

Higher Education One Year into the COVID-19 Pandemic

Second IAU Global Survey Report



This report is elaborated and disseminated as a contribution to the UNESCO 3rd World Higher Education Conference (WHEC) from May 18-20, 2022, with the purpose of enhancing the contribution of higher education institutions and systems world-wide, under the 2030 Agenda for Sustainable Development, its pledge to leave no one behind, and looking at the Futures of Education.



Cover design and layout: Maro Haas
Cover photo: iStock / Drazen Zigic

International Association of Universities
F-75732 Paris Cedex 15
France
www.iau-aiu.net

ISBN: 978-92-9002-216-9
CC BY SA 3.0 International Association of Universities, 2022

Higher Education One Year into the COVID-19 Pandemic

Second IAU Global Survey Report

Trine Jensen, Giorgio Marinoni and
Hillegje van't Land

Foreword

Over the last two years, the world has been impacted in many ways by the pandemic. Besides the tragic health issues and stress on the health systems around the world, the pandemic has affected the economic, social and emotional well-being of society. The socio-cultural and economic system we knew has been destabilised probably for the longer term.

As far as education is concerned, and due to school and university closures, many young people have been deprived of the opportunity to benefit from education. University leaders, students and staff have been faced with ongoing challenges to address, yet also with new opportunities to explore. The contexts in which universities operate remain rather unpredictable, and the sector needs to continue to be very flexible and innovative. The current situation calls for an in-depth reflection on how to 'build back better'. The pandemic has accelerated change, including in higher education, and there is a need for thorough understanding and exchange about where we are today and how to prepare the future. Education has to be reimagined in order to better fulfil the expectations of society.

Indeed, we are at an important point in time when we can learn from the unprecedented global crisis we experience. Gathering quality data on how the current crisis impacts higher education at institutional, national, regional levels helps us understand what disruptions have brought about and what needs to be done to ensure that the sector delivers on its promises for the future.

In this context, the International Association of Universities is pleased to share the 2nd Global Survey Report on the impact of COVID-19 on higher education. Thanks to the rich data set collected from around the world, and one year into the pandemic, the Report offers a comprehensive understanding of the complex and interlinked impacts of the crisis on four main areas of concern: higher education governance, teaching and learning (T&L), research and community/societal engagement.

With Giorgio Marinoni and Trine Jensen, we thank all partners who have helped with shaping the second questionnaire, the universities which have helped with piloting and improving it, the partners who have helped with bringing this survey to the attention of the broader higher education community and the many universities around the world who have taken the survey. We are very pleased to have received replies from some 500 universities and other higher education institutions in 112 countries from five continents. Moreover, we have invited IAU Member Organisations and Associations to contribute complementary national and regional perspectives on the focus areas of the global survey report. Four regional perspectives from the Arab Region, Europe, Latin America and the Caribbean, and the Asia Pacific Regions and one national (US) perspective provide for valuable contributions to the global trends presented.

Our work does not stop here. Indeed, the Report already identifies a number of issues that will receive further attention from the IAU. In the meantime, we hope that the report will trigger debate and fruitful exchanges on how to mitigate the challenges faced and maximise on the new opportunities for improving higher education to better educate future graduates and citizens and to provide them with the kind of higher education we need to create the kind of society we want for future generations.



Pam Fredman,
IAU President



Hilligje van't Land,
IAU Secretary General

Acknowledgements

The present report has been made possible thanks to the contribution of a large number of individuals and organisations from around the world.

Above all, a note of thanks goes to the members of the Working Group in charge of developing the questionnaire and who helped promote the survey, collect answers and provided much-valued feedback on the survey analysis.

The organisations that took an active part in the development of the survey are, in alphabetical order:

- **Association of Indian Universities (AIU)**
- **Agence universitaire de la Francophonie (AUF)**
- **European University Association (EUA)**
- **Hungarian Rectors' Conference (HRC)**
- **NAFSA: Association of International Educators**
- **The Association of Commonwealth Universities (ACU)**
- **United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS)**

Second, our thanks also go to the following institutions that piloted the questionnaire and contributed to improving it:

Region	HEI	Country
Africa	Makerere University	Uganda
Asia & Pacific	Qatar University	Qatar
	Sri Lanka Institute of Information Technology	Sri Lanka
	Zhejiang University	China
Europe	Budapest University of Technology and Economics	Hungary
	Russian Presidential Academy of National Economy and Public Administration – RANEPА	Russian Federation
	University of Karlstad	Sweden
The Americas	Benemerita Universidad Autonoma de Puebla	Mexico
	Texas Tech University	United States of America
	University of Campinas	Brazil

Third, we would like to thank each institution and its representatives who had a hand in completing the questionnaire, despite the many ongoing challenges they faced at the same time. IAU is expressly thankful to every single respondent, without whom this report would have never seen the light of day.

We are particularly grateful to all our partners who distributed and promoted the survey, among them, the Association of Arab Universities (AARU), the Association of Portuguese Language Universities (AULP), Inter-American Organization for Higher Education (OUI-IOHE) and Higher School of Economics in Moscow, all of which provided much appreciated assistance by encouraging their members to complete the questionnaire. This resulted in a good number of replies from their respective regions and countries.

Our special thanks also go to the five organisations that provided regional and national perspectives to complement the report and which are available Annex 2:

- **American Council on Education (ACE)**
- **Association of Arab Universities (AArU)**
- **European University Association (EUA)**
- **Unión de Universidades de América Latina y el Caribe (UDUAL)**
- **United Nations University, Institute for the Advanced Study of Sustainability**

The principal authors of the report would not have been able to conduct such a project alone and we consider this report the product of a collective effort inside and outside the IAU.

A special thank you note goes to Nicholas Poulton, IAU Information and Publication Officer, for his language editing of the report.

This report will provide you with a global overview of the impact of COVID-19 on higher education, and the response of the higher education community to the pandemic in order to minimize disruption as they continued their mission of educating future generations, advancing science and knowledge through research, and of providing service to local communities and society at large.

IAU is committed to continuing its research on this, and we also hope that this report will stimulate discussion and further study.

