climate Change as a National Problem

The acknowledgement of the CC phenomenon is also perceived at the local level, with 88 percent saying that CC is a very or fairly important problem for Uruguay. In addition, for 70 percent, droughts in the country are more common today than in the past and for 2 out of 3 citizens the country is much or somewhat warmer today than it was 20 years ago. A variety of reasons were the answer to the question regarding why climate change is an important problem for Uruguay. Said reasons ranged from negative economic consequences —mainly due to the relevance of agricultural production— (14 percent) to negative effects on the country's natural resources (14 percent) or on human health (6 percent). It is worth noting that this does not imply that CC is one of the most important issues for Uruguayans. It is very rare, for example, for Uruguayans to mention CC and environmental issues as their main concerns, with issues such as the economy, security, education and corruption predominating. At the same time, CC is recognized as having significant impact on people's daily lives by 51 percent, with specific perceived effects on relevant dimensions such as individual health.

Relevance of climate change as an issue in Uruguay

Would you say that in Uruguay the issue of CC is nowadays very relevant, fairly relevant, not too relevant, not relevant at all?

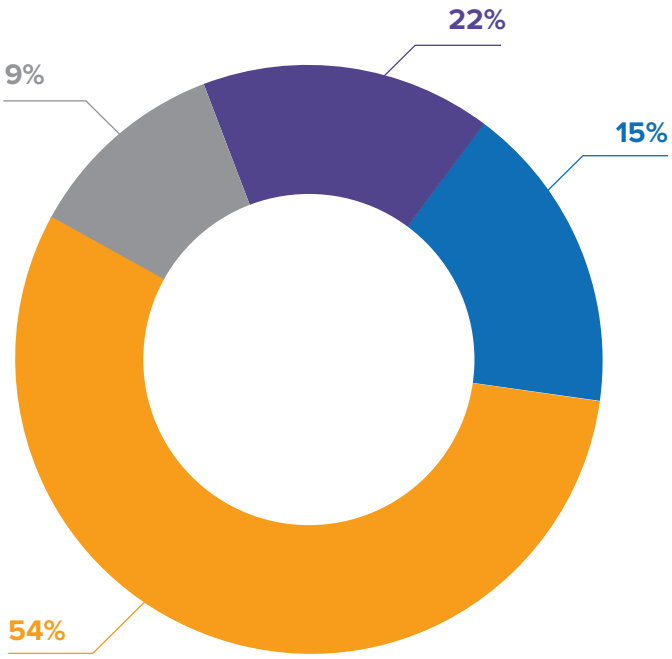


- Very relevant
- Fairly relevant
- Not too relevant
- Not relevant at all
- DK/ NA

Total number of respondents = 1,500

Perception of the future of climate change in Uruguay

And in 30 years' time, do you think the situation regarding CC in Uruguay will be better, the same or worse?



- Better
- The same
- Worse
- DK/NA

Total number of respondents = 1,500

Perspectives

Another relevant finding of the survey is the predominance of a pessimistic perspective regarding the future evolution of CC, both in the world and in Uruguay. Only 14 percent of the people surveyed believe that in 30 years the situation in the world with respect to CC will improve, compared to 69 percent who believe it will be worse, which means that there is a 55 point gap in negative expectations. For Uruguay, perceptions are slightly more favorable, but negative views continue to be clearly predominant. Slightly more than 1 in 5 Uruguayans say that the country will be better off with respect to CC in 30 years compared to 54 percent who say it will be worse off. This pessimism, however, does not necessarily imply a “fatalistic” attitude towards CC. In fact, 51 percent of Uruguayans disagree with the idea that CC is a phenomenon that is completely out of their control.

