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Regional Report on

Knowledge for Youth-Led Climate Action in the Arab region

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SHORT SUMMARY

Knowledge is at the heart of active youth engagement in climate action

Youth in the Arab region have joined the global movement **to address climate change** across multiple sectors. At the heart of their work are knowledge processes in which youth engage to obtain, create, and share information about climate change.

This pioneering report, which brings together quantitative and qualitative data, covering 19 countries in the Arab region, provides a glance at who youth climate actors in the Arab region are and offers an in-depth understanding of the knowledge dimension of their climate action.

It presents an analysis of where youth are **sourcing knowledge** on climate change, the knowledge they are producing, and how they are **disseminating information** and **creating impact**; and sheds light on the opportunities and challenges youth experience, such as the need for localized knowledge from the region as well as skills development training.

Most importantly, it provides **Recommendations on how to enhance the knowledge ecosystem** and invites governmental, private, and civil society stakeholders and youth networks to implement them for a better future.

68%

of Arab youth climate actors are driven by a sense of responsibility towards future generations

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"Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed"

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FOREWORD

The world today is facing a crisis as global climate change is impacting all of us in unprecedented ways. As a result, I am pleased to present this extremely timely regional report titled The Regional Report on Knowledge for Youth-Led Climate Action in the Arab Region. We are at a critical juncture and the region has a promising opportunity for taking a leadership role as COP27 and COP28 will be held in Egypt and the United Arab Emirates, respectively. I believe this informative and important Regional Report helps us understand the needs of youth who are the main actors and beneficiaries of the future in the Arab region as they collectively face and combat climate change in their respective countries and communities.

We have seen youth from around the world calling on all stakeholders to tackle the climate crisis. At the heart of their movement is a growing awareness of core issues and challenges as youth's increasing knowledge of the causes, effects, scientific underpinnings and consequences in this field is driving their commitment to tackling climate change. It is imperative that they are provided with the appropriate resources, tools and support to continue to enhance their capacities for transformative change.

Through this Regional Report, UNESCO Cairo has spearheaded a pioneering study that examines the intersection between youth-led climate action and knowledge, which is at the core of informing youth activities. This Regional Report aims to kick-start a regional, and ultimately inter-regional, conversation about the opportunities and challenges that youth climate actors experience in obtaining, producing, and disseminating knowledge on climate change. The Regional Report also aims to highlight the important knowledge contributions that are already being made by youth climate actors in the Arab region. It concludes by providing recommendations for increasing their contributions at both the regional and global levels.

Through this initiative UNESCO aims to call on all partners, including governments, universities, research institutions, civil society, and all other relevant stakeholders in the Region to come together in fostering an environment that supports youth's climate action activities.

We aim for this Regional Report to be helpful for all youth who work in this space as well as those who support their activities and efforts. We look forward to continuing the discussion to further support youth's needs in obtaining and producing knowledge on climate change, providing them with an enabling environment to actualize their climate action activities, and finding avenues of cooperation to advance their role and leadership in this critical issue.

Through this initiative UNESCO aims to call on all partners, including governments, universities, research institutions, civil society, and all other relevant stakeholders in the Region to come together in fostering an environment that supports youth's climate action activities.

Dr. Nuria Sanz
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ACRONYMS

AYSDN	Arab Youth Sustainable Development Network
AYCH	African Youth Climate Hub
AYCM	Arab Youth Climate Movement
CAN-AW	Climate Action Network – Arab World
COY	Conferences on Youth
FGD(s)	Focus group discussion(s)
Joint Framework Initiative	UN Joint Framework Initiative on Children, Youth and Climate Change
MENA	Middle East and North Africa
MYCM	Mediterranean Youth Climate Movement
NDCs	Nationally Determined Contributions
R&D	Research and development
RIM	Republic Islamic of Mauritania (RIM) Youth Climate Movement
SDGs	Sustainable development goals
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
YAG	Youth Advisory Group
YWG	Youth Working Group
YoU-CAN	Youth UNESCO Climate Action Network

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The *Regional Report on Knowledge for Youth-Led Climate Action in the Arab Region* is a pioneering study in the field of youth climate action, which has increasingly been on the rise worldwide. Youth in the Arab region have joined this global movement and are active in different sectors such as academia, activism, entrepreneurship and other fields. At the heart of their climate action is the knowledge processes in which they engage in order to obtain, create and share information about climate change issues taking place at the community, national, regional and global levels.

The objective of the regional report is to shed light on the knowledge dimension of youth-led climate action in the Arab region as it motivates and informs youth engagement. The report presents the voices of youth climate actors between the ages of 18 and 35 across the Arab region. It is based on 406 survey responses from youth climate actors as well as focus group discussions and 77 interviews with additional youth actors and other climate action stakeholders in the Arab region.

The report provides an initial understanding of the knowledge processes that youth climate actors in the Arab region undertake. It has two main outcomes: 1) it introduces a definition for a youth climate actor in the Arab region, which was previously not available, and 2) it provides an initial understanding of the knowledge dimension of their climate action. The latter includes **knowledge sourcing:** the sources of knowledge that youth utilize to obtain information about climate change and the challenges and information gaps they encounter in this process; **knowledge production:** the types of knowledge youth produce in the climate change field; and **knowledge dissemination and use:** the digital and non-digital avenues youth utilize to distribute knowledge and the ways in which they use this information.

The report is organized into six sections that address key thematic areas. **Section I** provides background about the state of youth climate action in the Arab region and its theoretical underpinnings. It also provides an overview of the methodology that informs the report in addition to offering a review of the literature related to the report topic. **Section II** defines and introduces youth climate actors in the Arab region based on their own self-identification. It also provides an overview of their main demographics and characteristics. **Sections III and IV** address the main questions of the report by examining knowledge sourcing, knowledge production and knowledge dissemination. They also examine the use and impacts of that knowledge. Finally, **Section VI** provides concluding remarks and offers key recommendations for relevant stakeholders to consider in the short, medium and long term in order to support youth's knowledge and initiatives in the climate action space.

The report yields a number of core findings:

- **Youth climate action is on the rise.** There is a growing number of youth who are engaging in the climate action space in the Arab region. As this region is one of the most vulnerable to climate change, this study found that youth climate actors are motivated by a sense of urgency and responsibility for current and future generations, especially in their communities. Youth-led climate action is inviting activists, academics, researchers and, increasingly, entrepreneurs, journalists, artists as well as health professionals to work towards combatting climate change. Several regional networks have also been established to mobilize youth climate action such as the Arab Youth Climate Movement and the Climate Action Network-Arab World.

- **Youth utilize diverse digital and non-digital knowledge sources.** Youth climate actors in the region are engaging with climate change knowledge at different levels and utilize various sources to obtain their information. Fifty-four per cent of youth climate actors report that conferences and training workshops are their preferred source of information, followed by 51 per cent of youth who reported social media as their preferred source. During the COVID-19 pandemic, youth benefitted from the increased access to virtual conferences and events. Lack of access to quality information and data on climate change is a challenge for youth.

- **Youth are increasingly producing knowledge in the climate action space.** Youth climate actors are producing knowledge products across multiple sectors such as academia, activism, government/policy, the arts and fashion, journalism, cultural heritage, health, and others. While some youth are producing doctoral dissertations and master's theses on climate change-related topics, others are creating campaign caravans with awareness brochures, climate change primers through books or digital platforms, YouTube videos, and regional reports. Some youth are also significantly contributing to the development of national-level policies, strategies and frameworks, in addition to many other knowledge products.

- **Social media plays a critical role in youth's knowledge processes**. The report findings showed that youth climate actors in the Arab region utilize social media and other digital platforms, not just for knowledge dissemination but also as a key knowledge source and product. Fifty per cent of youth climate actors consider social media posts about their personal observations and analyses or translation of existing data, and other types of posts, as a form of knowledge product. Reliance on social media posts could be attributed to youth experiencing challenges with what they feel is a limited enabling environment for their knowledge production, including sponsorship, funding, and mentorship opportunities.

- **Youth value the benefits of digital and non-digital avenues to disseminate knowledge.** In line with global trends, the study also demonstrated youth's reliance on digital platforms and avenues to disseminate and share knowledge. However, youth climate actors continue to value the benefit of non-digital avenues, which are among their top five modes of dissemination. They believe that non-digital platforms provide an opportunity to reach people who do not have regular access to the Internet, simplify concepts that otherwise may be too scientific to many people, and provide an opportunity for interaction and discussion.

- **Youth are demanding the production of more local and contextualized knowledge on climate change.** One of the main challenges, if not the main challenge, that youth report is a lack of locally produced knowledge originating from the Arab region that reflects the region's realities and needs. Youth climate actors are having difficulty finding reliable and contextualized data that speak to their communities' realities and believe this is a priority area that will need to be addressed.

- **Language is a critical issue in youth climate action in the Arab region.** Seventy-seven per cent of youth reported that they find information about climate change from English-language sources. As mentioned above, further analysis shows that this is attributed to youth's challenges in identifying local sources from the region. However, 70 per cent of youth reported that they produce their knowledge products in Arabic. Youth report that the language in which they chose to produce is based on the impacts they aim to create and the audience they aim to reach. For those who are working at the community level, knowledge production in the local language is necessary to reach

their communities. Moreover, youth reported that an Arabic lexicon of climate change terminology does not exist, which creates inconsistencies in the translation of terms between languages. For this reason, a specialized vocabulary for climate change in the Arabic language is needed.

- **Youth climate actors are eager to make changes in their communities.** Across the region, 80 per cent of youth climate actors reported that their primary reason for sourcing, generating, and disseminating climate change knowledge is to spread awareness in their communities in order to take action collectively. Local organizations are being established to address climate action, and youth are usually involved in spearheading activities.

- **Youth climate actors call on all policymakers and stakeholders to facilitate their ability to contribute to addressing climate change.** Youth are asking to be more actively included in policy and decision-making on climate change. While they aim to be part of the solution, they also want all stakeholders to support knowledge processes and ecosystems that will provide youth with a platform to meaningfully and effectively respond to climate change in the Arab region.

Through studying the knowledge dimension, UNESCO Cairo aims to begin a conversation on youth's knowledge needs and what areas require further examination to support youth in their efforts and initiatives in this critical matter. The report provides several recommendations based on an analysis, as well as inputs from youth climate actors, of measures that should be prioritized around knowledge and youth-led climate action in the Arab region. A summary of these 12 recommendations is as follows:

1. Regular communication with youth groups and associations to learn about their perspectives, experiences and needs *(short-term)*
2. Encourage academic and non-academic climate actors through utilizing and promoting their work *(short-term)*
3. Create cross-regional opportunities between youth in the Arab region *(short-term)*
4. Provide skills development training opportunities in climate change, research and advocacy as well as mentorship and learning exchange opportunities *(short-term)*
5. Create an Arabic-language lexicon, written and audio sources, on climate change *(short-term)*
6. Create an education and climate change policy-level agenda, where relevant *(medium-term)*
7. Review of curricula at the primary, intermediary, and secondary levels to examine existence of climate change studies and take steps towards its integration in school curricula *(medium-term)*
8. Review of higher education institutions' offerings to determine whether climate change studies programs exist and create a plan to establish such programs, if need be *(medium-term)*
9. Support the development of environmental journalism in print and web-based media *(medium-term)*
10. Establish country-level networks to encourage learning exchanges and cross-sectoral collaboration *(medium-term*)
11. Prioritize and invest in research and development in the field of climate change in the Arab region *(long-term)*
12. Create an enabling environment that fosters the role of youth climate actors and youth-led organizations in the field of climate change *(long-term)*

Section One:

INTRODUCTION

I. INTRODUCTION

1.1 SETTING THE STAGE

Climate change is one of the most critical issues impacting the globe today. The Arab region is one of the most vulnerable places for climate change in the world[1]. The results of UNESCO's World in 2030 Public Survey Report, which surveyed over 15,000 citizens from around the world, presents a clear mandate to the global community: act on climate change as well as on biodiversity loss[2]. Climate change is taking place at an unprecedented rate in the Arab region[3]. Its effects are being further exacerbated by the region's ongoing wars, conflicts, political strife, and economic instability. Today, whether it is directly observed or not, climate change has emerged as one of the most significant drivers of change in the region[4]. The Arab region has witnessed cycles of drought, which have contributed to famine and food insecurity, loss of livelihoods and lives, and the displacement of millions. The region also suffers from water scarcity and temperatures that have been rising faster than the global average. By 2030, climate change is threatening to reduce food and water productivity by a further 20 per cent[5]. Social and economic vulnerabilities are increasing with growing rates of resource insecurity while communities are being displaced as they are on the move to secure their livelihoods[6]. Therefore, communities are feeling the impacts of climate change in their daily lives, as it threatens their natural environments and livelihoods, fuels or worsens conflicts, forces migration flows that are induced by desperation, and impacts the physical and mental health of people.

Over the past several decades, intergovernmental, governmental and non-governmental organizations as well as non-state actors have been addressing climate change in multiple ways and at different levels. Civil society organizations, individual citizens and the private sector have also been joining and complementing international efforts to combat climate change, both locally and globally[7].

In 1992, the United Nations Conferences on Environment and Development, and the subsequent Agenda 21, nine major groups were identified to achieve the sustainable development goals (SDGs), including youth[8]. The United Nations (UN) system recognized the important role that youth play in combatting climate change and began engaging with youth-led and youth-focused organizations around the world through the establishment of the UN Joint Framework Initiative on Children, Youth and Climate Change (Joint Framework Initiative) in 2008[9]. Since 2008, the secretariat of the UN Framework Convention on Climate Change (UNFCCC) has been engaging 16 intergovernmental entities and many youth organizations around the globe to act on climate change and enhance their policy decision-making processes in climate change issues[10]. In 2009, youth participation in UN climate change initiatives reached such a level that UNFCCC established an official constituency for youth NGOs called YOUNGO[11].

[1] UNDP and GEF. Climate Change Adaptation in the Arab States: Best practices and lessons learned, 2018. Foreword by Mourad Wahba. https://www.undp.org/publications/climate-change-adaptation-arab-states
[2] UNESCO. The World in 2030: Public Survey Report. 2021, page 6
[3] UNDP and GEF, Foreword by Mourad Wahba
[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Heejin Han and Sang Wuk Ahn. Youth Mobilization to Stop Global Climate Change: Narratives and Impact. Published by MDPI and sustainability. 18 May 2020, page 1
[8] Ibid, page 1
[9] UNFCCC. United Nations Joint Framework Initiative on Children, Youth and Climate Change (JFI).
Available at: https://unfccc.int/topics/education-youth/education-and-youth-partnerships/partnerships
[10] Ibid.
[11] YOUNGO History. Available at: http://www.youngo.uno/

Youth from across the Arab region have joined YOUNGO efforts, especially through the Conferences on Youth (COY), including local COYs, which have been organized in past years in countries such as Egypt, Palestine, and the United Arab Emirates[12]. Meanwhile, several UN organizations have multiple programs that support youth's commitment and engagement to climate change issues on national, regional, and global levels, including the UNESCO Youth Climate Action Network (YoU-CAN)[13]. As this report was being written, leaders from around the world met in COP26 in Glasgow, Scotland, to discuss the present and future of climate change around the globe. Youth were partaking in the discussions and providing their own perspectives and recommendations. Whether in COP forums or local activities on the ground, youth around the globe have been speaking out and demanding meaningful change.

In interviews with youth throughout the Arab region, in urban, rural, coastal and desert areas, respondents shared stories from their communities. While these communities may not necessarily be utilizing scientific terms to explain the causes and effects of climate change, they are witnessing the changes with their own eyes and feeling its adverse impacts in their daily lives. At varying degrees Arab countries are developing policies and taking actions to address climate change, influenced in part by the advocacy of civil society organizations in the region, a number of which are youth-led. Youth activists, researchers, journalists and other youth climate actors in the Arab region are contributing to designing and driving innovative bottom-up solutions to reduce climate change impacts, raising awareness, and building resilience in communities. While there was a time when climate action in the Arab region context was weak in terms of advocacy and awareness, the situation has changed for the better[14].

Previously, there was little attention given to climate change amongst civil society organizations, while the political instability and wars across the region have contributed to making it challenging to prioritize climate change issues. A change in awareness took place after Qatar hosted COP18 in 2012. One of the largest climate change awareness and advocacy groups, Arab Youth Climate Movement (AYCM) in the region, was formed as a result, which had 15 active chapters throughout the Arab region[15]. AYCM was co-founded by youth from different countries. Together, they invited 22 youth from across the region to participate in a meeting to lay out the mission and vision of AYCM. Today, several of these youth have grown to become specialists on climate change issues in the region, including being invited to attend and actively participate in COP[16]. Currently, AYCM's chapters are operating at different levels. However, despite these increased efforts, some youth argue that still not enough young people are prioritizing climate change in the Arab region, considering the political and socio-economic challenges they are facing in their countries. This can be seen in the low number of climate strikes being organized by youth across the region[17]. At the same time, this should be put in the context of the Arab region, where activists and campaigners have usually faced tight restrictions on protesting. This may change, however, as there are indications that environmental activism, especially youth-led activism, is on the rise and that climate change is becoming a part of campaign agendas[18].

[12] LCOYs established in 2020. Available at: https://www.lcoy.earth/lcoys-2020
[13] For more information about YoU-CAN, please visit: https://en.unesco.org/youth/you-can
[14] Neeshad Shafi. The Arab world's best weapon against climate change? Its young people. 18 Jan 2019. Available at: https://www.weforum.org/agenda/2019/01/the-arab-worlds-best-weapon-against-climate-change-its-youth/
[15] Ibid.
[16] Interview with Moussa Sall, 21 April 2021
[17] Bandaly El-Issa. Why Arab Youth Are Shying Away from Climate Activism and How to Engage Them. 15 April 2020. Available at: https://mena.fes.de/press/e/why-arab-youth-are-shying-away-from-climate-activism-and-how-to-engage-them/
[18] Climate Outreach in partnership with Climate Action Network – Arab World (CAN-AW), Earth Hour Tunisia, Republic Islamic of Mauritania (RIM) Youth Climate Movement, and Greenish. Communicating climate change in Tunisia, Egypt and Mauritania with lessons for North Africa and the Levant Region: a global narratives project. Section: About this project. April 2021, page 13

Recognizing the growing number of youth and youth networks participating in the climate action field in the Arab region, UNESCO Cairo organized a preliminary e-consultation with youth climate actors from the region on their knowledge needs in June 2020[19]. Attended by approximately 50 youth nominated by Arab States, the consultation confirmed the need to examine the knowledge dimension of youth climate action in the region. As a follow-up to this consultation, UNESCO Cairo embarked on developing the *Regional Report on Knowledge for Youth-Led Climate Action in the Arab Region*, which examines the knowledge dimension of youth-led climate action.

At the heart of youth-led climate action is knowledge, an important factor for the success of youth's efforts. The active engagement of youth in climate action and their effective participation in climate decision-making depend on their ability to access, create and disseminate relevant climate knowledge. Youth source scientific knowledge and other types of information to build advocacy narratives and design interventions that address climate change. Youth also generate climate-related knowledge in the form of academic and non-academic material. Finally, youth transmit knowledge as part of awareness-raising campaigns and other actions using a multitude of communication means, notably digital and social media platforms. The youth targeted in this report are introduced in the following sections as are the report objectives.

1.2 SCOPE OF THE REPORT

This report was designed to reach out to youth who are active in climate action in the Arab region and who self-identify as **youth climate actors**. For the purposes of this report, **youth climate action** means the academic and non-academic engagement of youth in climate change issues and **youth climate actors mean youth between the ages of 18 and 35 who are engaged in climate action activities at any level (i.e. work, volunteering, or study) or are in some way active in the climate action space in the region and self-identify as such. Youth climate actors could be activists, academics, researchers, entrepreneurs, journalists, artists, and/or other contributors** whose level of engagement in the field is not defined. In fact, the first step in the report process was to develop an understanding of the backgrounds of these youth climate actors before exploring the knowledge dimension of their work and activities.

Limited publications and research studies could be found about youth climate actors and action in the Arab region. Online searches generated some articles about youth's engagement in the region as well as initiatives from different UN agencies and international organizations. Searches on social media platforms, especially Facebook (Meta), also generated information about regional networks, youth associations, and civil society organizations that are working in the climate action space. However, as far as could be determined, a study that captured a background about youth climate actors in the region was not available. The level and type of youth climate action that exists in the Arab region had to be discovered and defined as part of the report's development process.

As mentioned above, youth were defined as individuals between the ages of 18 and 35 to reflect the socio-economic experiences of younger populations in the Arab region. The report did not include school-age youth in middle or high school as that would have significantly expanded the scope of the research initiative. In terms of youth's countries of origin, the regional report included youth who live and work

[19]The report of the UNESCO Cairo e-consultation can be found here (available in Arabic only)

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in the region, including those who are not citizens of Arab countries. The report acknowledges the diversity of young people who study, work, and live in the region. Very importantly, the terms "youth" and "young people" are used to describe the profile of the target group of this report rather than implying to speak on behalf of youth as a homogenous group.

The 19 countries covered in this report are those that fall under the purview of UNESCO Cairo: Algeria, Bahrain, Egypt, Iraq, Kuwait, Jordan, Lebanon, Libya, Mauritania, Morocco, the Kingdom of Saudi Arabia (KSA), Palestine, Sudan, the Sultanate of Oman, Syria, Tunisia, the United Arab Emirates (UAE), Qatar, and Yemen.

There are two important points of consideration as related to geography: for Arab states that are in Africa, youth could be participating in activities that are within the context of the Arab region as well as the context of the African continent and, therefore, they would be drawing on their shared experiences in their responses, keeping in mind that youth climate action activities stemming out of the Arab region and out of the African continent may be different and have their own sets of specificities. Furthermore, the differences in each of the Arab region's 19 states' social, economic, and political experiences contribute to how youth from different countries respond. However, in many cases youth climate actors do share common challenges and aspirations. This report does not break down data either by country or by sub-region. As it is a regional report, it presents data on a regional level. However, due to the variances of experiences in the Arab region, it would be important to further examine the nuances and specificities of the report's topic in each country as part of future studies.

1.3 REPORT OBJECTIVE AND QUESTIONS

The objective of the regional report is to analyze the knowledge dimension of youth climate action in the Arab region by examining three main areas:

KNOWLEDGE SOURCING:	Where do youth climate actors in the Arab region source knowledge and how? What challenges do they face in accessing knowledge (including issues of quality and relevance of knowledge)? What information gaps do they face?
KNOWLEDGE PRODUCTION:	What types of knowledge do youth climate actors in the Arab region generate (e.g. scientific, economic, social, policy-driven etc.; climate change adaptation, climate change mitigation?) What are the focus areas/themes? How collaborative and multi-disciplinary are the knowledge generation processes?
KNOWLEDGE DISSEMINATION:	What modes of knowledge dissemination do youth climate actors in the Arab region favor? What use are they making of digital and non-digital spaces? How successful are they in reaching policymakers and the general public? Do they change/simplify climate change knowledge to be more accessible to the general public? How do youth use the knowledge that they source and generate?

There are areas of overlap in the definitions of knowledge sourcing, generation, and dissemination. In this report, data on these topics will be placed in the section to which it is most relevant, and notes will be made to other sections where the data may also be relevant.

1.4 FRAMING KNOWLEDGE ON THE REGIONAL REPORT TOPIC

1.4.1 Theoretical Framework

This report examines knowledge processes (i.e., sourcing, production, dissemination) in and of themselves within the youth climate action space. This report does not examine youth's understanding of climate change concepts and definitions. Rather, it studies how youth formulate and obtain knowledge and how they contribute to knowledge in the field. Youth climate actors in the Arab region have various ideas about the meaning of the knowledge dimension of their work. At the outset, many youth understood the report topic to mean the extent of their knowledge/information/education in the field of climate change. When explaining that the topic is examining how they obtain knowledge and what knowledge they generate, many of them started to ponder these questions as they related to their work, including the academic/scientific and non-academic/non-scientific nature of their knowledge processes.

This report looks at a broad and open definition of knowledge rather than a purely scientific and academic understanding of the concept. Knowledge in the context of this report extends the boundaries beyond operating solely in research or academic settings. It also includes the knowledge spaces and activities of the different types of actors – activists, non-academic researchers, artists, journalists, entrepreneurs, and others – who are operating in the field. It also highlights the transformation of the knowledge sphere in the current digital and technological era where the definition of knowledge maker, producer, and contributor has expanded to include a spectrum of individuals and knowledge spaces.

Digital transformation has created new knowledge spaces and modes of knowledge production that are reaching critical masses and creating an impact faster than any other mode of knowledge in history. To that end, there is growing research about the new role of social media and electronic platforms in knowledge production. Virtual spaces have made it easier for anyone to create and share knowledge in what has become a new age of knowledge production. While this information exists on a wide spectrum of reliability and credibility, it is being transferred at record speed and having significant impacts on people's decision-making and life choices. According to current academic research, social media has become a major platform for people to encounter, search for and share science-related information[20]. For example, in a Pew poll it was found that a third of Americans who actively consume science news consider social media to be an important source[21]. One of the significant points to consider in this report is the circular nature of knowledge production and the interconnectedness of sourcing, production, and dissemination. The digital world especially has created a web of connectivity between these three areas.

[20]Brossard, D and Scheufele, DA. 2013. Science, new media, and the public. Science 339(6115): 40–41. Cited in Kaiping Chen, June Jeon, Yanxi Zhou. A Critical Appraisal of Diversity in Digital Knowledge Production: Segregated inclusion on YouTube. July 4, 2021. New Media & Society, page 2

[21]Funk C, Jeffrey G and Mitchell A. 2017. Science News and Information Today. Pew Research Center. Cited in Kaiping Chen, June Jeon, Yanxi Zhou. A Critical Appraisal of Diversity in Digital Knowledge Production: Segregated inclusion on YouTube. July 4, 2021. New Media & Society, page 2

The report utilizes a broad understanding of knowledge processes that encapsulates academic and non-academic and formal and informal knowledge production in the digital and non-digital realms. The following framework could be utilized to inform how the knowledge dimension of youth climate action is utilized in this report:

> *"Knowledge is produced when people make sense of their world and knowledge is based on their experience as they construct tools, methods, and approaches to cope with the situations facing them […] "*[22].

This report raised a philosophical question about the meaning of knowledge processes in the context of a social movement such as youth climate action. Social movements as well as political, social, and environmental justice activism are important sites of learning and knowledge production[23]. They do not neatly fit under traditional scientific and academic modes of understanding knowledge. According to Italian philosopher Antonio Gramsci, there are two types of activist knowledge production. He references two different groups of intellectuals, the first being "traditional" intellectuals, scholars, and scientists, and the second being "organic" intellectuals who operate as organizers and "permanent persuaders emerging from the grassroots […]."[24] Considering the wide range of youth climate actors, there are those who fit under the academic umbrella as well as those who fall under the non-academic or activist and other type of actors' umbrella by generating different types of knowledge to reach the general public in more persuasive, accessible, and simplified language in order to create the impacts they aim to achieve. This could be understood as "'really useful knowledge' that is produced when people reflect on their experience with each other in ways that generate further insight and understanding into the causes of their conditions, common problems, and struggles and which also enable theories to be developed that are linked to strategies to bring about change[25]." In today's context, there are also many circumstances where these definitions are more fluid, as many academics are also engaged in activist spaces.

Early on in the landscape analysis of assessing youth climate action in the Arab region, it became evident that it is not possible or relevant to apply a strictly scientific or academic approach to knowledge production as part of the research focus. As there are different types of academic and non-academic climate actors as well as various forms of youth climate action, a broader understanding of knowledge is necessary.

Academically, modes 1 and 2 of knowledge production have been introduced in literature. In Mode 1, problems are set and solved in an academic and disciplinary context, while Mode 2 draws on transdisciplinary contributions and on a heterogeneous set of practitioners and society more generally[26]. Although Mode 2 extends the boundaries of academic-based knowledge production, it still employs a peer review process (although not in the strictly academic sense), as well as a quality-control system

[22] Hill, L.H. 1998. From global consciousness to social action: An examination of adult education theory. Proceedings from the annual meeting of Adult Education Resource Council. http://www.edst.educ.ubc.ca/aerc/1998/hill.htm; quoted in Sumner, Jennifer 2003. Cited in Shanbhag, Shilpa. Alternative Models of Knowledge Production: A Step Forward in Information Literacy as a Liberal Art. Library, Philosophy and Practice Vol. 8, No. 2 (Spring 2006)

[23] Kelley 2002, Holst 2002, Choudry/Kapoor 2010, Choudry 2015, and Choudry/Vally 2018 cited in Aziz Choudry, Activist learning and knowledge production in book title: Bewegungen: Beitrage zum 26. Kongress der Deutschen Gesellschaft fur Erziehungswissenschaft. Verlag Barbara Budrich (2020), page 641

[24] Gramsci, Antonio. 1971. Selections from the Prison Notebooks of Antonio Gramsci. New York: International Publishers, page 62 cited in Aziz Choudry, Activist learning and knowledge production in book title: Bewegungen: Beitrage zum 26. Kongress der Deutschen Gesellschaft fur Erziehungswissenschaft. Verlag Barbara Budrich (2020), page 642

[25] Richard Johnson. Really useful knowledge: Radical education and working-class culture, 1790– 1848. In: Clarke, John/Critcher, Charles/Johnson, Richard (Eds.): Working Class Culture – Studies in History and Theory. London: Hutchinson, pp. 75-102 (1979) Cited in Aziz Choudry, Activist learning and knowledge production in book title: Bewegungen: Beitrage zum 26. Kongress der Deutschen Gesellschaft fur Erziehungswissenschaft. Verlag Barbara Budrich (2020), page 642

[26] Michael Gibbons. Mode 2 society and the emergence of context-sensitive science. Science and Public Policy, volume 27, number 3, pages 159-163, June 2000, pages 159-160

(albeit expanded), similar to Mode 1[27]. Some of the knowledge products discussed in this report could fit under Modes 1 and 2. Many of them could fall under a wide interpretation of Mode 2, although some of the products that will be discussed may not be classified within this mode either. Some of the knowledge products discussed in this report could fit under Modes 1 and 2. Many of them could fall under a wide interpretation of Mode 2, although some of the products that will be discussed may not be classified within this mode either.

Due to the multiple types of knowledge being created, these modes would be too limiting and not capture the reality of what knowledge production means in the context of youth climate action in the Arab region. Social and environmental movements and digital transformation have put into question what knowledge production and processes mean, therefore creating the need to reexamine and recreate new modes and conceptions about knowledge. The report findings push the boundaries of conventional understandings of knowledge processes. This report speaks to knowledge that is all-encompassing. This includes academic, non-academic, formal, informal, and digital and non-digital tools, methods, approaches, and spaces where knowledge sourcing, production and dissemination interact with one another.

THIS REPORT SPEAKS

To knowledge that is all-encompassing. This includes academic, non-academic, formal, informal, and digital and non-digital tools, methods, approaches, and spaces where knowledge sourcing, production and dissemination interact with one another.

1.4.2 Literature Overview

According to an article produced by Heejin Han and Sang Wuk Ahn, few studies have addressed the mobilization of youth in global climate politics[28]. This conclusion was further confirmed within the context of this regional report. A literature review was conducted in Arabic, English, and French to examine whether the topic of knowledge and youth-led climate action in the Arab region had been previously studied. Articles found were primarily in the English language. A very limited number of articles were found in Arabic and French. Several of the articles found examined youth awareness or knowledge about specific environment-related issues, including those of school-age students. These articles also focused on specific countries or cities and were not regional in nature. The articles touched upon some of the issues related to this regional report, although they have different objectives such as examining the type of knowledge or level of awareness about the environment or climate change. The article *Climate Change Awareness and Perception amongst the Inhabitants of Muscat Governorate, Oman,* assesses the public awareness and quality of knowledge regarding climate change in Muscat amongst community members sampled through a random survey; 89.33 per cent of whom are between the ages of 14 and 35 years old. The article identifies some of the main knowledge sources that respondents use, while its focus is on the understanding of climate change and its manifestations, government response, and awareness of climate movements and idioms[29]. Another example, *Prospects for renewable energy education in elevating youth energy and environmental awareness in Jordan*, provides a synthesis drawn from exploring Jordanian school students' knowledge, perceptions, and attitudes towards

[27] Ibid, pages 159-160
[28] Heejin Han and Sang Wuk Ahn. Youth Mobilization to Stop Global Climate Change: Narratives and Impact. Published by MDPI and sustainability. 18 May 2020, page 1
[29] Ali Said Al Buloshi and ElNazir Ramadan. Climate Change Awareness and Perception amongst the Inhabitants of Muscat Governorate, Oman. American Journal of Climate Change, Vol. 04 No. 04, 2015

renewable energy and their perceptions towards the protection of the environment. While the main part of the study looks at these areas, one part of the study also examined the information sources students utilize to obtain information about renewable energy[30].

One article that came up during the review process directly related to climate change research in the Arab region. This article was developed by Shaher Zyoud and Daniela Fuchs-Hanusch and provides a bibliometric analysis of the scientific research activities in climate change with an origin from the Arab world[31]. While this article does not focus on youth specifically, it provides critical and foundational knowledge about the state of academic and scientific research on climate change in the Arab region.

Moreover, no studies were conducted to describe the profile of youth climate actors in the region. Instead, the literature review process provided a high-level and precursory understanding of the profile of youth climate actors in the region. A lot of this was drawn from articles that were sponsored by international organizations, UN agencies, news articles/press releases written by youth from the region, and digital youth climate organization platforms, websites, and social media presence.

In summary, the literature review found a paucity of literature related to the topic of knowledge processes and youth-led climate action in the Arab region. Furthermore, there also appeared to be limited literature about youth climate actors and youth climate action in the region. Therefore, this is a pioneering report that delves into the knowledge processes of youth-led climate action across the Arab region as well as providing an introduction about youth climate actors in these countries.

1.5 THE REPORT'S ENVISIONED CONTRIBUTION

Through this report, UNESCO Cairo aims to present a preliminary understanding of youth climate actors and knowledge in the Arab region. This is an initial report that aims to start a discussion and increase research about youth's role in climate change in the Arab region, as well as their impacts in climate action. Ultimately, this report will identify opportunities, gaps, and challenges youth climate actors in the Arab region experience in sourcing, generating and disseminating knowledge. It recommends solutions to support youth's efforts to address climate change, especially as it relates to the knowledge dimension. UNESCO Cairo hopes the report's findings will be of interest to youth climate actors, educators, youth workers, policymakers and other stakeholders in the areas of climate action and youth development as well as several other climate change stakeholders and related entities. Additionally, while the report examines the knowledge dimension of youth-led climate action, it also contributes to providing an initial landscape analysis of the profile of youth climate actors in the region. The more youth feel empowered with the knowledge they acquire and the knowledge they create, the more confidence and influence they will have in making tangible impacts on the ground to address the regional as well as global climate change crisis.

1.6 REGIONAL REPORT METHODOLOGY

The regional report relied on several methodological approaches. This included desk and literature review and primary data collection as the report topic had not been studied before. A comprehensive overview about the methodology that was put in place to develop this regional study is provided in

[30] Anas Zyadin. Prospects for renewable energy education in elevating youth energy and environmental awareness in Jordan. University of Eastern Finland, 2015. https://pdfs.semanticscholar.org/5d99/cce9c28d3a0c5520bfa3af212f9543a8843c.pdf

[31] Shaher H. Zyoud and Daniela Fuchs-Hanusch. Mapping of climate change research in the Arab world: a bibliometric analysis. Springer-Verlag GmbH Germany, part of Springer Nature, 21 December 2019

Annex A, Comprehensive Overview of the Report Methodology, including a discussion of assumptions and limitations. A high-level description of the methodology utilized is detailed below:

MAPPING OF YOUTH CLIMATE ACTORS:	A mapping of youth climate actors and relevant stakeholders throughout the Arab region. A Youth Climate Actors and Stakeholders Database of more than 500 youth and stakeholders was developed.
QUANTITATIVE DATA - REGIONAL SURVEY	The primary source of new data collection was a regional survey, developed in Arabic, English, and French. The survey was piloted in the three languages in many countries throughout the region. It was delivered on the LimeSurvey platform, an open-access platform designed to be as engaging as possible to encourage respondents to complete the survey[32]. The survey was distributed to the Youth Climate Actors and Stakeholders Database, as well as universities, networks, organizations, individuals, and platforms who work in the climate action space across the Arab region, as listed below[33]. Within the report, survey participants were provided with an opportunity to reflect on whether they self-identify as youth climate actors and, if so, then participate in the survey. A snowball sampling method to distribute the survey was utilized. The survey is presented in Annex E, Arabic and English Surveys.
QUALITATIVE DATA - INDIVIDUAL INTERVIEWS AND FOCUS GROUP DISCUSSIONS (FGDS):	77 interviews were conducted with youth climate actors and stakeholders throughout the Arab region to obtain a comprehensive understanding of the youth climate action field. “Stakeholders” refers to individuals who are not youth, but support youth in their climate action activities and/or are knowledgeable about the field. A few FGDs were organized after the survey results were synthesized to obtain additional information that was not fully captured in the survey results.
CASE STUDY INTERVIEWS	Case studies were developed to highlight youth climate actors’ knowledge products and the processes they undertook to develop them, an important component examined in this study. These are called Knowledge Product Spotlights. A selection of these have been featured in Annex B, Youth Climate Actors’ Knowledge Product Spotlights.

At the inception of the report process, a Youth Advisory Group (YAG), composed of 98 voluntary members, was established. YAG was created to ensure the active engagement of youth throughout the report development process, where members supported with advisory and research activities. More information about YAG is provided in Annex A.

[32] UNESCO. The World in 2030 Public Survey Report, page 10

[33] These channels included: UNESCO’s networks and social media platforms; UNESCO National Commissions’ networks, which include universities throughout the region amongst other institutions and organizations; approximately 500 youth climate stakeholders and stakeholders throughout the Arab region. Stakeholders include individuals who work on climate change issues in collaboration with youth. These individuals were primarily identified through a mapping exercise conducted by the YAG; a list of approximately 168 entities across the Arab region that were identified by YAG members in their respective networks; many regional youth climate action networks and social media platforms and many others (not listed in order to ensure no entity is missed); electronic platforms such as EcoMENA, which posted the survey on its platform; UN sister agencies; a list of organizations identified by YAG during the mapping exercise; extensive outreach to stakeholders in the Arab region; YAG personal contacts and networks

1.7 REPORT DATA

This report primarily draws on the results of a regional survey to answer its main questions presented under "Report Objectives and Questions" on knowledge sourcing, production, and dissemination, use, and impacts. Eligibility criteria to participate in the report's regional survey as well as criteria in order to be considered as a youth climate actor in the context of this report are included in Box 1.

BOX 01

Eligibility to participate in survey and youth climate actor interviews

- Individuals who self-identify as youth climate actors and are engaged in climate action activities at any level
- Between the ages of 18 and 35
- Live in one of the 19 states that fall under UCO Arab States purview

Youth climate actors from every country responded, albeit at varying levels of participation. A total of 490 youth completed the survey. Among the total number of survey respondents, 84 did not meet the selection criteria and their answers were eliminated from this report. Those were respondents who were not within the 18 to 35 age range or those who live outside the Arab region[34]. **Four hundred and six of the survey respondents met the target group selection criteria and were included in this report.** Surveys that were started but not completed (i.e. not submitted with a timestamp) are not analyzed due to a disclaimer message at the beginning of the survey that indicated incomplete responses (those not submitted) will not be counted as part of the studied data. **Most of the questions provided survey respondents with an opportunity to select more than one answer; therefore, results presented in many figures and tables often exceed a total of 100 per cent.** The survey results presented in this report do not examine the multiple responses of one individual. The survey results examine the collective responses of the survey respondents, except in cases that are specifically mentioned. **Relevant takeaways are drawn from the report's qualitative data, including in-depth interviews and focus group discussions, to further contextualize and provide nuances to youth's feedback and insights on the report questions.**

[34] While some of these individuals currently live outside of the region, their responses indicated that they usually live in an Arab country and are temporarily abroad for studies

1.8 OVERVIEW OF REPORT SECTIONS

Sections II – VI of the report will share the findings and results of the regional study. The sections include:

SECTION II **A GLANCE AT YOUTH CLIMATE ACTORS**	Provides an overview about who youth climate actors are in the region
SECTION III **KNOWLEDGE SOURCING**	Delves into the main sources youth climate actors utilize to obtain information on climate action as well as challenges and information gaps they experience
SECTION IV **KNOWLEDGE PRODUCTION**	Examines the type of knowledge products that youth climate actors produce and considerations that impact their knowledge production processes
SECTION V **KNOWLEDGE DISSEMINATION, USE, AND IMPACT**	Explores the dissemination channels youth climate actors favor to spread information about climate change, how they use the information they obtain and create, and their perceptions about the level of impacts being made by youth
SECTION VI **REPORT CONCLUSIONS AND RECOMMENDATIONS**	Provides concluding remarks and recommendations for relevant stakeholders to consider in addressing youth climate action and knowledge

A GLANCE AT YOUTH CLIMATE ACTORS

SECTION SUMMARY

- Provides an introduction to the landscape of youth who self-identify as youth climate actors in the Arab region
- Data is indicative of the growing climate action field in the Arab region, and the diversity of sectors within which youth are operating
- While youth are participating at various levels, there is increased awareness of the topic. During the past five years, this participation has increased, including among young female youth
- Youth are motivated by a sense of responsibility and many of them are working within their country settings to contribute to spreading awareness
- As youth climate communities are becoming more accessible through virtual spaces, as well as regional and global efforts to mobilize and engage youth, they are also joining platforms to represent the region
- While there is an increased level of participation, youth also indicate that there is much more that needs to be done and more youth need to be mobilized and feel a sense of responsibility

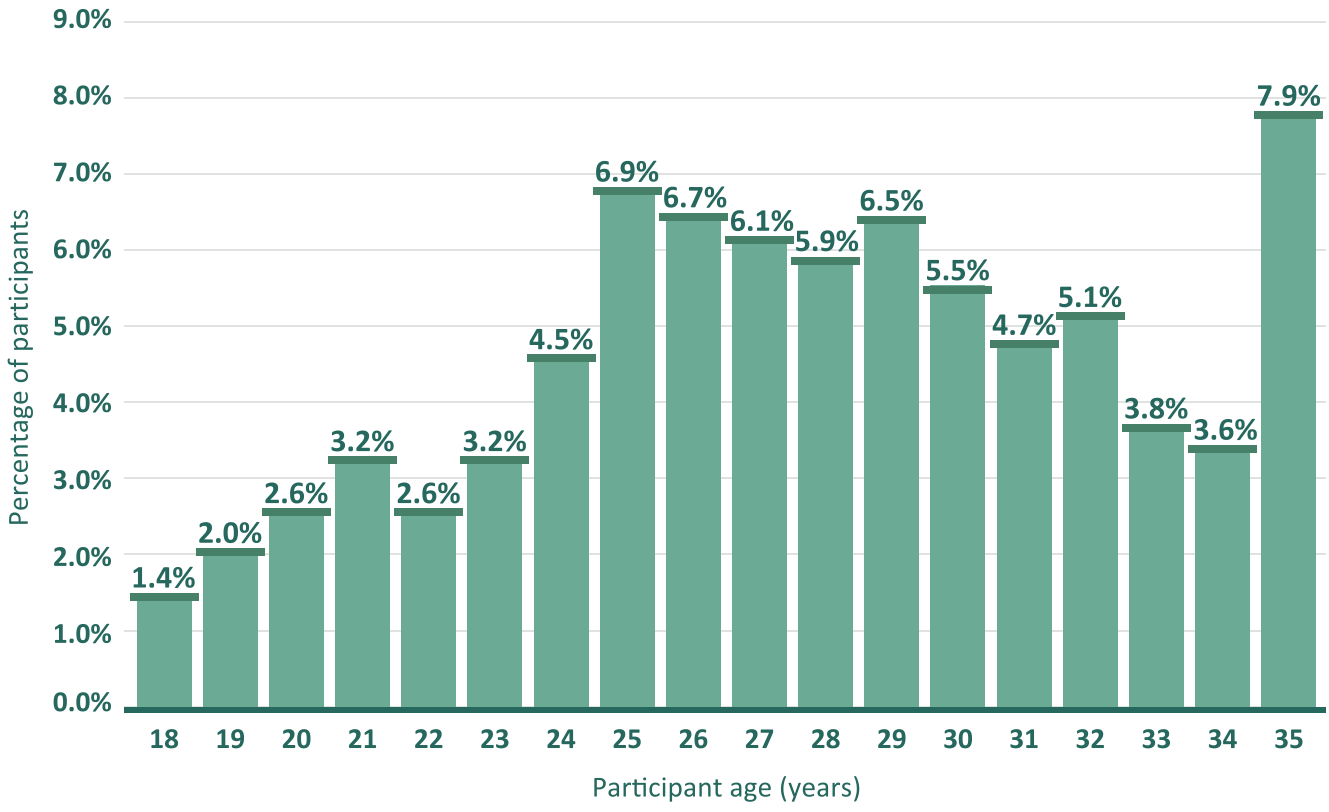
As part of the research process, information about the background of youth climate actors in the Arab region was not available. For this reason, part of the process was to identify the profile of these climate actors. It is evident that a vast majority of youth climate actors work as activists in the field. The field of climate change is also incrementally growing in academic spaces in the region; however, specialized studies in the topic do not exist at the same level across each of the countries and it is a field that requires more attention. Results from the regional survey provided a glance at the profile of youth climate actors. At this point, the number of youth climate actors in the region is largely unknown. Therefore, it is not possible to make a conclusion that the profile presented through this report is representative of the larger sample. The survey sample aims to provide an understanding of who these youth climate actors are based on questions related to demographics and youth climate engagement activities.

