



**Climate-U**

Transforming Universities  
for a Changing Climate

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**Technical Note:  
The design and  
implementation of  
the Climate-U survey  
'Climate Change –  
Practices, Experiences  
and Attitudes'**

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Transforming Universities  
for a Changing Climate  
**Working Paper Series  
No. 7**

By Amanda Lange Salvia,  
Caine Rolleston, Charlotte  
Nussey, Filipe Veisa, Rachel  
Okinyi, Rosario Mananze  
and Tristan McCowan

**June 2022**

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Transforming Universities  
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**June 2022**

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## Abstract

This technical note outlines the design and implementation of the survey 'Climate Change – Practices, Experiences and Attitudes', part of the Transforming Universities for a Changing Climate (Climate-U) research project. The survey was designed to assess students' experiences, their engagement in climate change action and their attitudes towards environmental issues. Data was collected in twelve universities in Brazil, Fiji, Kenya and Mozambique. In addition to the survey structure, this note also presents the survey pilot and the process of survey implementation, including national sampling strategies and the final achieved sample. This document records the methodological procedures behind the survey and is a reference for those interested in conducting a related investigation, as well as providing a methodological resource for related Climate-U publications.

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## 1. Introduction to the survey

This note outlines the development of a survey on climate change conducted in twelve universities in Brazil, Fiji, Kenya and Mozambique. The survey examines the experiences of students, their engagement in climate action and their attitudes towards environmental issues. The survey forms part of the Transforming Universities for a Changing Climate project (Climate-U)<sup>1</sup>. It responds to the overall aim of the project, which is to generate insights into how to maximise the contribution of universities to the mitigation and adaptation challenges of climate change, and to understand how universities might contribute to climate justice.

The contributions of universities beyond knowledge production are critical in addressing climate change, given the deep social, political and economic roots of the crisis. On account of rapidly expanding access around the world, higher education has become increasingly important for shaping the climate-related knowledge, attitudes and practices of the population. Students develop these capacities through their taught courses, but also through their contact with other activities in their institutions, including research, community engagement and campus operations (McCowan 2020). Not only do their present and future actions – in their personal lives, as professionals and as citizens – depend on the learning opportunities available while at university, but also their views on the opportunities offered are essential for higher education institutions to revise their initiatives and reflect on changes needed.

To generate this much-needed data on attitudes and experiences of university students, a questionnaire survey was developed for use across diverse contexts. The survey comprises three parts: a background (demographic) questionnaire, a questionnaire on experience in the university, and an attitudes questionnaire. The approach of each survey part is presented in the following sections.

The survey was conducted in 2021–2022 with undergraduate students at each of the 12 participating institutions<sup>2</sup>, in Brazil, Fiji, Kenya and Mozambique, coordinated by a lead partner university in each country (University of Passo Fundo in Brazil, University of the South Pacific in Fiji, Kenyatta University in Kenya and Eduardo Mondlane University in Mozambique). The sample aimed to draw from the major disciplinary areas of arts/humanities, social sciences and natural sciences. In section 4 of this note, we discuss the implementation of the survey, the final sample, and some of the constraints on administering the survey. Analysis of the survey

data will explore interactions between environmental attitudes and background factors of gender, socio-economic background, region of origin, as well as links between disciplinary areas and experiences of climate change in the curriculum.

This technical note serves to outline the composition of the questionnaire – the selection of items and their antecedents in previous surveys – the piloting process and the conducting of the survey in four countries. This methodological background serves to underpin other Climate-U publications, as well as providing a resource for other researchers who might utilise the survey instrument. The full questionnaire in English and Portuguese is made available in appendices. This document does not cover the findings of the survey, which will be presented in full in forthcoming publications.

## 2. Survey Structure

The survey aimed to assess students' perceptions and experiences regarding climate change and their universities, and their environmental attitudes. It was designed to be internationally comparable and to draw on existing work and questions, so a number of previous surveys and studies were reviewed in the process of drafting our questionnaire.

Part 1 of the survey begins with questions on student background and demographics. It collects data on key background and socio-economic characteristics (e.g., gender, age, assets) which may be expected to be important predictors of attitudes, beliefs and actions examined in the parts of the survey that follow. It also collects data on the year of study and course of study, as disciplinary areas are expected to influence students' responses throughout the survey.

For part 2, we were interested to explore three aspects of the relationship between students and their universities: their perceptions of climate-related initiatives at the university; their experience and learning at the university; and their engagement and action in climate-related activities. In the first section (2a), questions were inspired by the work of Leal Filho et al. (2019), who aimed to analyse evidence on climate change scepticism at universities. By conducting an international survey across 51

1 [www.climate-uni.com](http://www.climate-uni.com)

2 In Brazil: University of Passo Fundo (UPF), University of São Paulo (USP) and Federal University of Pará (UFPA). In Fiji: University of the South Pacific (USPc), University of Fiji (UoF) and Fiji National University (FNU). In Kenya: Kenyatta University (KU), Kisii University (KSU) and Kenya Methodist University (KeMU). In Mozambique: Eduardo Mondlane University (JEM), Lúrio University (UUL) and Catholic University of Mozambique (UCM).





countries, Leal Filho et al. (2019) found respondents had positive perceptions of the role of universities in relation to climate change. Nevertheless, examination of actual policies and actions at their institutions did not necessarily validate these perceptions. Some questions used in their study were employed in the development of our instrument, particularly for comparison between factual and normative aspects of universities' work based on respondents' perceptions. Furthermore, UNESCO's (2019) guide to climate change mitigation and adaptation was also useful in informing question development and in developing options (response categories) for questions on climate-related action at universities.

Section 2b of the survey seeks to investigate students' experience at the university, considering the learning process on climate change and topics related to sustainable development. "Climate Literacy: The Essential Principles of Climate Science" (Global Change Research Program, 2009) was used to inform question development on the topic of climate change education. The questionnaire drew upon the four university dimensions identified in Leal Filho (2011) and SDSN (2017), namely campus operations, research, teaching and outreach (or community engagement).

Finally, the last section (2c) of part 2 focuses on assessing students' engagement and action on climate-related opportunities – with specific questions on learning, research and outreach initiatives, developed based on the experience of the research team across these areas. This section also investigates sources of information on climate change accessed by students and challenges arising in relation to communicating and learning about it. These questions and response categories were based on the World Climate Change Survey developed by Leal Filho (2010). This study collected responses from 1,250 students in 43 countries and reported interesting findings in relation to the power of the media (over university courses) in providing information about climate change and the extent to which students see the topic as complex or technical. By means of its survey, Climate-U will contribute to the growing body of knowledge on which it draws and to broader cross-cultural discussions.

In part 3, the questionnaire draws on a tool developed by Milfont and Duckitt (2010) for measuring environmental attitudes, which comprises 12 scales: enjoyment of nature; support for interventionist conservation policies; environmental movement activism; conservation motivated by anthropocentric concern; confidence in science and technology; environmental fragility; altering nature; personal conservation behaviour; human dominance over nature; human utilisation of nature; eco-centric concern; and support for population growth policies. This constitutes a well-established resource for assessing environmental attitudes and has also been previously applied in cross-cultural environmental research (Milfont et al., 2010). This part also includes 'climate concern' questions based on the climate change chapter of the British Social Attitudes Survey (Fisher et al., 2018).

**Table 1** (*overleaf*) provides an overview of the survey contents including question focus and justification for inclusion. Its development was a collaborative effort between all partner universities of the Climate-U project.

The survey was administered in both English (in Fiji and Kenya) and Portuguese (in Brazil and Mozambique), so that the language did not represent a major barrier to collecting students' responses – although some challenges might be faced by students working in a second language. It also follows the efforts of Climate-U to be developed as a bilingual project, with events and publications being promoted in those two languages.

Both the pilot and the full application were administered remotely with support of the online platform SurveyMonkey. At the proposal stage of the project, it was anticipated that data collection would use an in-person design, but a switch was made to online methods following the coronavirus pandemic.

### 3. Pilot process

After the process of developing a draft version of the questionnaire, the pilot process followed different strategies according to each part<sup>3</sup> of the survey:

#### Part 2

This was developed with 4 to 6 students in a focus group (one group per country). These students responded to questions from Part 2 and were invited to a virtual meeting to discuss content, scope, clarity and face-validity of the questions. Guidelines were provided by the project for setting up these focus groups, which could comprise students from only one university (if suitably diverse/representative of the population), or have representatives of all participating universities (e.g. two students per university, equal to six per country). The students selected to form part of the focus groups were expected to have knowledge of the kinds of activities happening around climate change in their universities, i.e. to be relatively well-informed. They could be student representatives or leaders, or active in other ways within their institutions, and should come from different study areas in terms of discipline. They were also selected on the basis that they should be reasonably well-informed on what other students might think, given the practical need to work with a small sample at the pilot stage.

