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Education Sector

United Nations
Educational, Scientific and
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Country progress on Climate Change Education, Training and Public Awareness

An analysis of country submissions under the United Nations Framework Convention on Climate Change

Education 2030

UNESCO Education Sector

Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development. UNESCO is the United Nations' specialized agency for education and the Education Sector provides global and regional leadership in education, strengthens national education systems and responds to contemporary global challenges through education with a special focus on gender equality and Africa.

The Global Education 2030 Agenda

UNESCO, as the United Nations' specialized agency for education, is entrusted to lead and coordinate the Education 2030 Agenda, which is part of a global movement to eradicate poverty through 17 Sustainable Development Goals by 2030. Education, essential to achieve all of these goals, has its own dedicated Goal 4, which aims to *"ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."* The Education 2030 Framework for Action provides guidance for the implementation of this ambitious goal and commitments.

Overview of the findings

1. Climate change education is addressed by almost all countries in their United Nations Framework Convention on Climate Change (UNFCCC) country submissions.

2. For those countries that reported a target audience, over 50% of the references were to formal education settings.

3. 'Public awareness' is the most common climate change education approach reported in country submissions, both in submissions concerning previous actions (National Communications) and in those on future plans (Nationally Determined Contributions).

4. Cognitive learning was more commonly discussed in relation to climate change education than social and emotional or behavioural learning, regardless of education level.

5. Countries tend to report more on 'Environmental Education' than 'Education for Sustainable Development'.

6. 13% of country submissions included specific climate change responses in relation to climate change education, with a stronger focus on 'adaptation' and 'mitigation' than on 'impact reduction' or 'early warning'.

7. UNFCCC Annex 1 countries were less likely to address 'impact reduction' in relation to climate change education than non-Annex 1 countries[1].

8. UNFCCC Annex 1 countries and non-Annex 1 countries included similar shares of content on the six approaches to climate change education.

9. Countries included more climate change education content with a focus on 'mitigation' in the reports concerning previous actions on climate change than in their future plans where the focus is more on 'impact reduction'.

10. Relatively few of the country submissions included quantitative data that could be used in global monitoring of progress.

I. Introduction

Climate change is the defining challenge of our time and education is increasingly seen as an essential element for mounting an adequate response to it.

Since its entry into force, the 1992 United Nations Framework Convention on Climate Change (UNFCCC) in Article 6 has recognised the importance of 'education, training and public awareness' in mitigating 'dangerous human interference with the climate system'. Article 12 of the Paris Agreement (2015) reaffirms this recognition.

This document provides a status report on the implementation of climate change education (CCE) in countries. The document outlines key findings from an analysis of country submissions to the UNFCCC Secretariat as part of UNFCCC reporting processes. The document highlights achievements and remaining gaps in the area of climate change education. The analysis presented in this document can also inform the reporting on three climate change education-related Sustainable Development Goal (SDG) Targets, namely Targets 4.7, 12.8 and 13.3, and their global indicators.

'Climate change education' in this document is understood in a broad sense – to include education, training and public awareness raising. In some of its analyses, this document also refers to the six elements of Article 6, namely: education (i.e. formal education), training, public awareness, public participation, public access to information, and international cooperation on these issues. They are also often referred to as 'Action for Climate Empowerment' elements.

UNESCO implements climate change education as part of its programme on Education for Sustainable Development and works together with twelve other UN agencies in the UN Alliance on Climate Change Education, Training and Public Awareness in order to support countries to meet their commitments under the UNFCCC.

II. Data analysis

Two types of country submissions under the UNFCCC were analysed for this document – National Communications and Nationally Determined Contributions. National Communications (NCs) are submitted by countries to the UNFCCC Secretariat every four years and report on countries' previous actions and progress in addressing climate change. Nationally Determined Contributions (NDCs) are submitted every five years as part of the 2015 Paris Agreement and set out countries' future plans and commitments on emission reduction and implementation. A total of 368 country submissions (196 NCs and 172 NDCs) were analysed from 194 countries (98% of all 197 parties to the UNFCCC). Countries' most recent country submission of each type was included (as of June 2018). All country submissions are publicly available on the UNFCCC website.

To identify and analyse relevant content in the country submissions, a coding scheme was developed, capturing key elements of climate change education. Country submissions were then coded with the use of the specialized data management software NVivo11.
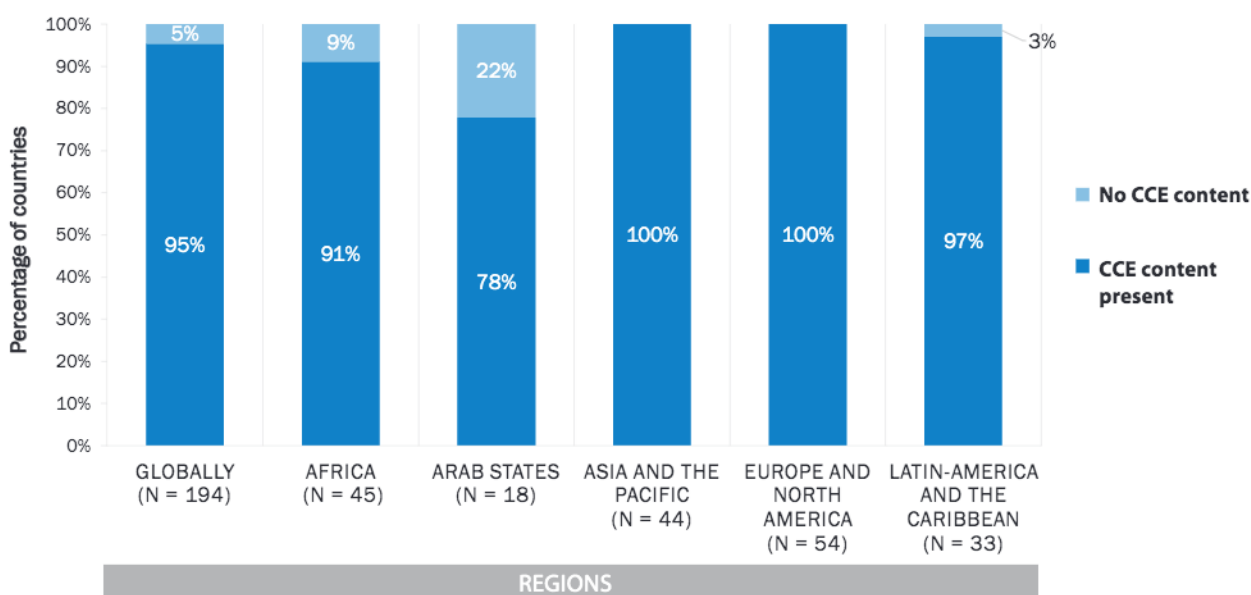
III. Findings