2.1 YOUTH CLIMATE ACTORS' DEMOGRAPHICS

It was important to utilize Arabic, English, and French as part of the report process to ensure the greatest possible participation of youth climate actors. In terms of the survey, 70 per cent of the participants took the survey in Arabic; 21 per cent in English; and 8 per cent in French[35]. As will be noted in this report at a later stage, the issue of language appeared frequently in relation to knowledge processes. Questions about the language of sources and language of knowledge production are presented in Sections III and IV, which will be correlated with the data provided here at a later stage. When looking at the number of youth who selected to take the survey in Arabic, the importance of having climate change-related material in the Arabic language is made evident. While many youth are familiar with English at various levels of reading, writing, and understanding, making information available in Arabic is an important topic to further examine within the context of this report.

As previously discussed in the eligibility criteria, the survey targeted youth between the ages of 18 and 35. Disclaimer language was provided on the first page that indicated the report target. The majority of survey respondents, 40 per cent, indicated that they are between 23 and 29 years old[36]. **A breakdown of youth by age is provided in** ***Figure 1*****.**

Figure 1: Number of youth by age expressed as percentage of total number of participants (Total responses: 406; 100% participation rate)

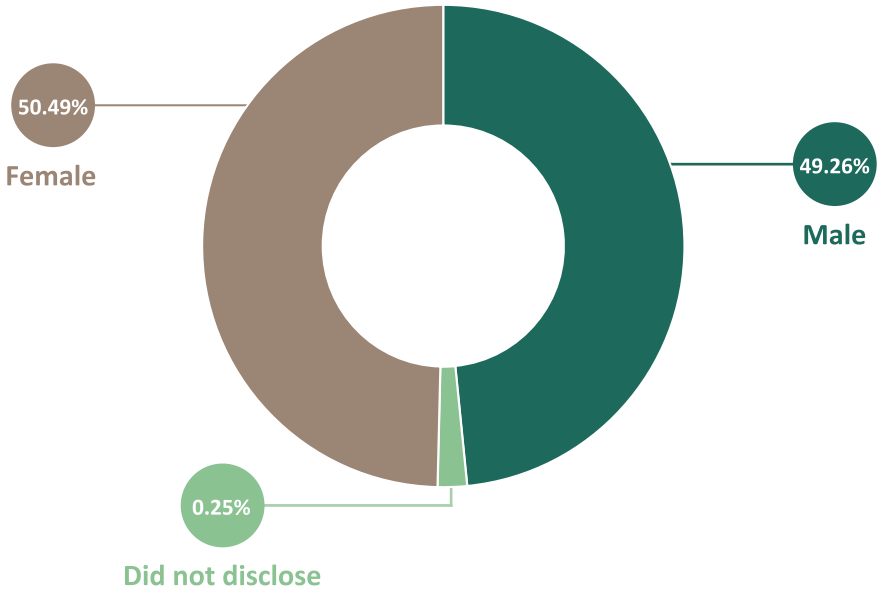


[35] Annex C: Additional Regional Report Graphs, Figure A, Utilization of survey in each language

[36] 84 of the 490 respondents were between the ages of 37 and 60 (and one respondent was 16). Their data was eliminated from this report. This reflects a qualitative finding discussed during interviews and FGDs that indicated that there is a considerable number of individuals who are actively working in the climate change space that are above the age of 35. In fact, many youth interviewees reported that there are more people above the age of 35 working in this field than those who are younger. Generational engagement in climate action could be explored as a further area of future study

As *Figure 2* indicates, survey respondents were provided five-answer choices in terms of their gender: Female, Male, I prefer not to disclose, Other, and No Answer. As the survey utilized a snowball sampling method, a targeted effort was not made to reach any specific gender group. As will be discussed in different parts of the report, survey results and insights provided by youth climate actors appeared to be comparable amongst males and females.

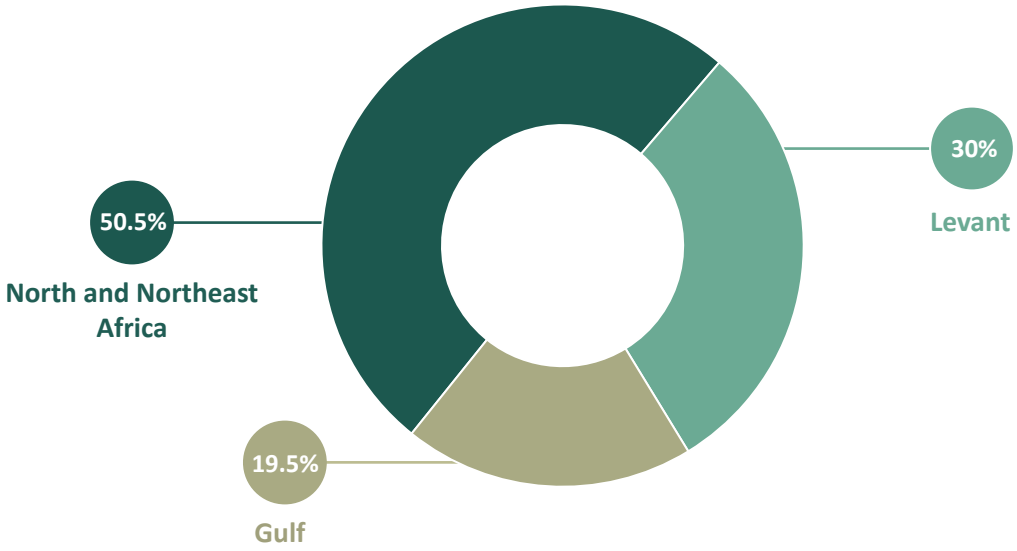
Figure 2: Youth classification by gender
(Total responses: 406; 100% participation rate)



As previously stated, the report provides regional data, rather than country or sub-regional statistics. Youth from all countries in the Arab region participated in the survey, albeit at varying degrees of participation. The graph below provides a breakdown of the sub-regional representation in the Arab region. The countries are divided under the following categorizations: **Levant:** Iraq, Jordan, Lebanon, Palestine, and Syria; **Gulf:** Bahrain, KSA, Kuwait, Oman, UAE, Qatar, and Yemen; and **North and East Africa:** Algeria, Egypt, Libya, Mauritania, Morocco, Sudan, and Tunisia.

The percentages in *Figure 3* do not represent a correlation between the levels of climate action activity in each of the sub-regions. Youth climate actors, youth climate action organizations, regional climate action networks, and universities that were requested to support with the distribution of the survey may not have all been active at the same level in circulating the survey. There may be some countries where more youth participated in the survey, which could be another reason that one sub-region has a different turnout rate than the other. With that said, during the desk research and interview processes it was evident that some countries did in fact have more active youth climate action landscapes.

Figure 3: Level of participation of youth by Sub-Region (Total responses: 406; 100% participation rate)



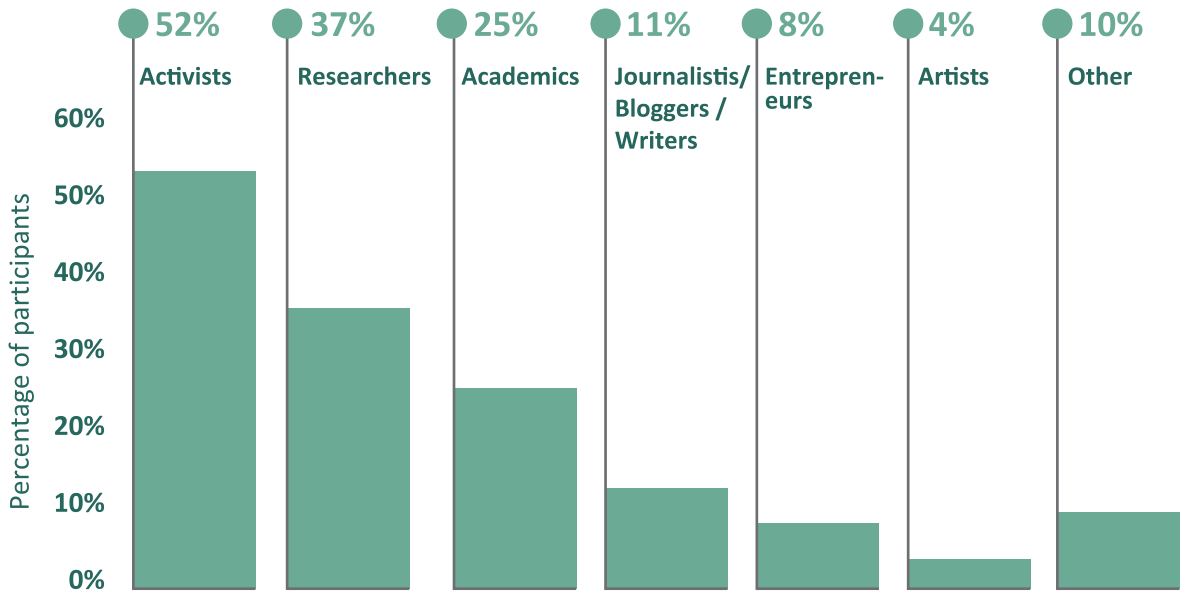
Many of the youth climate actors that are engaged in the field have completed their university degrees. However, this report targeted youth at the university age, or older. Future studies could be conducted to obtain information about youth climate actors who are of high school age or younger. The data from the regional survey indicates that the majority of survey respondents, 38 per cent, have completed their university studies (undergraduate). Twenty per cent have completed a master's degree, and 3 per cent have completed a doctoral degree. Seventeen per cent are either current master's/doctoral students or university students. Meanwhile, 2 per cent reported that they have completed a high school degree[37].

2.2 TYPES OF YOUTH CLIMATE ACTION

Following on the discussion related to the different types of youth climate action, it became evident that there are different types of youth climate actors in the region. These actors are driven by different motivators and also engage with climate action in different areas. To obtain a further understanding of the types of youth climate actors, youth who participated in the survey were asked to self-identify as one of the following: Activist, Entrepreneur, Academic, Researcher, Journalist/Blogger/Writer, Artist, or Other (if the choices did not represent them). These options were developed based on interviews conducted with youth climate leaders and organizations in the region who provided an understanding of the field. The survey did not define what each classification constitutes. Survey respondents were free to choose the option(s) they self-identified with and also had the choice to select as many or as few as were pertinent to them. *Figure 4* presents the total responses for the type of climate actor youth identified themselves as.

[37]Annex C: Additional Regional Report Graphs, Figure B, Level of education of participants

Figure 4: Type of climate actor that youth self-identify as in their responses (Total responses: 406; 100% participation rate)

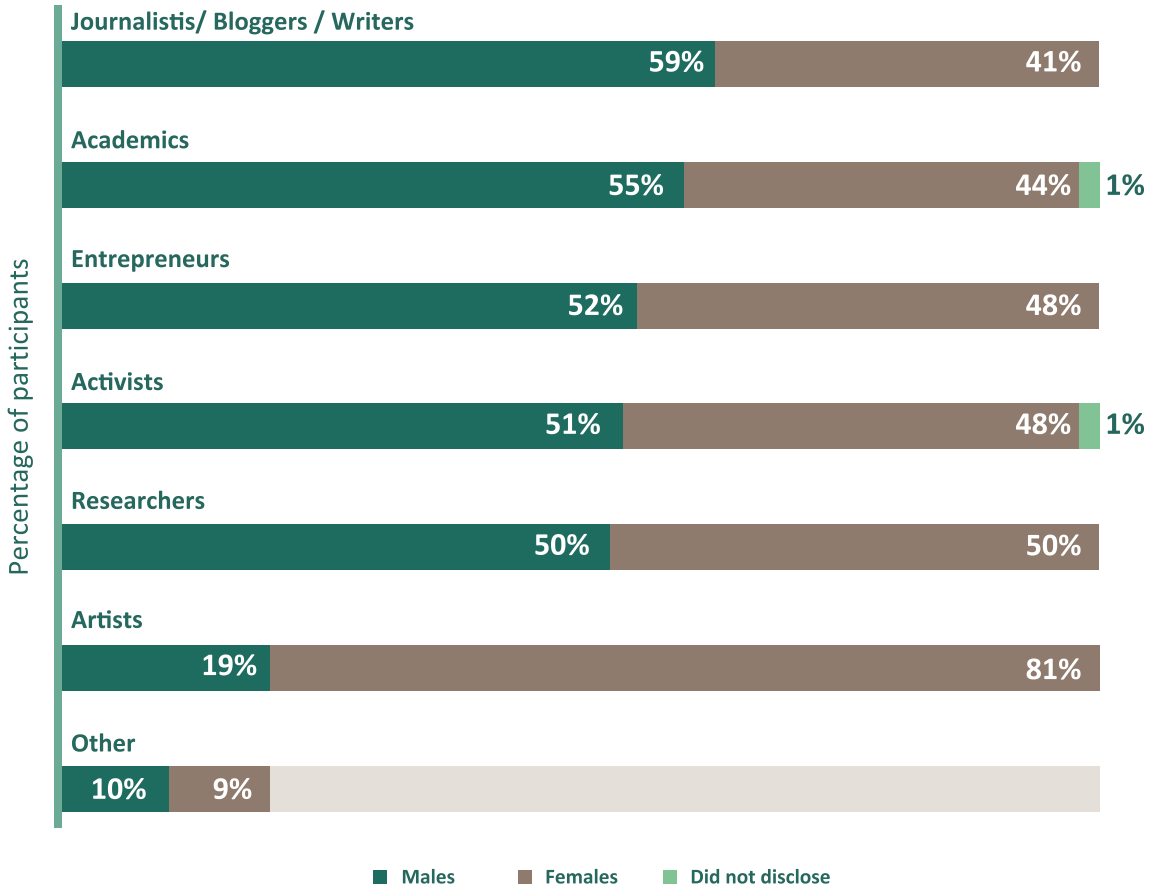


Other types of youth climate actors identified as:

- Event organizer
- Instructor in a local organization
- Supporter
- Concerned citizen
- Government official/representative
- Government employee
- Professional in the humanitarian sector
- Volunteer in a climate change organization
- Project development professional
- Consultant
- Supporter who minimizes car usage
- Program management professional
- Advocate
- Engineer
- Corporate professional

Figure 5 further disaggregates the data presented in *Figure 4* by gender.

Figure 5: Distribution of genders for each youth climate actor



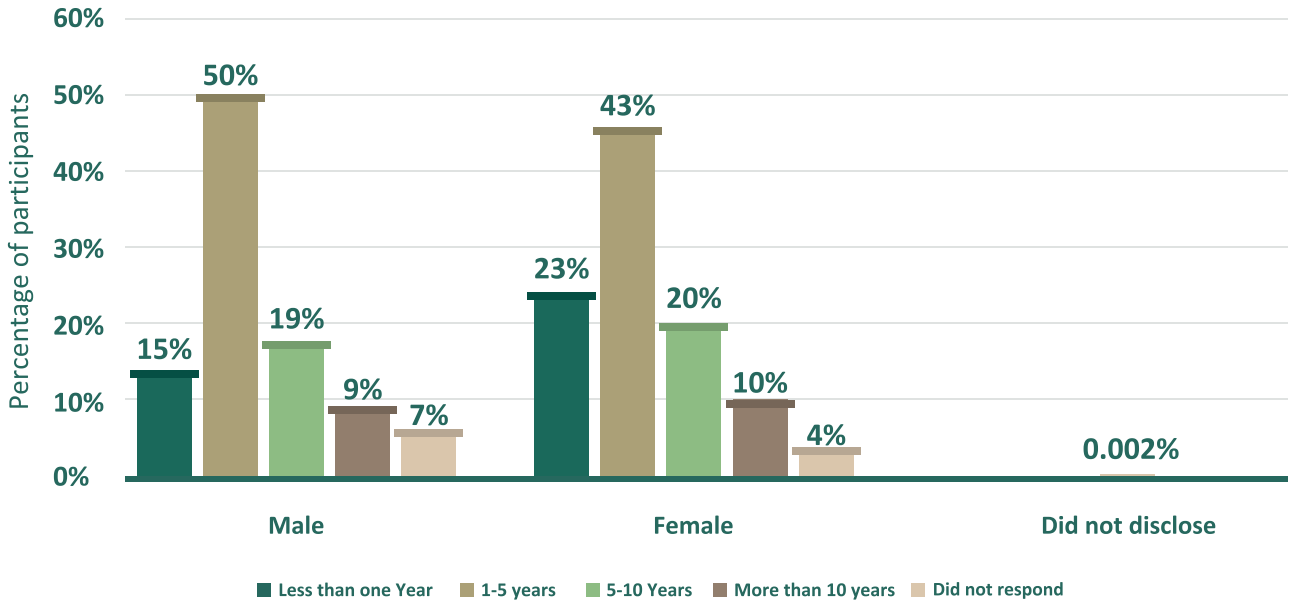
In addition to knowing which sector of climate change youth work in, it was also important to examine in more depth the type of engagement of youth and whether climate action is part of their professional/academic or extracurricular activities. As per results provided by the regional survey, 66 per cent of respondents shared that their climate action engagement was voluntary; 39 per cent reported it was professional/career related; and 38 per cent reported that it was academic in nature[38].

The report also aimed to understand the duration of time that youth have been working in climate action considering its recent emergence as an area of interest in the Arab region. Results from the regional survey showed that collectively, 47 per cent indicated that they have been active in the climate change field for one year to five years. Nineteen per cent of the survey respondents reported less than one year, 19 per cent said five to 10 years, 10 per cent reported more than 10 years, and 5 per cent did not answer the question. *Figure 6* presents the gender disaggregated breakdown of this information. As per *Figure 6*, a greater number of females (albeit by a small percentage), 20 per cent, have been engaged in climate action between five and 10 years and more than 10 years. More females have also become engaged in climate action during the past year.

[38]Annex C: Additional Regional Report Graphs, Figure C, Type of engagement with climate action

During interviews, a common theme arose amongst youth. Many indicated that there is a spectrum of youth engagement, including those who are deeply engaged and leading on climate action or contributing with important research or information in the field; those who are involved in activities, conferences, or trainings but not necessarily taking the lead; those who volunteer; and some who participate or observe out of interest or as part of a shared experience with their group of friends but are not necessarily involved in activities. When coming back to the question of how climate action and climate change are defined, some youth may also be participating in environmental volunteer activities that are adjacent to climate change but not necessarily within its direct scope.

Figure 6: Duration of engagement in climate action for each gender (Total responses: 384; 94.6% participation rate)



BOX 02

Did the COVID-19 pandemic lockdown increase youth climate engagement?

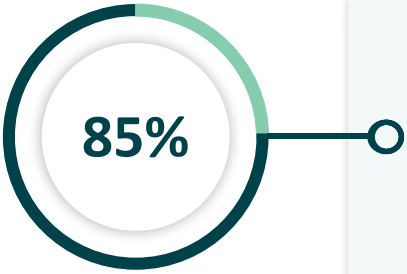
As the COVID-19 pandemic continues through the generation of this report, studies have been conducted regarding the relationship between the spread of the virus causing the pandemic and climate change. While this report does not explore this topic, the survey did ask youth whether their level of climate action engagement increased during the pandemic. The underlying assumptions for asking this question included the general trend towards an increase in activities for societal good during the pandemic, as well as the academic and non-academic discussions around the relationships between the coronavirus and the environment. As part of the regional survey, youth were asked the extent to which they agreed or disagreed with the following statement: ***My climate action activities increased during the COVID-19 pandemic.*** Of the 404 youth who responded to this question, 36 per cent "agreed" with the statement, and 27 per cent "strongly agreed." While 28 per cent of respondents were neutral, only 7 per cent "disagreed." This information is presented in *Figure D* in *Annex C*. This also aligns with interviews with youth

who explained that during the pandemic they took advantage of the large number of free online courses, webinars, and live streams on climate change and other issues. These youth also explained that they posted a lot more information on social media, and either individually or through groups and organizations they are affiliated with, organized webinars, trainings, and other online events to spread awareness about climate change.

Climate Change and Health: while a separate topic than what is being explored in Box 2, it is important to explore the subject of youth climate action and knowledge at the intersection of health and climate change in the Arab region. As such, youth's engagement in this area of work in the region was explored. UNICEF's report The Climate Crisis is a Child Rights Crisis presents data on how many children are currently exposed to climate and environmental hazards, shocks, and stresses[I]. Additionally, in September 2021, the University of Bath released a study that surveyed 10,000 young people (aged 16-25 years old) in ten countries. Those results demonstrated that over 50% of respondents felt sad, anxious, angry, powerless, helpless, and guilty about climate change. Over 45% said that their feelings about climate change negatively affected their daily life and functioning[II]. According to the report, "climate anxiety and eco-anxiety (distress relating to the climate and ecological crises) are increasing across society, as people become increasingly aware of the current and future global threats associated with our warming planet[III]". While the field is still one that is growing globally, some youth in the Arab region are studying this topic and creating knowledge products in this field. **Knowledge Product Spotlight #1** introduces one of these products related to climate change and the health field.

In terms of youth's geographic areas of focus, there are two ways of understanding this topic. On one level, this includes whether their efforts are focused on country, regional, and/or global levels. Most of the youth interviewed and surveyed are addressing climate change issues at their country and community levels. With that said, through engaging with virtual platforms and regional digital and non-digital conferences, they also have varying levels of exposure to climate action activities taking place in other countries in the region. During youth interviews, many of them indicated that they were passionate about climate action based on an issue or awareness gap they noticed in their immediate surroundings, while also realizing that climate change is a global issue.

Footnote I: UNICEF. The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index, 2021.
Footnote II: Caroline Hickman, Elizabeth Marks, Panu Pihkala, Susan Clayton, R. Eric Lewandowski, Elouise E. Mayall, Britt Wray, Catriona Mellor, Lise van Susteren. Young people's voices on climate anxiety, government betrayal and moral injury: a global phenomenon. University of Bath, September 2021.
Footnote III: Ibid., Cited from Pihkala P. Anxiety and the Ecological Crisis: An Analysis of Eco-Anxiety and Climate Anxiety. Sustainability 2020; 12(19): 7836. https://doi.org/10.3390/su12197836
[39] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights



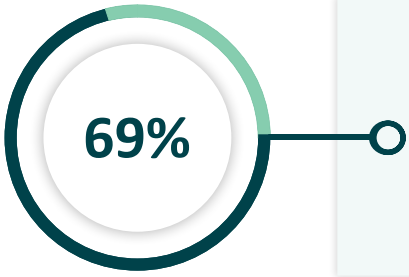
As many as 85 per cent of survey respondents reported that their climate change work focuses on their country, while 30 per cent reported that they work at an Arab regional level and 18 per cent reported that they work at a global level[40].

It is important to understand where youth's efforts are focused to further know the extent of their engagement and how involved they are in global dialogues and conferences and decision-making in this field.

On another level, geography also entails the type of areas on which youth focus in their climate action activities (i.e., climate change in coastal areas, deserts, cities, and/or the countryside):

- Some youth may not have a specific area of focus
- Others may respond based on the areas where they live
- Another set of individuals may provide answers based on the research they are conducting, or their work on a particular project

Considering the vulnerability of the Arab region to climate change, it is important to glean an understanding of where efforts are being placed in current youth climate action activities. This could be utilized as an initial mapping exercise of which areas are receiving more and less attention. The survey provided youth with an opportunity to select multiple answers.



The results indicated that 69 per cent of youth responded that their work covers cities, 44 per cent reported countryside, 35 per cent reported coast and sea/ocean, and 31 per cent responded desert[41].

As most youth responded that they primarily focus on their countries, there could also be a correlation here based on the number of respondents per country and the geographic landscape of their countries.

2.3 YOUTH CLIMATE ACTORS' MOTIVATORS AND INTERESTS

An important part of understanding youth's role in climate action is to recognize what motivates and drives them to engage in this type of work. This also provides perspectives about the on-the-ground reality of how climate change issues are manifesting, being understood, and being dealt with in different societies. Throughout the report process, youth interlocutors were asked what motivated them to work on climate action.

[40] Annex C: Additional Regional Report Graphs Figure E, Regions of the world participants climate change work covers
[41] Annex C: Additional Regional Report Graphs, Figure F, The type of geographic area that the work of the participants covers

Two greatest motivators for youth climate action

68%

I feel a sense of responsibility towards future generations

61%

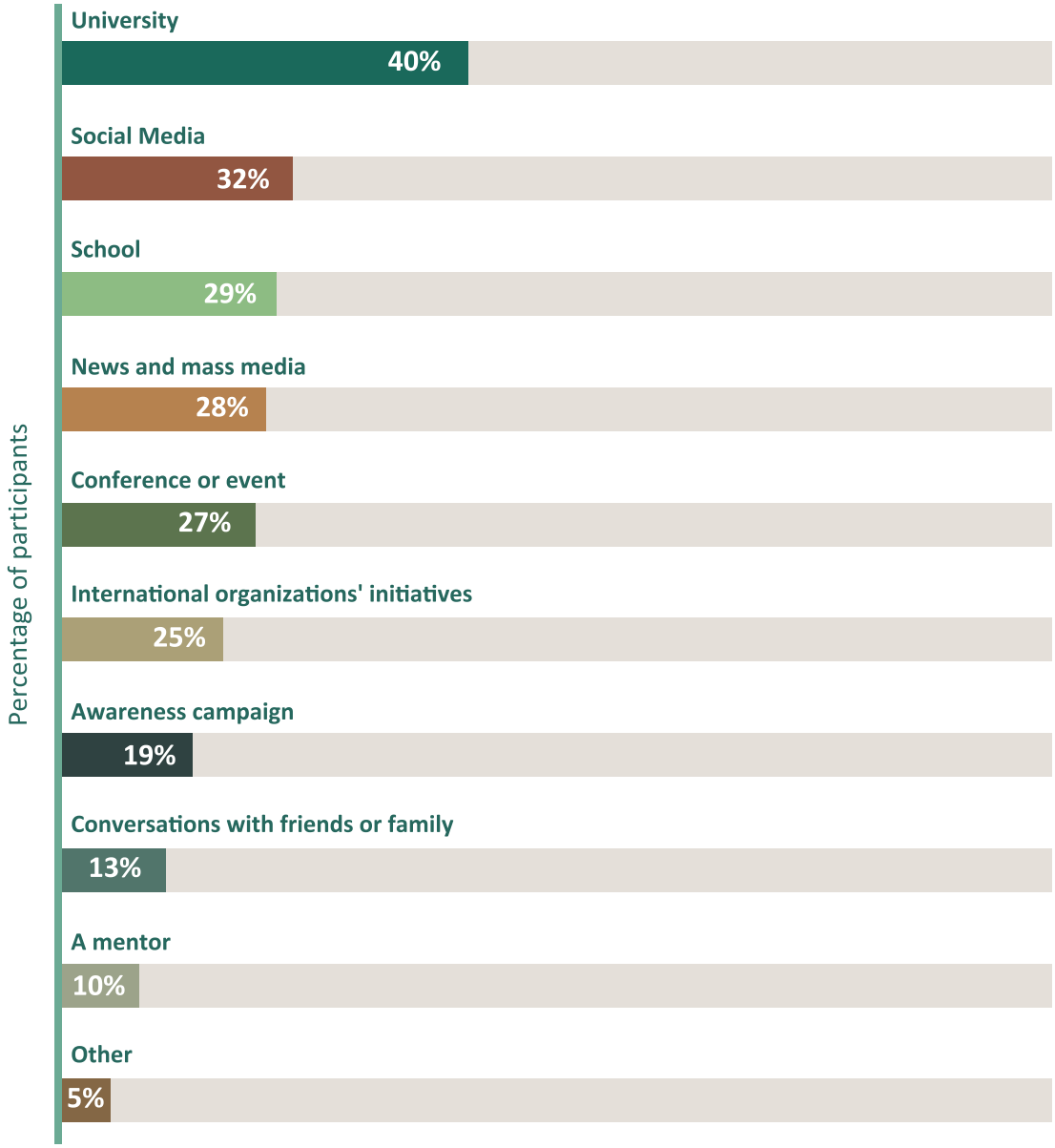
I feel the impact of climate change on my daily life

One of the top motivators provided was that they witnessed the impacts of climate change in their countries and felt the need to act. The survey results demonstrated that Activists, Entrepreneurs, Academics, Researchers, Journalists/Bloggers/Writers all responded that they feel a **sense of responsibility towards future generations**, followed by **feeling the impacts of climate change on their daily lives.** Actors who identified as Artists shared a similar opinion, although flipping the order of these two responses. A poignant point made in one of the other responses shared was the **sense of responsibility towards current generations** as well as its being a **moral obligation**. Additional responses also included that this is part of their work or studies, that they are interested in the issue, that environmental activism has been part of their lives since childhood, that they want to contribute to scientific knowledge, or that they see the impacts of climate change on their agricultural products. A survey respondent who identified as an economist noted that they see the negative impacts of climate change on the economy and want to do something about it. Meanwhile, another respondent indicated that they want to impact climate change policies in their country[42].

In addition to learning about what motivates youth to participate in climate action, it was also important to gain an understanding of spaces and the makers of those motivations. Currently, there is a default response to connect youth knowledge and access to information to primarily social media outlets. While to a large extent the significant impacts of social media must be considered, youth live within larger societies and have multiple spheres and environments of influence in their lives. Where and how youth are exposed to a certain topic, impacts how they relate to and interact with that issue. The report findings indicate that many youth first learn about climate change from universities. It is not defined whether this means in the classroom or through extracurricular activities. When taking a closer look at survey data on how youth first learned about climate change, *Figure 7*[43], **university** was the most selected choice by participants collectively. More specifically, it was the top choice by Activists, Academics, and Researchers. Importantly, **school** was selected by 29 per cent. In fact, survey respondents who self-identified as Academics and Researchers selected school as their second option. This is important to consider as educational systems reexamine their curricula at the primary, secondary, and tertiary levels. The impact of the educational system is significant and as government policies and strategies are updated, it will be critical to look at an **education and climate change agenda** starting at the basic education level all the way to the graduate level. Both the final report recommendations and Youth Recommendations presented later on in this report stress and emphasize the importance of climate change education at every level of learning, including formal and informal education.

[42] Annex C: Additional Regional Report Graphs, Figure G, The main reasons that drove participants to work on climate change issues
[43] Youth were able to select more than one answer to this question, as they may have simultaneously learned about the issue from multiple sources

Figure 7: How youth climate actors initially learned about climate change (Total responses: 405; 99.8% participation rate)



As is noted in *Box 3*, education is key to climate action and solving climate change-related issues. When conducting interviews, youth indicated that many of the universities they know of do not necessarily have climate change specializations and there is insufficient attention to climate change studies in universities in the Arab region, although there could be specialties that are related to the environment. This report did not investigate the extent to which climate change programs are included in universities' course offerings. This could be a potential area of future examination, if not already available. However, what is noteworthy about the survey results is the role of universities in introducing youth to climate change, despite their insights about how universities could be doing better in the climate change field.

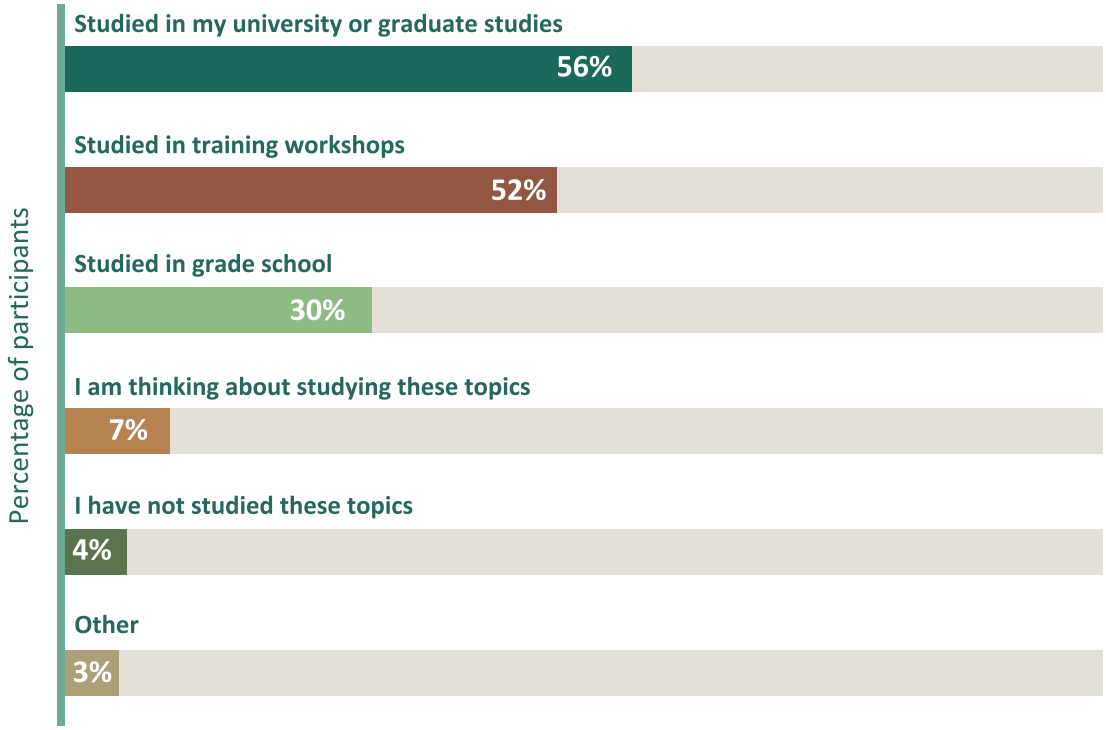
BOX 03

United Nations – Climate Action
"Education is key to addressing climate change"

"Education is a critical agent in addressing the issue of climate change. The UN Framework Convention on Climate Change (UNFCCC) assigns responsibility to Parties of the Convention to undertake educational and public awareness campaigns on climate change, and to ensure public participation in programs and information access on the issue. Education can courage people to change their attitudes and behavior, it also helps them to make informed decisions. In the classroom, young people can be taught the impact of global warming and learn how to adapt to climate change. Education empowers all people, but especially motivates the young to take action" – UN Climate Action Website
For more information: click here

While interviewees explained that universities give insufficient attention to climate change studies, 56 per cent of youth reported that they studied climate change in their universities as *Figure 8* shows. Both Academics and Researchers selected university or graduate studies as their first choice. Considering the high rate of youth who selected universities, one consideration could be that courses may discuss environment and sustainability and introduce climate change concepts. As a close second choice, youth survey respondents selected training workshops, which was selected by Activists as their first choice. Through interviews with climate activists, it is evident that training workshops play a significant role in their learning processes. These could be organized by UN entities, international organizations, civil society organizations, university initiatives, youth-led awareness initiatives, or other platforms. They could also be digital, especially through livestream sessions that youth organize on social media, which increased during the COVID-19 pandemic. Section III will further shed light on the role of training workshops as being a critical source of obtaining knowledge on climate change. Furthermore, it is also noteworthy that 30 per cent of the survey respondents selected grade school as a place where they have studied climate change. This demonstrates the importance that grade school education has on individuals who eventually become active in the field.

Figure 8: Status of studying issues related to environment or climate change (Total participants: 405; 99.8% participation rate)



Significantly, the nuance in the language of how the questions were asked for data in *Figure 7* and *Figure 8* should be considered. While subtle, *Figure 7* focuses on where youth first learned about the climate change topic; and *Figure 8* focuses on whether and where they studied it. In the Arabic version of the survey, the subtlety in language is more defined in the question. This makes it is easier to differentiate the nuances of the questions more than in the English version.

2.4 DISCUSSION ABOUT THE DEFINITION OF YOUTH CLIMATE ACTOR

The data presented in this section attempts to define youth climate actors in the region, specifically those who self-identify as such. The definition of youth climate actors within the context of the Arab region is still a work in progress. In terms of the report's youth target sample, there is no specific definition of being a youth climate actor. This report aimed to provide a definition, which entailed young people within a certain age bracket who were involved at some level in addressing climate change. While the concept may seem straightforward, it is evolving and could be understood to encapsulate different types of work under the environment and sustainable development umbrella. In fact, one of the challenges was to identify the parameters of youth climate action and what it entailed within the Arab regional context.

Youth were asked to identify their work vis-à-vis its relation to the climate change field: i.e. was a youth studying biodiversity in its own right or as regards the impacts of climate change on biodiversity? Or was a youth studying air pollution on its own or the effects of pollution on climate change? Certainly, scientific discussions about the approach of studying climate change through an inter-disciplinary and holistic approach are ongoing. During the report's development, the process to identify the sweet spot

of youth's climate change focus with other environmental-related work they were undertaking was not always a straightforward path. This report sought out youth who work on climate change while recognizing the overlap with other environmental issues that were also being addressed.

There is a spectrum of youth who work in the climate action space. At one end, there are youth who are fully knowledgeable about climate change concepts and are directly tackling the issues in their countries or across the region. At the other end, there are those who are working in the environmental space but are less familiar with climate change terminology or concepts. Through this study it was evident that the lines between climate change and other environmental issues are unclear amongst some youth and stakeholders who widely work in the environmental space. For some youth, what could be meant by their work in climate action, for example, is sustainable development or another environmental issue. Accordingly, there may or may not be elements directly or indirectly related to climate change[44]. To provide an understanding of climate change, a young professional in Bahrain took the initiative to conduct research and write a self-published book called A Layman's Guide to Climate Change, explaining what it is and the issues it entails. More information about this book is provided in **knowledge product spotlight #2.**

KNOWLEDGE PRODUCT SPOTLIGHT #2[45]

The Layman's Guide to Climate Change

Moreover, there are differences between Academics, Researchers, Activists, and other types of climate actors in how concepts are understood and the malleability of these definitions. There appeared to be an interchange of terminology between climate, climate change, environment, sustainability, sustainable development, and other concepts when speaking with youth about the report topic. While environmental issues can be taken holistically and are all interconnected, it leaves a question as to how climate change terminology is being understood, contributed to, and utilized. The spectrum of what climate change and climate action means to different youth puts two areas into further question: 1) how youth made the determination to identify as youth climate actors; and 2) how survey questions were understood by youth who participated in the survey.

To further provide context on this matter, some findings from a study[46] conducted by Climate Outreach in partnership with Climate Action Network – Arab World (CAN-AW), Earth Hour Tunisia, Republic Islamic of Mauritania (RIM) Youth Climate Movement, and Greenish are shared here. This study examined how climate change is communicated and understood by different communities in Tunisia, Mauritania, and Egypt. Among the audiences reached in these countries were civil society activists and volunteers as well as journalists[47] who live in different regions and communities in these three countries. One of the key findings of the report indicated that research participants are aware of the climate-related

[44] Interview with Abdelrahman Fahmy, 26 May 2021
[45] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[46] Climate Outreach in partnership with Climate Action Network – Arab World (CAN-AW), Earth Hour Tunisia, Republic Islamic of Mauritania (RIM) Youth Climate Movement, and Greenish. Communicating climate change in Tunisia, Egypt and Mauritania with lessons for North Africa and the Levant Region: a global narratives project, April 2021
[47] Ibid, section entitled 'About this project'

changes happening around them. However, participants with less access to formal education did not connect the impacts they were experiencing with the concept of climate change[48]. Meanwhile, among participants with higher levels of formal education, many confused the causes of climate change with other environmental issues[49]. Therefore, the technical terms associated with climate change did not resonate with many of the participants[50]. An important takeaway from the Communicating climate change in Tunisia, Egypt, and Mauritania […] study and a similar finding in this regional report is that individuals who are engaged in environmental activism and efforts have various levels of understanding of climate change concepts and its lexicon.

Finally, another area to further explore is whether a youth's level of engagement directly links to identifying them as a youth climate actor or not. For example, many youth participate in events or conferences organized by local, national or international organizations on climate action but may not actively take on a task or activity. Does participation equate to youth climate action? For the purposes of this report, a metric around levels of engagement, i.e. number of years or type of engagement, was not set as a criterion for youth to measure whether they are a youth climate actor or not. The definition was deliberately broad in order to obtain an understanding of the current situation of youth climate action.

[48]Ibid, page 16
[49]Ibid, page 16
[50]Ibid, page 16

Section Three:

KNOWLEDGE SOURCING

SECTION SUMMARY

- Youth climate actors in the Arab region source their information about climate change from different modes and media. While they prefer to utilize digital sources, non-digital sources are also used. The boundaries of sources are extended to include non-academic articles and spaces, including conferences (some might be academic), training workshops, or awareness campaigns
- Depending on the type of youth climate actor, youth utilize different types of sources to meet their needs
- Youth are relying on conferences or training workshops as important sources of information
- Social media is also an important information source for them, a reality that is being significantly studied in academic research circles
- As youth look beyond traditional sources of information, they continue to try to find reliable and credible data and statistics from national statistics offices, international reports and studies, and country level assessments
- Youth's quests to obtain information are interrupted by challenges that are shared across the region. While it appears that many youth access English sources, there is still a need to make information available in Arabic – especially considering the various political, economic, social, and educational circumstances that youth experience. They also feel that there is a lack of sources on climate change that originate from the Arab region and reflect the reality of their countries as well as limited access to updated data, statistics, measurements, models, and indicators that allow them to obtain contextualized data and create high-precision knowledge
- There is a strong need for localized sources originating from the Arab region and for more access to data, statistics, and studies that are specific to this region

A few of the questions in Section II examined where youth learned about climate change for the first time and if they had ever studied it before. This section examines the sources of youth's knowledge about climate change and provides insights into three main areas:

SOURCES OF KNOWLEDGE

Where do youth Arab climate actors source knowledge and how?

CHALLENGES

What challenges do they face in accessing knowledge (including issues of quality and relevance of knowledge)?

GAPS

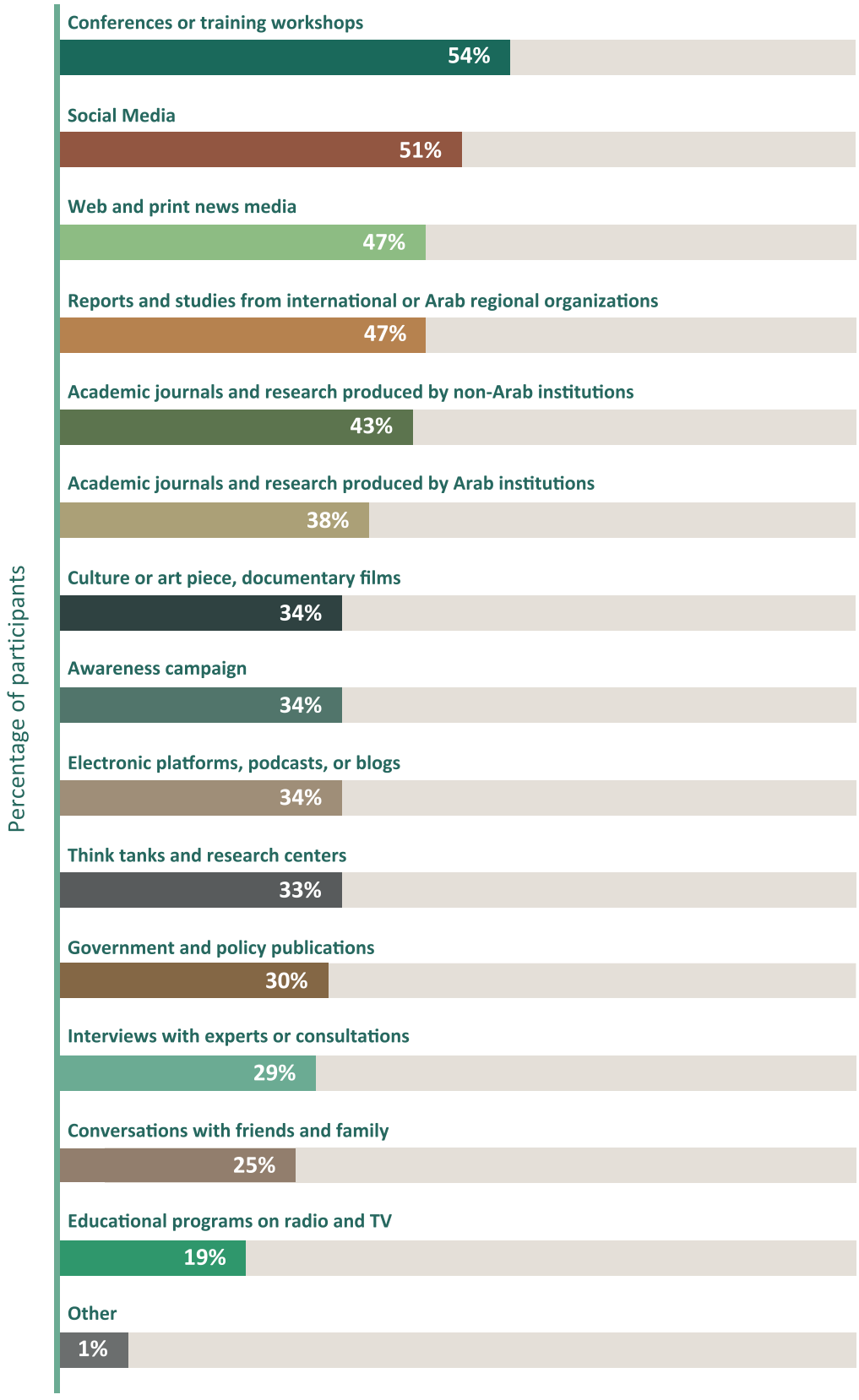
What information gaps do they face?