CONTENTS

FOREWORD	2
ACKNOWLEDGEMENTS	3
EXECUTIVE SUMMARY	7
INTRODUCTION	18
RESEARCH ON COVID-19 AND HIGHER EDUCATION	19
A. GENERAL INFORMATION ABOUT THE IAU GLOBAL SURVEY	22
A1. Methodology	22
A2. Data sample and respondent attributes	23
A2.1 Geographical distribution	24
A2.2 Type of institution (private vs. public)	25
A2.3 Institution size	26
A2.4 Respondent attributes	27
A2.5 Language of completion of the survey	27
B. GOVERNANCE	30
B1. Introduction	30
B2. Financing	30
B2.1 Perspectives on financial sustainability	30
B2.2 Impact on higher education financing: by source of income	32
B2.3 Impact on higher education financing: by area of expenditure	36
B2.4 Emergency or special funding for higher education during the pandemic	41
B2.5 Conclusion	41
B3. Impact on student enrolment and dropout rates	42
B3.1 Movement in domestic student enrolment and dropout rates	43
B3.2 Movement in adult learner enrolment and dropout rates	45
B3.3 Movement in international student enrolment and dropout rates	47
B4. Human resources	51
B4.1 Movements in human resources	51
B4.2 Staff workload (academic and administrative staff)	55
B4.3 Changes in institutional support for the physical and mental health of staff	56
B5. Crisis management and communications	58
B5.1 Crisis management	58
B5.2 Enhanced transversal collaboration	58
B5.3 Effectiveness of communications during the pandemic	59
B6. Disruption of activities and impact on strategic plan	60
B6.1 Disruption of activities due to the pandemic	60
B6.2 Impact on the institutional strategic plan	61
B7. Partnership developments	62
B7.1 Mobility partnerships	63
B7.2 International Collaborative Learning partnerships	63
B7.3 Academic Research partnerships	64
B7.4 Private sector partnerships for research	66
B7.5 Private sector partnership for Education Technology and beyond	67
B7.6 Membership in associations and organisations	68
B8. Collaboration with authorities	69
B8.1 Collaboration with authorities	69
B8.2 Support from authorities	70
C. TEACHING AND LEARNING	73
C1. Introduction	73
C2. Shift to remote teaching and learning	73
C2.1 Remote teaching and learning	73
C2.2 Outreach to students during the time of pandemic	74

C2.3	Support for students without access to remote teaching and learning	75
C2.4	Increased use of digital tools for teaching and learning	76
C2.5	Impact according to academic discipline	77
C2.6	Changes in curricula	78
C2.7	Readiness of academic staff to shift to remote teaching and learning	80
C3.	Student internships and placements	80
C4.	Graduation during the pandemic	81
C4.1	Exams	81
C4.2	Assessment measures	82
C4.3	Graduation	83
C4.4	Micro-credentials	84
C5.	Internationalization	84
C5.1	Internationalization strategy	84
C5.2	Priorities in internationalization strategy	85
C5.3	Evaluation of foreign qualifications	90
C5.4	Transnational education (TNE)	91
C5.5	Collaborative programs (dual/double or multiple and joint degree)	92
C6.	Student consultations and evaluations	93
C7.	Alumni relations	94
D.	RESEARCH	97
D1.	Research priorities	97
D2.	Delay in research activities	99
D3.	Impact of the pandemic on research activities	100
D4.	Community-based research and research on global issues	103
D5.	Research funding	104
D5.1	Sources of research funding	105
D6.	Research collaboration	110
D6.1	Quality of research collaboration	113
E.	IMPACT ON COMMUNITY/SOCIETAL ENGAGEMENT	118
E1.	Promoting scientific knowledge and understanding to the general public	119
E2.	Institution's role in fighting disinformation	121
E3.	Institutional support to the local community	123
E4.	Effect of the pandemic on institutional autonomy and academic freedom	125
E5.	Re-definition/rethinking of academic values	126
	CONCLUSION	128
	BIBLIOGRAPHY	130
	ANNEX 1	131
	Classification of HEIs in the different regions of the world	131
	ANNEX 2	133
	National and Regional perspectives	133
	1. Perspective from the United States of America: Summary of Pulse Point Surveys on COVID-19	134
	2. The Impact of Covid-19 on the Arab Higher Education	138
	3. One year of Covid-19: the impact on European higher education	147
	4. Perspective from Latin America and Caribbean	153
	5. Perspective from the Asia-Pacific region	156

Executive Summary

This report illustrates the level of impact on higher education one year into the pandemic, and is the second in a series of three surveys. The first one was conducted in April 2020 and reported on the situation at the outset of the pandemic. The current report looks at a time when Higher Education Institutions (HEIs) have had time to adapt, develop measures and structures to cope with COVID-19-related restrictions. It therefore reflects on the situation with a higher degree of stability, at least compared to the findings of the first IAU Global Survey, yet still in a context where HEIs around the world were operating in a rapidly-changing environment and with a high degree of uncertainty. The third edition of the Survey will be launched once COVID-19 has been downgraded from a pandemic.

As the scope and nature of the second survey were different to the first one, it was designed differently, thus becoming a more comprehensive survey looking at various aspects of institutions from governance to teaching and learning, from research to community/societal engagement in order to get a broader picture of the effects of the pandemic on HEIs worldwide. With 496 responses from 112 countries and territories, it allows us to show trends at the global level and, even more importantly, to show similarities and differences among four regions (Africa, Americas, Asia & Pacific and Europe). Furthermore, these trends are also explored by comparing results from public institutions with private HEIs.

The conclusions for each section of the report are summarised below.

Governance

Higher education financing

The first section covered different aspects of governance, but most importantly the impact on institutional finances as well as student enrolment and dropout rates.

The results show that publicly funded institutions fared slightly better than their private counterparts with regards to income stability, although overall trends were similar. As public funding and tuition fees in most cases represent the main sources of university funding, it is reassuring to note that these funding streams are less importantly impacted compared to 'other income' and 'private sector funding', yet it remains worrisome that almost a third of HEIs receiving public funding have experienced a decrease in public funding one year into the pandemic, and this share is even higher (40%) when considering tuition fees. It is not a surprise that more institutions experienced a decrease in tuition fees compared to public funding, as fees are provided by households who are more likely to experience the immediate effects of the crisis, whereas public funding is guaranteed by the state. The question is whether – as was the case for the 2008 economic crisis – the impact on public funding will appear with a delay. This remains hypothetical for the time being and is something to be monitored over the years to come.

Another worrying indicator to note is that in regions where there is a larger share of private higher education, such as Africa and the Americas, the proportion of public institutions experiencing a decrease in funding is greater, representing almost half the institutions. In contrast, in Europe which is the region with the biggest share of public HEIs, only 17% experienced a decrease in public funding and a bigger share of HEIs experienced an increase in public funding. It is important to underline that the survey investigated only the change in funding (increase/decrease) and not the extent of any increase/decrease in funding.

With regards to tuition fees, in Europe (60%) and Asia & Pacific (55%), the largest group of HEIs reported stability in revenue, yet still a large share of institutions reported a decrease (33% in Europe and 40% in Asia and Pacific). The picture is even more gloomy in Africa and the Americas as the largest share of institutions experience a decrease in revenue (53% of HEIs in Africa and 47% in the Americas). In these regions, slightly over a third of institutions reported stable income from tuition fees (35% of HEIs in Africa and 41% in the Americas).

Although the data does not show to what extent HEIs are experiencing a decrease in funding, it still shows that one year into the pandemic the higher education sector is already financially stressed, most particularly in Africa and the Americas. If this trend is to continue, or is worsened by additional implications of the financial crisis, this may have a severe negative impact on HEIs and may ultimately even lead to a reduction in the number of HEIs and a decline in the offer of higher education. The risk is higher in the regions (for example Africa) where gross enrolment rates of students in tertiary education are already low. This in turn could equate to a possible exacerbation of existing inequalities.

