The Results of a Nationwide Survey about Attitudes to Climate Change in Greece, by Dr. Fay Makantasi, Research Director at the independent research institution diaNEOsis

Welcome to *112, Climate Tone*, a series of podcasts investigating and discussing the phenomenon of climate change in Greece today. A project by NEON for the World Weather Network.

For the third episode in the series Dr. Fay Makantasi, Research Director at the independent research institution diaNEOsis, which analyses the results of a recent nationwide survey about attitudes to climate change in Greece, as well as recent research into specific predictions about climate change in Greece and consequent environmental degradation.

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Greece is a country exhibiting significant topographical diversity and micro-climatic variations; a country experiencing intense impacts from climate change.

Taking into consideration the fact that these impacts are already being witnessed throughout the country, diaNEOsis, an independent non-profit research organisation, several years ago launched a series of research initiatives to map and analyse the phenomenon of climate change both at the level of public opinion and at the level of management. These initiatives also analyse the impact on various productive sectors, on the citizens' health, etc.

The most recent study we shall deal with in detail is a public opinion survey conducted in April 2022 by Metron Analysis on behalf of the Ministry for Climate Crisis and Civil Protection in an effort to understand the aftermath of climate change. The nationwide survey sample was 2,005 people aged 17 and over, contacted either by phone or online. Participants were interviewed on multiple issues related to climate change in our country, perceived consequences, individual responsibilities and actions to mitigate its effects. In the framework of this survey, diaNEOsis has recently published a series of accompanying reports.
But let's first look at some key points regarding climate change in Greece: the environmental changes but also their impact on the lives of residents and the country.

A first survey conducted by an eight-member team of scientists, coordinated by Professor Konstantinos Kartalis (National Kapodistrian University of Athens), and published in Summer 2017, illustrated the ways in which climate change – as shaped and according to estimations for 2050 – will affect key sectors of the Greek economy. The survey was accompanied by a brief policy paper issued by Professor Kartalis in November 2020, as well as an updated, detailed data review published in a survey released in October 2021.

According to the aforementioned studies, Greece is gradually adopting a warmer and drier climate, with extreme weather events that will become more intense, frequent and persistent.

Needless to say, this development does not only concern Greece. Climate change and environmental degradation are a threat to all countries of the Mediterranean Basin, to which recent scientific studies attribute the title of 'climate hotspot'; a region that will be acutely affected by climate change, even if these impacts are mainly caused by countries thousands of kilometres away from the Mediterranean, such as China, the USA, Russia, India and Brazil.

More specifically, our researchers divided the territory into approximately 850 areas and analysed 21 climatic indicators and parameters, leading to the following conclusions.

By 2050 in Mainland Greece, according to predictions, the temperature is calculated to rise by 2°C, andaccording to the worst case scenario r by 3.4°C.

To understand the diverse effects of this rise, it is worth noting that each increase of 1°C in ambient air temperature in Athens will lead to an increase of:

- 4.1% in energy consumption for cooling;
- 7-8% in photochemical pollutants; and
- 8% in the mortality rate due to pulmonary and cardiovascular diseases.

Another indicator related to mortality and cardiovascular disease rates is the phenomenon of 'tropical nights', that is, nights when buildings do not have sufficient time to cool down, or nights when the temperature does not fall below 20 °C. The proportion of tropical nights will increase substantially. Moreover, the number of days of extreme heat (temperature >35°C) will increase by 15-20 days per year while days of high fire risk will increase from 15% to 70%.

Rainfall is expected to decline from 10% to 30%, while in Western Greece, cities such as Patras and Ioannina are expected to experience a major increase in high rainfall days, which will lead to an increase in flood risk.

Furthermore, a sea level rise from 80 cm to 2 meters by the end of the century is likely to take place. We can easily consider the adverse effects not only in terms of landscape alteration. Suffice it to consider that 1/3 of Greeks live within 2 kilometres of the coastline, while 90% of tourism infrastructure is coastal.

Last but not least, 5.5 million people living in Greece's 25 largest cities will face aggravated thermal conditions.

Researchers conclude that the impact of climate change on the country's primary sector will not be proportionate throughout the territory and that it will mainly be negative. Increased drought and substantially high temperature days, reduced soil moisture and precipitation pose multiple risks to agricultural production related to changes in water resources and irrigation requirements, environmental conditions for crop growth, productivity and distribution of geographical cultivation, soil fertility and erosion, agricultural pests and crop diseases.

Regarding the impact on tourism, although the increase in temperature in some areas may lead to the extension of the tourist season the more frequent occurrence of heatwaves will significantly degrade the quality of the tourism product and increase energy consumption.

But what do Greeks think about all the above and their link to climate change? Do they understand the consequences? Who do they believe is in charge of solving the problem? And what are they doing about it on a personal level?

1. 17% of Greeks responded spontaneously to the questionnaire that the destruction of the environment is the most important problem the planet faces today. War and climate change are ranked second and third, at 13.5% and 13% respectively, while less than 11% of respondents mentioned the rising cost of living, poverty and inequalities and the 'economy'.