Youth climate actors were asked about academic and non-academic sources in order to gauge how various knowledge modes are being utilized. They were also asked about digital and non-digital sources. Language was another area of focus, primarily whether youth were sourcing knowledge in their native tongue (which is Arabic for most respondents as well as interviewees), or whether they were utilizing other languages including English and French. It was also important to understand the challenges that youth experience in sourcing knowledge as well as the gaps in information they find. Insights on challenges and gaps are important for forming policies and programs that could help in supporting youth climate actors in their efforts and should be closely considered.

3.1 TYPES OF SOURCES

Youth climate actors rely on several sources to obtain information about climate change. The data reported in *Figure 9* presents the types of sources youth utilize to obtain information on climate change. Survey respondents could select more than one choice. Conferences and training workshops are an important source of information for youth, followed by social media. Fifty-eight per cent of females reported conferences/training workshops as their top choice, while 50 per cent of males reported them as their second choice. Conferences and training workshops are usually organized by universities, regional networks, international organizations, UN agencies, and other outlets. Social media includes personal pages, organizational pages, as well as virtual networks such as CAN-AW or Mediterranean Youth Climate Movement (MYCM) that provide information about climate action through online posts, live webinars, reposting reports, translation of international reports into Arabic, videos, etc. Web and print news media were also considered as one of the main sources. Another major source for youth is reports and studies from international or Arab regional organizations. Although interviews with youth seem to indicate that they largely source from international works because they believe they are more reliable and credible sources of information that draw on updated data and statistics.

Figure 9: Sources utilized to obtain knowledge on climate change (Total responses: 406; 100% participation rate)



One important area to examine in more depth is related to academic journals and research produced by Arab and non-Arab institutions. The data shows that more youth indicated that they obtain academic information from non-Arab sources. In fact, in many of the interviews with youth and stakeholders they expressed that most of the scientific information is coming from Western countries and in the English language. What is available from the Arab region is limited and even information that is produced about the Arab region is more general. During an interview with Shaher Zyoud, he explained that most if not all the articles found in the bibliometric analysis on articles related to climate change originating from the Arab region (as referenced in this report's Literature Overview) were in English. He explains that the reason for this is that the language of science is English. Many scientists could speak and present in their native languages; however, they cannot publish their work in that language because they cannot find well-established journals that support them. There is a lack of established journals on climate change in Arabic, and researchers/academics are more interested in publishing in high-impact journals rather than regional ones[51]. Even if the journals exist, they do not have substantial readerships. Most Arab journals produce abstracts in Arabic, but the research is conducted and articles are written in English[52].

The percentage of youth who indicated that they utilize journals and research from Arab institutions, 38 per cent, is not a low number. During FGDs, it was shared by Academics participating in the discussions that Arab universities are producing knowledge although at varying degrees due to a few variables[53]. Since these sources are being produced in English and as they may not be accessible to non-academics, youth, especially in non-academic circles, may not know they exist or how to search for them. Furthermore, even if they are written in English, they may not be accessible to those who are not familiar with the language. When further breaking down sources by type of youth climate actor[54], 49 per cent[55] of survey respondents who identified as Academics and 48 per cent[56] who identified as Researchers responded that they source their information from academic journals and research produced by Arab institutions. Additionally, 52 per cent[57] of youth who self-identified as Entrepreneurs answered that they also utilize academic journals and research produced by Arab institutions. There could be a correlation between the numbers of Entrepreneurs who also self-identify either as Academics or as Researchers, which can be examined further in future studies.

Nineteen per cent of youth who indicated they utilize journals and research from Arab institutions were from Egypt (the largest number of participants amongst all the countries). While this report does not examine the findings at the country level, it is interesting to point out that Zyoud's and Fuchs-Hanusch's journal article noted that the two most producing countries on climate change are KSA followed by Egypt. More information would be needed to study the possible correlation between Egyptian youth climate actors' use of journals/research from Arab institutions and knowledge production on climate change in their country. The model of Western research universities is on the rise in the Arab region, especially in the Gulf countries[58]. In Saudi Arabia, Qatar, and Egypt this is translating over into a growing number of academic publications[59].

[51]Ibid.
[52]Interview with Shaher Zyoud, 10 March 2021
[53]These variables could include the situation of the country, the awareness about the issue, the accessibility to data, lack of mentorship, and other issues
[54]Top Five Sources by Youth Climate Actor are presented in Figures H1-H6 in Annex C: Additional Regional Report Graphs
[55]Annex C, Additional Regional Report Graphs: Figure H1, Top five sources use by participants who are academics
[56]Annex C, Additional Regional Report Graphs: Figure H2, Top five sources use by participants who are researchers
[57]Annex C, Additional Regional Report Graphs: Figure H3, Top five sources used by participants who are entrepreneurs
[58]Samar A. Abid Al Tamimi, Reshaping Higher Education in the Gulf States: Study Abroad Trends and Student Experiences. Gulf Affairs (2017): 10-13. Cited in Kerstin Fritzsche, Climate Change and the Emerging Information Societies in the Arab Region, Middle East and North Africa (2021): Chapter 8, 213-230
[59]Moneef R. Zou'bi. "The Arab States," in UNESCO Science Report: Towards 2030, ed. UNESCO (Paris: UNESCO, 2015). Cited in Kerstin Fritzsche, "Climate Change and the Emerging Information Societies in the Arab Region," Middle East and North Africa (2021): Chapter 8, 213-230

To examine this development further, a few students at KAUST in Saudi Arabia were interviewed to learn more about the university's efforts to encourage climate change research and to explore their knowledge products in their university. More information is provided in **knowledge product spotlight #3.**

While 34 per cent of the total respondents selected awareness campaigns as a knowledge source, survey respondents who self-identified as Activists[61] or Artists[62] selected them as one of their top five sources. For Activists, specifically, awareness campaigns appear to be both a knowledge source and knowledge product they generate. Survey respondents who self-identified as Entrepreneurs or Artists also selected electronic platforms, blogs, or podcasts as one of their top choices. There are many global platforms that exist and are continuing to grow in number that provide information about climate change. Some of these platforms focus on the Arab region such as EcoMENA and the Carboun initiative's website. Both these platforms are created by individuals who live outside of the Arab region, while working with a pool of volunteers (mainly youth), who are based in the region to provide information from their different countries and localized contexts.

When speaking with the Founder and Editor-in-Chief of EcoMENA, Salman Zafar[63], he explained that one of the reasons EcoMENA was established was to fill an information gap about environmental information related to the Arab region, although, some countries are making better progress than others. Another gap they were filling was the lack of credible information available in the Arabic language. EcoMENA is trying to make a big push for Arabic language articles. EcoMENA has developed a Knowledge Bank that includes hundreds of articles in English and Arabic about many issues that fall under the environmental sector, including climate change and related subjects. Many of the contributors to the EcoMENA platform are youth within the report age-group. EcoMENA is a source of information while it provides knowledge makers with a platform to produce as well as disseminate articles. EcoMENA also aims to mentor young people in writing articles. At the time of the interview, they had 5,000 unique visitors every day making use of their materials, including entrepreneurs, policymakers, investors, students, international agencies, researchers, academics, and others[64]. The main contributors of the website are from the younger generation, between the ages of 20 and 40. Most of the sources they utilize are from international sources; however, they also do utilize and reflect findings from field-based research. While most knowledge sources are available in English, the situation is improving in Arabic as writers are willing to translate their work into Arabic. At the time of the interview, there were more than 300 Arabic articles on the platform.

In addition to electronic platforms, there are some youth in the region who are beginning to host or speak on various podcasts. One such podcast was created by an international organization and hosted

[60] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[61] Annex C, Additional Regional Report Graphs: Figure H4, Top five sources used by participants who are activists
[62] Annex C, Additional Regional Report Graphs: Figure H5, Top five sources use by participants who are artists
[63] Interview was conducted with Salman Zafar. EcoMENA's co-founder is Mohammed Abdulaziz Khalil
[64] Interview with Salman Zafar, 13 March 2021

and supervised by a youth climate actor in Lebanon. Rayan Kassem, a 26-year-old from and based in Lebanon, works with Youth4Nature (Y4N), an international youth-led organization spearheaded by young people who are below the age of 30. Y4N has a product called Ajyal Podcast, which Rayan, the Regional Director for West Asia, manages and hosts. The Ajyal Podcast aims to highlight and discuss youth's priorities, perspectives, concerns, and fields of expertise related to nature and climate in the region. Ajyal invites youth from around the region to provide their global, regional, and country-level perspectives on climate action-related issues.

Below is a sample of some of the podcast discussions:

- Women leadership for climate action in the Arabian Gulf
- How youth can be involved in nature and climate decision-making within the Gulf Cooperation Council
- Climate justice in West Asia
- Militarization and its effects on climate movements in Syria and Yemen

Ajyal provides a platform for youth to generate knowledge on climate action issues and a space to disseminate it broadly while serving as a source for those who want to hear about the topic from youth working directly on the issues. The link to the podcast is: https://www.youth4nature.org/west-asia.

All youth climate actors, except for Academics, indicated that they utilize web and news media as a source. Additional perspective was provided on the field of environmental journalism and climate change in the Arab region by Khaled Sulaiman, an environmental journalist and author of three books on water and the impacts of climate change on the MENA region as well as a handbook entitled "The Climate Mail" for environmental journalists and the general public in the MENA region. Sulaiman also trains youth in the Arab region on environmental journalism. He reported that the environmental journalism field is still quite limited in Arab countries. There are young people who are beginning to enter the field, however, more efforts in this regard are required[65]. While there are many journalists, freelancer writers, and bloggers in the Arab region, reporting on climate change requires scientific terminology, knowledge of relevant topics, as well as the skill to transfer the information in a simplified manner to readers who are not necessarily familiar with scientific concepts. Media stories appear to be having an impact due to the number of youth who selected them as sources, and increasing the number of journalists in this field could contribute to creating more awareness. Sixty-four per cent of youth climate actors who self-identified as Journalists/Bloggers/Writers[66] responded that web and print media are their top choice for sources. They rely on the types of sources that they also contribute to producing.

3.2 DIGITAL AND NON-DIGITAL SOURCES

Youth climate actors prefer utilizing digital sources to source information. When examining this information in the context of *Figure 9* on Types of Sources, conferences or training workshops were selected as the primary source of information (closely followed by social media). This indicates that youth may be accessing these platforms digitally as well as in person. This can be further explained by the surge of virtual trainings, webinars, and learning events that have been taking place during the COVID-19

[65] Interview with Khaled Sulaiman, 16 October 2021
[66] Annex C, Additional Regional Report Graphs: Figure H6, Top five sources used by participants who are Journalists/Bloggers/Writers

pandemic. As per the survey results, 42 per cent of youth respondents "agreed" with the statement "I obtain most of my information on climate change through digital sources (e.g. social media, internet searches, online databases, etc.) rather than non-digital sources (e.g. in-person events or conferences, printed publications, or books, etc."[67] and 27 per cent "strongly agreed." Survey results also indicated that 21 per cent reported that they were "neutral" about the statement and 9 per cent "disagreed." One per cent "strongly disagreed." While these figures are relatively low, they also indicate that there are some youth who are looking beyond their screens for information. This could be related to access issues and would require further study.

Youth reported the following responses for other types of sources they utilize: all of the above (in reference to the survey choices); **personal observation**; files from my organization about the local context; pedagogical sources in the field of awareness and environmental education developed by my institution; and YouTube (although social media was listed as an option). It is important to provide further context about personal observation. During many interviews with youth, they described how a lot of what they learn about climate change is from their observations of changes that are taking place in their communities. Concerned about the impact of climate change that they are witnessing in their neighborhoods, and fearful of the continued effects on their communities, these youth are engaging in climate action. For example, when speaking with youth who live in rural parts of the Arab region — such as, Ta'leet Organization for Economic and Social Development from the oases of southern Morocco (Zagora) and Stop Pollution from south-central Tunisia (Gabes) — they shared that they are witnessing the effects and impacts of climate change daily. However, when they look for sources about their region, they do not find information that is readily available. This is what propels them to make their own sources through videos, publication materials or other forms. In fact, during an FGD one of these youth explained that once they see what is happening in their hometown of Gabes, they immediately document it, go online, and write about what they are witnessing so that people become aware, which in turn becomes a source of information for others who would not have otherwise known about this development. Another young climate activist described a similar experience in her hometown in Jordan, in the Tefileh governorate.

3.3 SOURCES BY REGION

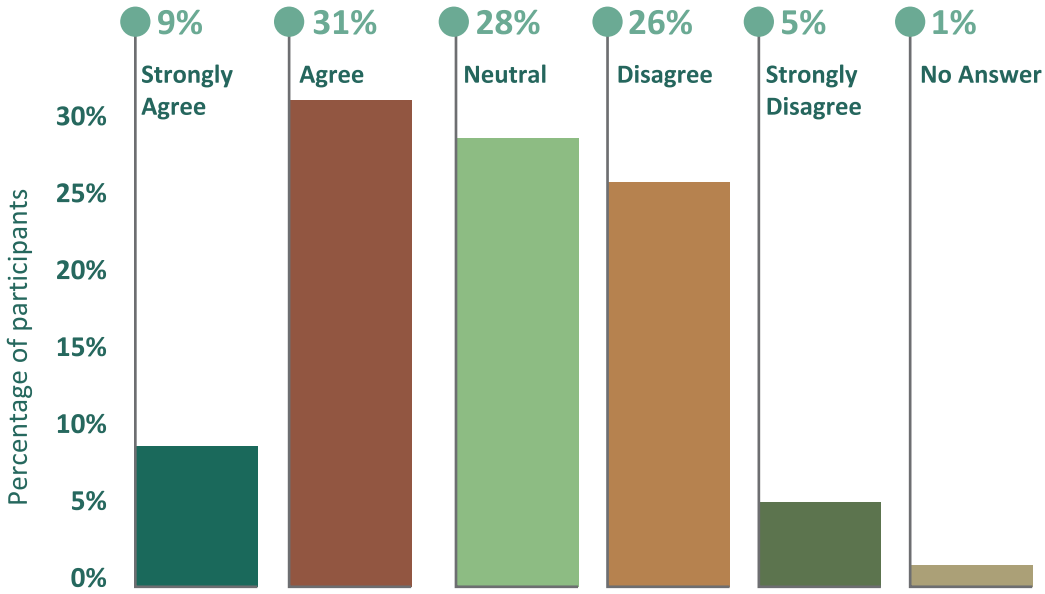
According to youth interlocutors, there are limited sources, especially scientific and academic articles, about climate change in the Arab region. It is important to place knowledge production within a regional context and understand the region's contribution to new knowledge. According to the Arab Knowledge Report 2014, there are many limitations in research and knowledge production in the Arab region[68]. According to an article about the innovation economy in the Arab region, this is due to a lack of focus on research and development (R&D) in Arab countries[69]. *Figure 10* sheds light on the level to which youth use Arab/regional sources over other international sources. Considering the larger reality of the state of R&D in the Arab region, it is important to analyze these research findings further. `

[67] Annex C, Additional Regional Report Graphs: Figure I: Degree of agreement with the statement that most of the information on climate change was obtained by participants through digital sources (e.g. social media, internet searches, online databases, etc.) rather than non-digital sources (e.g. e.g. in-person events or conferences, printed publications, or books, etc.

[68] UNDP and Mohammed Bin Rashid Al Maktoum Foundation. Arab Knowledge Report 2014, Youth and Localization of Knowledge

[69] Nazar M. Hassan. Increasing the Pace Towards an Innovation Economy in the Arab Region. International Journal of Innovation and Knowledge Management in Middle East and North Africa, Vol. 5 No. 2 (2016), page 62

Figure 10: Degree of agreement with the statement that most of the information obtained by participants on climate change in the Arab region is from Arab/regional sources and not from other international sources (Total: 402 responses; 99%)



The sub-section on the report's theoretical framework in Section I introduced the idea of academic and non-academic knowledge. Within the context of the youth climate action space, there appears to be a dichotomy between academic or scientific sources that youth interviewees reported largely originate from non-Arab sources as well as very limited Arab sources and non-academic/scientific sources that could originate from a mix of Arab/regional and non-Arab sources. For example, training workshops could be organized by a host of entities, including community and regional organizations in the Arab region, or international organizations working in collaboration with local partners from the region. The sources utilized to develop the training content could be from a mix of international sources such as UN agency reports as well as localized information based on government reports, personal observations, national statistics, or local university studies. As such, there is not necessarily a contradiction in that the majority of youth reported they primarily use Arab sources in *Figure 10*, with youth interviews and other survey results *(Figures 12 and 13)* that indicated there are limited sources from the Arab region. Youth could be utilizing and preferring some types of sources from the region while also continuing to utilize international sources.

Furthermore, sources could also be understood in light of the entity providing the information. For example, an awareness campaign organized by a civil society organization could be considered an information source from an Arab or regional entity, especially if local information is utilized to inform the campaign. *Figure 10* highlights an important issue that surfaced as a main theme among the majority of youth who participated in the survey, interviews and/or FGDs. Youth climate actors emphasized the importance of localized knowledge in the climate action space, which is further highlighted in *Figure 12/Information Gaps and Figure 13/Challenges.* According to many youth climate actors in the Arab region, it is very important that knowledge and information about climate change is localized to their countries' and communities' contexts as well as that it originates from locally produced sources and is

produced by the people involved themselves. This does not only produce more relevant metrics and indicators but also creates more local acceptance of the ideas related to climate change and steps needed to address it[70].

In terms of academic sources originating from the Arab region, when speaking with academics who are working in the field of climate change, they shared that graduate-level students are producing knowledge in the field of environment and climate change, at times in English or Arabic or both. However, they explained that the articles produced are not easily accessible to the public, and that most of the times they are not digitalized. Furthermore, since the Arab region does not have many academic or scientific journals focused on climate change, many of these articles are not published and are therefore largely unknown to many, especially if they are not in academic spaces.

The country in which someone lives also plays an important role for two reasons. While youth climate actors from all countries indicated that data access is generally a problem they encounter, some countries may have more access to national data or have more up-to-date data than other countries. When the sphere opens up to international level research, some countries are also more studied and examined and may have more research about them available. Geographic location also raises another important element. As a youth climate activist from Morocco mentioned, Morocco is in Africa and the environmental and climate change threats they experience are linked to those on the African continent. Therefore, the information they source could be about the Arab region, but also about Africa, which means that the sources of information broaden.

Another factor that contributes to the types of sources that are utilized is where a survey respondent was educated. For example, many youth could have studied at a university in Europe or the United States. Therefore, they are more accustomed to databases and research methodologies that utilize international sources.

3.4 LANGUAGE OF SOURCES

During the report process, many youth reported that it is challenging for them to identify sources in the Arabic language, emphasizing the importance of creating climate change knowledge that is accessible in Arabic. More than 70 per cent of youth climate actors took the regional survey in Arabic, which is indicative of the importance of creating accessible information in Arabic. This is an important point to consider when examining the data in *Figure 11* and understanding the greater percentage of youth who selected English.

[70] Interview with Jenan Bahzad, Kuwait, 12 July 2021

In most discussions with youth and stakeholders throughout the region, it was often noted that English is the scientific language, which is why most information is available in that language. Therefore, even articles that may originate from the Arab region may not necessarily be written in Arabic. They shared that English is the language of climate change and all the terms and terminology about the issue are stemming from Western contexts. In fact, one of the challenges they experience is the difficulty of translating English terms to Arabic and having a unified lexicon that all climate change actors would commonly understand. A youth's perspective on this is provided in **Knowledge Product Spotlight #4** , as well as her initiative to provide some definition to one such term: climate justice.

The responses provided in *Figure 11* indicate the strong presence of the English language in the climate change field. It is important to note that the wording of the English version of the question may be understood in two ways, while the Arabic version is more precise. Either youth interpreted the question as to refer to the language in which they actively seek information or the language that is used for the information that they often come across. However, based on the interviews with youth and stakeholders, it was regularly noted that available information — especially reports, studies, and academic/scientific articles — is often in English.

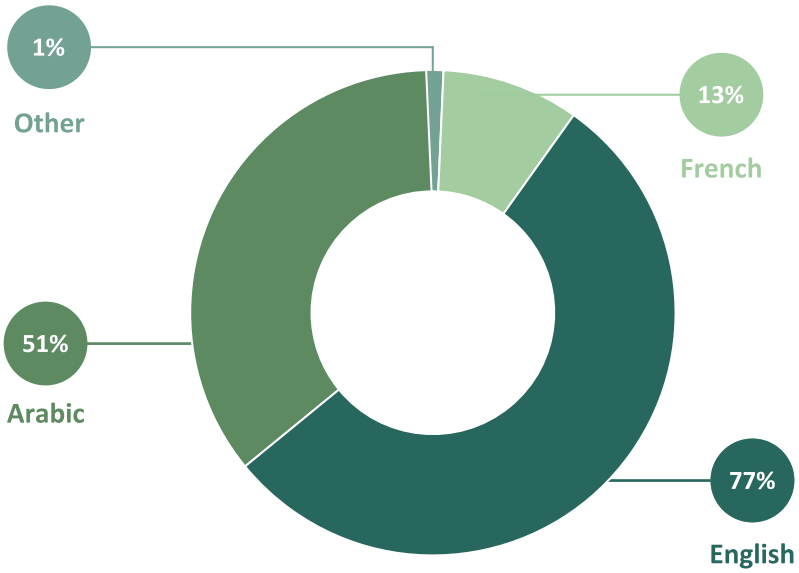
At the same time, non-academic learning sources utilize different languages. For example, when examining sources such as events or community-based training workshops, many are in Arabic or a combination of Arabic/English, or in some of the North African countries in French/local dialects or English/French (depending on the entity). Awareness campaigns are conducted in local languages and dialects, including printed materials and verbal messaging. Non-academic sources relay synthesized and easily communicable information, including training workshops that describe scientific concepts. The most important objective is to convey the message to the audience in the language that they feel most comfortable with.

An important issue in studying knowledge is the understanding of youth's ability to access and source information in their native tongue. There are several complex sociological factors to take into consideration. Depending on which geographic location youth are from, they could speak in Arabic, including local dialects, and/or other languages such as Kurdish or Amazigh. English and French are also used, depending on the type of education youth have received in their countries, as well as whether youth are living in the region but are from another part of the world: e.g. nationals of non-Arab countries living in Gulf countries. Others may have studied outside of the Arab region and are comfortable in their languages of study, especially when discussing scientific terms or concepts. Additionally, the growing number of international schools in many Arab countries, although accessible only to a certain segment of society, is creating a generation of young people who may (or may not) speak their native tongue at home but are more comfortable expressing themselves in English or another language that is not a mother tongue when it comes to professional or academic settings.

[71] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

Social media's impact on language is also worth mentioning. As many youth rely on social media as one of their primary sources of knowledge, they are naturally more exposed to sources of information in different languages, and not just in their native tongues.

Figure 11: Language(s) in which youth mostly find information about climate change in the Arab region (Total responses: 406; 100% participation rate)



Furthermore, during discussions with youth climate actors it was often mentioned that youth tend to rely on English sources for scientific information as they believe they are more reliable and credible than Arabic sources. The question of credibility and reliability often came up during interviews with youth. They explained that one of their challenges with Arabic sources is that they were uncertain if they are reliable or credible, especially as there was limited access to data and statistics in their countries. Moreover, 48 per cent of youth survey respondents "agreed" with the statement that "When searching for information on climate change in the Arab region, I am able to determine if a source is credible and reliable" and 22 per cent "strongly agreed."[72]

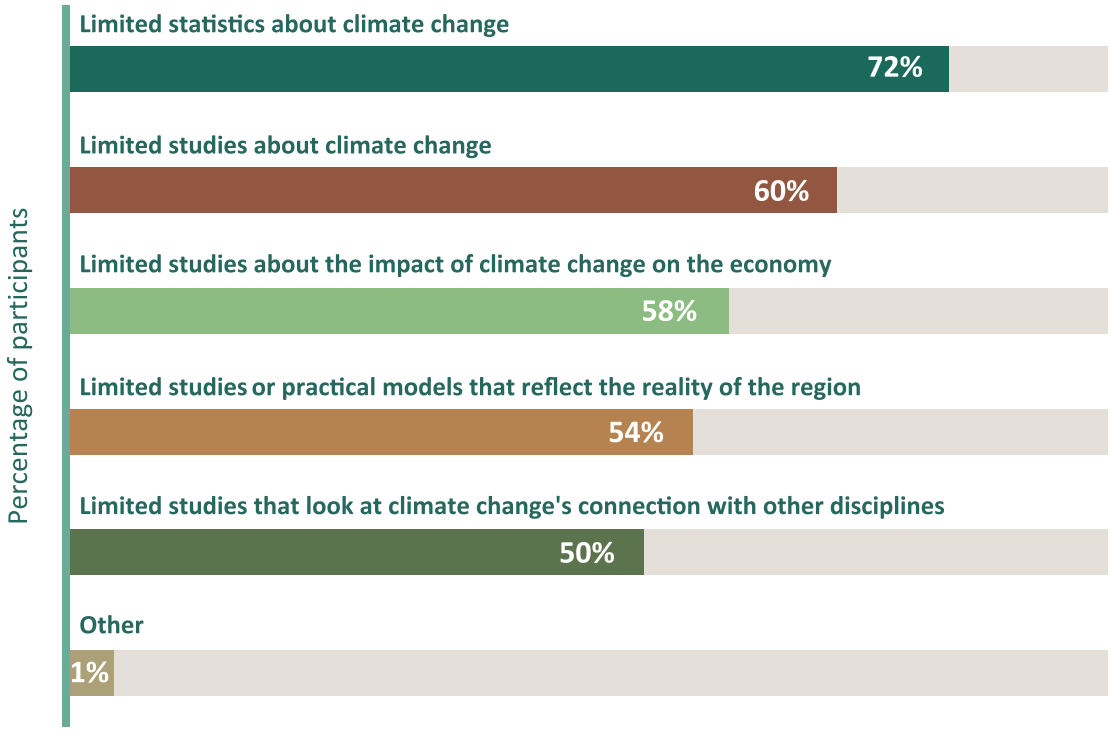
3.5 INFORMATION GAPS

Most of the new data collected led to similar conclusions when it comes to information gaps and challenges that youth are experiencing in their climate action work. In terms of the information gaps, it is important to clarify that they are based on survey respondents' **perceived understanding** of these gaps through their **personal experiences.** The scope of this regional study did not include a study about the existing knowledge available about climate change in the Arab region. The most important takeaway from learning about gaps is to identify the types of information youth need for their activities. If the information exists, it needs to be more available; and if it does not exist, solutions are needed to create this information.

[72] Annex C, Additional Regional Report Graphs: Figure J, Degree of agreement with the statement that participants are able to determine if a source is credible and reliable when searching for information on climate change in the Arab region

In terms of information gaps on climate change, 72 per cent of youth participants reported that there are **limited statistics** about climate change in the Arabic language as presented in *Figure 12*. The second most selected information gap at 60 per cent is **limited studies** about climate change in the Arab region. This further correlates with the challenges reported by youth that are related to access to data and statistics on this topic and in general in the Arab region as will be discussed shortly. According to youth researchers, the Arab region has not contributed to creating modeling and projections, and therefore relies on international sources that do not always capture the nuances of the region. While there are open-access international sources, many that provide deeper levels of data are expensive for independent researchers to purchase. Other responses provided by survey respondents include a lack of information about the root causes of climate change, practical and realistic solutions (especially to address the core causes of climate change), country specific contexts and limited data and research, the impact of climate change on future migration movements that will result from rising sea levels and desertification, and simple approaches to addressing climate change.

Figure 12: Perceptions about information on climate change in the Arab region that youth actors found missing
(Total responses: 401; 98.8% participation rate)

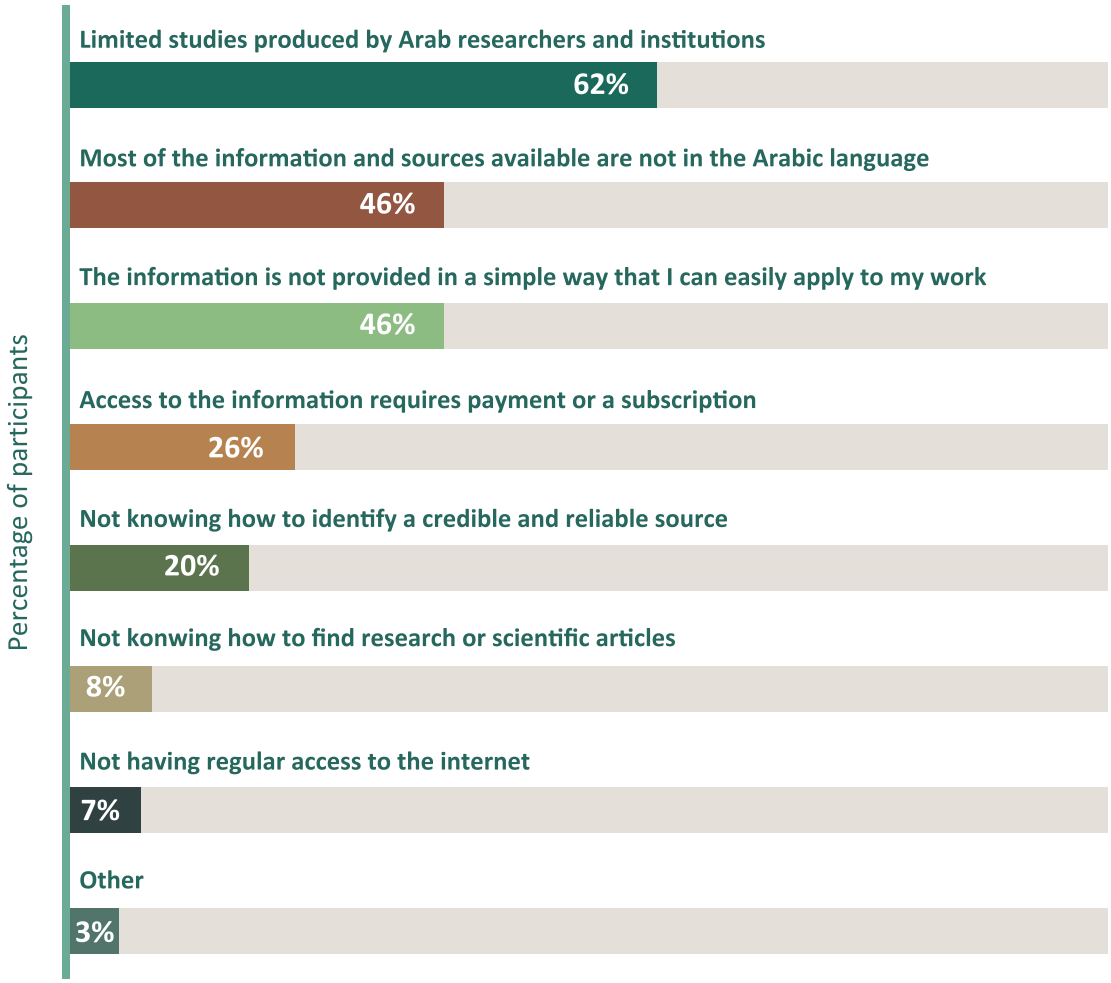


3.6 CHALLENGES WITH KNOWLEDGE SOURCING

Youth climate actors also indicated several challenges with knowledge sourcing. As it was also reported as an information gap in Section 3.5, the majority of respondents, 62 per cent, responded that one of their challenges when searching for information about climate change in the Arab region **is limited studies produced by Arab researchers and institutions.** The second most significant challenge (although followed closely by the third choice) is most of the information sources available are not in the Arabic language. When correlating this back to *Figure 11*/Language of Sources, further context is provided that while many sources are found in English there is still a need for Arabic sources.

Interviews, case study interviews, and focus group discussions provided further nuance about youth's challenges. When comparing these through a gender perspective, there did not appear to be any difference in data based on a gender perspective. Rather, the data was comparable. Many reported that the main challenge is the **lack of localized information**. Climate change realities are unique and different from one geographic location to the next and require a precision of understanding from a local perspective. This includes the scientific understanding of climate change, as well as the social, economic, political and conflict repercussions on communities and societies and what local solutions are needed. Furthermore, according to many youth climate actors, international reports that discuss climate change in the Arab region provide general information that does not delve into the specifics of different countries and regions. **A key takeaway from this regional report is the need to create local knowledge about climate change**. As discussed in *Box 12* – Diaspora Youth, youth who were born and raised in the Arab region are studying abroad in other countries and contributing to creating this knowledge, albeit from afar.

Figure 13: Challenges that face youth actors when looking for information about climate change in the Arab region
(Total responses: 402; 99% participation rate)



As previously mentioned, when speaking with academics and non-academics alike, there was a persistent theme about the **lack of Arabic journals and the challenge of publishing in international journals, which requires a high-level of English writing skills and the ability to find other researchers to publish with.** According to Zyoud and Fuchs-Hanusch, the Arab world's contribution to global climate change research (at the time of their research) is 2,074 documents, which represents 1.2 per cent of the global research productivity as per the bibliometric analysis that was conducted[73]. A lot of this contribution comes from international collaboration; however, according to Zyoud this does not take away from the contribution of Arab institutions and researchers[74]. This article's findings shed more light and provide context on youth's and stakeholders' perspectives in this regard. According to Zyoud, one of the main reasons there was an increase in climate change research after 2010 is that there were increased student exchanges and youth from the Arab region started to obtain more scholarships abroad. This is further bolstered by the information about climate change in the media and the increase of groups

[73] Zyoud and Fuchs-Hanusch, 2020
[74] Interview with Shaher Zyoud, 10 March 2021

working in this field[75]. Zyoud's and Fuchs-Hanusch's analysis does not do a breakdown of the age groups producing this knowledge. However, it is an indication of the overall l status of the academic knowledge production originating from the Arab region on climate change. During the interview, Zyoud shared that efforts were made to find references/reports on climate change originating from the Arab region, which were very limited. However, indicators of the study show that there is an increasing commitment from researchers to advance climate change studies in the Arab region, and this momentum needs investment in order to be built upon[76].

Forty-six per cent of youth reported that available information exists but is not provided in a simple way that can easily apply to one's work. The need for humanizing and simplifying scientific concepts was raised in many discussions as well as webinars addressing climate change issues. While there are youth climate actors who examine the scientific elements of climate change in their work, there are others who are worried about its consequences since they generally know of the dangers but without necessarily knowing the scientific background. Therefore, it is important to meet youth where they are and to provide them with the tools and platforms to create knowledge spaces for different types of learners and for different types of actors. In the long run, this will result in stronger impacts. Realizing the varying levels of climate literacy, a group of youth working through the African Youth Climate Hub, established in Morocco, developed a Climate Literacy module. More information about this module is provided in **Knowledge Product Spotlight #5.**

Youth also face challenges that raise more questions regarding inclusion and access. Survey results showed that there are access-related issues that youth are experiencing. Twenty-six per cent of youth responded that they are unable to access information because it requires payment or subscription: e.g. research websites that require payment or a university database that is restricted. Furthermore, different universities have access to various levels and qualities of databases.

In addition, many of the academic and research-based articles available online through an Internet search provides an abstract or sample of the article; however, payment is required for access to the full article. As one of the youth climate activists explained, "I can pay for a few here or there, but others cannot. Also, if I end up paying for all of them, the Internet is going to eat up all my money." Furthermore, 7 per cent of youth respondents indicated that they do not have regular access to the Internet. In fact, during YAG and other youth meetings organized for the regional report, several youth were often unable to join meetings due to power outages and limited-to-no internet interconnectivity in their towns. Separate follow-up was required with these youth.

[75] Ibid.
[76] Ibid.
[77] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

Youth also expressed challenges related to their own knowhow and skills. Survey results demonstrated that approximately 28 per cent of survey respondents expressed these types of concerns. Twenty per cent indicated that they do not know how to identify credible and reliable sources and 8 per cent responded that they do not know how to find research or scientific articles. Youth climate action draws on different skillsets, backgrounds, and interests. It is important to recognize the different experiences and backgrounds of youth who are operating in this space and provide educational opportunities to them. **The research data indicates that this is not only training on climate change concepts but also on the tools and approaches to finding the information that they need.**

Other challenges mentioned by youth include: 1) lack of information about the Arab region and the absence of in-depth analysis in the available information; 2) limited data availability and general difficulties in accessing available data. There is also a lack of transparency in the data; 3) the available data are more oriented and relevant to the United States and other non-Arab countries; 4) people in the Arab region do not have much awareness nor do they prioritize climate change due to other social and economic pressures in the region; 5) difficulty in finding a source that describes all the pollutants that contribute to climate change; 6) absence of sufficient local field studies while those studies that do exist are not shared or published; and 7) limited interest in sharing information about climate change.

BOX 04

Ways to Create Local Knowledge: Select Examples (Based on feedback from multiple interviews)

1. Graduate-level courses, especially master's and doctoral level research programs, on climate change need to increase and be promoted and enhanced. This can grow into studying and creating climate modeling for the region

2. Existing climate change courses need to be more developed. This would vary by university, but the general idea is that this field needs to be more developed in academia across the Arab region

3. Climate change studies require advanced technological tools, techniques, and remote-sensing satellites, which are currently weak and limited in the Arab region. This explains youth's challenges with regional specific data and regional climate modeling. Access to these tools is necessary. Many more institutes and centers need to be created and youth need to be encouraged to participate in these spaces and trained in how to evaluate the impacts of climate change on local ecosystems and societies

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Section Four:

KNOWLEDGE PRODUCTION

SECTION SUMMARY

- **Youth are producing different types of knowledge products in the climate action field**
- **Depending on the type of youth climate actor one self-identifies as, youth are contributing to the development of scientific and academic articles, awareness campaign materials and content, training manuals, social media posts, news articles, blogs, videos, policy papers, and several other types of knowledge products**
- **Youth are also valuing the importance of inter-disciplinary and collaborative work across different fields and disciplines. The initiative and the will to work in these spaces is present, albeit at varying degrees. However, they often lack the necessary tools or support for the development of collaborative work**
- **As the will and momentum are there, it is important for decision makers, policymakers, and educators to build on this foundation and create the systems and processes for youth to thrive and contribute in the climate action field**
- **An enabling environment is critical to support youth's knowledge production processes, including skills development, R&D environment, funding, sponsorship, mentorship, and a community of practice**

At the heart of understanding youth's engagement in the climate action space is an understanding of the knowledge they generate and contribute. This section sheds light on the following questions:

TYPES OF KNOWLEDGE

What types of knowledge do youth Arab climate actors generate?

FIELDS OF INTEREST

What are the focus areas/themes?

KNOWLEDGE PRODUCTION PROCESSES

How collaborative and inter – and multi-disciplinary are the knowledge generation processes?

As previously examined in the theoretical framework discussion, this section utilizes a broad definition of knowledge production that extends beyond academic and scientific knowledge contributions. Survey respondents were asked about the type of knowledge products they produce, and the areas of climate change they produce in. Considering the interconnectedness of climate change with multiple sectors and disciplines, youth were also asked to provide responses to how multi- and inter-disciplinary and collaborative their knowledge production processes are. An important element of this section is the challenges that youth shared they experience during their knowledge production processes. UNESCO Cairo aims to further examine these challenges in order to start, and in some cases, continue a conversation about the knowledge needs of youth in the climate action field.

4.1 TYPES OF YOUTH KNOWLEDGE PRODUCTS

As discussed in the section on youth climate actors, these youth are working in many sectors of climate action. They are primarily generating their knowledge products in the research and civil society/activism/awareness fields. Nuances regarding the meaning of research and Researcher as a type of youth climate actor, arose during youth interviews and meetings. Research could entail scientific-based research although not necessarily through academic institutions. The meaning could also capture youth climate actors who are not trained in research but do conduct research as part of their climate action efforts. Research could also entail a young person's personal observation of a particular issue that leads him/her to ask question and further pursue the issue and post a social media post or photograph on their media platforms to shed light on a new topic. Per survey results, 42 per cent selected research as their primary sector of work, 41 per cent responded civil society/activism/awareness, and 40 per cent selected academic. Youth were also provided a choice to select from other sectors such as entrepreneurship, government/policy, journalist, freelance writing/blogging and a few others[78]. However, each of these sectors were selected by less than 20 per cent of respondents. Nonetheless, it is noteworthy that there is still some level of engagement from youth in these areas. Some of the less represented sectors will be highlighted in some of the knowledge products presented in this report. Other fields in which youth mentioned they work include banking, agriculture, training and environmental education, volunteer organizations, real estate and development, and services to people (as opposed to products).

During interviews, questions about youth's contributions to knowledge production in the field of climate change were more obvious to some more than others. This was evident during discussions with different types of climate actors. For example, for those working in academia or research, it was straightforward for them to answer articles or graduate level dissertations. For others such as entrepreneurs, they needed to think more deeply about whether they are producing knowledge or using knowledge to create a service. For those who produced artwork, for example, they pondered whether a painting or a photograph may be considered a knowledge product.

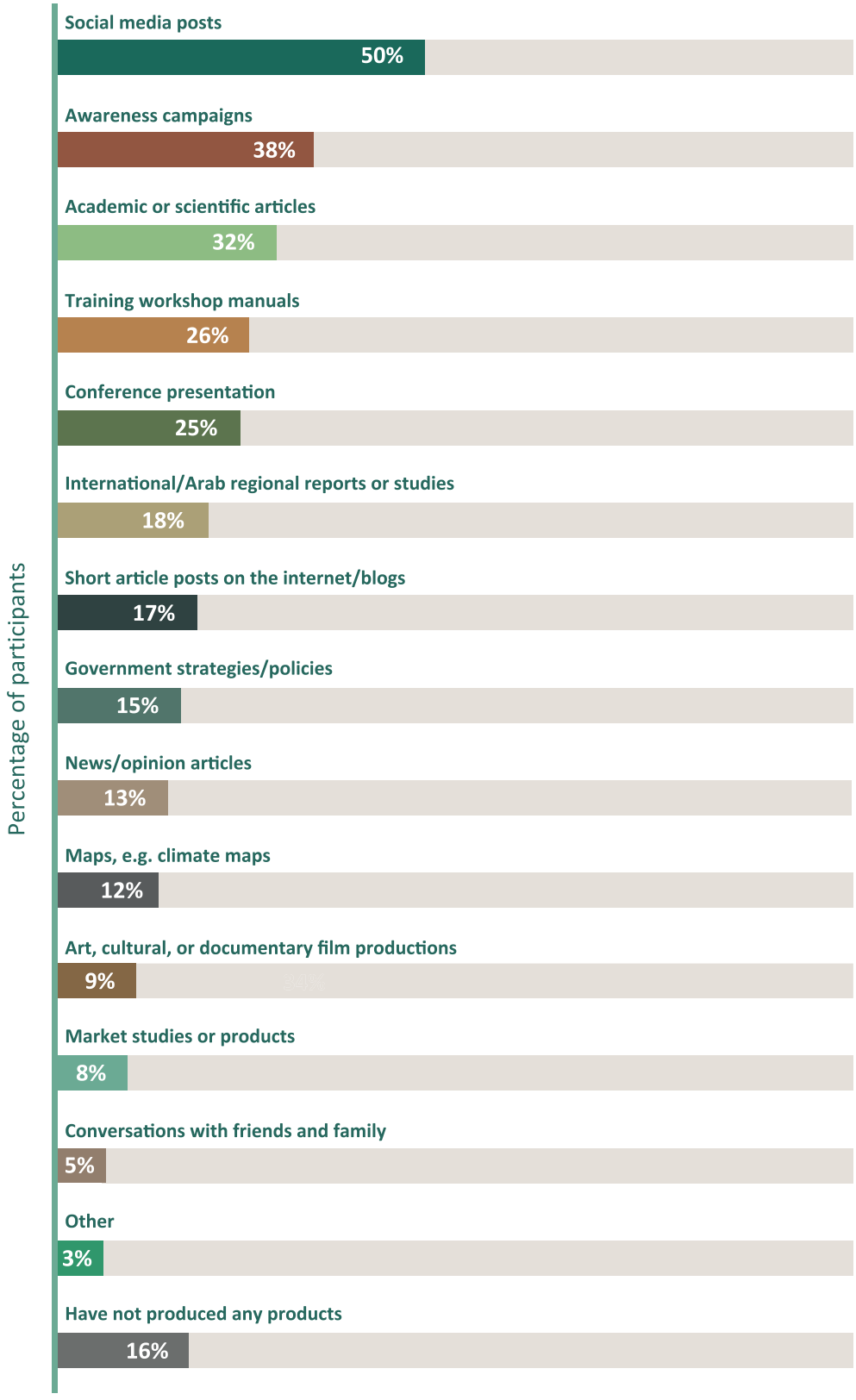
Youth were asked to share the type, if any, of knowledge products they produce. This occurred throughout the process of gathering information for this report including during youth interviews, case study interviews, and as part of the regional survey. In the survey, participants were provided a selection from a wide range of choices and were able to select more than one response. If someone did not produce a knowledge product, they could also select this as a response. A brief description about what **knowledge product** means was provided in the survey in order to further contextualize this question[79].

This was especially important as during interviews with youth, many interpreted knowledge to mean only a scientific contribution. *Figure 14* presents the types of knowledge products that youth selected they generate work in in the field of climate change.