Considering movements in expenditure categories, the overall trend shows that, in most cases, there is a certain level of stability in expenses. Africa however stands out as the region experiencing a high level of increase in expenditure while also faced with a larger share of institutions showing a decrease in revenue streams. As a note of caution, it must be highlighted that almost a third of the institutions at global level are reporting a decrease in research expenditure and this is as high as 47% in Africa. This can be linked to disruption in various field work, less expenditure for travel and participation in academic conferences and delays in certain projects, but it is very important to monitor whether this is a temporary decline triggered by pandemic-related restrictions or whether it reflects a cut-back on research funding in general. International activities have seen the biggest share of institutions reporting a decrease in expenses, but it is not surprising as worldwide restrictions have made it particularly difficult to move across borders.

Overall, looking at the data on financing we can see how the pandemic has reinforced pre-existing inequalities among regions, within regions and within countries.

Student enrolment and dropout rates

The main share of students are domestic students in most HEIs around the world and from that perspective it is relatively positive to note that a great majority of institutions experienced either stable enrolment rates or an increase in domestic students. However, it remains a preoccupation that one out of five institutions experienced a decrease and this trend is particularly worrisome in Africa and the Americas where it can be seen at a third of all HEIs.

In the context of the pandemic, it is not a surprise that enrolment of international students has been particularly negatively impacted and institutions across all regions are showing a decrease in numbers. This decrease is however more pertinent for exchange students than for degree-seeking students.

Before the pandemic, international students made up but a minority of the overall student body in most institutions around the world, and it is therefore important to keep in mind that in sheer numbers, a decrease in domestic students may be significantly higher than a decrease in international students. This survey only looks at the overall trend and so does not allow us to quantify any increase or decrease.

It is possible that the decrease in enrolment of international students is a temporary phenomenon and that international mobility will resume once any COVID-related restrictions are lifted.

On the other hand, it is more difficult to predict if the decrease observed in enrolment of domestic students at some HEIs will continue or if it is temporary. This trend is less pronounced and at the same time also less obviously linked to restrictions in place, and potentially linked to other changes, such as changes in the financial situation of households that could prevent students from accessing higher education. It is important to continue monitoring these trends both with regards to domestic and international students in the years to come.

Human resources

The survey investigated trends in the working conditions of university personnel, collecting data on salaries and benefits, redundancies and recruitment.

In terms of salaries and benefits, the survey clearly shows a high degree of stability one year into the pandemic with 81% of HEIs reporting stability, 8% reporting an increase and 11% a decrease in salaries. While it is positive to note this level of stability, it is still important to reflect on the fact that one out of ten institutions indicated a decrease in salaries and benefits for staff which is slightly more than those (8%) who reported an increase.

There is likewise a high level of stability when it comes to redundancies as more than 69% of HEIs reported stable levels of redundancy compared to the year before the pandemic, yet only 60% of institutions were able to respond to the question; this indicates that many HEIs did not have access to this information at the time of the survey. Stability is higher in Europe and Asia & Pacific, whereas Africa and the Americas reported the highest level of increase in redundancies; more than a fifth of institutions providing this information in the Americas experienced an increase in the level of redundancies.

Concerning recruitment, the majority of the institutions were able to respond to these questions and the replies show a majority of institutions experiencing stability, however these percentages (62% for academic staff and 59% for administrative staff) are slightly lower than those for salaries and benefits, and redundancies. There is likewise a larger proportion of HEIs experiencing a decrease in recruitment (27% for academic / 32% for administrative staff). While the overall staff base remains stable, it is important to highlight that recruitment of new academic staff is slowing down for more than one out of four institutions and at nearly a third of institutions for administrative staff.

The survey also looked at changes experienced in terms of the workload of personnel. Contrary to the results above, the majority of HEIs reported an increase in workload, mostly for academic staff (63%) but also for administrative staff (50%). For the remaining HEIs, the majority reported stable levels of workload and only a few reported a decrease in workload.

This clearly shows that the higher education community, particularly academic staff, but also administrative staff, have invested extra time and effort to ensure the shift to remote operations wherever possible, and this trend is even more pronounced in Europe and the Americas. However, this investment of time has not been rewarded by increased salaries as we can see a status quo in salaries and benefits. It will be particularly important to follow-up and monitor this trend, as if it continues it could imply a worsening of working conditions, for both academic staff and administrative staff.

The survey also included questions in order to assess whether in the midst of a global health crisis, HEIs provided support for physical and mental health. Ninety % of the institutions reported that they provided support for physical (90%) and mental health (87%) which is a large share of institutions. Half the institutions have increased the level of support for physical and mental health and only very few have seen a decrease in these services, which means that for the remainder the level of services remained the same as prior to the pandemic. At this stage, the question does not allow us to examine more closely which type of services were offered, nor if the increased health services are temporary due to the pandemic or whether they will stay over time. It could also be linked to different healthcare systems in different countries and it may be possible that in countries where healthcare systems are easily available to all, the role of the university would be less important (unless a teaching hospital that could form part of or be complementary to the national health system), whereas in countries where there is limited access to healthcare, the responsibility of ensuring staff and student well-being would be of more concern to universities.

Crisis management and communications

The institutions are generally very satisfied with their crisis management and communications during the pandemic, thus in the auto-evaluation by the institutions the results are for the great majority positive.

It is interesting to note that crisis management has to a large extent enhanced transversal collaboration within the HEIs, with 42% reporting it has improved to a great extent and 51% to some extent. This must be outlined as a positive effect of the crisis response and it will be interesting to follow to see if this leads to more transversal collaboration across institutions beyond the pandemic, or whether it was specifically linked to mechanisms in place in response to the crisis.

One year into the pandemic, 59% of institutions indicated that certain activities had been completely stopped and were only expected to resume later. In terms of disrupted activities, the most cited categories given by institutions were: a) international activities, particularly mobility; b) social events and extra-curricular activities, including business trips, internships, field trips, job fairs, open days, sports or arts events and other practical performances. The last group (c) referred to the disruption of practical and face-to-face education.

To the question on whether the institution intends to modify the strategic plan to take into account the impact of the pandemic, the majority of institutions responded to some extent (58%). The remaining respondents were divided between the strategic plan being modified to a great extent (21%) versus very little or not at all (17% / 4%). The level of any revision is likely to depend on whether a plan is set out as a visionary road map or a more of an operational plan. As most of the changes observed were linked to ways of implementing the plan rather than the purpose of the plan, these different approaches to institutional strategic plans could also impact responses within institutions. Yet, the data show that the pandemic has had an impact on the implementation of strategic plans and that these will be modified. In Africa more respondents indicate that strategies will be impacted to a great extent whereas in Europe HEIs expect less impact on the strategic plan.

Partnerships

Looking at the different forms of academic partnerships, it is interesting to note that for all types of partnerships, besides one, the biggest group of HEIs reported stability (no change). The highest percentage of institutions reporting stability is for participation in membership associations and organisations (69%) and the lowest is for academic partnerships for international collaborative learning (37%). Only for academic partnerships for mobility do we see the biggest group of HEIs reporting a decrease in (43% vs. 40% reporting no change) which does not come as a surprise due to the travel restrictions imposed. However, it is worth noting that despite the fact that the bulk of institutions are experiencing a decrease in mobility partnerships, both in the Americas (25%) and Asia & Pacific (20%), a not negligible part of the HEIs reported an increase in these types of partnerships. Therefore, in some cases, the pandemic has created new opportunities to build more partnerships.