#### Part 3

This part of the survey was piloted with 100 students<sup>4</sup> in each partner country, either across the three universities, or at a single institution if that university was considered reasonably representative of the national context. The group of students was randomly sampled from the list of undergraduate students

<sup>3</sup> Part 1 was not included in the pilot as it focused exclusively on well-established demographic questions.

<sup>4</sup> The students sampled for both parts of the pilot were not the same as students sampled in the full survey.

Table 1. Survey contents

| Topic/Construct  | Question focus  | Justification and comparability versus context   |
|--|---|--|
| <b>PART 1: Backgrounds and Demographics (9 questions)</b>                                  |   |  |
| <b>Students' Backgrounds</b>   | <ul style="list-style-type: none"> <li>• Gender</li> <li>• Age</li> <li>• Residence (urban/rural)</li> <li>• Assets/wealth</li> </ul>   | Key background characteristics, especially those expected to be linked to parts 2b, 2c and 3.                                      |
| <b>Students' studies</b>   | <ul style="list-style-type: none"> <li>• University</li> <li>• Level/Year of study</li> <li>• Course</li> </ul>   | Driven by sampling strategy - but disciplinary areas expected to influence parts 2a-c and 3  |
| <b>PART 2: University Experience on Climate Change</b>                                     |   |  |
| <b>PART 2a: Climate Change and the University (5 questions)</b>                            |   |  |
| <b>University's approach as a whole to climate change</b>                                  | <ul style="list-style-type: none"> <li>• What is the university doing?</li> <li>• Should more be done?</li> </ul>   | Collection of factual and normative responses on university actions.   |
| <b>Assessment of university approach</b>   |   |  |
| <b>PART 2b: Students' Experience at the University (4 questions)</b>                       |   |  |
| <b>Learning experience in relation to climate change</b>                                   | <ul style="list-style-type: none"> <li>• Extent of coverage in teaching and learning</li> <li>• Outside or regular teaching and learning</li> <li>• Topics addressed by academic curricula</li> </ul>   | Answers will be highly dependent on course of study and will provide reflection on most common routes for the learning experience. |
| <b>Assessment of experience</b>  | <ul style="list-style-type: none"> <li>• Do students think their own experience is adequate or should more be done to develop it?</li> </ul>  | Students' perception/evaluation of learning opportunities.   |
| <b>PART 2c: Students' Engagement and Action on Climate Change (10 questions)</b>           |   |  |
| <b>Engagement and interest in climate change</b>   | <ul style="list-style-type: none"> <li>• Willingness to engage in volunteer activities</li> </ul>   | This section will reflect the level of engagement of students at each university and opportunities available for future plans.     |
| <b>Actions on climate change</b>   | <ul style="list-style-type: none"> <li>• Extent of students' involvement and interest in getting involved in different actions relating to climate change (research, teaching and outreach)</li> </ul>  |  |
| <b>Sources of information on climate change</b>  | <ul style="list-style-type: none"> <li>• Where do students access information?</li> </ul>   | This will support understanding of the role of the university and the main challenges to be overcome                               |
| <b>Challenges to communicate and learn about climate change</b>                            | <ul style="list-style-type: none"> <li>• What challenges are encountered in the process of communicating and learning?</li> </ul>   |  |
| <b>Extent to which the university influences students' views/actions on climate change</b> | <ul style="list-style-type: none"> <li>• Questions on mitigation and adaptation measures, general knowledge and interest in climate change</li> </ul>   |  |
| <b>Part 3 – Environmental attitudes (8 questions)</b>                                      |   |  |
| <b>Climate Concern indicator questions</b>   | <ul style="list-style-type: none"> <li>• To what extent is climate change happening and who causes it?</li> <li>• To what extent should we be worried?</li> <li>• What chance do we have of making a difference?</li> <li>• Whose fault and who will suffer?</li> </ul> | Based on the British Social Attitudes Survey (Fisher et al., 2018)   |
| <b>Environmental Attitudes Inventory</b>   | <ul style="list-style-type: none"> <li>• Broad range of environmental attitudes</li> </ul>  | Based on Milfont and Duckitt (2010) which contains 120 items in the full inventory – 24 items were selected for this application   |



enrolled at the universities. This part<sup>5</sup> had three different versions or pilot forms, and each version was shared with approximately 35 students. The idea of this part was to examine the psychometric properties of each version and to analyse whether version 3A (the reduced version of Milfont and Duckitt's (2010) Environmental Attitudes Inventory – EAI which has been used in a number of studies) would assess environmental attitudes of students in all countries with good validity and reliability.

In addition to a full-team meeting where the results of the pilot were presented and discussed, a smaller working group was formed to analyse the results of the pilot process – including the reports from the focus groups (Part 2) and the quantitative analysis (Part 3). **Table 2** summarises the revisions made post-pilot.

*The final version of the Climate-U questionnaire is presented in Appendices A (English) and B (Portuguese).*

**Table 2. Survey revisions post-pilot**

| Topic  | Revisions made post-pilot  |
|--------|--|
| Part 2 | <ul style="list-style-type: none"> <li>Where concerns were raised in the focus groups about technical terms (e.g., 'green roofs' / 'mitigation') these have been deleted or an explanation has been given in brackets.</li> <li>Some questions were also edited when these were identified as confusing for students (e.g. adapting 'volunteer programmes' to 'volunteer activities').</li> <li>Some options were added to questions to better capture the potential range of responses.</li> <li>A question was added asking about the extent to which students are satisfied with their own learning about climate change, to capture their expectations about the extent to which climate change should be taught on their courses.</li> <li>Some adjustments were made where the scale was confusing.</li> </ul> |
| Part 3 | <ul style="list-style-type: none"> <li>Overall analysis of the 24-S version of the survey (Version 3A) suggested that this worked well for all countries in terms of scale reliability. One pair of items<sup>6</sup> was replaced with a similar pair from version 3C, which slightly improved the reliability metric (Cronbach's alpha).</li> <li>The principles for this decision were based on analysis of whether the positive and negative questions were working well as opposites in all countries, and to balance the reliability scores in all countries.</li> </ul>   |

## 4 Survey Implementation

For the implementation of the full survey, each partner university was responsible for sampling undergraduate students aiming at a target sample of respondents, with diversity of responses from different courses and study areas. The courses were grouped according to the fields of the International Standard Classification of Education (ISCED) established by UNESCO (2011). Some universities sampled all schools/units, others focused on specific campuses, depending on their own circumstances. A summary of the national sampling strategies is presented below. Various strategies were employed to maximise response rates including inviting professors/coordinators to endorse the initiative and recommend students to participate; sharing the project initiative in institutional websites and social media; informing students about the possibility of being sampled; and offering incentives to participants.

The data collection period was on average three months for each country. The need for using remote applications and not in-person collection as initially planned (due to the constraints of the pandemic) represented a challenge for sampling and data collection in all countries. Additional reported challenges include internet connectivity and availability of computer/phone for students to participate (and pandemic restrictions preventing students from going to campus); the data collection including periods when students were either hard-pressed with academic assignments or on academic holidays; and some research teams having access only to students' institutional email addresses (which tend to be less accessed in comparison to personal ones).

In Fiji, for example, internet connectivity and availability of computer/phone was an additional challenge for the survey implementation. Some students do not have access to these resources and universities were not allowing visits to the campus as per COVID-related directives. Internet access was also a challenge reported in Kenya. Students reported weak internet signal at the universities (KeMU and Kisii Universities) and many could not afford to purchase mobile data. Moreover, online surveys are not so common in the country and students are more used to hard-copy questionnaires. This may have led to non-response among some respondents as the approach was unfamiliar to many. Additional challenges included students being hard-pressed with academic assignments (particularly in the health sciences) or having examinations, requesting payment for participating (which was not provided) and complaints about questionnaire length. The different universities and/or courses had different examination periods, which may also have affected the response rates.

5 Each one with 24 statements from Milfont and Duckitt (2010). Version A contained the 24 balanced items selected for the brief version of EAI; and Versions B and C the remaining sets of balanced items (from the short version of the EAI, with 72 items).

6 The replaced pair is from scale *Human dominance over nature* – "Human beings were created or evolved to dominate the rest of nature" and "I DO NOT believe humans were created or evolved to dominate the rest of nature." The statements used in the revised final version were: "Plants and animals have as much right as humans to exist" and "Plants and animals exist primarily to be used by humans."

