

## Research paper

# Sustainability and climate change in major religions with a focus on Islam

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The Humanitarian Academy for Development (HAD) is a leading learning, research and talent development centre striving to enhance the skills and knowledge in the wider humanitarian sector through capacity building, applied research and leadership development.

Islamic Relief Worldwide is an independent humanitarian and development organisation working to make the world a better and fairer place for the three billion people still living in poverty by protecting life and dignity; empowering communities; and campaigning for change.

KR Foundation aims to provide answers to, stimulate mind shifts about, and encourage action on, the long-term challenges faced by current and future generations living on a planet with finite resources, fragile ecosystems, and climate change.

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## Glossary

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<b>Ayat</b>	(Lit proofs of signs) verses of the Qur'an
<b>Hadith</b>	A collection of traditions containing saying of the prophet Mohammed which constitutes the major source of guidance for Muslims apart from the Qur'an
<b>Khalifah</b>	the name given to human vice-regency over the earth
<b>Mizan</b>	a Qur'anic term denoting balance or harmony
<b>Ummah</b>	a construct denoting transnational unity of Muslims.

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## List of abbreviations

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<b>CCS</b>	Carbon capture and storage
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>IPCC</b>	Intergovernmental panel on Climate change
<b>LIT</b>	Living in Transition survey
<b>UN</b>	United Nations
<b>WVS</b>	World Values Survey

## Summary

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### ***Background***

Climate change mitigates adaptation and requires not only technical solutions, but also better insights in the understanding of relevant belief and identity systems, in which religion plays an important role. Human attitudes, convictions and ultimately our consumption patterns will play an important role in climate adaptation and mitigation. Religion is a key determinant of individual convictions and a central marker of behaviour and community belonging.

The report presents findings from the world's second largest religion, Islam, on attitudes and behaviours to climate change in countries around the world. Climate change preparedness in several Muslim dominated countries is relatively low in spite of the fact that some of the countries that will be most affected by climate change are Muslim majority.

This report is based on a new survey on Muslim leaders and our assessment of population level datasets around the world focused on attitudes towards climate change.

### ***Data***

*Muslim leader's survey:* The research team has designed a carried out its own survey in English, French, Russian, Arabic and Turkish among the Muslim leaders whom it identified as a key influencers within larger Muslim populations. The data was collected for slightly over 3 months from the beginning of July 2018 till mid-October 2018. We have invited numerous Muslim leaders worldwide to fill in the questionnaire on paper or electronically and asked various Muslim organisation (e.g. Muslim Council of Britain, Turkish Diyanet, Egyptian Dar al-Ifta and Al-Azhar, as well as Tunisian Ministry of Religious Affairs – to name a few) to help us reaching Muslim leaders and invite them to the survey. Our sample consists of 150 respondents from countries of Global South and North.



*Background study:* The report paints a broader picture of the views and attitudes of Muslim populations around the world towards the environment and climate change. Our assessment of background data using existing data on ecological views among Muslim populations in countries around the world builds on data from *World Values Survey (WVS)*, Pew Research Center's *Global Attitudes Survey*, European Bank for Reconstruction and Development's *Living in Transition Survey (LiT)* and Afrobarometer Survey that are well known and widely used in the scientific community.

### ***Findings***

There is wide variation in Muslims' views on climate change according to nation. One example of our finding is that the proportion who considers climate change a serious problem ranges from below *a third* in countries such as Pakistan to more than *two thirds* in Uganda and India.

Turning to the findings from the Muslim leader survey, we find that *a vast majority* (around four fifths) perceive **humans to be partially or mainly responsible for ongoing climate change**. Moreover, we find that almost *half of the Muslim leaders* think **climate change harm individuals now**. Among the respondents, 53% of the surveyed Muslim leaders believe that the **effects of the climate change will probably or very likely lead to the end of the human existence on Earth**.

More than *four fifths* think that the **Muslim religious leaders should be more active in actions related to climate change** and above *two thirds* of the Muslim religious leaders think **they should promote that individuals should consume less and switch to environmentally friendly consumption patterns**.

In terms of stabilizing or decreasing demographic growth to reduce climate change, Muslim religious leaders are split and on average much more negative than when it comes to

consumption. While 33% of the religious leaders believe **they should promote less population growth to curb climate change**, 42% **disagree with this** and 26% are indifferent or need more information to decide.

Understanding the knowledge and views of Muslim populations and Muslim leaders about climate change and various dimensions of the problem seems especially important as the world becomes more religious and Muslims register some of the most rapid levels of growth.

In summary, majorities in Muslim communities tend to be well aware of the issues of climate change and ready even to slow down their economic growth to minimise its effects. A significant number of them are for example in favour of raising taxes for those who are most heavily polluting the environment. Many Muslims see their religion as a powerful source of tools to help preserving the Earth and address the problems of climate change.

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# **Sustainability and climate change in major religions with a focus on Islam**

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## **1.0 Religion and climate change; a brief motivation and literature review**

The Fifth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) concludes that severe impacts from climate change are inevitable (Allen et al., 2014; Pachauri et al., 2014). It is widely acknowledged that such ecological threats do not only require technically oriented solutions, but also a better social understanding. Understanding climatic and environmental change – and how to effectively respond to these challenges – require a broader societal understanding of what drives societal behaviour contributing to these developments and what determines adaptive behaviours and coping strategies.

Religious affiliation is one of the most important dimensions of identity and a powerful driver of behavioural patterns, not least among Muslim populations. Yet, there is insufficient knowledge on the attitudes to climate change determinants. The current report seeks to describe attitudes towards environmental behaviours and climate change among Muslim populations. It also presents data on environmental values and beliefs among Muslim leaders using a newly collected international sample.

Religious beliefs can be important for a range of attitudes directly or indirectly affecting climatic change, including how it influences consumption levels, population growth, climate change risks, mitigation efforts and capacity, ability and willingness to adapt to environmental change. In several of the countries that are or have been projected to become severely affected by climatic change, including several of those found in Asia, Sub-Saharan Africa and the Middle East, the affected regions have large Muslim populations. At the same time, Islam is also a large or dominant religion in several of the major oil producing countries in the world, which thereby

contribute substantially to global climate change, including Saudi Arabia, Iran, Nigeria, Kuwait and Iraq (Allen et al., 2014; Mach, 2017; Stonawski et al., 2015).

Religions can affect mind-sets and behaviours in a range of manners that could influence environmental and climatic outcomes - and how they are dealt with. The risk of dangerous climatic change is influenced by factors that can relate to religion: what we consume (e.g., meat versus vegetarian diets; level of consumption, choices of carbon-neutral or carbon-intense modes of transportation) (Ecklund, Scheitle, Peifer, & Bolger, 2017; Glaab & Fuchs, 2018; Peifer, Khalsa, & Howard Ecklund, 2016; Stoll-Kleemann & Schmidt, 2017) as well as how many individuals there are (which follows from differential fertility levels as well as health and longevity) (Bergstrom et al., 2013; Diamond-Smith, Smith, & Hodoglugil, 2011; Haq & Ahmed, 2017). Moreover, the degree of fatalism or belief in destiny can affect individual and societal outcomes in the wake of climatic change (Gerten & Bergmann, 2011; Jenkins, Berry, & Kreider, 2018). According to Barker and Bearce, individuals who adhere to a religion-based belief in end-of-times scenarios are less likely to support efforts to address climate change (Barker & Bearce, 2013)

Climate change mitigation policies may be more acceptable if culturally sensitive. If such measures take into account specific religious convictions, they could be more effective in changing environmentally destructive patterns. Individuals may respond differently to policies aimed at reducing the magnitude of climate change or improving adaptive capacities, depending on their religious convictions. (Bush, Fountain, & Feener, 2015; Chan et al., 2012; Veldman, Szasz, & Haluza-DeLay, 2013)

Religious beliefs are important drivers of family formation, marriage and childbearing patterns, where those who have a religion tend to be more likely to marry or have children and to do so at a younger age. This is can be particularly important among at least some Muslim populations, as Muslims tend to have relatively higher fertility rates, also when accounting for differences in education and income (Leyva et al., 2014; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000;

Schnall et al., 2010; Stonawski, Potančoková, Cantele, & Skirbekk, 2016). Religion can influence fertility behaviour, through contraceptive use patterns and whether one attains higher education or prioritizes childbearing (Agadjanian, Yabiku, & Fawcett, 2009; Hajj & Panizza, 2009) E.g., female Muslim populations tend in several African countries to have relatively low levels of education, which is a leading cause of high fertility and rapid population growth (McClendon, Hackett, Potančoková, Stonawski, & Skirbekk, 2018).

Religion and faith is according to several studies among the strongest predictors of community belonging and identity (Arweck & Nesbitt, 2011; Kashyap & Lewis, 2012; Min & Kim, 2005). Religious views can influence various sets of environmentally relevant behaviours, including consumption (Farrag & Hassan, 2015; Gauthier & Martikainen, 2013; Jafari & Sandıkcı, 2015), diet (Idler, 2011; Khatib & Shafagoj, 2004; Kortt & Dollery, 2014), and political voting patterns (Berglund & Porter, 2010; Martin, 2012). Beliefs and religious convictions also affects climate change views, behaviour (Morrison, Duncan, & Parton, 2015; Posas, 2007; Wisner, 2010) and the degree to which one thinks one could influence outcomes (Arnall & Kothari, 2015; Cannon, 2015; Orlove, Lazrus, Hovelsrud, & Giannini, 2015).

As Mark Hulme argues religions offer “thick” accounts of moral reasoning for acting in the world and thus provide powerful tools of shaping individual and communal ethical and social behaviour, including perceptions of the natural environment and attitudes towards it. Most secular measures of mitigation of climate change rely on the “thin” global values that might be widely acknowledged intellectually, but lack the necessary multi-dimensionality and are culturally non-specific (Hulme 2017: 15).

What is not without importance in the struggle for the decarbonised future envisaged for example in the 2015 Paris Agreement on Climate Change are substantial institutional and economic resources as well as significant political power possessed by major world religions. Neither the scientific community nor states possess the power of the religious movements and institutions to enlist their followers in global causes such those discussed in this report.

Influential climate scientists are fully aware of the aforementioned features of religion and call for closer collaboration among religious institutions, policymakers and the scientific community (Dasgupta & Ramanathan, 2014).

## **2.0 Attitudes and behaviours of Muslim communities**

In this chapter, the report presents a background study for our main research on Muslim leaders focusing on chosen attitudes towards a climate change and declared pro-ecological behaviours among Muslim populations in several countries in the world. It presents results summarizing latest international surveys which include questions on environment, climate change and religion.

The report used data from *World Values Survey (WVS)*, Pew Research Center's *Global Attitudes Survey*, European Bank for Reconstruction and Development's *Living in Transition Survey (LiT)* and Afrobarometer Survey that are well known and widely used in the scientific community. The data providers have a good reputation in designing and executing nationally representative surveys.

There are several issues that should be examined while trying to assess the climate change preparedness of a given community. This report aims to evaluate awareness of the process, i.e., if members of Muslim communities know about this process, its causes, and the likely consequences (both for the communities and for the world as a whole). The report will examine if people are worried or concerned about the process. It could expect some spatial differences in the experience of a timing of climate change. For example, Muslim communities living in harsh climate could be experiencing the effect of climate change, whereas those living in moderate climate zones could consider the process as a future challenge that does not and will not significantly impact their lives. This report also seeks to examine how people evaluate the anthropogenic impact on environment and if communities have fatalistic attitudes to the problem or would like to be active in reducing greenhouse gas emissions and climate change.

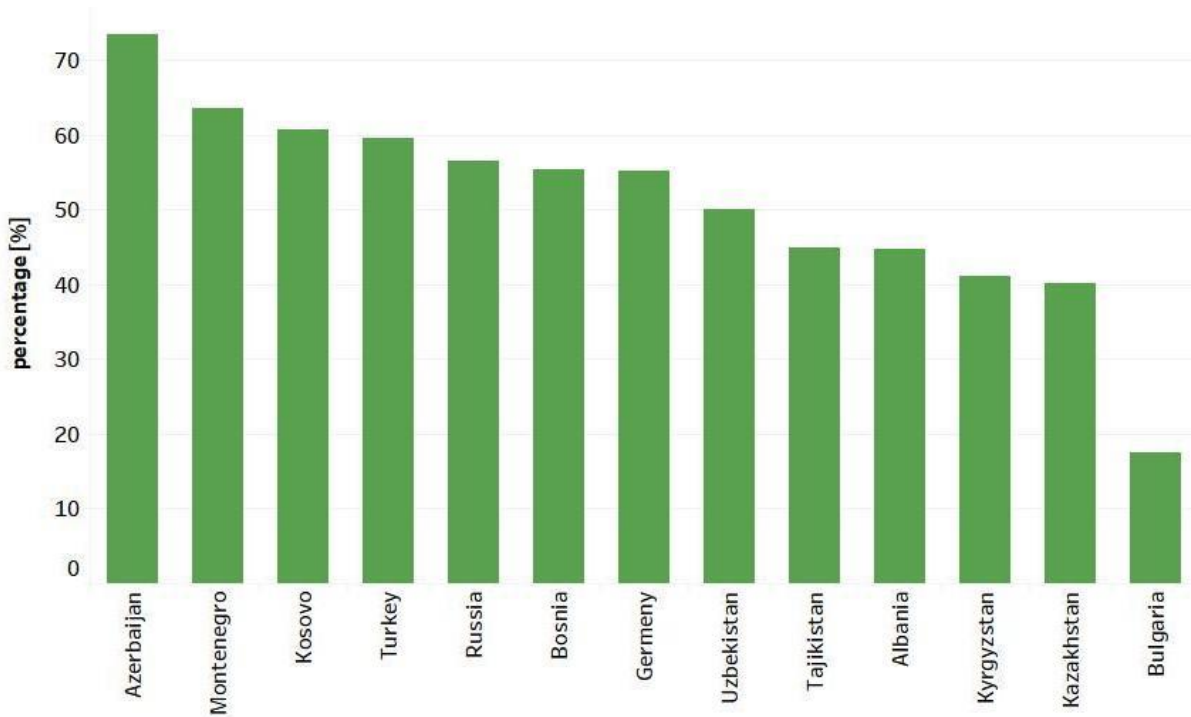
The second important issue is to evaluate what Muslims think about possible actions on mitigation and adaptation to climate change, i.e. do they feel individual as well as collective responsibility to address this issue. This report seeks to identify who, according to Muslims, should take responsibility for the environment i.e. if it is a local problem or that of a national or international government. The third area that this report focuses on is Muslim behaviours and acceptance of certain solutions towards fighting climate change, e.g. sharing part of their income or increasing taxes to have more funds to help the environment. The report will examine whether Muslims adjust or plan to adjust their behaviours to reduce the emission of greenhouse gasses. For example, it is important to know what share of Muslims include pro-environmental behaviours in their everyday life, if they try to reduce consumption of goods, water, electricity, or if they change to more environmental ways of commuting, e.g. public transportation or car sharing.

## **2.1 Awareness**

To evaluate the climate change preparedness of Muslim communities, the report will first try to detail ‘awareness’ and ‘knowledge of the process’ and how they evaluate its importance. According to Muslim respondents from Europe and Asia surveyed in the 2010 “Life in Transition” survey 53% Muslims support the statement that “climate change is a very serious problem”. The percentage agreeing to this statement varies between around 18%. In Bulgaria to 74% in Azerbaijan without clear spatial pattern of answers (Figure 2.1). In the case of Bulgaria, the biggest difference in answers between Muslims and non-Muslims is observed. Around 70% of non-Muslims, predominantly Christian Orthodox, declare that climate change is a very important issue but only 18% of Muslim respondents support this statement in Bulgaria which is home of almost a million adherents of Islam.



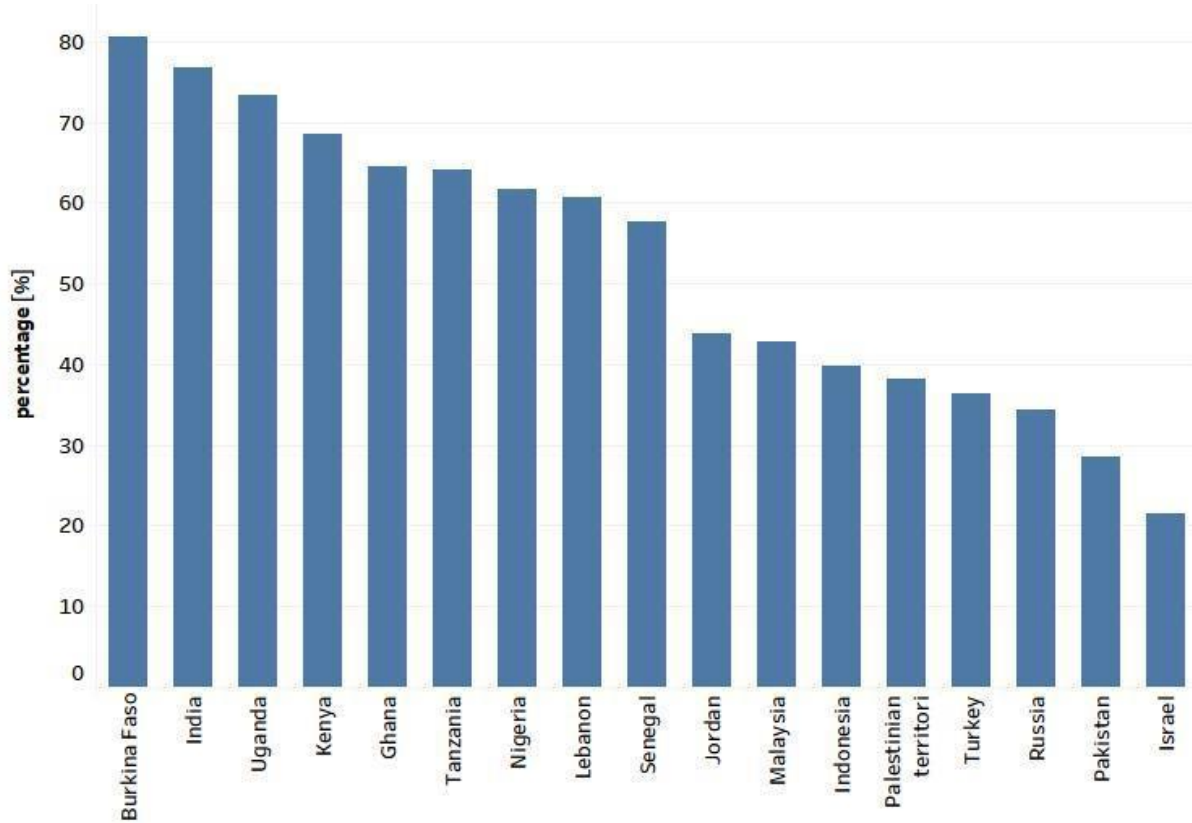
Figure 2.1. Percentage of Muslim respondents who consider climate change as a very serious problem, by country



Source: own calculation based on *Living in Transition* (EBRD, 2010).