The type of partnerships that have seen an increase at the biggest proportion of HEIs are health related partnerships and private sector partnerships for education technology for which 42%-43% of the institutions reported an increase. This is not surprising in view of the context of the health crisis where institutions have been forced to rely on digital and remote solutions to continuing operating. It is more surprising not to see a larger increase in partnerships for international collaborative learning – here the results are much more diverse and almost equally distributed among the 3 different categories those reporting stability (37%), those reporting an increase (33%) and those experiencing a decrease (30%). It could be that universities first and foremost have been focusing on making remote operations function smoothly rather than focusing on how to build on this experience through international collaborative learning, however one could imagine that if HEIs kept part of the teaching and learning online over time, this would generate a more important increase in this type of partnership.

Finally, and as we signaled above, it is worth noting that across the different partnerships the most stable one is membership in associations and organisations (69%) and more HEIs reported an increase in this type of engagement rather than a decrease (18% vs 13%), which is a positive outlook for university associations and networks, at least for the time being.

Collaboration with authorities

On collaboration with authorities whether local, national or foreign, in general, there is a large number of HEIs reporting reinforced collaboration at the national level (43%) and an even slightly higher number at the local level (46%). However, the biggest group of HEIs reported a stable level of collaboration. The results clearly show that the pandemic has not led to a deterioration in collaboration with authorities as this is only reported at less than 10% of HEIs. Thirty-eight percent of HEIs also assess that there is an increase in contributions from higher education to inform policy development with 58% reporting stable levels of contribution to policy making. For all these kinds of collaboration the percentage of HEIs reporting a decrease is very small (less than 6%). For collaboration with foreign authorities there is a higher degree of stability, fewer HEIs expressing an increase in collaboration (19%) and almost the same percentage reporting a decrease, which is probably also related to the slowdown or disruption in international collaboration and activities.

Respondents also had the opportunity to express whether or not they found support lacking from authorities during the first year of the pandemic and it is noticeable that 57% responded that they did not, which can be interpreted as being satisfied with the national response to the pandemic. At the regional level however the majority of respondents did find that support was lacking, particularly in Africa (67%) and in the Americas (66%) – more or less the opposite of the situation in Europe and Asia & Pacific. Those who replied were asked to report what type of support was lacking and the most frequent were: 1) financial support; 2) health-related support; 3) support for students; and 4) support for innovations (policy) and infrastructure.

Overall, it is positive to note a substantial percentage of HEIs reporting an increase in collaboration with authorities with the majority of them affirming that no additional support from authorities was lacking. This is an indicator of the important role that higher education is playing during the pandemic. But the results also reveal different levels of support and collaboration in the different regions – Africa and the Americas stand out with more institutions seeking more support from authorities. These two regions are at the same time the hardest hit financially one year into the pandemic and also the regions where there is less support from governments to cope with the effect of the pandemic, which again shows how the pandemic is exacerbating existing inequalities.

Teaching and learning

It is not a surprise that teaching and learning (T&L) is one of the areas most impacted by the pandemic, first and foremost because a great majority of institutions had to shift operations from face-to-face to remote without the necessary preparation as it was not planned for. Compared to the first IAU Global Survey on the Impact of COVID-19 around the world, the number of institutions that have been able to shift to remote T&L increased, as 89% of HEIs offer remote teaching and learning (67% in the first survey) and only 11% do not (31% in the first survey). There are still disparities between the regions with Europe and Africa representing the extremes as 92% of the HEIs in Europe offer remote teaching and learning while in Africa it is 82%; this is a significant improvement in Africa as in the first Global Survey Report showed that only 29% of HEIs in Africa were able to offer remote T&L. The comparison of data from the two surveys shows that institutions were very fast to shift to remote teaching and learning from the start of the pandemic, particularly in Europe. One year later, measures have been put in place to offer teaching and learning remotely across the world. The survey did not seek to measure the proportion of teaching and learning offered remotely and on campus, because the situation is very volatile; the different waves of the pandemic hit countries at different times, making it difficult to compare.

Offering remote teaching and learning is one thing, but another important issue is student access to the remote offer. It is positive to note from the global perspective that those institutions offering remote T&L indicate reaching out to 86% of their student population, and while this is a positive result a year into the pandemic, it does imply a potentially worrisome situation for the remaining 14% of students. It is however important to note some discrepancies among the regions. Europe is the region with the highest average of outreach to students with 92% whereas the percentage drops to 74% in Africa. In

other words, while 8 out of 100 students are likely to have missed out on remote teaching and learning in Europe, it rises to 26 out of 100 in Africa. Furthermore, the data also show that a bigger proportion of HEIs in Europe (39% of respondents) declares reaching out to 100% of their students whereas this only concerns 14% of institutions in Africa. In the same manner, very few institutions (2%) in Europe indicate reaching out to less than 50% of their students, whereas this percentage increases to 24% in Africa. So, while the situation has improved when compared to the first IAU Global Survey carried out one year earlier, the data still reveal very divergent and unequal situations across the regions. This is another indication of how the pandemic is reinforcing pre-existing inequalities. It is interesting to look at the above data along with the gross enrolment ratio for tertiary education as recorded by the UNESCO Institute for Statistics (UIS), which shows that in Europe 73% of the population in the 5-year age group immediately following upper secondary education are enrolled in higher education, compared to only 9% for sub-Saharan Africa. Thus, despite positive progress, the results still reveal that the student population, already very small in Africa, is potentially at a higher risk of losing out on higher education compared to a much larger student population in Europe; this situation must be monitored carefully in the years to come in order to make the ambition of UN Agenda 2030 of improving access to higher education become a reality.

HEIs have taken different measures in order to support students who do not have access to remote teaching and learning. Some provided priority access to campus-based T&L, most particularly in Africa; some have provided material support to students (data packages and devices) to students, more common in the Americas; and another important group explained that they did not have the capacity to support students, somehow surprisingly more in Europe than in other regions. In Africa a significant number of institutions also entered partnerships with telecommunication companies in order to obtain cheaper data packages for students. These examples show that the different situations across countries required different measures to support students and reduce any obstacles to remote T&L, even if this implied increased expenditure for institutions.

HEIs have been forced to rely on digital technologies as never before and this is also reaffirmed by the results on usage of different tools; the majority of institutions across the regions reported an increase in the use of various digital tools. This is a sign that digital infrastructures and tools were reinforced or upgraded during the pandemic, yet the question that remains is what does this mean for the future of higher education? The results of the survey clearly demonstrated that some disciplines lend themselves more easily to remote teaching and learning. Yet, another impact of the pandemic is that institutions are better equipped to offer different modes of learning and the results clearly show to what extent digital technologies have been essential in order to ensure that HEIs continue to operate and pursue their mission at a time when physical distancing was necessary.