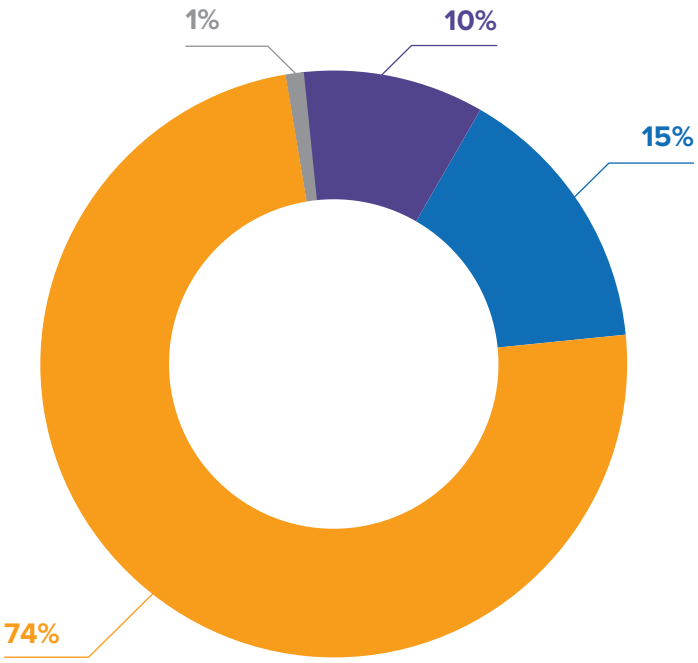
Perceived Causes of Climate Change

While stating that they are mostly pessimistic about the possibility of there being improvements in the climate situation, the people interviewed agree that CC is a phenomenon caused mainly by human activity. Seventy-four percent say that human activity is the main cause of CC and another 10 percent that it is as important as natural phenomena. In addition, the population acknowledges the shared responsibilities of citizens and companies as the main generators of CC. For 31 percent, individual behavior is the major contributor to CC, for 27 percent it is companies and for 40 percent, both factors equally. When asked about the business sectors that most contribute to CC, the manufacturing industry dominates by a wide margin, at 56 percent. The other two industries which gather a significant percentage of responses are transportation (19 percent) and agriculture (12 percent). Although the manufacturing industry is strongly associated with CC, an additional interesting fact is that an overwhelming 80 percent believe that it would be possible to generate economic growth while at the same time fighting climate change. Therefore, the survey does not yield that pessimism about the evolution of CC is explained by the idea that CC is a price to pay for the sake of greater economic

growth. In terms of individual activities, excessive consumption is perceived as the factor with the greatest impact on CC (42 percent), followed by waste generation (28 percent) and excessive car use (23 percent). In line with this acknowledgement of the incidence of citizen behavior on CC, 67 percent of Uruguayans state that they take at least some actions to reduce risks. Among this subpopulation, the most outstanding actions have to do with domestic waste management: sorting (18 percent) and proper disposal (17 percent). A related activity, such as recycling, accounts for 13 percent of the responses, while environmentally friendly consumption activities (such as avoiding plastic bags) together account for 19 percent.

Main perceived causes of climate change in the planet

What do you think is the cause of climate change, human activity or natural processes that occur on the planet?



Total number of respondents = 1,500

Measures to Combat Climate Change

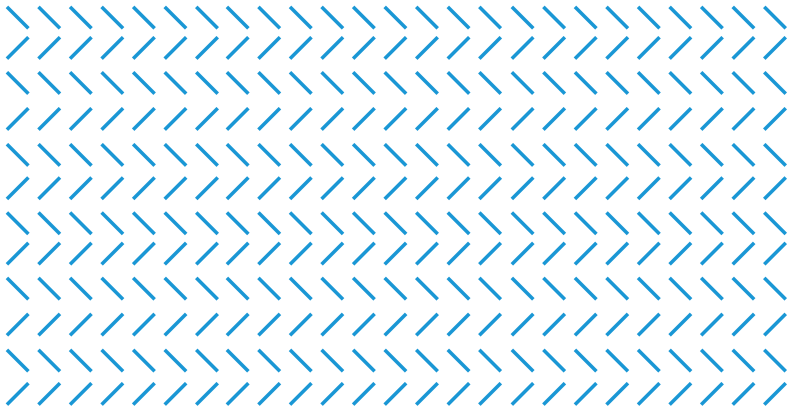
A majority of 60 percent answered that they were aware of measures to minimize the negative impacts of CC. Within this segment, the most commonly mentioned measures were a reduction in the consumption of products that are harmful to the environment (24 percent), activities related to recycling or reuse (19 percent), proper waste disposal (20 percent), changes in the modes of transportation or energy sources used (15 percent) and controls on certain economic activities such as pollution or deforestation (12 percent).

Responsible Stakeholders

The citizens and the government are in turn seen as the main stakeholders responsible for improving the environmental situation and addressing CC in the country. Nearly 6 out of 10 Uruguayans consider that these two stakeholders have the greatest responsibility.