[78] These are presented in Annex B: Additional Regional Report Graphs, Figure K, Sector of climate change in which participants generate knowledge products

[79] Definition of knowledge product provided youth in the survey: "'Knowledge product' refers to any knowledge contribution you have made in the field of climate change. Think about any material/product you have developed either in your job, studies, your entrepreneurship work, volunteer experiences, activism, or general interests"

FIgure 14: Type of knowledge products related to climate change that youth actors produced or contributed to producing (Total Responses: 406; 100% participation rate)



As seen in *Figures 15.1 and 15.2*, the top five knowledge products vary by the type of youth climate actor, where some of the less selected responses presented in *Figure 14*, are some of the youth actors' top five choices. The research data did not yield any differences in knowledge production from a gender perspective, where the survey results were comparable. Before delving into the products by climate actor, the following discussion provides some context to the collective responses provided by participants for some of the knowledge products they selected.

4.1.1 Social Media Posts

Social media has changed human interaction and knowledge access, creation, and dissemination in unprecedented ways. As it has in many fields, the findings of this report also show the prevalence of social media in youth's climate action activities – not just in sharing information, but also in creating knowledge. Per the survey results, 50 per cent of youth selected social media posts, e.g. Facebook, Twitter, YouTube, etc. as the type of knowledge product they produce. Findings from this report indicated that social media is both a major source of science information as well as it is a platform for knowledge production. To provide further context regarding the role of social media in youth climate action and knowledge production, FGDs were organized to further analyze the survey data regarding this topic. *Box 5* provides a synthesis and analysis of this discussion.

BOX 05

Social Media Posts as Knowledge Products? A Closer Look at What this Response Means

Social media is often considered as a dissemination tool. However, this study showed that social media posts are also a form of knowledge product. To further contextualize and understand the youth's selection of social media posts as a type of knowledge product that youth generate, two FGDs were organized with youth who participated in the survey and provided their contact information for further follow up if requested. An email request was shared with all youth who selected "social media" to provide them an opportunity to participate in the discussions. The discussions provided important perspectives on how youth understood this question and the deliberations they make when thinking about knowledge production and their contributions. While the field of youth climate action is growing in the Arab region, the discussions highlighted the critical thinking taking place in not only the field of climate action, but the larger field of knowledge production, research, and creation in the Arab region. These insights are further explained here and reflect the spirit of the general conversations:

- When asked to define knowledge production, different answers were elicited. Youth shared that knowledge production is the process of thinking of an idea for an initiative or a product and undertaking the steps to produce it. It is also the skill to search for resources, understand if they are credible or not, and know how to utilize them in the product development. Some of the youth respondents indicated that due to the scarcity of information, statistical data, and research about the climate and environment issues in the Arab region, they feel that they need to fill this gap through creating this information in the ways they know how to, for example posting on social media. This point correlates with the information gap discussion under *Figure 12*/Information Gaps. For example, this includes personal observation, i.e. taking a walk "down the street", directly observing the situation, and documenting it, and creating social media posts as

knowledge products to shed light on the issue. FGD participants explained that since it is not easy to publish their work, social media platforms provide anyone an opportunity, whether they have experience or not, to create and share knowledge

- Youth expressed the critical challenge of not having enough sources in the Arabic language or on the Arab region. Even international reports that speak about the Arab region, are more general. Meanwhile, there are insufficient studies about climate change on local and grassroots levels, and that is the information that youth need and are looking for. Therefore, they create social media posts that reflect the realities of their countries, and many write in Arabic to reach the general public

- When asked about examples of social media posts that are knowledge products, some of these included: live streams of panels on climate change facilitated by youth; "hijacking" accounts of social media influencers and creating hashtags to spread awareness about climate change issues; or taking photos of observations witnessed in their neighborhoods and areas and writing a description and posting these on social media. Since many books and academic articles are in English or are not accessible to many people (especially those who do not have access to university databases for example), those who have access, analyze, synthesize, and create summaries of the information and post them, largely in the Arabic language and share these posts on either their personal social media pages or on platforms or groups that they are a part of

- Youth also create online pages where they write extensive posts, opinion pieces, and create pages on Facebook (Meta), to simplify academic information in terms and language that people will understand to make an impact on their lives

- In addition to these types of social media products they are creating, youth also debated and for a large part agreed that sharing information is a form of knowledge creation since information that would have not been known before is being shared – which is by default creating knowledge

- Social media provides a space for youth to share their opinions. Youth do not necessarily feel that they need to produce scientific or academic knowledge products, since they have a space to create and share their opinions on social media. These opinions are strong enough to have an impact on formulating youth's thoughts

In summary, social media posts, in their varieties, are seen by some as a form of knowledge production. This can be placed in further context per the discussion on modes of knowledge in Section I. Youth climate actors realize that these may not necessarily be research or academic based, however, they create a new set of knowledge that would have otherwise not been available.

As a further note on *Box 5*, one of the social media platforms that was also examined for this report is YouTube. Based on an article published in New Media & Society, YouTube is suitable for knowledge creation[80] beyond just the dissemination of knowledge[81]. To further contextualize the use of YouTube among young science communicators in the Arab region, a case study interview was organized with youth who self-identify as science communicators. **Knowledge Product Spotlight #6** provides more information on how they utilize YouTube to create and share knowledge about climate change.

4.1.2 Awareness Campaign Materials

Many youth create awareness campaign materials and publications. This can be attributed to the increasing number of youth climate activists in the region. These materials include printed slogans, brochures, reading publications, factsheets, and other types of digital and non-digital messaging. An example of this type of knowledge product is from RIM Youth Climate Movement in Mauritania. More information about the product is provided in **Knowledge Product Spotlight #7.**

4.1.3 Academic and Scientific Articles

Youth are also producing academic and/or scientific articles: journal articles, Master's theses, or PhD dissertations. Thirty-two per cent of youth reported that these are knowledge products they have generated. While this percentage does not seem high, it is important to consider a few points. On one level, this could be attributed to the lower percentage of academics that participated in the survey. On the other hand, this could also correlate with the discussion on the limited amount of climate change research in the Arab region per Zyoud's and Fuchs-Hanusch's article as well as research article findings on the general state of R&D in the Arab region. The Arab region lacks a robust R&D environment that provides opportunities for research and peer-review processes. This makes it more challenging for academics or researchers to identify publication opportunities. With that said, and as different youth knowledge products are highlighted in this report, youth are producing in this field. *Box 6* provides a high-level overview of a doctoral dissertation currently being developed.

[80] Kaiping Chen, June Jeon, Yanxi Zhou. A Critical Appraisal of Diversity in Digital Knowledge Production: Segregated inclusion on YouTube. July 4, 2021. New Media & Society, page 2. Citations from Cunningham and Craig, 2019
[81] Ibid, Citations from Dubovi and Tabak, 2020; Shifman, 2012
[82] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[83] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

BOX 06

A Perspective from Libya: Climate Change in PhD Dissertations

Currently, Asmahan Ali Al-Mukhtar Othman is writing her PhD Dissertation entitled Modeling Temperature Changes in the Az-Zawia Region for the Period from 1961-2099 Using Spatial Techniques. As part of her research, she is utilizing data from Tripoli airport station, which is 35 kilometers away from the Az-Zawia region. The data was calibrated by SDSM technology for use in future simulations and modeling for the period 2010-2099 and to support decision-making in future temperature prediction. To develop emissions scenarios needed to analyze climate changes throughout the twenty-first century, she utilized HadCM3 produced by The Hadley Center of the UK Met Office. To date, her research has found that the period between 2040 and 2069 is considered a critical one for the Zawia region, which will witness peak changes of high temperatures. During this period, temperatures will peak during the winter and spring seasons and decrease during the summer and autumn. Asmahan has been able to share her research findings at multiple academic conferences inside and outside of Libya. One of the challenges that Asmahan experiences is the lack of data and information originating from Libya as well as more generally about climate change in Libya. Additionally, in some cases she is required to pay for sources at the national entities that have the data on file, which can be pricey. Another challenge she is facing is the high expense of technologies and tools required for climate change modeling. Asmahan explains that these are issues for all young researchers in the field and hopes that training on different climate change models could be offered to researchers in order to enhance their knowledge, experience, and contributions in the climate change field.

4.1.4 Training Workshop Manuals/Presentations

Youth climate actors are also producing training workshop manuals. Many youth climate actors explained that most trainings are based on manuals and information developed in Western countries, and so there is a great need to have local information. The Egyptian social enterprise Greenish is one organization that aims to address this important gap that many youth in the region are experiencing. Greenish does this through developing localized training manuals. They have developed a set of training curricula in Arabic that focuses largely on environmental issues while also addressing climate change modules within this context. More information about the Greenish training modules on climate change are provided in **Knowledge Product Spotlight #8.**

KNOWLEDGE PRODUCT SPOTLIGHT #8[84]

Greenish Environmental Manuals

[84]Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

Meanwhile, in Iraq youth volunteers from the Iraqi Green Climate Organization (IGCO) explained that environmental and climate change awareness in Iraq is almost non-existent. As a result, IGCO aims to fill this important need in society through developing and offering training on climate change and biodiversity in Iraq. More information about the training workshops delivered by IGCO is provided in **Knowledge Product Spotlight #9.**

KNOWLEDGE PRODUCT SPOTLIGHT #9[85]

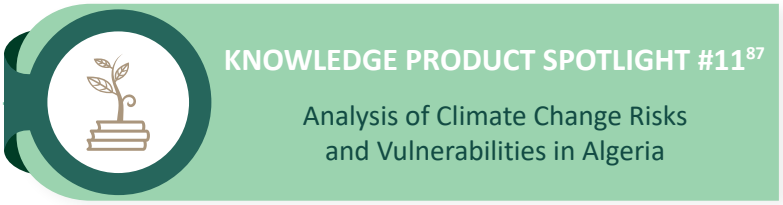
Training workshop presentation on the Impact of Climate Change on Biodiversity and Wildlife in Iraq

Youth climate actors also reported that they participate in national, regional, and global conferences on climate change. A number of these youth are active participants, who develop and present conference presentations, organize information booths, and create publication materials that they also present. Additionally, they also develop youth opinion statements or policy briefs on related issues as well as policy recommendations. Many youth delegations attended COP26 in Glasgow in 2021. *Box 7* provides an overview about some of the YAG members who attended COP26 as well as the knowledge products they developed and presented at the conference.

4.1.5 Government Documents

Some youth climate actors can be found working in ministries of environment or other related ministries in the respective countries they are from or are currently living in. These are young employees who are supporting and making important contributions to climate change policy discussions. They are involved in developing government strategies, research and analysis, and reports about the state of climate change in their countries.

[85] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights



Knowledge Product Spotlights #10 and #11 provide a background about two of these youth from the UAE and Algeria. Additionally, there are also some countries in the region that are inviting youth to join workshops and forums to solicit their feedback on environmental and climate change issues and contributions to strategies and frameworks being developed. Although there is a strong desire among youth that this type of engagement be significantly increased. Moreover, other youth climate actors work in government agencies/ministerial departments and other institutions that utilize GIS and remote-sensing models to assess climate change patterns over set periods of time.

These youth create maps, reports, and assessments that are utilized by their governments as important data to inform policies. **Knowledge Product Spotlight #12** provides more information about a young climate actor's contribution in developing such maps as part of her government job.

4.1.6 Translation/Adaptation of Material

Another knowledge product to bring attention to is the translation and localization of international products to Arabic and the Arab context. According to several youth who were interviewed, many international organizations create models, best practices, training manuals, and other materials that provide comprehensive information about climate change. In some circumstances, youth in the region translate these into Arabic and/or localize them, many times on behalf of their organizations. In some cases, where information is free and open access, youth climate actors also draw on it in order to inform trainings they are developing. While youth climate actors acknowledge this may not be a new knowledge product, they also share that it is creating new information that would have otherwise not been available.

[86] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[87] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[88] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

BOX 07

Youth and Knowledge at COP26

Youth delegations have been participating in COP over the past several years. While some of these youth are part of national delegations, others represent different organizations and entities that they are working or volunteering with in their countries, regionally or globally. Several YAG members participated in COP26 in Glasgow, Scotland. Among these youth are Abdallah Alshamali, Nouhad Awwad, Sarah Al-Harthey, and Shaemma Mebwana, who further provided their perspectives on the knowledge products they produced for the conference.

Abdallah (Jordan): represented his organization, Friedrich-Ebert-Stiftung (FES), and the project he works on, Regional Climate and Energy Project in MENA. During the conference he and his colleagues organized three events that highlighted youth in MENA. Two of these were about communicating climate change to MENA youth during which Arab youth were invited to talk about their journeys to become climate activists. Abdallah and his team also developed and screened a video in collaboration with travel vlogger Ibn Hattuta that aims to spread awareness about climate change. The video is especially targeted towards youth audiences in the MENA region.

Nouhad (Lebanon): participated in COP26 as a campaigner for and representative of Ummah for Earth (U4E), which is part of Greenpeace Middle East and North Africa. U4E is an alliance-led project that includes 10 organizations in MENA, Europe, and Indonesia. U4E participated to make youth's voices heard by political leaders, and Nouhad made statements through videos, social media, and email. During the first week of COP, U4E lit up the Glasgow Central Mosque with solar energy and launched the Green Mosques Initiative: Empowering Community-Led Sustainable Solutions during the second week. They also produced a series of videos about the event: Going to COP26 - Message to youth and 1.8 billion Muslims - Message to Leaders - Critical Time at COP26. During her time at COP26, Nouhad and her team created an "emailing journey" where they shared videos and informative visuals about COP26 as well as press releases during significant events. They had a U4E landing page, which received 105,000 visitors.

Sarah (KSA): represented YOUNGO, the UNFCCC youth constituency. Sarah spoke on three panels representing a youth perspective and drew on her experiences from publications she worked on with FES and the World Bank. After COP she also participated in another panel where she provided her insights about the conference as well as the status of youth in the region. During this panel Sarah provided her reflections on the outcomes of COP26 and the impacts it will have on the Arab region. Sarah is hopeful that COP27, as it will be held in Egypt, will provide Arab youth with an opportunity to present their stance on climate change and to bring about a unique perspective about the initiatives and activities taking place in the region.

Shaemma (UAE): represented the Ministry of Climate Change and Environment. She is a member of the UAE negotiation team and is also a member of the Youth Council in the Ministry where she was responsible for managing the UAE youth delegation. Overall, the UAE

delegation included 200 individuals, 70 per cent of them youth. During COP Shaemma was invited as a speaker in a panel entitled "Bridging the Generational Divide: Championing Youth Innovation", which was hosted by SDG7 Youth Constituency, in partnership with UNIDO. During this panel Shaemma highlighted the UAE's achievements in supporting youth in the field of environment and energy, involving young people in decision-making, and supporting their projects that serve the UAE's vision of combatting challenges related to climate change. Her participation in COP will support her work in overseeing the adaptation portfolio that she is responsible for managing at the Ministry.

Abdallah, Nouhad, Sarah and Shaemma are examples of youth from the region who actively participated and produced and shared their knowledge at COP26. As COP27 will be held in Egypt, there is an opportunity for youth to mobilize from across the Arab region to raise their voices, actively participate, lead, and mobilize more youth throughout the region to participate and take action on climate change in their countries and around the world.

Some of this information is also relevant to the topic of Knowledge Dissemination and may be considered useful in addressing both issues.

4.1.7 Art Forms as Knowledge

There is a growing number of youth climate actors who are creating art forms to convey messages about the environment and climate change. These youth work under the umbrella of environment and sustainable development and reference SDG 13 in their activities. They utilize environmental-friendly materials and tools to make their art forms and pieces; for example in fashion and design, food and cooking, paintings, videos, clothes, and other forms. They supplement their art with information about the importance of addressing environmental issues. One such group is the Sustainable Fashion Alliance in the Middle East and North Africa (MENA) region, which is mobilizing different age groups, especially youth, to examine the footprints of the fashion industry. The founders are a group of fashion-brand designers, fashion and art bloggers, stylists, manufacturers, and industry players in the sustainable fashion arena who are passionate about making positive changes in consumer behaviors and educating the public at large about the harmful impacts of the industry on the environment. To spread their message, the Alliance's mission is to use their digital platforms to raise awareness, to educate and advocate for sustainable fashion and an eco-friendly lifestyle in the MENA region, and to create a community of connections and collaborations for both industry players and consumers. They also partner with youth who are social media influencers in the field of fashion in order to shed light on this important issue. More information is provided in *Box 8*.

BOX 08

Sustainable Fashion Alliance

The Sustainable Fashion Alliance's work is guided by the SDGs, including SDG 13 on climate action. Considering the fashion industry's impacts on the environment, their mission is to raise awareness and advocate for sustainable fashion and lifestyle in the MENA region through creating a community of connections and collaborations for both industry players and consumers. As part of their work, they work with relevant individuals and entities in the industry to reach youth populations in the Arab region through social media platforms as well as training workshops on how to make sustainably fashionable choices.

4.1.8 News/Opinion Articles

Figure 14.1 demonstrates how Journalists/Bloggers/Writers were the only type of youth climate actor to select news/opinion articles as one of the top five knowledge products they produce. Thirteen per cent of youth reported that they produce news and/or opinion articles as knowledge products. This could correlate to the lower percentage of Journalists/Bloggers/Writers who participated in the survey, which links back to what was previously mentioned about the area of environmental journalism still being a relatively new sphere in the Arab region. **Knowledge Product Spotlight #13** introduces a news article in the Lebanese newspaper, *An-Nahar*, which was produced by a youth who considers himself one of the few environmental journalists in Lebanon.

KNOWLEDGE PRODUCT SPOTLIGHT #13[89]

Climate Change in Lebanon… It is not too Late

Another group producing news about climate change is Holm Akhdar, based in Yemen. While many of their articles focus on environmental and climate change issues in Yemen, they also cover other countries in the region. **Knowledge Product Spotlight #14** provides more information about *Holm Akhdar*. One of their articles on climate change and conflict is also featured in *Box 9*.

KNOWLEDGE PRODUCT SPOTLIGHT #14[90]

Holm Akhdar Electronic Platform

[89] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[90] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

BOX 09

Climate Change and Conflict

Many youth indicated that climate change is difficult to think about for many people in the Arab region today when they are without electricity, jobs, and water. They mentioned that climate change does not necessarily come up as a priority in the midst of war and conflict. While this report does not examine this relationship, an article by Holm Akhdar here provides perspectives on the interconnectivity between conflict and climate change. https://holmakhdar.org/reports/433/

4.1.9 Videos

Youth climate actors are developing videos as another type of knowledge product. While these products can be categorized under awareness campaign materials, they also go beyond this purpose and require further exploration. During many of the discussions with youth, they explained that an issue of relevance today is the significant amount of information available online. Due to a saturation of material many people find it difficult to read everything that is available. Therefore, youth activists have found that creating sound bites of information helps them achieve their goals more effectively. Videos help them reach more people and they also have the added benefit of showing visuals which usually resonate with people and create lasting impressions on them. Nisreen Al-Saim is a youth climate activist from Sudan. She is also the Chair of the UN Secretary-General's Youth Advisory Group on Climate Change. Witnessing the impacts of climate change in areas of Sudan in 2020, she felt that she had to spread a message. As she delivers trainings on a voluntary basis in Sudan, one of the UN agencies she volunteers with supported her initiative to film the impacts of climate change in a few regions of Sudan. **Knowledge Product Spotlight #15** provides more information about Nisreen's video.

KNOWLEDGE PRODUCT SPOTLIGHT #15[91]

Eyewitness on Floods as a Climate Crisis in Sudan

[91] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

4.1.10 Country, Regional, and International Level Reports

Many youth climate actors are engaged in developing and contributing to the development of reports on climate change issues at the country, regional, and international levels. Eighteen per cent of survey respondents indicated that they contribute to international and/or regional reports and studies on climate change in the Arab region. Arab Youth Climate Movement Qatar is one organization that produced such reports. One of their reports is featured in **Knowledge Product Spotlight #16**. Furthermore, there are also regional and international organizations that are running programs to support youth engagement in research and report development. One such report is featured in **Knowledge Product Spotlight #17**, which was written as a policy paper by a group of youth climate actors from multiple countries in the region.

KNOWLEDGE PRODUCT SPOTLIGHT #16[92]

Arab Youth Climate Movement Qatar (AYCMQA)

KNOWLEDGE PRODUCT SPOTLIGHT #17[93]

Energy and Climate in the MENA Region: Youth Perspective to a Sustainable Future

4.1.11 Knowledge Products from Entrepreneurs

Green entrepreneurship is increasing incrementally in the Arab region, more in some countries than others. Some organizations are supporting youth climate actors who are establishing start-up enterprises that seek to reduce negative environmental impacts. While entrepreneurs shared that they create services rather than knowledge products, their journeys to establishing services include the creation of new information to inform their business ideas. These include market research and feasibility assessments as well as external materials that show how their businesses are environmentally responsible and climate-friendly. One of these entrepreneurs provides more perspective on his experience developing such a social enterprise in **Knowledge Product Spotlight #18.**

KNOWLEDGE PRODUCT SPOTLIGHT #18[94]

Water Will Start Up Market Study/ Assessment

[92] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[93] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[94] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

4.1.12 Other Types of Knowledge Products

- Contributing to their country's climate change adaptation strategy
- Identifying and inviting speakers to participate in learning sessions
- Hosting climate change-related webinars
- Work-related research on climate change issues
- Country-specific reports
- Project design for proposals
- Trainings on climate change mitigation
- Impact studies on the effects of climate change on a country's natural and human resources

4.1.13 Cases of No Knowledge Production

While many youth climate actors reported on the knowledge products they produced, many also indicated that they did not create any. During the report research process, extensive efforts were made to identify knowledge products. The ability to find these products depended on the country, type of sector, access to youth working in the field, as well as the current situation in the country and youth's level of engagement in climate action. The survey results showed that 16 per cent of survey respondents reported that they have not produced any knowledge products. One youth commented that while he participates in COP conferences, he is still in search of opportunities to actively participate in climate change activities at his university. However, he notes that it is challenging to find these opportunities in the country he lives in. As he says, "I am working on it"[95]. Therefore, there is an intention and a will; however, the environment and a lack of access to opportunities are what is causing a barrier for the type of engagement this young person is seeking.

Additional explanations provided by youth on why they have not produced knowledge products include that they are still studying either at university or through training workshops. Furthermore, one of the youth interviewed for this report believed many youth are passively *participating* in climate action activities but not necessarily actively *producing*. He indicated that the large number of workshops and events taking place in climate action by different entities do not allow for deep and meaningful participation. This feedback could be further explored in future studies that examine the level and depth of youth engagement in climate action in the region. While it is evident that youth are producing in the field of climate change in the Arab region, there are still many who hope to be more engaged.

4.1.14 Knowledge Product by Type of Youth Climate Actor

Figures 15.1 – 15.2 provide a breakdown of the top six knowledge products selected by different types of youth climate actors. A list of these is included in *Box 10* for reference. In *Figure 4*/Type of Youth Climate Actors, youth were able to select more than one type of actor profile; however, *Figures 15.1 – 15.2* do not consider the youth actor combinations: e.g. Activist and Academic or Entrepreneur and Artist, etc.

[95] Survey Respondent, UNESCO Regional Survey on Knowledge for Youth-Led Climate Action in the Arab Region, 2021

BOX 10

List of knowledge products selected by youth climate actors

- Academic article or scientific articles
- Art, cultural, or documentary film production
- Awareness campaigns
- Conference presentations
- International/Arab regional reports and studies
- Market studies or products
- News and/or opinion articles
- Short article posts on the internet and/or blogs
- Social media posts
- Training workshop manuals

Figure 15.1: Top knowledge products produced by each type of youth climate actor

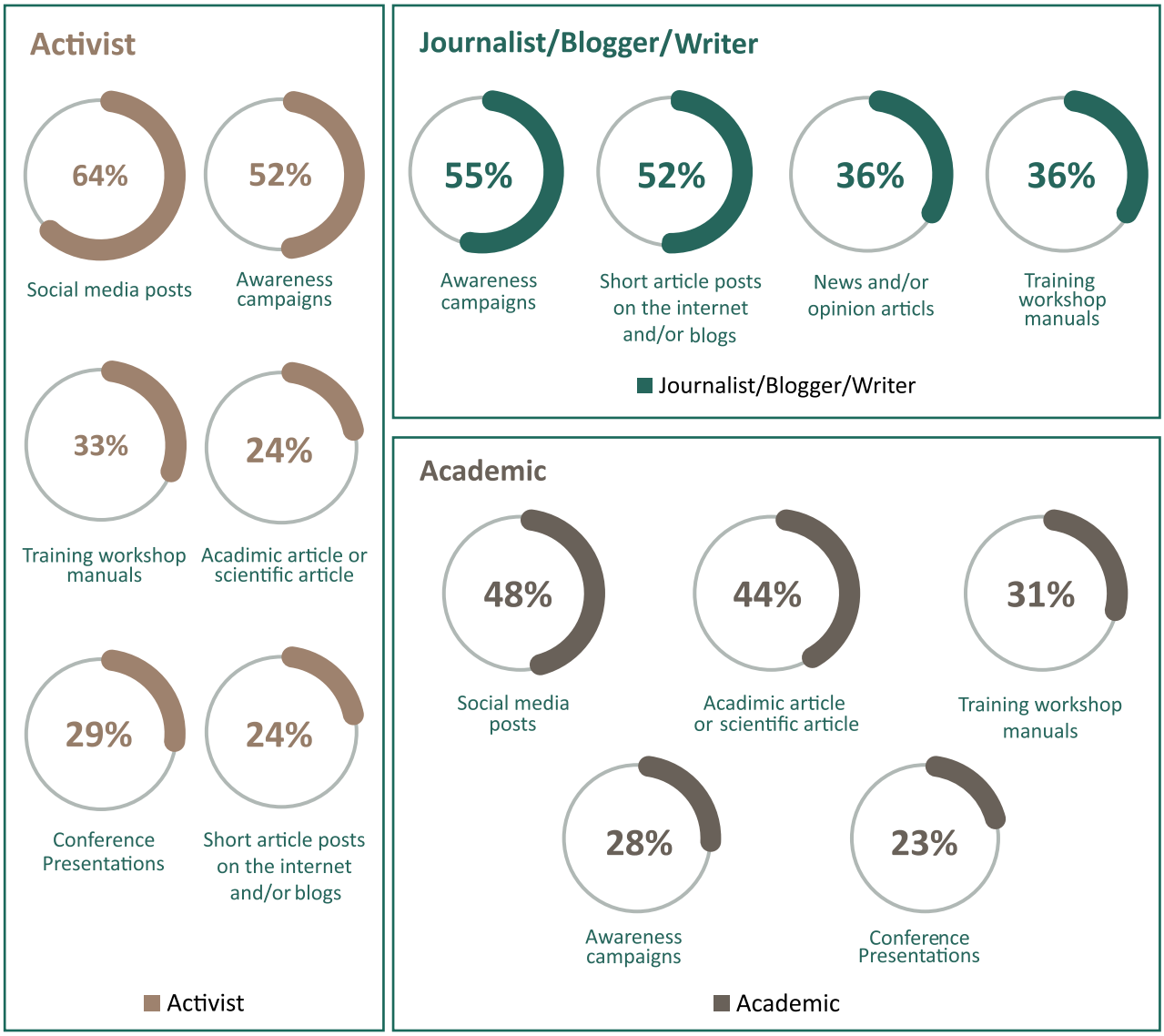
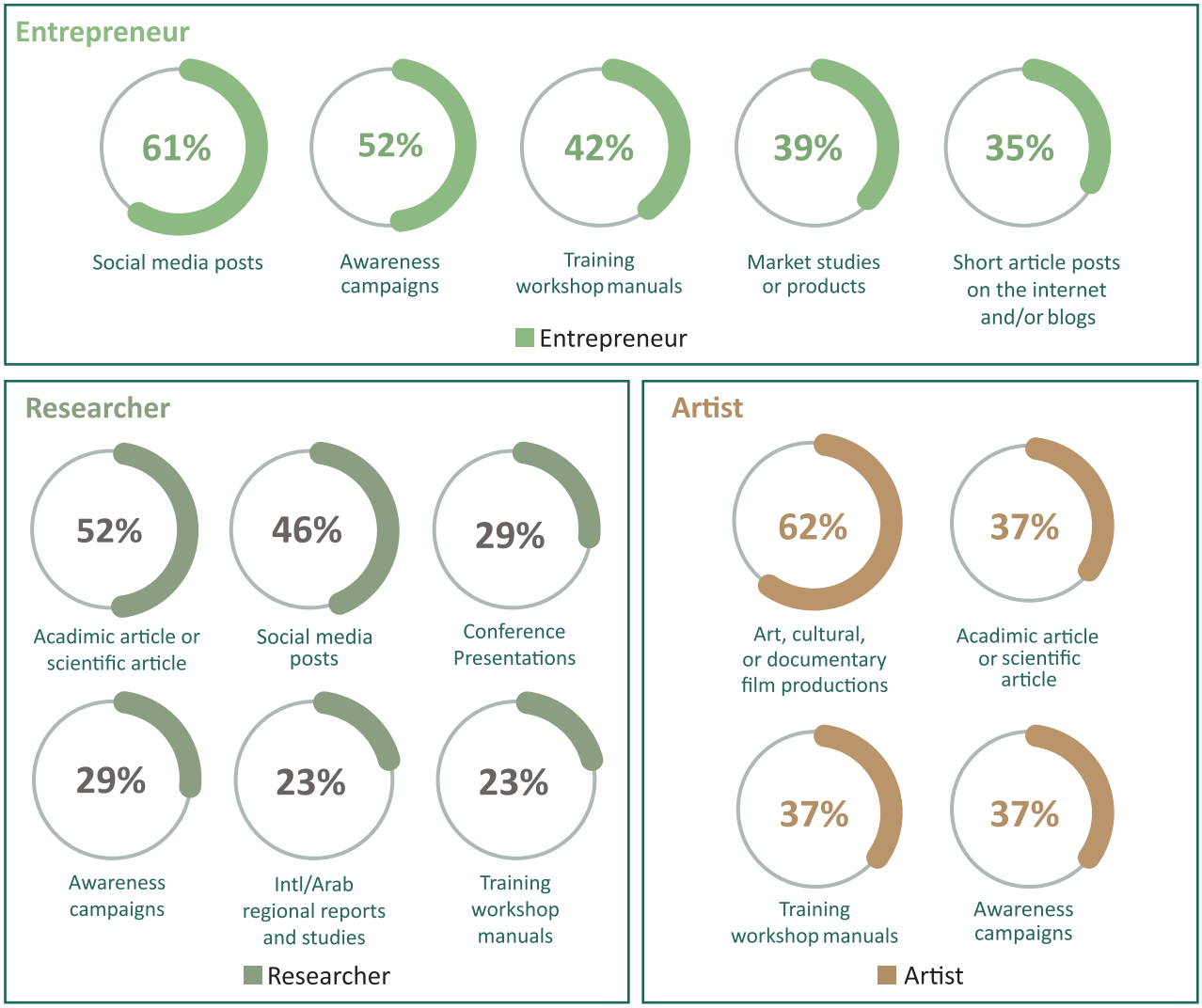


Figure 15.2: Top knowledge products produced by each type of youth climate actor



SPOTLIGHT QUESTION

Do youth climate actors in the Arab region explore the topic of the impact of climate change on cultural heritage?

Home to some of the oldest civilizations of the world, the Arab region is known for its rich cultural heritage as well as its natural heritage. Due to the importance of this topic to UNESCO's mandate on global and regional levels, it was important to examine whether there are youth climate actors who are working on studying the impacts of climate change on heritage. During interviews as well as various meetings with youth and stakeholders in the region, interlocutors were asked whether they are familiar with individuals who are studying this thematic intersection.

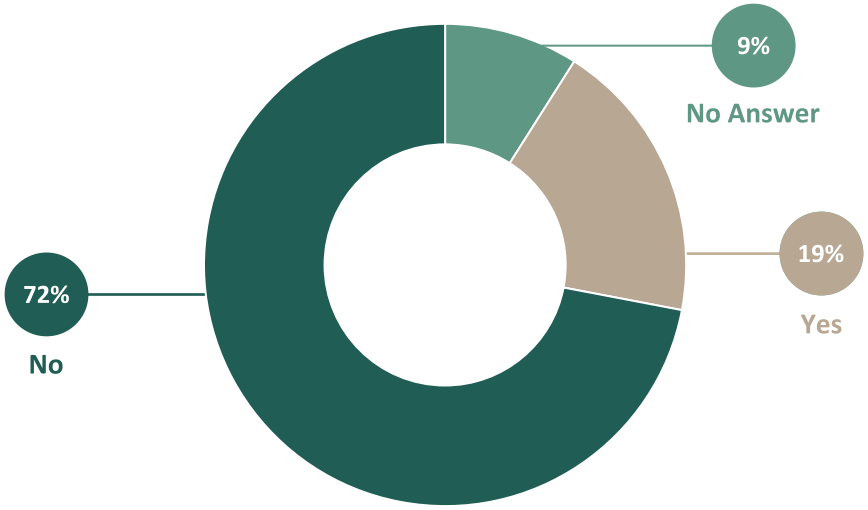
It was challenging to identify someone working in this space. In order to explore the issue with a wider audience, a question about youth's exposure and/or contribution to this field was included in the report survey. Youth climate actors' responses are provided in *Figure 16*. Youth who responded "yes" were provided an opportunity to share the knowledge products they had produced in this field. Forty-six youth provided comments. The m jority of these comments did not include knowledge products. Rather, they included perspectives or experiences on the topic as follows:

UNESCO Initiative on Climate Action for World Heritage

More information can be found here: https://whc.unesco.org/en/climatechange/

- Links to articles or videos they had watched on a related topic, although not necessarily connected to climate change and cultural heritage
- Some shared that they have studied the issue through either formal or informal education, including at the university level as well as through other types of educational programs
- A few produced articles related to the field, or closely related
- Most youth expressed the importance of exploring this topic further

Figure 16: Percentage of youth climate actors who have read about, or produced, any knowledge products on the issue of the impact of climate change on cultural or natural heritage (Total Responses: 406; 100% participation rate)



KNOWLEDGE PRODUCT SPOTLIGHT #19[96]

The Assessment of the Impact of Climate Changes on the Cultural Heritage in Egypt Using Remote Sensing and GIS Techniques

With that said, a few youth are specifically working in this field. **knowledge product spotlight # 19** highlights the work of one youth from Egypt who wrote his PhD dissertation on the impacts of climate change on cultural heritage in Egypt.

[96] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights

4.2 FIELDS OF INTEREST IN KNOWLEDGE PRODUCTION

Youth's knowledge products span a wide array of fields of interest. This information is helpful in contributing to an initial understanding of which areas of climate change are being studied in the region and what requires deeper examination, which could be the subject of future study. Sixty-eight per cent of youth climate actors are generating products related to the effects of climate change, while 60 per cent are focusing on the causes of climate change. Youth are also looking at mitigation and adaptation strategies within their work as well, where 46 per cent and 35 per cent respectively, reported that they are producing knowledge products in these areas[97].

The report also sought to obtain a preliminary understanding of whether youth climate actors perceive their work as part of an inter-disciplinary approach through studying climate change in relation to other fields. Therefore, they were asked about the disciplines that they work in at the intersection of climate change and interrelated subject areas. As per the survey results, 48 per cent of youth climate actors reported that they "agreed" with the statement that "My climate action work addresses climate change and its intersection with other disciplines and fields. For example, ecology, economics, sociology, etc." and 33 per cent "strongly agreed." Only 3 per cent of youth "disagreed" with the statement[98]. This demonstrated the importance youth climate actors are placing on looking at climate change holistically.

Box 11 provides examples of the topics youth climate actors reported they are covering at the intersection of climate change and other fields.

BOX 11

Select samples of inter-disciplinary work: my work focuses on the intersection of climate change and…

- Biodiversity
- Politics
- Economics
- Sociology
- Effects of pollution
- Social responsibility
- Water resources and health
- Energy
- Environmental design
- Mitigation in the energy sector and its intersection with the economy and society
- Sustainable development
- Environmental engineering
- Impact on tourism
- Circular economy
- Climate entrepreneurship
- Clean fuel production engineering
- Ecology
- Civic participation
- Knowledge accessibility
- Agriculture
- Wildlife conservation

An important takeaway from this data is that the majority (48 per cent of youth agreed and 33 per cent strongly agreed) believed that their work is inter-disciplinary in nature, showing the interest and importance that these individuals are placing on this type of research, study and work. However, when looking at this data, it is important to keep in mind that for some youth the definition of climate change and how that definition relates to their own discipline is not clear. Therefore, when they answer

[97] Annex C: Additional Regional Report Graphs, Figure L, Area of climate change knowledge in which participants generate product

[98] Annex C: Additional Regional Report Graphs, Figure M, Degree of agreement with the statement that participants' climate action work addresses climate change and its intersection with other disciplines and fields. For example, ecology, economics, sociology, etc.

the question about inter-disciplinary work, the results may not be accurate. Further analysis would be needed to examine this point.

With that said, some youth climate actors still believe that more work is needed to support youth in clearly defining climate change issues and its interconnectedness with other fields. According to Muwaffaq Al-Khedery from the UAE Ministry of Climate Change and Environment, it is important that youth and all researchers are provided with spaces where they can discuss the inter-disciplinary nature of their work on climate change. This is important so that they understand how the different topics interact with and impact each other. The Ministry has established a research group, UAE Research Climate Network, to actualize this goal, amongst others[99].

Another area of examination in the report was how collaborative youth's knowledge making processes are. It appears that youth have a strong inclination to collaborate in this field. According to the survey results, 46 per cent of youth climate actors agreed with the statement "I develop my knowledge products on climate change through collaborative processes with others from different sectors and disciplines" and 35 per cent "strongly agreed."[100] However, one result that yields contrasting data is that 32 per cent, albeit not a majority response, of youth climate actors reported that they do not know how to find someone with whom to collaborate as discussed in Section 4.4. Therefore, while some see their work as collaborative, there are still others who require support in finding avenues to connect with other climate actors from different disciplines and sectors. The abovementioned network at the UAE Ministry of Climate Change and Environment, could be a good example of such spaces. This area requires more examination. More specifically, how youth understand collaborative processes and what they see their challenges are in identifying individuals to collaborate with.

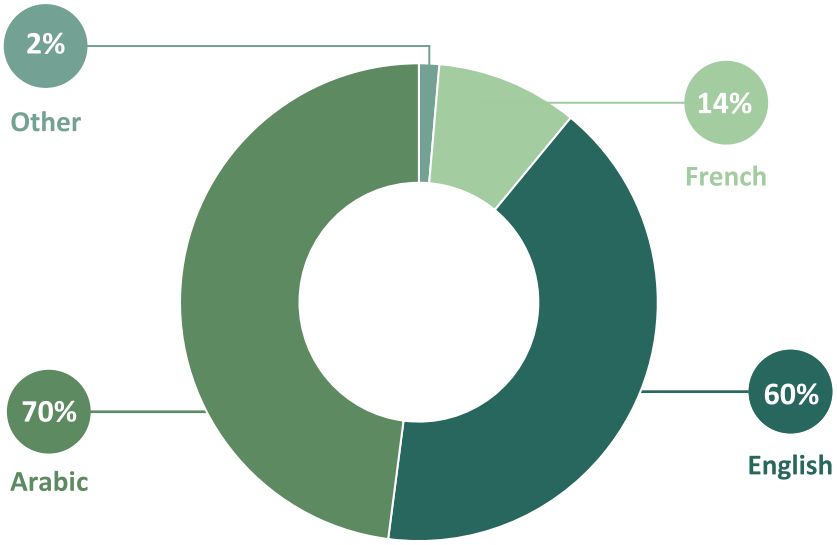
4.3 LANGUAGE OF KNOWLEDGE PRODUCTS

While youth primarily source information about climate change in the English language (more than 76 per cent), 70 per cent of survey respondents selected Arabic as their language of knowledge production as shown in *Figure 17*. When looking at the research data, one of the important data points to consider is the percentage of youth climate actors who consider themselves Activists. As Activists aim to reach their communities, it is necessary for them to produce knowledge products in their language. Furthermore, as will be discussed in Section V, youth climate actors indicated that one of the main ways they put their knowledge to use is by spreading awareness. Meanwhile, youth climate actors largely reported that their climate action activities are taking place at a country level and emphasized the importance of producing localized information. Through correlating these data points, youth are producing knowledge in Arabic to effectively reach their communities. The survey questions did not include other languages spoken in the region, and it would be interesting to explore the languages different ethnic groups use to produce knowledge about climate change.

[99] Muwaffaq Al-Khedery, UNESCO Cairo Regional Consultation to discuss the draft of the Regional Report on Knowledge for Youth-Led Climate Action in the Arab Region, January 24, 2022

[100] Annex C: Additional Report Graphs, Figure N, Degree of agreement with the statement that participants develop their knowledge products on climate change through collaborative processes with others from different sectors and disciplines

Figure 17: Language(s) in which youth actors producted knowledge products (Total responses: 395 responses; 97% partcipation rate)



One youth climate actor, who is also a member of YAG, noted the importance of producing knowledge about climate change in the Arabic language in order to reach the general public in a way that they would understand. He believes there is a gap in information about environmental and climate change news in the Arab region and believes it is important to close the gap. Consequently, as a journalist he felt it was his responsibility to close this gap. Therefore, he developed an online electronic news platform on climate and environment in the Arab region called Climate in Arabic, which is further described in **Knowledge Product Spotlight #20 .**

KNOWLEDGE PRODUCT SPOTLIGHT #20[101]

Climate in Arabic

The language of knowledge production is informed by the sectors youth climate actors work in, i.e. academia, activism, etc., and the audience they are aiming to reach to make an impact. While many youth note the importance of having Arabic products, a number of them are producing in other languages, primarily English. For example, this includes Academics who want their work to be published in international journals or Activists who operate on a global scale and engage in international dialogues. In a discussion with the founder of the Carboun initiative, he explained the thinking process around selecting the platform's language. He and his team decided that Carboun's content would first be in English due to the availability of research material and since their primary goal was to have a broader global reach. This includes reaching climate policymakers, decision-makers, and civil society around the world. Reaching the general public was of secondary concern (abovementioned)[102].

[101] Presented in Annex B: Youth Climate Actors' Knowledge Product Spotlights
[102] Interview with Karim Elgendy, 14 June 2021

4.4 CHALLENGES YOUTH FACE IN KNOWLEDGE PRODUCTION

Youth climate actors mentioned multiple challenges they encounter in their knowledge production in the climate action field. These challenges were consistently shared in youth interviews, FGDs, and survey results. The challenges are reflective of the most represented climate actors who participated in the study. For example, the majority of survey participants were Activists (52 per cent). Therefore, other types of challenges will arise when other actors participate at greater rates. *Figure 18* presents the challenges shared by survey participants.

Figure 18: Areas where youth actors find challenges when creating products about climate change
(Total responses: 395 or 97% response rate)

Many of the challenges reported by youth were related to the issue of a limited enabling environment that is available to support their efforts. Collectively, 57 per cent of survey respondents selected "I need more skills training or mentorship from an expert" as a challenge. When further analyzing this information by a breakdown of youth climate actors, Activists/Academics/Entrepreneurs and Journalists/Bloggers/Writers all selected skills training or mentorship as their top choice and funding as their second choice. Youth who identified as Researchers and Artists similarly selected these as their challenges but reversed them in the order of priority. When looking at this data point from a gender perspective there is not a great discrepancy between data. One data point to consider is that 62 per cent of females reported skills acquisition as their top challenge while 52 per cent of males reported it was their second most reported challenge after funding.

Considering the previous discussion about R&D in the Arab region, the data points on skills acquisition correlate with the need for an enabling environment for youth within which to operate while recognizing that each country in the Arab region is different. In this case, an enabling environment is relevant for both academics and non-academics. R&D systems create a culture that produces youth who think critically, create, and innovate despite the field of work they are in. Moreover, mentorship is an essential part of youth development, be it by way of a person who listens, advises, guides, or shares personal experiences. When asking youth how they were first introduced to climate change, only 10 per cent answered that it was through a mentor . As part of the recommendations youth climate actors offered on this topic, many[103] indicated the importance of skills trainings as well as the integration of climate change courses/curricula into school and university systems. In regard to the type of skills, these should include research, reading, and synthesis fields as well as in the understanding of climate change concepts, especially at the practical level.

Youth who cannot find the R&D environment or types of climate change or environmental studies programs they are interested in studying in their home countries are identifying programs in other countries, especially in Europe as well as the United States. **Box 12 - Diaspora Youth** provides more context about the rationale these youth utilize to explain their pursuit of education abroad. One of the main reasons cited is that R&D in the Arab region is not prioritized, which is one of the reasons that young researchers from the Arab region are seeking higher education studies in Western countries[104] that have a more significant R&D focus. Arab states have generally not been effective in catalyzing knowledge production[105], with some countries making further advancements than others. This is largely the case due to a lack of commitment from governments, limited coordination between private and public R&D sectors, and weak linkages as well as substantive partnerships between academia, research institutions, and the productive sectors[106]. Despite some exceptions, research functions at universities in the Arab region remain generally weak. This is attributed to financial constraints, pressure from increasing numbers of students, and Arab higher education's lack of emphasis on research as an essential task of academic personnel[107].

Considering this, youth in the region have limited access to training and skills development in research, which would be useful for producing academic or non-academic materials. With that said, while research may be a marginalized activity, researchers from the Arab region are most likely to be equivalent with those from other countries that do have an R&D focus[108]. Therefore, the research environment is what makes the difference[109]. As the state of R&D also effects educational institutions' ability to create a platform or journals for researchers to publish their work and obtain exposure. While several youth are researching and writing articles, their ability to connect with a professor who has published academically or knows publication processes will also make a difference in their publication opportunities.