In terms of readiness of academic staff to shift to online teaching, there were divergent levels of readiness across the institutions. It is interesting to note that the biggest group of institutions (one out of four) indicated that less than 25% of their staff had prior experience with online or distance teaching and learning before the pandemic. The other responses are spread out, yet this result confirms what has come out in several exchanges and conversations among the higher education community, that there is an important need for capacity building in order to prepare staff to be equipped to leverage the opportunities of online or remote learning as a complement to more traditional face-to-face learning.

Students have also seen a decrease in internships and placement opportunities at a large number of institutions. Hopefully this is only a temporary decline that will be reversed as soon as restrictions are lifted.

On the positive side, almost all institutions (89%) were able to carry out exams despite the pandemic, yet for the majority (72%), these had to be conducted under new conditions, for example online or remotely, while 17% were able to conduct exams as usual. The remaining 11% reported some exams were cancelled or postponed, and only very few indicated that all exams were postponed or cancelled. In the same manner, most HEIs confirmed that they were able to graduate last year's cohort of students. It is positive to note that in the majority of cases, the pandemic did not disrupt learning paths of students and that many were able to continue and complete their studies although it maybe differently than anticipated.

Internationalization of teaching and learning

International activities were among the most negatively affected by the pandemic, and this was already very clearly identified in the section related to enrolment – which showed a large drop in international student enrolment – and these results reaffirmed.

The results show that a great number of institutions have either already revised their internationalization strategy or are discussing doing so. We can therefore conclude that the pandemic had an effect on internationalization strategies at the majority of HEIs, but that for many this effect has not resulted in a change of the strategy yet. A reason for the lack of change is that HEIs possibly consider the disruption brought by the pandemic as temporary and that any disrupted activities would resume at some time in the future, so the ambitions of the strategy would remain relevant over time, despite this disruption. This result demonstrates that one year on, the impact on internationalization is far from being over and that it is too early to capture the details of any transformational impact on internationalization. HEIs that indicated they had changed, or planned to change, their internationalization strategies were also asked to identify which activities would be given priority in the revised strategy. The key increases in priorities outlined by HEIs are virtual exchanges and collaborative online learning and Internationalization of the curriculum/at home. However, the results show a more uneven impact for student and staff mobility, with the importance of some activities increasing at some HEIs while remaining the same or decreasing at others. The effect of this could, on one hand, contribute to reducing inequality in internationalization by reaching out to more students thanks to virtual exchanges, collaborative online learning and internationalization of the curriculum/at home, but at the same time it could also lead to increased inequality, where student and staff mobility would remain important only at some HEIs and accessible only to a few of them across the sector.

In terms of evaluation of foreign qualifications, no specific trend from the pandemic was identified as particularly destabilizing, but the main challenges are rather issues present prior to the pandemic.

The impact of the pandemic on trans-national education (TNE) is also uneven. Although the highest percentage of HEIs reported no effect from the pandemic on TNE, the existence of two similar groups, those reporting an increase and those reporting a decrease, points out to the risk of growing inequality in engagement in TNE activities. A similar trend of diversity in replies is also seen for collaborative programmes (dual/double or multiple and joint degrees). What can be concluded from the results is that despite the pandemic, collaborative programmes continue everywhere in the world, with less than 14% of HEIs reporting that some collaborative degree programmes had to stop. More investigation is needed to understand why the pandemic had such an uneven effect on collaborative programmes around the world and which factors other than the location of the institution determine such impact.

Student consultations and evaluations

A great majority of HEIs (86%) were able to conduct student evaluations during the pandemic and considered it important and of value to the majority of institutions. More than half the institutions reported that these consultations informed decision-making and another important group that it was somewhat used to inform decision-making. In general, the questions related to students are rather positive, but it is of course important to note that this is the institutional point of view and not that of the students. It would be interesting to compare these results with data collected from students on their implication and the extent of consultation during the pandemic.

Research

As was the case for teaching and learning, before the pandemic, a traditional university would typically be seen as a campus-based institution with research being conducted on campus, in laboratories with necessary material readily accessible. Research results would be discussed at academic conferences and shared with the academic community. The COVID-19 pandemic disrupted this model of conducting

research, asking questions on the extent to which HEIs were able to continue research and which changes the pandemic brought on the way research is conducted. The impact on research is less visible as it does not impact students to the same degree as teaching and learning, but this does not mean that it is any less relevant.

One year into the pandemic, it is clear that research related to health and welfare has seen a particularly important increase in priority, which is logical in the midst of a global pandemic. A third of institutions also indicated an increase in priority for life sciences. However, the majority of institutions report stability in research priorities for all other research domains.

Another common impact on research across the regions are delays in research activities, with two-thirds of institutions referring to this, and while it is more pronounced in Africa and the Americas than in Europe, for all regions the majority of HEIs experienced delays. Examining the reasons for the delays, the most frequent replies are:

- Staff could not travel to conferences and meetings (at 71% of HEIs)
- Staff could not undertake field work or other planned events of physical presence which could not be simulated remotely (at 66% of HEIs)
- Staff had to spend more time on teaching activities due to the sudden shift to remote learning (at 61% of HEIs)
- Staff did not have access to laboratories or specialized equipment for the purpose of the research (at 58% of HEIs)

The first two reasons are clearly related to the travel restrictions and the impossibility of conducting research activities remotely while the fourth one is linked to campus closures and again to the impossibility of conducting research activities from a distance and thus clearly linked to the restrictions in place; we would expect these activities to resume once restrictions are lifted, and thus be only temporary.

The third reason differs slightly. It is also linked to the pandemic and ensuing restrictions in the sense that the demands and extra time required to ensure remote teaching that had a negative impact on the time and resources invested in research. This, combined with the clear increase of workload for academic staff during the pandemic, shows that although the shift to online teaching has been a great solution for ensuring continuity of teaching and learning, it also has negative implications, especially for research. HEIs are and will be confronted with the challenge of ensuring quality remote teaching and learning without jeopardizing research activities and without increasing the workload of academic staff unnecessarily.

In terms of specific research activities, while the majority of HEIs reported stability (no change) for all activities identified, it is still important to note the areas where the most significant change occurred: two are negative changes and two are instead somewhat positive changes. The biggest change is that 37% of institutions indicated that time to complete PhD degrees had increased, which is a negative impact, not only for institutions but also for the PhD candidates, as it has financial and likely also moral implications. Almost a third of institutions also reported a decrease in fellowships and scholarships, which also has a detrimental impact on research capacity and activities.

On the other hand, almost a third of all institutions reported an increase in publications (both international journal and open access publications), and this can be viewed rather positively, but it is probably also an effect of the “stay at home” restrictions allowing authors to write articles on research outcomes rather than starting new lab-work or starting new field-based data collection. However, at the same time almost one out of four indicates a decrease in publications, showing that the consequences are not the same among HEIs. Finally, just over a quarter of institutions reported an increase in interdisciplinary collaboration (again 21% reporting a decrease) which shows that despite the pandemic, efforts have been made in order to pursue more interdisciplinary research collaboration. This is also called for as part of the Agenda 2030 and the sustainable development goals (SDGs).