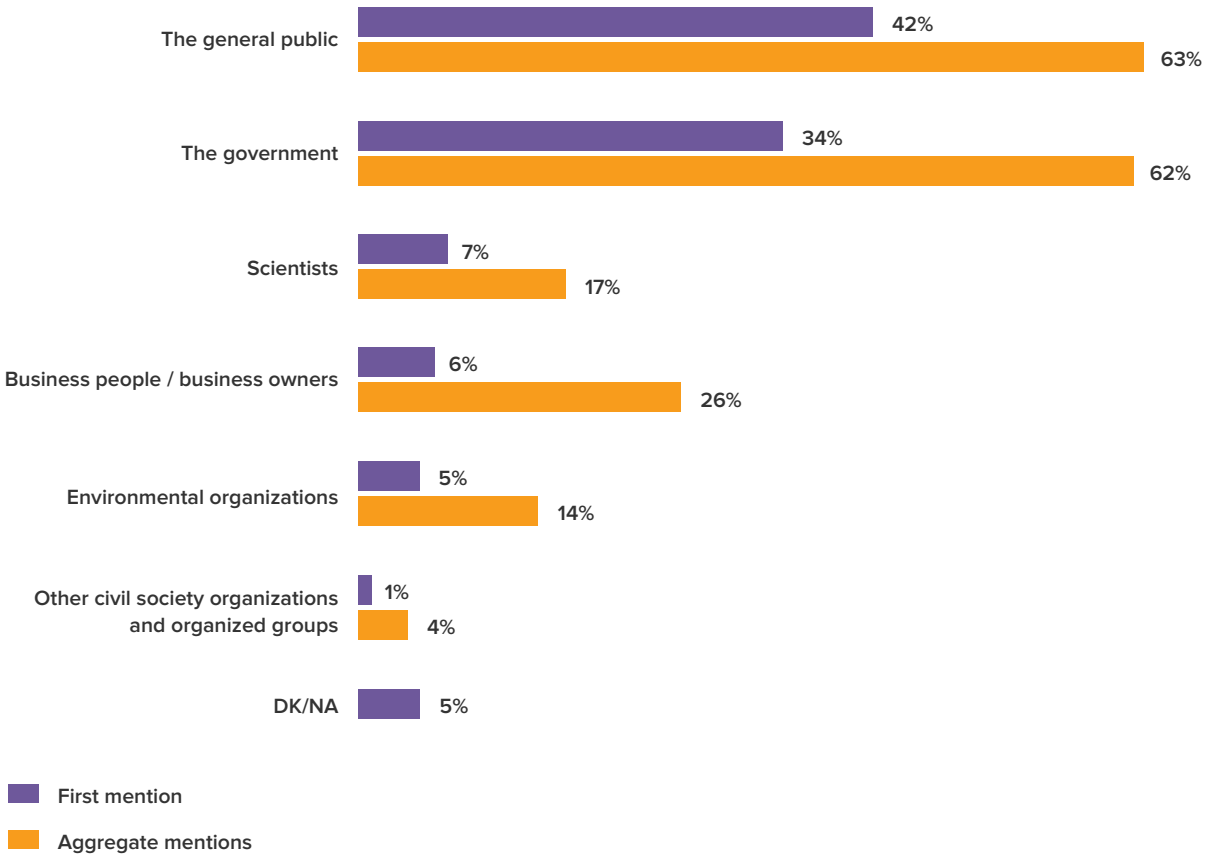
In terms of government actions, almost half of the population (47 percent) reported recalling measures implemented by national or departmental governments in response to CC. The two most commonly mentioned measures (in both cases by 24 percent) are policies related to waste sorting (such as differentiated dumpsters) and policies aimed at reducing the use of plastic shopping bags. Although one out of two Uruguayans recognize some of these measures, citizens are primarily critical of the government actions taken so far in response to CC, mainly because they consider them to be insufficient: 69 percent say that recent administrations have done little or nothing to mitigate CC, and 79 percent consider that the country is scarcely or not at all prepared in terms of its capacity to respond to CC.

In short, with respect to Uruguayan public opinion and the issue of climate change, we could state that there is a moderate level of knowledge, a widespread awareness of the significant threat it poses, widespread agreement that the changes produced are mostly the responsibility of individual and collective human activity, a primarily pessimistic attitude regarding the coming decades (although not necessarily fatalistic) and a majority opinion that the political actions implemented in the country so far have not been sufficient.



Responsibility for improving the environmental situation and climate change

Of the following options, who do you consider has the greatest responsibility for improving the environmental situation and addressing climate change?



Methodological note: the “aggregate mentions” are the accumulated percentage of all the times CC was mentioned in the interviewee’s response, which can add up to more than 100 percent.

Level of Education, Gender, Ideology and Attitudes towards Climate Change

The overall trends outlined above hide relevant differences between significant segments of the Uruguayan society. In particular, significant differences were recorded for a large number of indicators according to their level of education. As shown in Table 1, there is a positive association between educational level and a variety of dimensions such as knowledge, relevance given and involvement in the issue of climate change. There is, for example, a 45-point difference between people who have reached the higher education level and those who have not completed their basic education, regarding their awareness of measures taken to reduce CC. In addition, the

relative perceived threat of CC compared to other problems is markedly higher in sectors with higher and intermediate levels of education compared to the low level segment. Another remarkable difference has to do with the belief that CC is or is not completely out of one's control: in the sectors with the highest level of education only a 28 percent minority agree with the fatalistic perspective, but in the middle intermediate and low sectors this position reaches 50 percent and 58 percent, respectively. Finally, differences were also recorded in some everyday environmentally friendly actions: higher-income groups are much more likely to look for consumer products that are less harmful to the environment.