FINDING 1

Climate change education is addressed by almost all countries in their UNFCCC country submissions

95% of the 194 reporting countries have included some climate change education content in one or more of their recent country submissions to the UNFCCC Secretariat (Figure 1). While this content is mainly descriptive and aspirational, it is promising to see that almost all countries are identifying some aspect of climate change education as part of their national action on climate change. The analysis shows that all reporting countries from the regions of Asia and the Pacific, and Europe and North America have included climate change education aspects in their reports. By contrast, in the Arab States region, only four out of every five countries mentioned climate change education.

Figure 1: Countries mentioning climate change education in UNFCCC country submissions, globally and by region
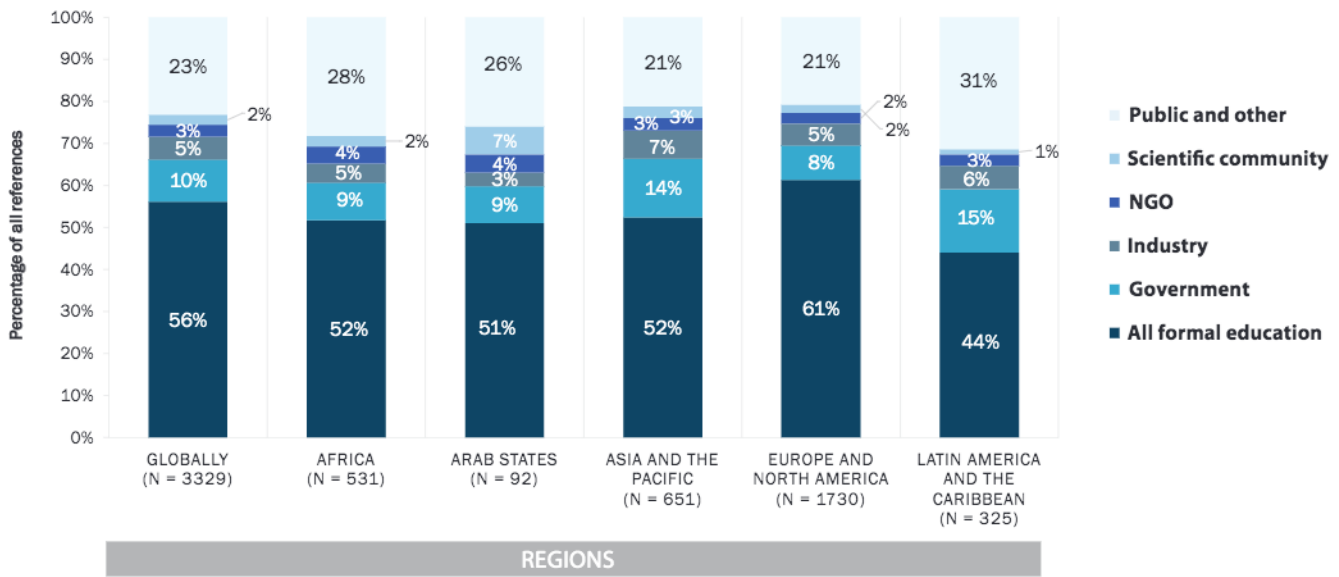

FINDING 2

For those countries that reported a target audience, over 50% of the references were to formal education settings

A range of climate change education target audiences were identified in the country submissions, with the largest proportion being in formal education settings (primary, secondary, or tertiary education or formal education generally), and the next largest sector being the 'public and other' audiences (Figure 2). The target audiences of 'government,' 'industry,' 'non-governmental organizations' and 'scientific community' received relatively little focus. European and North American countries were the most likely to discuss formal education audiences in relation to climate change education (61% of references), whereas countries in Latin America and the Caribbean were the most likely to name the public or other audiences (31% of references).

Figure 2: Target audience of climate change education, globally and by region


Figure 2 legend:
- Public and other
- Scientific community
- NGO
- Industry
- Government
- All formal education

Regions (x-axis): GLOBALLY (N = 3329), AFRICA (N = 531), ARAB STATES (N = 92), ASIA AND THE PACIFIC (N = 651), EUROPE AND NORTH AMERICA (N = 1730), LATIN AMERICA AND THE CARIBBEAN (N = 325)

REGIONS

FINDING 3

'Public awareness' is the most common climate change education approach reported in country submissions, both in reports concerning previous actions (National Communications) and in those on future plans (Nationally Determined Contributions)

76% of the country submissions (279/368) included content on the six specific elements of climate change education broadly understood as: education, training, public awareness, public participation, public access to information and international cooperation. 'Public awareness' was the most common approach discussed in each region and overall (47% of references), followed by 'education' (defined as formal education) (17%) and 'training' (15%) (Figure 3). The three other approaches to climate change education represented 21% of all references in total.