Overall, the results show a high level of resilience in research activities for the majority of HEIs during the first year of pandemic, although the majority has been experiencing delays caused by the restrictions. Yet, there are some interesting changes that should be monitored over the coming years for a large

group of HEIs. This also shows disparities among HEIs in their capacity to cope during the pandemic, which will potentially further exacerbate already existing inequalities.

Overall, the impact of the pandemic on research has been much more important in Africa than in the other regions, and therefore led to more negative consequences. For the other regions the majority of HEIs have demonstrated resilience and stability, while in Africa there is a more polarized picture with some HEIs doing well and some not so well. For example, when referring to the delays in PhD and decrease in fellowships and scholarships for Africa, this negative impact concerns more than half of the institutions (54%-58%). While there is more than a third of institutions in Africa reporting an increase in publications and interdisciplinary collaboration, a higher proportion of HEIs are reporting a decrease in publications and in interdisciplinary collaboration. This paints a picture of a more unstable situation in Africa with some strong institutions faring relatively well during the pandemic and others struggling to, which foretells a worrisome outlook for the region that is already underrepresented when it comes to research publications at global level.

The other regions are similar to the global results and although Europe reports a higher degree of resilience, the Americas is also experiencing polarization to some extent, particularly with regards to publications.

In terms of financing, it is positive to note that the majority of HEIs (60%) did not experience any impact on research funding and a small group of 15% saw an increase in funding. It is however noteworthy that one out of four has already experienced a decrease in funding one year into the pandemic. The level of impact differs across regions with Europe being the most resilient at this stage with only 16% of HEIs reporting a decrease in funding whereas this concerns 40% of institutions in Africa. For the Americas this concerns just over a third of HEIs and for Asia & Pacific just over a quarter of HEIs. These results show how the situation is completely different for research funding in each of the four regions. This is close to demonstrating that the regions investing the most in research and development are the most resilient whereas the regions with lower levels of research and development investment are experiencing a higher degree of cutbacks in funding leading in turn to an exacerbation of inequalities and lower visibility in research findings. It will be crucial to monitor this trend over time in order to see whether it is an immediate effect due to restrictions or whether it is a permanent reduction in funds for research in some specific regions.

Although it is reassuring that at global level for the majority of HEIs funding from all sources has not changed, the regional analysis unveils the existence of inequalities both among regions and inside a specific region. Europe is clearly the region which has been the least affected and where there is the lowest level of inequality among HEIs. On the other hand, Africa and the Americas have been affected more and they also show a high level of inequality among HEIs inside the region. In Africa, the situation is particularly worrying for funding from foreign governments (aid and development), from private businesses and from other private donors (charities, etc.) as this kind of funding has decreased at the highest percentage of HEIs. On the other hand, in the Americas the situation is alarming as half the HEIs are experiencing a decrease in public funding.

Global challenges such as the COVID-19 pandemic, climate change and technological developments call for more research and therefore more funding, however, the results of the survey show the risk that research would not be appropriately prioritized and funded across the world but solely in parts that are already dominant in research endeavours.

When considering research collaboration, the picture is slightly different with some 60% reporting stability in national and regional collaboration and only between 16-18% reporting a decrease in collaboration and the remaining reporting an increase.

When it comes to international research collaboration around half the HEIs report stability in research collaboration with the remainder almost equally divided between those experiencing an increase and those experiencing a decrease in research collaboration.

It is positive to note that at national, regional or international level the great majority of institutions are either reporting stability or increases in research collaborations. Yet, it is still important to highlight that

some are also experiencing a decrease for international collaboration: this concerns one out of four HEIs. It is however interesting to note that, in this case, 37% of HEIs in Africa report an increase in research collaboration. This could be explained by the new possibilities for partnerships opened up by online collaboration, which in Africa could have had a bigger impact as before the pandemic, African HEIs were among those facing the biggest barriers to international travel due to lack of funding, visa problems, etc. For a region that has suffered more from the impacts of the pandemic when compared to other regions, perhaps this can be seen as one of the positive outcomes from the crisis.

It is furthermore interesting to note that while the majority of institutions are reporting stability, more institutions are reporting an increase in the quality of research collaboration at the national and regional level (20-24%) compared to those reporting a decrease (12-15%). While it is reassuring to see the majority of HEIs experiencing stability in the quality of research collaboration during the pandemic, it is somewhat surprising to see that many have experienced an increase in the quality of research collaboration. It was feared when setting out this question that many institutions would have experienced a decrease in the quality, yet this does not seem to be the case. The increase in quality is particularly pronounced in Africa where the biggest group of respondents indicated this (37%) and in the Americas, with more HEIs experiencing an increase rather than a decrease. Differing from other regions, Africa shows a high degree of inequality among HEIs inside the region, as three groups of HEIs of almost the same size are visible, especially for the quality of collaboration in general, and international collaboration.

Community/societal engagement

For impacts on community/societal engagement there are divergent trends among institutions with around half reporting an increase in community/societal engagement and a third experiencing a decrease, which is the same as the first IAU Global Survey. It is worth noting that in the section on financing, the highest proportion of HEIs reported a decrease in expenditure for community/societal engagement, which could mean that some of the initiatives were being carried out without extra funding and on a voluntary basis. The Americas and Europe are the regions where more institutions experienced an increase, whereas Africa followed by Asia & Pacific are the regions that have the most institutions reporting a decrease. This paints a picture of divergent trends among and within regions.

Most of the institutions confirm being active in promoting scientific knowledge and understanding to the general public and half of them have experienced an increase in this role during the pandemic, with only 17% reporting a decrease. In the Americas, three-quarters of the institutions increased their involvement in promoting scientific knowledge and understanding to the general public. Asia & Pacific and Africa show a similar trend even if in Africa, polarization is more important with 53% of HEIs having experienced an increase and 35% a decrease.

Many institutions (82%) also confirm that they were active in fighting disinformation and this role has increased during the pandemic at almost half of HEIs and only very few experienced a decrease (6%). Overall, it can be concluded that the majority of HEIs are involved in fighting disinformation and that the pandemic had a positive effect by reaffirming this key role for institutions, especially in Africa and the Americas.

The results of the survey shows that the role of HEIs in promoting scientific knowledge and fighting disinformation has increased at many institutions globally, which is a confirmation of the important role universities and higher education institutions have as independent institutions in society. Building trust in information and science is an important mandate for HEIs, which is only being reaffirmed during the pandemic.

The survey also sought to assess whether the conditions under which HEIs were operating during the pandemic would have an impact on institutional autonomy and academic freedom, yet it is reassuring that the majority of institutions (71% institutional autonomy - 69% academic freedom) affirmed that these values were not impacted. For those that did report an impact, more reported an increase in institutional autonomy (17%) and academic freedom (18%) rather than a decrease (12%-13%). However,

it is noteworthy that the proportion of institutions reporting a decrease is larger in Africa compared to other regions where this figure is almost double (23%-27%), thus it is important to monitor this trend, as institutional autonomy and academic freedom are essential conditions for upholding the important functions of HEIs, such as promoting scientific knowledge and fighting disinformation.