The survey length was also a challenge commonly reported in Brazil where many students failed to complete the whole instrument. Additionally, part of the period of data collection overlapped with the winter holidays in two universities (UPF and USP), which led to lower access to institutional emails. Additionally, only the institutional email address was used to contact students, as provided by the universities, and it may have affected the response (e.g. at UFPA many students do not use this email, or do not access it frequently).

In Mozambique, internet access is uneven and is less problematic for students who have access to a smartphone or who have internet connection at home and do not rely on a university connection. The length of the survey deterred some students and resulted in incomplete responses. Incomplete or incorrect administrative records also meant that some sampled students were not reached by email. The timing of the survey in part coincided with university vacations or examinations, which reduced the time available to complete the survey for students who rely on university internet connections. Incentives were considered insufficient in some cases to ensure participation.

Some aspects of data collection may have led to response bias. Broadly speaking, given that adherence to the online survey was voluntary and required some time to complete, it would be expected that those responding might have a greater interest in the topic of climate change. This may have manifested itself in unbalanced participation of students from different disciplinary areas. For example, there were disproportionately high responses from Fiji in science courses, and in Kenya and Mozambique in courses related to the environment. Furthermore, response bias in some cases stemmed from differences in enthusiasm of mobilisers from different study areas (reflecting on higher responses from some courses or schools). The challenges of connectivity referred to above may also have led to skews in the sample: UFPA, for example, reported that students with easy access to internet, computers, and other similar advantages had a higher probability of answering the survey.

Table 3 (page 10 - 11), outlines the national sampling strategies and procedures with information on the campuses selected for the survey, the strategies for obtaining responses, the dates of the data collection, the contact details utilised and any incentives in place.

## 4.1 Final Achieved Sample

Table 4 (right) reports the final sample of complete responses by country and by university achieved at the close of the survey.

**Table 4. Final sample of complete responses by country and university**

| University                        | No.          | %          |
|-----------------------------------|--------------|------------|
| University of the South Pacific   | 1,022        | 14         |
| University of Fiji                | 629          | 9          |
| Fiji National University          | 314          | 4          |
| Kenyatta University               | 1,106        | 15         |
| Kenya Methodist University        | 560          | 8          |
| Kisii University                  | 612          | 9          |
| Eduardo Mondlane University       | 489          | 7          |
| Catholic University of Mozambique | 121          | 2          |
| Lúrio University                  | 127          | 2          |
| Universidade Federal do Pará      | 642          | 9          |
| Universidade de Passo Fundo       | 628          | 9          |
| Universidade de São Paulo         | 910          | 13         |
| <b>Total</b>                      | <b>7,160</b> | <b>100</b> |
| Country                           | No.          | %          |
| Fiji                              | 1,965        | 27         |
| Kenya                             | 2,278        | 32         |
| Mozambique                        | 737          | 10         |
| Brazil                            | 2,180        | 30         |
| <b>Total</b>                      | <b>7,160</b> | <b>100</b> |

## 5 Conclusion

This technical note has outlined the construction, implementation and uses of a tool for gauging attitudes and experiences of undergraduate students relating to climate change. While some adjustments are necessary in different cultural contexts (in addition to translation into different languages), the instrument provides the possibility of comparing across countries, institutions and disciplinary areas. While the initial survey was carried out in Brazil, Fiji, Kenya and Mozambique, plans are in place for its application in other countries, and the tool is publicly available for use by other researchers.

The COVID pandemic – which coincided with the start of the Climate-U research project on 1st February 2020 – presented certain challenges for data collection, making necessary a purely online delivery of the questionnaire, with associated lower response rates. Poor connectivity in certain contexts along with





variable use of email exacerbated the difficulties of collecting the data at a distance, and the possibilities of skews in the sample. Nevertheless, a large number of responses were achieved across the four countries, with a wide diversity of students, allowing for significant insights into the perceptions of young people and the role of universities.

Survey data analysis will explore the relationships between environmental attitudes and background factors such as gender, socio-economic background, region of origin, rural/urban etc., as well as links between disciplinary areas and experiences of treatment of climate change in the curriculum. Furthermore, analysis will link environmental attitudes and students' orientations towards climate action and to their universities' responses to climate change. Details of the analysis conducted will be included in separate publications outlining the findings. The outcomes of the survey will be used to inform subsequent phases of the research and to shape the policies and practices of the participating universities.



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Table 3. Sampling strategies

| Country/<br>University | Total No.<br>of Students | Campus                        | Data collection strategy  | Dates<br>of data<br>collection   | Contact                           | Incentive<br>strategies                                      |   |
|------------------------|--------------------------|-------------------------------|---|--|-----------------------------------|--|---|
| BRAZIL                 | UPF                      | 7,140<br>(Campus I)           | Main campus (Campus I), which represents 85% of all students enrolled at the university                                 | All enrolled undergraduate students received the survey invitation.  | 6 July – 3 November 2021          | Institutional email addresses                                | Prize draw for a tablet computer among respondents; research teams sending additional reminders using their institutional email addresses and advertisements in the universities' websites/ newsletters and social media. |
|                        | USP                      | 37,695<br>(selected campus)   | Main campus (Campus São Paulo - Capital & Quadrilátero da Saúde/ Direito).  | 1,498 students were sampled randomly at course level and proportionally to the number of students per course. Teaching staff from different university units were also asked to share the survey link with their students thereby expanding beyond the original sample.  | 5 July – 12 November 2021         | Institutional email addresses                                |   |
|                        | UFPA                     | 32,615<br>(selected campuses) | Abaetetuba, Ananindeua, Belém, Cameté, and Castanhal.   | All enrolled undergraduate students received the survey invitation.  | 26 July – 18 November 2021        | Institutional email addresses                                |   |
| FIJI                   | USPc                     | 30,711 (Fiji campuses only)   | Fiji campuses (Lautoka Campus, Lautoka/ Labasa) which constitute about 60% of all students enrolled at the university*. | Course coordinators were asked to share the survey link with their students. Student representatives were also engaged to make telephone calls to invite other students to participate in the survey.  | 22 September 2021 – 14 March 2022 | Institutional email addresses; institutional Moodle platform | No incentive  |
|                        | UoF                      | 7,808<br>(Lautoka campus)     | Main campus (Lautoka)   |  |                                   |  |   |
|                        | FNU                      | 35,634 (Fiji Campuses)        | All Fiji campuses (Lautoka, Suva, Nasinu)   |  |                                   |  |   |
| Kenya                  | KU                       | 60,708<br>(Selected campus)   | Main, Parklands, Ruiru and City campuses  | Survey link initially shared with 1,260 students through their institutional email address. Sixty-four student mobilisers engaged to make telephone calls to increase response rate. The mobilisers identified additional student respondents and shared their names and email addresses with the researchers. The additional respondents replaced those who failed to respond and those whose emails were inactive. | 15th July-31st October 2021       | Institutional email address; personal email addresses        | No incentive  |

\* The sample includes not only Fijian students but also those studying at a distance from the other 11 member countries of USPc (Cook Islands, Kiribati, Marshal Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu).

Table 3 continued overleaf



Table 3. Sampling strategies (continued)

| Country/<br>University | Total No.<br>of Students | Campus                        | Data collection strategy   | Dates<br>of data<br>collection  | Contact   | Incentive<br>strategies   |  |
|------------------------|--------------------------|-------------------------------|--|---|---|---|--|
| KENYA                  | KSU                      | 15,254                        | All five campuses (Main, Eldoret, Kericho, Migori, Kapenguria)   | Survey link was initially shared with 1,180 students through their institutional email address. Fifty-nine student mobilisers engaged to make telephone calls to increase response rate. The mobilisers increased the response rate by identifying replacements for students who failed to respond to the survey.   | 19th<br>July-31st<br>October<br>2021              | Institutional<br>email addresses  | No incentive   |
|                        | KMU                      | 7,919<br>(Selected<br>campus) | Main campus and<br>Nairobi campus  | Survey link was initially shared with 1,060 students through their institutional email address. Fifty-three student mobilisers engaged to make telephone calls to increase response rate. The mobilisers were tasked to follow up the students who had received the survey link. They were also tasked with replacing students who failed to take part in the survey. | 26th<br>July-31st<br>October<br>2021              | Institutional<br>email addresses  |  |
| MOZAMBIQUE             | UEM                      | 50,090                        | Main campus, Escola Superior de Hotelaria e Turismo, Escola Superior de Negócios e empreendedorismo de Chibuto.  | Survey link shared with 2,050 students. Student mobilisers engaged to send WhatsApp messages and make telephone calls to increase response rate. Lecturers also asked to promote survey.  | 29th<br>November<br>2021 to<br>11th March<br>2022 | Institutional<br>email addresses,<br>WhatsApp, text<br>message and<br>telephone calls | An advertisement<br>in the universities'<br>websites was<br>made only at<br>UEM. No incentive<br>was offered<br>to students to<br>respond the<br>survey. |
|                        | UNILURIO                 | 4,889                         | Marrere Campus,<br>Waanangu Campus,<br>Eduardo Mondlane<br>campus and Ilha de<br>Moçambique Campus.  | Survey link shared with 1,300 students. Student mobilisers engaged to send WhatsApp messages and make telephone calls to increase response rate.  | 7th<br>December<br>2021 to<br>4th March<br>2022   | Institutional<br>email address  |  |
|                        | UCM                      | 30,132                        | Beira Campus,<br>Faculdade de<br>Engenharia (Chimoio),<br>Faculdade de Ciências<br>Sociais e Políticas<br>(Quelimane), Fcauldade<br>de Agronomia<br>(Cuamba), Faculdade de<br>Mineralogia e Gestao de<br>Recursos Naturais (Tete). | Survey link shared with 1,050 students. Student mobilisers engaged to send WhatsApp messages and make telephone calls to increase response rate.  | 7th<br>December<br>2021 to<br>11th March<br>2022  | Institutional<br>email address  |  |