Figure 3: Climate change education approaches by region

Figure 3 legend:
- Africa
- Arab States
- Asia and the Pacific
- Europe and North America
- Latin America and the Caribbean

Climate change education approaches (x-axis): EDUCATION (N = 759), TRAINING (N = 700), PUBLIC AWARENESS (N = 2132), PUBLIC ACCESS TO INFORMATION (N = 377), PUBLIC PARTICIPATION (N = 180), INTERNATIONAL COOPERATION (N = 418)
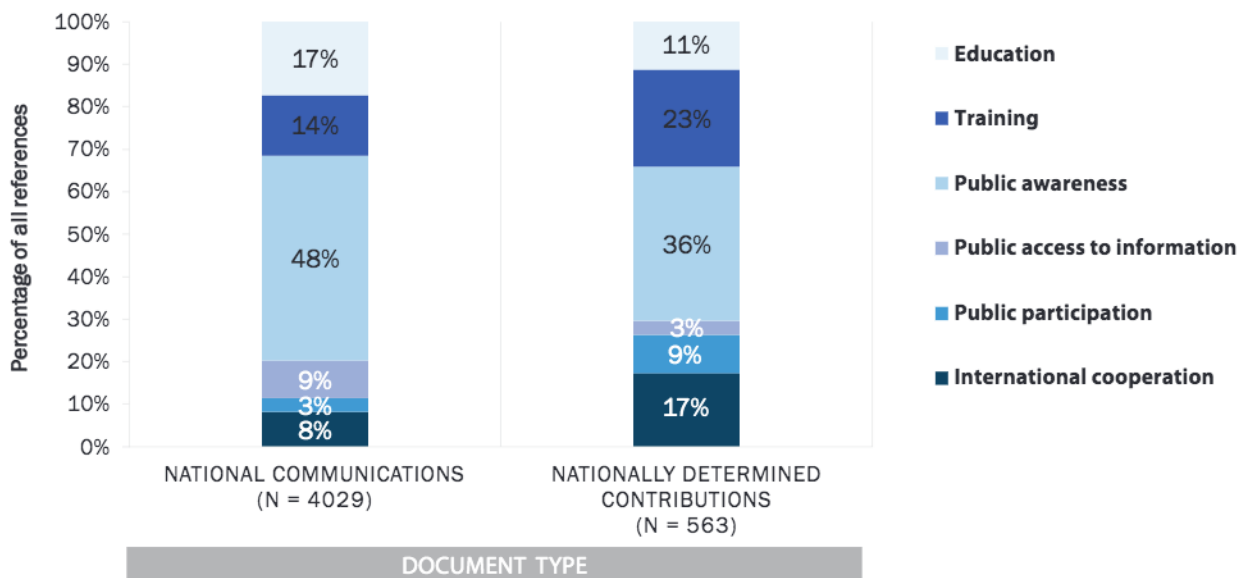
CLIMATE CHANGE EDUCATION APPROACHES
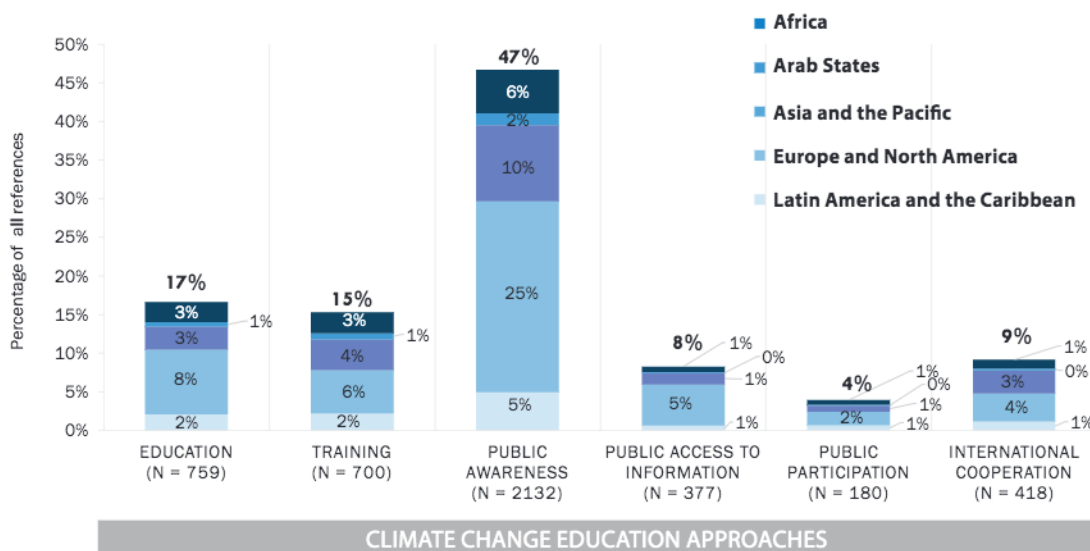
Note: The percentages sum to 100% overall.

Both reports concerning previous actions (National Communications) and those about future plans (Nationally Determined Contributions) had more content on 'public awareness' than other approaches (Figure 4). The forward-looking reports had slightly less content on 'public awareness' than the reports on past actions (36% of references compared with 43%) but relatively more on 'training', 'public participation' and 'international cooperation'.