In terms of redefining or rethinking academic values, the ones that stand out the most are 'equity in access' and 'non-discrimination and support for disadvantaged groups'. It is interesting that the value of 'equity in access' has increased the most, because, as shown by the results of other replies in the survey, the pandemic has clearly increased inequality among HEIs and students. Yet, this could be explained by the extraordinary measures that HEIs have been taking in order to ensure access for their student populations through different initiatives, providing devices needed for remote teaching and learning, or providing students without access to remote teaching and learning priority access to campus thus minimizing the number of students left behind. The fact that HEIs recognize the importance of equity in access is positive and gives hope that HEIs will find solutions to any barriers to equality "caused by the pandemic.

Concluding remarks

The results of the survey illustrate how HEIs have shown resilience during the pandemic. HEIs across the world have created innovative solutions, have invested extra time and energy to minimize disruption at a time when the health crisis led to complete or partial closure of campuses in most countries. This is the collective result of the higher education community at large, from leadership to students, from academics to administration.

Yet, this important degree of resilience aside, the picture that is painted in this report is also one of great concern, one of decreasing financial means, one where a number of students cannot benefit from remote teaching and learning, research activities are delayed and we also see a certain level of decreased funding, one where staff is overworked, and recruitment is slowing down; and, most importantly, these challenges hit regions, countries and institutions differently, and with a clear tendency to further exacerbate pre-existing inequalities.

On a more positive note, the report shows enhanced transversal collaboration across institutions, the extraordinary measures in place to support students in need, graduations have been taking place despite any challenges; there has been an increase in research collaboration and interdisciplinary research. We also see an increase in the quality of research collaboration, as well as increases in domestic student enrolments.

So while the survey results do generate concern about the future for some institutions, it also highlights a number of positive outcomes, where the crisis has brought about new opportunities and possibilities.

This report offers a very detailed picture of the impact of COVID-19 on higher education using the responses by higher education institutions and other stakeholders one year into the pandemic. It is a valuable resource in order to address challenges and to pursue the opportunities created by the pandemic. Beyond this report, IAU will continue to work with partners across the world in order to pursue further analysis of trends at regional, sub-regional and national level.

The pandemic has reaffirmed that higher education is a vital pillar of society and that the higher education sector has shown incredible resilience and innovation to avoid disruption to their operations as much as possible. The pandemic has also served as a clear example that global challenges require global solutions and that cooperation among the various stakeholders at global level is fundamental.

Introduction

In 2021, one year into the pandemic, IAU conducted its second global survey on the impact of COVID-19 on higher education.

The first survey was conducted at the very beginning of the pandemic (data collection was carried out between March and April 2020). This initial more succinct survey aimed at understanding the situation over a certain period of time; it was carried out in a period which coincided with the different stages of the propagation of the pandemic around the world and the gradual closing of campuses. The questions covered issues relating to teaching and learning, research and community engagement and collected information on the situation at the outset of the pandemic (Marinoni *et al.*, 2020).

The second IAU global survey was conducted to provide for a more detailed understanding of the impact of COVID-19 on higher education one year into the pandemic; higher education institutions (HEIs) had time to adapt to a new world marked by the pandemic and to the different restrictions associated with it. It is a comprehensive survey and, differently to the first edition, it tries to capture not only the impact of COVID-19 on higher education, but also the responses of the higher education community to the challenges posed by the pandemic. This second survey was carried out one year after the first and at a time when the world was still very much impacted by the evolution of the pandemic and faced with a maximum of daily cases and deaths (World Health Organization, 2021).

The survey questionnaire was designed in such a way as to avoid answers being too time-bound. The survey also tried to capture trends that may point to longer-term impacts of the pandemic on higher education.

This said, it is clear that a comprehensive study of the impact of COVID-19 and its consequences will only be possible once the pandemic is over, or at least 'downgraded'. This will be the aim of the third edition of the IAU Global Survey series on the impact of the COVID-19 on higher education. Unfortunately, at the time of writing this report, in October 2021, it was not possible to foresee when this would be possible. Despite the development of vaccines, only one third of the world population had been completely vaccinated with the distribution of vaccines being highly unequal, and with percentages of vaccinated population ranging from more than 70%, mainly in developed countries, to less than 5%, especially in Africa (World Health Organization, 2021).

In the analysis of the data collected, the results are presented from a global perspective and broken down by region, and also by public and private sector. The first part of the report introduces the methodology and the data sample, followed by four main parts with the results structured around the following main sections: Governance, Teaching and Learning, Research, and Societal/Community engagement. Five regional and national perspectives, written by university organisations and associations, are presented **Annex 2**.

Research on COVID-19 and higher education

The IAU surveys are not the only surveys conducted on this topic. Other organisations, both governmental and non-governmental, and individual researchers have undertaken research on the impact of COVID-19 on higher education at national, regional and global level.

Among governmental organisations, UNESCO and its institutes around the world, such as the UNESCO Regional Office of Education for Latin America and the Caribbean, UNESCO – IESALC, were also actively monitoring the impact of COVID-19 on education and higher education in particular.

At the beginning of 2021, UNESCO conducted a survey of its 193 Member States and 11 Associate Members to provide an evidence-based overview of the situation of the higher education system at the national and global levels. The survey was available online between 15 December 2020 and 12 February 2021 and gathered responses from 57 countries. The report attempts to assess the impact of the pandemic on higher education systems in terms of access to education, equity and quality of teaching and learning, university operations, national challenges, emerging issues and strategic responses (UNESCO, 2021).

UNESCO-IESALC released two reports – “Closing now to reopen better tomorrow? Pedagogical continuity in Latin American universities during the pandemic” (UNESCO-IESALC, 2021a), which discusses the results of research aimed at highlighting the strategies developed by higher education institutions in the region to ensure pedagogical continuity, and “Educación superior y COVID-19 en América Latina y el Caribe: Financiamiento para los estudiantes” (in Spanish) (UNESCO-IESALC, 2021b), which unveils financial aid measures taken for higher education institutions and students during the pandemic in the Latin America and Caribbean region.

The Organization for Economic Co-operation and Development (OECD) published a report on the state of higher education one year into the COVID-19 pandemic, which provides an overview of educational responses from OECD member and partner countries. This report looks at comparative statistics the OECD has collected across a number of education systems to track developments in the higher education sector throughout the pandemic (OECD, 2021).

The Council of Europe published a book in its series on Higher Education together with IAU on “Higher education’s response to the COVID-19 pandemic – Building a more sustainable and democratic future” (Bergan *et al.*, 2021), which explores the various responses of higher education to the pandemic across Europe and North America, with contributions also from Africa, Asia and South America. The European Union published the NESET Analytical report 2021 that synthesizes the emerging evidence and presents policy recommendations on actions to be taken at the level of higher education systems and by higher education institutions themselves. This report is interesting as it is not primary research but it draws upon 14 rapid-response surveys carried out in 2020 by university networks, student organisations and researchers, as well as over 50 journal articles, reports and publications (Farnell *et al.*, 2021).