Similarly, 51% Muslim respondents of the 2015 Global Attitudes survey (Pew Research Center) recognize that climate change as a very serious problem. The highest proportion of respondents supporting the statement was found in 15 countries with large Muslim population in African countries and India (Figure 2.2). 81% Muslims from Burkina Faso, 77% from India and 73% in Uganda consider climate change as a very serious problem. While only 21% Muslims in Israel and 28% in Pakistan support this statement.

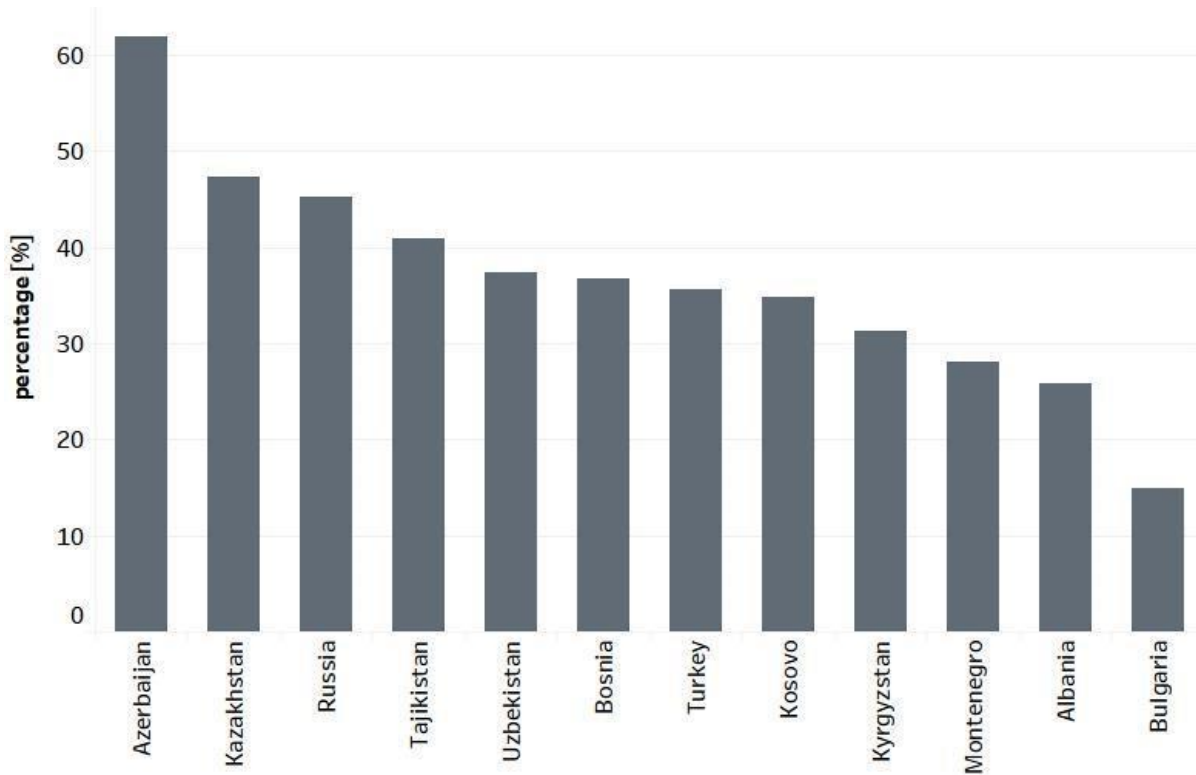
Figure 2.2. Percentage of Muslim respondents who consider climate change as a very serious problem, by country



Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

As previously shown, the majority of Muslims think about the climate change as a serious challenge. There is a question however, over whether Muslim communities are concerned about this challenge. Around 38% Muslims in the 2010 LiT survey declare they are seriously concerned about climate change (opting for 4's & 5's on 5-level scale). The lowest percentage of very concerned Muslims can be observed in Georgia (12%) and Bulgaria (15%), whereas the highest in Azerbaijan (almost 62%), and in Kazakhstan (47%) among the 12 countries under consideration.

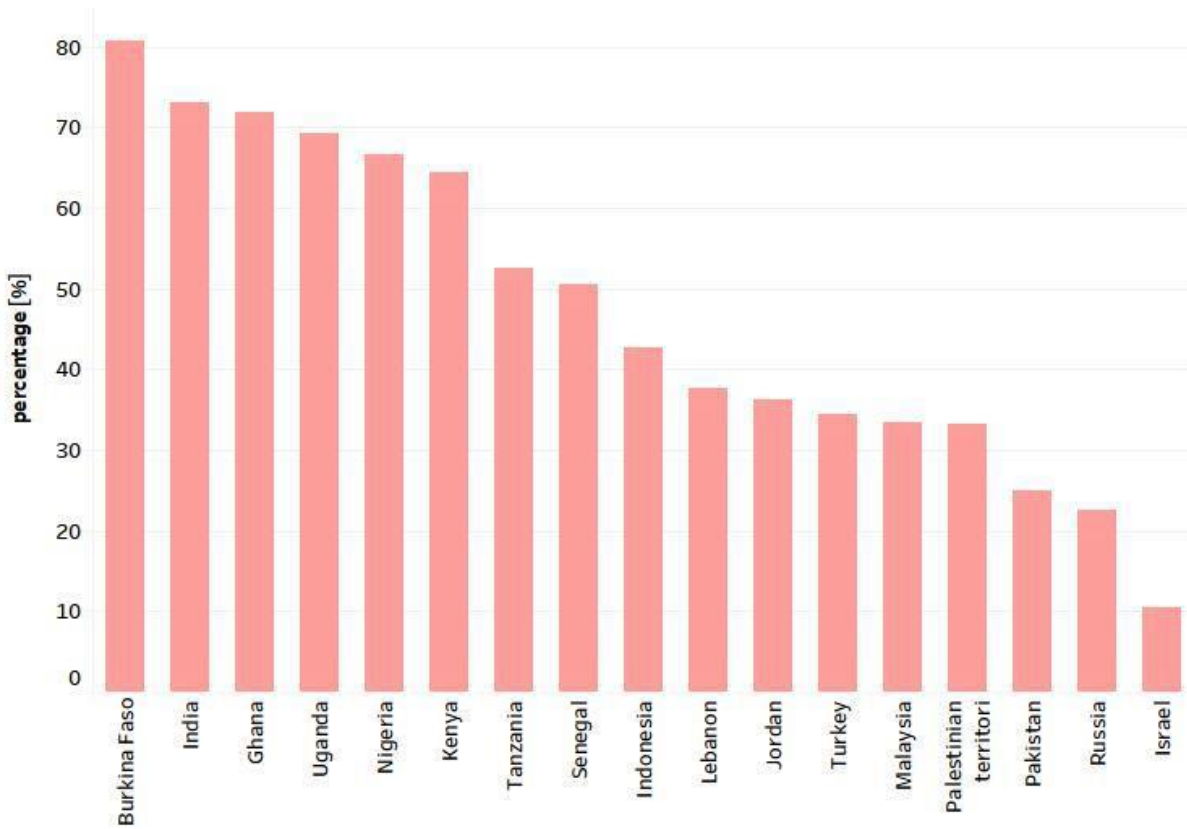
Figure 2.3. Percentage of Muslims who are very concerned about climate change, by country



Source: own calculation based on *Living in Transition* (EBRD, 2010).

Among Muslims who participated in the 2015 Global Attitudes survey, 46% are very concerned about global climate change. The highest shares are observed in African countries and India, where the majority of Muslims are very concerned. The highest shares are observed in Burkina Faso (81%) and India (73%). The lowest support is in Israel 11%, Russia 22% and Pakistan 25%. Interestingly, 21% of Muslims in Israel declared that it was very serious problem but only 11% are very concern about the process.

Figure 2.4. Percentage of Muslims who are very concern about climate change, by country

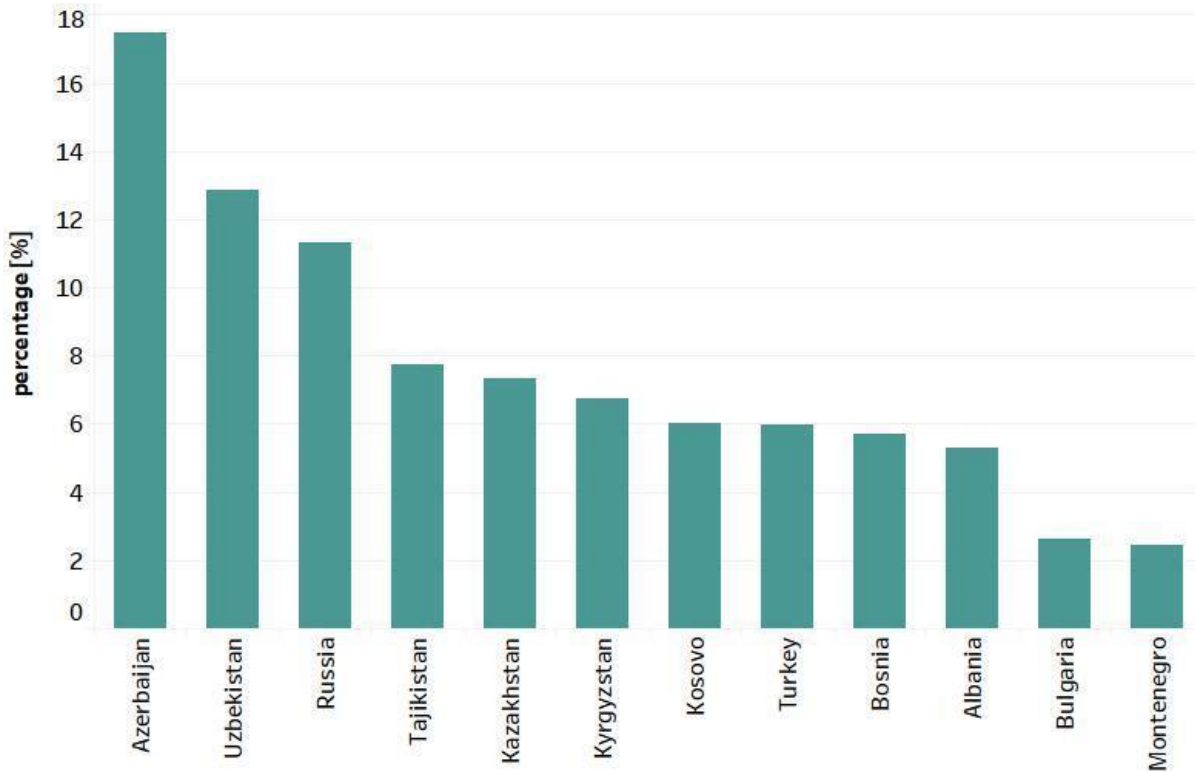


Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

The *Life in Transition* survey carried out in 2010 shows that only around 8% of Muslim respondents consider climate change as the most important problem of the world from the list of eight challenges provided in the survey<sup>1</sup>. The evaluated importance varies from 2% in Georgia to 17% in Azerbaijan. The numbers are higher in the Asian countries - former republics of Soviet Union, like Azerbaijan (17%), Uzbekistan (13%), Tajikistan (8%), Kazakhstan (7%) and Kyrgyzstan (7%), and Russia (11%) than among the Balkan Muslims (Figure 2.5).

<sup>1</sup> The challenges provided in the survey question: (1) poverty, lack of food and drinking water, (2) the spread of an infectious disease, (3) international terrorism, (4) climate change, (5) a major global economic downturn, (6) the proliferation of nuclear weapons, (7) armed conflicts, and (8) the increasing world population.

Figure 2.5. Percentage of Muslims consider climate change as the most important problem of the world, by country

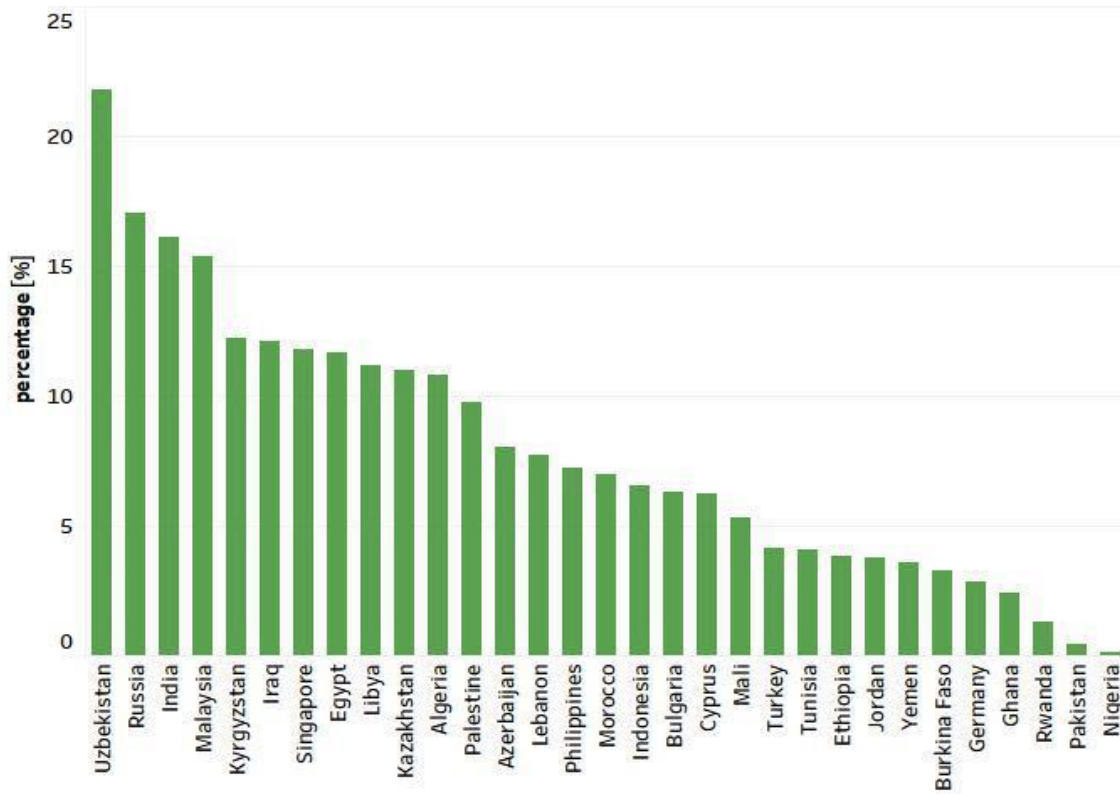


Source: own calculation based on *Living in Transition* (EBRD, 2010).

A very similar result can be found in the World Value Survey (WVS) where around 8% Muslim respondents declared that environmental pollution is the most serious problem of the world among five problems indicated in the survey<sup>2</sup>. The highest ranked answer was the statement that *people living in poverty and need*, which was supported by the majority of surveyed Muslims. The highest share of people that considered environmental pollution as the most important issue was observed in Uzbekistan (22%), Russia (17%) and India 16%. The lowest support was given in Nigeria and Pakistan – below 1 %.

<sup>2</sup> Five problems indicated in the survey: (1) people living in poverty and need, (2) discrimination of girls and women, (3) poor sanitation and infectious diseases, (4) inadequate education, and (5) environmental pollution.

Figure 2.6. Proportion of Muslims who consider environmental pollution as the most serious problem in the world, by country.

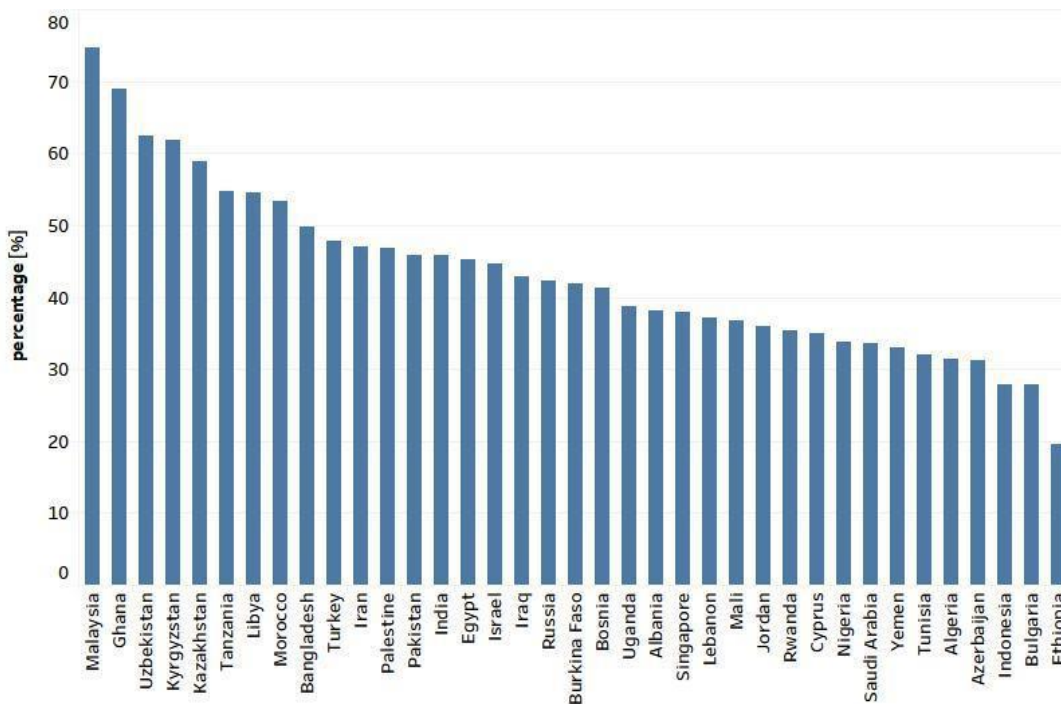


Source: own calculation based on *World Values Survey* (WVS, 1995-2009).

It is widely recognised that economic development often relates to environmental degradation (e.g. Sachs 2015, Meadows et al 1974, Meadows et al 1992). Human actions have contributed to destabilizing ecosystems on all continents, particularly since the rise of the industrial revolution. The widespread assumption of the modern economy is the higher the consumption of goods and services, the higher the level of well-being. Thus, to maximise well-being, economy has to produce more to provide means for human consumption. The main objective is to experience everlasting economic growth. In the trade-off between economic growth and environment, it is important to know what public opinion considers as a more important goal of contemporary civilization. In the WVS survey, respondents were asked to choose between two statements: (1) *protecting the environment even if it causes slower economic growth and some job losses*, and

(2) economic growth and creating jobs should be given the top priority, even if the environment suffers to some extent. In only 8 out of 37 countries with a large Muslim population did the majority of Muslims prioritize environmental protection over economic growth and job creation. These countries are Malaysia (75%), Ghana (69%), Uzbekistan (62%), Kyrgyzstan (62%), Kazakhstan (59%), Tanzania (55%), Libya (55%) and Morocco (53%). The lowest prioritisation of environmental protection can be observed in Ethiopia (20%), Bulgaria (28%) and Indonesia (28%). It is worth mentioning that the report has not found a correlation between *Real GDP per capita* and the *share of Muslims who prefer the protection of environment* using WVS data.