Table 1.

Public opinion climate change indicators according to level of education

	Low (%)	Medium (%)	High (%)
Very / Fairly Informed about CC	34	43	58
Awareness of measures to fight CC	39	69	85
Awareness of government actions in Uruguay	29	52	69
Name the main country responsible for CC	54	74	85
CC main threat	22	44	46
Human activity as the main cause of CC	64	77	87
Consumerism as the main personal activity that causes CC	33	45	54
CC affects more people living in cities	45	30	24
Looks for eco-friendly products when shopping	29	33	47
Agrees that CC is beyond their control	58	50	28
Takes action to reduce the risk of CC	53	73	81

Trends by level of education are largely consistent with other international public opinion surveys. A 2018 AmericasBarometer report which gathered samples from several Latin American countries, for example, found that education is the most significant predictor of the opinion that CC is a serious threat to the country [2]. One of the strongest hypotheses to understand the associations between level of education and ideology and attitude towards CC refers to the differential impact and support of the so-called post-materialist values agenda. According to public opinion evidence both in

[2] https://news.vanderbilt.edu/2018/01/25/climate-change-concerns-much-higher-in-latin-america-caribbean-than-u-s-canada/

Uruguay and in other contexts, people with university education have been more likely to adhere to a new set of social demands and values, usually called “post-materialist”, among which are environmental issues. There are also some relevant differences based on gender among Uruguayan citizens, as summarized in Table 2. On the one hand, men report a slightly higher proportion of being fairly or very well informed about the issue of CC, while women are more likely to express a strong interest in receiving more information on the subject.

Secondly, women tend to perceive a greater degree of shared responsibility in generating and dealing with CC. The percentage of women who consider the population as a whole to be the main human cause of CC is 8 points higher. Similarly, while 47 percent of women say that the population is mainly responsible for addressing CC, this is true for 36 percent of men. Conversely, men are more likely to demand solutions from the government. In line with these differences, women are less likely to perceive CC as a phenomenon that is beyond their control (45 percent of women versus 51 percent of men).

Thirdly, women are more likely to undertake environmentally friendly actions: The percentage of women who sort plastic waste, bring their own bags to the supermarket and look for environmentally friendly products when buying food to avoid the impact of plastic bags is 11, 8 and 7 points higher than that of men, respectively. Finally, it is interesting to contrast the responses by gender regarding the impact of CC on men and women. On the one hand, 56 percent of women say that CC affects them a lot or quite a lot in their daily lives, as compared to 45 percent of men (an 11-point difference). However, no gender differences were found upon the enquiry of whether CC affects men more than women, with a resounding majority (slightly more than 9 out of 10 people) perceiving that CC affects both genders equally. In other words, although women tend to perceive themselves as more affected by CC than men, neither men nor women visualize CC as affecting either gender differently.

Differences in ideological self-identification are also associated with the difference in people’s attitudes towards CC.

In particular, people with left-wing leanings show greater knowledge about some key dimensions of CC, the differences regarding reported knowledge

Table 2.

Public opinion climate change indicators according to gender

	Men (%)	Women (%)
Very / Fairly Informed about CC	45	41
Great interest in receiving information about CC	31	37
Uruguay is much warmer than 20 years ago	30	38
People's behavior main human cause of CC	27	35
The population is mainly responsible for dealing with CC	36	47
Government primarily responsible for addressing CC	40	28
CC affects them significantly / quite significantly in their daily life	45	56
CC affects men and women equally	91	92
Believes that CC is beyond their control	51	45
Separates plastic waste	46	55
Looks for organic products when buying food	30	38
Carries bags to avoid environmental impact of plastic bags	41	48

about specific measures to fight CC and government actions implemented in Uruguay being especially relevant. There are also some differences in attitudes that are probably due to their ideas regarding the government-market axis (left-wing supporters tend to be more sceptical about the market economy and demand a more active role of the government in economic matters). For example, while 36 percent of people who identify as left-wing consider companies to be the main cause of CC, these figures drop to 27 percent and 25 percent among center of right-wing voters. Similarly, consumerism is identified as the main human activity contributing to CC by 51 percent of left-wing people on the left, compared to 43 percent and 35 percent of center and right-wing citizens, respectively. Finally, left-wing people are more likely to believe that past governments in Uruguay did a lot or a fair amount to provide solutions to the issue of climate change in the country. Considering that the three previous governments had Frente Amplio (a coalition of left-wing parties) administrations, it is reasonable to expect their constituents to be less critical about the different dimensions of public policy, including those related to the environment.