The enabling environment also informs youth's challenges with obtaining funding, finding individuals or institutions to collaborate with, and especially for Academics or Researchers, having guidance on advancing their research. While these challenges could be linked to a person's ability to research and

[103] Per Figure 7 in this report
[104] Hassan, page 62
[105] Ibid, page 63
[106] Ibid, page 62-63
[107] Moneef R. Zou'bi. "The Arab States," in UNESCO Science Report: Towards 2030, ed. UNESCO (Paris: UNESCO, 2015). Cited in Kerstin Fritzsche, "Climate Change and the Emerging Information Societies in the Arab Region," Middle East and North Africa (2021): Chapter 8, 213-230.
[108] Sari Hanafi and Rigas Arvanitis. Knowledge Production in the Arab World: The Impossible Promise. Routledge, London, 2015 (1st edition), page 11
[109] Ibid., page 11

find information they need, they are also linked to resource availability and allocation. To gain an initial understanding of where youth are obtaining sponsorship for their knowledge products, they were asked who sponsored/sponsors their work, which helps in informing the types of support avenues youth are identifying in the field of youth climate action in the Arab region. The most selected response yielded by survey results indicated that 35 per cent of youth reported that their work was not sponsored. Meanwhile, 26 per cent reported that their work was sponsored by civil society organizations, followed by 22 per cent who reported that their work was supported by national government institutions. Furthermore, during interviews youth indicated that many of the initiatives they participate in are organized or sponsored by international institutions, whether organizations or UN bodies, although a lesser proportion of youth selected these choices in the survey responses. The variation between the survey and interview responses could be attributed to a few reasons. For example, youth reported that national government agencies sponsor programs in partnership with international bilateral or multilateral agencies or other international bodies. Therefore, these programs could be seen as national initiatives. In other cases, the presence of international organizations in a youth's country or the sector of work they are in is more limited.

Youth climate actors also identified other challenges in their knowledge production efforts, namely:

1. Knowledge products could be created; however, people's awareness about the issues, dealing with public acceptance and resistance to change also need to be addressed
2. Awareness is needed on a significant level in order for knowledge products to have an impact and contribute to change
3. The impact of the end product is not guaranteed and it is not always clear how to ensure that the product actually impacts policy rather than "staying in government's drawer"
4. The difficulty of finding scientific information and the lack of support in field research
5. There are extreme challenges in conducting statistical analysis due to considerable limitations in available data

BOX 12

Diaspora Youth

As part of the report process, there was a discussion about including youth in the Arab diaspora as part of the target group. While it was strongly considered, ultimately the decision was to keep the scope to the Arab region. During the report research and interview process it became evident that there are a considerable number of youth between the ages of 18 and 35 who are studying environmental issues, and in some cases directly in the field of climate change, in Europe, the United States and other countries. Interviews were held with some of these youth who explained their rationale for studying climate change- and environment-related issues abroad rather than in their home countries. Some of these explanations are provided here: universities in their countries do not have strong environmental or climate change departments where they feel they can learn about cutting-edge developments and research in the field; there are not many mentors in the field of climate change in their countries who can support them with research and publishing; most of the research being conducted about climate change is happening outside of the Arab region; and it is important to learn about innovative research and transfer these practices back to their coun-

tries. When these youth were asked what their future goals entail, many answered they want to return to their countries and impact environmental and climate change policies. Two of these youth and their knowledge products are featured here.

Malak Al-Taeb (from Libya, completed a master's in France): Malak chose to study chemical engineering as it was close to environmental engineering. During her undergraduate studies she focused on water treatment technologies since she always questioned Libya's main water resource, the Great Manmade River Project, and how politics influence water management given the different technologies: i.e., desalination. Therefore, she decided to study environmental policy abroad. This field is not available and taught in universities in Libya. She wanted to have a rich academic experience based on concrete methodologies and approaches in order to grow in her field of studies. In terms of her aspirations for her country, Malak hopes the educational system will provide all the tools needed to develop practitioners in climate change in order to advance the field in Libya and therefore contribute to effective policy changes[110] and sustainable projects. Throughout her studies and work in France, she has been addressing climate change issues in Libya and trying to produce more knowledge about this topic from abroad due to limited data availability in her home country. One day she hopes to return to her home to utilize her experiences in order to help her community thrive. An example of Malak's work is included here: Water Politics in Libya: A Crisis of Management, not Scarcity

Ala Salameh (from Palestine, completed a PhD in Spain): Ala chose to focus his studies in the climate change field since the Levant is considered a region highly vulnerable to current and future changes in the climate. Furthermore, climate change is occurring in the context of other developmental stresses such as water scarcity, weaknesses of existing infrastructure, and frequent droughts, which are exacerbated by political and ethnic conflicts (e.g., the Arab-Israeli conflict and Arab Spring events) as well as rapid population growth and increasing demand for water, food, and energy. Ala decided to complete his PhD abroad as climate change studies are limited in the Levant, which also suffers from a shortage of specialists in the field. Most of the climatic studies are descriptive in nature and there are few studies that rely on real climate data. Therefore, for his PhD dissertation, Ala examined climate change in the Levant region, where one of the research articles he led and co-authored was entitled Spatio-temporal analysis for extreme temperature indices over the Levant region. One of his main motives for writing this article was that this topic had not been studied in Palestine before. He believes that the study of climate changes for extreme values is more important than studying average values because of their direct and significant effects on various aspects of life. Now that he has returned home, Ala aspires to fill a real gap in climate change studies in Palestine and to increase researchers and educational institutions' contribution on a global level within the framework of climatology and climate change studies.

[110] Annex C: Additional Report Graphs, Figure O, Institutions that supported or sponsored the development of participants' knowledge products

Section Five:

KNOWLEDGE DISSEMINATION, USE, AND IMPACT

SECTION SUMMARY

- **Youth are favoring digital modes of dissemination over non-digital modes. The rapid changes and transformations of the digital and technological era are making it challenging not to utilize this avenue**
- **At the same time, non-digital modes of dissemination also have their benefits as youth demonstrated through the insights they shared**
- **The purpose of youth climate actors' efforts is action driven – to spread awareness about climate change and to make changes to daily lifestyles**
- **While many "agree" that youth are making an impact on decision-makers and the public as well as youth mobilization, many also showed neutrality**
- **Youth climate action is on the rise in the Arab region, a momentum that should be seized by all climate change stakeholders**

Section V sheds light on how youth disseminate knowledge. It also explores how youth climate actors use knowledge they source or generate as well as their self-perceptions of the impacts they have made so far. The following main questions are explored in this section:

MODES

What modes of knowledge dissemination do youth climate actors favor in the Arab region?

DIGITAL AND NON-DIGITAL SPACES

What use are they making of the digital and non-digital spaces?

IMPACT

How successful are they in reaching policymakers and the general public? Do they change/simplify climate change knowledge to be more accessible to the general public?

USE

How do youth use the knowledge that they source and generate?

This section aims to understand the digital and non-digital modes of dissemination that youth utilize to spread information about climate change. While they largely prefer digital dissemination, they also utilize non-digital avenues. The benefits of both modes are provided in this section. Youth were also asked to self-reflect on the impacts they feel they, as a collective group, have made in the youth climate action space thus far.

5.1 MODES OF DISSEMINATION

The Arab region is composed of a multitude of societies and communities as well as political, economic, cultural and social realities. What works in one part of a country may not work in another. Nevertheless, for those who have access to it, the digital world has become an all-inclusive information space, especially as related to sharing and disseminating information. Among youth climate actors surveyed in the region, 71 per cent reported that they prefer digital mediums to share information about climate change, while 7 per cent reported that they prefer non-digital mediums[111]. In terms of digital spaces, youth prefer to share information through social media and virtual conferences. According to the survey results presented in *Figure 19*, 82 per cent of youth reported that they use social media to share information, followed by 47 per cent who reported they use virtual conferences, trainings or workshops to do so. As per the discussion in *Box 2* on the pandemic lockdown, COVID-19 also played a large role in youth's usage of social media platforms.

Social media is also utilized by regional climate action networks to create and spread messages. CAN-AW, which spans the entire region, mobilizes climate action in local communities through utilizing online social media platforms to reach youth as well as people of all ages to share information about climate change (as well as other environmental and societal issues). *Box 13* provides more information about CAN-AW's use of social media to create knowledge. The UNFCCC YOUNGO regional coordinator, who is from the Arab region, explained that social media is utilized in order to share information. However, since they are officially affiliated with the UN agency, they ensure that any information or reports that they publish are official and documented from the UN.

BOX 13

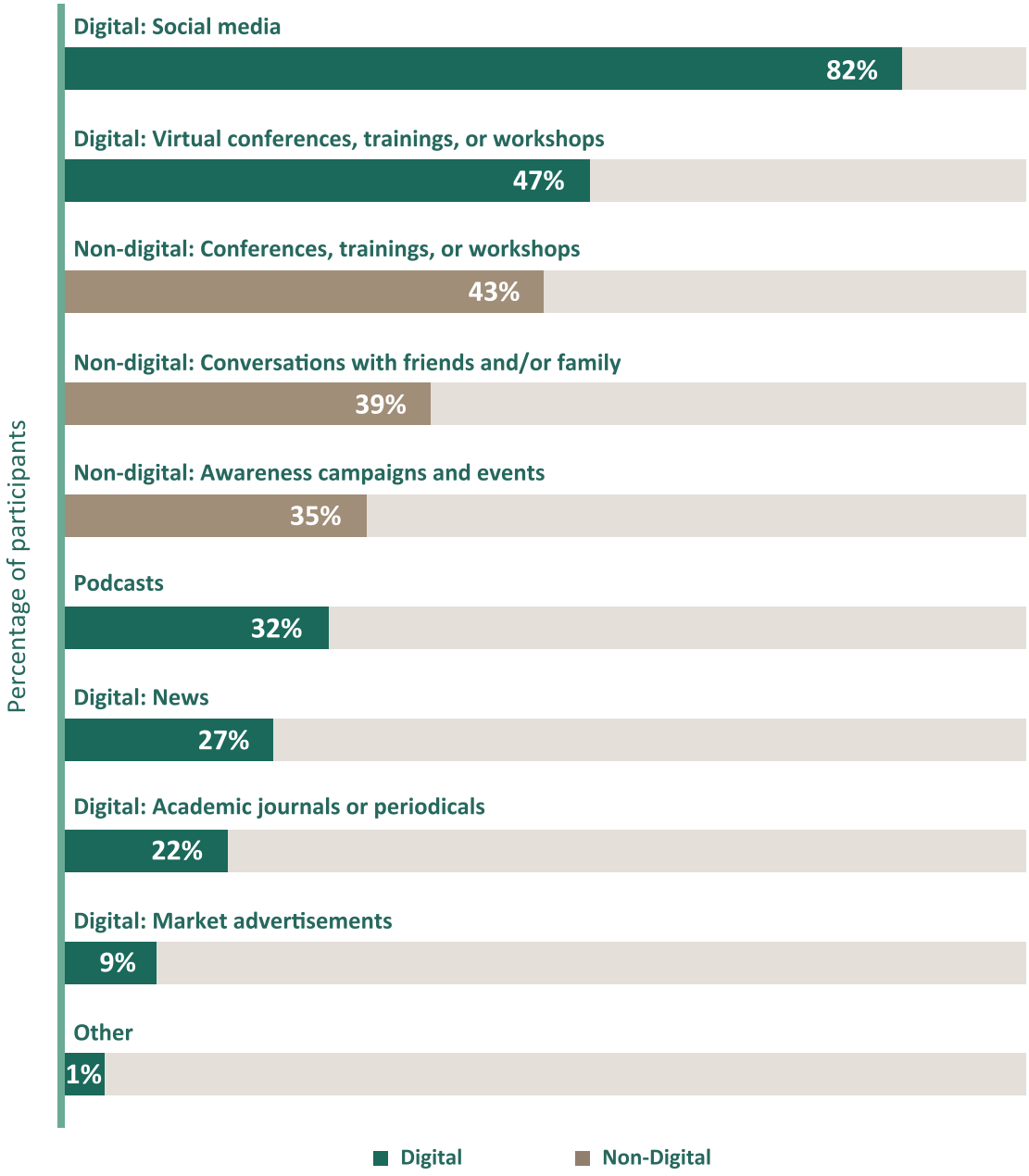
Climate Action Regional Networks

Two regional networks that focus on climate change are CAN-AW and UNFCCC YOUNGO. CAN-AW is composed of 132 organizations from 18 countries in the Arab region, many of which focus on climate change, the environment, and sustainable development. However, several of these organizations also focus on other issues as well. UNFCCC YOUNGO is composed of 110 NGOs and has a membership of 11,000 youth globally. YOUNGO focuses on climate change and mobilizes thousands of youth throughout the world around climate action. According to Fatima Ahouli, the regional coordinator of the network, CAN-AW utilizes social media to share announcements, articles, reports and interesting opportunities for youth to participate in. Moreover, Abdallah Emad Afify from the YOUNGO Global Coordination team explained that UNFCCC YOUNGO is mandated by the UN. Therefore, they post only official information and data on their social media platforms. Both organizations have created communities of activists who are interested in environmental and climate change issues. Through social media platforms, youth are also able to create online virtual communities to discuss their experiences, share best practices and exchange learnings.

[111] Annex C: Additional Report Graphs, Figure P, I prefer to share information about climate change through the following ways…

With that said, the role of non-digital avenues is still present and requires further attention. Non-digital avenues are in fact part of youth's top five modes of dissemination, specifically in person conferences, trainings and workshops as well as conversations with friends and/or family. The focus on conferences and training workshops in this regional report is an important one to keep in mind as it comes up as a core area of knowledge in the report. A new element that was more distinct in this section is that 39 per cent of youth responded that they also engage in conversations with friends/family about climate change issues as a way of disseminating information. Furthermore, when examining the preferred modes of dissemination, the report's research results did not appear to produce any major differences in responses between male and female youth.

Figure 19: Digital and non-digital ways that youth actors use to share information about climate change (Mandatory question, 100% response rate)



To further understand youth's rationale behind their choices of the modes of dissemination they utilize, they were asked about the benefits of both digital and non-digital avenues. Youth climate actors may reference these benefits in order to select those that would be most beneficial based on the type of impacts they aspire to achieve. During interviews and FGDs, youth highlighted digital media's ability to reach people far and wide and the instant nature of spreading information. Meanwhile, youth climate actors also mentioned that non-digital avenues provide an opportunity to explain concepts more effectively and for interlocutors to be able to engage in meaningful ways, including asking questions. Table 1 provides an overview of the benefits of digital and non-digital platforms[112].

Table 1 – Benefits of Digital and Non-Digital Platforms

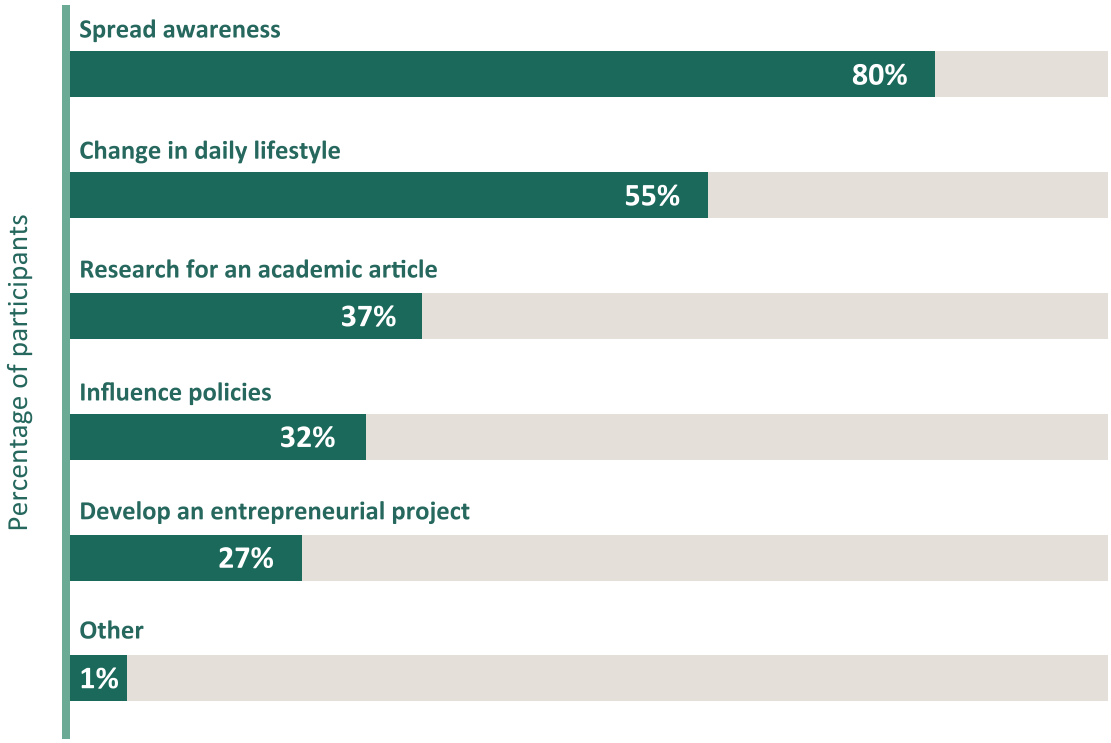
Benefits of Digital Platforms	Benefits of Non-digital Platforms
• Ease of accessing information **(86%)** • Spreads information faster **(80%)** • Reaches more people **(72%)** • Can share different types of products: e.g. short documentaries, YouTube links, digital reports, etc. **(53%)** • Can create online community of climate actors in the Arab region **(55%)** • Other **(2%):** - Access to funding opportunities related to climate initiatives - Conduct community mobilization efforts around climate change issues - Establish active communities and groups - Create an environmentally aware generation - Ensure there are no emissions from travel	• Reach people who do not have regular access to the internet **(63%)** • Can simplify information and answer questions about climate change **(55%)** • Encourages and supports dialogue and collective action **(55%)** • A proactive and direct approach to impact the targeted audience **(52%)** • Other **(1%):** - To reach vulnerable communities in marginalized and hard-to-reach areas - People targeted in awareness campaigns can ask questions, seek clarity, interact, and obtain more information - Ease of sharing information about climate change with the targeted communities in a more effective way and to also receive information from them - Ideas can be simplified and made more understandable

[112] Annex C: Additional Regional Report Graphs, Figure Q, Responses of participants regarding the benefits of using digital platforms (e.g. internet, social media, etc.) when spreading information on climate change; and Figure R: Responses of participants regarding the benefits of using non-digital avenues (e.g. awareness campaigns, etc.) when spreading information on climate change

5.2 USES OF CLIMATE KNOWLEDGE

The research also sought to explore how youth use the knowledge they obtain about climate change. All youth climate actors, regardless of how they identified themselves, reported that they primarily use climate change knowledge **to spread awareness** as indicated in *Figure 20*. This includes 88 per cent of Activists; 90 per cent of Entrepreneurs; 84 per cent of Academics; 72 per cent of Researchers; 77 per cent of Journalists/Writers/Bloggers; and 81 per cent of Artists. The results were also comparable when examined through the gender perspective. This data indicates that there is a pressing need to spread more information about climate change issues in the Arab region. The recommendations shared by youth also emphasized the importance of awareness-raising about climate change across the region. At the core of their use of knowledge and interaction with knowledge processes is youth's engagement in climate action activities as well as the need inform the work and activities they undertake.

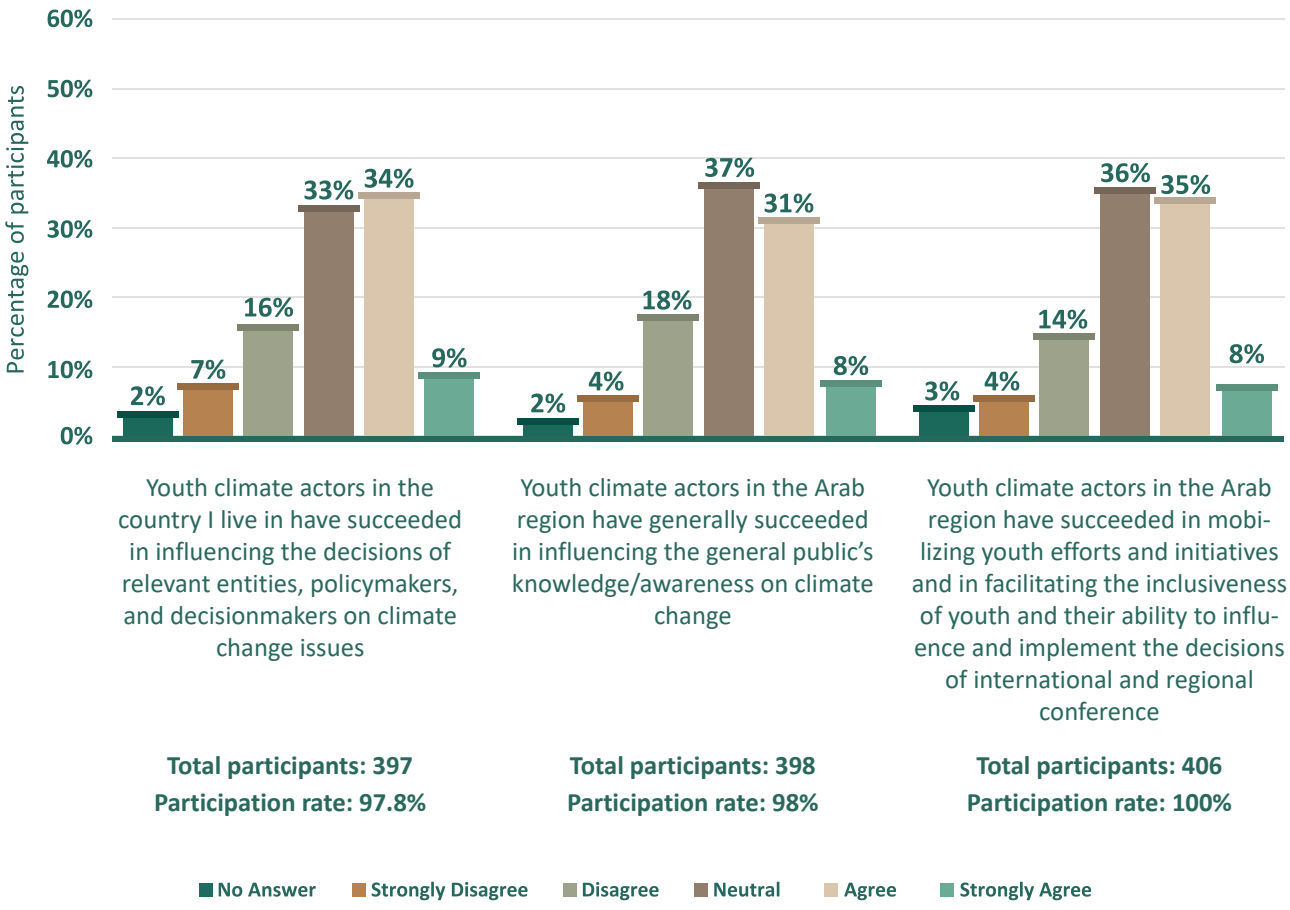
Figure 20: The uses of the knowledge about climate change that youth actors source, generate, and disseminate
(Total participants: 406; 100% participation rate)



5.3 YOUTH SELF-PERCEPTIONS OF THEIR IMPACT TO DATE

Most youth climate actors indicated that they are driven by their sense of responsibility towards future generations. The survey asked youth what perceptions they have about the impacts they are collectively making in the field of climate change. When examining this data, it is also important to consider that most reported that they have been engaged in climate action for one to five years, and a smaller yet significant percentage were engaged between five and 10 years or more. Youth were asked a set of three questions about their impacts on policy- and decision-makers, the general public and youth mobilization. *Figure 21* provides a summary of the youth climate actors' responses.

Figure 21: The level of impact that youth actors in the Arab region feel they are making regarding climate change



The majority of youth responses were between "agree" and "neutral" to these questions. While the issues around climate change are complex and multifaceted, youth's relatively positive or neutral responses indicate that they feel they are making a contribution. The conclusion may be that stakeholders working on climate change should tap into this momentum while making important decisions on climate change policies. In the Youth Recommendations these climate actors are making a plea to be heard, to be part of the process and the solution, and for policymakers to believe in their potential to support with important climate change policies and strategies. As climate change is an urgent issue, it will be important to develop effective youth engagement strategies in order to ensure their meaningful role in addressing the climate change crisis. According to Mohammed Salih from the Sudan Youth Organization on Climate Change, it is extremely important to increase the awareness of youth about climate change issues and to encourage youth in their 20s to participate at increased levels in this field. He believes that COP27 and COP28 should be an opportunity to increase youth participation in the Arab region since the conferences will be held in Egypt and the UAE, respectively[113].

[113] Mohammed Salih, UNESCO Cairo Regional Consultation, January 24, 2022

Section Six:

REPORT CONCLUSIONS AND RECOMMENDATIONS

6.1 COMMENTARY ON REPORT FINDINGS

Youth are engaging in climate action across the Arab region and offering solutions at international, regional, and country levels. This report offers a definition of the youth climate actor: a young individual who is working in any one of multiple sectors and is driven by a core commitment to combat the negative effects of climate change in their country, region and/or globally. Youth climate actors come in different forms and the definition of these individuals will continue to evolve, yet their passion for the cause unites them and motivates their quests for obtaining, creating, and disseminating knowledge. Due to the heterogeneity of Arab countries' political and economic circumstances, questions around knowledge processes and production vary and cannot necessarily be addressed homogeneously across the region. In some cases, youth who live in conflict-ridden countries do not see climate change as a priority in light of challenging living circumstances, limited services and ongoing conflict. Although this has not deterred some youth from still working on climate change issues in these contexts, the environment around them contributes to the extent of opportunities that are available to them. While this report provides a regional perspective, it is recommended that future reports study the intersection between knowledge and youth climate action at a country level as this will provide information that is more nuanced to the realities and needs of each context. Furthermore, this report focused on the 18 to 35 years old age group, where young professionals primarily participated in the study. Future studies could examine younger cohorts, including those starting at the secondary school level.

One of the most important takeaways from the report is the need to develop localized knowledge about climate change that originates from the Arab region and reflects the reality and language of the climate situation in these countries. There is also a strong indication from youth regarding the need to integrate climate change studies at every level of education starting from primary to graduate level education. This will lay the foundation for future R&D in this field, which will alleviate challenges around localized knowledge and data, statistics and measurements from the region. This requires forward thinking, innovation, expertise, cooperation, and cross-institutional collaboration to put into motion between government, private sector, civil society, youth and other relevant stakeholders. It also requires the creation of a localized lexicon of climate change terms in order to make the concepts for youth and their communities more relatable and understood. A lexicon will also contribute to clarifying climate change topics vis-à-vis other environmental concepts.

Youth climate actors in the region are taking important and critical steps. Considering the urgency of climate change in the region, and globally, youth climate action will continue to increase as mobilization efforts will take new forms and levels of pressure intensify. As the landscape transforms and continues to grow, youth climate actors' knowledge needs will expand. Their ability to obtain, generate, disseminate, and contribute to addressing the needs of climate change will require a belief in their potential, access to resources, an enabling environment that supports youth climate actors and youth-led organizations, educational prioritization of climate change, and increased efforts in R&D for academics and non-academics alike. This holistic approach will contribute to making a difference in the Arab region.

6.2 RECOMMENDATIONS AND WAY FORWARD

The report offers 12 systemic-level areas of recommendation that should be examined by policymakers, decision-makers and stakeholders who are relevant to youth-led climate action and knowledge in the Arab region. While many more recommendations could be offered, it is important to include those areas that are of highest priority in order to make targets realistic, tangible, and achievable. While there will be barriers to implement several of these recommendations in some cases, they do offer a yardstick

of the direction that should be taken to support youth's knowledge processes in the climate action field. By sharing these recommendations, UNESCO Cairo aims to start a global conversation on how best to support youth's engagement on one of the most critical issues of our time: climate change.

Short-term

1. Create regular communication with youth groups and associations to learn about their perspectives, experiences, and needs as related to knowledge processes and climate change

2. Encourage academic and non-academic climate actors working in the space through utilizing their work, promoting their activities in global conferences, and collaborating with them

3. Create cross-regional opportunities between youth in the Arab region to exchange knowledge, experiences, and best practices

4. Provide skills development training in climate change concepts, research, and advocacy as well as offer mentorship and learning exchange opportunities for youth

5. Create Arabic language lexicon on climate change, in written and audio sources, in order to make information and concepts accessible for all young people and communities. These can be incorporated as official UN terms.

Medium-term

6. Create an education and climate change policy-level agenda on a country level, where relevant

7. Review of curricula at the primary, intermediary, and secondary levels (as relevant) to examine the existence of climate change studies and take steps towards its integration in school curricula. This should be supported by a funding and resource plan

8. Review higher education institutions' offerings to determine whether climate change studies programs exist and create a plan to establish more degree programs as needed. This should be supported by a funding and resource plan

9. Prioritize and invest in R&D in the field of climate change in the Arab region in order to create local knowledge in the form of research, data, statistics, metrics, academic publications and models that originate from the region. Achieve this through cross-sectoral collaboration between governments, private sector, academia, youth-led organizations, and civil society organizations at large

10. Create an enabling environment that fosters the role of youth climate actors and youth-led organizations working in climate action, which provides them with a space for meaningful participation and engagement on climate change policymaking and agenda setting

Long-term

11. Prioritize and invest in R&D in the field of climate change in the Arab region in order to create local knowledge in the form of research, data, statistics, metrics, academic publications and models that originate from the region. Achieve this through cross-sectoral collaboration between governments, private sector, academia, youth-led organizations, and civil society organizations at large

12. Create an enabling environment that fosters the role of youth climate actors and youth-led organizations working in climate action, which provides them with a space for meaningful participation and engagement on climate change policymaking and agenda setting

These recommendations are based on the results of the youth interviews, stakeholder interviews, and survey results. They also align with the Youth Recommendations, which are taken from the survey results. From the 406 survey respondents, 232 youth (57 per cent of all the respondents) provided recommendations in response to the following question: *What is the most important recommendation you have for decision makers and policymakers on how to deepen the knowledge of youth living in the Arab region on climate change and for supporting their youth climate action activities?* Youth were able to write their answers in Arabic, English, or French, depending on their language preference. Overall, 331 recommendations were provided as some youth wrote more than one recommendation. These were synthesized into 23 main thematic areas and are summarized in Annex D.

To bolster their climate action efforts, youth climate actors are searching for moral support, skills development opportunities, sponsorship, funding, and mentorship to be able to help launch them in this field in meaningful ways. An enabling environment for youth will go a long way in propelling them to contribute and assume the role of thought leaders in the field of climate change. Through speaking with a multitude of youth climate actors throughout the Arab region, it is evident that deep thought and commitment are informing their engagement on climate change. Providing them with pathways to build their skills, enhance their knowledge as well as generate it, and make meaningful impact will significantly contribute to addressing the climate change crisis. With COP27 taking place in Egypt and COP28 in the UAE, many youth in the Arab region are ready to continue engaging, participating, and sharing their climate action knowledge and experiences for the future of their communities, their region, and the world in combatting climate change.

ANNEX A:

COMPREHENSIVE OVERVIEW OF THE REPORT METHODOLOGY

This section presents the regional report's methodology. The regional report relies on several methodological approaches including desk and literature review and primary data collection through the utilization of survey questionnaires, focus group discussions, and in-depth interviews.

INCEPTION PHASE

During the inception phase, the scope of the regional study, report questions, and the target group were identified. An initial literature review was conducted to determine the existence of information about the report topic. A key conclusion from this phase is that the report topic had not been studied before and this study would therefore largely rely on new and primary data collection. This set the tone for the remaining steps of the report process and the areas that required further focus. A critical element of this phase was to set the criteria and terms of reference for a Youth Advisory Group (YAG), which would have an important role in the report process.

The role of the YAG was to ensure the active engagement of youth throughout the report development process. Selection criteria were developed and shared with 19 UNESCO National Commissions in each of the Arab states to support with the nomination of youth from their respective countries. Interested youth were requested to fill out an application form to indicate their interest in participation. In the application, youth were invited to be part of the YAG only or to indicate their interest in joining the Youth Working Group (YWG). The YAG's role was advisory while the YWG would be involved in more research-based activities, although interested YAG-only members did also support with research. All YWG members would also be members of the YAG. A total of 114 applications were received: some of these were duplicates, while others were from individuals who were older than the youth age range identified for the study. Ultimately, 98 youth joined the YAG and a further selection process was not undertaken in order to provide all youth who were interested with an opportunity to engage in the report process as their time and interest permitted. All participation in that YAG and YWG was conducted on a voluntary basis as most of the youth participants had full-time studying or work commitments. Levels of YAG members' engagement fluctuated during the report development process between active engagement, task-specific engagement, and minimal-to-no engagement. YAG members provided important support in the research process including the mapping of youth climate actors and organizations in the region, supporting with the literature review, identifying knowledge products being produced in the region, making introductions to relevant youth climate actors and stakeholders in their respective countries, reviewing and providing feedback on the survey, and providing valuable insights on the report topic.

PRIMARY DATA COLLECTION

Primary and new data collection primarily relied on the development of a regional survey, interviews, and focus group discussions.

MAPPING OF YOUTH CLIMATE ACTORS

As a first step, it was necessary to develop an understanding of the youth working in climate action before being able to take the next step of inquiring about their knowledge processes. YAG members were asked to provide support in conducting a mapping of youth climate actors and relevant stakeholders throughout the Arab region based on their personal networks as well as through their own desk research. Stakeholders were considered individuals who are not within the youth age range but who work directly with youth on climate change and have access to the youth population. YAG members were encouraged to reach out to their networks (virtually, due to the COVID-19 pandemic) to obtain further information about youth climate action and youth actors in their respective countries to draw on their experiences in the report. A climate actors' database of more than 500 youth and stakeholders was developed.

Furthermore, in a strong effort to target youth working in the climate action space certain activities were integrated in the research and survey development process to support in developing a definition of youth climate actors in the Arab region. Explanations of what the term captures was discussed with UNESCO Cairo as well as the YAG and was included in different materials written about the report.

Multiple interviews and conversations were had with youth and stakeholders throughout the region to obtain an understanding of who works within the youth climate action space. The process included extensive efforts to identify digital and non-digital spaces where youth climate actors operate. Youth leaders from the climate action space as well as stakeholders were interviewed and supported in creating contact with various organizations and networks throughout the Arab region. Youth climate regional networks were also identified and contacted, a select number of which entities are provided here as examples: AYCM, Climate Action Network – Arab World (CAN-AW), Mediterranean Youth Climate Movement (MYCM), UNFCCC YOUNGO, RAED Network, Arab Union for Youth and Environment, Arab Youth Sustainable Development Network (AYSDN), amongst many others.

As part of the regional survey, a description of who the regional report is targeting was provided on the first page. Survey participants were given an opportunity to reflect on whether they self-identify as youth climate actors and, if so, to then participate in the survey. Throughout the survey, they were asked several questions related to climate action to ensure their relevance to the report topic. A section on the background of youth climate actors was integrated into the regional survey. Since a snowball sampling method was utilized, there was no way to ensure whether all survey participants meet the definition or criteria provided. While the option of limiting the survey to pre-identified youth was deliberated, it was not taken forward. This was the case because it was important to create an initial landscape analysis of youth who self-identify as climate actors.

QUANTITATIVE DATA: REGIONAL SURVEY

The primary source of new data collection was a regional survey. The survey was developed in Arabic, English, and French to reflect the languages that are spoken throughout the Arab region (while recognizing that different minority groups speak other languages as well). The survey was divided into seven sections: demographic information (age, gender, country, level of education); profile of youth climate action (based on self-identification); knowledge sources; knowledge generation; knowledge dissemination and use; youth impact and recommendations; and contact information (optional). Youth were able to select the answer(s) that they self-identified with from the choices provided. The survey was

delivered on the LimeSurvey platform, an open-access platform designed to be as engaging as possible to encourage respondents to complete the survey[110]. A select number of questions were mandatory: i.e. those that were considered as main questions for the report. Most questions also allowed participants to select more than one answer, which is why responses equate to more than 100 per cent in many graphs.

As part of the survey development process, the YAG engaged in an advisory discussion and review of the survey questions. A focus group discussion (FGD) was organized to obtain the feedback of established youth climate actors in the region. They were from Morocco, Tunisia, Mauritania, Lebanon, Qatar, Egypt, Bahrain, and Jordan. FGD participants were also provided additional time to review the survey in English via a Google Drive shared document. The survey was piloted by youth from a number of countries throughout the region, representing the Levant, North/East Africa and Gulf regions. All three languages of the survey were piloted.

The survey was distributed through numerous channels, networks, organizations, individuals, and platforms across the Arab region[111]. A snowball sampling method was utilized where youth climate actors were asked to share the survey with their networks and through their various dissemination channels.

QUALITATIVE DATA: INDIVIDUAL INTERVIEWS, FOCUS GROUP DISCUSSIONS, AND CASE STUDY INTERVIEWS

The report is further contextualized through qualitative data methods described in this section. Throughout the report process, 77 interviews were conducted with youth climate actors and stakeholders throughout the Arab region to obtain a comprehensive understanding of the youth climate action field. These interviews provided nuances and shed light on several issues that are drawn on in this report. A few FGDs were organized after the survey results were synthesized to obtain additional information that was not fully captured in the survey results. Moreover, numerous conversations were organized with youth and stakeholders from across the region in order to obtain a greater understanding of the youth climate action landscape.

As one of the focus areas of the report is to examine youth's knowledge generation, it was important to take a deeper look into what these products are and what processes went into developing them. Ultimately, a selection of these would be featured as mini case studies or knowledge product spotlights in this report. Selection criteria were developed and YAG members were split into teams based on their countries to nominate two or three youth products based on these criteria. The products were reviewed and many of them were selected based on whether they meet the selection criteria as well as ensuring a diversity of types of products and country representation. If there were no nominations from a particular country or if they did not meet the selection criteria, extensive efforts were undertaken to identify these knowledge products and to secure interviews with the youth who produced them in order to feature them in the regional report. Youth were also asked to include a link to their knowledge products in the survey. These were also reviewed and considered.

[110] UNESCO. The World in 2030 Public Survey Report, page 10.

[111] These channels include UNESCO's networks and social media platforms; UNESCO National Commissions' networks, which include universities throughout the region amongst other institutions and organizations; approximately 500 youth climate stakeholders and stakeholders throughout the Arab region. Stakeholders include individuals who work on climate change issues in collaboration with youth. These individuals were primarily identified through a mapping exercise conducted by the YAG; a list of approximately 168 entities across the Arab region that were identified by YAG members in their respective networks; many regional youth climate action networks and social media platforms and many others (not listed in order to ensure no entity is missed); electronic platforms such as EcoMENA, which posted the survey on its platform; UN sister agencies; a list of organizations identified by YAG during the mapping exercise; extensive outreach to stakeholders in the Arab region; YAG personal contacts and networks

Interview questions were developed that aimed to capture the knowledge processes youth undertook to develop their products. Interviews were organized with youth who developed both these academic and/or non-academic knowledge products and materials. While many were contacted throughout the Arab region, only a select number could be secured for meetings or met the criteria for the case studies. These case studies are referred to as Knowledge Product Spotlights throughout the document and are included in Annex B.

REPORT ASSUMPTIONS

Considering the multi-faceted issues discussed thus far, this report is based on several assumptions that are briefly introduced here. These assumptions include:

- Youth have a shared understanding of what is meant by youth climate action and by their engagement in the climate change space
- Youth accurately self-identified themselves as youth climate actors
- Youth who are participating in the field of climate action are sufficiently familiar with the field to actively engage in knowledge processes
- Youth have an understanding and appreciation of the concept of this report and the survey questions, specifically those related to the knowledge they generate
- Youth appreciate the presence of a variety of knowledge production modes, including academic and non-academic knowledge
- Youth have an understanding of the parameters related to working in the field of climate action and climate change as compared to other environmental issues that are related but are not the same
- The youth climate action field is mature enough in the Arab region. Therefore, the survey will be able to yield meaningful responses

REPORT LIMITATIONS AND CONSIDERATIONS

There are several limitations of the report to be considered.

- The report topic did not immediately resonate with interlocutors. Many thought the study was about the scientific study of climate change, the level of youth knowledge on the topic, or the idea that knowledge should only refer to that which is academic
- A decision was made to make the survey anonymous in order to provide youth space to answer freely. While some youth decided to provide their contact information, there was no way to confirm the identity of all survey respondents and ask more about their role as youth climate actors
- Utilizing a snowball sampling method was a limitation (although it was a necessary approach due to maturity of the field in the region) as controlling who the survey goes to and who participates in it was not possible. This contributes to the margin of error in the report

- Questions related to knowledge processes are complex and require explanation. In order to ensure that survey respondents would not experience survey fatigue, the number of words and instructions for each question on the survey were minimized. While ensuring survey response rates is important, limiting the number of words is a limitation as there is also a need to ensure phrasing of questions in each language is accurate in order for the concepts to be understood by the respondent

- In terms of the survey statistics, there are also a few important considerations to keep in mind. Since multiple networks were asked to distribute the survey, it is unknown who did and who did not. Therefore, some types of climate actors may have been more represented than others (as well as countries). Moreover, the survey was distributed in the summer and many universities may have been on summer break. This could have potentially contributed to the number of academic actors; for example, who could have participated in the survey

- Furthermore, the time allocated to report development was limited compared to the level of information sought out in the original report questions. There was insufficient time to conduct additional layers of research, including, for example, conducting more FGDs to further explore survey responses. The issue of time arose especially as it was essential to create a baseline of who youth climate actors are as previous studies and reports on the topic of youth climate action and knowledge production was not conducted in the region. While this is foundational information to capture, it provided less time to organize more interviews and FGDs on the main report questions

- Since youth climate action has not been extensively studied in the Arab region, the parameters of the definition of a youth climate actor had not been clearly set, although this report does propose a definition in its conclusion. At the same time, the snowball sampling and mapping exercise of youth climate actors, entities, and networks may have not captured everyone in the field. Therefore, the report relied on youth's self-identification which is also impacted by their understanding of climate action

These various limitations also present a pathway for future studies in the field of youth climate action and knowledge in the Arab region. These could include studies with controlled groups, further examination of specific youth climate actions (e.g. academic, activism, journalism), reports on the topic from a country specific perspective, and multiple other areas mentioned throughout the regional report.

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ANNEX B:

YOUTH CLIMATE ACTORS' KNOWLEDGE PRODUCT SPOTLIGHTS

These knowledge products are introduced and referenced throughout the main report. They are based on case study interviews conducted with youth climate actors throughout the Arab region.

KNOWLEDGE PRODUCT SPOTLIGHT #1

Envisioning planetary health in every medical curriculum: An international medical student organization's perspective

Type of product: Journal article in Medical Teacher
Omnia El Omrani (with a team of writers and colleagues also affiliated with IFMSA provided in the link)
Egypt
26 years old
Medical field
Link to article: https://www.tandfonline.com/doi/full/10.1080/0142159X.2020.1796949

When Omnia started medical school, she participated in an event organized by an international organization called International Federation of Medical Students Association (IFMSA) as an extra-curricular activity in 2016. She learned about the connection between the environment and the health field, and she saw there was a gap in this area when she started medical school in Egypt. She realized the importance of this field and wanted to be part of the global health community to advocate for the link between climate change and health. In 2019 the Global Health Alliance's executive leadership conceived the idea of a study to examine whether medical school curricula included climate change health-related risks. The process started in 2019 with one survey and in the following year Omnia succeeded her predecessor to be team leader of a group of medical students, all youth, from different countries to lead the development of the report. All team members are volunteers and medical students. Overall three surveys were conducted from 2,800 medical schools in 112 countries. More than 10 countries in the Middle East and North Africa were included in the study. The surveys asked three main questions: 1) whether climate change is mentioned in a university's medical school curriculum; 2) if yes, how it was mentioned; and 3) whether students at that university participated in extracurricular or awareness activities on the link between health and climate change. Omnia and team members participated in the analysis of the new data collected from the surveys and developed the journal article in Medical Teacher. The article underwent a review process from IFMSA staff. New data was utilized as the primary source of information for the article. To disseminate the article, IFMSA launched it through a global campaign with a press release and on social media. Omnia and her fellow team members also organized local events to share the article's findings in their respective countries.

As regards challenges with developing the article, Omnia noted that as per the survey many youth are still not aware of the link between climate change and health. Since they are already occupied with other matters, it is difficult to advocate for them to study this new area of knowledge. Omnia also mentioned that it is difficult to identify manuals or toolkits about climate change, and especially its link to health, in Arabic. She mostly utilized international sources to support her work in the field. Another issue Omnia noted is that it is very challenging to disseminate a paper related to health in the climate change field since health is not usually on the agenda (although this may be changing). For youth who want to work in the climate change and health field Omnia recommends that they work on building their knowledge, skills, and capacities every day regardless of the field they are currently in since climate change cuts across many disciplines. She encourages youth to join online classes and webinars and to be inspired by what other young people are doing in this field. It is also very important to be persistent since this issue impacts all current and future generations.