Figure 2.7. Proportion of Muslim respondents who chose the statement "protecting the environment even if it causes slower economic growth and some job losses", by country

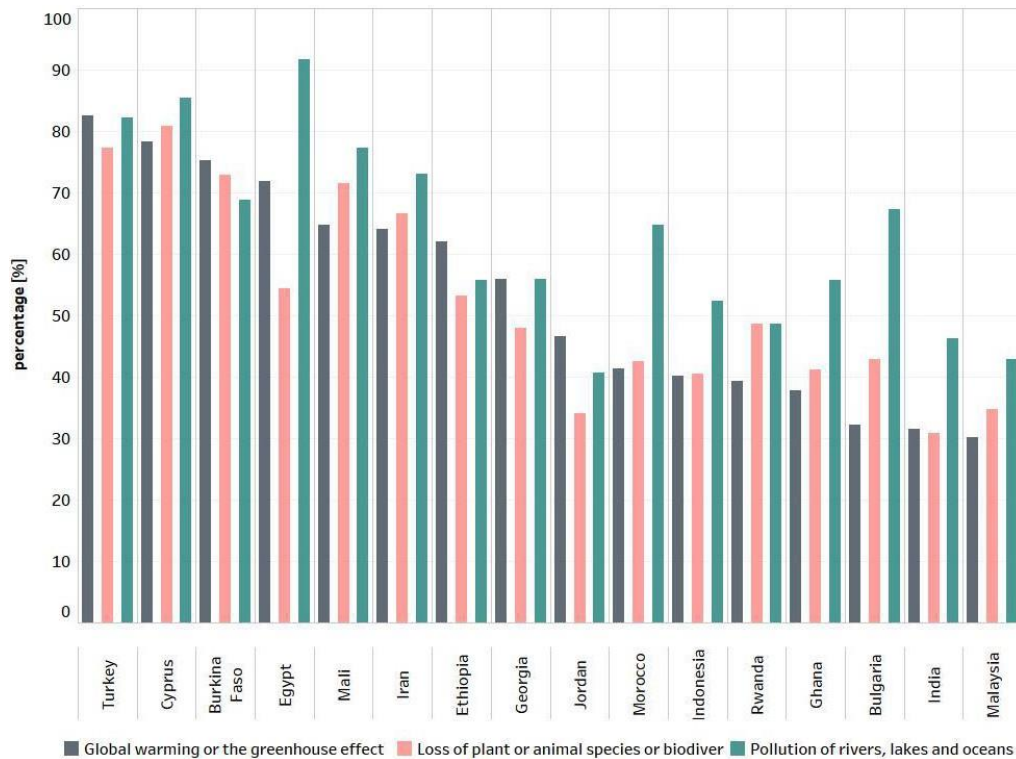


Source: own calculation based on *World Values Survey* (WVS, 1995-2009).

Among environmental challenges that the world faces, global warming and the greenhouse effect appears to have lower importance than the pollution of rivers, lakes and oceans according

to Muslims who participated in the 2005-2010 WVS survey. In only 3 out of 16 countries with a large Muslim community, it can be observed that significantly more respondents chose global warming as a very serious problem than those who choose other items. These countries are Burkina Faso (75%), Ethiopia (62%) and Jordan (47%) (Figure 2.8). Generally, the loss of biodiversity is less often seen as a serious problem compared to water pollution, similarly to global warming, but there is no clear spatial pattern in this respect. The highest percentages in all three categories can be observed in Turkey and Cyprus, and the lowest in India and Malaysia.

Figure 2.8. The percentages of Muslim respondents who choose "pollution of rivers, lakes and oceans", "global warming and the greenhouse effect" and "loss of plant or animal species or biodiversity" as a serious problem for the world, by country

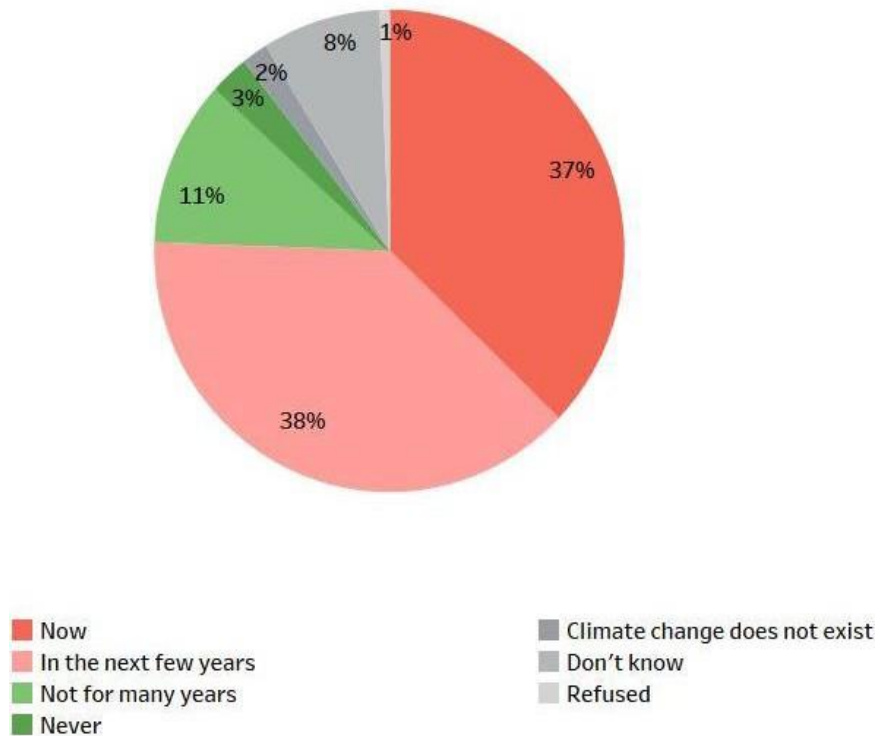


Source: own calculation based on *World Values Survey* (WVS, 1995-2009).



Another important issue in the assessment of preparedness of Muslims to climate change is to get to know what people think about the timing of climate change impact. There is a question of whether Muslim communities already observe harming consequences of climatic change. The 2015 Global Attitudes survey (Pew) finds that 76% of Muslims in countries with large Muslim populations think that the climate change is harming people now (37%) or it will be doing it in the next few years (38%) (Figure 2.9). Only 11% respondents estimate that there will be no effect of climate change for many years, whereas 8% claims that climate change will never harm people around the world.

Figure 2.9. The timing of harming impact of climate change on the global population<sup>3</sup>

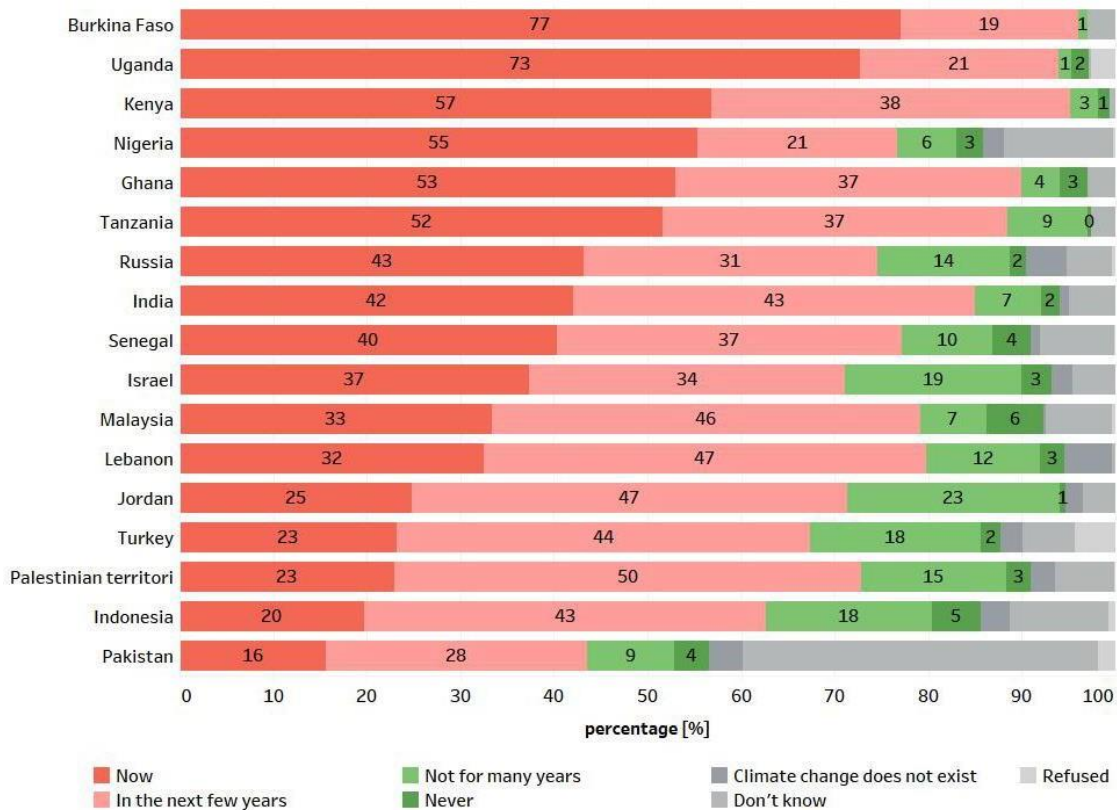


Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

<sup>3</sup> Question: Do you think global climate change is harming people around the world now, will harm people in the next few years, will not harm people for many years or will never harm people?

A country-level comparison of Muslim communities regarding the timing of the impact of climate change demonstrates that people from Africa on average claim that the climate change already harms their countries and world. Whereas people from Asia and the Middle-East indicate that the consequences will be visible in the next few years. The largest group of people indicating that the impact is already observed are based in Burkina Faso and Uganda where approximately ¾ Muslims reported this (Figure 2.10). The lowest percentage is observed in Pakistan (16%) and Indonesia (20%). Moreover, in many countries, there are significant cohorts that think that climate change will never harm the global population.

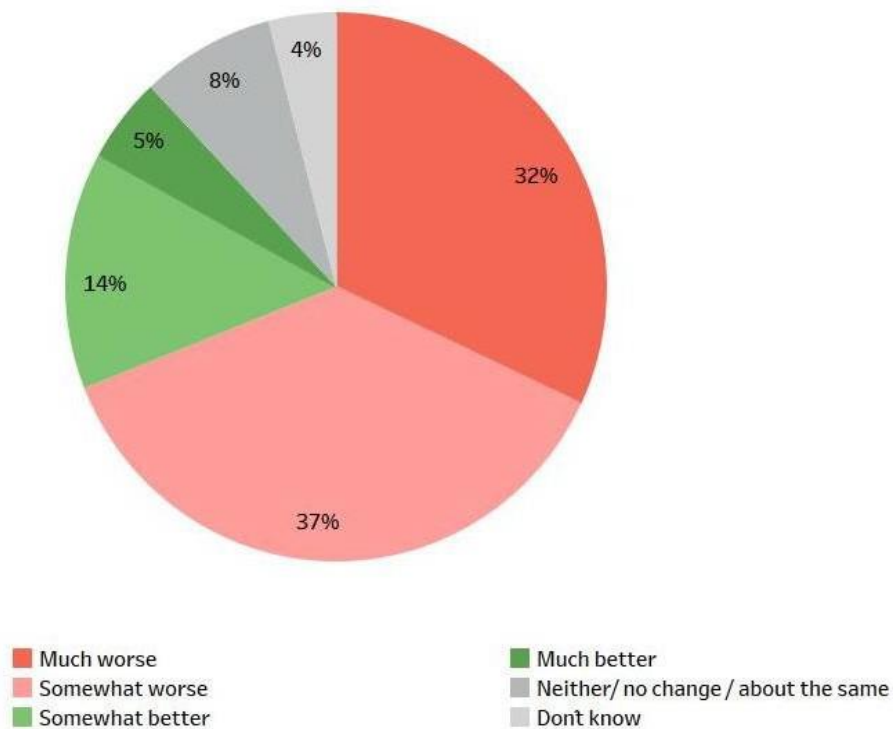
Figure 2.10. The timing of harming impact of climate change on the global population according to Muslims, by country



Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

The confirmation of these findings can be found in the 2016/2018 Afrobarometer survey in which 8% Muslim respondents from 21 African countries did not see any impact of climate change in their country. Figure 2.11 shows that 70% of Muslims claim that the process is making life worse or much worse. However, there are people who think that life is much better (5%) or somewhat better due to climate change<sup>4</sup>.

Figure 2.11. Distribution of answers among Muslims for the question "Do you think climate change is making life in [country] better or worse, or haven't you heard enough to say?"

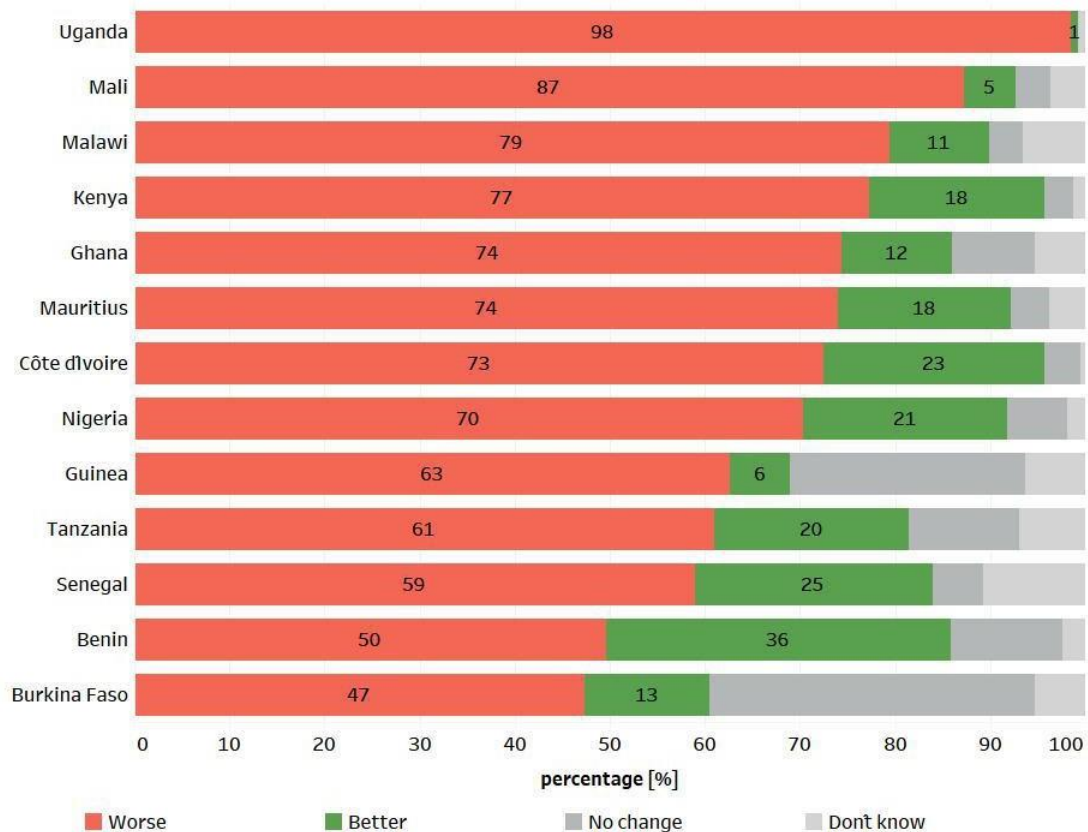


Source: own calculation based on *Afrobarometer Survey* (Afrobarometer, 2016/18).

<sup>4</sup> Question: Do you think climate change is making life in [country] better or worse, or haven't you heard enough to say?

Figure 2.12 presents a clear spatial pattern of the current impact of climate change among Muslim communities in Sub-Saharan Africa. The countries from the East note much higher percentages of respondents that claim that life is becoming worse because of climate change, for example, the majority of Ugandan Muslims surveyed. 87% of Muslims in Mali, 79% in Malawi and 77% in Kenya have the same opinion. Whereas, in the West, countries like Burkina Faso or Benin have responses at around 50%.

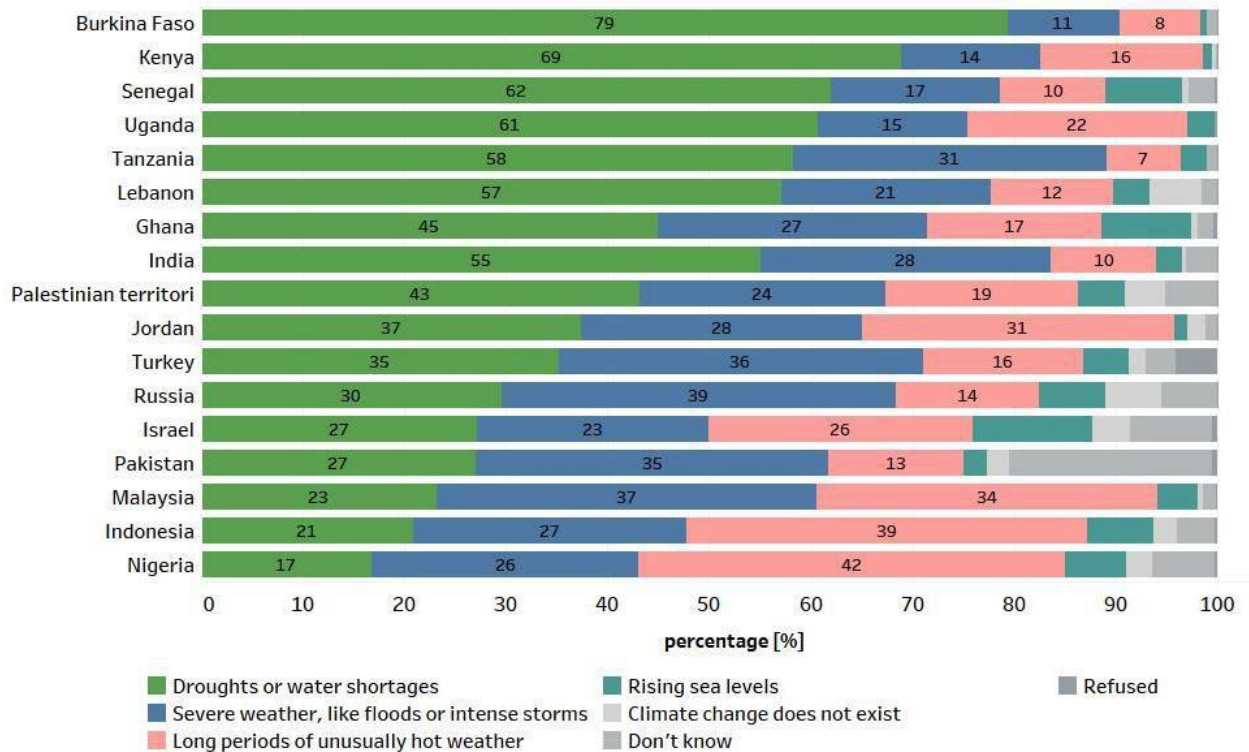
Figure 2.12. Distribution of answers among Muslims for the question "Do you think climate change is making life in [country] better or worse, or haven't you heard enough to say?", by country



Source: own calculation based on *Afrobarometer Survey* (Afrobarometer, 2016/18).