Figure 4: Climate change education approaches in National Communications and Nationally Determined Contributions
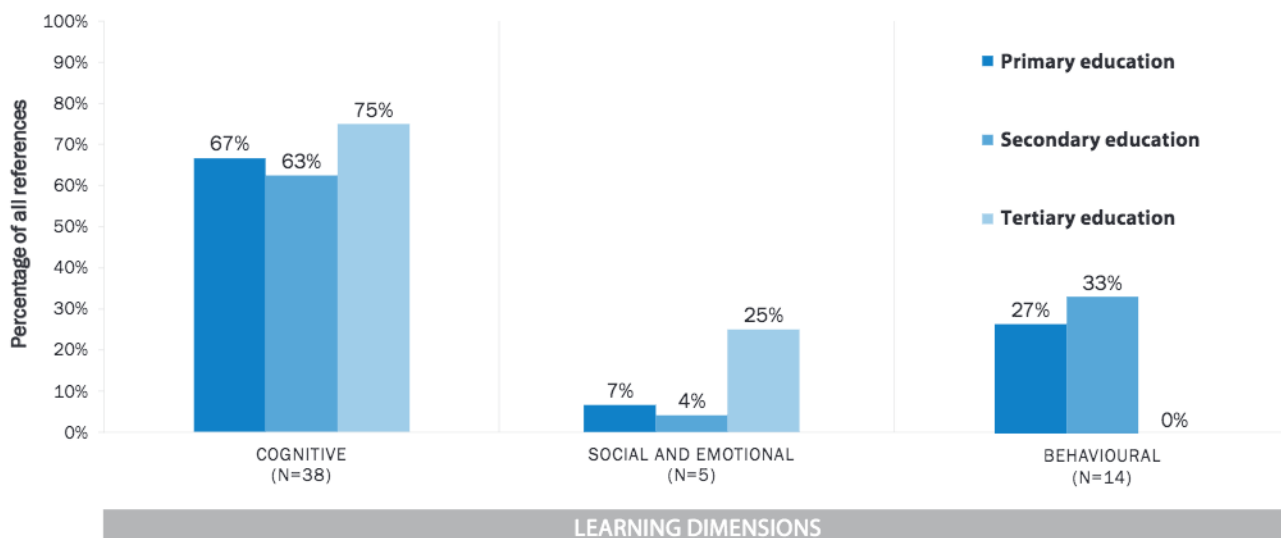

FINDING 4

Cognitive learning was more commonly discussed in relation to climate change education than social and emotional or behavioural learning, regardless of education level

References to formal education in the country submissions were examined for the relative focus on cognitive, social and emotional, and behavioural learning dimensions in relation to climate change education. Cognitive learning was the most common across primary, secondary and tertiary education (for example, references were made to 'understanding', 'awareness' or 'knowledge of' climate change) (Figure 5).

Figure 5: Learning dimensions in formal education

Note: Percentages sum to 100% across each level of education.

FINDING 5

Countries tend to report more on 'Environmental Education' than 'Education for Sustainable Development'

Keyword searches were conducted for the terms 'Education for Sustainable Development' and 'Environmental Education' across all country submissions. The analysis indicates that 'Environmental Education' is more commonly used in the country submissions from all regions (72% of countries compared with 26% mentioning 'Education for Sustainable Development') (Figure 6).

Figure 6: Countries mentioning Environmental Education and Education for Sustainable Development in UNFCCC country submissions, globally and by region
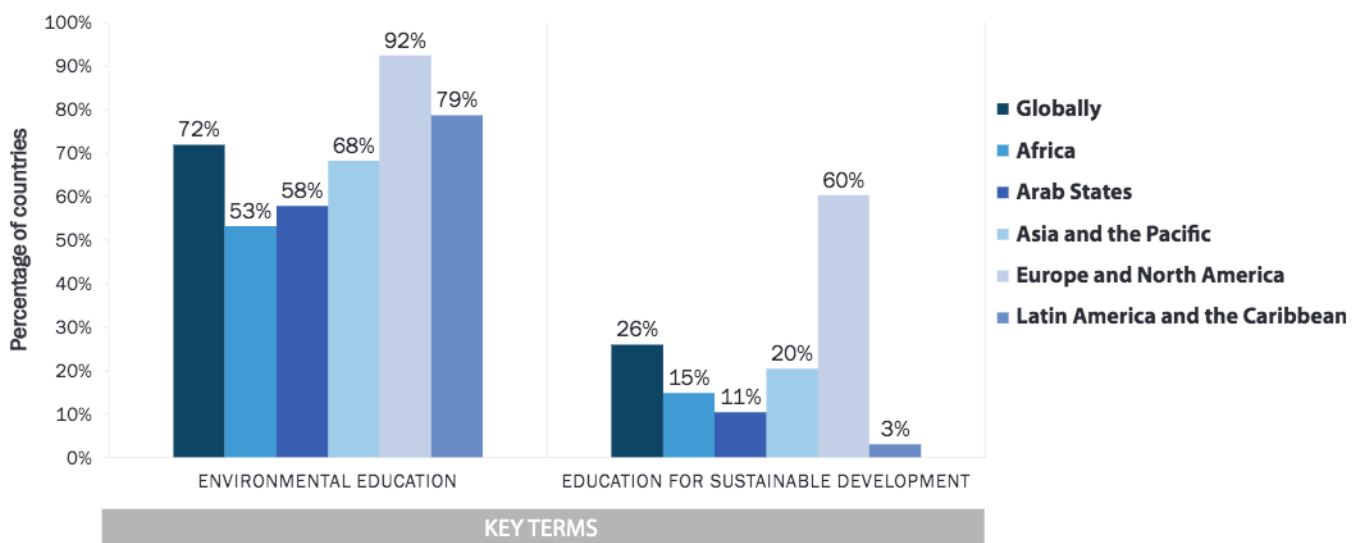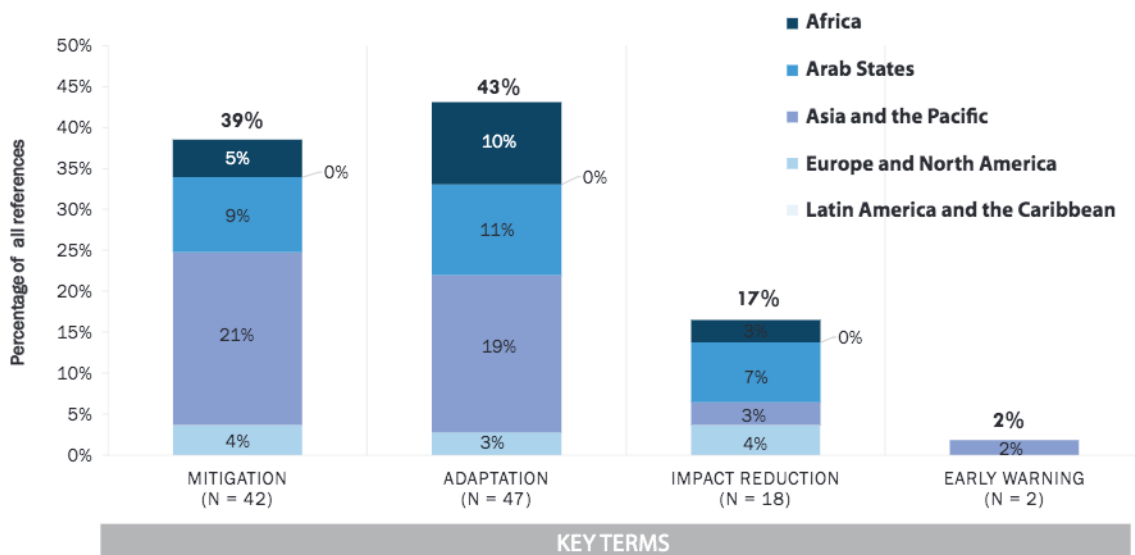