KNOWLEDGE PRODUCT SPOTLIGHT #2
The Layman's Guide to Climate Change

Type of product: Book
Mohamed Farija
Bahrain
29 years old
Education field

Mohamed works in the oil and gas sector and often thinks about the impacts of climate change. One day while at work it occurred to him that it would be a good idea to write a book about climate change. In one seating, he developed an outline and started a several-month process to develop The Layman's Guide to Climate Change, his first book. Mohamed decided that it was important to write about this topic to have an impact on society. He decided to self-publish the book and hopes to have his future titles published by publication companies. The main topics covered in his first book include a definition of climate change, agreements and protocols on climate change, current actions being taken to address climate change, and the future of climate change. Through this book Mohamed hopes to be able to provide interested individuals with a primer on the issue in a way that is accessible and easy to understand. Since the book addresses climate change on a global level, he largely relied on international sources of information for his citations. He primarily researched scientific and academic articles. One challenge was that many of these articles required payment, which can incur great expenses over time. For youth who are interested in writing a book, Mohamed recommends double-checking information and sources and ensuring that the information being provided is credible and reliable. It is also important to include a disclaimer that the information is subject to change as a result of the evolving nature of the climate change field. Mohamed also suggests that it is important to be comfortable with uncertainty as a lot of what is predicted about climate change has many uncertainties around it and may change.

KNOWLEDGE PRODUCT SPOTLIGHT #3
PhD Dissertations at KAUST

Type of product: PhD Dissertations under development and youth activism awareness
Eman Alhajji and Natalia Odnoletkova
Kingdom of Saudi Arabia
27 and 28 years old
Academic field

Eman and Natalia are passionate about driving positive impacts towards sustainability. Eman felt the urgency to act on this important issue facing humanity. Natalia in turn observed a research gap in the field of climate change in the region and felt it was important to make a contribution. They are PhD students who are examining climate change-related issues and currently in their final years of developing their dissertations. Eman's work explores and develops nanomaterials for the transition from fossil fuels to renewable energy, which has initiated a staggering demand for advanced energy solutions. It is Eman's mission to address the need for advanced battery materials that come from simple processes with nano-engineering capabilities. Eman's PhD is on innovating nano-carbon materials

for energy storage in order to close this gap as it stands as the bottleneck of green energy transition, which are significantly needed in the response to climate change. Eman looks at climate change from a holistic perspective and believes solutions are only effective if they are interdisciplinary and systemic between all fields. Natalia's work focuses on the study of historic climate change in the Arabian Peninsula. She analyzes long-term temperature trends and extreme temperature events in Saudi Arabia and other Gulf countries. Natalia explained that for her research she primarily uses open sources such as the latest reanalysis of global climate from the ECMWF agency (ERA5). She has found this dataset to be reliable to quantify climatic changes over the Arabian Peninsula. However, she notes that access to weather station measurements in Saudi Arabia, and across the Gulf countries, is a challenge. She notes that other young researchers face similar difficulties. Natalia also explained that the field is changing and it will be a step-by-step process. Due to the increasing attention to climate change and the urgency surrounding it, KAUST has also been increasing its efforts in this regard. They have two initiatives called Circular Carbon Initiative and Climate and Livability Initiative. A new center dedicated to climate change research is currently being established. Through these initiatives, Eman and Natalia hope that more measurements and models specific to Saudi Arabia will become available.

In addition to their PhD work, Eman and Natalia have co-founded Students for Sustainability at KAUST. This youth organization aims to drive positive change towards a sustainable future, including addressing climate change as a critical issue through campus activities. Through events such as expert speakers' panels, sustainability seminar series, awareness weeks, projects, film screenings, volunteer activities on issues such as the circular carbon economy, responsible consumption, nature-based climate solutions and others, this organization aims to transfer climate action knowledge and motivate students to act and do more within their respective disciplines. Even though it is a graduate-level university, Eman explains that students are active in their extracurricular projects because they believe in the power of creating bottom-up solutions.

KNOWLEDGE PRODUCT SPOTLIGHT #4

Creating an Arabic Definition for Climate Justice

Type of product: Online encyclopedia article
Hadeel Al-Qatamin
Jordan
27 years old
Activism field
Link to article

Growing up in a rural area in the Tefileh province of Jordan, Hadeel saw that people outside the capital city are at a disadvantage when it comes to sustainable development initiatives taking place in other parts of the country. She also witnessed that people who are working directly with natural resources, such as farmers, are the most vulnerable people to climate change impacts and environmental threats while at the same time they are the least responsible for contributing to carbon emissions. These realities motivated her to work in the climate action field. It was important for Hadeel to write an article introducing the concept of climate justice to Arabic readers by defining the term and its relevant context. In the second section of her article, Hadeel aims to highlight the multiple groups that are vulnerable to climate change and how multiple social, economic, spatial, and ethnic factors influence and reinforce their vulnerabilities on the local level. The article also emphasizes the global,

developmental, and geographic factors that shape climate change impacts on the national level. She concludes the article with a section on the historical and current responsibilities of industrial countries and the roles they should assume to positively contribute to climate justice. Hadeel published the article through the Arabic Political Encyclopedia, which is a youth-driven initiative established by young Arab activists around the world. The aim of this source is to create a comprehensive Arabic political encyclopedia that educates Arab audiences about political terms used in current global and local discussions. Hadeel notes that climate justice is a newly introduced term in the field of climate politics. While most Arab countries are impacted by climate change, it is crucial to provide them with sufficient background information by people from the region, which should be a cornerstone of advocacy efforts and sustainability strategies. To the best of Hadeel's knowledge, a comprehensive environmental dictionary or specialized platforms that provide local and relevant knowledge on climate change does not exist. Hadeel says that it is a challenge that Arabic content on the internet is not satisfactory in terms of quantity and quality, which also goes beyond climate change. She recommends that climate change terminology be localized as each region has different characteristics and unique challenges.

KNOWLEDGE PRODUCT SPOTLIGHT #5

African Youth Climate Hub – Climate Literacy Module

Type of product: Online learning module
Sara Aouad, Abdelhamid Bassi, Youssef Brouziyne, Ismail Farjia
Morocco
26 to 35 years old
Education for climate action field
Link to module: https://youthclimatehub.org/

Sara, Youssef, Abdelhamid and Ismail are all colleagues at the African Youth Climate Hub (AYCH). The Hub was established in 2019 by the Mohammed VI Foundation for Environmental Protection and its founding partners, UNFCCC YOUNGO, OCP Group and Mohammed VI Polytechnic. The Hub aims to create a more active role for youth in climate action and sustainable development. It has six main components:

- A Network to facilitate connections among youth and across generations
- An Incubator to provide concrete support to youth-led projects; up to 10 projects to be incubated in the first edition
- A Forum to make youth stories, youth leadership, and youth innovation more visible as well as identify and highlight green jobs and training opportunities for youth, including in the context of just transition
- A Knowledge Center to capture, develop and disseminate co-constructed knowledge
- An Observatory to celebrate and make visible youth stories, youth leadership and youth innovation across the continent, including in the context of the Nationally Determined Contributions (NDCs)
- A Dashboard to collect and provide data on and for youth and the important synergies between the 2030 Agenda and Agenda 2063

This product spotlight focuses on the fourth component: e-learning and Sara's, Youssef's, Abdelhamid's, and Ismail's efforts to create the Climate Literacy Module, which offers free knowledge to youth

who are interested in learning about climate change. For this group, access to knowledge is key- everyone should have the chance to learn at no expense. The team is composed of an inter-disciplinary group where each person shared their expertise to develop the module. Youssef is a researcher and lecturer who provided the scientific information for the module; Sara is a digital learning manager who supervised the development of the MOOC and eLearning platform; and Abdelhamid and Ismail oversaw the project, forged partnerships for the development of the literacy module, collaborated to put together the foundation of the main learning themes and outcomes, and identified scientists to support with the module development. Inspired to transfer the scientific knowledge being created at Mohamed VI Polytechnic University, Youssef wanted to share his knowledge on climate change with young people. For Abdelhamid it was inspiring to see groups like the Mohamed VI Foundation and OCP push and support the incubation of high-potential youth to be active in climate action.

The module has five units: introduction to the discussion around climate change: reality or myth; climate change and the SDGs; African development and climate change; climate stressors; and Africa's proactive approach to addressing climate change. Youssef worked with a group of experts at Mohamed VI Polytechnic University to create the course material. He then transferred the information to Sara, who created the digital learning experience with the university's Digital Learning Lab team, relying mostly on videos and animations as they appeal more to younger generations. To develop the module, the team sourced internal research being developed on climate change at Mohammed VI Polytechnic University and the Hassan II International Center for Environmental Training – from experiments, scientific articles, and doctoral research findings. The second source of information was mainly from international groups and leading organizations that are working in the field of climate change. When identifying resources, some of the challenges they experienced included finding information that is applicable to Africa as most research focuses on North America and Europe. The module is in English for now so that they can target a wide range of youth throughout Africa and the world. In future phases they hope to translate it to other languages such as Arabic, French, and Spanish. The team is posting the module on the Hub's online Climate Academy. They also publicized at COP26 and aim to continue to do so at other international conferences. This is a model that they want to see replicated in other parts of the world. For those youth who want to work in this field, the team recommends documenting their experiences and sharing them broadly with other youth in order to create learning exchanges around best practices in the climate action field.

KNOWLEDGE PRODUCT SPOTLIGHT #6

The Reality of Global Warming

Type of knowledge product: YouTube Video
Salam Katanani and Jaber Hassoun (Jaber is based outside the Arab region but collaborates with Salam, who is based in Jordan)
Jordan
33 years old
Science communication field
Link to video: https://www.youtube.com/watch?v=e78SnpVW7fM

Salam and Jaber consider themselves science enthusiasts and science communicators. They are among those few who communicate about scientific issues on the Arab region via YouTube videos. Salam may also be one of the few female youth who are working in this space in the region. It was important for them to create a narrative about the importance of climate change-related issues in the

Arab region because, according to them, many people feel that this is a first-world issue even though in reality the Arab region is among those to be the most impacted. They chose to create this video because they believe it can help deliver information to more people since it can reach those who may not necessarily be drawn to written science communication. When people see information visually they are able to relate to the information better. Their video is in the Arabic language so that they may reach more people across the Arab region from all educational backgrounds. While their videos are available to all, they are mostly targeting and hoping to impact youth and younger age groups. While the internet and social media are flooded with different claims and information, for Salam and Jaber much of this content is not based on academic research or credible sources. Therefore, with their work they aspire to bring more scientific knowledge to the general public in an easy-to-digest approach. They sourced information for this video from largely international organizations and sources such as IPCC and the Environmental Performance Index. They also read books and scientific articles published largely outside the Arab region. They also spoke with experts to obtain information about scientific concepts. Once they researched the topic, they analyzed and synthesized the information and created their scripts. They consolidated the information and created a shared script where they provide simplified messages and ideas to their viewership so that it resonates with them. They shared that finding information in Arabic is a challenge partly because there are a limited number of scientific journals originating from the Arab region. Related to this, there are not necessarily shared definitions around climate change terminology in Arabic, and so different countries or contexts may utilize different terms. They shared English terms in their video so that viewers have a reference point to the terms being referenced in Arabic. Another challenge they noted is that a lot of information available is about the United States, and it is harder to find information about the Arab region. Also, making videos requires time and resources. For others who wish to join the field of digital science communication, Salam and Jaber recommend knowing the target audience, simplifying the information, making unique and attention-grabbing videos, especially since there is a lot of content available, and being passionate about the topic.

KNOWLEDGE PRODUCT SPOTLIGHT #7

RIM Caravan Awareness Campaign

Type of product: Caravan for Marrakech Climate Action Week 2016 (Awareness Campaign)
Moussa Sall and colleagues of the Republic Islamic of Mauritania (RIM) Youth Climate Movement
Mauritania
33 years old
Youth climate activism field

Moussa, the Executive Director of RIM Youth Climate Movement, underscored the important role that youth have in climate action as this generation is going to bear the brunt of adverse climate change effects. Moussa believes that youth in the region have a responsibility to take charge of their future on their own. He believes that there is a pressing need to offer youth a space for helping them overcome challenges posed by climate change and creating a better future. It is often said that young people are tomorrow's leaders; Moussa agrees, stressing that youth have increasingly strong social and environmental awareness as well as the energy and knowledge to lead their societies towards a low-carbon and climate-resilient future. Moussa believes young people are actively engaged at local, national and global levels in raising awareness, running educational programs, conserving nature, promoting renewable energy, adopting environmentally friendly practices, and implementing adaptation and mitigation projects. The work undertaken with and by youth is crucial for positive transformations.

Hence, in assuming a leadership role RIM Youth Climate Movement launched the 100% Renewable Energy Climate Action Caravan ahead of COP 22. The Caravan focused on boosting people power in a horizontal and inclusive way in the name of global climate justice. The Caravan aimed to create awareness among communities and so disseminated information for empowering them and enabling them to cope better with the ongoing impacts of climate change. The Caravan took place over two weeks with youth camping along the way in the different cities where they conducted activities. They utilized innovative and resourceful ways to fund the Caravan and cooperated with local governments to obtain their support. The Caravan traveled over land between Mauritania and Senegal while planes were taken to Morocco, where COP 22 was taking place in Marrakech. RIM worked in collaboration with local partner organizations in each of the towns and cities en route, mostly targeting youth and women. In selecting the cities, they conducted vulnerability mapping assessments to decide which areas were a priority. Each local organization was responsible for working with partners on the ground to organize Caravan-related awareness and training workshops, which were delivered by experts on different subjects: climate change, renewable energy, smart agriculture, waste management, and recycling, amongst others.

RIM tried as much as possible to obtain sources about climate change from regional universities and scientists. However, they also had to rely on international reports as there has been limited research conducted in Mauritania and the region. Another issue was that even though there are several international reports available, there has been no coordination between international organizations on these reports and so sometimes there is mismatch in the information contained in them. It was very important that information was localized to each area the Caravan was visiting, its organizers stressed, and RIM worked with local partners to provide this context. Just as the Caravan was transferring knowledge, so did its organizers and volunteers receive knowledge in return from local communities about the climate change contexts in their areas. RIM and its partners were able to document this information and share it as local knowledge with international entities that fund projects, such as GEF, the Embassy of France, CANI, UNDP, and GIZ. Additionally, brochures and other publication materials were created. During the Caravan campaign, RIM and its partners ensured that they kept their collective carbon footprint very low through planting trees whenever they printed paper.

In addition to raising awareness, The Caravan also aimed to build the capacity of local communities to utilize more sustainable solutions and processes. It was important to have a non-digital campaign to reach the people who are most vulnerable to climate change. Moussa believes that information must be democratized to ensure that everyone has access to it. Many communities will be left out if the internet is the only source for information. The Caravan was a great success and today RIM is considered an important youth-led organization for youth climate action activities in Mauritania.

KNOWLEDGE PRODUCT SPOTLIGHT #8

Greenish Environmental Manuals

Type of product: Environmental manuals
Marwan Rasmy, Maryam ElSadek, Mohamed Kamal (three people interviewed, 14 total team members)
Egypt
25 to 35 years old
Education field
Link to product: https://www.green-ish.org/en/resources/11

Greenish is a social enterprise based in Egypt that focuses on environmental issues. To spread environmental information, the organization developed Greenish Clubs. When looking for educational training materials, they realized there is a need for Arabic content as most of the material they found was in English. Moreover, the contexts described in the training materials were not relevant to Egypt. . Greenish developed a training curriculum in Arabic, which they hope to be able to spread as well as integrate environmental education content in school curricula in as many schools and extracurricular clubs as possible in all governorates of Egypt. It was important for the Greenish team that the communities they reach through these curricula understand the concepts and terms related to the environment and climate change in their local contexts. They want their audiences to understand the issues and reflect on their meanings in their day-to-day lives. While the curriculum is not specific to climate change, it is discussed as a cross-cutting issue in some of the training modules and depending on the cultural, educational and social contexts, they may examine climate change topics in their training courses. To develop the training curriculum, Greenish worked with scientists and experts between the ages of 18 and 35 who studied different environmental issues in Egypt. They utilized different sources such as those from UN agencies and less formal ones from news and online articles. They also referenced open-source manuals that had been developed in the US and UK as reference points. Once they completed the literature review, they contextualized the information to Egypt based on their different technical backgrounds and experiences to develop the training curricula and videos. For example, they included examples from different parts of Egypt to make the content more relatable. One of the important parts of the manuals is that they aim to provide activity-based experiences. One of Greenish's next steps is to create a module that focuses specifically on climate change. Furthermore, Greenish plans to conduct regular reviews of the training manuals in order to incorporate the knowledge and experiences of students and local community members who participate in Greenish Clubs and the other Greenish activities. To date, the curriculum has been integrated into the extracurricular activities of 18 colleges or universities and eight schools. In September 2021, Greenish organized a large event for all youth who participated in their training programs. The event brought together activists, academics, experts, entrepreneurs, journalists, and others working in the environmental and climate action space to discuss important issues facing Egypt and to provide training opportunities for youth to further enhance their knowledge. The event took a holistic approach to the environment, including climate action. For youth and organizations who want to work in this space, Greenish emphasizes the importance of working together, collaborating with others, learning from each other, and ensuring that all individuals and organizations are working towards the same goal.

KNOWLEDGE PRODUCT SPOTLIGHT #9

Training workshop presentation on the Impact of Climate Change on Biodiversity and Wildlife in Iraq

Type of product: Training workshop presentation
Hajer Hadi and Noor Atiyah, Iraqi Green Climate Organization (IGCO).
Iraq
27 and 28 years old
Climate activism field

Hajer and Noor volunteer with one of the few organizations addressing the climate change issue in Iraq. Both doctoral students, they are passionate about addressing climate change in Iraq, especially its impacts on Iraq's biodiversity and wildlife. In Iraq, there is very limited awareness about environmental issues with few people realizing the impacts of climate change. For this reason, Noor and Hajer participate in field missions to the marshlands of Iraq, to observe, witness, and learn what is taking place in the country's southern region. IGCO developed a training program on the definition of climate change and its impact on biodiversity and wildlife in Iraq. For example, they discuss how climate change could affect certain endemic species in the marshes and how the extinction of those species will have a dire impact on the marshes' ecosystem. These trainings are available in Arabic and are delivered to different parts of the community, including children, youth, university students, government employees, and others. IGCO has developed two levels of training: one that is simplified for younger age groups and another that includes additional information, which is delivered, for example, to a ministry or university students. The training is also delivered in English to groups who do not speak Arabic, such as international organizations interested in learning about the topic. The trainings are delivered in-person in order to be able to reach more people and for Noor and Hajer it is important that they do their part in spreading awareness in the country. The scientific sources they draw on is specific to Iraq and comes from the research and findings of a well-established expert in the country who provides them with the latest information. For more general or global information, they rely on international sources. One of the challenges they face is the very limited awareness the wider society has about climate change issues in Iraq considering other political, economic and social issues the country is experiencing. With that said, when delivering the training, they are inspired by children's reception of the material. They believe that children have an open mind and are curious by nature. So far Noor and Hajer have received positive feedback on the training, and they hope to continue to deliver more trainings after the COVID-19 situation stabilizes.

KNOWLEDGE PRODUCT SPOTLIGHT #10

The UAE State of Climate Report: A Review of the Arabian Gulf Region's Changing Climate and Its Impacts 2021

Type of product: Governmental report
Muwaffaq Al-Khedery (co-wrote the report with colleagues Dr. Deepti Mahjan Mitel)
United Arab Emirates (UAE)
Government sector/field
26 years old
Link to product: https://portal.moccae.gov.ae/fileserver/ChemicalResearch/e1d4fd8d-74f0.pdf?view=true

Muwaffaq and his colleague co-wrote the UAE State of Climate Report on behalf of the UAE Ministry of Climate Change and Environment. Muwaffaq is a climate change analyst. The purpose of the report is to review the results of research and modeling studies and advance the understanding of the Arab region's changing climate and its impacts. The report synthesizes key country-level and regional results, and reviews available data on 1) observed and projected climatic changes in the UAE and the wider Arab region; and 2) critical sectoral impacts of climate change. The report looks at what projections will be in 2050 and then 2100. The report also examines the physical impacts and properties of climate change as well as the sectoral impacts such as on public health and agriculture. One of the challenges experienced is that although global circulation models were referenced, their resolutions are not high enough. Therefore, the team preferred to utilize regional models, the majority of which came out of Saudi Arabia. The research depended on extensive desk research where international reports and scientific articles were also referenced, in addition to sources obtained from universities such as United Arab Emirates University and other universities in the UAE and neighboring countries. One of the main challenges they experienced is that models provide contrasting results since not a lot of studies utilize the same metrics. In addition, the Arab region does not have many modeling studies, which makes researching, writing, and documenting climate change in the UAE and the wider region very difficult. Moreover, data access and the lack of data sharing amongst institutions makes it difficult to identify necessary information. For youth who want to write such reports, Muwaffaq recommends being prepared, finding all reports and reading them, and knowing what topic and issue to investigate as the climate change field is a large and complex one.

KNOWLEDGE PRODUCT SPOTLIGHT #11

Analysis of Climate Change Risks and Vulnerabilities in Algeria

Type of product: Climate change assessment report
Miloud Sallaye (not the sole contributor, worked on the report in partnership with colleagues at the Ministry of Environment, Ministry of Agriculture, Ministry of the Interior, Ministry of Energy
Algeria
Age: 31 years old
Government field
Link to the product: https://www.researchgate.net/publication/330933385_Analyse_de_Risque_et_de_Vulnerabilite_au_Changement_Climatique_en_Algerie

Miloud was one of the contributors to a risk and vulnerability assessment about climate change in Algeria under the supervision of the Algerian Ministry of Environment and funded by GIZ. He worked on the report in collaboration with colleagues from the Ministry of Environment, Ministry of Agriculture, Ministry of the Interior, and Ministry of Energy. The aim of the report is to lay the foundation for major adaptation actions that can be taken by Algerian society to address climate change issues. This is national-level research and is rooted in in-depth research that looks at the risk factors, effects of multiple environmental, political, and social factors, and the impact on the country's resource sectors. It identifies solutions to address these risks and offers pathways to prepare for climate change impacts in Algeria as related to resources, livelihoods, and production systems in the country.

KNOWLEDGE PRODUCT SPOTLIGHT #12

Evaluation of the Impact of Climate Changes on Natural Resources and Products in Syria

Type of product: Evaluation study
Yesra Shkaky (in collaboration with a larger team)
Syria
28 years old
Government/public sector

Yesra works with the Syrian Ministry of Telecommunications and Technology – General Organization of Remote Sensing. She is part of a larger team at the Ministry of Local Administration and Environment who worked on the evaluation study regarding the climate change impacts on natural and human resources in Syria. In fact, 25 per cent of the team working on this study were youth who work in the Ministry and its partners. Yesra was inspired to work on this study in order to obtain more experience. Additionally, she wants to be able to share her knowledge with society and highlight the pioneering work of young people in leading their communities to protect Syria's nature and resources. Yesra hopes to see the creation of modern and innovative tools as well as approaches that easily convey the realities of climate change in Syria to people, especially youth and decision-makers. Through the study, Yesra and her colleagues created maps that track several aspects of droughts, sandstorms, atmospheric changes as well as seasonal and yearly variations in water bodies. They utilize the latest technologies and remote-sensing techniques and GIS. They also largely referenced international open-

source data, in addition to those available in their country. One of the challenges Yesra and her colleagues experienced was a difficulty in outreaching and establishing relationships with international research centers as well as international organizations. Their overall aim is to be able to spread awareness — providing space for youth to take on this role — about the realities of climate change in Syria. Through this study, Yesra and the team also aim to create an alliance of experts and organizations who work together to combat climate change as well as establish an information center on this critical issue. Currently, Yesra and the team are distributing this study through local outlets and are also in the process of publishing the information at regional and global levels through various digital and non-digital publication outlets. Yesra and the team have also shared the results of the study with policymakers through multiple meetings. Through these discussions, they have noticed that policymakers have taken the study's information into consideration in developing a new governmental vision.

KNOWLEDGE PRODUCT SPOTLIGHT #13

Climate Change in Lebanon… It is not too Late

Type of product: News article
Ali Awada
Lebanon
34 years old
Journalism/media field
Link to article

Ali is an environmental journalist based in Lebanon. During his time at An-Nahar Newspaper, he was selected to work on news articles as part of a collaboration project between the American University of Beirut (AUB) and the An-Nahar newspaper to cover environmental issues. Through this initiative he was able to learn first-hand from climate change experts from the Issam Fares Institute. Through this experience, they provided him with exposure to studies, reports, data, and articles that they have been working on for the past several decades on climate change in Lebanon. Ali also participated in field visits to different parts of Lebanon to witness the impacts of climate change around the country. He saw badly affected sites and felt the urgency for more youth as well as other members of society to makes changes in their lives to protect the natural environment and greenery of his country. Through the information he received, Ali wrote this article in order to inform people in his country about what climate change means, especially in the context of Lebanon. Experts at AUB reviewed the article. They supported with providing and modifying terminology and concepts related to climate change, while also ensuring that the information is conveyed in a way that readers could understand; including how climate change relates to their lives. The article was sponsored through the joint initiative and widely distributed on different platforms, including An-Nahar, AUB's network and social media platforms. The article was read by more than 110,000 readers. Ali was extremely pleased with this outcome as environmental issues in the region do not usually get this much attention. For aspiring environmental journalists in the region, Ali has one recommendation: "Read, read, read" and learn as much as possible about climate change and the impacts it will have on the Arab region.

KNOWLEDGE PRODUCT SPOTLIGHT #14

Holm Akhdar Electronic Platform

Holm Akhdar Team
18 to 35 years old
Yemen
Journalism/media field
Link to website: https://holmakhdar.org

Holm Akhdar is an independent Yemeni electronic news platform established in 2012 that produces articles and reports about environmental issues in Yemen, primarily, as well as the wider Arab region. The platform focuses on climate change, biodiversity, and sustainable development. One of the most important reasons that Holm Akhdar was established was to address a gap in information about the environmental situation in Yemen. Holm Akhdar aims to serve as a credible and reliable source that can be referenced as a leading source for environmental information. Holm Akhdar seeks to provide reliable information as well as offer solutions and recommendations that can be acted upon. The platform offers articles, videos, opinion pieces, among other forms of publication, that are disseminated on different social media outlets, including YouTube. Among the main issues Holm Akhdar covers is climate change from an inter-disciplinary perspective. Some of the topics it covers include health, the connection between climate change and conflict in Yemen, natural reserves and biodiversity, and issues related to pollution and sustainable development. Holm Akhdar has had a positive impact on raising awareness among policymakers and the general public.

KNOWLEDGE PRODUCT SPOTLIGHT #15

Eyewitness on Floods as a Climate Crisis in Sudan

Type of product: Video
Nisreen El-Saim
Sudan
Climate change activism
26 years old
Link to product: https://m.facebook.com/story.php?story_fbid=10222246733810679&id=1035339508

When she witnessed the floods that took place in Sudan in 2020, Nisreen knew that she had to take action. A global, regional, and country-level activist, Nisreen has been a youth climate advocate for the past several years. She usually volunteers with UNFPA and delivers training on climate change and environmental issues taking place in Sudan. When the floods took place, she informed UNFPA that something had to be done and they supported her with a small grant to make a video. Nisreen worked with a video producer to visit different areas of Sudan that had been impacted by the flood to show the reality of how climate change is affecting Sudan, one of the most vulnerable countries in the world to climate change. Due to budget constraints, she was not able to visit as many places as she wanted, but still managed to send a message loud and clear. It was her first time making a short video, and she laid out her vision for its content and story it would tell. . Then she worked with a videographer to accomplish the task. On one level she hoped that people in Sudan would have increased awareness

and on another level she hoped policymakers would be encouraged to act. To obtain background information, she utilized the IPCC report, statistics from the Sudanese government's Higher Council of Environment and National Resources, and the Sudan National Adaptation Plan on Climate Change. At the same time, she gathered local information through interviews she conducted with the different community members she met. Although she had access to information, she noted that statistics and data in Sudan tend to be outdated and so she had a hard time finding accurate figures, metrics, and indicators. International sources likewise did not provide sufficient information about Sudan. Nisreen believes that society at large needs to trust youth more and recommends that youth see the big picture and be committed to the cause, not just work on it as a one-off project.

KNOWLEDGE PRODUCT SPOTLIGHT #16

Arab Youth Climate Movement Qatar (AYCMQA)

Type of products: multiple
Neeshad Shafi, Sayeed Mohammed, Reem AlSahlawi, and Abdulrahman Al-Muftah
Qatar
18 to 35 years old
Climate change activism

AYCMQA is one of the most active youth organizations working in the climate action field in the Arab region. During a conversation with Neeshad Shafi, Sayeed Mohammed, Reem AlSahlawi, and Abdulrahman Al-Muftah, the team provided information about their organization's role in creating knowledge about climate change. The team feels that this is one of their most important priorities and devotes time and effort in these activities. AYCMQA authored Qatar's Carbon Study Report, which included a greenhouse emissions inventory in Qatar between 1995 and 2015. More recently, they developed a follow-up report on Qatar's consumption-based emissions over a 20-year period. These studies had not been conducted before and AYCMQA hopes that Qatari society will benefit from them. One of the challenges they experienced during the process was a lack of data in Qatar. In addition to these studies, AYCMQA creates knowledge products in the form of awareness products. For example, this includes the Earth Talk Series, which are talks that provide youth with knowledge about climate change and environment-related concepts. On a grassroots level, ACMQA is working on the carbon footprint project, which teaches youth what carbon footprint means and how they can measure it in their daily lives at school and at home through utilizing a carbon calculator. For AYCMQA, what is unique about their products is that they are producing localized information that reflects the Qatari reality. AYCMQA works with different government ministries as well as other relevant stakeholders to implement their programs. While AYCMQA works on these various initiatives, their ability to secure funding also impacts the number of projects they can work on. Furthermore, one of the other challenges they encounter is that there is not a lot of awareness about climate change in Qatar. Therefore, it is not always a straightforward process to engage the community in an effective way. However, AYCMQA is persistent in their efforts. For those who aim to create knowledge products, the AYCMQA team recommends that they focus on the countries and communities they are living in, in order to create meaningful change. It is important to have localized and contextualized climate change information, and not only data that comes from other countries. It is also very important to rely on scientific evidence even if it is inconclusive. All in all, it is important to be creative and imaginative when solving problems related to climate change.

Links:

1. www.aycmqatar.org
2. https://youtu.be/bwqpqBa06G4
3. AYCMQ partners with national stakeholders to measure household carbon footprint - Doha News Qatar
4. Initiative to track household carbon footprint in Qatar | The Peninsula Qatar
5. GHG Inventory 2020 Report -AYCM Qatar
6. Household Carbon Footprint Tool (aycmqatar.org)
7. Arab Youth Climate Movement Qatar enters partnership to push forward campaign on climate change (gulf-times.com)

KNOWLEDGE PRODUCT SPOTLIGHT #17

Energy and Climate in the MENA Region: Youth Perspective to a Sustainable Future

Type of knowledge product: Policy paper
Abdallah Alshamali (Jordan); Sabrina Fawaz; (Lebanon); Esraa Elmaddah (Egypt); Sarah Al Harthey (KSA) (a number of other youth authors were involved in the report development)
28 to 31 years old
Policy paper
International organization field
Link to product: http://library.fes.de/pdf-files/bueros/amman/15777.pdf

Abdullah, Sabrina, Esraa, Sarah and several other youth participated in a program organized by the Regional Climate and Energy Project MENA at the Friedrich-Ebert Stiftung (FES) to engage youth in climate- and energy-related topics. They applied and were selected based on their backgrounds in the climate action space as well as their interest in and commitment to the cause. This group of youth participated in a training program that built on their existing knowledge of climate change issues as well as research and report writing skills. This was a part-time program during which many of them were either studying or working at the same time. At the end of the training, the team participated in brainstorming sessions to determine important topics that should be addressed in a policy paper. Many ideas were shared and in the end a consensus was reached to develop a report about energy and climate in the MENA Region. The report provides a set of policy recommendations around key thematic areas under the main energy and climate field. The larger group was split into smaller groups who met to discuss the main ideas and recommendations they believed were important to include in their sections. The groups worked on a shared Google Document to produce the different sections, which were ultimately consolidated into one section and reviewed by the FES management team as part of the review process. While they were able to access international sources, they also experienced challenges in not being able to find localized knowledge as well as access to data. They explained that data in the Arab region is largely confidential, making it difficult to access. All in all, the team enjoyed the experience and the skillsets they obtained during the process. When they completed the paper, it was launched in Jordan in the presence of representatives from the government, civil society, and private sector. At a later stage, a select number of the authors presented the paper during multiple side-events at COP25 in Madrid, and also shared the recommendations with Arab countries' representatives and international civil society actors, in addition to sharing their experiences with

other youth groups from other regions. Some of these youth wrote another policy paper also related to climate change. For youth who think about writing policy papers, the team recommends checking sources and validating information well before it is published. Also, it is important to ensure that any recommendations made should be doable and can be implemented with clear steps.

KNOWLEDGE PRODUCT SPOTLIGHT #18

Water Will Start Up Market Study/Assessment

Type of product: Social enterprise service and feasibility studies
Mohannad Hesham Abouelrouse
Egypt
29 years old
Entrepreneurship field

In 2019, Mohanad established a start-up called Water Will to support both rural and premium markets in Egypt and Africa at large with sustainable cost-efficient water filters. The purpose of the start-up is to empower rural communities to be a business partner in producing, distributing, and selling water filters inside their own communities. The objective is that this will contribute to reducing costs and increasing the impact and scalability of their small start-ups. Mohanad has been working with rural communities in Africa on several water projects for more than 10 years. During this time, he has been asking himself, "Is this sustainable?" For Mohanad, it was not just about giving these communities a solution. It was about transforming them from being beneficiaries into being business partners in a revenue-generating and sustainable way. As part of their climate impact, Water Will's products save between 54 per cent and 69 per cent of CO2 per each filter. The main reason for this is that the use of ceramics and nano-particles makes their products smaller and last longer. They are also recyclable instead of the unrecyclable polypropylene used in alternative filters. By year five of their work, they aim to save an average of 2,600 tons of CO2, which is equivalent to nearly 24,000 trees. In the R&D phase they spent significant amounts of time on searching for the most sustainable alternatives for the consumable plastic candles of traditional filters. They found very little information about the filters industry and consumption in Egypt to be able calculate the negative impacts of traditional water filters. As one of the knowledge products developed, they also conducted an assessment through the platform https://impact-forecast.com/ where they inserted all their material and manufacturing processes against all alternative materials of the competitive water filters in the market. Water Will participated in You Think Green's (YTG) Climate Launch Pad competition, which looks for entrepreneurs who work in different aspects of climate impacts, especially in the adaptation and resilience track. Water Will has won the Ideas for Action competition organized by the World Bank in the Middle East and North Africa; was the global winner of the adaptation and resilience track in the Climate Launchpad competition; and was the first winner for Egypt in the Entrepreneurship Summit 2020. In terms of their impacts to date, they have piloted their services with more than five NGOs and distributed more than 800 filters in Egypt and Kenya. They have also partnered with two universities in Canada for R&D, product certification, and future exports. Currently, Water Will is partnering with online and offline distributors to sell their products through different B2B channels as well as their online platform.

KNOWLEDGE PRODUCT SPOTLIGHT #19

The Assessment of the Impact of Climate Changes on the Cultural Heritage in Egypt Using Remote Sensing and GIS Techniques

Type or product: Doctoral Dissertation
Islam El-Bestawi
Egypt
33 years old
Cultural heritage management field
Link: https://www.researchgate.net/publication/355939526_The_Assessment_of_the_impact_of_Climate_Changes_on_the_Cultural_Heritage_in_Egypt_Using_Remote_Sensing_and_GIS_Techniques

Islam is deeply passionate about the connection between climate change and cultural heritage in Egypt. When he started his PhD, he knew this was a topic he wanted to study. Through his research he found there was a gap in studies in this field, and he wanted to be able to contribute to this important area. Islam undertook an extensive literature review of both the cultural heritage and climate change fields. Upon completion of this review, he knew he required more steps in his doctoral preparation. In order to be able to study the impacts of climate change on cultural heritage sites in Egypt, he felt he first needed to learn about climate change science and Remote Sensing and GIS techniques. Islam invested in buying technological equipment and in a one-year professional diploma at National Authority of Remote Sensing and Space Sciences (NARSS) to learn these new skillsets. Once he felt he had a solid grasp of these fields, he identified 28 cultural heritage sites in Egypt to study: 16 along the North Coast and 12 in Upper Egypt. Islam conducted several field visits as well as utilized various climate-modelling sources to conduct research on climate change projections based on four scenarios for sea level rise: RCP 8.5 for 2046–2100 and SSP5 2081-2100 and SLR 2m and three scenarios for projected temperatures (by 2040, 2060 and 2100). As part of his research, he looked at climate change from a historical perspective in Egypt, starting from pre-historic times during the Old Kingdom through the Medieval Islamic Ages until the present day. As part of his study, Islam conducted a survey to ask employees who work in the cultural heritage and tourism fields about their knowledge of the impacts of climate change on cultural heritage sites. A few challenges that Islam experienced included the lack of research in the field as well as the lack of localized Egyptian data. In order to be able to obtain high-resolution results, specific hardware is also needed; however, it is very expensive. Funding in Egypt is also very limited. As a next step, Islam wants to be able to publish about this important issue in high-impact journals. He also wants to be able to secure funding in order to access equipment that will help him obtain higher-resolution measurements for his study. Through his doctoral dissertation, Islam aims to work with the government and relevant stakeholders to start a dialogue about disaster risk management of cultural heritage considering the increased likelihood of climate change disasters and hazards. Islam also seeks to raise awareness amongst the public of this important issue. For youth who would like to study climate change, Islam recommends that they study it from an inter-disciplinary perspective. He also recommends that youth identify different technologies to integrate in their work as this is the future of all fields.

KNOWLEDGE PRODUCT SPOTLIGHT #20

Climate in Arabic

Type of product: Online news platform
Ahmed Saab Layl
28 years old
Regional (from Egypt)
Journalism/media field
Link to product: https://climateinarabic.com/

Ahmed is passionate about environmental journalism. He decided to change his career track in order to establish the online news platform Climate in Arabic in 2020. He has been working in this field since 2014. Climate in Arabic is an online news platform in the Arabic language that aims to offer people information about climate change and environmental issues. Ahmed explained that very little information exists about climate change and environment in the Arabic language; however, most of the people who are being affected are from the Arab region and are Arabic-speaking. They need to see information that they can read and understand, and that resonates with them. In addition to creating knowledge on these issues, Ahmed has also been part of media press coverage at events such as climate conferences. Although they get their information from many international reports, their main source of information on climate change comes from meeting people, through field visits, who are feeling its adverse effects. As Ahmed says, people are the main source of information. The website creates articles and videos and also makes accessible reports and studies in the Arabic language that were originally in other languages. Some of the challenges they experience include limited training in environmental journalism. Furthermore, in terms of data and statistics Ahmed says that many people depend on international sources, and there needs to be more localized formation originating from the Arab region. Another challenge is funding and the ability to be able to expand the platform. To date, Climate in Arabic has received 14 million visits. Ahmed is proud of this accomplishment and wants to be able to increase the impact of the website and raise awareness on climate change and environmental issues in the region.

Regional Report on
Knowledge for Youth-Led
Climate Action in the Arab Region

ANNEX C:

ADDITIONAL REGIONAL REPORT GRAPHS

Annex C: Additional Regional Report Graphs

Annex contents: this annex contains tables and graphs that are referenced and footnoted in the main report.