According to the 2015 Global Attitudes survey, Muslim communities were mostly concerned about (i) *droughts or water shortages* (43%), (ii) *severe weather, like floods or intensive storms* (27%), and (iii) *long periods of unusually hot weather* (19%). Those most concerned about *droughts and water shortages* were Muslim inhabitants of Africa, whereas respondents from Asia were more worried about *severe weather that can bring floods and storms*. The study shows that *long periods of hot weather* is more often chosen by respondents from Asia, but the highest percentage in this respect is noted in Nigeria (42%) (Figure 2.13).

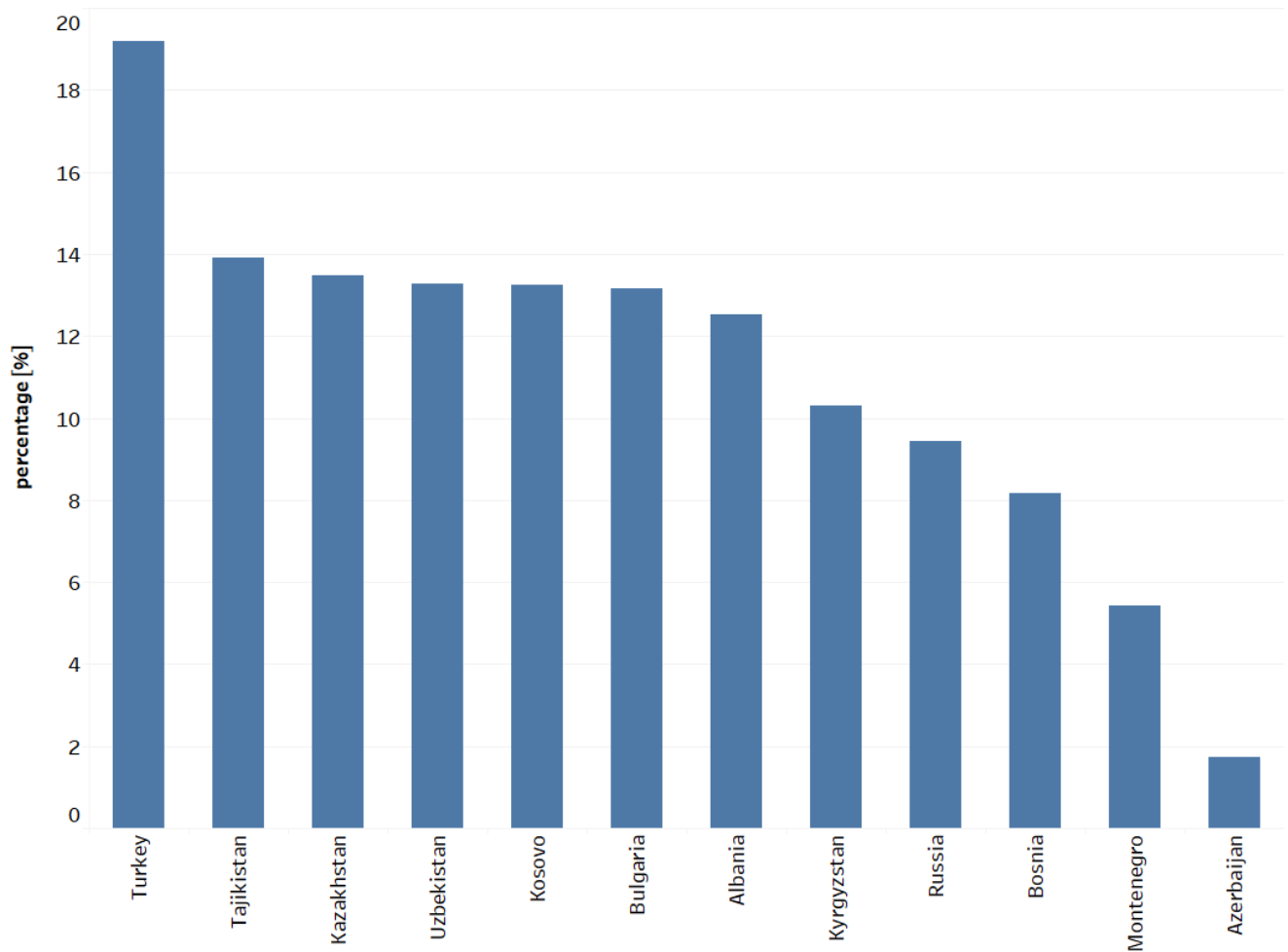
Figure 2.13. The percentage of Muslims concerning about chosen consequences of climate change, by country



Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

## 2.2 Behaviour

Figure 2.14. Percentage of Muslims who have taken action aimed at helping to fight climate change, by country



Source: own calculation based on *Living in Transition* (EBRD, 2010).

Despite relatively high awareness that climate change is a serious problem, only 13% of all Muslim respondents of the *Life in Transition* survey declared that they had taken actions aimed at helping to fight climate change. Only in Turkey among the surveyed countries, did the percentage reach almost 20% (Figure 2.14), and the lowest percentage is observed in Azerbaijan

(2%). It is worth mentioning that 73% of Muslims in Azerbaijan in this study declared climate change as a very serious problem (see Figure 2.1). In Turkey, 60% of Muslims stated climate change is an important problem and 20% did something to help (compare Figure 2.1 and 2.14). In comparison, 77% of Swedish respondents say that the climate change is a serious problem and 70% took some action to address it. In Germany 63% think it is a very serious problem and 50% took some action. Thus, in the mentioned cases there is no discrepancy between the knowledge of the issues linked with climate change and willingness to personally address at least some of them.

Table 1 shows that among those who have taken some actions towards helping to fight climate change, the most popular actions were related to the reduction of energy and water consumption. For example, in Turkey where the highest share of respondents declared taking action to fight climate change, 75% did so by reducing energy consumption, 50% by decreasing water use at home and 23% by reducing usage of disposable items (like plastic bags).

Table 1. Actions aiming at helping to fight climate change taken by Muslims, by country

Action	Albania	Azerbaijan	Bosnia	Bulgaria	Kazakhstan	Kosovo	Kyrgyzstan	Montenegro	Russia	Tajikistan	Turkey	Uzbekistan
Purchased a car that consumes less fuel, or is more environmentally friendly	24.5	5.8	14.0	20.0	22.8	13.0	2.2	9.0	20.0	8.8	5.3	2.6
Reduced the use of my car, for example by car-sharing or using my car more efficiently	21.6	0.0	7.0	6.7	7.0	26.8	7.8	27.3	20.0	13.9	6.4	4.2
Chosen an environmentally friendly way of transportation (by foot, bicycle, public transport)	35.3	0.0	7.0	60.0	36.8	56.1	5.5	27.3	20.0	29.2	11.6	9.5
Reduced energy consumption at home (e.g. turning down air-conditioning or heating, not leaving appliances on standby, buying energy efficient products, such as low-energy light bulbs or appliances)	45.1	52.9	46.5	40.0	35.1	69.9	12.2	72.7	20.0	75.2	59.8	25.8
Reduced consumption of water at home (e.g. not leaving water running when washing dishes, etc)	35.3	41.3	27.9	73.3	50.9	76.4	73.3	36.3	40.0	48.9	85.2	41.6
Where possible, avoid taking short-haul flights	10.8	5.8	0.0	0.0	1.8	12.2	4.5	9.0	0.0	8.0	6.4	1.6
Started separating most of my waste for	16.7	11.7	23.3	26.7	22.8	14.7	15.6	18.3	0.0	22.6	19.0	28.4
Reduced consumption of disposable items (e.g. plastic bags, certain kind of packaging, etc.)	26.5	17.5	20.9	20.0	31.6	38.2	7.8	63.7	20.0	29.9	22.8	13.7
Buy seasonal and local products to avoid products that come from far away, and thus contribute to CO2 emissions (because of the transport)	11.8	29.2	27.9	0.0	43.8	28.5	4.5	18.3	0.0	26.3	9.5	5.3
Installed equipment in my own home that generates renewable energy (e.g. wind turbine, solar panels)	7.8	17.5	2.3	0.0	3.5	2.4	0.0	0.0	0.0	1.4	1.0	0.0

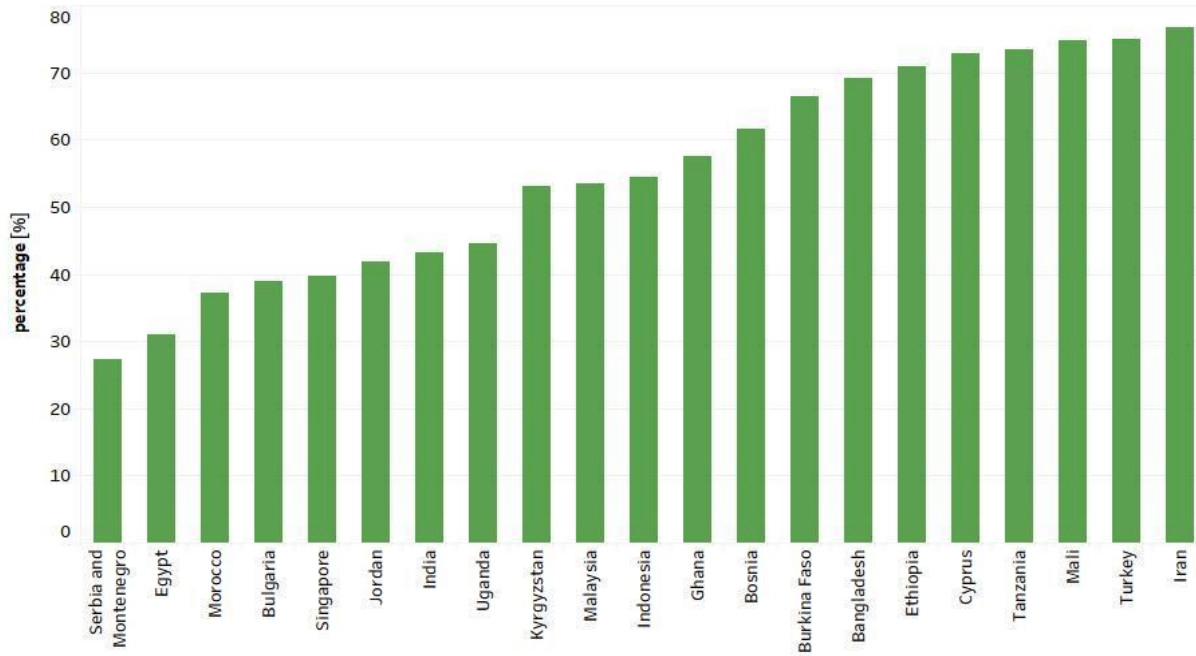
Source: own calculation based on *Living in Transition* (EBRD, 2010).



### **2.3 Willingness to alter behaviour and reduce climate change**

As indicated by the findings presented so far, large proportions of Muslims are aware of climate change and environmental challenges that affect the planet and their lives, and substantial shares would be ready to personally address the issues related to these processes. Many people, however, have not taken any actions helping to fight climate change. The question remains however, whether Muslim communities would give a part of their income or accept higher taxes to combat climate change and environmental issues. WVS asks if a respondent would agree to an increase in taxes if the extra money would be used to prevent environmental pollution. Among countries under consideration with significant Muslim communities, it was found a positive correlation between the share of people willing to financially support environmental causes and the level of income tax in the country. In the countries with higher taxation, people are more willing to pay even more. The highest positive attitude in financial support was observed in Iran, Turkey and Mali where around 75% of Muslims agreed with an increase in taxation (Figure 2.15). The lowest share was in Montenegro (27%) and Egypt (31%).

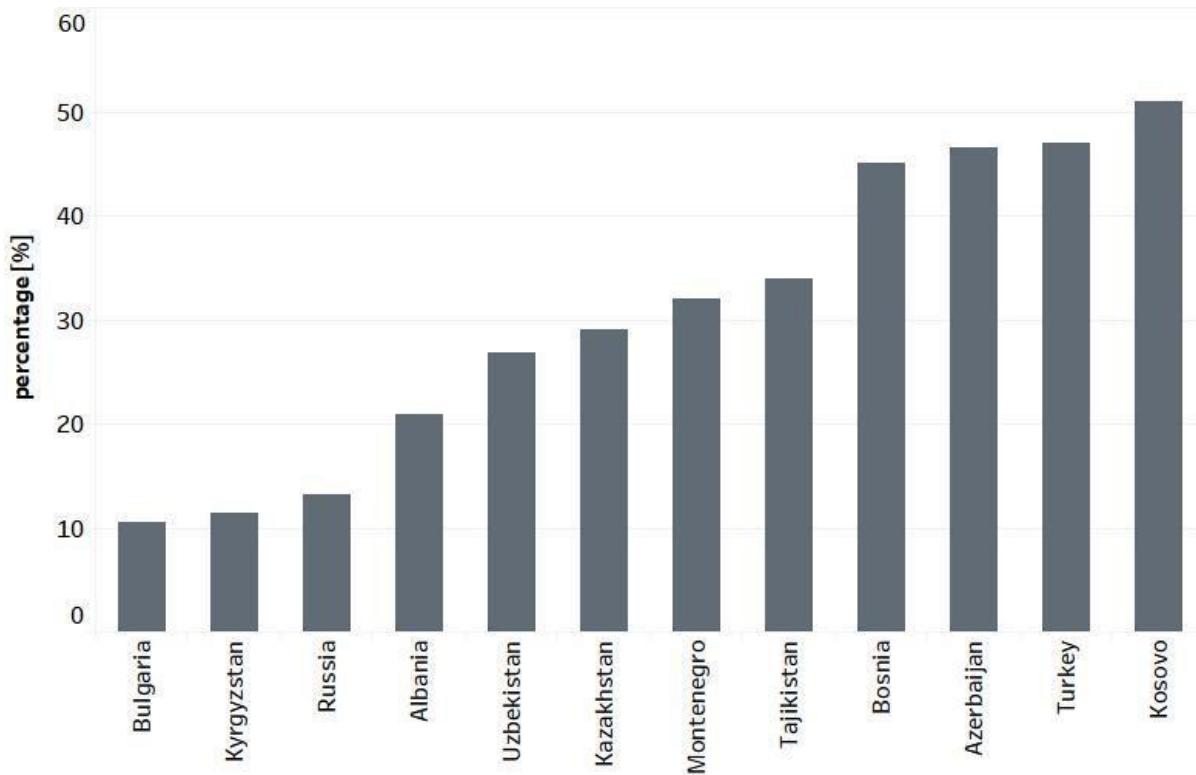
Figure 2.15. The percentage of Muslims who would agree to an increase in taxes if the extra money would be used to prevent environmental pollution, by country



Source: own calculation based on *World Values Survey* (WVS, 1995-2009).

In the *Life in Transition II* survey, respondents were asked if they would give part of their income or pay more taxes, if they were sure that the extra money was used to combat climate change. This question is different than those asked in WVS because here the focus is exclusively on climate change instead of environmental pollution. Thus, the lower support of an increase in taxation than in the case of pollution is anticipated. Figure 2.16 reveals that the lowest percentage agreeing to this is found in Bulgaria – only 10% of Muslims there would be willing to pay extra on the fight against climate change, followed by Kyrgyzstan (11%) and Russia (13%). The highest proportions are observed in Kosovo (51%) and Turkey (47%). As expected, the level of support is much lower than in the previous question, but the pattern is similar among countries that participated in both surveys. Support is high among Muslims in Turkey in both rankings (75% and 51%), and lowest in Bulgaria (39% and 11%) and in Bosnia, in the middle (61% and 45%).

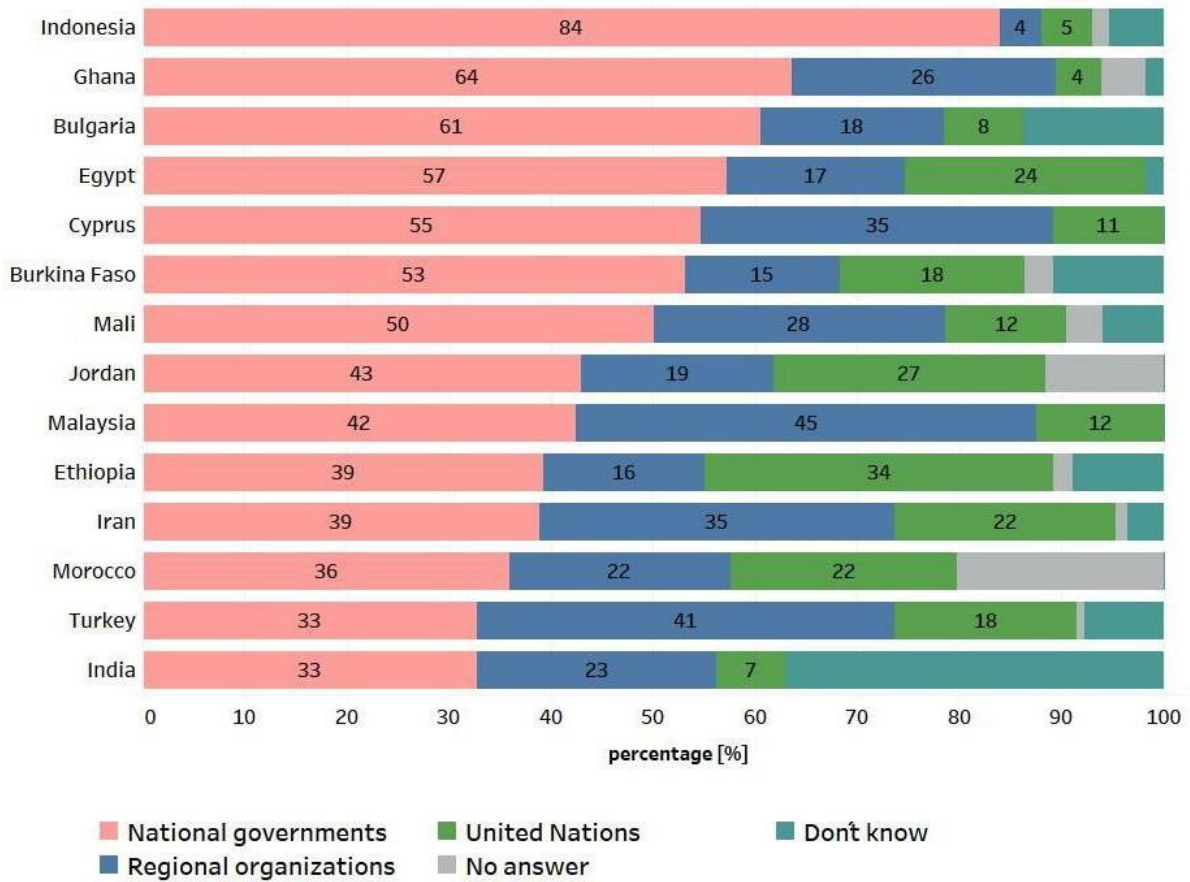
Figure 2.16. Percentage of Muslim respondents that would be willing to give part of their income or pay more taxes, if they were sure that the extra money was used to combat climate change, by country



Source: own calculation based on *Living in Transition* (EBRD, 2010).