FINDING 6

13% of country submissions included specific climate change responses in relation to climate change education, with a stronger focus on 'adaptation' and 'mitigation' than on 'impact reduction' or 'early warning'[2]

In Africa and Asia and the Pacific, climate change 'adaptation' was the most common response mentioned in country submissions, followed by climate change 'mitigation' and then 'impact reduction' (Figure 7). In Europe and North America and Latin America and the Caribbean there was more emphasis on mitigation than adaptation. Overall only 13% of the country submissions (47/368) included content on specific climate change responses.

Figure 7: Climate change responses by region

Note: Percentages sum to 100% overall.

FINDING 7

UNFCCC Annex 1 countries were less likely to address 'impact reduction' in relation to climate change education than non-Annex 1 countries

Annex 1 and non-Annex 1 countries included relatively similar levels of content on 'adaptation' (45% of references in submissions from Annex I countries compared with 42%) and 'mitigation' (43% versus 35%) in relation to climate change education in the formal education sector (Figure 8). However, Annex 1 countries were less likely than non-Annex 1 countries to address 'impact reduction' in relation to climate change education (8% versus 23%).

**Figure 8: Climate change responses by type of country**
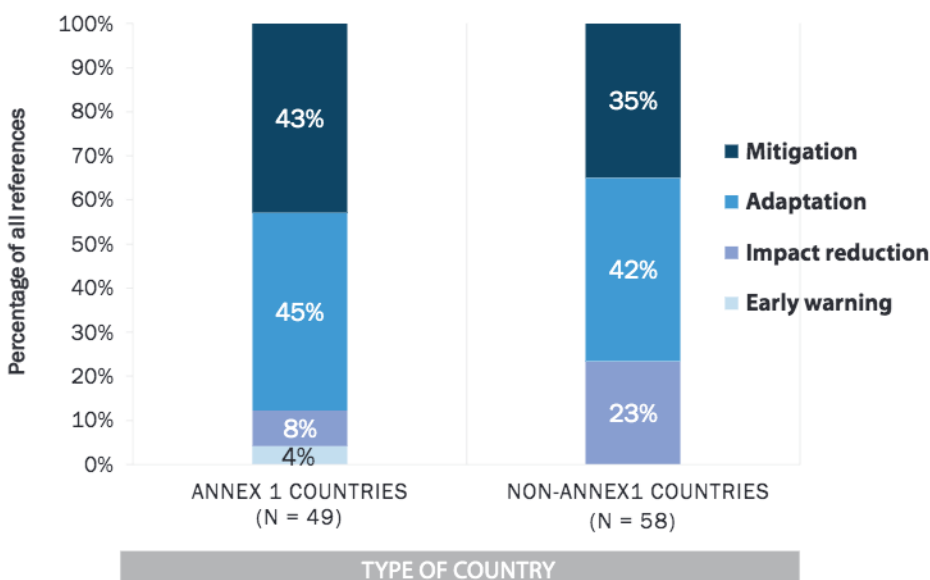
FINDING 8

UNFCCC Annex 1 and non-Annex 1 countries included similar shares of content on the six approaches to climate change education

Both types of countries most often referred to 'public awareness' (51% for Annex 1 countries versus 43% for non-Annex 1 countries) followed by 'education' and/or 'training' (Figure 9). Less than one-quarter of references were to the other three approaches: public participation, public access to information and international cooperation.