## Appendix A - English Version

### Survey: Climate Change – practices, experiences and attitudes

#### Part 1. Background (demographic issues)

1. Name your University:

---

2. Your course:

---

3. Year when you started studying:

---

4. Gender (please choose one option)

- Male     Female     Other     Prefer not to say

---

5. What is your age?

---

6. Socio-economic **background**: which of the following do you have at your **family home**? (please tick all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Electric fan   | <input type="checkbox"/> Study desk/ table for your use |
| <input type="checkbox"/> Radio          | <input type="checkbox"/> Books of your own              |
| <input type="checkbox"/> Mobile phone   | <input type="checkbox"/> Computer                       |
| <input type="checkbox"/> Smart phone    | <input type="checkbox"/> Bicycle                        |
| <input type="checkbox"/> TV             | <input type="checkbox"/> Motorcycle/ scooter/ tricycle  |
| <input type="checkbox"/> Flat screen TV | <input type="checkbox"/> Car                            |
| <input type="checkbox"/> Refrigerator   | <input type="checkbox"/> Air conditioning               |
|   | <input type="checkbox"/> Satellite or cable TV          |

7. Where is your family home? (please choose one option)

- Rural     Urban     Peri-urban (or city suburb)

8. What is the highest level of education reached by your mother (please choose one option)

- PhD     High school diploma     None  
 Masters     Secondary education  
 Bachelors     Primary education

9. What kind of school did you go to? (please choose one option)

- Government / State/ Public     Fee paying/ private

---



## Part 2. University Experience of Climate Change

### Part 2A. Climate Change and the University

10. Rate the level of importance of each statement regarding the role of universities in responding to climate change by choosing one option for each of the following statements:

1 = No importance; 2 = Little importance; 3 = Medium importance; 4 = Significant importance; 5 = Great importance.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Education should be a determining factor in combating climate change  |   |   |   |   |   |
| Students should get involved in activities related to climate change at their university.                     |   |   |   |   |   |
| Universities should have community education initiatives that encourage actions to respond to climate change. |   |   |   |   |   |
| Universities should be trusted spaces for discussions on climate change                                       |   |   |   |   |   |

11. Indicate your level of agreement in each of the following statements regarding the actions established by your university to fight climate change:

Rating scale: 1 = Totally disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Totally agree.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| At my university there is a person and/or an administrative sector that adequately takes care of aspects related to environment preservation.   |   |   |   |   |   |
| My university has instituted adequate preventive and precautionary measures such as evacuation plans in case of exposure to climate change disasters (e.g. cyclones, droughts, floods). |   |   |   |   |   |
| Whenever our community is exposed to disasters caused by climate change, our university adequately organizes solidarity activities to support victims.                                  |   |   |   |   |   |
| During classes, my teachers adequately address topics related to climate change.  |   |   |   |   |   |
| My university adequately implements climate change in teaching (e.g. through curriculum, policies, procedures or activities).   |   |   |   |   |   |
| My university develops research related to climate change (e.g. renewable energy).  |   |   |   |   |   |
| My university is the place I hear the most about climate change.  |   |   |   |   |   |
| Coverage of climate change in curricula helped me understand the urgency of this topic.   |   |   |   |   |   |



12. Which of the following climate change actions are already in place at your university? The option 'not relevant' can be used in case the action does not apply to your context.

|  | Already in place | Not in place | Not relevant | Do not know |
|--|------------------|--------------|--------------|-------------|
| Landscape restoration and reforestation, (e.g. through tree planting)  |                  |              |              |             |
| Preventative and precautionary measures on climate change consequences such as evacuation plans or secure infrastructure (e.g. in cases of floods) |                  |              |              |             |
| Use of renewable energy sources (e.g. solar panels, wind energy, geothermal energy)  |                  |              |              |             |
| Universities should be trusted spaces for discussions on climate change  |                  |              |              |             |
| Use of bicycles and/or public transport within campus.   |                  |              |              |             |
| Buildings allowing for natural light   |                  |              |              |             |

13. Please indicate your level of agreement with the following general statements about universities and climate change

Rating scale: 1 = Totally disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Totally agree.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Universities should have a climate change policy  |   |   |   |   |   |
| University campuses should invest in clean energy solutions   |   |   |   |   |   |
| University campuses should invest in sustainable infrastructure (e.g. rain water harvesting, natural ventilation, sustainable roofing)                |   |   |   |   |   |
| Universities should educate their students about the causes and impacts of climate change   |   |   |   |   |   |
| Universities should implement climate change activities in teaching   |   |   |   |   |   |
| Universities should implement climate change activities in research   |   |   |   |   |   |
| Universities should have specific academic units (e.g. department, centres) to address climate change through 'Education for Sustainable Development' |   |   |   |   |   |



**14.** Please indicate your level of agreement with the following statements about your own university:

**Rating scale:** 1 = Totally disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Totally agree.

|  | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| My university has a climate change policy  |   |   |   |   |   |
| My university invests in clean energy solutions  |   |   |   |   |   |
| My university invests in sustainable infrastructure (e.g. rain water harvesting, natural ventilation, sustainable roofing)                     |   |   |   |   |   |
| My university educates its students about the causes and impacts of climate change   |   |   |   |   |   |
| My university implements climate change activities in teaching   |   |   |   |   |   |
| My university implements climate change activities in research   |   |   |   |   |   |
| My university has specific academic units (e.g. department, centres) to address climate change through 'Education for Sustainable Development' |   |   |   |   |   |

## Part 2B. Students' Experience at University

**15.** In relation to your learning about climate change at your own course at university, are you:  
(please choose one option)

- Learning about it (and satisfied)
  Not learning about it, but would like to be
  Learning about it, but would like to learn more
  Not learning about it, but would not expect to

**16.** During your university course, how often have you heard about climate change?

**Rating scale:** 1 = Never as far as I recall; 2 = at least once in my university course; 3 = at least once academic year; 4 = at least once a semester; 5 = at least once a month or integrated daily

|  | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| On your campus   |   |   |   |   |   |
| In class   |   |   |   |   |   |
| By talking to other students   |   |   |   |   |   |
| Through lectures, events or activities delivered by external bodies (promoted at the university) |   |   |   |   |   |

17. To what extent have you learnt about climate change in each of the following aspects of your university?

Rating scale: 1= Not at all; 2 = A little bit; 3 = Moderately; 4 = Quite a bit; 5 = Extremely

|                         | 1 | 2 | 3 | 4 | 5 |
|-------------------------|---|---|---|---|---|
| In activities on campus |   |   |   |   |   |
| In research             |   |   |   |   |   |
| In outreach activities  |   |   |   |   |   |
| In teaching             |   |   |   |   |   |

18. To what extent are these topics addressed by your academic curriculum?

Rating scale: 1 = Not at all; 2 = To a small extent (once during the academic course); 3 = To some extent (once a year); 4 = To a moderate extent (once per semester/term); and 5 = To a great extent (twice or more per semester);

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Environmental preservation and rational use of resources      |   |   |   |   |   |
| Sustainable development                                       |   |   |   |   |   |
| The UN Sustainable Development Goals                          |   |   |   |   |   |
| Climate change impacts and causes                             |   |   |   |   |   |
| Climate change adaptation and mitigation                      |   |   |   |   |   |
| The role of society/education towards fighting climate change |   |   |   |   |   |

## Part 2C. Student’s Engagement and Action on Climate Change

19. **Would you like to volunteer in activities about climate change at your university?** (please choose one option)