Another important question relates to who should be responsible for dealing with environmental issues, like climate change. The vast majority of Muslim respondents in the WVS survey indicate that policies in the area of protection of environment should be decided by the national governments or regional organizations, but not by the United Nations (UN). 41% of people think that the national government should do it, 21% think that regional governments and 15% consider that the UN is the best organization to decide on the policies (Figure 2.17). The highest support for the national government is observed in Indonesia (78%) and the lowest in India (33%).

Figure 2.17. Distribution of answers on where policies in this area of protection of the environment should be decided, by country



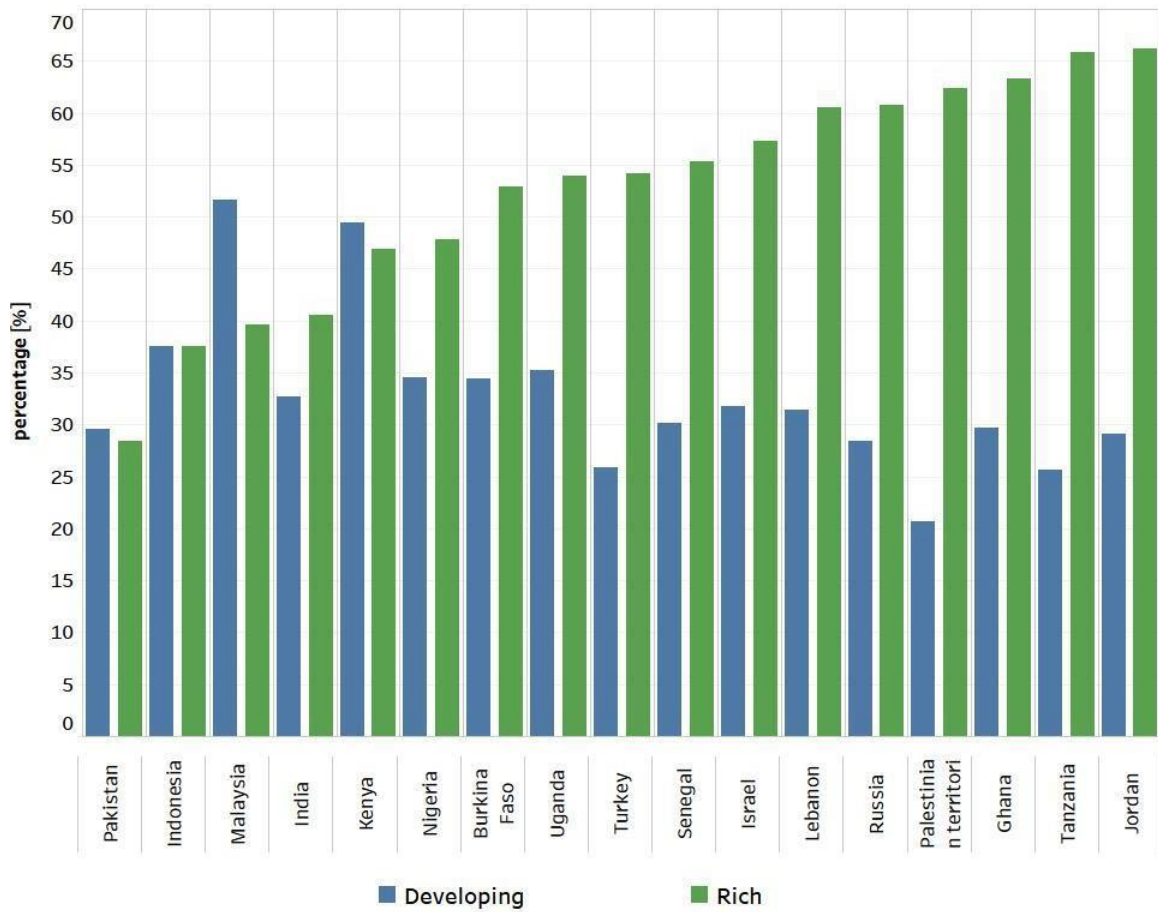
Source: own calculation based on *World Values Survey* (WVS, 1995-2009).

Half of the Muslim respondents of Pew's Global Attitudes survey agreed with the statement that "Rich countries, such as the U.S., Japan and Germany, should do more than developing countries because they have produced most of the world's greenhouse gas emissions so far". Whereas 30% declared support for the statement "Developing countries should do just as much as rich countries because they will produce most of the world's greenhouse gas emissions in the future".

Figure 2.18 shows that in most of the countries, respondents agree that rich should do more than developing countries. The highest support of this statement is observed among Muslims in

Jordan (66%), Tanzania (66%) and Ghana (63%). The lowest percentages are in Pakistan (28%) and Indonesia (37%), but in these countries, the second statement that developing should do as much as developed countries is not more favourable either. The highest support for it is in Malaysia where majority support it (52%), and in Kenya (49%).

Figure 2.18. Share of respondents support the statements (1) "Rich countries, such as the U.S., Japan and Germany, should do more than developing countries because they have produced most of the world's greenhouse gas emissions so far" and (2) "Developing countries should do just as much as rich countries because they will produce most of the world's greenhouse gas emissions in the future", by country



Source: own calculation based on *Global Attitudes Survey* (Pew, 2015).

## **3.0 Islam and climate change – empirical analysis**

### **3.1. Data and method**

Before the report sheds light on the key findings of empirical part of the project, it is necessary to make a few methodological notes. This would include issues related to: (1) choice of population for a study, (2) selection of research tools, and (3) access to prospective respondents, as well as (4) limitations of our study resulting from all mentioned above.

#### **3.1.1 Population studied**

Our empirical research focuses on Muslim leaders identified as persons of major influence or those who play a very important role in shaping the views, attitudes and behaviours towards natural environment of adherents of Islam, and have a significant impact on their lifestyles and consumption behaviours. Awareness of the leaders about the issues linked to climate change and their actions have a paramount importance in the world regions inhabited by Muslims which are strongly affected by climate change.

Muslim leadership is defined in this research quite broadly, encompassing not only traditional Muslim religious leadership but also other types of Muslim leaders. Thus, the research team has approached not only imams, teachers of Islam, chaplains and students of theological seminaries but also community leaders, village elders and other types of leaders to take part in the research. Both men and women were included in the study.

#### **3.1.2 Selection of research tools**

The key tool used to collect primary data was a questionnaire specifically designed for this research project. The questionnaire consisted of 40 questions dealing with among others leaders' awareness of climate change, religious tools to address issues related to this process,

personal behaviour of the respondents and attitude of wider religious leadership towards the problems emanating from climate change.

Before the field work, the questionnaire was tested in a pilot by selected Muslim leaders in Europe who provided constructive feedback, and the recommended changes were applied to the document. The main field work was launched using the questionnaire in English and in Arabic languages in a format of paper questionnaires. Subsequently, the same questionnaire was run in an electronic survey in English, French, Russian, Arabic and Turkish to facilitate the process of data collection. Each participant asked to sign the consent form which explained in detail the project's purpose and key goals.

### **3.1.3 Access to respondents**

It was not possible to randomly select respondents of our study and construct a representative sample. As a result, this study used the mixture of purposive and snowball methods of selection of respondents<sup>5</sup>. While choosing these methods, the research team has made all the efforts necessary to reach the largest possible number of participants and achieve inter alia as high as possible geographic, religious and ethnic diversity of the sample. The research team has invited numerous Muslim leaders worldwide to fill in the questionnaire on paper or electronically and asked various Muslim organisation (e.g. Muslim Council of Britain, Turkish Diyanet, Egyptian Dar al-Ifta and Al-Azhar, as well as Tunisian Ministry of Religious Affairs – to name a few) to promote the questionnaire among their leaders. The research team also used pollsters in several locations of the world (e.g. Iraq, India, and the Occupied Palestinian Territory) who were collecting data in local mosques and Islamic institutions. The data was also collected by the Humanitarian Academy for Development and *Islamic Relief Worldwide* staff in locations across Africa, Asia and Europe. The data was collected from the beginning of July 2018 till mid-October 2018.

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<sup>5</sup> In the purposive sampling the sample is “hand-picked” for the research, whereas with snowballing, the sample emerges through a process of reference from one person to the next. More information on these methods and their advantages and disadvantages see for example Denscombe 2003: 14-16 and Ruane 2005: 104-120.

### **3.1.4 Limitations**

The chosen sampling methods bring certain limitations to study results. Firstly, one needs to be aware that participants of the study may constitute a partially positively-selected group, as some of them might have decided to take part in the study being interested in this subject. Therefore, they may have a higher than average awareness of the issues linked to climate change. Secondly, the sampling procedure is non-random method which can lead to not representative sample for the entire population of Muslim leaders. This can cause biases in the collected dataset which does not allow generalizations of the results. Finally, the study was done in selected countries and does not cover all Muslims communities around the world. Thus, one needs to bear in mind in interpreting the findings that they are not representative for all Muslim leaders worldwide, but only represent the views of selected Muslim leaders that the research team managed to reach during the data collection. Consequently, the data presented below, having all of its limitations in mind, might be treated as an important snapshot of what Muslim leaders think about climate change and what actions they take or they are ready to take to combat it.

### **3.2 Key features of Muslim leaders in the study**

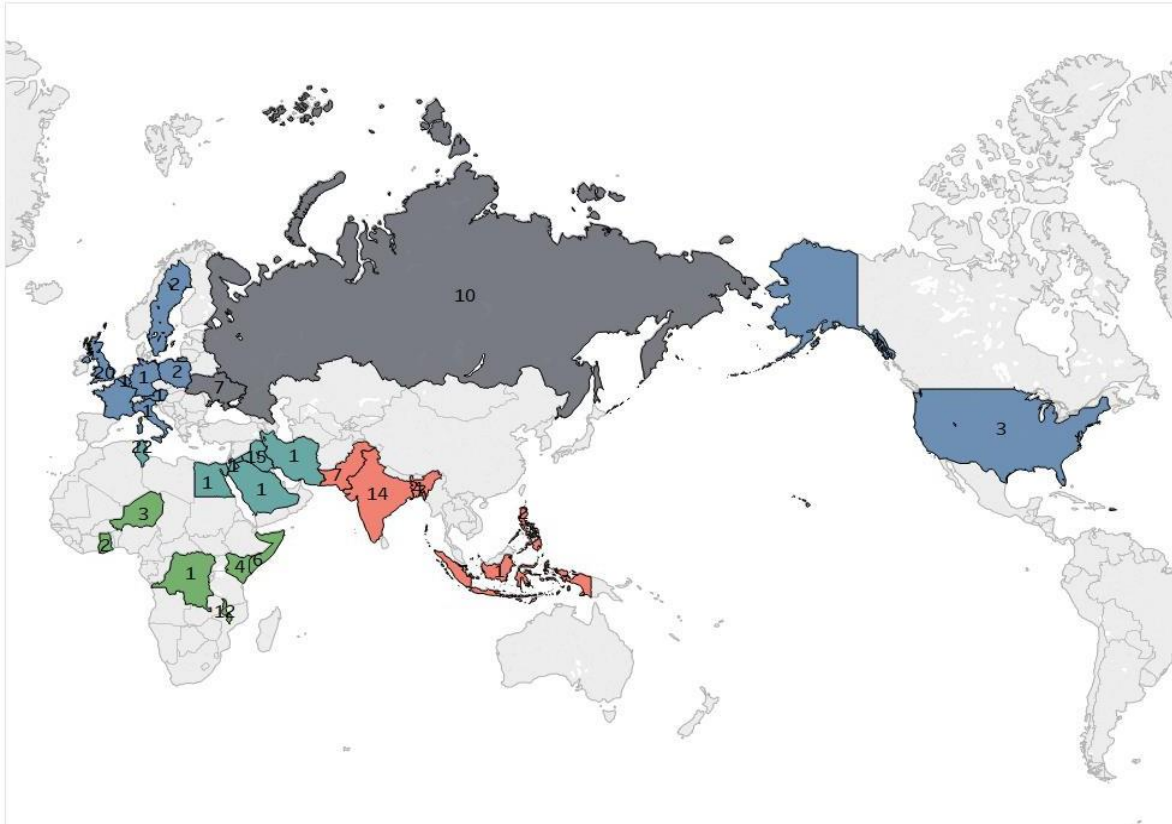
Our sample consists of 150 respondents from countries of Global South and North<sup>1</sup>. As one may notice on Map 1, the largest number of participants of the study lives in the countries of the Middle East and North Africa (30%), whereas smaller groups of respondents come from the European Union and USA (21%), Asia (19%) and Sub-Saharan Africa (19%) and post-Soviet region (11%).

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<sup>1</sup> Less than a half of the filled-in questionnaires (71) were those that had been submitted to the research team in paper format (scanned or original). The remaining part of the completed questionnaires (79) was obtained through the aforementioned electronic surveys



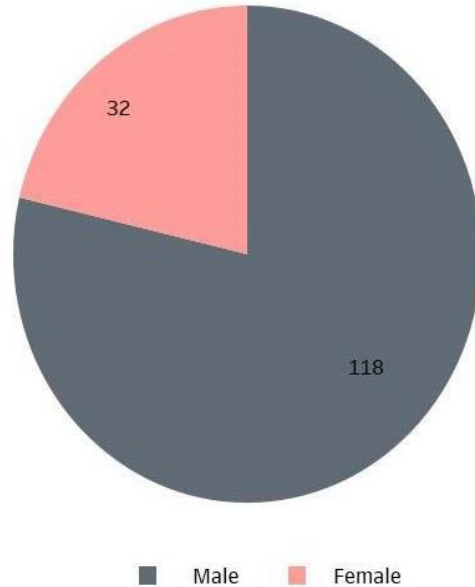
Map 1. Distribution of the Muslim leaders who took part in the survey



Source: own calculation.

The project reached both young Muslim religious leaders who were about to finish their religious seminaries, as well as, older and well-established imams and community leaders. Slightly over 32% of our respondents were not 35 years old yet while taking part in our survey, 30% were between 35 and 44 years old, over 35% were 45 years old or older. They often lived in large cities over one million of inhabitants (43%) or below one million (26%). They predominantly live in cities, less often in small towns (24%) and villages (6%). Over three-quarters of them are men (Figure 3.1).

Figure 3.1. Number of respondents by sex

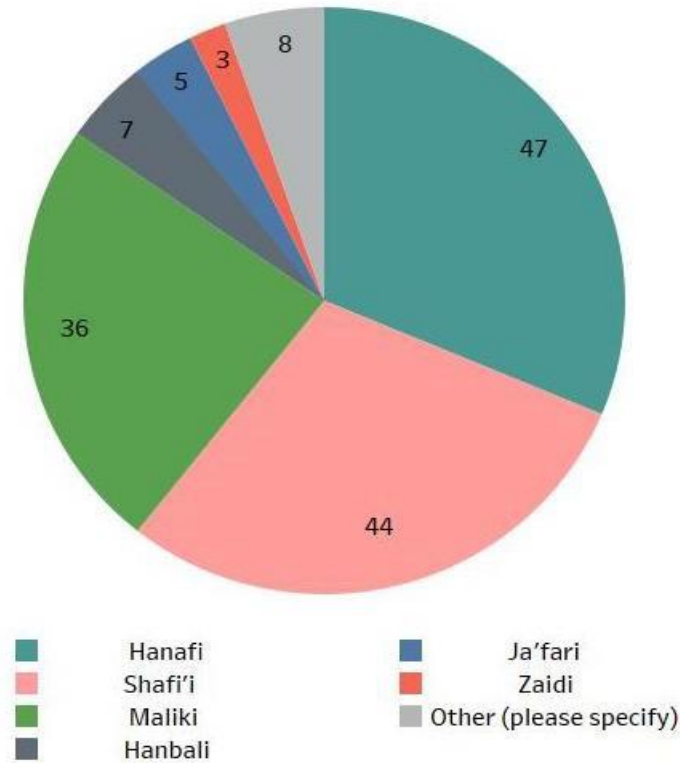


Source: own calculation.

The Muslim leaders taking part in the study represent a very diverse ethnic and religious group. The largest number amongst them followed *Hanafi* School of law, followed by the *Shafi'i* madhab. A smaller number of respondents followed *Maliki* madhab (24%) and *Hanbali*, *Ja'fari* and *Zaidi* schools of jurisprudence (all together 10%). Some participants of the study pointed that they do not identify with any of the Islamic schools of jurisprudence (Figure 3.2). The vast majority of the study participants were Sunni Muslims, but the sample included also some Shias.

All Muslim leaders who took part in the study are part of the intellectual elites of their societies as the vast majority of them (80%) held university degree (Bachelor's, Master's or PhD degrees or equivalents of them). Less than one fifth obtained only lower or upper secondary education (13%) or post-secondary education (6%).