**Figure 9: Climate change education approach by type of country**
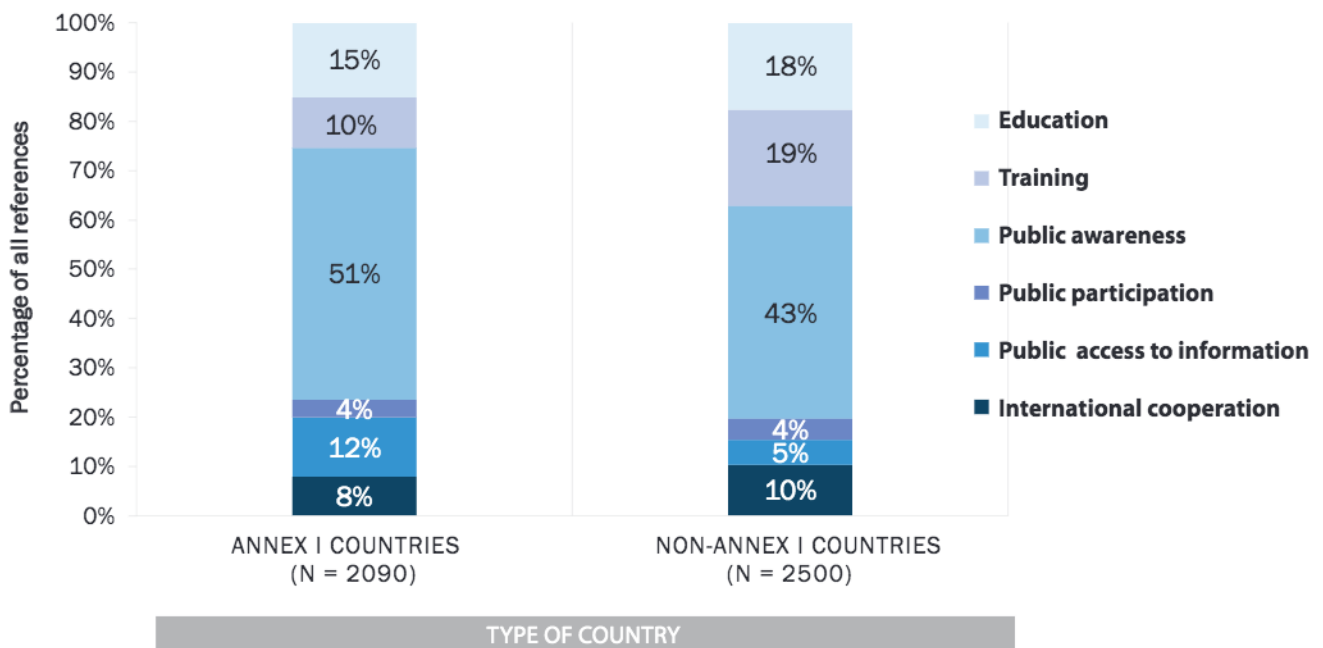
FINDING 9

Countries included more climate change education content with a focus on 'mitigation' in the reports concerning previous actions on climate change than in their future plans where the focus is more on 'impact reduction'

Almost 90% of climate change education-related content was in the reports concerning previous actions (National Communications), with relatively little content in the reports on future plans (Nationally Determined Contributions) despite there being similar numbers of the two types of submissions: 196 NCs and 172 NDCs (Figure 10).

Figure 10: Inclusion of climate change education content in National Communications and Nationally Determined Contributions
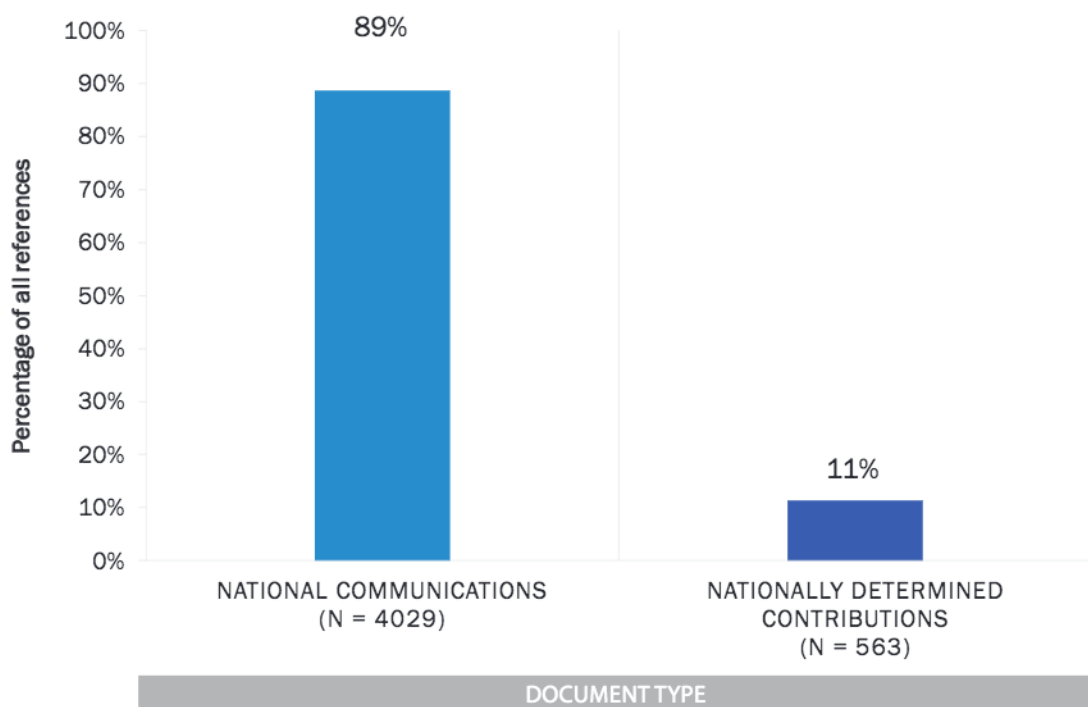
There were considerable differences between types of country submissions in the extent of content on various climate change responses in relation to climate change education, with those submissions covering past actions focussing to a large extent on 'mitigation' while future plans were more concerned with 'impact reduction' and had no focus on 'mitigation'. Document types were similar in the extent of focus on 'adaptation' (Figure 11).