If we add together the spontaneous responses regarding environmental destruction and climate change, two terms that are perhaps indistinguishable in the respondents' mind, we see climate change as being the number one global challenge. Interestingly, some unexpected demographic variations are attributed to different age groups. While almost 40% of the sample's "Boomers" (people between the ages of 58 and 67) choose either "climate change" or "environmental destruction" as the most important problem the planet faces today, 24% of the so called "Gen Z" (people between the ages of 17 and 25) and 20% of the so called "Millennials" (people between the ages of 26 and 41) share the same opinion. Both age groups of younger Greeks believe that a major global problem is the "rising cost of living" (18%).

When the question was focused on Greece, it seems that respondents' priorities were mainly influenced by their individual status and less by their vision of the world.

2. It is indicative that the most important problems our country faces today (by a wide margin against others) are the rising cost of living and the economy, with a percentage of around 25% each.

3. 9 out of 10 agree that climate change ‘is taking place’.

Therefore, Greek residents universally acknowledge that we face a climate problem, while 90% believe that it is largely due to ‘human activity’.

We therefore conclude that these are extremely high percentages, common to all age groups, which pinpoint that climate change denial is a rare phenomenon among Greeks. In fact, when respondents were asked to rate the severity of climate change on a scale from 1 to 10, the average value was 8.8.

While climate change is the most important global threat, citizens didn’t an international institution that could tackle the problem (after all, no one can impose rules and guidelines on state entities).

4. As such, 53% believe that national governments are responsible for addressing climate change.

But, in addition to the impact of climate change there is also the question of climate change mitigation. In other words, how the root causes of these new climatic conditions can be addressed, but also what one can do on a personal level.

Greece emits 0.18% of the global greenhouse gas emissions. A percentage slightly higher than its population, i.e. Greece represents 0.13% of the global population. In other words, a Greek man or woman emits on average 7 tons of CO_2 per year, and if we were to meet the EU's net emission reduction target (55% by 2030), we shall then emit 3 tons of CO_2 per year.

How can this be achieved? Indicatively, diaNEOsis studies refer to various solutions, such as

- Installation of renewable energy generators at household level to cover domestic and business energy needs. For example, something that is not widely known is that a solar water heater in a 4-member house reduces CO_2 emissions by 1.7 tons /year, while the use of an electric car by 1.4 tons/year.
- The construction of Thermal Solar Systems in Greece is undertaken by 22 major companies, offering jobs to more than 3,500 people while they manage to export 50% of their production to the USA, EU, China, Israel etc.
- Moreover, ‘the cheapest energy is the one we never consume’. It is therefore very important to maximize energy savings at household and business level through energy shielding and refurbishment of existing buildings. And there seems to be much room for improvement in Greece, as according to a study by the Foundation for Economic &

Industrial Research (IOBE) published in 2018, 3 million Greek residencies (45% of the total dwellings) have no insulation.

But what do Greek men and women do about climate change?

As far as environmental issues are concerned, survey respondents place the burden of responsibility partially on the government, since 7 out of 10 admit that it is the citizens' responsibility 'to clean their land', while 3 out of 10 consider that 'cleaning the beaches' is the responsibility of the state. Moreover, 4 out of 10 spontaneously respond that it is a 'shared' responsibility.

Most respondents say they are willing to participate in future actions and efforts related broadly to the 'protection of the environment', such as afforestation initiatives (8 out of 10) or participation in environmental organisations (6 out of 10).

High positive rates were recorded in responses to questions regarding individual actions to 'tackle climate change' during the past six months: reduction of household energy consumption (86%), reduction of the use of car (78%), recycling household waste (90%), among others. Far fewer say they have adopted other radical measures, such as home energy upgrade (39%) or buying/renting an electric car.

In other words, the social willingness to act is documented.

On the everlasting timely issue regarding our country's energy policy, a large majority of the population is in favour of a shift towards Renewable Energy Sources (RES). When asked:

5. 71% believe that national and EU financial resources should be allocated to RES and 26% to fossil fuels.

However, on targeted issues, some of which are often publicly-debated , certain answers can be considered contradictory.

6. 73% agree that 'the majority of fires are the result of wilful arson'.

7. Almost 1 in 3 people believe that 'wind turbines are harmful to the environment'.

8. 60% are not in favour of nuclear generated electricity produced in neighbouring countries.

This might be related to the fact that 70% of respondents say they read about climate change online (34% of whom say they get such information via social media), compared to 53% who stay informed through television and 26% through 'friends and family'.

Contradictions are observed elsewhere.

9. 73% agree that ‘we should insure our property against natural disasters’.

Nevertheless, a small proportion of respondents, 26%, say that the house they live in is insured against natural disasters.

10. 8 out of 10 do not know whether an emergency municipal plan exists in the event of natural disaster.

While roughly 50%
11. have never at home discussed a family emergency plan in the event of natural disaster.

Thus, while environmental awareness carries an aspect of readiness and ability to react to existing risks, we observe a gap between institutional policy and individual responsibility.

In conclusion, if we compare the Greek society with the rest of the world, we see that it does not fall short in terms of environmental awareness. Citizens exhibit civic awareness and willingness to participate in environmental initiatives. One might say that we are not an environmentally irresponsible society, but a society with knowledge gaps, ignorance or lack of information and irrational institutional organisation and individual action. Moreover, we should bear in mind that the environment may well be destroyed or burdened also by one-off incidents. Good intentions do exist, but they must find a way along with the constant reduction of polluting practices. It is therefore necessary to provide targeted opportunities, in a systematic and organised manner, for citizens' willingness to act to be articulated holistically.

All diaNEOsis surveys are available at www.dianeosis.org.

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