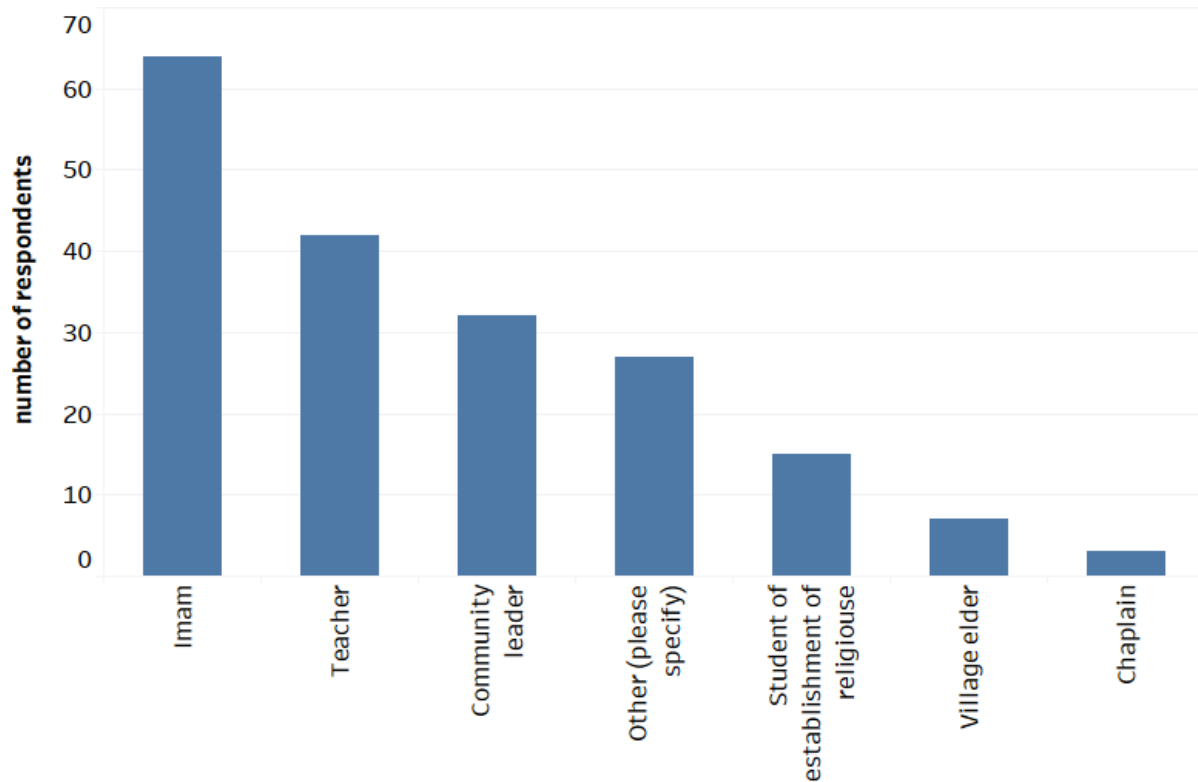
Figure 3.2. Number of Muslim leadership respondents by Islamic school of jurisprudence



Source: own calculation.

The project aimed to collect views not only from the narrowly understood Muslim religious leaders (e.g. imams and teachers of Islam) but viewed the category more broadly. Thus, the Muslim leaders participating in the study included imams (the largest category of the participants of the study – almost 43% held such positions within their communities) as well as teachers of Islam (second largest category of respondents). Among the participants of the study, however, there were also community leaders, students of establishments of religious education, chaplains and village elder. The sample also included 18% of other types of Muslim leaders, many of whom were female Muslim leaders (Figure 3.3). This has been partially reflecting the transformations of gender roles affecting also Muslim populations (Badran, 1996; Esposito, 2003; Khamis & Mili, 2017).

Figure 3.3. Number of respondents by a role played in community

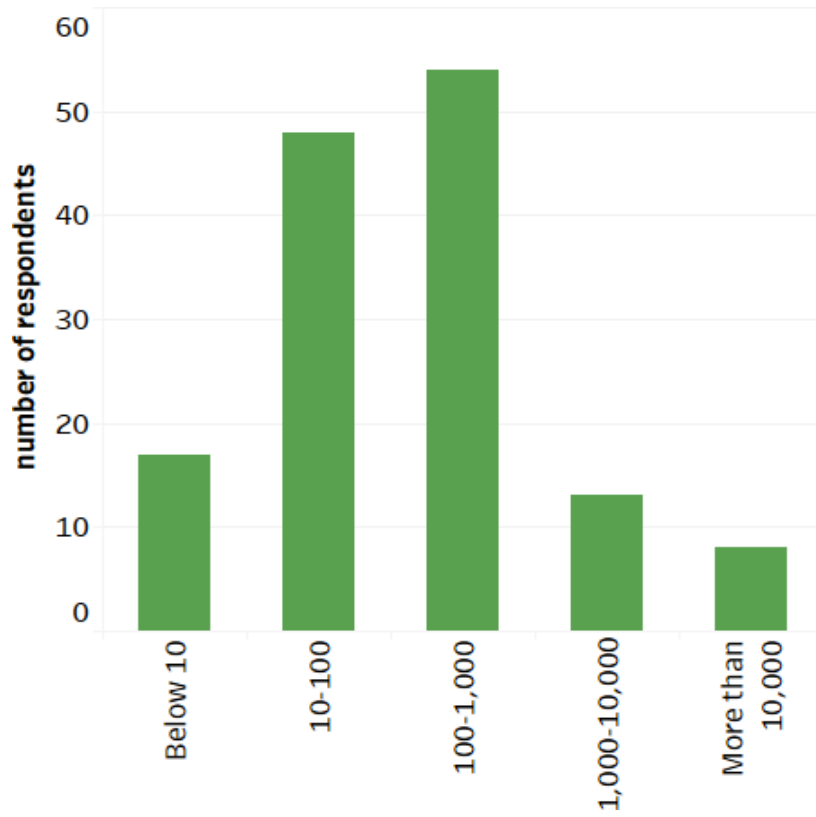


Source: own calculation.

As shown in figure 3.4, the Muslim leaders extended a significant authority over the communities in which they were embedded as, most commonly, they had on average contact with 100 to 1,000 people per week through their religious preaching, teaching or another type of religious work. Slightly less than one third of the study participants were leaders who contact up to 100 people. Almost 10% of participants reach up to 10,000 people through their preaching and over 5% estimated their usual audience over 10,000 people (Figure 3.4).

Most commonly the Muslim leaders stayed in touch with their congregations through face to face and group meetings (respectively 82% and 60% of participants). However, they have also used other means of preaching and keeping in touch with members of their religious communities including telephone (46%), internet (43%) and mass media (30%).

Figure 3.4. Number of people in contact with per week through work as a Muslim leader

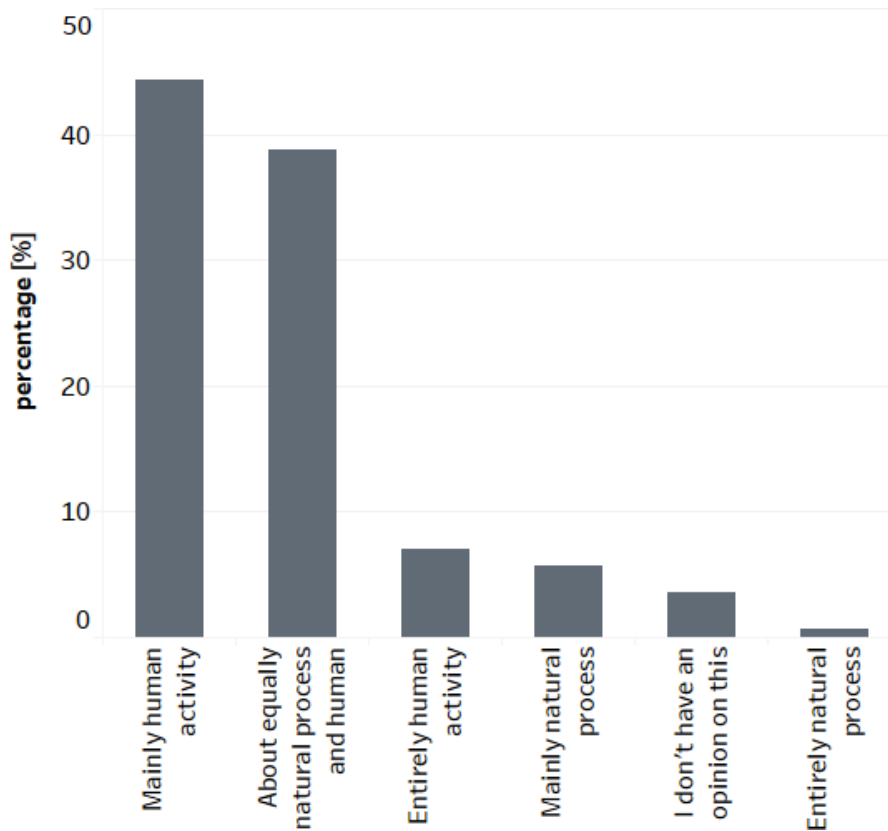


Source: own calculation.

### 3.3 Awareness of climate change among Muslim Leaders

Our research found that Muslim leaders are quite well aware of the issues related to climate change, and that this problem is not new to them. Close to two-thirds of respondents agreed with the statement that “climate is definitely changing” while one third said that it was “probably changing” and a minority claimed it was not changing or did not have an opinion on this. The largest number of respondents (44%) considered these changes mainly man made and only slightly fewer respondents (39%) supported the statement that these changes are about equally natural processes and a result of human activities. Slightly over 6% claimed that climate change is caused mainly or entirely by natural processes.

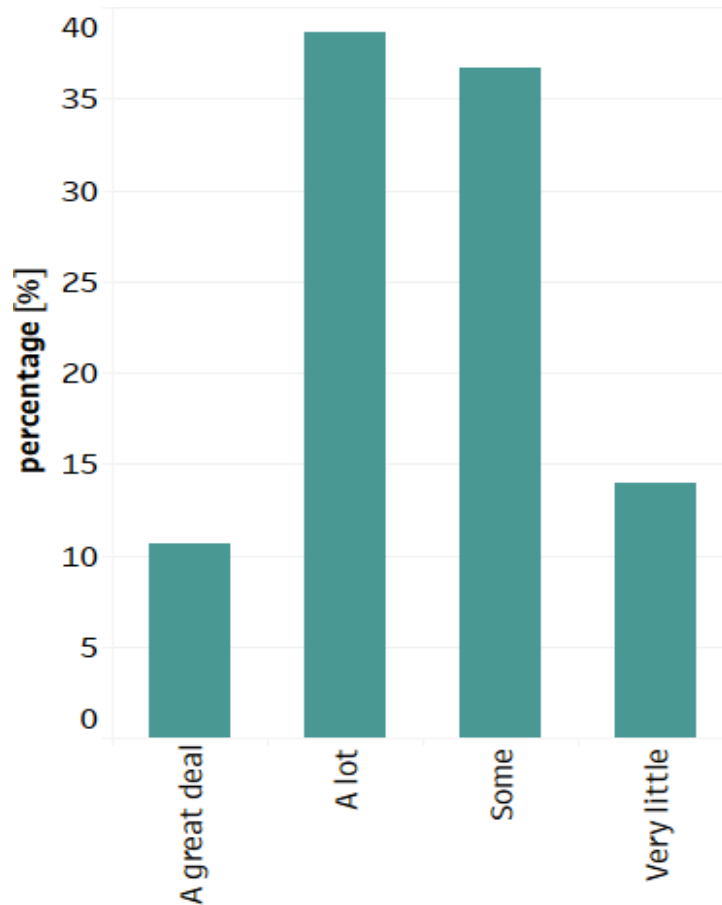
Figure 3.5. Share of respondents by cause of climate change



Source: own calculation.

The study shows that half of the Muslim leaders have thought either “a lot” (39%) or “great deal” (11%) about climate change before being invited to take part in this study. Over one-third of respondents thought about climate change issues “sometimes” and for 14% of respondents these issues were new and thought *very little* about them (Figure 3.6). Thus, the Muslim leaders can be situated within the world Muslim communities with the highest awareness on climate change that, according to the *Life in Transition* survey carried out in 2010, lived in Azerbaijan, Kazakhstan, Russia and Tajikistan (Figure 2.3 above).

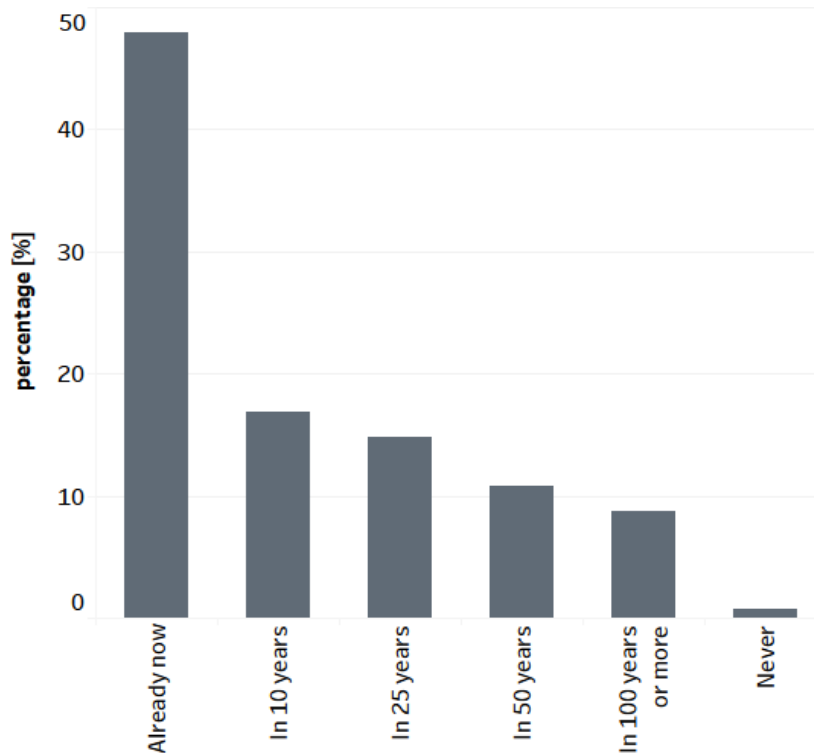
Figure 3.6. How much Muslim leaders have thought about climate change before they took part in the research?



Source: own calculation.

Over 48% of Muslim leaders think that climate change is substantially harming people already today. This suggests that the level of the awareness is 11 percentage points higher amongst the Muslim leadership than among communities in the countries with large Muslim populations surveyed by the 2015 Global Attitudes study done by Pew Research Center. Furthermore 17% respondents think that climate change will start harming people in 10 years' time, and almost 15% believe that it would become harmful in a quarter of a century. Less than one-fifth consider that the consequences of climate change will significantly impact people in more distant future (half a century or more) (Figure 3.7). These findings correspond well with the 2015 Global Attitudes survey (Pew) that show that three-quarters of Muslims in countries with large Muslim populations think that climate change is harming people now or it will be doing so in the near future.

Figure 3.7. When do you think climate change will harm people substantially?



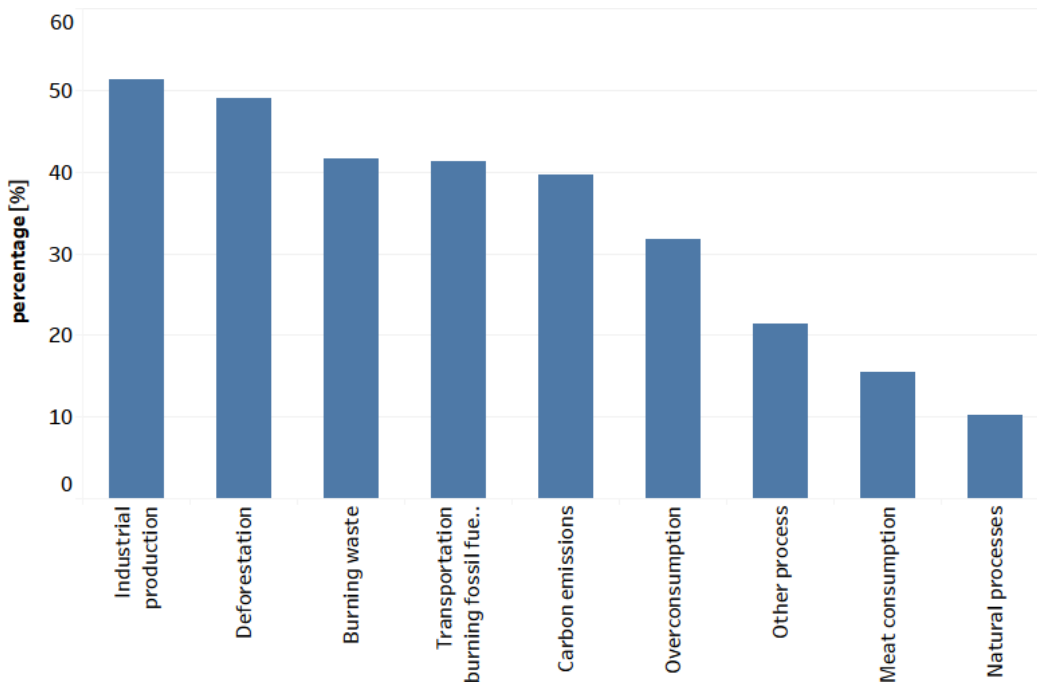
Source: own calculation.



When considering the main causes of climate change, the respondents believed that climate change was caused above all by industrial production (over 51% of high importance indications), deforestation (49%), burning waste (42%), cars and other means of transportation burning fossil fuels (41%), carbon emissions (39%) and overconsumption (32%). They much less frequently highlighted other causes like meat consumption (slightly over 15% of high importance indications) or pollution of the oceans, nuclear tests and catastrophes (21%) (Figure 3.8).

For Muslim leaders the most worrying effects of climate change are *weather anomalies* such as severe droughts, floods and more frequent hurricanes (44% of high importance indications), followed by *rise of temperatures* (43%). A smaller percentage of respondents see the most troubling effect of climate change in *growing poverty in developing countries* (34%), *rise of sea levels* (33%) and *growth of migration of people* (29%).

Figure 3.8 The major causes of climate change (high importance)

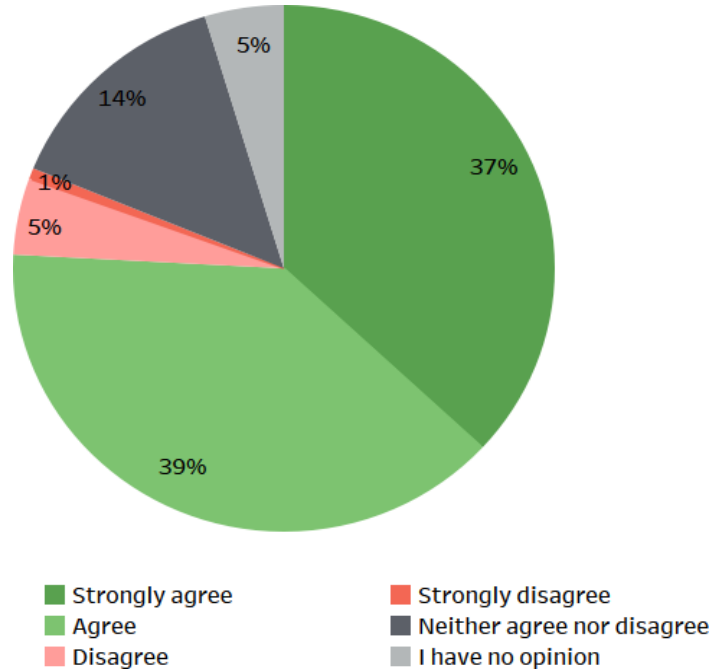


Source: own calculation.