- Yes       No

20. Which the learning activities related to climate change which you already participated in at your university? (Please tick all that apply)

- Events organised by the university (e.g. *Climate change Public lectures, World Environmental Day*)       Student-organised events
- In class       None of the listed options
- Training workshops (delivered by external bodies)



21. Which learning activities related to climate change which you would like to participate in at your university in the future? (Please tick all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Events organised by the university (e.g. <i>Climate change Public lectures, World Environmental Day</i> ) | <input type="checkbox"/> Student-organised events   |
| <input type="checkbox"/> In class  | <input type="checkbox"/> None of the listed options |
| <input type="checkbox"/> Training workshops ( <i>delivered by external bodies</i> )  | <input type="checkbox"/> Other                      |
- 
- 

22. Which research activities related to climate change you have already participated in your university? (Please tick all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> A formal project focused on climate change  | <input type="checkbox"/> Scholarships or funding for your own study into climate change |
| <input type="checkbox"/> Working with (either paid or voluntarily) an individual or group of researchers focused on climate change | <input type="checkbox"/> None of the listed options                                     |

23. Which research activities related to climate change you would like to participate in at your university in the future? (Please tick all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> A formal project focused on climate change  | <input type="checkbox"/> Scholarships or funding for your own study into climate change |
| <input type="checkbox"/> Working with (either paid or voluntarily) an individual or group of researchers focused on climate change | <input type="checkbox"/> None of the listed options                                     |
|  | <input type="checkbox"/> Other  |
- 
- 

24. Which outreach activities related to climate change you already participated in your university, and/or that you would like to participate in future opportunities? (Please tick all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Community activities, social work (e.g. <i>garbage/waste collection, city cleaning</i> ) | <input type="checkbox"/> Promotion of awareness on climate change for society  |
| <input type="checkbox"/> Climate Change Protests/Walks  | <input type="checkbox"/> Implementation of sustainability measures for society |
| <input type="checkbox"/> Capacity-building on climate change for society  | <input type="checkbox"/> None of the listed options                            |

25. Which outreach activities related to climate change you already participated in your university, and/or that you would like to participate in future opportunities? (Please tick all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Community activities, social work (e.g. <i>garbage/waste collection, city cleaning</i> ) | <input type="checkbox"/> Promotion of awareness on climate change for society  |
| <input type="checkbox"/> Climate Change Protests/Walks  | <input type="checkbox"/> Implementation of sustainability measures for society |
| <input type="checkbox"/> Capacity-building on climate change for society  | <input type="checkbox"/> None of the listed options                            |
|   | <input type="checkbox"/> Other   |
- 
-

26. Please indicate the sources of information on climate change you have most contact with (Please tick all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> Media (TV, newspapers, radio, etc.)  | <input type="checkbox"/> Friends              |
| <input type="checkbox"/> Activities at my own university      | <input type="checkbox"/> Clubs/associations   |
| <input type="checkbox"/> From community/indigenous knowledge  | <input type="checkbox"/> Religious worship    |
| <input type="checkbox"/> Activities at a different university | <input type="checkbox"/> Companies/industries |
| <input type="checkbox"/> Internet and social media            | <input type="checkbox"/> Other                |
| <input type="checkbox"/> Family                               | _____   |
|   | _____   |

27. Which elements pose a challenge to the efforts of communicating and/or learning about climate change? (Please tick all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> No challenges observed      | <input type="checkbox"/> The issue does not affect me   |
| <input type="checkbox"/> The issue is too scientific | <input type="checkbox"/> The issue is too controversial |
| <input type="checkbox"/> The issue is too abstract   | <input type="checkbox"/> The issue is too political     |
| <input type="checkbox"/> The issue is too complex    | <input type="checkbox"/> Other                          |
|  | _____   |

28. In relation to the following topics, to what extent has your university influenced your views or and actions on climate change?

|  | Not at all | A little | Moderately | Quite a bit | A lot |
|--|------------|----------|------------|-------------|-------|
| Mitigation measures (e.g. to reduce emissions)       |            |          |            |             |       |
| Adaptation measures (e.g. actions to prevent damage) |            |          |            |             |       |
| General knowledge about climate change               |            |          |            |             |       |
| Interest in climate change                           |            |          |            |             |       |

**Part 3. Environmental attitudes**

29. Do you think that climate change is caused by natural processes, human activity, or both? (please choose one option)

- |  |   |
|--|---|
| <input type="radio"/> Entirely by human activity                   | <input type="radio"/> Mainly by natural processes   |
| <input type="radio"/> Mainly by human activity                     | <input type="radio"/> Entirely by natural processes |
| <input type="radio"/> Equally human activity and natural processes | <input type="radio"/> Definitely not happening      |





30. Do you think that climate change is caused by natural processes, human activity, or both?

| 0 (not at all) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (a great deal) |
|----------------|---|---|---|---|---|---|---|---|---|-------------------|
|                |   |   |   |   |   |   |   |   |   |                   |

31. Compared to other people of a similar age, how well informed would you say you are in regard to climate change, its causes and consequences? (Please choose one option)

- Much better informed than average
- Somewhat more than average
- Around average
- Somewhat less well informed than average
- Much less well informed than average

32. How likely do you think it is that limiting your own energy use would help reduce climate change?

| 0 (not at all) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (extremely likely) |
|----------------|---|---|---|---|---|---|---|---|---|-----------------------|
|                |   |   |   |   |   |   |   |   |   |                       |

33. Now imagine that large numbers of people limited their energy use. How likely do you think it is that this would reduce climate change?

| 0 (not at all) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (extremely likely) |
|----------------|---|---|---|---|---|---|---|---|---|-----------------------|
|                |   |   |   |   |   |   |   |   |   |                       |

34. How likely do you think it is that governments in enough countries will take action that reduces climate change?

| 0 (not at all) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (extremely likely) |
|----------------|---|---|---|---|---|---|---|---|---|-----------------------|
|                |   |   |   |   |   |   |   |   |   |                       |

35. How good or bad do you think the impact of climate change will be on people across the world?

(Answer scale from 0 to 10, where 0 is extremely bad and 10 is extremely good)

| 0 (extremely bad) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (extremely good) |
|-------------------|---|---|---|---|---|---|---|---|---|---------------------|
|                   |   |   |   |   |   |   |   |   |   |                     |

## 36. How would you assess your environmental attitudes towards climate change based on the following topics?

| Attitudes  | Strongly agree | Disagree | Don't know | Agree | Strongly agree |
|--|----------------|----------|------------|-------|----------------|
| <b>1. Enjoyment of nature</b>  | 1              | 2        | 3          | 4     | 5              |
| I really like going on trips into the countryside, for example to forests or fields.   |                |          |            |       |                |
| I think spending time in nature is boring.   |                |          |            |       |                |
| <b>2. Support for interventionist conservation policies</b>  | 1              | 2        | 3          | 4     | 5              |
| Governments should control the rate at which raw materials are used to ensure that they last as long as possible.                |                |          |            |       |                |
| I am opposed to governments controlling and regulating the way raw materials are used in order to try and make them last longer. |                |          |            |       |                |
| <b>3. Environmental movement activism</b>  | 1              | 2        | 3          | 4     | 5              |
| I would like to join and actively participate in an environmentalist group   |                |          |            |       |                |
| I would NOT get involved in an environmentalist organization.  |                |          |            |       |                |
| <b>4. Conservation motivated by anthropocentric concern</b>  | 1              | 2        | 3          | 4     | 5              |
| One of the most important reasons to keep lakes and rivers clean is so that people have a place to enjoy water sports.           |                |          |            |       |                |
| We need to keep rivers and lakes clean in order to protect the environment, and NOT as places for people to enjoy water sports.  |                |          |            |       |                |
| <b>5. Confidence in science and technology</b>   | 1              | 2        | 3          | 4     | 5              |
| Modern science will NOT be able to solve our environmental problems.   |                |          |            |       |                |
| Modern science will solve our environmental problems.  |                |          |            |       |                |
| <b>6. Environmental fragility</b>  | 1              | 2        | 3          | 4     | 5              |
| Humans are severely abusing the environment  |                |          |            |       |                |
| I do not believe that the environment has been severely abused by humans.  |                |          |            |       |                |
| <b>7. Altering nature</b>  | 1              | 2        | 3          | 4     | 5              |
| I'd prefer a garden that is wild and natural to a well groomed and ordered one.  |                |          |            |       |                |
| I'd much prefer a garden that is well groomed and ordered to a wild and natural one.   |                |          |            |       |                |
| <b>8. Personal conservation behaviour</b>  | 1              | 2        | 3          | 4     | 5              |
| I am NOT the kind of person who makes efforts to conserve natural resources.   |                |          |            |       |                |
| Whenever possible, I try to save natural resources.  |                |          |            |       |                |