A final noteworthy aspect is that although there are no substantial differences in most of the indicators related to their region of residence, among the population of the interior of the country, there is a growing percentage of people who observe significant specific climatic variations in the country over the last few years. For example, while 31 percent of the people living in Montevideo consider Uruguay to be a much warmer country today than it was 20 years ago, this is true for 46 percent of those living in the interior. Similarly, 74 percent of people in the interior consider that droughts are more common in Uruguay, a figure that drops to 63 percent among those who live in the capital. These differences might be explained by their greater dependence on climate for productive activities (and therefore a greater sensitivity to record variations).

3

QUALITATIVE CHAPTER

INTRODUCTION

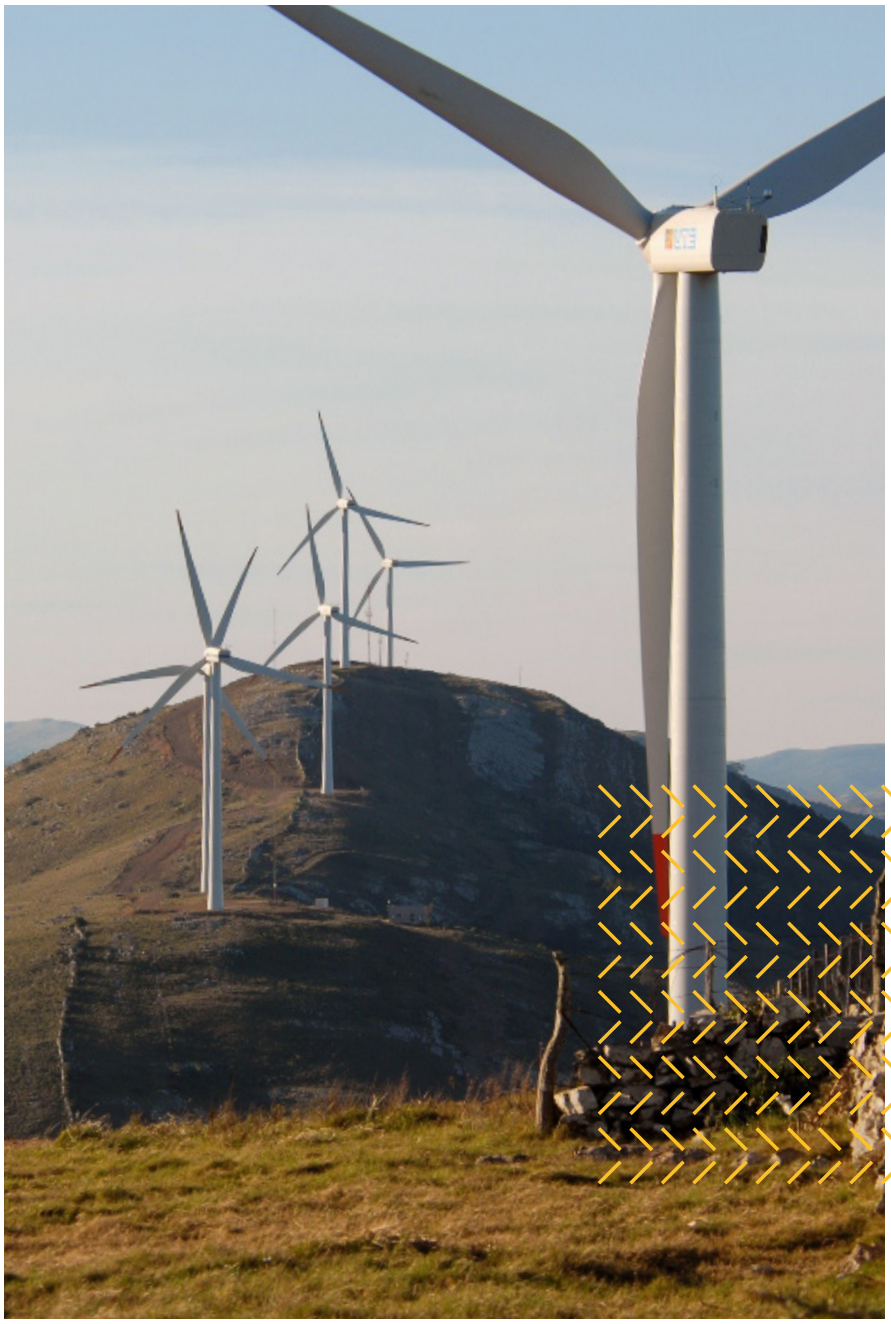
The main objective of the qualitative chapter was to survey the social representations of several climate change related dimensions in different groups and sectors. This approach generated relevant information on the following main dimensions:

- Knowledge and beliefs about the nature, causes, and consequences of CC
- Perceptions of the problems associated with CC in Uruguay and the economic sectors and population groups most affected by it
- Vision on the coverage and information available about CC
- Willingness to act in response to climate change: adaptation and mitigation measures and actions (spontaneous and/or institutional)
- Assessment of current or potential institutions, policies and response actions at the national level

Eighty individual interviews and 20 online focus groups were conducted with representatives of the following sectors: agriculture, education, tourism, health, departmental governments, industry, services, transportation, civil society organizations, energy, women's organizations, research and development (R&D), and communications. The sampling was purposive and non-probabilistic, based on a list of references (directors of business associations and workers' unions, non-governmental organizations and educational institutions, mayors and heads of departmental governments, scientists and educators, health professionals and technicians, among others).

The list was built by the National Directorate of Climate Change and the SNRCC's Education, Communication and Awareness group, and supplemented by Opción. The fieldwork was carried out between October 2020 and January 2021 by a team of interviewers and moderators consisting of social scientists with training and experience in qualitative approaches (five group moderators and four interviewers).

The interview and focus group guidelines were designed by Opción, which obtained validation and support from the UNDP team, the National Directorate of Climate Change and the SNRCC Working Group. There was a common set of questions for all sectors and specific thematic blocks for each sector or sub-sector. The estimated average duration of the focus group sessions was 90 minutes and the average duration of the interviews was 40 minutes. This executive summary summarizes the main prevailing trends with the cross-sectional view of the representatives of all the sectors consulted.

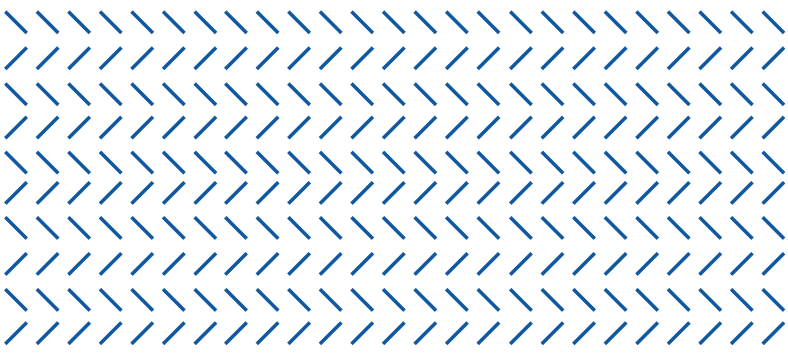


MAIN FINDINGS

Spontaneous Associations

In this dimension, the cross-sectional analysis found several points in common. The predominant view is that CC exists and has relevant and negative consequences on the ecosystem and on human life. The major exception was in the service sector, where two interviewees from the telecommunications sector questioned the very existence of CC. In terms of its description, the predominant associations of CC refer to climatic phenomena that occur with greater frequency and intensity than in previous periods (droughts or rains) as well as global warming (i.e., the increase in the average temperature of the planet). At the same time, in several sectors, CC is mentioned spontaneously, closely associated with greenhouse gases, which proves the greater prevalent knowledge among the consulted leaders as compared to the general population. However, there are some differences in the handling of the concept, with particularly advanced knowledge in the educational and R&D sectors, and others such as health, where most of those consulted are little or not at all familiar with the term.

> The predominant associations of CC refer to climatic phenomena that occur with greater frequency and intensity than in previous periods (droughts or rains) as well as global warming (i.e., the increase in the average temperature of the planet).



Perceived causes

Regardless of the sector, most perceive that human activity is the main cause of CC, although there are some who consider it to be part of unavoidable natural processes (especially some references to the agricultural and industrial sector). In several sectors (R&D, agriculture, education and energy, among others), the burning of fossil fuels and deforestation are highlighted as the main causes of CC. In turn, in sectors which are more familiar with the issue of CC, the explanations are more detailed. In the energy sector, for example, specific contributions are mentioned from manufacturing activity (burning of fuels for energy production), livestock (increase in methane gas due to increased production) and transport (nitrous and sulphur oxides emitted by vehicles). Although productive activities are widely associated with CC, in several sectors it is also seen as a consequence of general patterns of human activity. In one way or another, general responsibility (e.g., via the excessive consumption of goods and services) was explicitly mentioned in the interviews and groups concerning the transportation, agriculture, education, departmental governments and women's organizations.