Slightly over half of the leaders surveyed believe that it is “*very likely*” or “*likely*” that the consequences of climate changes will lead to the end of human existence in the world as a result of men-made causes. 16% of respondents think that it is *very likely* that climate changes will lead to the end of human existence in the world and 37% think that this will “*probably happen*”. This opinion was *strongly opposed* by 15% of the Muslim leaders whereas 13% *mildly objected* it. 18% said they had *no opinion* on this. Two-thirds of respondents agreed that dealing with problems of climate change should be given priority even if it causes slower economic growth and some loss of jobs while only 5% disagreed with policies that would try to tackle the causes and effects of the climate change at the expense of the economic growth and 14% neither agreed nor disagreed.

Similarly to Muslims living in Iran, Turkey, Mali, Tanzania, Cyprus, Ethiopia, Bangladesh, Burkina Faso and Bosnia, as shown in findings from of the World Value Survey (Figure 2.15 above), the majority of Muslim leaders were in favour of increasing taxation in order to address climate change issues. 58% respondents were in favour of increasing taxes for users of cars and motorbikes that pollute the environment, whereas 24% of respondent opposed such a solution. Further 16% neither agreed of disagreed with it and 2% had no opinion on it.

Figure 3.9 Dealing with the problem of climate change should be given priority, even if it causes slower economic growth and some loss of jobs [%]



Source: own calculation.

The vast majority of Muslim leaders similarly to numerous authors advocating “Islamic Environmentalism” (e.g. Shaafat 1999, Schwencke 2012, Ahmad 2018) believe that religion has an important role to play in politics related to climate change. In their view, Islam offers a very important set of values and principles that can help to preserve the Earth and address the problems of climate change. They have quoted numerous Islamic sources which can guide Muslims’ behaviour to be more environmentally friendly. Some of the most frequently quoted were the ideas of: custodianship (*Khalifah*) i.e. that Muslims (or people in general) are not masters of the creation but are the custodians of the Earth appointed by its Creator/Allah; and the idea of *Mizan* or “the delicate balance of nature”. The leaders have also frequently cited various Quranic verses such as:

*“And cause not corruption upon the Earth after its reformation. And invoke Him in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good” (Quran 7: 56)*

and

*“There is no creature on [or within] the earth or bird that flies with its wings except [that they are] communities like you. We have not neglected in the Register a thing. Then unto their Lord they will be gathered.” (Quran 6: 28).*

Many respondents also argued that people should abstain from overconsumption and quoted frequently the verse:

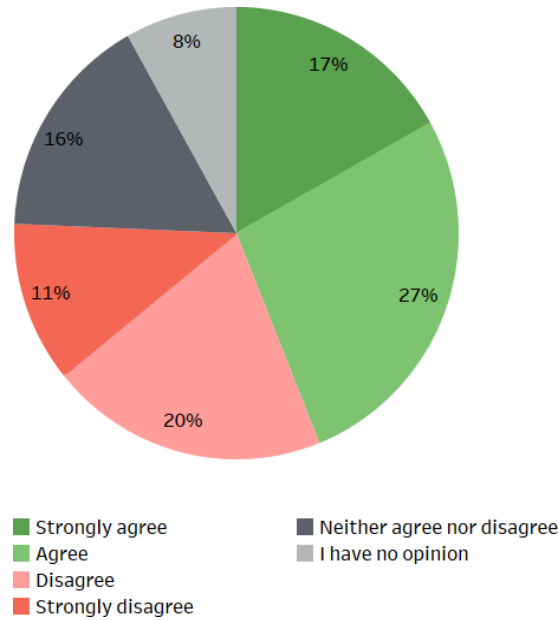
*“Eat and drink and do not be extravagant, for Allah does not love extravagant” (Quran 7: 31).*

Numerous leaders also invoked the idea of preserving the water and particularly carrying for it and pointed out the following Ayat:

*“And Allah has sent down rain from the sky and given life thereby to the earth after its lifelessness. Indeed in that is a sign for a people who listen.” (Quran 16: 65)*

However, when asked if the Muslim religious leadership adequately addresses the issues of climate change in their communication with congregations, respondent’s opinions were diverse. Those who agreed with this statement constitute the largest group of respondents (44%) but almost one-third of respondents (31%) think that Muslim leaders do not rise up to the challenges related to climate change in their teaching and preaching (Figure 3.10).

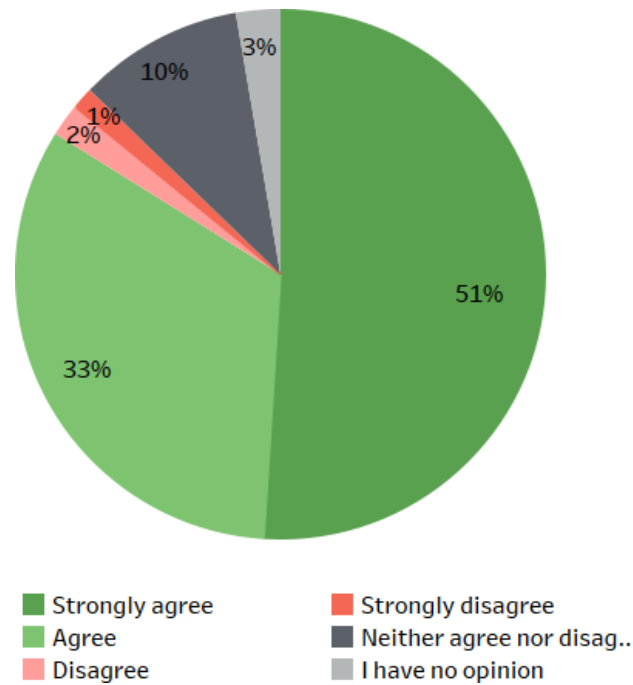
Figure 3.10. The leaders of my religious community adequately address the issues of climate change in their communication with their congregations [%]



Source: own calculation.

Moreover, the vast majority of the Muslim leaders surveyed believe that religious leadership need to do more than it does so far in terms of addressing the issues of climate change. 51% of respondents “strongly agreed” with the statement that “*Muslim religious leaders should be more active in actions related to climate change*”, and 34% “agree” with the statement (Figures 3.11).

Figure 3.11. Muslim religious leaders should be more active in actions related to climate change [%]



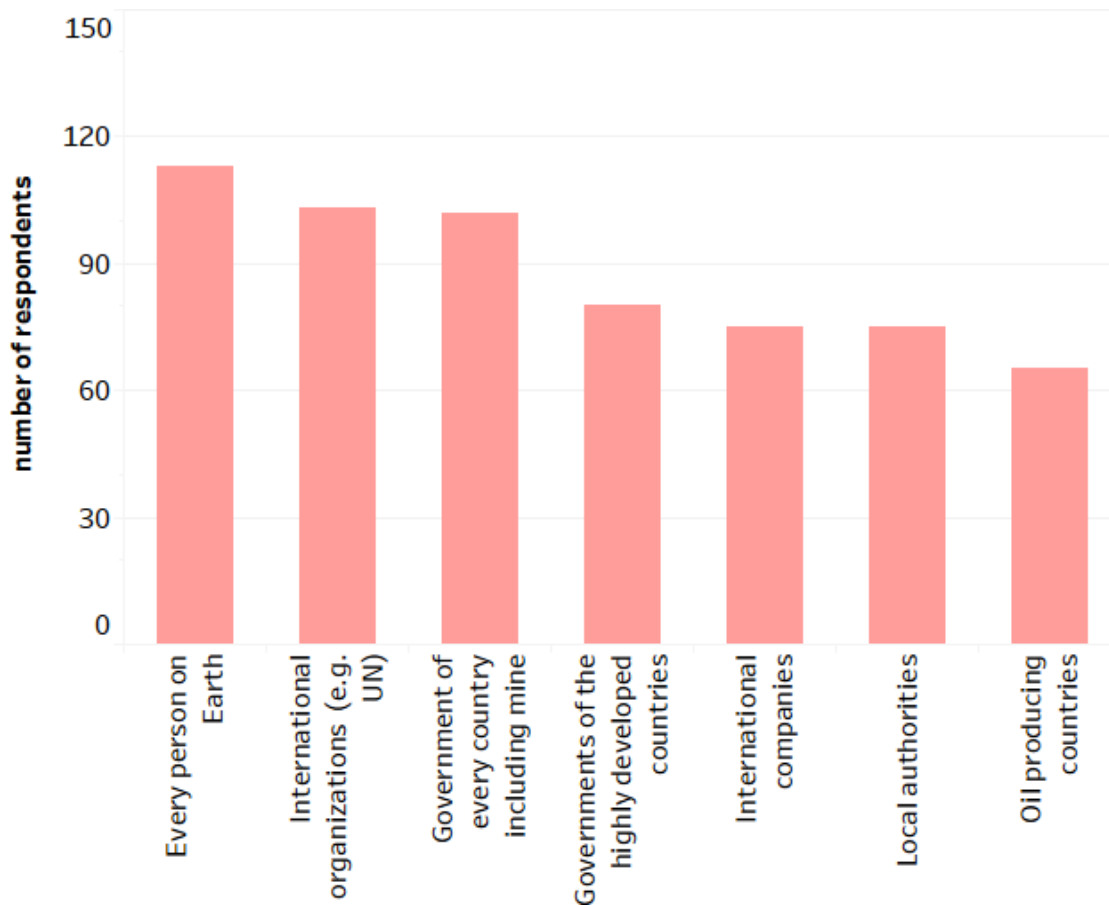
Source: own calculation.

### 3.4 Climate change and behaviour of Muslim leadership

The overwhelming majority (over two thirds) of respondents believed that Muslim religious leaders should be much more active in their actions related to climate change. In that sense they strongly echo the views promoted by numerous actors from within the Islamic environmentalist movement (Khaleafa.com, Greenramadan.com, and Greendeensa.org – to name a few) or organisations from the interfaith environmentalist movement (e.g Greenfaith.org). They did not hide from the responsibility for taking action in face of considerable environmental changes. The largest number of respondents (75%) said that the

responsibility of addressing the problem of climate change lies with every person. A significant number thought that international organisations and individual states authorities had an important role to play in this (respectively 69% and 68% of respondents). Fewer leaders thought that major responsibility lied with international companies (50%) and oil producing countries (43%). In contrast to the findings of the Pew's Global Attitudes survey showing that a high proportion of Muslims around the world thought that major brunt of responsibility for tackling the problem of climate change lies with "rich countries", slightly over half of the Muslim leaders shared this view.

Figure 3.12. Whose responsibility it is to address the problem of climate change?

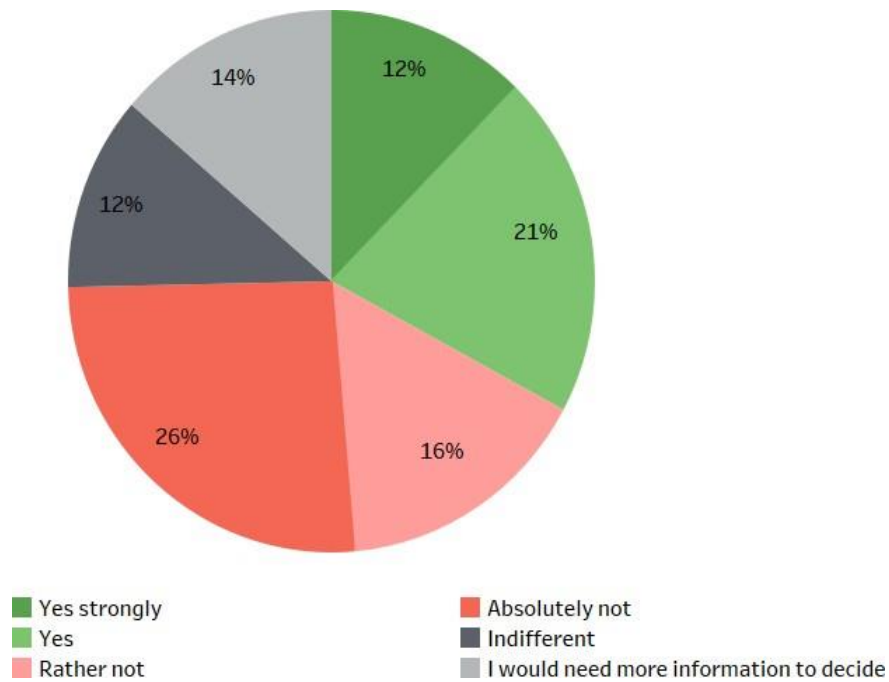


Source: own calculation.

Respondents felt either a “*great deal*” of responsibility or a “*considerable* responsibility” to try to reduce climate change. Only a small minority felt “*some*” or “*no responsibility*”. However, when asked what they would do to address the issues of climate change, Muslim leaders did not answer in a consistent way. Thus, in our study a similar pattern of discrepancy as observed in larger representative surveys of Muslims populations where the awareness of the problem of climate change did not match with adequate behaviour was found. For example, a majority of the respondents would “*absolutely not*” or “*rather not*” promote ideas of having fewer children and thus limiting the size of the population to limit population size (Figure 3.13). Here, clearly, the ideas of procreation that are held sacrosanct by all world religions are treated by Muslim leaders as more important than problems related to climate change. Alternatively, the large number of respondents does not see global population growth as a serious societal challenge and recognize a clear connection between the phenomena. For example, while 42% of the leaders saw climate change as highly important societal challenge, only 25% of them thought in the same way about rapid population growth. They also did not consider teenage pregnancies as an important challenge in their societies as only less than 28% marked it as highly important.



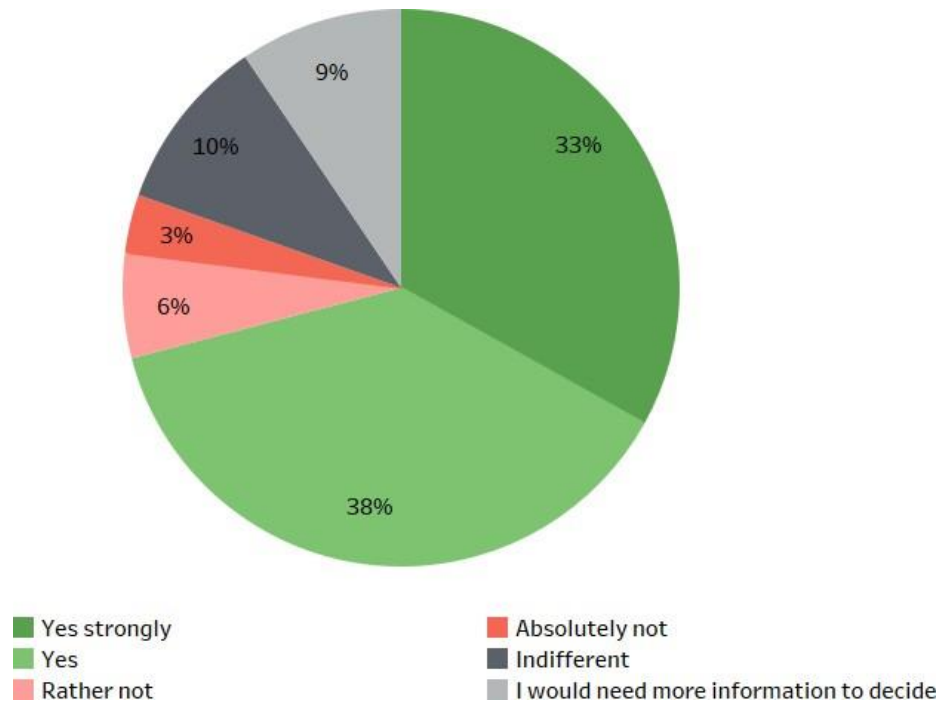
Figure 3.13. Would you promote that one should limit population size and have fewer children to lower population growth and thereby curb climate change? [%]



Source: own calculation.

The majority of Muslim leaders are not prepared to promote vegetarianism as a method of reducing climate change. However, when asked if they would promote more environmentally friendly consumption patterns their answers were mostly positive (Figure 3.14). Respondents were also overwhelmingly in favour of encouraging implementation of new technologies to promote greener production and consumption behaviours and supported government spending for technologies that seek to reduce CO2 emissions such as carbon capture and storage (CCS) and other such engineering approaches to trying to curb the effects of climate change.

Figure 3.14. Would you promote reducing consumption and more environmentally friendly consumption patterns? [%]



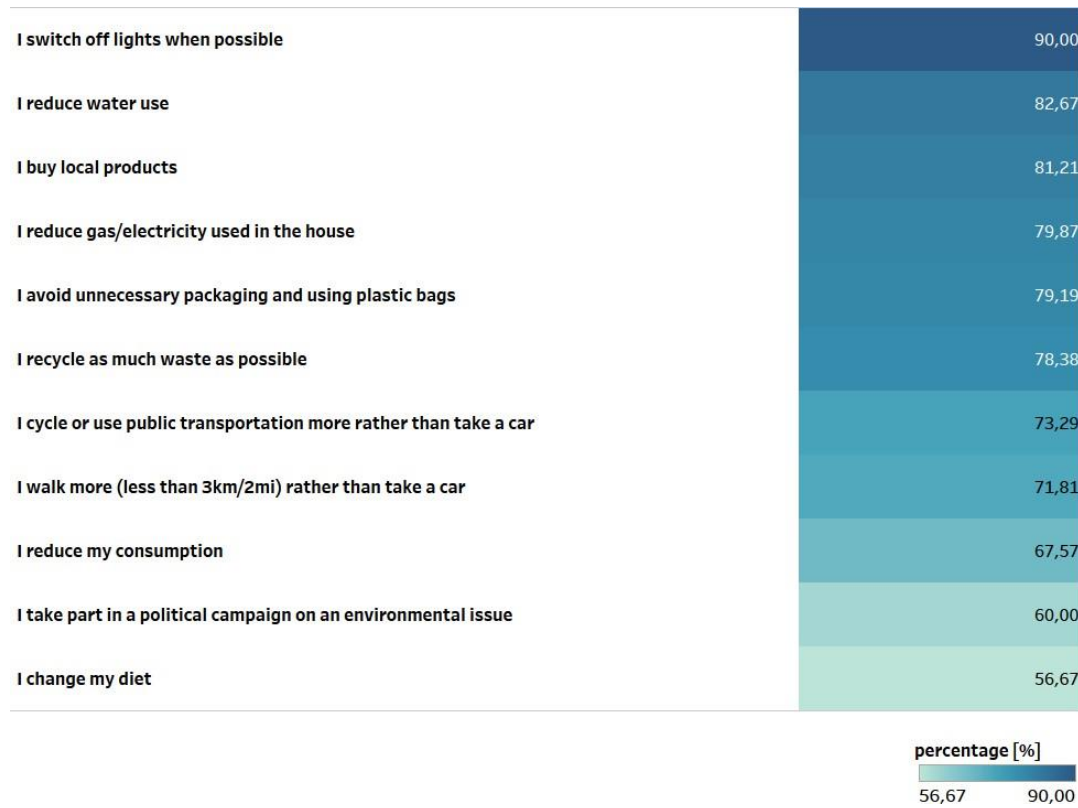
Source: own calculation.