Figure 11: Climate change education responses in National Communications and Nationally Determined Contributions
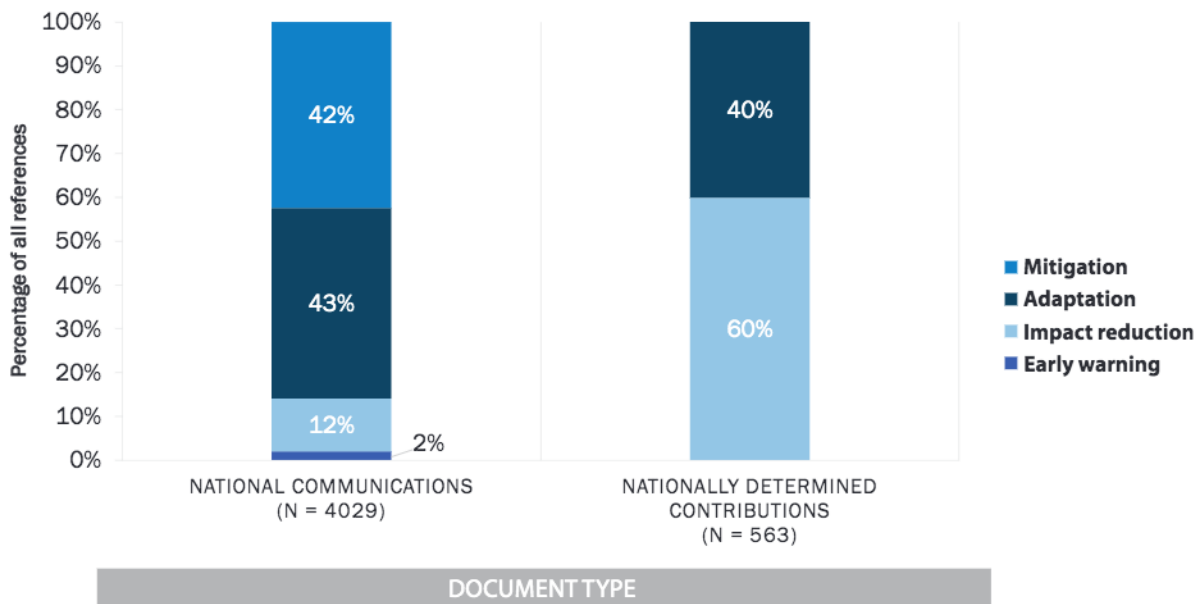
In terms of Education for Sustainable Development and/or Global Citizenship Education content in formal education (i.e., the components of SDG Indicators 4.7.1 and 12.8.1), document types were relatively similar in proportions of focus, with future plans including a somewhat greater emphasis on 'curriculum' and somewhat lesser emphasis on 'teacher education' (Figure 12).

Figure 12: Education for Sustainable Development and Global Citizenship Education content in National Communications and Nationally Determined Contributions
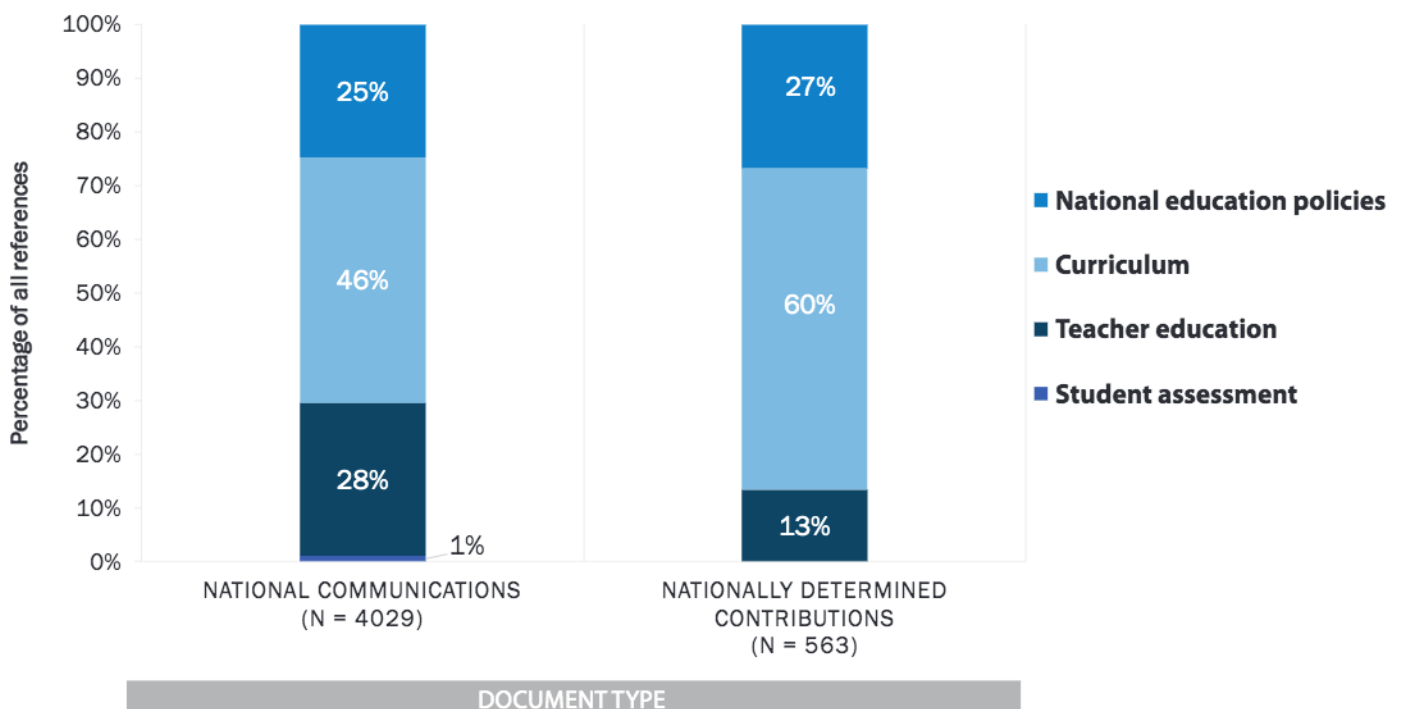
FINDING 10

Relatively few of the country submissions included quantitative data that could be used in global monitoring of progress

Only 30% (112 documents out of 368) of country submissions included any numerical (quantitative) data in relation to climate change education (Figure 13). 22% of documents (82 out of 368) included some quantitative data on different approaches to climate change education, with nearly half focusing on 'public awareness'. Only 2% of country submissions (6 out of 368) included some quantitative data on types of climate change responses (i.e., SDG Indicator 13.3.1 components). Only 7% of documents (24 out of 368) included some quantitative data on formal education in relation to Education for Sustainable Development and/or Global Citizenship Education (i.e., the components of SDG Indicators 4.7.1 and 12.8.1), with over half of this content focusing on teacher education, and much of the rest discussing national education policies.