| Attitudes  | Strongly agree | Disagree | Don't know | Agree | Strongly agree |
|--|----------------|----------|------------|-------|----------------|
| <b>9. Human dominance over nature</b>  | 1              | 2        | 3          | 4     | 5              |
| Plants and animals have as much right as humans to exist.  |                |          |            |       |                |
| Plants and animals exist primarily to be used by humans.   |                |          |            |       |                |
| <b>10. Human utilisation of nature</b>   | 1              | 2        | 3          | 4     | 5              |
| Protecting people's jobs is more important than protecting the environment.                                  |                |          |            |       |                |
| Protecting the environment is more important than protecting people's jobs.                                  |                |          |            |       |                |
| <b>11. Ecocentric concern</b>  | 1              | 2        | 3          | 4     | 5              |
| It makes me sad to see forests cleared for agriculture.  |                |          |            |       |                |
| It does NOT make me sad to see natural environments destroyed.   |                |          |            |       |                |
| <b>12. Support for population growth policies</b>  | 1              | 2        | 3          | 4     | 5              |
| Families should be encouraged to limit themselves to two children or less.                                   |                |          |            |       |                |
| A married couple should have as many children as they wish, as long as they can adequately provide for them. |                |          |            |       |                |

## Appendix B - Portuguese version

### Questionário: Mudanças Climáticas – Práticas, Experiências E Atitudes

#### 1. Contexto Social (Questões sociais e demográficas)

1. Nome da sua universidade:

---

2. Seu curso:

---

3. Ano de ingresso no curso:

---

4. Gênero (marque apenas uma opção)

- Masculino  Feminino  Outro  Prefiro não responder

---

5. Sua idade

---

6. Questões socioeconômicas: Qual(is) das seguintes opções você tem na **casa da sua família?**  
(marque todas que se aplicam)

- |   |  |
|---|--|
| <input type="checkbox"/> Ventilador elétrico    | <input type="checkbox"/> Mesa para estudos/mesa para o seu uso |
| <input type="checkbox"/> Rádio                  | <input type="checkbox"/> Livros que você possui                |
| <input type="checkbox"/> Celular Analógico      | <input type="checkbox"/> Computador                            |
| <input type="checkbox"/> Celular Smartphone     | <input type="checkbox"/> Bicicleta                             |
| <input type="checkbox"/> Televisão              | <input type="checkbox"/> Motocicleta/patinete elétrico         |
| <input type="checkbox"/> Smart TV               | <input type="checkbox"/> Carro                                 |
| <input type="checkbox"/> Refrigerador/Geladeira | <input type="checkbox"/> Ar condicionado                       |
|   | <input type="checkbox"/> TV a cabo                             |

7. Em que área fica a casa da sua família? (marque apenas uma opção)

- Rural  Urbana  Periferia (ou subúrbio)

8. Qual o maior grau de escolaridade de sua mãe? (marque apenas uma opção)

- Doutorado  Ensino Médio  Nenhum  
 Mestrado  Ensino Fundamental  
 Ensino Superior Completo  Primário

9. Qual escola você frequentou? (marque apenas uma opção)

- Pública  Particular



## 2. Experiência Universitária em Mudanças Climáticas

### 2A. Mudanças Climáticas e a Universidade

10. Classifique o nível de importância de cada declaração sobre o papel das universidades na resposta às mudanças climáticas, escolhendo uma opção para cada uma das declarações:

Escala de classificação: 1 = Sem importância; 2 = Pouca importância; 3 = Média Importância; 4 = Significante Importância; e 5 = Grande importância.

|  | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Educação deve ser um fator determinante no combate às mudanças climáticas.   |   |   |   |   |   |
| Estudantes devem se envolver em atividades relacionadas às mudanças climáticas em suas universidades.                            |   |   |   |   |   |
| Universidades devem ter iniciativas específicas de educação comunitária que incentivem ações de resposta às mudanças climáticas. |   |   |   |   |   |
| Universidades devem ser espaços confiáveis para discutir sobre as mudanças climáticas.   |   |   |   |   |   |

11. Indique seu nível de concordância em cada uma das seguintes declarações sobre as ações estabelecidas por sua universidade para combater as mudanças climáticas:

Escala de classificação: 1 = Discordo totalmente, 2 = Discordo parcialmente, 3 = Não concordo nem discordo, 4 = Concordo parcialmente, 5 = Concordo totalmente.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Na minha universidade, existe uma pessoa e/ou um setor administrativo que gerencia adequadamente aspectos relacionados à preservação do meio ambiente.  |   |   |   |   |   |
| Minha universidade instituiu adequadas medidas preventivas e de precaução, como planos de evacuação em caso de exposição a desastres das mudanças climáticas, como ciclones, secas, inundações, entre outros. |   |   |   |   |   |
| Sempre que nossa comunidade é exposta a desastres causados pelas mudanças climáticas, nossa universidade organiza atividades adequadas de solidariedade para apoiar as vítimas.                               |   |   |   |   |   |
| Durante as aulas, meus professores abordam adequadamente tópicos relacionados às mudanças climáticas.   |   |   |   |   |   |
| Minha universidade implementa adequadamente o tema de mudanças climáticas no ensino (ex. por meio do currículo acadêmico, políticas, procedimentos ou atividades)   |   |   |   |   |   |
| Minha universidade desenvolve pesquisas relacionadas às mudanças climáticas (ex. energia renovável).  |   |   |   |   |   |
| A universidade é o lugar onde eu mais ouço sobre mudanças climáticas..  |   |   |   |   |   |
| A abordagem das mudanças climáticas nos currículos me ajudou a entender a urgência deste tópico.  |   |   |   |   |   |



12. Quais das seguintes ações relacionadas às mudanças climáticas você observa em sua universidade? A opção "Não relevante" pode ser utilizada caso a ação não se aplique ao seu contexto.

|   | Ação já é promovida | Ação não é promovida | Não sei | Não relevante |
|---|---------------------|----------------------|---------|---------------|
| Restauração e reflorestamento da paisagem (ex. por meio do plantio de árvores)  |                     |                      |         |               |
| Medidas de prevenção sobre as consequências das mudanças climáticas, como planos de evacuação ou infraestrutura segura (ex. em casos de inundações) |                     |                      |         |               |
| Proteção do ecossistema natural (ex. biodiversidade e água)   |                     |                      |         |               |
| Uso de fontes de energia renovável (ex. painéis solares, energia eólica, energia geotérmica)  |                     |                      |         |               |
| Uso de bicicletas e/ou transporte público dentro do campus.   |                     |                      |         |               |
| Edifícios que permitem iluminação natural.  |                     |                      |         |               |

13. Indique seu nível de concordância com as seguintes declarações gerais sobre universidades e mudanças climáticas: Escala de classificação: 1 = Discordo totalmente, 2 = Discordo parcialmente, 3 = Não concordo nem discordo, 4 = Concordo parcialmente, 5 = Concordo totalmente.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Universidade devem ter uma política de mudança climática  |   |   |   |   |   |
| Os campi das universidades devem investir em soluções de energia limpa  |   |   |   |   |   |
| Os campi das universidades devem investir em infraestrutura sustentável (ex. coleta de água da chuva, ventilação natural, uso de telhados verdes)                       |   |   |   |   |   |
| Universidades devem educar seus alunos sobre as causas e os impactos das mudanças climáticas  |   |   |   |   |   |
| Universidades devem implementar atividades sobre mudanças climáticas no ensino  |   |   |   |   |   |
| Universidades devem implementar atividades sobre mudanças climáticas em pesquisa  |   |   |   |   |   |
| Universidades devem ter unidades acadêmicas (ex.: departamentos, centros) para abordar as mudanças climáticas por meio da "Educação para o Desenvolvimento Sustentável" |   |   |   |   |   |



**14. Indique seu nível de concordância com as seguintes declarações sobre a sua universidade:**

**Escala de classificação:** 1 = Discordo totalmente, 2 = Discordo parcialmente, 3 = Não sei, 4 = Concordo parcialmente, 5 = Concordo totalmente.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Minha universidade tem uma política de mudança climática  |   |   |   |   |   |
| Minha universidade investe em soluções de energia limpa   |   |   |   |   |   |
| Minha universidade investe em infraestrutura sustentável (ex. coleta de água da chuva, ventilação natural, uso de telhados verdes)  |   |   |   |   |   |
| Minha universidade educa seus alunos sobre as causas e os impactos das mudanças climáticas  |   |   |   |   |   |
| Minha universidade implementa atividades sobre mudanças climáticas no ensino  |   |   |   |   |   |
| Minha universidade implementa atividades sobre mudanças climáticas em pesquisa  |   |   |   |   |   |
| Minha universidade possui unidades acadêmicas (ex.: departamentos, centros) para abordar as mudanças climáticas por meio da "Educação para o Desenvolvimento Sustentável" |   |   |   |   |   |