Figure A: Utilization of survey in each language

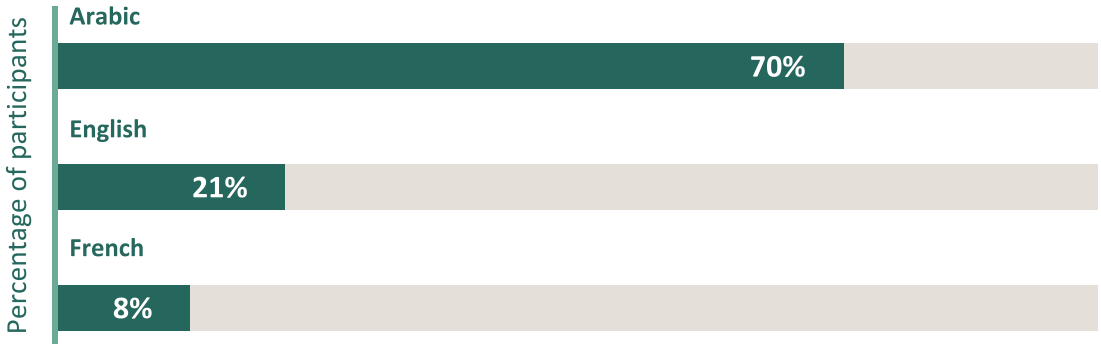


Figure B: Level of education of participant (Total responses: 406; 100% participation rate)

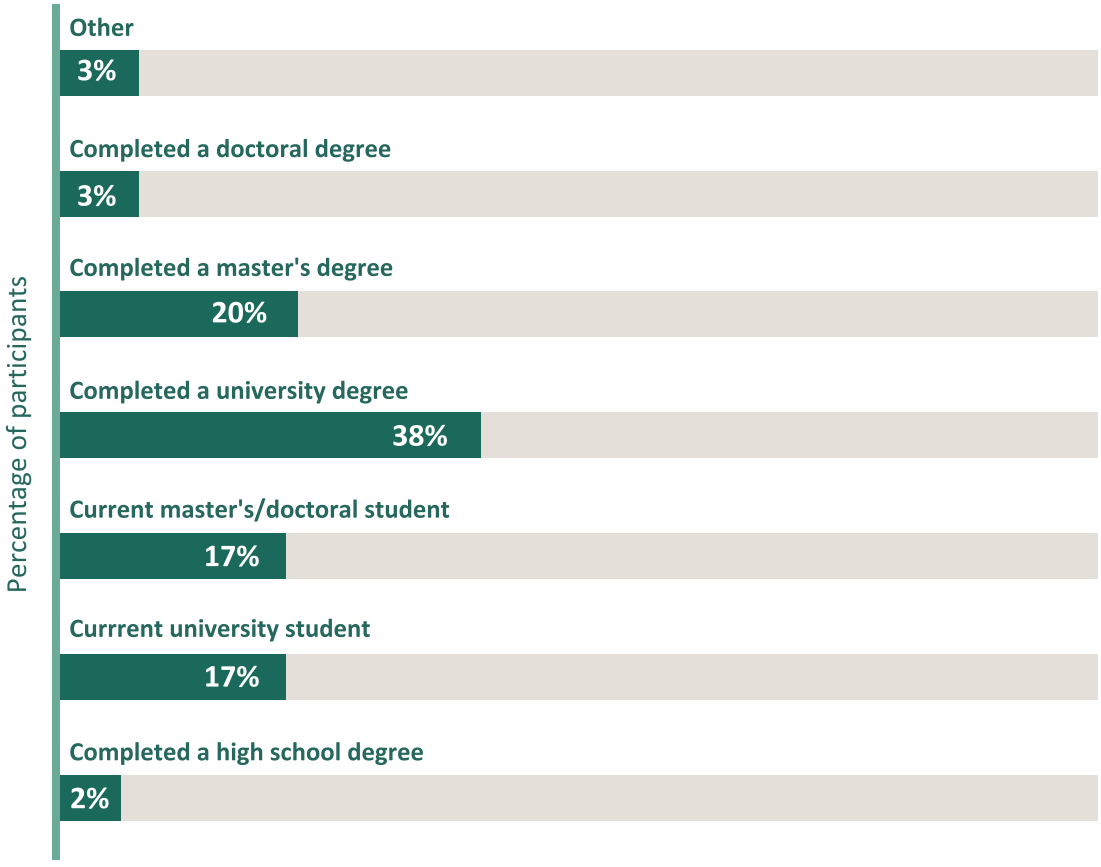


Figure C: Type of engagement with climate action (401 responses; 98.8% participation rate)

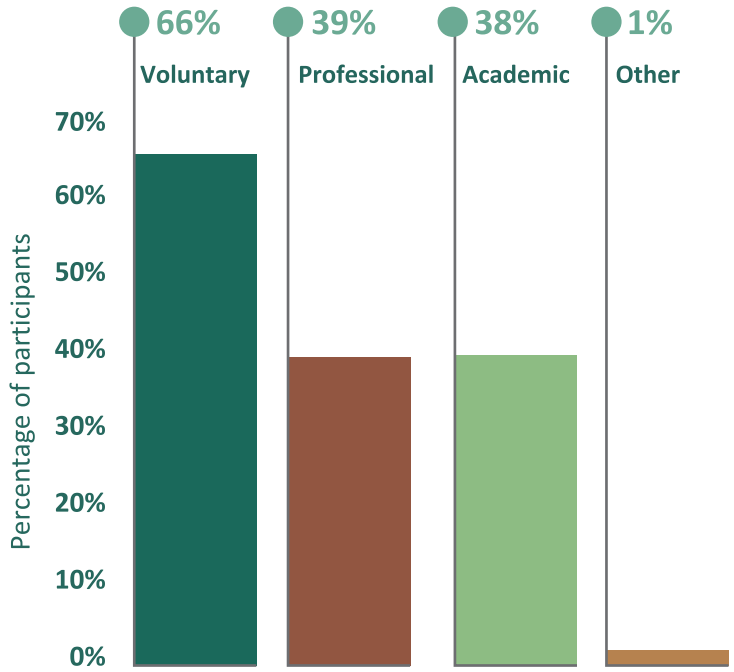


Figure D: Degree of agreement with the statement that the participants' climate action activities increased during the COVID-19 pandemic (Total responses: 404; 99.5% participation rate)

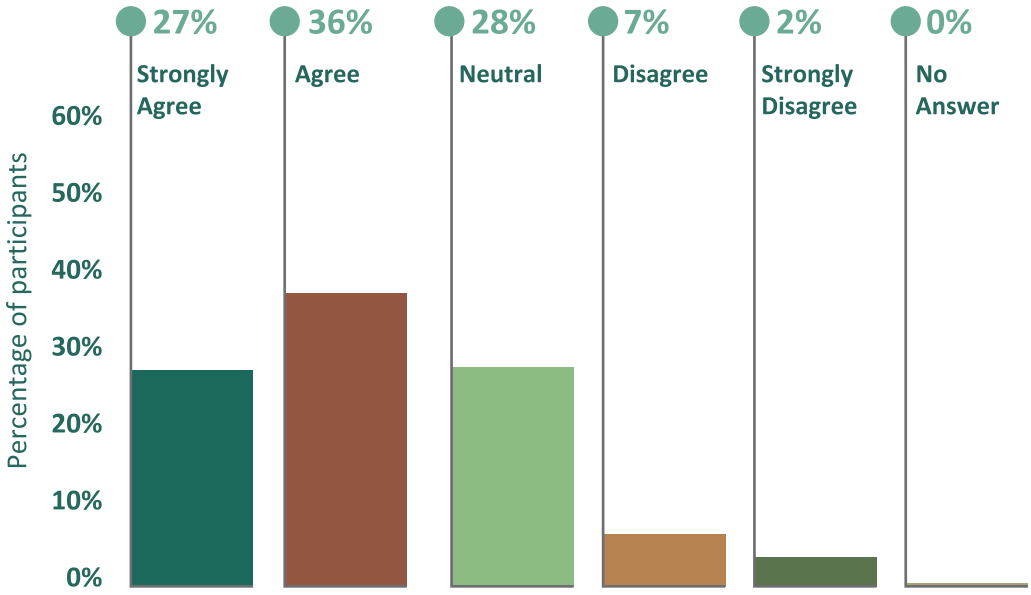


Figure E: Regions of the world covered by participants' climate change work (Total responses: 398; 98% participation rate)

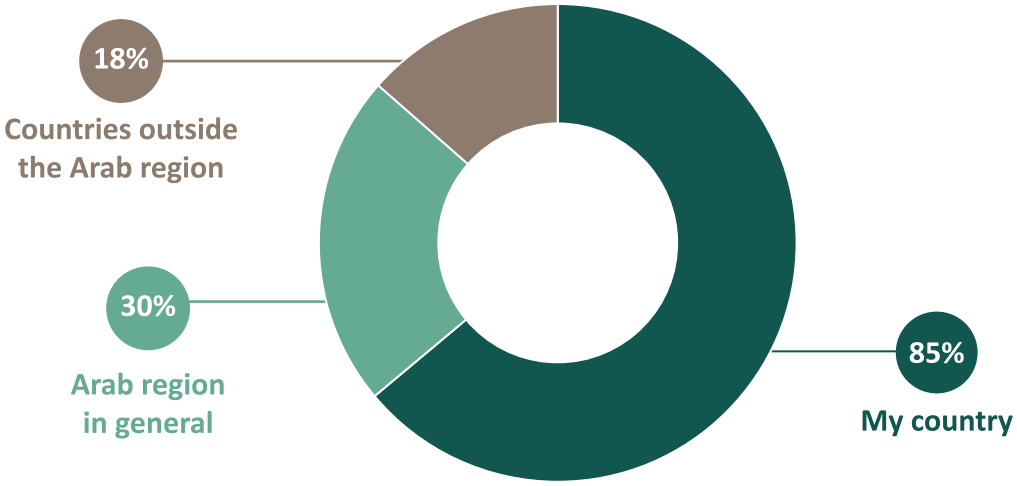


Figure F: The type of geographic area covered by participants' climate change work (Total responses: 399; 98.3% participation rate)

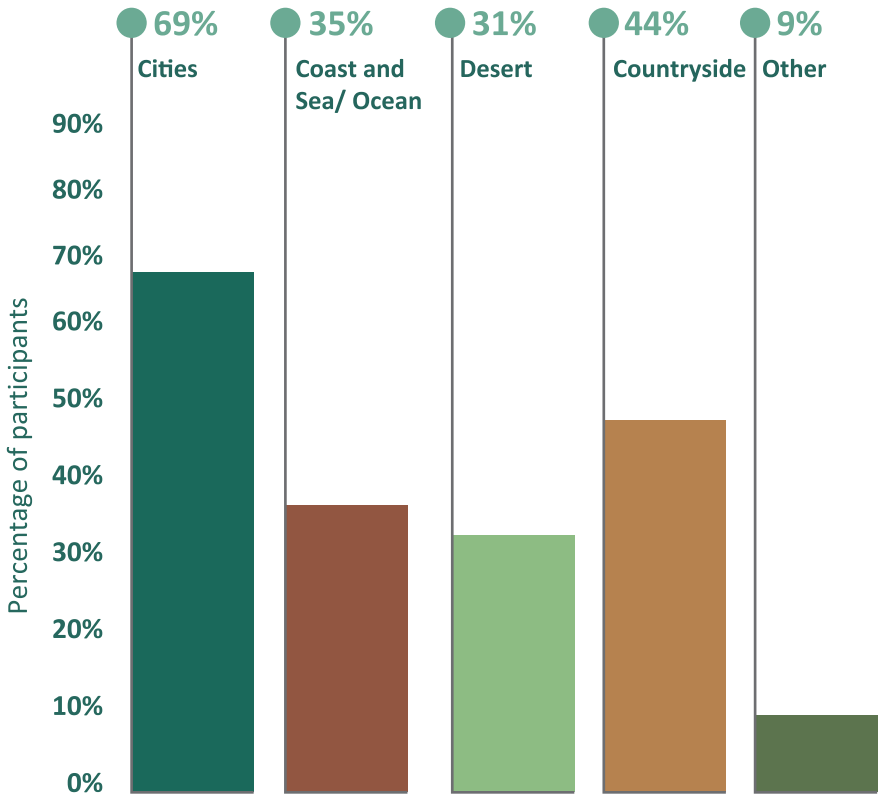


Figure G: The main reasons that drove participants to work on climate change issues (400 responses; 98.5%)

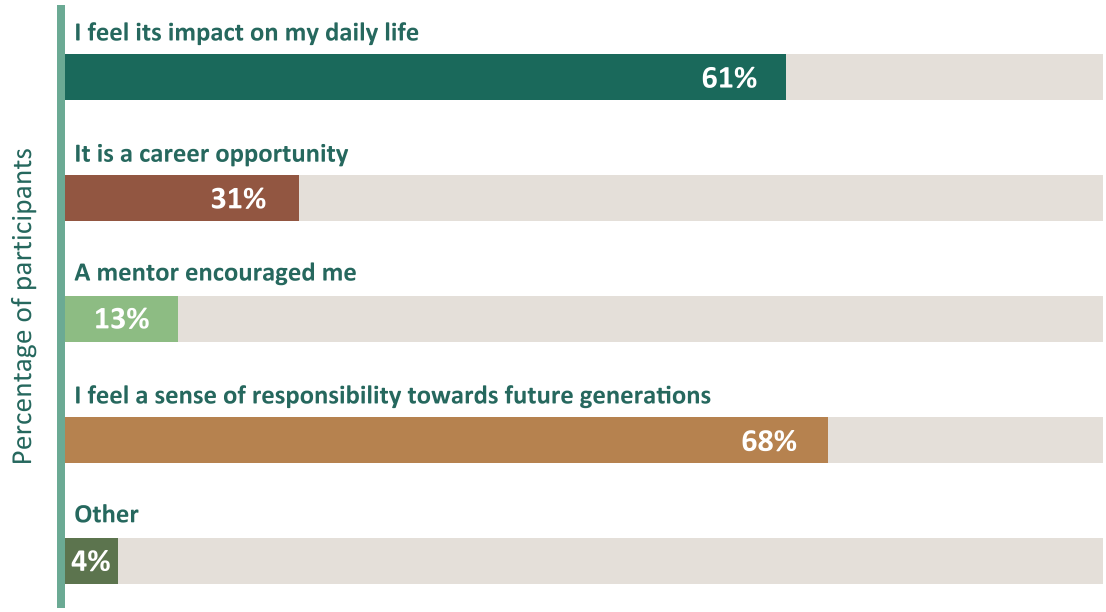


Figure H1: Top five sources used by participants who are academics

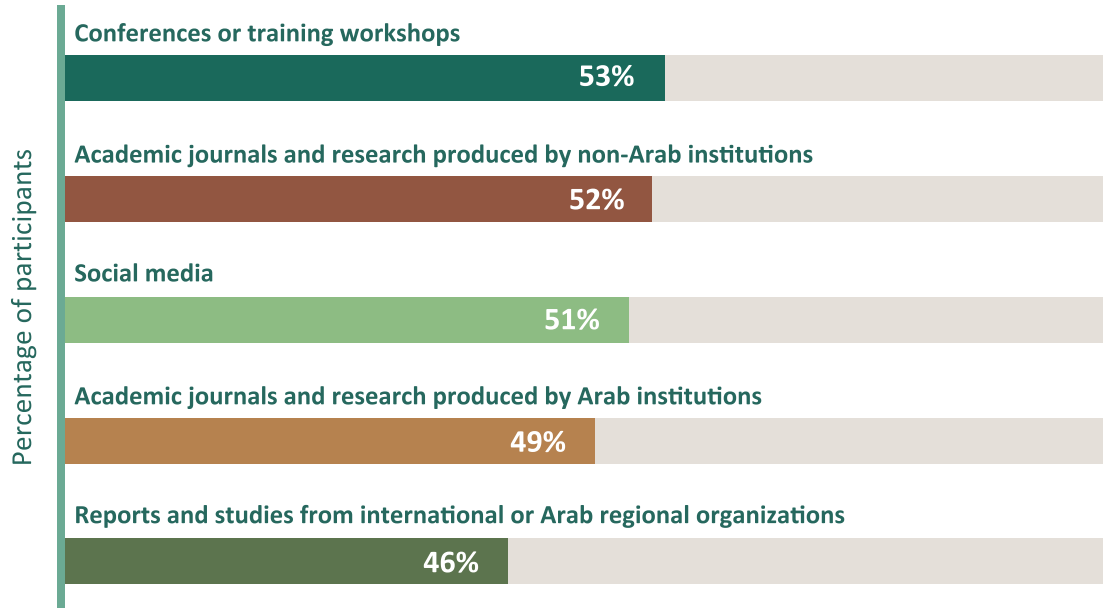


Figure H2: Top five sources used by participants who are researchers

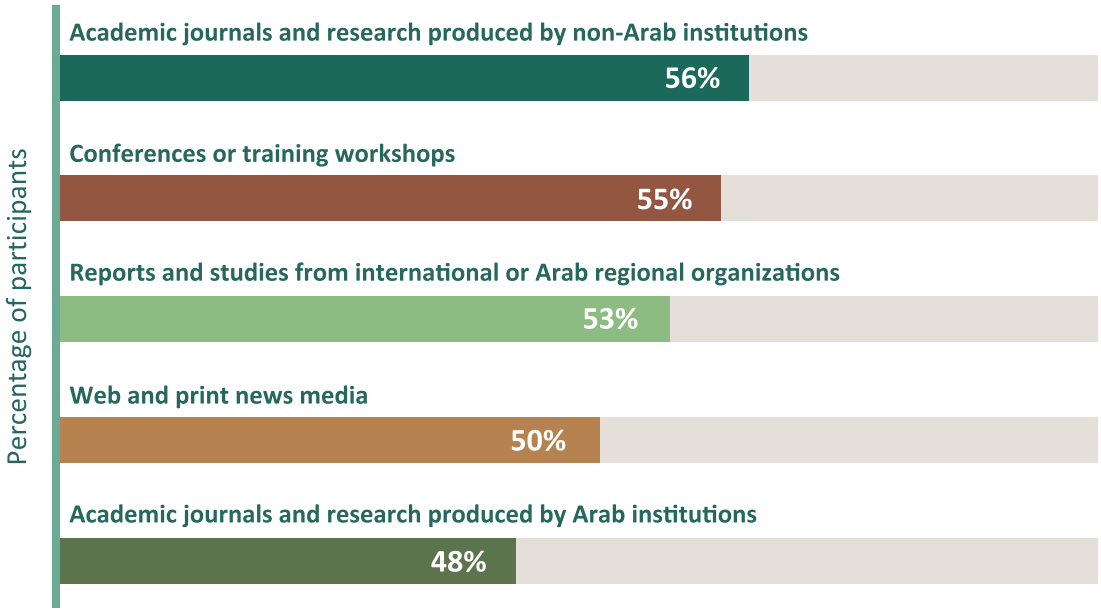


Figure H3: Top five sources used by participants who are entrepreneurs

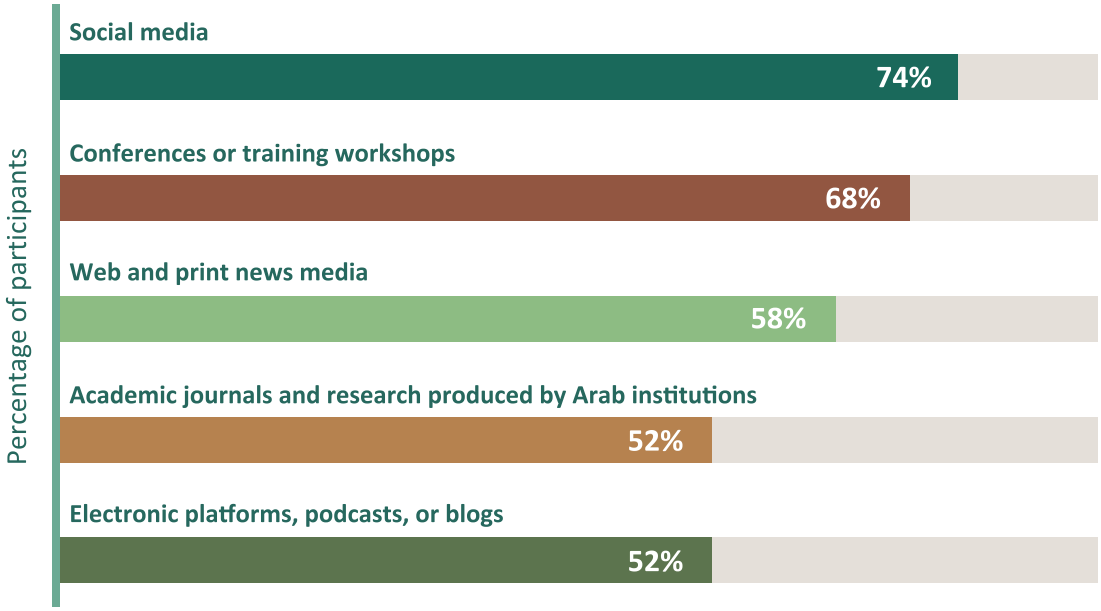


Figure H4: Top five sources used by participants who are activists

Figure H5: Top five sources used by participants who are artists

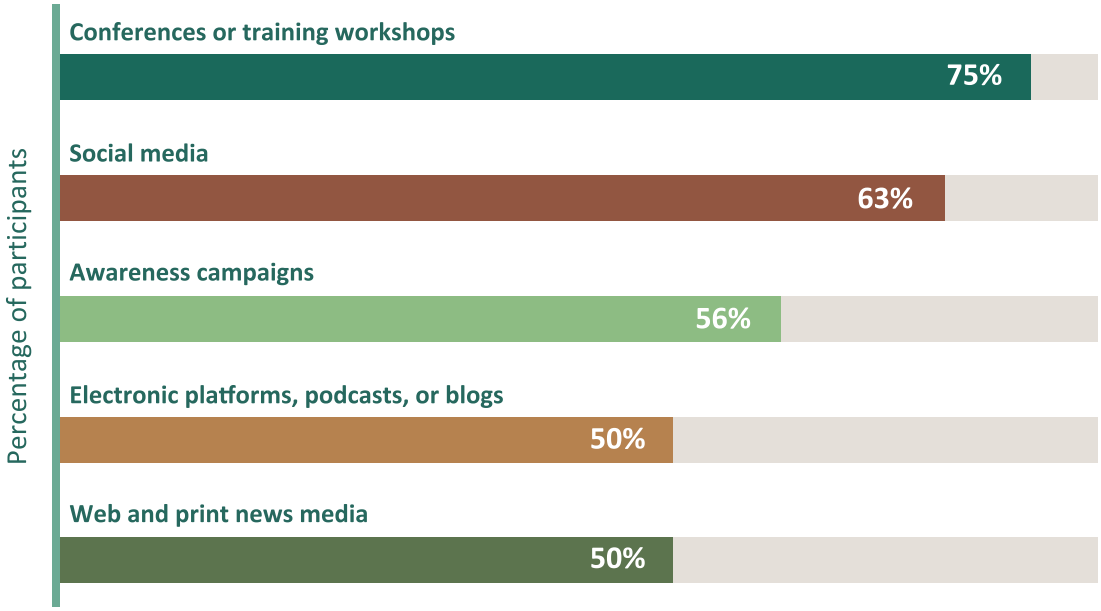


Figure H6: Top five sources used by participants who are journalists/bloggers/writers

Figure I: Degree of agreement with the statement that most of the information on climate change was obtained by participants through digital sources (e.g. social media, internet searches, online databases, etc.) rather than non-digital sources (e.g. inperson)

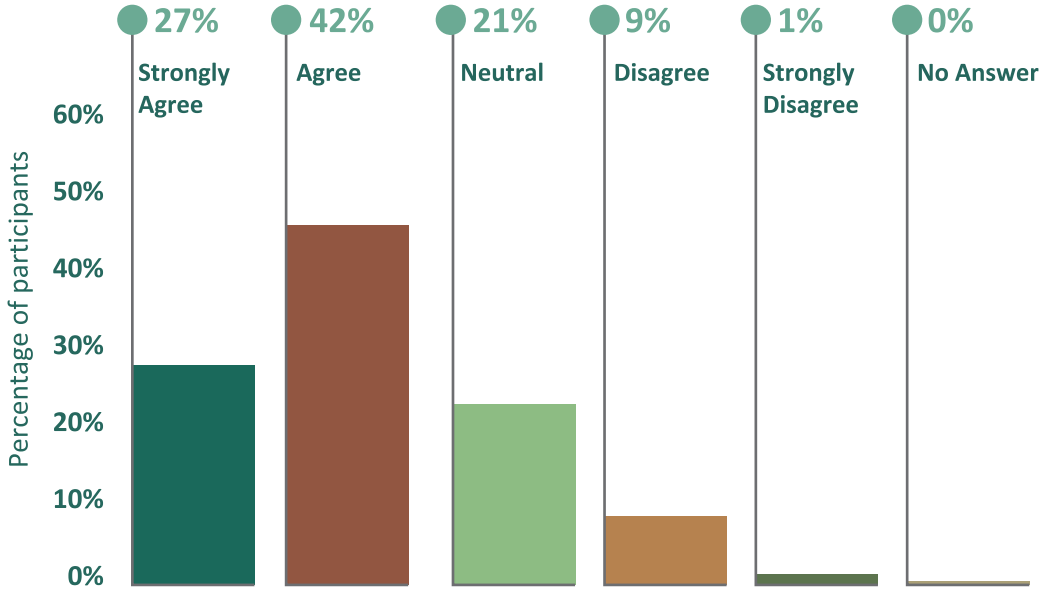


Figure J: Degree of agreement with the statement that participants are able to determine if a source is credible and reliable when searching for information on climate change in the Arab region (Total responses: 403; 99.3% participation rate)

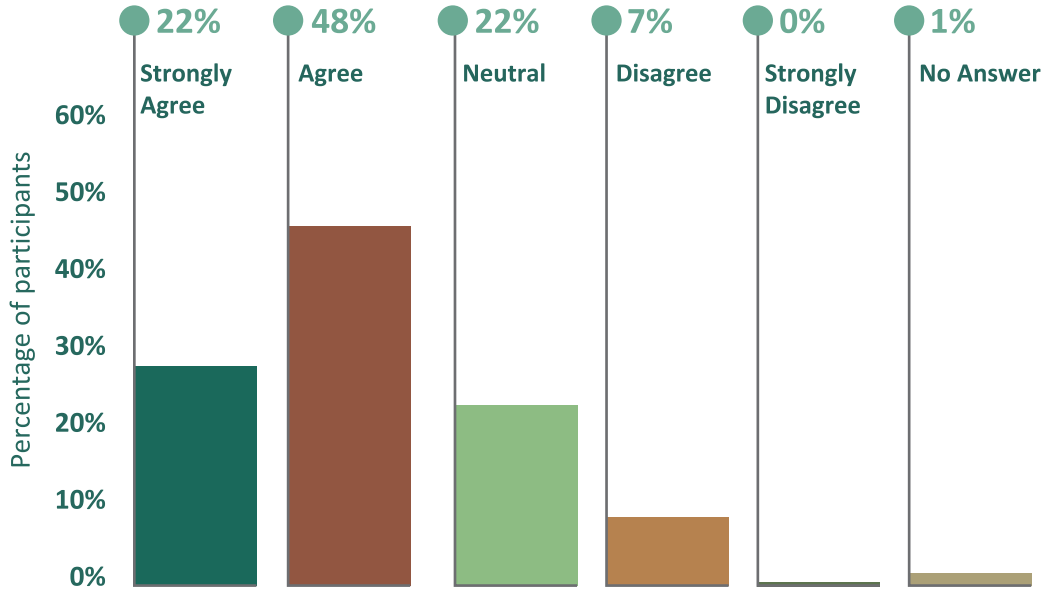


Figure K: Sector of climate change in which participants generate knowledge products (Total responses: 406; 100% participation rate)

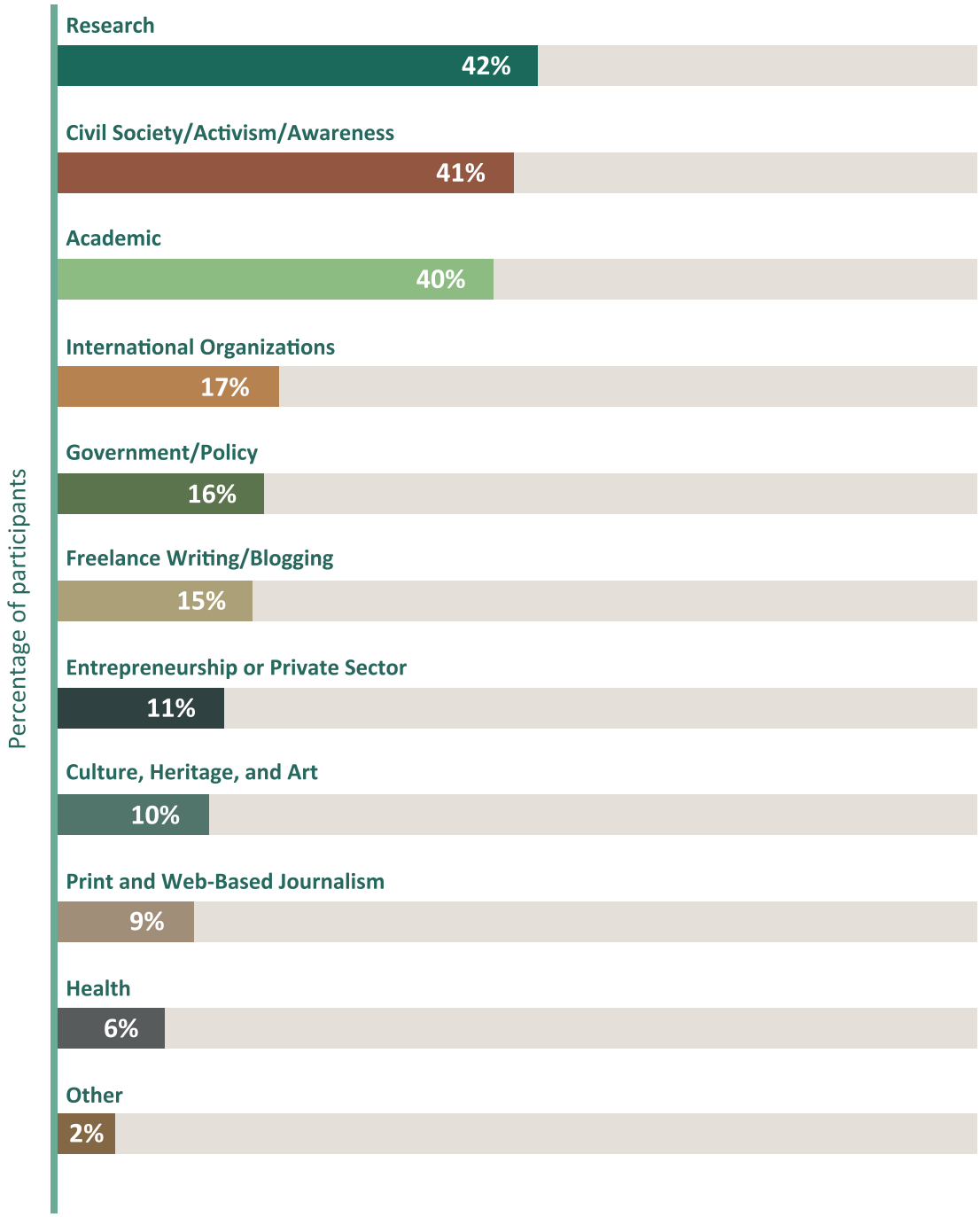


Figure L : Area of climate change knowledge in which participants generate products (Mandatory question)

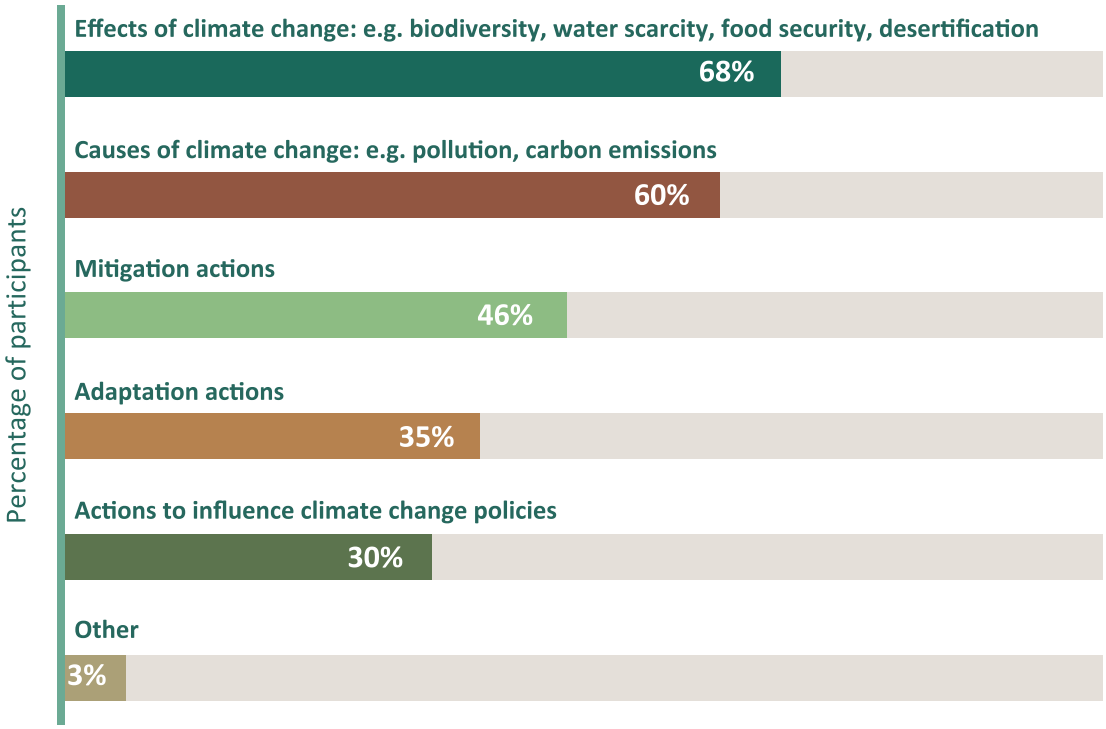


Figure M: Degree of agreement with the statement that participants' climate action work addresses climate change and its intersection with other disciplines and fields. For example, ecology, economics, sociology, etc. (Total responses: 402; 99% participation rate)

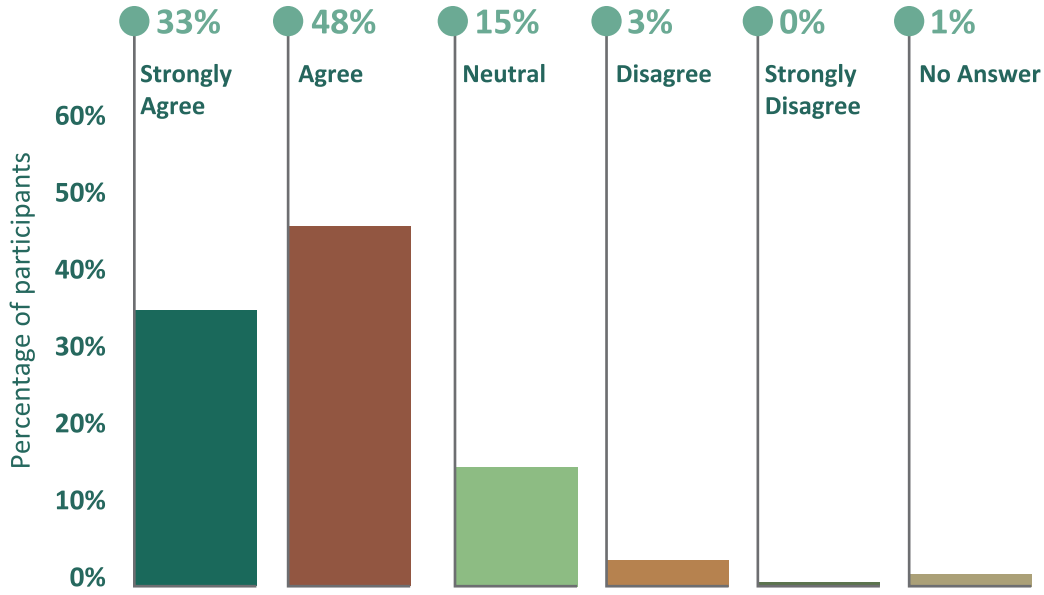


Figure N: Degree of agreement with the statement that participants develop their knowledge products on climate change through collaborative processes with others from different sectors and disciplines (Total responses: 395 responses; 97% participation rate)

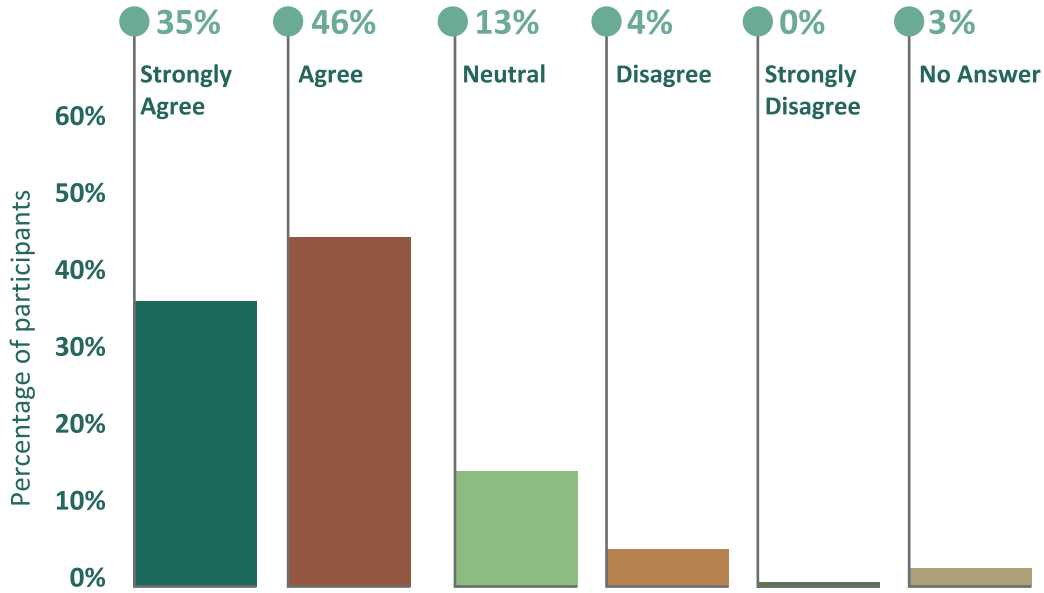


Figure O: Institutions that supported or sponsored the development of participants' knowledge products (Total responses: 394; 97% participation rate)

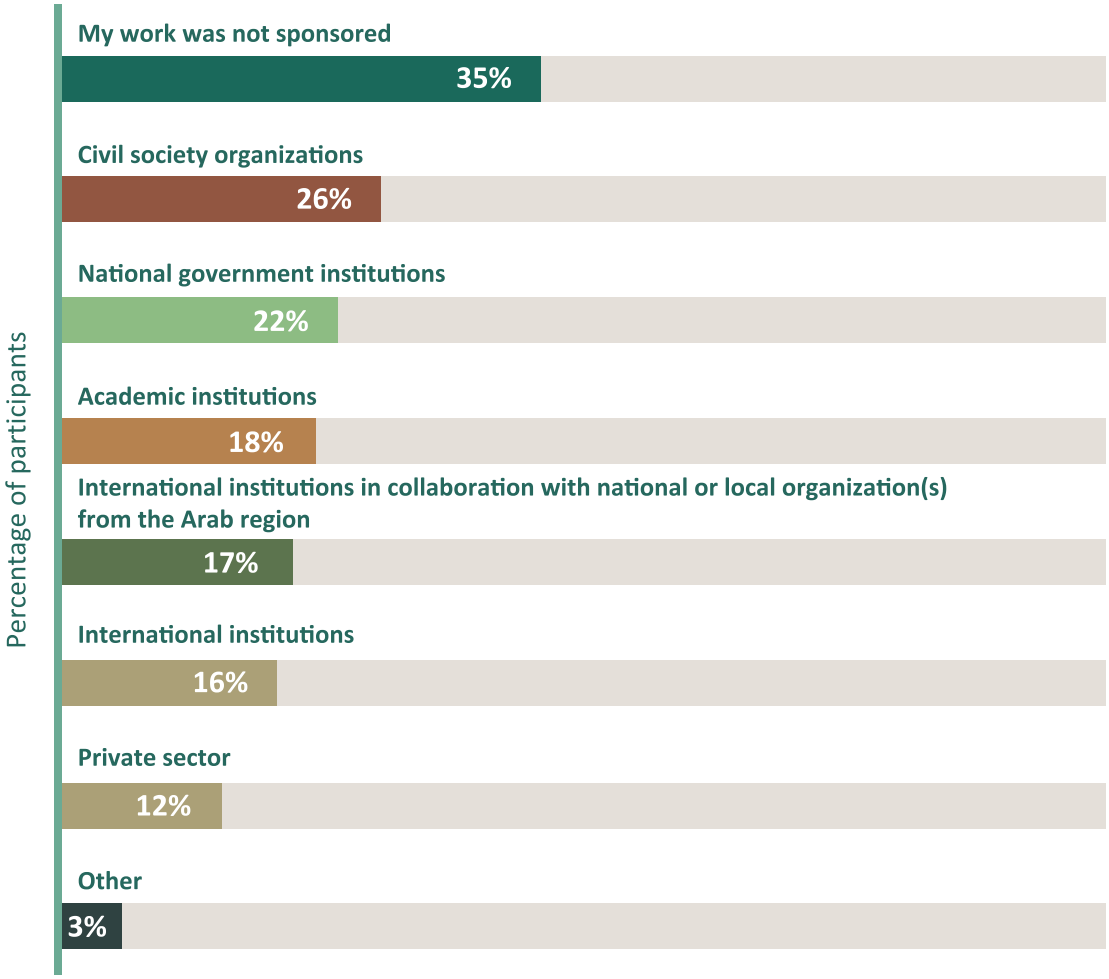


Figure P: Preference for type of media that participants use to share information about climate change (Total responses: 401; 98.8% participation rate)

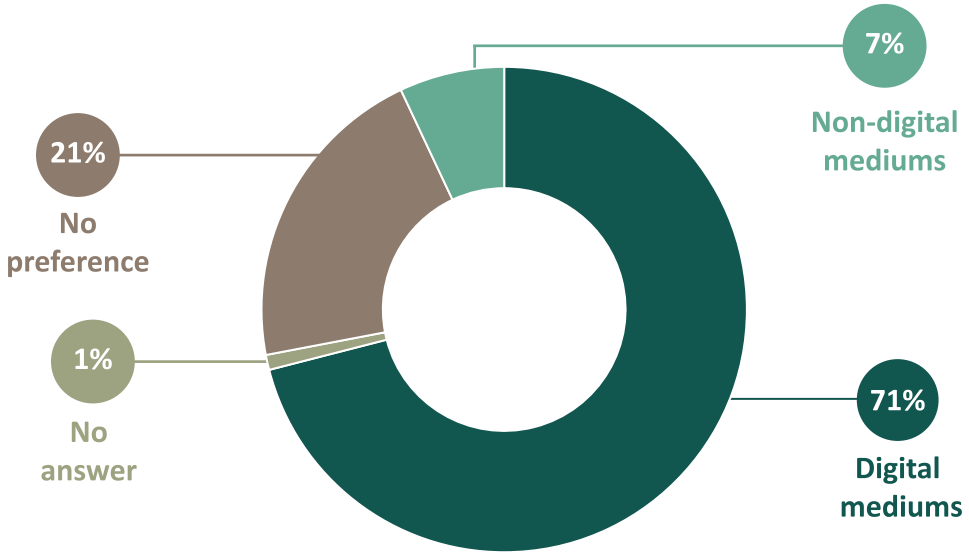


Figure Q: Responses of participants regarding the benefits of using digital platforms (e.g. internet, social media, etc.) when spreading information on climate change (Total: 401 re-spones; 98.8% partcipation rate)

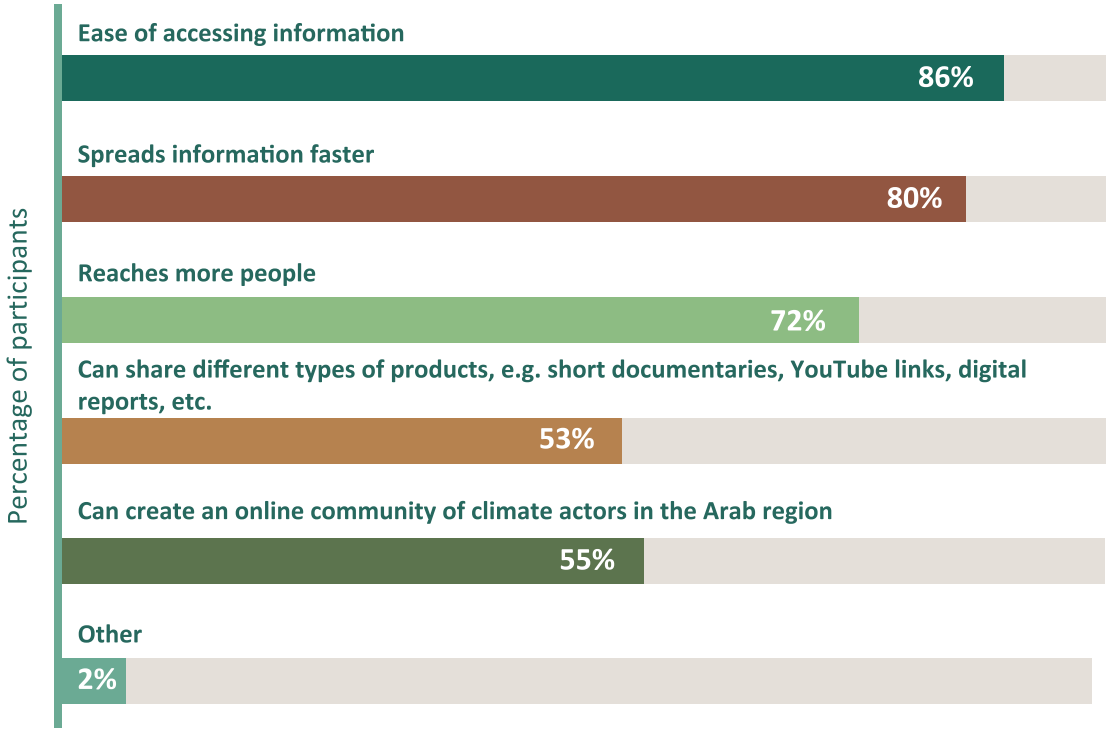
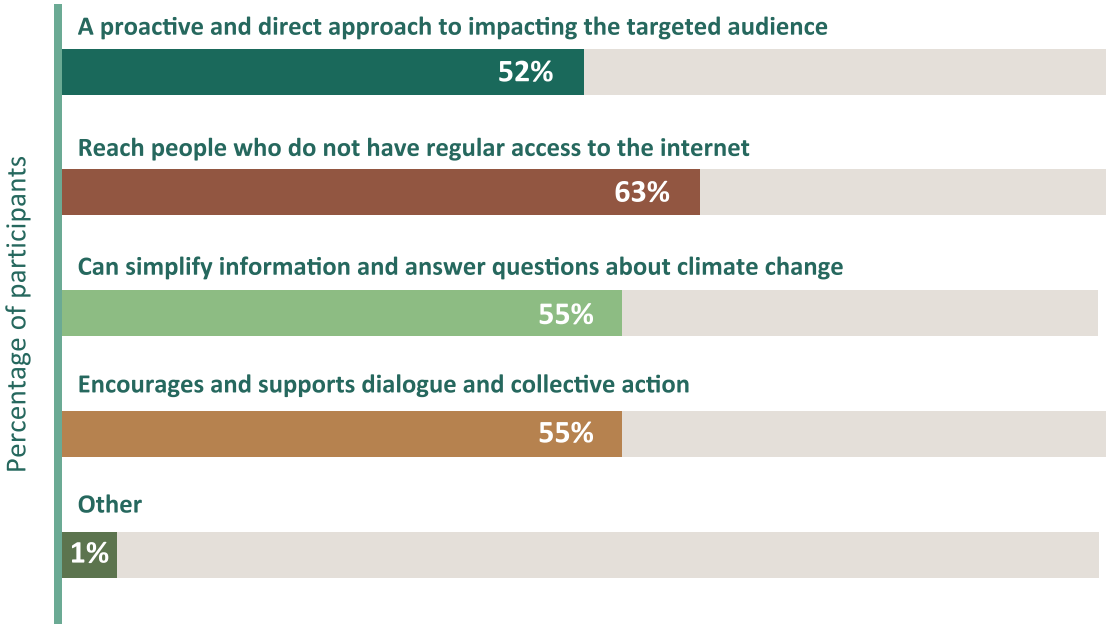


Figure R: Responses of participants regarding the benefits of using non-digital avenues (e.g. awareness campaigns, etc.) when spreading information on climate change (Total: 406 responses; 100% participation rate)



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ANNEX D:

YOUTH RECOMMENDATIONS

Annex D: Youth Recommendations

Youth climate actors were asked to provide their recommendations on the issue of youth climate action and knowledge in the regional survey. The points below present a summary of the main themes that youth shared as recommendations, which are provided in high-level summaries. Some of these themes are linked to the knowledge dimension while others are more general to youth climate action engagement. Each theme also includes the number of recommendations that fell under that particular idea. Ideas are numbered by the greatest number of recommendations made on the issue, although all of them are equally important in their own regard. There are a total of 331 recommendations from 232 youth climate actors who participated in the survey.

Youth require more engagement and support (49 recommendations)

It is critical to support youth in the different initiatives and activities they are partaking in or aim to participate in. This starts with demonstrating more interest in youth climate actors who care about environmental issues. It includes supporting their projects, research efforts, entrepreneurial initiatives, engagement in policymaking, or their participation in critical climate change-related conferences and events. It is important to meaningfully engage youth and not through tokenistic approaches that will not make a real contribution. In-person efforts in universities, places of work, and other spaces need to be created to engage youth so that they lead and contribute to combatting climate change issues in a real and genuine manner that is relevant to the place they are in. There should not be a reliance on engaging youth only through social media.

Policymakers should take more action on climate change as well as engage youth in decision-making (35 recommendations)

Policymakers need to make climate change more of a priority in their countries and integrate it within national agendas and plans. It is important they understand its complex nature and the way it impacts all segments and sectors of society, as well as their pathway to reaching the SDGs. It is critical for policymakers to engage with youth and integrate them in their activities, including climate debates and negotiations, as well as with civil society organizations and other stakeholders in their societies, including the private sector.

There needs to be continued efforts to spread awareness (30 recommendations)

It needs to be a priority to invest in educating society on climate change through extensive, organized, and systematic awareness-raising campaigns. All digital and non-digital modes and media need to be utilized in order to reach all segments of society. This could include television, radio, social media, training workshops, etc. Awareness efforts should be targeted towards society, policymakers, government officials, private sector entities, and other stakeholders.

Educational institutions should play a much larger role in climate change education (29 recommendations)

Educational institutions have one of the most important roles to play in terms of educating future generations about the climate change issue. Efforts need to be made to integrate climate change topics into the curricula starting from primary school up until university. Universities should integrate climate change classes in their curricula regardless of students' areas of study. More universities should create undergraduate and graduate programs in climate change and support more research initiatives in this field.