Main Related Issues and Consequences of Climate Change in Uruguay

There is significant variability by sector in this dimension. Regardless of the nuances, the worsening of droughts in Uruguay was one of the problems derived from climate change most emphasized by the experts consulted. This concern arises from sectors such as agriculture, education, departmental governments, R&D, industry and civil society organizations (CSOs). Other commonly mentioned problems associated with CC are greater climate variability (more frequent abrupt changes), higher average temperatures due to hotter summers and cooler winters, and rising sea levels. As for the perceived consequences of CC, the interviewees highlighted a wide variety. Along with the economic issues this creates (such as agricultural losses due to drought), one of the most frequently mentioned negative effects is coastal erosion and loss of beaches, an aspect that arises in sectors such as CSOs, education, tourism and energy.

Most Affected Productive Sectors

According to most of the people interviewed or otherwise consulted, the agricultural sector is the most severely affected sector, due to its direct dependence on climate. The proliferation of extreme events such as droughts, frost, hail and floods, for example, seriously affects food production, according to those consulted. Another sector that is seen as severely affected by climate change in the country is tourism, a perception that is linked to coastal erosion and the rise in the sea level caused by climate change, which affects the country's main tourist attraction.

The social segment perceived as being most vulnerable to the effects of CC is clearly the low-income sector of the population, made up of people living in poverty or vulnerability. The characteristics of the houses where these sectors of the population live, in turn, are perceived as the main mechanism through which CC affects low-income people to a greater extent.

Most Affected Social Sectors

The social segment perceived as being most vulnerable to the effects of CC is clearly the low-income sector of the population, made up of people living in poverty or vulnerability. The characteristics of the houses where these sectors of the population live, in turn, are perceived as the main mechanism through which CC affects low-income people to a greater extent. Several of the consulted leaders in the communication, education, energy, and tourism sectors, departmental governments and CSOs, for example, argue that this population generally lacks adequate housing to face extreme weather events (such as storms). Furthermore, these dwellings tend to be located in areas that are more sensitive to the extreme consequences

of climate change (e.g., flood zones). A second subgroup that is often spontaneously regarded as being more affected by CC are small rural producers, an aspect that is particularly highlighted in the agricultural, transportation, services, CSO, R&D and energy sectors. In agriculture, for example, it is argued that the particular vulnerability of small producers to CC is associated with the strong dependence of their productive activity on climate and their lower capacity to minimize climate risks through investments (seen as costly).

Gender and Climate Change

Are women or men more vulnerable to CC? This is another one of the common questions that we asked the representatives of all the sectors consulted both in the focus groups and in the interviews.

The different impacts of CC on gender is recognized by a significant portion of those consulted in sectors such as education, R&D, CSOs, departmental governments and women's organizations. Regarding the different impact mechanisms of CC according to gender, it is argued that the overrepresentation of women in poor sectors (in turn the result of the gender-specific division of labor and the greater burden of care) is one of the main explanatory factors.

The interviewees from the agriculture, energy, manufacturing, healthcare, services, transportation and tourism industries shared the view that CC does not affect men and women differently. The interviewees were mostly men, due to the fact that men are strongly overrepresented in most of these sectors. In sectors such as agriculture and services, the women who participated were more likely to highlight the greater vulnerability of women to CC, but in others, such as health, the opposite was true.

Beyond the nuances within each sector, we concluded that there is a clear segmentation of the groups according to their nature in their understanding of the relationship between gender and CC. While in the productive sectors the gender issue is rarely seen as relevant, in the social, education and knowledge production sectors this issue does gain relevance, probably due to the higher proportion of members with training in gender and inequality issues.

Generations and Climate Change

In general, children are seen as the generation most vulnerable to the harmful effects of climate change. In particular, it is understood that they will be exposed to a lower quality of life than previous generations (i.e., they will spend more of their life cycle in an adverse climate environment) and that they are overrepresented in poor sectors. However, in groups such as women, CSOs, health, services, transportation, tourism, R&D, education and energy, some voices point out that the older age group is also particularly susceptible to the effects of CC, mainly because eventual CC effects on human health will impact more strongly on the sectors which are most vulnerable from the point of view of their health.

Territory and Climate Change

Another common question refers to the local territories most susceptible to the negative effects of CC. On this point, the vulnerability of coastal zones stands out in almost all sectors, a fact that is understandable considering that coastal erosion was highlighted as one of the main effects of CC at the local level. Some groups also put forward the vulnerability of other specific territories. For example, in sectors such as agriculture, energy and departmental governments, the vulnerability of the north of the country to droughts is highlighted due to the type of soils and the greater exposure to extreme temperatures of the region. Associated with pollution, those consulted in sectors such as transportation (particularly highlighting the vulnerability of Montevideo), tourism and energy see CC as affecting large cities.