**2B. Experiência dos alunos na universidade**

**15. Em relação ao seu aprendizado sobre mudanças climáticas no seu curso de graduação, você:**  
(marque apenas uma opção)

- Está aprendendo sobre o tema (e satisfeito)
- Não está aprendendo sobre o tema, mas gostaria de aprender
- Está aprendendo sobre o tema, mas gostaria de aprender mais
- Não está aprendendo sobre o tema (e não espera aprender)

**16. Durante o seu curso de graduação, com que frequência você ouviu falar sobre mudanças climáticas?**

**Escala de classificação:** 1 = Nunca, que eu me lembre; 2 = pelo menos uma vez na minha carreira universitária; 3 = ao menos uma vez no ano acadêmico; 4 = ao menos uma vez por semestre; 5 = ao menos uma vez por mês ou integrado no dia-a-dia

|  | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| No seu campus  |   |   |   |   |   |
| Em sala de aula  |   |   |   |   |   |
| Conversando com outros estudantes  |   |   |   |   |   |
| Através de palestras, eventos ou atividades desenvolvidas por fontes externas (promovidas na universidade) |   |   |   |   |   |

17. **Até que ponto você aprendeu sobre mudanças climáticas em cada um dos seguintes aspectos em sua universidade?**

Escala de classificação: 1= Nada; 2 = Um pouco; 3 = Moderadamente; 4 = Bastante; 5 = Extremamente

|                      | 1 | 2 | 3 | 4 | 5 |
|----------------------|---|---|---|---|---|
| Atividades no Campus |   |   |   |   |   |
| Pesquisa             |   |   |   |   |   |
| Extensão             |   |   |   |   |   |
| Ensino               |   |   |   |   |   |

18. **Até que ponto esses tópicos são abordados pelo seu currículo acadêmico?**

Escala de classificação: 1 = De forma alguma; 2 = Em pequena escala (uma vez durante todo o curso); 3 = Até certo ponto (uma vez ao ano); 4 = Em grau moderado (uma vez ao semestre); e 5 = Em grande escala (2 ou mais vezes por semestre);

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Preservação ambiental e uso racional de recursos                  |   |   |   |   |   |
| Desenvolvimento sustentável                                       |   |   |   |   |   |
| Objetivos de Desenvolvimento Sustentável da ONU                   |   |   |   |   |   |
| Impactos e causas das mudanças climáticas                         |   |   |   |   |   |
| Adaptação e mitigação das mudanças climáticas                     |   |   |   |   |   |
| O papel da sociedade / educação no combate às mudanças climáticas |   |   |   |   |   |

## 2C. Engajamento e ação do estudante sobre mudanças climáticas

19. **Você gostaria de ser voluntário em atividades sobre mudanças climáticas em sua universidade?**

(marque apenas uma opção)

Sim

Não

20. **Em quais atividades de aprendizagem relacionadas às mudanças climáticas você já participou na sua universidade? (marque todas que se aplicam)**

Eventos organizados pela universidade (ex. palestras públicas sobre mudanças climáticas, Dia Mundial do Meio Ambiente)

Em aula

Workshops de treinamento (organizados por órgãos externos)

Eventos organizados por estudantes

Nenhuma das opções acima

Outra:

\_\_\_\_\_

\_\_\_\_\_



21. Em quais atividades de aprendizagem relacionadas às mudanças climáticas você gostaria de participar em oportunidades futuras na sua universidade? (marque todas que se aplicam)

- |   |   |
|---|---|
| <input type="checkbox"/> Eventos organizados pela universidade (ex. palestras públicas sobre mudanças climáticas, Dia Mundial do Meio Ambiente) | <input type="checkbox"/> Eventos organizados por estudantes |
| <input type="checkbox"/> Em aula  | <input type="checkbox"/> Nenhuma das opções acima           |
| <input type="checkbox"/> Workshops de treinamento (organizados por órgãos externos)   | <input type="checkbox"/> Outra:<br>_____                    |

22. Em quais atividades de pesquisa relacionadas às mudanças climáticas você já participou na sua universidade? (marque todas que se aplicam)

- |  |  |
|--|--|
| <input type="checkbox"/> Projeto formal focado em mudanças climáticas  | <input type="checkbox"/> Bolsas de estudo ou financiamento para seus estudos sobre mudanças climáticas |
| <input type="checkbox"/> Envolvimento (de forma remunerada ou voluntária) individualmente ou em um grupo de pesquisa focado em mudanças climáticas | <input type="checkbox"/> Nenhuma das opções acima  |

23. Em quais atividades de pesquisa relacionadas às mudanças climáticas você gostaria de participar em oportunidades futuras na sua universidade? (marque todas que se aplicam)

- |  |  |
|--|--|
| <input type="checkbox"/> Projeto formal focado em mudanças climáticas  | <input type="checkbox"/> Bolsas de estudo ou financiamento para seus estudos sobre mudanças climáticas |
| <input type="checkbox"/> Envolvimento (de forma remunerada ou voluntária) individualmente ou em um grupo de pesquisa focado em mudanças climáticas | <input type="checkbox"/> Nenhuma das opções acima  |
|  | <input type="checkbox"/> Outra:<br>_____   |

24. Em quais atividades de extensão relacionadas às mudanças climáticas você já participou na sua universidade (marque todas que se aplicam)

- |  |   |
|--|---|
| <input type="checkbox"/> Atividades comunitárias, serviço social (por exemplo, coleta de lixo/resíduos, limpeza da cidade) | <input type="checkbox"/> Promoção da conscientização sobre mudanças climáticas para a sociedade |
| <input type="checkbox"/> Protestos ou marchas sobre as mudanças climáticas   | <input type="checkbox"/> Implementação de medidas de sustentabilidade para a sociedade          |
| <input type="checkbox"/> Capacitação em mudanças climáticas para a sociedade   | <input type="checkbox"/> Nenhuma das opções acima   |

25. Em quais atividades de extensão relacionadas às mudanças climáticas você gostaria de participar em oportunidades futuras na sua universidade? (marque todas que se aplicam)

- |  |   |
|--|---|
| <input type="checkbox"/> Atividades comunitárias, serviço social (por exemplo, coleta de lixo/resíduos, limpeza da cidade ...) | <input type="checkbox"/> Promoção da conscientização sobre mudanças climáticas para a sociedade |
| <input type="checkbox"/> Protestos ou marchas sobre as mudanças climáticas   | <input type="checkbox"/> Implementação de medidas de sustentabilidade para a sociedade          |
| <input type="checkbox"/> Capacitação em mudanças climáticas para a sociedade   | <input type="checkbox"/> Nenhuma das opções acima   |
|  | <input type="checkbox"/> Outra:<br>_____  |

26. Indique as fontes de informação sobre as mudanças climáticas com as quais você tem mais contato? (marque todas que se aplicam)

- |   |   |
|---|---|
| <input type="checkbox"/> Mídia (TV, noticiários, rádio, etc.) | <input type="checkbox"/> Atividades em outra universidade |
| <input type="checkbox"/> Conhecimento local/indígena          | <input type="checkbox"/> Família                          |
| <input type="checkbox"/> Internet e redes sociais             | <input type="checkbox"/> Clubes/Associações               |
| <input type="checkbox"/> Amigos                               | <input type="checkbox"/> Culto religioso                  |
| <input type="checkbox"/> Companhias/Indústrias                | <input type="checkbox"/> Outro: _____                     |
| <input type="checkbox"/> Atividades na minha universidade     | _____   |

27. Quais elementos representam um desafio aos esforços de comunicação e/ou aprendizado sobre as mudanças climáticas? (marque todas que se aplicam)

- |  |   |
|--|---|
| <input type="checkbox"/> Não vejo desafio        | <input type="checkbox"/> O tema é muito científico  |
| <input type="checkbox"/> O tema é muito abstrato | <input type="checkbox"/> O tema é muito complexo    |
| <input type="checkbox"/> O tema não me afeta     | <input type="checkbox"/> O tema é muito controverso |
| <input type="checkbox"/> O tema é muito político | <input type="checkbox"/> Outro: _____               |

28. Em relação aos tópicos a seguir, até que ponto a universidade influenciou seus pontos de vista ou ações sobre as mudanças climáticas?