It is imperative to strengthen youth's skills to contribute to climate action (26 recommendations)

More skills training opportunities and mentorships for youth on climate change are needed. These should include organizing more training workshops, conferences, events, and project-based activities for youth to learn concepts about climate change as well as hands-on opportunities to work in the field. It is also important to enhance their skillsets in research, field research, report writing, and advocacy. This should also include organizing awareness events targeted at youth.

Believe in youth (26 recommendations)

Youth climate actors have a lot they can offer, and want to feel that government and society believe in their potentials and abilities. They have the will and initiative and are ready to make a difference. By building youth's capacities, providing them with mentorship, and integrating them in policymaking processes, they will be able to make significant contributions to combatting climate change.

More research and data access are needed (23 recommendations)

There need to be greater efforts to increase climate change research in the Arab region. Localized information is key for those who are working in and contributing to this field. Academics and researchers studying climate change require moral, financial and technical support as well as a supportive enabling environment. Research centers and labs also require resources to acquire tools and equipment. It is very important that institutions share existing data more openly and transparently in order for researchers to be able to analyze and reach scientific results that can be implemented on the ground. Youth need to be able to interact with the government in order to carry out their initiatives. Furthermore, there should be efforts to collect data on a regional level considering the vulnerability to climate change in the entire Arab region.

Provide support to civil society and grassroots movements working in this field (16 recommendations)

Support the work of local civil society organizations in the field of climate change and provide youth with a platform to establish youth-led local organizations. Bridge the gap between government and civil society. Each needs to inform the work of the other in order to make long-lasting policies and changes.

New laws should be created around climate change (15 recommendations)

Government should create new approaches, laws, and regulations to address climate change. This should include creating laws that deter people from making violations against the environment as well as ensuring that businesses have some accountability towards climate action. It is important to create and enforce a system that holds all stakeholders accountable for contributing to the causes of climate change.

Youth should continue as well as increase their role in climate action (13 recommendations)

Youth need to come together as a collective to seriously work on climate change issues. It is their responsibility to recruit and mobilize more youth to work on this important issue. This should be an inclusive process, and all youth should participate, including marginalized and vulnerable youth from different areas and backgrounds. Youth's role should be institutionalized at the government level to work on climate change.

It is important to establish regional and global collaboration (12 recommendations)

It is essential to establish knowledge exchanges between different countries in the Arab region to learn about each other's practices and benefit from one another's experiences. Since climate change is impacting the region (and globe) collectively, there should be Arab-led delegations between the region's countries that take collective actions to address the issues facing the Arab region. There should also be more opportunities for youth to collaborate on a cross-regional level.

Make the necessary resources available to support climate action activities (12 recommendations)

Provide youth with technical, financial, and logistical resources to carry out their climate action activities. Just as importantly, provide youth with moral support to work in this field.

There needs to be an in-depth look at all climate change issues (10 recommendations)

All elements of climate change need to be examined from a cross-sectoral and inter-disciplinary approach. There needs to be a focus on issues impacting all geographic areas.

Society should all feel the shared responsibility to address climate change (9 recommendations)

All members of society should seriously think about climate change as it is impacting human life in very direct and dangerous ways. Everyone needs to work to make better daily lifestyle choices. Each segment of society should reflect inwardly and think about the changes and actions they need to make to combat climate change. It is critical that everyone comes together to take collective action.

Link climate change with employment opportunities (5 recommendations)

Many youth in the Arab region are suffering from unemployment. By creating job opportunities for youth in the climate change and environmental field, youth will be more encouraged to address this issue. Youth can also be trained on how to address climate change issues as relevant to their particular sector of work; e.g. the intersection between engineering and climate change. It is equally important to provide youth who have studied climate change with opportunities in the government and other relevant areas of work.

Everyone needs to look within (5 recommendations)

People should do what they can in their daily lifestyle choices at home. Sustainable living should be made easy for people, especially for those who think it is hard to maintain such a lifestyle on a daily basis. This is a moral and social responsibility for our lives today and for future generations.

Cross-institutional collaboration is key for change to happen (4 recommendations)

It is important to establish institutional collaboration between government, private sector, academia, and other entities to holistically address climate change issues together.

Climate change needs to be studied holistically (3 recommendations)

It is important to address climate change from a holistic perspective. This includes government policies and laws, educational curricula, higher education curricula and research, civil society and awareness, the general public's daily lifestyle choices, the private sector's business practices, and a number of other areas that require attention. One approach on its own will not minimize climate change so a systematic approach is required.

More volunteerism is needed around climate change issues (2 recommendations)

More members of society should feel a responsibility towards volunteering in this space.

Youth climate actors would benefit from mentors (2 recommendations)

Youth would benefit from more mentorship in the climate change field. This is an important area to provide direction to young people who are interested in this field but are not sure which steps to take to be engaged.

Encourage private sector to examine their business choices and practices (2 recommendation)

It is important to work in collaboration with the private sector to reexamine the business decisions they make that have impacts on earth. It is important to encourage all companies and factories to have better environmental practices, such as contributing to stopping the pollution they create.

It is essential to enhance collaboration with the media (2 recommendations)

There should be more efforts to engage with media companies and organizations as the media wield the greatest tools to impact and help in forming public opinion.

Contextualize climate change terminology so that it is understood by all (1 recommendation)

It is important to localize climate change concepts for different countries so that the concepts make sense in their different contexts and the issues that local people are facing.

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ANNEX E:

ENGLISH AND ARABIC SURVAYS

Annex E: English and Arabic Surveys

This survey was published in three languages: Arabic, English and French. This annex includes the Arabic and English versions.

UNESCO Survey: Youth, Climate Change, and Knowledge in the Arab Region

> UNESCO Regional Bureau for Sciences in the Arab States based in Cairo (UNESCO Cairo) held a preliminary e-consultation meeting with youth climate actors in the Arab region on climate action knowledge needs on 22 June 2020. Attended by some 50 youth (nominated by Arab States), the e-consultation meeting confirmed the need to examine the knowledge dimension of youth climate action in the region. As a follow-up to this meeting, UNESCO Cairo is developing the regional report on Knowledge and Youth-Led Climate Action in the Arab Region.

> The objective of this survey is to examine where youth climate actors in the region, like yourselves, source knowledge about climate change, what knowledge you are producing, and how you are disseminating the knowledge you are receiving and creating. Through this report, UNESCO aims to start an important discussion on how to better support youth in accomplishing their climate action activities and deepening their knowledge of climate change.

To participate in this survey, please ensure that you meet the following requirements:

- You are a youth climate actor in the Arab region
- You are between the ages of 18 and 35
- You live in one of the following countries that fall under UNESCO Cairo office's purview: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates, Yemen

Instructions:

- The survey will take you approximately 10 to 15 minutes to fill out and is composed of 7 sections.
- Please read the instructions before each section as this will help you answer the questions effectively.
- Please answer all the questions as this will contribute to a more accurate report. If you are not able to answer a question, simply continue to the next one.
- In Section 6, you will have an opportunity to provide recommendations about how to increase knowledge about climate change amongst youth in the Arab region. We will include some of these recommendations in the final report.
- If you know anyone who should take this survey, please send this survey to him/her or provide the best way to contact them so that we may send them the survey. All contact information is strictly private and confidential information.

YOUTH, KNOWLEDGE, AND CLIMATE ACTION IN THE ARAB REGION SURVEY DISCLAIMER

This survey and its contents are part of a study about Knowledge and Youth-Led Climate Action in the Arab Region. Your participation in this survey is voluntary and you may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. To withdraw, you only need to close this webpage. Your response will not be saved unless you choose to "submit". If you choose to "submit" at the end, you confirm your willingness to participate in this survey.

The participant in the survey is anonymous and we will not be able to identify you or your answers. Collected data and information will be strictly used only for the purposes of this study. Responses to anonymous surveys cannot be traced back to the respondent. No personally identifiable information is captured unless you voluntarily offer personal or contact information in any of the comment fields. Additionally, your responses are combined with those of many others and summarized in a report to further protect your anonymity.

SECTION 1: Personal Information

1. How old are you?*

Please choose ***only one*** of the following:

☐ 18	☐ 28
☐ 19	☐ 29
☐ 20	☐ 30
☐ 21	☐ 31
☐ 22	☐ 32
☐ 23	☐ 33
☐ 24	☐ 34
☐ 25	☐ 35
☐ 26	☐ Other
☐ 27	

2. Which country do you live in?*

Please choose ***only one*** of the following:

- ☐ Jordan
- ☐ United Arab Emirates
- ☐ Bahrain
- ☐ Algeria
- ☐ Sudan
- ☐ Morocco
- ☐ Iraq
- ☐ Kuwait
- ☐ Yemen
- ☐ Saudi Arabia
- ☐ Tunisia
- ☐ Palestine
- ☐ Oman
- ☐ Syria
- ☐ Lebanon
- ☐ Libya
- ☐ Egypt
- ☐ Mauritania
- ☐ Qatar
- ☐ Other

3. Gender*

Please choose ***only one*** of the following:

- ☐ Female
- ☐ Male
- ☐ I prefer not to disclose
- ☐ Other

4. Level of education

Please choose ***only one*** of the following:

- ☐ Completed a high school degree
- ☐ Current university student
- ☐ Current master's/doctoral student
- ☐ Completed a university degree
- ☐ Completed a master's degree
- ☐ Completed a doctoral degree
- ☐ Other

SECTION 2: Climate Action Activities

Tell us more about your climate action activities in the Arab region.

5. What type of youth climate actor do you consider yourself to be?*

Please choose ***all*** that apply:

- ☐ Activist
- ☐ Entrepreneur
- ☐ Academic
- ☐ Researcher
- ☐ Journalist/Blogger/Writer
- ☐ Artist
- ☐ Other

6. Which geographic regions does your work on climate change cover?

Please choose ***all*** that apply:

- ☐ My country
- ☐ Arab region in general
- ☐ Countries outside the Arab region

7. Your work in climate change covers which of the following?

Please choose ***all*** that apply:

- ☐ Cities
- ☐ Coast and Sea/Ocean
- ☐ Desert
- ☐ Countryside
- ☐ Other

8. What is the main reason that drove you to work on climate change?

Please choose ***all*** that apply:

- ☐ I feel its impact on my daily life
- ☐ It is a career opportunity
- ☐ A mentor encouraged me
- ☐ I feel a sense of responsibility towards future generations
- ☐ Other

9. My climate action activities are conducted on the following basis/bases:

Please choose ***all*** that apply:

- ☐ Voluntary
- ☐ Professional
- ☐ Academic
- ☐ Other

10. How did you first learn about climate change?

Please choose ***all*** that apply:

- ☐ School
- ☐ A mentor
- ☐ University
- ☐ Social media
- ☐ News and mass media
- ☐ Conference or event
- ☐ Awareness campaig
- ☐ International organizations' initiatives
- ☐ Conversations with friends or family
- ☐ Other

11. Since when did you start your involvement in climate change activities?

Please choose ***only one*** of the following:

- ☐ Less than one year
- ☐ 1-5 Year/Years
- ☐ 5-10 Years
- ☐ More than 10 years

12. Regardless of your degree program, have you ever studied environment- or climate change-related issues?

Please choose ***all*** that apply:

- ☐ Yes, in grade school
- ☐ Yes, in my university or graduate studies
- ☐ Yes, in training workshops
- ☐ No, I have not studied these topics
- ☐ No, but I am thinking about studying these topics
- ☐ Other

13. My climate action activities increased during the COVID-19 pandemic. Choose one of the following answers.

Please choose ***only one*** of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

SECTION 3: Sourcing

What sources are you using to obtain information for your work and what challenges are you facing in finding these sources?

14. What are the sources you utilize to obtain knowledge on climate change?*

Please choose ***all*** that apply:

- ☐ Academic journals and research produced by Arab institutions
- ☐ Academic journals and research produced by non-Arab institutions
- ☐ Web and print news media
- ☐ Think tanks and research centers
- ☐ Conferences or training workshops
- ☐ Social media
- ☐ Reports and studies from international or Arab regional organizations
- ☐ Electronic platforms, podcasts, or blogs
- ☐ Government and policy publications
- ☐ Interview with experts or consultations
- ☐ Educational programs on radio and TV
- ☐ Culture or art piece, documentary films
- ☐ Awareness campaignblogs
- ☐ Conversations with friends and family
- ☐ Other

15. I obtain most of my information on climate change through digital sources (e.g. social media, internet searches, online databases, etc.) rather than non-digital sources (e.g. in-person events or conferences, printed publications, or books, etc.)

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

16. I obtain most of my information on climate change in the Arab region from Arab/regional sources and not from other international sources.

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

17. In which language(s) do you mostly find information about climate change in the Arab region?*

Please choose ***all*** that apply:

- ☐ Arabic
- ☐ English
- ☐ French
- ☐ Other

18. When searching for information on climate change in the Arab region, I am able to determine if a source is credible and reliable.

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

19. What are the most significant challenges you face when looking for information about climate change in the Arab region?

Please choose ***all*** that apply:

- ☐ Available information exists, but is not provided in a simple way that I can easily apply to my work
- ☐ Most of the information and sources available are not in the Arabic language
- ☐ Limited studies produced by Arab researchers and institutions
- ☐ I do not have regular access to the internet
- ☐ I do not know how to find or research scientific articles
- ☐ The information I need access to requires payment or a subscription
- ☐ I do not know how to identify a credible and reliable source
- ☐ Other

20. When researching information about climate change in the Arab region, what do you find is missing?

Please choose ***all*** that apply:

- ☐ Limited statistics about climate change the Arab region
- ☐ Limited studies about climate change in the Arab region
- ☐ Limited studies about the impact of climate change on the economy in the Arab region
- ☐ Limited studies or practical models that reflect the reality of the Arab region
- ☐ Limited studies that look at climate change's connection with other disciplines such as ecology or biodiversity
- ☐ Other

SECTION 4: Knowledge Production

What knowledge are you producing about climate change? In this section we are using the term "knowledge product" to refer to any knowledge contribution you have made in the field of climate change.. Think about any material/product you have developed either in your job, studies, entrepreneurship work, volunteer experiences, activism, or general interests.

21. What type of knowledge products related to climate change do you produce or contribute to producing?*

Please choose ***all*** that apply:

- ☐ Academic or scientific article: journal articles, master's thesis, or PhD dissertation
- ☐ International and/or Arab regional reports or studies
- ☐ Social media posts, e.g. Facebook, Twitter, YouTube, etc.
- ☐ Government strategies and/or policies
- ☐ Awareness campaigns: slogans, printed brochures
- ☐ Market studies or products
- ☐ Conference presentations
- ☐ Training workshop manuals
- ☐ Art, cultural, or documentary film productions
- ☐ News and/or opinion articles
- ☐ Short article posts on the internet and/or blogs
- ☐ Translation or local contextualization of international products
- ☐ Maps, e.g. climate maps
- ☐ I have not produced any products
- ☐ Other

22. In what sector of climate change do you generate your knowledge products in?

Please choose ***all*** that apply:

- ☐ Academic
- ☐ Research
- ☐ Entrepreneurship or Private Sector
- ☐ Government/Policy
- ☐ Civil Society/Activism/Awareness
- ☐ International Organizations
- ☐ Culture, Heritage, and Art
- ☐ Print and Web-Based Journalism
- ☐ Freelance Writing/Blogging
- ☐ Health
- ☐ Other

23. In which area of climate change do you generate your products?

Please choose ***all*** that apply:

- ☐ Effects of climate change: e.g. biodiversity, water scarcity, food security, de sertification
- ☐ Causes of climate change: e.g. pollution, carbon emissions
- ☐ Adaptation actions
- ☐ Mitigation actions
- ☐ Actions to influence climate change policies

24. My climate action work addresses climate change and its intersection with other disciplines and fields. For example, ecology, economics, or sociology, etc.

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

25. What is your area of focus in the field of climate change? Write your area of discipline/disciplines. For example, biodiversity, conservation biology, political issues, economics, sociology, etc.

Please write your answer here:

26. I develop my knowledge products on climate change through collaborative processes with others from different sectors and disciplines

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

27. In which language(s) is/are your knowledge product(s)?

Please choose ***all*** that apply:

- ☐ Arabic
- ☐ English
- ☐ French
- ☐ Other

28. Which institutions supported or sponsored the development of your knowledge products?

Please choose ***all*** that apply:

- ☐ National government institution
- ☐ Civil society organization
- ☐ Private sector
- ☐ International institution
- ☐ International institution in collaboration with national or local organization(s) from the Arab region
- ☐ Academic institution
- ☐ My work was not sponsored
- ☐ Other

29. What types of challenges do you face when creating your products about climate change?

Please choose ***all*** that apply:

- ☐ I cannot obtain funding or support for my project
- ☐ I do not know how to find a person or an organization for collaboration
- ☐ I need more skills training or mentorship from an expert
- ☐ There are not enough Arab journals for me to publish my scientific article
- ☐ I do not know how to publish my work in an international journal
- ☐ I do not have challenges
- ☐ Other

30. If your climate change-related product(s) is/are available online, please share the URL link or links. We will consider featuring the product/products in the report.

Please write your answer here:

31. Have you read about or produced any knowledge products on the issue of the impact of climate change on cultural or natural heritage? If yes, please provide a description of the product(s) or provide a URL for the product(s), if available.

Please choose only one of the following:

- ☐ Yes
- ☐ No

Make a comment on your choice here:

SECTION 5: Knowledge Dissemination, Use and Impact

When answering these questions, think about how you share and use information or knowledge related to climate change.

32. I prefer to share information about climate change through the following ways…

Please choose ***all*** that apply:

- ☐ Digital mediums
- ☐ Non-digital mediums
- ☐ No preference

33. What are the digital and non-digital ways you use to share information about climate change?*

Please choose ***all*** that apply:

- ☐ Digital: Social media
- ☐ Digital: News
- ☐ Digital: Electronic information platforms, podcasts, or blogs
- ☐ Digital: Virtual conferences, trainings, or workshops
- ☐ Digital: Academic journals or periodicals
- ☐ Digital: Market advertisements
- ☐ Non-Digital: Conversations with friends and/or family
- ☐ Non-Digital: Awareness campaigns and events
- ☐ Non-Digital: Conferences, trainings, workshops
- ☐ Other

34. The benefits of using digital platforms (e.g., internet, social media, etc.) when spreading information on climate change are.

Please choose ***all*** that apply:

- ☐ Ease of accessing information
- ☐ Spreads information faster
- ☐ Reaches more people
- ☐ Can share different types of products, e.g. short documentaries, YouTube links, digital reports, etc.
- ☐ Can create an online community of climate actors in the Arab region
- ☐ Other

35. The benefits of using non-digital avenues (e.g.، awareness campaigns, etc.) when spreading information on climate change

Please choose ***all*** that apply:

- ☐ A proactive and direct approach to impacting the targeted audience
- ☐ Reach people who do not have regular access to the internet
- ☐ Can simplify information and answer questions about climate change
- ☐ Encourages and supports dialogue and collective action
- ☐ Other

36. How do you use the knowledge that you source, generate, and disseminate about climate change? *

Please choose ***all*** that apply:

- ☐ Spread awareness
- ☐ Research for an academic article
- ☐ Change in daily lifestyle
- ☐ Influence policies
- ☐ Develop an entrepreneurial project
- ☐ Other

SECTION 6: Your Recommendations for Decisionmakers

What recommendations do you have for policymakers and decision-makers on deepening the knowledge of youth living in the Arab region on climate change and for supporting them in their climate action activities.

37. Youth climate actors in the country I live in have succeeded in influencing the decisions of relevant entities, policymakers, and decision-makers on climate change issues.

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

38. Youth climate actors in the Arab region have generally succeeded in influencing the general public's knowledge/awareness on climate change.

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

39. Youth actors in the Arab region have succeeded in mobilizing youth efforts and initiatives and in facilitating the inclusiveness of youth and their ability to influence and implement the decisions of international and regional conferences related directly and indirectly to climate change. Choose one of the following answers. Please choose only one of the following:

Please choose only one of the following:

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

40. What is the most important recommendation you have for decision-makers and policymakers on how to deepen the knowledge of youth living in the Arab region on climate change and for supporting their youth climate action activities?

Please write your answer here:

SECTION 7, Final SECTION: Can we contact you for future UNESCO Initiatives?

If you would like us to be in contact with you about future UNESCO initiatives on climate change, please feel free to leave your name and contact information below.

41. What is your name?

Please write your answer here:

42. What is the name of the organization you work with on climate change? List all relevant organizations. If you work individually, write "Individual".

Please write your answer here:

43. Contact information (e-mail or WhatsApp).

Please write your answer here:

Thank you for completing the survey! This information is very important to develop youth's knowledge on climate change in the Arab region.

Please help us spread the survey! If you know a youth climate actor who lives in the Arab region, please share the survey with him/her:

Arabic version:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=ar

English version:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=en

French version:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=fr

Annex E: English and Arabic Surveys

This survey was published in three languages: Arabic, English and French. This annex includes the Arabic and English versions.

استبيان اليونسكو: الشباب، تغير المناخ، والمعرفة في المنطقة العربية

عقد مكتب اليونسكو الإقليمي للعلوم في الدول العربية بالقاهرة اجتماع تشاوري إلكتروني أولي مع الشباب الفاعلين في مجال التصدي لتغيّر المناخ في المنطقة العربية حول الاحتياجات المعرفية في 22 حزيران / يونيو 2020، وحضر الاجتماع حوالي 50 شابًا وشابة رشحتهم الدول العربية. أكد الاجتماع التشاوري الالكتروني على الحاجة إلى دراسة البعد المعرفي للعمل المناخي الشبابي في المنطقة العربية. كمتابعة لهذا الاجتماع، يقوم مكتب اليونسكو بالقاهرة بإعداد تقرير إقليمي يتناول المعرفة والعمل المناخي الشبابي في المنطقة العربية.

يهدف هذا الاستبيان الى دراسة كيفية حصول الشباب والشابات الفاعلين -مثلكم/ن- على المعرفة عن تغير المناخ في المنطقة العربية، وما هي المعرفة التي يتم انتاجها، وكيف تتم مشاركة المعرفة التي يحصلون عليها وينتجونها. تهدف اليونسكو من خلال هذا التقرير إلى بدء وتيسير نقاش مهم عن كيفية دعم الشباب في إنجاز عملهم/ن في مجال تغير المناخ وفي تعزيز معرفتهم/ن في هذا المجال المهم.

للمشاركة في هذا الاستبيان، من فضلك أكد/ي أنك تستوفي المتطلبات التالية

- فاعل/ة شبابي/ة في مجال تغير المناخ في المنطقة العربية
- ما بين العمر ١٨-٣٥ سنة
- أحد سكان البلدان التي تقع ضمن نطاق عمل مكتب اليونسكو في القاهرة: الإمارات، الأردن، البحرين، الجزائر، السودان، المغرب، العراق، الكويت، اليمن، السعودية، تونس، فلسطين، عُمان، سوريا، لبنان، ليبيا، مصر، موريتانيا، قطر

تعليمات

- سوف يستغرق الاستبيان ١٠-١٥ دقيقة تقريبا ويشمل ٧ أقسام
- يرجى قراءة التعليمات قبل كل قسم لمساعدتك على الإجابة على الأسئلة بدقة
- يرجى الإجابة على جميع الأسئلة للحصول على نتائج أفضل للتقرير. في حال تعذر الإجابة على أحد الأسئلة، يمكنك الانتقال إلى السؤال التالي
- ستتاح لك الفرصة في قسم ٦ لتقديم توصيات حول كيفية زيادة المعرفة حول تغير المناخ بين الشباب في المنطقة العربية. سنقوم بتضمين بعض هذه التوصيات في التقرير النهائي.
- إذا كنت على تواصل/معرفة بأي شخص يجب أن يشارك في هذا الاستبيان، فيرجى ارسال هذا الاستبيان لهذا الشخص أو تقديم أفضل طريقة للاتصال به/بها حتى نتمكن من إرسال الاستبيان إليه/إليها. جميع معلومات الاتصال يتم التعامل بمبدأ احترام الخصوصية والسرية.

المشاركة في استبيان حول المعرفة والعمل المناخي الشبابي في المنطقة العربية

هذا الاستبيان ومحتواه هو جزء من دراسة حول المعرفة والعمل المناخي الشبابي في المنطقة العربية. مشاركتك فى هذا الاستبيان هى مشاركة تطوعية، يمكنك اختيار عدم المشاركة. إذا قررت أن تشارك/ى فى هذا الاستبيان البحثى، يمكنك أيضاً الانسحاب فى أى وقت ما عليك سوى الخروج من الصفحة. لن يتم حفظ أي من الإجابات ما لم تنقر/ي على الزر "إرسال". بالنقر على "إرسال" في نهاية الاستبيان، فإنك توافق/ توافقين على الاشتراك في الاستبيان.

المشارك فى هذا الاستبيان مجهول ولن نتمكن من تحديد هويتك. وستستعمل المعلومات والبيانات التي سيتم جمعها لأغراض هذه الدراسة حصريًا وبشكل حاسم. لا يمكن ربط الإجابات على الاستبيانات المجهولة بمن شاركها. لا يتم جمع أي معلومات تعريف شخصية ما لم تقدم/تقدمي طواعية معلومات شخصية أو معلومات اتصال في أي من خانات ترك التعليقات. بالإضافة إلى ذلك، يتم دمج إجاباتك مع إجابات العديد من الآخرين وتلخيصها في التقرير النهائى لتوفير مزيد من الحماية لهويتك.

قسم ١: معلومات شخصية

١. ما هو عمرك؟*

من فضلك اختر واحدا فقط مما يلي:

- ☐ ١٨
- ☐ ١٩
- ☐ ٢٠
- ☐ ٢١
- ☐ ٢٢
- ☐ ٢٣
- ☐ ٢٤
- ☐ ٢٥
- ☐ ٢٦
- ☐ ٢٧
- ☐ ٢٨
- ☐ ٢٩
- ☐ ٣٠
- ☐ ٣١
- ☐ ٣٢
- ☐ ٣٣
- ☐ ٣٤
- ☐ ٣٥
- ☐ أخرى

٢. في أي بلد تسكن/تسكنين؟*

من فضلك اختر واحدا فقط مما يلي:

- ☐ الأردن
- ☐ الإمارات
- ☐ البحرين
- ☐ الجزائر
- ☐ السودان
- ☐ المغرب
- ☐ العراق
- ☐ الكويت
- ☐ اليمن
- ☐ السعودية
- ☐ تونس
- ☐ فلسطين
- ☐ عُمان
- ☐ سوريا
- ☐ لبنان
- ☐ ليبيا
- ☐ مصر
- ☐ موريتانيا
- ☐ قطر
- ☐ أخرى

٣. النوع*

من فضلك اختر واحدا فقط مما يلي:

- ☐ أنثى
- ☐ ذكر
- ☐ أفضل عدم الإفصاح
- ☐ أخرى

٤. المستوى التعليمي

من فضلك اختر واحدا فقط مما يلي:

- ☐ حصلت على شهادة ثانوية
- ☐ حالياً طالب/طالبة في جامعة
- ☐ حالياً أدرس للحصول على درجة الماجستير أو الدكتوراه
- ☐ حصلت على درجة الماجستير
- ☐ حصلت على درجة الدكتوراه
- ☐ أخرى

قسم ٢: أنشطة في مجال تغير المناخ

.أخبرنا/أخبرينا المزيد عن أنشطتك في مجال تغير المناخ في المنطقة العربية

5. تعتبر/تعتبرين نفسك اي نوع من الفاعلين الشباب في مجال تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ ناشط/ة
- ☐ رائد/ة أعمال
- ☐ أكاديمي/ة
- ☐ باحث/ة
- ☐ فنان/ة
- ☐ أخرى

6. ما هي المناطق الجغرافية التي يغطيها عملك عن تغير المناخ؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ بلدي
- ☐ المنطقة العربية بصفة عامة
- ☐ دول خارج المنطقة العربية

7. عملك فى مجال تغير المناخ يتضمن اي من التالى؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ المدن
- ☐ الساحل والبحر/المحيط
- ☐ الصحراء
- ☐ الريف
- ☐ آخر

8. ما هي أهم الأسباب التي دفعتك للعمل في مجال تغير المناخ؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ أشعر حاليا بتأثير تغير المناخ المباشر على حياتي اليومية
- ☐ فرصة مهنية
- ☐ شجعني مرشد لي
- ☐ أشعر بالمسؤولية تجاه الأجيال القادمة
- ☐ أخرى

9. أقوم بأنشطتي الخاصة بتغير المناخ على أساس:

من فضلك اختر كل ما يمكن تقديمه:

- ☐ تطوعي
- ☐ مهني
- ☐ أكاديمي
- ☐ أخرى

10. كيف تعرفت على موضوع تغير المناخ لأول مرة؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ التعليم الأساسي
- ☐ مرشد أو موجه
- ☐ جامعة
- ☐ وسائل التواصل الاجتماعي
- ☐ الأخبار والإعلام
- ☐ مؤتمر أو حدث
- ☐ حملة توعية
- ☐ مبادرات من قبل مؤسسات دولية
- ☐ حديث مع صديق أو أفراد العائلة
- ☐ أخرى

11. منذ متى بدأت مشاركتك في أنشطة مجال تغير المناخ؟

من فضلك اختر واحدا فقط مما يلي:

- ☐ أقل من سنة
- ☐ ١-٥ سنة/سنوات
- ☐ أكاديمي
- ☐ ٥ - ١٠ سنوات
- ☐ أكثر من ١٠ سنوات

12. بغض النظر عن مجال اختصاصك، هل سبق لك دراسة مواضيع تتعلق بالبيئة أو بمجال تغير المناخ؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ نعم، في تعليمي الأساسي
- ☐ نعم، في الجامعة أو دراساتي العليا
- ☐ نعم، في ورشات تدريب
- ☐ لا، لم ادرس هذه المواضيع
- ☐ لا، ولكن أفكر في دراستها
- ☐ أخرى

13. زادت نشاطاتي لنشر الوعي عن تغير المناخ خلال فترة جائحة كوفيد – ١٩ (COVID-19).

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

قسم ٣: مصادر المعرفة

ما هي مصادر المعرفة التي تعتمد/تعتمدين عليها في نشاطك وما هي التحديات التي تواجهها/ تواجهينها في الوصول إلى هذه المصادر؟

14. ما هي المصادر التي تستخدمها/ تستخدمينها للحصول على المعلومات عن تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ دوريات وبحوث أكاديمية من جهات عربية
- ☐ دوريات وبحوث أكاديمية من جهات غيرعربية
- ☐ وسائل الإعلام الإلكترونية والمطبوعة
- ☐ مراكز البحث
- ☐ مؤتمرات أو ورش عمل تدريبية
- ☐ وسائل التواصل الاجتماعي
- ☐ تقارير ودراسات من جهات دولية أو إقليمية عربية
- ☐ منصات معلومات إلكترونية، بودكاست، مدونات
- ☐ سياسات أو استراتيجيات حكومية
- ☐ مقابلات مع خبراء أو استشارات
- ☐ برامج إذاعية تعليمية (راديو أو تلفاز)
- ☐ مقاطع ثقافية أو فنية؛ أفلام وثائقية
- ☐ حملة توعية
- ☐ محادثات مع صديق/ة أو أحد أفراد العائلة
- ☐ أخرى

15. أحصل على معظم معلوماتي عن تغير المناخ من خلال المصادر الرقمية (وسائل التواصل الاجتماعي، وعمليات البحث على الإنترنت، وقواعد البيانات عبر الإنترنت، الخ)، بدلاً من المصادر غير الرقمية (كحضور شخصي لحدث أو لمؤتمر، مطبوعات أو كتب، إلخ).

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

16. احصل على معظم معلوماتي عن تغير المناخ في المنطقة العربية من مصادر عربية/إقليمية وليس من مصادر دولية أخرى.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

17. ما هي أكثر لغة (لغات) تجد بها المعلومات عن تغير المناخ في المنطقة العربية؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ العربية
- ☐ الإنجليزية
- ☐ الفرنسية
- ☐ آخر

18. عند البحث عن معلومات حول تغير المناخ في المنطقة العربية، يمكنني تحديد ما إذا كان المصدر موثوقًا به وذا جودة ويمكن الاعتماد عليه.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

19. ما هي أهم التحديات/الصعوبات التي تواجهك أثناء البحث عن معلومات عن تغير المناخ في المنطقة العربية؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ يوجد معلومات ولكنها ليست متوفرة بطريقة بسيطة يمكن تطبيقها في عملي
- ☐ أغلب المعلومات والمصادر المتوفرة ليست باللغة العربية
- ☐ عدم توفر دراسات كافية أُنتجت من قبل باحثين أو مؤسسات عربية
- ☐ ليس لدي خدمة إنترنت دائمة
- ☐ لا اعرف كيف يمكنني أن أحصل على أو ابحث عن مقالات علمية
- ☐ المعلومات التي احتاج للوصول إليها تتطلب الدفع أو الاشتراك
- ☐ لا اعرف كيفية تحديد مصدر موثوق به ويعتمد عليه
- ☐ أخرى

20. عند البحث عن معلومات عن تغير المناخ في المنطقة العربية، ما الذي تجده/تجدينه ناقصاً؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ عدم توفر احصائيات كافية عن تغير المناخ في المنطقة العربية
- ☐ عدم توفر دراسات كافية عن تغير المناخ المنطقة العربية
- ☐ عدم توفر دراسات كافية عن تأثير تغير المناخ على الاقتصاد في المنطقة العربية
- ☐ عدم توفر دراسات أو نماذج تطبيقية كافية للواقع في المنطقة العربية
- ☐ عدم توفر دراسات كافية عن علاقة تغيرالمناخ في/ضمن مجالات أخرى مثل علم البيئة أو التنوع البيولوجي
- ☐ أخرى

قسم ٤: إنتاج المعرفة

ما هي أنواع المعرفة التي تقوم/تقومين بإنتاجها في مجال تغير لمناخ؟ في هذا القسم نستخدم مصطلح "انتاجات معرفية" للإشارة إلى أي مساهمة أو إضافة معرفية قمت بها في مجال تغير المناخ. فكر/ي بجميع ما قدمته من خلال عملك، دراستك، عملك الريادي، عملك التطوعي، ونشاطاتك، أو اهتماماتك الخاصة.

21. ما هي الإنتاجات المعرفية التي قمت بإنتاجها أو ساهمت بإنتاجها في مجال تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ مقالة أكاديمية أو علمية: مقالة في دورية، رسالة ماجستير أو دكتوراه
- ☐ تقارير أو دراسات دولية و/أو إقليمية عربية
- ☐ مشاركات على وسائل التواصل الاجتماعي مثلا فيس بوك، توتر، يوتيوب، الخ
- ☐ استراتيجية حكومية و/أو سياسات
- ☐ حملات توعوية: شعارات، كتيبات مطبوعة
- ☐ دراسة سوق أو منتجات للتسويق
- ☐ عرض في مؤتمر
- ☐ دليل ورشة عمل تدريبية
- ☐ منتجات فنية أو ثقافية، فيلم وثائقي
- ☐ مقالة إخبارية و/أو مقالة رأي
- ☐ مقالات إلكترونية قصيرة و/أو مدونات
- ☐ ترجمة أو تكييف لإنتاجات دولية
- ☐ الخرائط، مثلا خريطة مناخية
- ☐ لا أنتج
- ☐ أخرى

22. في أي القطاعات تنتج إنتاجاتك المعرفية الخاصة بمجال تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ أكاديمي
- ☐ بحثي
- ☐ ريادة الأعمال أو القطاع الخاص
- ☐ حكومي/سياسات
- ☐ مجتمع مدني/نشاط/توعية
- ☐ منظمات دولية
- ☐ الثقافة، التراث، الفنون
- ☐ الصحافة المطبوعة أو الإلكترونية
- ☐ الكتابة الحرة/ التدوين
- ☐ الصحة
- ☐ أخرى

23. تحت أي نطاق تندرج انتاجاتك الخاصة بتغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ أسباب تغير المناخ: التلوث، انبعاثات الكربون
- ☐ تأثير تغير المناخ: التنوع البيولوجي، شحة المياه، أمن الغذاء، التصحر
- ☐ أفعال للتكيف مع تغير المناخ
- ☐ أفعال للتخفيف من التأثيرات السلبية لتغير المناخ
- ☐ نشاط للتأثير على السياسات المتعلقة بتغير المناخ
- ☐ أخرى

24. يعالج عملي المناخي تغير المناخ وتقاطعه مع تخصصات ومجالات أخرى على سبيل المثال علوم البيئة أو علم الاقتصاد أو علم الاجتماع، إلخ.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

25. ما هو مجال تخصصك في مجال تغير المناخ؟ اكتب اسم التخصص أو أسماء التخصصات. على سبيل المثال: التنوع البيولوجي، حماية الأحياء، الشؤون السياسية، الاقتصاد، علم الاجتماع، الخ.

من فضلك اكتب إجابتك هنا

26. أُطوِّرُ انتاجاتي المعرفية عن تغير المناخ بالتعاون مع آخرين من قطاعات وتخصصات مختلفة.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

27. ما هي اللغة (اللغات) التي تعتمدها/تعتمدينها لإصدار هذه المنتجات المعرفية؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ العربية
- ☐ الانجليزية
- ☐ الفرنسية
- ☐ أخرى

28. ما هي الجهة التي قدمت لك الدعم أو قامت برعاية إعداد وتطوير انتاجاتك المعرفية؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ جهة وطنية حكومية
- ☐ جهة من المجتمع المدني
- ☐ قطاع خاص
- ☐ جهة دولية
- ☐ جهة دولية بالتعاون مع جهات وطنية أو محلية في المنطقة العربية
- ☐ مؤسسة أكاديمية
- ☐ من دون دعم أو رعاية
- ☐ أخرى

29. ما هى التحديات التى تواجهك فى اثناء عملك على انتاجاتك الخاصة بتغير المناخ؟

من فضلك اختر كل ما يمكن تقديمه:

- ☐ لا يمكنني الحصول على تمويل أو دعم لمشروعي
- ☐ لا اعرف كيف أجد شخص أو جهة للتعاون
- ☐ انا بحاجة إلى المزيد من التدريب على المهارات أو لإرشاد من خبير
- ☐ ليس هناك دوريات عربية كافية لكي انشر مقالتي العلمية فيها
- ☐ جهة دولية بالتعاون مع جهات وطنية أو محلية في المنطقة العربية
- ☐ لا أعرف كيف أنشر مقالتي في دورية دولية
- ☐ ليس لدي تحديات
- ☐ أخرى

30. إذا كان/كانت منتجك/منتجاتك المعرفية في مجال تغير المناخ متاحة عبر الإنترنت، من فضلك شارك الرابط أو الروابط. سننظر في إمكانية عرضه/عرضها في التقرير.

من فضلك اكتب إجابتك هنا

31. هل قرأت عن أو هل لديك إنتاج معرفي في مجال تأثير تغير المناخ على التراث الثقافي أو التراث الطبيعي؟ إذا نعم، يرجى تزويدنا بوصف الإنتاج أو رابط الإنتاج إن وجد في المربع ادناه.

من فضلك اختر واحدا فقط مما يلي:

- ☐ نعم
- ☐ لا

اكتب تعليقا على اختيارك هنا

قسم ٥: إتاحة واستخدام المعرفة

.عند الإجابة على هذه الأسئلة، فكر/ي في كيفية إتاحة واستخدام المعلومات أو المعرفة المتعلقة بتغير المناخ

32. أفضل ان أشارك المعلومات عن تغير المناخ باستخدام الوسائل التالية:

من فضلك اختر واحدا فقط مما يلي:

- ☐ الوسائل الرقمية
- ☐ الوسائل غير الرقمية
- ☐ لا تفضيل

33. ما هى الوسائل الرقمية وغير الرقمية التي تستخدمها/تستخدميها فى مشاركة المعلومات عن تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ رقمي: وسائل التواصل الاجتماعي
- ☐ رقمي: الاعلام
- ☐ رقمي: منصات معلومات إلكترونية، بودكاست، أو مدونات
- ☐ رقمي: مؤتمرات أو تدريبات أو ورش افتراضية
- ☐ رقمي: دوريات أو مجلات أكاديمية
- ☐ رقمي: إعلانات
- ☐ غير رقمي: مناقشات مع الأصدقاء و/أو الأهل
- ☐ غير رقمية: حملات وفعاليات توعوية
- ☐ غير رقمي: مؤتمرات أو تدريبات أو ورش
- ☐ أخرى

34. فوائد استخدام الوسائل الرقمية (مثلا الإنترنت، وسائل التواصل الاجتماعي، الخ) لمشاركة المعلومات عن تغير لمناخ هي:

من فضلك اختر كل ما يمكن تقديمه:

- ☐ سهولة الوصول إلى المعلومات
- ☐ نشر المعلومات بشكل أسرع
- ☐ القدرة على مشاركة أنواع مختلفة من الإنتاجات مثلا أفلام قصيرة، رابط من يوتيوب، تقارير رقمية، إلخ
- ☐ القدرة على إنشاء مجتمع افتراضي من الشباب الفاعلين في العمل المناخي في المنطقة العربية
- ☐ أخرى

35. فوائد استخدام وسائل غير الرقمية (مثلا حملات توعوية، الخ) لمشاركة المعلومات عن تغير المناخ هي:

من فضلك اختر كل ما يمكن تقديمه:

- ☐ طريقة استباقية ومباشرة للتأثير على الشريحة المستهدفة
- ☐ الوصول إلى الناس ممن ليس لديهم خدمة إنترنت دائمة
- ☐ القدرة على تبسيط المعلومات وإجابة الأسئلة عن تغير المناخ
- ☐ تشجيع ودعم الحوار والعمل الجماعي
- ☐ أخرى

36. كيف تستخدِم المعرفة التي تحصل/تحصلين عليها أو تقوم/تقومين بإنتاجها أو مشاركتها حول تغير المناخ؟*

من فضلك اختر كل ما يمكن تقديمه:

- ☐ لنشر الوعي
- ☐ للعمل على بحث أو مقالة أكاديمية
- ☐ للتأثير على تغير نمط الحياة اليومي
- ☐ للتأثير على السياسات
- ☐ لتطوير مشروعات ريادة أعمال
- ☐ أخرى

قسم ٦: اقتراحاتك لصانعي القرارات

ما هي توصياتك لصانعي السياسات وصناع القرار بشأن تعزيز معرفة الشباب المقيمين في المنطقة العربية بشأن تغير المناخ ودعمهم في عملهم المناخي الشبابي.

37. نجح الفاعلون الشباب في البلد الذي أسكن فيه بالتأثير على قرارات الجهات الرسمية وصانعي السياسات وصانعي القرار بشأن معالجة تغير المناخ.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

38. نجح الفاعلون الشباب في المنطقة العربية بشكل عام في التأثير على الرأي العام والوعي الجماهيري.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

39. نجح الفاعلون الشباب في المنطقة العربية على حشد الجهود الشبابية وتيسيرها في نطاق مقررات الاجتماعات الدولية والاقليمية المتعلقة مباشرة وغير مباشرة في تغير المناخ.

من فضلك اختر واحدا فقط مما يلي:

- ☐ أوافق بشدة
- ☐ أوافق
- ☐ محايد/محايدة
- ☐ أعارض
- ☐ أعارض بشدة

40. ما هي أهم توصياتك لصانعي السياسات والقرارات لتعزيز معرفة الشباب في المنطقة العربية عن تغير المناخ ولكيفية دعم دورهم في العمل المناخي الشبابي؟

من فضلك اكتب إجابتك هنا

قسم ٧ والأخير: هل يمكن أن نتواصل معك لمناقشة أجوبتك

إذا كنت ترغب/ترغبين في أن نتواصل معك بشأن مبادرات اليونسكو المستقبلية بشأن تغير المناخ، فلا تتردد في ترك اسمك ومعلومات الاتصال أدناه.

41. ما هو اسمك؟

من فضلك اكتب إجابتك هنا

42. ما هي الجهة/الجهات التي تعمل/تعملين معها في مجال تغير المناخ؟ عدد إذا كانت هناك أكثر من جهة. إذا كنت تعمل على انفراد، اكتب "فردي."

من فضلك اكتب إجابتك هنا

43. معلومات التواصل (بريد الكتروني أو رقم ال WhatsApp)

من فضلك اكتب إجابتك هنا

شكرا جزيلا على استكمالك لهذا الاستبيان! هذه المعلومات مهمة جدا لتنمية معرفة الشباب عن تغير المناخ في المنطقة العربية.

من فضلك ساعدنا في نشر هذا الاستبيان! إذا كنت تعرف فاعل شبابي/فاعلة شبابية في مجال تغير المناخ ويسكن/تسكن في المنطقة العربية ارسل له/لها رابط الاستبيان:

نسخة العربية:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=ar

نسخة الإنجليزية:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=en

نسخة الفرنسية:
https://survey.unesco.org/3/index.php?r=survey/index&sid=952825&lang=fr

Regional Report on Knowledge for Youth-Led Climate Action in the Arab region

A pioneering study in the field of youth climate action, which has increasingly been on the rise in the Arab region. By investigating the knowledge dimension of youth-led climate action in the Arab region, the report offers a unique opportunity to understand what truly informs and motivates youth engagement in climate action in the Arab world.

Based on 406 survey responses from Arab youth climate actors as well as focus group discussions and 77 interviews with additional youth actors in the Arab region, the report provide an in-depth understanding of the Arab youth climate actors, and how they source, produce, disseminate, and use climate change knowledge. The report also sheds the light on youth-led climate change initiatives in the Arab region and provides concluding remarks and offers key recommendations for relevant stakeholders to consider in order to support youth's knowledge and initiatives in the climate action space.

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