When asked how often they had dealt (in their preaching, religious work or interactions with their congregations) in the last months with the issues of, for example, *“too rapid population growth”* and *“decreasing biodiversity”*, only a small minority of leaders said *“often - very often”* (15% and 11% respectively). The most popular answers related to tackling these subjects were *“never”* or *“hardly ever”*. *“Rise of sea levels”* was yet another theme that also very rarely featured in the preaching of the respondents in the last months. Much more popular were the themes of *“poverty and unemployment, insufficient food and famine”* or *“excessive consumption”*. Over half of the leaders say they preached about these topics in the last months

“often” (40%) or “very often” (38%). Yet, other issues that the respondents claimed to bring up in their religious work frequently were: “wasting of resources” (35%), “air and water pollution” (32%), “weather anomalies (severe droughts, floods and more frequent hurricanes)” (30%) and “rise of temperatures” (30%).

Muslim leaders were ready to change the following aspects of their own behaviour to address climate change: “to walk more rather than use a car” (72% agree), “to cycle or use public transportation more than take a care” (73%), “to recycle as much waste as possible” (78%), “to avoid unnecessary packaging and using plastic bags” (79%), “to buy local products” (81%), “to reduce water use” (83%) and “to switch off light when possible” (90%). They were, however less willing to change their behaviours in the following aspects: “to change their diet and eat less meat and more seasonal food” (56%) or “to take part in a political campaign on an environmental issue” (60%).

Figure 3.15 Willingness to change behaviour through the following measures to minimise climate change [%]



Source: own calculation.

## 4.0 Conclusions and Recommendations

The influential German scholar of Islam Annemarie Schimmel wrote in her *“Deciphering the Signs of God”* that green colour in Islam has always been connected with paradise and positive spiritual things, and angels and saints are frequently clad in green clothing (1994: 16). According to the Islamic tradition green was the favourite colour of the Prophet Muhammad and the Quran points out that while entering the paradise “Upon the inhabitants will be green garments of fine silk and brocade” (76:21). But how “green” are the minds of today’s followers of Islam and the leaders of the Muslim communities around the world? Are they aware of the climate change and its main causes and effects? What are they ready to do in order to address them? These are only some of the questions that have been sought to answer with this research.

One of the Hadiths says “The world is green and beautiful, and God has appointed you its administrators. See how you get your job done” (Hadith in: Masri, 1992: 12). The inhabitants of the Earth have perhaps not been very good administrators or custodians of the planet (*Khalifah*) and through their actions or mismanagement caused significant environmental degradation that is endangering the delicate balance of nature (*Mizan*). As discussed above, the followers of Islam are one of the religious groups that is already or will be affected by climate change in the near future. Addressing these issues will require concerted efforts of not only all countries but also every major religion in the world. This is because the problems of climate change have global dimensions. A recent UN report suggests that there was maximum 12 years left to limit scale of the climate change catastrophe (Watts 2018).

As the report has shown above some Muslim communities are well aware of the issues of climate change and are ready to slow down their economic growth to minimise its effects. However, whereas others that might already be more affected by it, they are less aware of its seriousness, and take limited actions to minimise its effects, in spite of the fact that several Muslim majority nations are or will be severely affected by climate change.

Faith-based conflicts and consequences of climate change are among the top major threats as suggested by population level surveys across different countries (Carle, 2015; Levy et al., 2015; Pascual-Ramsay, 2015). Yet, religions have significantly contributed to numerous human rights struggles around the world in recent decades ending slavery, promoting racial equality, resisting dictatorship and supporting the rights of the poor. It can be crucial that they use more effectively some of their mobilizatory potential to address the climate change issues and raise awareness of them as well come up with innovative methods of reducing human impact on environment. Not only Islam but also other religions need to more dynamically engage in what Ulrich Beck calls the “greening of modernity” or a process of reconciliation between nature and humankind (2010: 254).

Within the *ummah* or the global Muslim community, a particular responsibility of addressing the issues of climate change lies on the shoulders of the Muslim leaders. For these reasons the report has focused on this group of people. Our empirical research has shown that the Muslim leaders are quite well aware of the existence of climate change and the problem is not new to them. Almost half of them indicate that the climate change is substantially harming people already and that some of the most worrying consequences include weather anomalies and rise of temperatures. For majority of respondents climate change is largely a man-made phenomenon with natural processes playing only a small role in it.

The majority of the surveyed Muslim leaders believe that the effects of the climate change may eventually lead to the end of the human existence on the Earth. They are in favour of radical steps being taken in order to address at least some of the issues linked with climate change. A significant number of respondents are in favour of raising taxes on heavy polluters. They clearly see a role to be played in the fight with causes and consequences of the climate change not only by international organisation and state governments, but also by every person on the Earth.

A particularly important role, according to respondents, can be played by Islam. They see their religion as a powerful source of solutions to help preserving the Earth and address the problems

of climate change. At the same time almost one-third of respondents think that Muslim leaders do not adequately address the issues related to climate change in communication with their congregations. The vast majority thinks that the Muslim leadership should be more involved in activities related to climate change mitigation. Particularly powerful Muslim organisations and Ministries of Religious Affairs in Muslim majority countries (e.g. Egyptian Al-Azhar or Turkish Diyanet) could consider developing policies to educate their leaders about the climate change and encourage them to address these issues in their preaching and teaching.

Enhancing the knowledge of the leaders about the climate change and empowering them in addressing various dimensions of the problem could be especially important as the world becomes more religious and Muslim communities register some of the most rapid levels of growth (Stonawski et al., 2015). A more religious planet will be more environmentally friendly only if people fully comprehend their role of “custodians of the Earth” and see the signs of God in nature and ecological balance.

## References

- Ahmad, Isham Pawan "Islamic Ethics for Sustainable Development and Developing Social Conscience: An Islamic Response to the Challenge of Ecology Today, Al-ITQAN, Special Issue, October 2018, 49-61
- Agadjanian, V., Yabiku, S. T., & Fawcett, L. (2009). History, Community Milieu, and Christian-Muslim Differentials in Contraceptive Use in Sub-Saharan Africa. *Journal for the Scientific Study of Religion*, 48(3), 462–479. <https://doi.org/10.1111/j.1468-5906.2009.01460.x>
- Allen, M. R., Barros, V. R., Broome, J., Cramer, W., Christ, R., Church, J. A., Dubash, N. K. (2014). IPCC fifth assessment synthesis report-climate change 2014 synthesis report.
- Arnall, A., & Kothari, U. (2015). Challenging climate change and migration discourse: Different understandings of timescale and temporality in the Maldives. *Global Environmental Change*, 31, 199-206.
- Arweck, E., & Nesbitt, E. (2011). Religious education in the experience of young people from mixed-faith families. *British Journal of Religious Education*, 33(1), 31-45. doi:10.1080/01416200.2011.523520
- Badran, M. (1996). *Feminists, Islam, and Nation: Gender and the Making of Modern Egypt*. Princeton University Press.
- Barker, D. C., & Bearce, D. H. (2013). End-times theology, the shadow of the future, and public resistance to addressing global climate change. *Political Research Quarterly*, 66(2), 267–279.
- Beck, U. (2010) Climate for Change, or how to create a green modernity? *Theory, Culture and Society* 27, no. 2–3: 254
- Berglund, B. R., & Porter, B. A. (2010). *Christianity and modernity in Eastern Europe: Central European University Press*.
- Bergstrom, R., Caddell, R. A., Chynoweth, M. W., Ellsworth, L. M., Henly-Shepard, S., Iwashita, D. K., Miller, K. (2013). A review of solutions and challenges to addressing human population growth and global climate change. *International Journal of Climate Change: Impacts & Responses*, 4(3).



- Bush, R., Fountain, P., & Feener, R. M. (2015). Religious actors in disaster relief: An introduction. *International Journal of Mass Emergencies & Disasters*, 33(1).
- Cannon, T. (2015). Disasters, climate change and the significance of 'culture'. *Cultures and Disasters: Understanding Cultural Framings in Disaster Risk Reduction*, 88.
- Carle, J. (2015). Climate change seen as top global threat. *Pew Research Centre*, 14.
- Chan, K. M., Guerry, A. D., Balvanera, P., Klain, S., Satterfield, T., Basurto, X., . . . Halpern, B. S. (2012). Where are cultural and social in ecosystem services? A framework for constructive engagement. *BioScience*, 62(8), 744-756.
- Dasgupta, P., & Ramanathan, V. (2014). Pursuit for the Common Good. *Science*, 345(6203), 1457–1458.
- Denscombe, M. (2003). *The Good Research Guide: for small-scale social research project*. Philadelphia: Open Society Press.
- Diamond-Smith, N., Smith, K. R., & Hodoglugil, N. N. S. (2011). Climate change and population in the Muslim world. *International Journal of Environmental Studies*, 68(1), 1-8. doi:10.1080/00207233.2010.537053
- Ecklund, E. H., Scheitle, C. P., Peifer, J., & Bolger, D. (2017). Examining links between religion, evolution views, and climate change scepticism. *Environment and Behaviour*, 49(9), 985-1006.
- Esposito, J. (2003). *Modernizing Islam: Religion in the Public Sphere in the Middle East and in Europe*: Rutgers University Press. London: Hurst and Company
- Farrag, D. A., & Hassan, M. (2015). The influence of religiosity on Egyptian Muslim youths' attitude towards fashion. *Journal of Islamic Marketing*, 6(1), 95-108.
- Gauthier, F., & Martikainen, T. (2013). *Religion in consumer society: Brands, consumers and markets*: Ashgate Publishing, Ltd.
- Gerten, D., & Bergmann, S. (2011). *Religion in environmental and climate change: Suffering, values, lifestyles*: Bloomsbury Publishing.
- Glaab, K., & Fuchs, D. (2018). Green faith? The role of faith-based actors in global sustainable development discourse. *Environmental Values*, 27(3), 289-312.

- Green Ramadan.com, (website) <http://greenramadan.com> (20.11.2018)
- Green Deen South Africa (website). <http://greendeensa.org> (20.11.2018)
- GreenFaith (website). <http://www.greenfaith.org> (20.11.2018)
- Hajj, M., & Panizza, U. (2009). Religion and education gender gap: Are Muslims different? *Economics of Education Review*, 28(3), 337–344. <https://doi.org/10.1016/j.econedurev.2008.01.007>
- Haq, S. M. A., & Ahmed, K. J. (2017). Does the perception of climate change vary with the socio-demographic dimensions? A study on vulnerable populations in Bangladesh. *Natural Hazards*, 85(3), 1759-1785.
- Hulme, M. (2017). Climate Change and the Significance of Religion. *Economic and Political Weekly*, LII(28), 14–17.
- Idler, E. L. (2011). Religion and adult mortality: Group- and individual-level perspectives. In R. G. Rogers & E. M. Crimmins (Eds.), *International handbook of adult mortality* (pp. 345-377): Springer Netherlands.
- Jafari, A., & Sandıkçı, Ö. (2015). Islamic ‘consumers, markets, and marketing: A critique of el-bassiouny’s (2014)“the one-billion-plus marginalization. *Journal of Business Research*.
- Jenkins, W., Berry, E., & Kreider, L. B. (2018). Religion and climate change. *Annual Review of Environment and Resources*, 43, 85-108.
- Kashyap, R., & Lewis, V. A. (2012). British Muslim youth and religious fundamentalism: A quantitative investigation. *Ethnic and Racial Studies*, Online first, 1-24. doi:10.1080/01419870.2012.672761
- Khaleafa.com, “Green Khutba: Awakening Our Stewardship Responsibility Through Action.” <http://www.khaleafa.com/green-khutbah-campaign/>. (20.11.2018)
- Khamis, S., & Mili, A. (Red.). (2017). *Arab Women’s Activism and Socio-Political Transformation: Unfinished Gendered Revolutions* (1st ed. 2018 edition). Palgrave Macmillan.
- Khatib, F. A., & Shafagoj, Y. A. (2004). Metabolic alterations as a result of Ramadan fasting in non-insulin-dependent diabetes mellitus patients in relation to food intake. *Saudi Medical Journal*, 25(12), 1858-1863.

- Kortt, M. A., & Dollery, B. (2014). Religion and BMI in Australia. *Journal of religion and health*, 53(1), 217-228. doi:10.1007/s10943-012-9621-x
- Levy, A., Mohamed, A., Islam, R., Myrzakhmetova, A., Galasso, V., Choi, H., Zinoun, K. (2015). The big question what is your country's biggest fear for its future? *World Policy Journal*, 32(1), 3-11.
- Leyva, B., Allen, J. D., Tom, L. S., Ospino, H., Torres, M. I., & Abraido-Lanza, A. F. (2014). Religion, fatalism, and cancer control: A qualitative study among Hispanic Catholics. *American journal of health behaviour*, 38(6), 839.
- Lorenzoni, I., & Pidgeon, N. F. (2006). Public views on climate change: European and USA perspectives. *Climatic Change*, 77(1-2), 73-95.
- Mach, K. (2017). Ipcc climate assessment and its impacts on environmental policy. Paper presented at the 2017 AAAS Annual Meeting (February 16-20, 2017).
- Martin, D. (2012). God's century: Resurgent religion and global politics. *Politics, Religion & Ideology*, 13(3), 395-396. doi:10.1080/21567689.2012.704289
- McClendon, D., Hackett, C., Potančoková, M., Stonawski, M., & Skirbekk, V. (2018). Women's education in the Muslim world. *Population and Development Review*, 44(2), 311-342.
- McCullough, M. E., Hoyt, W. T., Larson, D. B., Koenig, H. G., & Thoresen, C. (2000). Religious involvement and mortality: A meta-analytic review. *Health Psychology*, 19(3), 211-222. doi:10.1037/0278-6133.19.3.211
- Meadows, D.H., Meadows, D.L., Randers, J., Behrens, W.W. (1974). *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, Universe Books.
- Meadows, D.H., Meadows, D.L., Randers, J. (1992). *Beyond the limits: global collapse or a sustainable future*, Earthscan Publications Ltd.
- Min, P. G., & Kim, D. Y. (2005). Intergenerational transmission of religion and culture: Korean protestants in the US. *Sociology of Religion*, 66(3), 263-282. doi:10.2307/4153099
- Morrison, M., Duncan, R., & Parton, K. (2015). Religion does matter for climate change attitudes and behaviour. *PloS one*, 10(8), e0134868.

- Orlove, B., Lazrus, H., Hovelsrud, G. K., & Giannini, A. (2015). How long-standing debates have shaped recent climate change discourses. *Climate Cultures: Anthropological Perspectives on Climate Change*, 48.
- Pachauri, R. K., Allen, M. R., Barros, V. R., Broome, J., Cramer, W., Christ, R., Dasgupta, P. (2014). *Climate change 2014: Synthesis report. Contribution of working groups i, ii and iii to the fifth assessment report of the intergovernmental panel on climate change: IPCC.*
- Pascual-Ramsay, Á. (2015). Global risks and EU businesses. *The Global Context*, 10.
- Peifer, J. L., Khalsa, S., & Howard Ecklund, E. (2016). Political conservatism, religion, and environmental consumption in the United States. *Environmental Politics*, 25(4), 661-689.
- Posas, P. J. (2007). Roles of religion and ethics in addressing climate change. *Ethics in Science and Environmental Politics*, 2007, 31-49.
- Quran quotations after [www.quran.com](http://www.quran.com) (accessed 20.10.2018)
- Ruane, J. M. (2005). *Essential of Research Methods*. Oxford: Blackwell.
- Sachs, J.D. (2015). *The age of sustainable development*. Columbia University Press.
- Schnall, E., Wassertheil-Smoller, S., Swencionis, C., Zemon, V., Tinker, L., O'Sullivan, M. J., Goodwin, M. (2010). The relationship between religion and cardiovascular outcomes and all-cause mortality in the women's health initiative observational study. *Psychology & Health*, 25(2), 249-263. doi: 10.1080/08870440802311322
- Schimmel, A. (1994) *Deciphering the Signs of God: A Phenomenological Approach to Islam*. Sunny Press, New York
- Schwencke, Anne Marieke. *Globalized Eco-Islam: A Survey of Global Islamic Environmentalism*. Final report to Leiden University Fund pilot study, 2012. Leiden Institute for Religious Studies (LIRS), Leiden University. <http://media.leidenuniv.nl/legacy/report-globalized-eco-islam-a-survey-schwencke-vs-24-february-2012-pdf> (20.11.2018)
- Shafaat, Ahmad. "Ecology and the Teachings of the Prophets Muhammad and Jesus." *Islamic Perspectives*, 1999. <http://www.islamicperspectives.com/Ecology.htm>. (20.11.2018)
- Smith, T. (2012, 2012). Public attitudes towards climate change and other global environmental issues across time and countries, 1993-2010. Paper presented at the "Policy Workshop:

Public Attitudes and Environmental Policy in Canada and Europe, Canada-European Transatlantic Dialogue,” at Carleton University in Ottawa, Canada.

Stoll-Kleemann, S., & Schmidt, U. J. (2017). Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: A review of influence factors. *Regional Environmental Change*, 17(5), 1261-1277.

Stonawski, M., Potančoková, M., Cantele, M., & Skirbekk, V. (2016). The changing religious composition of Nigeria: Causes and implications of demographic divergence. *The Journal of Modern African Studies*, 54(03), 361-387.

Stonawski, M., Skirbekk, V., Hackett, C., Potančoková, M., Connor, P., & Grim, B. (2015). Global population projections by religion: 2010–2050. *Yearbook of International Religious Demography* 2015, 101.

Veldman, R. G., Szasz, A., & Haluza-DeLay, R. (2013). 19 climate change and religion as global phenomena. *How the World's Religions are responding to Climate Change: Social Scientific Investigations*, 297.

Watts, J. (2018) We have 12 years to limit climate change catastrophe, warns UN. *Guardian* 08.10.2018 available <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report> (accessed 30.10.2018)

Wisner, B. (2010). Untapped potential of the world's religious communities for disaster reduction in an age of accelerated climate change: An epilogue & prologue. *Religion*, 40(2), 128-131.

## Data sources

Afrobarometer. (2016/18). Led by the Centre for Democratic Development, the Institute for Democracy in South Africa and the Institute for Empirical Research in Political Economy, <http://www.afrobarometer.org>.

Global Attitudes Survey. (2015). Pew Research Center's Global Attitudes Project. <http://pewglobal.org/datasets/>

World Values Survey (1995-2009). Values Survey Database – Wave 3-5, World Values Survey Association,. <http://www.worldvaluessurvey.org/>.

Life in Transition Survey II. (2010). European Bank for Reconstruction and Development, Life in Transition Survey II: After the crisis. <http://www.ebrd.com>