Escala de classificação: 1 = de forma alguma, 2 = um pouco, 3 = moderadamente, 4 = bastante, 5 = extremamente

|  | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Medidas de mitigação (ex. para reduzir emissões) |   |   |   |   |   |
| Medidas de adaptação (ex. para prevenir danos)   |   |   |   |   |   |
| Conhecimento geral sobre mudanças climáticas     |   |   |   |   |   |
| Interesse nas mudanças climáticas                |   |   |   |   |   |

### 3. Atitudes Ambientais

29. Você acha que a mudança climática é causada por processos naturais, atividade humana ou ambos? (marque apenas uma opção)

- |   |  |
|---|--|
| <input type="radio"/> Inteiramente pela atividade humana                      | <input type="radio"/> Principalmente por processos naturais                        |
| <input type="radio"/> Principalmente pela atividade humana                    | <input type="radio"/> Inteiramente por processos naturais                          |
| <input type="radio"/> Iguamente por atividade humana e por processos naturais | <input type="radio"/> Definitivamente as mudanças climáticas não estão acontecendo |



30. Até que ponto você sente responsabilidade pessoal para tentar reduzir as mudanças climáticas?

| 0 (Nenhum) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (Muitíssimo) |
|------------|---|---|---|---|---|---|---|---|---|-----------------|
|            |   |   |   |   |   |   |   |   |   |                 |

31. Em comparação com outras pessoas da mesma idade, quão bem informado você diria que está em relação às mudanças climáticas, suas causas e consequências? (marque apenas uma opção)"

- Muito mais informado do que a média       Um pouco menos informado do que a média  
 Um pouco mais do que a média       Muito menos informado do que a média  
 Em torno da média

32. Qual a probabilidade de você limitar o seu uso de energia para ajudar a reduzir as mudanças climáticas?

| 0 (Pouco provável) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (Extremamente provável) |
|--------------------|---|---|---|---|---|---|---|---|---|----------------------------|
|                    |   |   |   |   |   |   |   |   |   |                            |

33. Agora imagine que um grande número de pessoas limitou o uso de energia. Qual a probabilidade de que isso reduza as mudanças climáticas?

| 0 (Pouco provável) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (Extremamente provável) |
|--------------------|---|---|---|---|---|---|---|---|---|----------------------------|
|                    |   |   |   |   |   |   |   |   |   |                            |

34. Qual a probabilidade de que um número suficiente de países tomem medidas para reduzir as mudanças climáticas?

| 0 (Pouco provável) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (Extremamente provável) |
|--------------------|---|---|---|---|---|---|---|---|---|----------------------------|
|                    |   |   |   |   |   |   |   |   |   |                            |

35. Quão bom ou ruim você acha que o impacto das mudanças climáticas será nas pessoas do mundo todo?

| 0 (Extremamente ruim) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (Extremamente bom) |
|-----------------------|---|---|---|---|---|---|---|---|---|-----------------------|
|                       |   |   |   |   |   |   |   |   |   |                       |

## 36. Como você avalia suas atitudes ambientais em relação às mudanças climáticas com base nos seguintes tópicos?

| Atitudes  | Discordo totalmente | Discordo parcialmente | Não concordo nem discordo | Concordo parcialmente | Concordo totalmente |
|---|---------------------|-----------------------|---------------------------|-----------------------|---------------------|
| <b>C.1 Contemplação da Natureza</b>   | 1                   | 2                     | 3                         | 4                     | 5                   |
| Eu realmente gosto de fazer viagens pelo interior, por exemplo, para florestas ou campos.   |                     |                       |                           |                       |                     |
| Eu acho que passar o tempo na natureza é chato/entediante.  |                     |                       |                           |                       |                     |
| <b>C.2 Apoio a políticas de intervenção e conservação</b>   | 1                   | 2                     | 3                         | 4                     | 5                   |
| Os governos devem controlar a taxa na qual as matérias-primas são usadas para garantir que durem o maior tempo possível.  |                     |                       |                           |                       |                     |
| Sou contra os governos que controlam e regulamentam a maneira como as matérias-primas devem ser usadas para que as mesmas possam durar mais (evitar o esgotamento). |                     |                       |                           |                       |                     |
| <b>C.3 Ativismo no Movimento Ambiental</b>  | 1                   | 2                     | 3                         | 4                     | 5                   |
| Eu gostaria de participar ativamente de um grupo ambientalista.   |                     |                       |                           |                       |                     |
| Eu NÃO me envolveria em uma organização ambientalista.  |                     |                       |                           |                       |                     |
| <b>C.4 Conservação motivada por preocupação antropocêntrica</b>   | 1                   | 2                     | 3                         | 4                     | 5                   |
| Uma das razões mais importantes para manter lagos e rios limpos é para que as pessoas tenham um lugar para praticar esportes aquáticos.                             |                     |                       |                           |                       |                     |
| Precisamos manter rios e lagos limpos, a fim de proteger o meio ambiente, e NÃO como locais para as pessoas praticarem esportes aquáticos.                          |                     |                       |                           |                       |                     |
| <b>C.5 Confiança na ciência e tecnologia</b>  | 1                   | 2                     | 3                         | 4                     | 5                   |
| A ciência moderna NÃO será capaz de resolver nossos problemas ambientais.   |                     |                       |                           |                       |                     |
| A ciência moderna resolverá nossos problemas ambientais.  |                     |                       |                           |                       |                     |
| <b>C.6 Ameaça Ambiental</b>   | 1                   | 2                     | 3                         | 4                     | 5                   |
| Os seres humanos estão explorando severamente o meio ambiente.  |                     |                       |                           |                       |                     |
| Não acredito que o meio ambiente tenha sido severamente explorado pelos humanos.  |                     |                       |                           |                       |                     |
| <b>C.7 Alteração da natureza</b>  | 1                   | 2                     | 3                         | 4                     | 5                   |
| Prefiro um jardim silvestre e natural a um jardim bem cuidado e ordenado.   |                     |                       |                           |                       |                     |
| Eu prefiro muito mais um jardim bem cuidado e ordenado a um jardim silvestre e natural.   |                     |                       |                           |                       |                     |



| Atitudes   | Discordo totalmente | Discordo parcialmente | Não concordo nem discordo | Concordo parcialmente | Concordo totalmente |
|--|---------------------|-----------------------|---------------------------|-----------------------|---------------------|
| <b>C.8 Comportamento pessoal de conservação</b>                                      | 1                   | 2                     | 3                         | 4                     | 5                   |
| NÃO sou o tipo de pessoa que se esforça para conservar os recursos naturais.         |                     |                       |                           |                       |                     |
| Sempre que possível, tento economizar recursos naturais.                             |                     |                       |                           |                       |                     |
| <b>C.9 Domínio humano sobre a natureza</b>   | 1                   | 2                     | 3                         | 4                     | 5                   |
| Plantas e animais têm tanto direito quanto os seres humanos de existir.              |                     |                       |                           |                       |                     |
| Plantas e animais existem principalmente para suprirem as necessidades humanas.      |                     |                       |                           |                       |                     |
| <b>C.10 Utilização da natureza pela sociedade</b>                                    | 1                   | 2                     | 3                         | 4                     | 5                   |
| Proteger os empregos da população é mais importante do que proteger o meio ambiente  |                     |                       |                           |                       |                     |
| Proteger o meio ambiente é mais importante do que proteger os empregos da população. |                     |                       |                           |                       |                     |
| <b>C.11 Preocupação ecocêntrica</b>  | 1                   | 2                     | 3                         | 4                     | 5                   |
| Fico triste ao ver florestas desmatadas para agricultura.                            |                     |                       |                           |                       |                     |
| NÃO me entristece ver ambientes naturais destruídos.                                 |                     |                       |                           |                       |                     |
| <b>C.12 Apoio a políticas de crescimento populacional</b>                            | 1                   | 2                     | 3                         | 4                     | 5                   |
| As famílias devem ser incentivadas a limitar-se a dois filhos ou menos.              |                     |                       |                           |                       |                     |
| Um casal deve ter quantos filhos desejar, desde que os possa prover adequadamente.   |                     |                       |                           |                       |                     |





# Climate-U

Transforming Universities  
for a Changing Climate

## About Transforming Universities for a Changing Climate

Climate change is the most significant global challenge of our time, and many of its effects are felt most strongly in the poorest communities of the world. Higher education has a crucial role to play in responding to the climate crisis, not only in conducting research, but also through teaching, community engagement and public awareness. This study contributes to our understanding of how universities in low and middle-income countries can enhance their capacity for responding to climate change, through a focus on the cases of Brazil, Fiji, Kenya and Mozambique. In doing so, it contributes to the broader task of understanding the role of education in achieving the full set of Sustainable Development Goals.

## Our partners



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