Figure 13: UNFCCC country submissions with quantitative data appropriate for global reporting
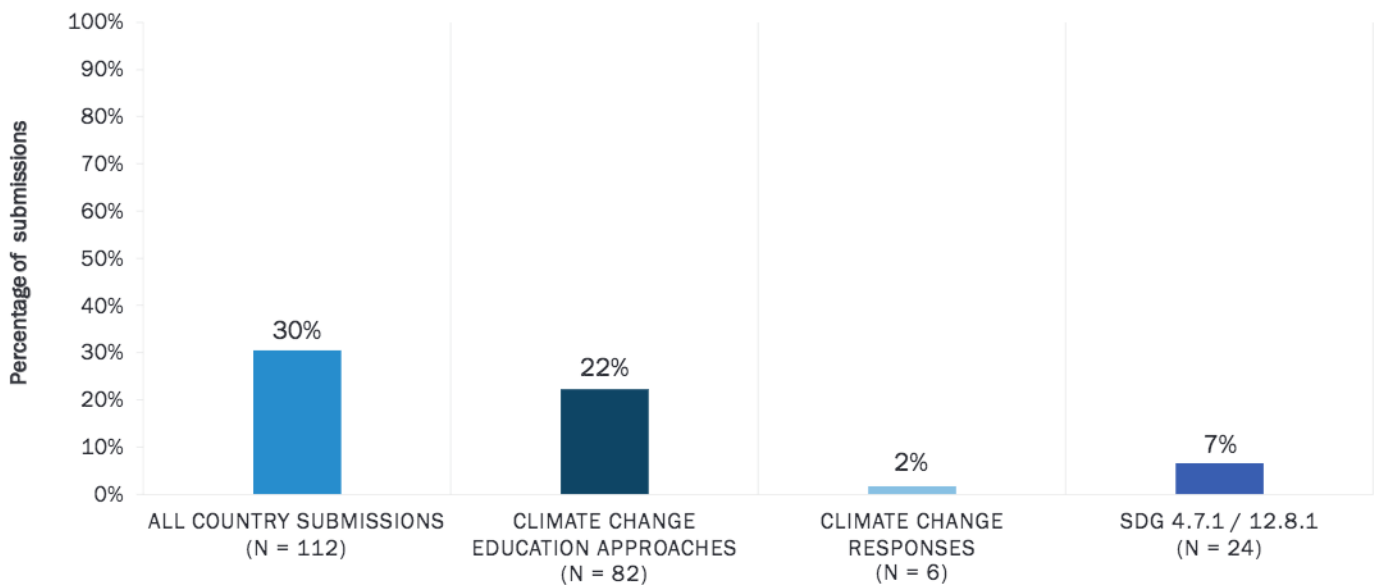
IV. Conclusion

Almost all countries included some reference to climate change education in their country submissions under the UNFCCC reporting processes. This shows a certain level of commitment to climate change education, which provides a good basis to further scale up educational responses to this greatest challenge of our times.

According to the data analysed, most climate change education references in country submissions are related to public awareness. This suggests that it will be necessary for countries to expand their climate change education activities to address more systematically the other elements of climate change education, especially formal education and training.

Considering that at all levels of formal education, cognitive learning with regard to climate change was heavily emphasised, countries should scale up social and emotional and behavioural learning approaches and outcomes.

The data also show that countries are slow to address climate change education when preparing their Nationally Determined Contributions under the Paris Agreement. This indicates a need for more technical support for countries on climate change education in preparing their Nationally Determined Contributions. These reports, with their role in setting targets and advancing action in relation to the Paris Agreement, are an important opportunity to ensure that climate change education occupies a solid place in country responses to climate change.

Advancing the quality and availability of quantitative data collected through UNFCCC country submissions would support progress tracking and target setting, both nationally and globally, in UNFCCC reporting and SDGs monitoring processes.

Finally, further research will be needed to get a more comprehensive picture of country implementation of climate change education. Among other things, future research should also examine the process to formulate and implement national adaptation plans, adaptation communications and long-term climate strategies under the UNFCCC process.

End notes

1. Annex 1 countries under the UNFCCC are industrialized countries that were members of the OECD in 1992 plus countries with Economies in Transition that are parties to the UNFCCC. Non-Annex 1 countries under the UNFCCC are other countries that are parties to the UNFCCC. They are mostly developing countries.

2. Adaptation, mitigation, impact reduction and early warning are the four climate responses mentioned in SDG global indicator 13.3.1.

More information

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This document provides a status report on the implementation of climate change education in countries. It outlines key findings from an analysis of country submissions to the UNFCCC Secretariat as part of UNFCCC reporting processes and highlights achievements and remaining gaps in the area of climate change education.

The analysis shows that almost all countries include some reference to climate change education in their country submissions under the UNFCCC reporting processes. This shows a certain level of commitment, which provides a good basis to further scale up educational responses to climate change. However, important gaps remain. Addressing them will be crucial in order to fully mobilize the power of education in response to this greatest challenge of our times.