> **There is strong consensus across sectors: despite there being significant amounts of information about CC, there is low accessibility to this information by the general population.**

Information about Climate Change

There is strong consensus across sectors on this item: despite there being significant amounts of information about CC, there is low accessibility to this information by the general population. Some of the perceived causes of this gap between availability and access are: the lack of information products for a non-specialized public (for example, applied and segmented information that can clearly indicate which actions help to adapt and mitigate climate change), a relatively low emphasis on the effects that CC is having on the country, the relative lack of pre-existing public interest (the issue is not one of the main concerns of citizens), the lack of coordination of communication efforts by the responsible stakeholders and the lack of widely disseminated guidelines or criteria for seeking reliable information. Significant differences are

exposed when each sector is asked whether it has sufficient information on the impact and response to CC in its specific field. Several leaders of the productive sectors (agriculture, manufacturing industry, energy, transportation, tourism) acknowledge that there has been significant progress in research and an interesting volume of specific information. However, the trend is not unanimous, and in all these areas other leaders continue to identify gaps and problems in the general dissemination of information to the whole sector. Municipalities, in turn, acknowledge their progressive inclusion of the issue of climate change in the strategic plans of their relevant entities. In the health sector, however, there is a lack of information necessary to better understand the relationship between health and CC, with the exception of the dermatological field, which must treat skin conditions caused by the sun's rays and changes in the ozone layer. The education and R&D sectors deserve a separate paragraph because of their role in the production of knowledge. In this regard, some of the weaknesses pointed out by the representatives of these sectors are: a much greater development of global information than local information, lack of sufficient technical information to generate local predictions (for example, early warnings) and lack of quantitative and precise information on greenhouse gas emissions in the different productive activities.

Own Sources of Information

There are significant differences in this area, anchored in the very nature of the sectors represented, beyond the fact that in most of them, reports from specialized institutions or competent state organizations are commonly found. In the education and R&D sectors, for example, there are scientific sources of information, such as articles in peer-reviewed journals. Meanwhile, in productive sectors such as agriculture and energy, the contribution of publications made by organizations belonging to the sector is significant. In agriculture, for example, special mention should be made of INIA, whose information stands out for its high reliability according to several sources of reference. In energy, on the other hand, the international production of agencies such as IEA and IRENA stands out, although the production of national organizations such as MIEM or UTE is also mentioned. In civil society organizations, meanwhile, the communities affected by CC appear themselves as relevant sources of information together with technical publications and the mass media.

> **Regarding the most efficient ways to communicate and inform about CC, in general the education system is seen as playing a central role.**

Dissemination Channels

Regarding the most efficient ways to communicate and inform about CC, in general the education system is seen as playing a central role. This idea is particularly emphasized by those involved in the education sector, who state that environmental issues should be part of the national education curriculum and that non-formal education should also be strengthened in neighborhoods and communities. On the other hand, some achievements are recognized, for example, the teaching of the concept of sustainable tourism in related higher education courses. In R&D, it is perceived that scientists in particular can make a relevant contribution by taking advantage, for example, of the models of interaction recently developed between science, government and society in the context of the pandemic. Governments are also mentioned in multiple

instances as strategic communication stakeholders, specifically pointing out the responsibility of the Ministry of Agriculture, Livestock and Fisheries and the Ministry of the Environment by the leaders of sectors such as transportation, CSOs, women's organizations and departmental governments.

Stakeholders' Responsibility regarding Climate Change

In general terms, the government (through the national and municipal governments) is recognized as the main entity in charge of generating responses to CC, for example, through subsidies and exemptions that favor sustainable production, coordinating the work of all the relevant stakeholders, monitoring and penalizing (non-) compliance with regulations and generating a communication policy to raise awareness among the general population.Responsibility, at the same time, is seen as shared by the great majority of the consulted leaders. In many cases, corporate responsibility is highlighted, in line with the view that productive activity is the major human activity responsible for CC. Finally, the responsibility of citizens as a whole is also emphasized. R&D leaders, for example, point out that the citizen action can generate positive responses from governments, and in the energy and tourism sectors it is emphasized that the individual dimension is also relevant as partially responsible for the generation of CC. Finally, some sectors, such as education and departmental governments mention the global dimension of the problem and therefore bring forward the responsibility of major international players, such as the USA and China. However, all the sectors consulted place emphasis on local responsibilities, marking a widespread perception that it is possible to act at the local level to generate relevant changes in favor of CC mitigation and adaptation in Uruguay.

SOCIAL PERCEPTION OF

CLIMATE CHANGE

IN URUGUAY

promesaclimatica.uy