Several non-governmental organisations have also conducted surveys and research on the impact of COVID-19 on higher education, but the majority of them have a national take, such as the American Council on Education (ACE) Pulse Point surveys (American Council on Education (ACE), 2021) (an overview of the main results is presented as an annex to this report), or regional scope such as the Mediterranean Universities Union (UNIMED, 2021) and the eLearning Africa (eLearning Africa, 2020) surveys.

Student organisations have also conducted surveys on the impact of COVID-19, for instance the European Students’ Union (ESU) published a report reflecting student voices on studying during COVID-19

lockdown (European Student Union, 2021) and Erasmus Student Network conducted a survey on the impact of COVID-19 on student exchange in Europe (Gabriels and Benke-Åberg, 2020) whose results were compared with the results of the first IAU Global Survey (ESN and IAU, 2020).

The only other global survey to the knowledge of the authors of the present report is the one conducted by the International Association of University Presidents (IAUP) in conjunction with Santander Universidades, HACU, and other higher education associations on “Leadership responses to COVID-19 – a global survey of college and university leadership” (IAUP-Santander, 2020) that was conducted between mid-July and mid-September 2020 and received 763 responses from university leaders in 89 countries. The IAUP survey focused on ‘Initial Institutional Reaction’, ‘Preparing for 2020-2021’, and ‘Looking Forward’. ‘Initial Institutional Reaction’ refers essentially to the first half of 2020. ‘Preparing for 2020-2021’ covers the period immediately before the start of the pandemic and for some of the autumn academic period. ‘Looking Forward’ looks at what leaders envision in three or more years’ time.

Academic papers have also begun to be published, but their numbers are still low. One of the reasons for this could be the length of the peer-review process. An increase in their numbers could be expected in the near future.

This brief literary review of other studies on the impact of COVID-19 is by no means exhaustive. In order to collect information about latest developments regarding the impact of the COVID-19 pandemic on universities. The reports presented in this section highlight some of the different resources that are available on the impact of the pandemic on higher education. Mostly, they have different geographical and thematic scopes and focus on different target groups. They are complementary and together they provide different entry points to understanding how the pandemic is impacting higher education. This IAU report is based on a global and comprehensive survey that aimed at gathering institutional perspectives. Furthermore, it takes into account a broad range of issues within the life of institutions one year into the pandemic.

A

General information
about the
IAU Global Survey

A. General information about the IAU Global Survey

A1. Methodology

The second edition of the *IAU Global Survey* on this topic followed the methodology already used for other IAU quantitative surveys, slightly adapted for the specific needs of the present survey.

The scope and nature of the second edition of the survey were different from the first one. The first one was elaborated at the outset of the pandemic and was intended to get a brief overview of the situation when institutions were just starting to move to remote operations. The second edition, more comprehensive, aimed at capturing the impact of the pandemic on higher education one year later, and to analyse actions put in place by higher education institutions (HEIs) around the world to mitigate the impact of the pandemic.

The first edition was produced by IAU within a short time frame in order to quickly proceed to data collection over three weeks. The second edition on the other hand was a collective process conducted by IAU in collaboration with several Member organisations and associations in order to include their views and expertise in the design of the survey, and to ensure relevance of the questions in the different world regions. All IAU Member organisations¹ were invited to be part of the Working Group, in charge of designing the survey.

The seven organisations that volunteered to be part of the Working Group chaired by IAU were (in alphabetical order):

1. **Association of Indian Universities (AIU)**
2. **Agence universitaire de la Francophonie (AUF)**
3. **European University Association (EUA)**
4. **Hungarian Rectors' Conference (HRC)**
5. **NAFSA: Association of International Educators**
6. **The Association of Commonwealth Universities (ACU)**
7. **United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS)**

The Working Group decided to elaborate a more comprehensive survey when compared to the first edition and structured the questions around four main parts:

1. Governance
2. Teaching and learning
3. Research
4. Community/Societal engagement

For each part, sub themes were identified. This exercise had to balance the desire to make the survey as comprehensive as possible while limiting its size in terms of number of questions, in order to make it not too demanding for HEIs to complete it. The questions were first drafted by IAU based on initial discussions with the Working Group, which then provided comments and feedback in order to improve the questionnaire. Once the Working Group had concluded its work on the survey, it was then shared with

1. See : <https://iau-aiu.net/Members>

all IAU Member organisations (beyond the Working Group) to further test and enrich the survey design. This consultative process led to the first online version of the survey which was piloted by a group of institutions from different world regions and that provided feedback and suggestions for improvement (Table 1).

Table 1: Institutions that piloted the survey prior to the launch

Region	HEI	Country
Africa	Makerere University	Uganda
Asia & Pacific	Qatar University	Qatar
	Sri Lanka Institute of Information Technology	Sri Lanka
	Zhejiang University	China
Europe	Budapest University of Technology and Economics	Hungary
	Russian Presidential Academy of National Economy and Public Administration – RANPEA	Russian Federation
	University of Karlstad	Sweden
The Americas	Benemerita Universidad Autonoma de Puebla	Mexico
	Texas Tech University	United States of America
	University of Campinas	Brazil

Feedback from the pilot institutions helped identify questions to be removed or modified, and ultimately led to a final version of the questionnaire which was then validated by the Working Group.

The questionnaire was made available online in English, French and Spanish and the data was collected using Survey Monkey between 15 February and 1 June 2021. IAU was in charge of the overall communication and outreach through various communication streams and was supported by all members of the Working Group and beyond in order to reach out to as many institutions as possible.

Once the data collection had been completed, the data was reviewed to eliminate incomplete or fake replies (replies not belonging to accredited HEIs) and in some cases duplicate replies where an institution had provided several responses.

A2. Data sample and respondent attributes

The survey received 533 replies from 496 universities and other HEIs based in 112 countries and territories.

In case of multiple replies from the same institution, only one reply per HEI was kept for the analysis, therefore the final number of replies retained for the analysis is 496. Selection criteria were: completeness of answers (complete vs. incomplete answers), the position of the respondent within the institution (priority was given to the highest position, e.g., rector vs. faculty member) and date of completion (for positions at the same level (e.g., two faculty members), the most recent one was retained). All institutions which completed at least part B of the survey were retained in the analysis. However, the total number of HEIs that completed the whole survey is 469.

The Survey was distributed primarily via email campaigns drawing on the contacts available in IAU World Higher Education Database (WHED – www.whed.net), it was addressed to 9,670 HEIs. A call to

participate was also published on the IAU website, shared through Twitter, the IAU E-Newsletter and circulated through to IAU member organisations/associations and partners communication channels.

Because of these multiple channels of distribution, the calculation of a correct response rate is not possible. However, the number of HEIs with contacts in the WHED (9,670) can be considered as the reference population.

The majority of questions in the survey were closed questions, with respondents having to select a response from a pre-determined set. However, there were some open questions giving respondents the opportunity to elaborate more on certain aspects. The following section will introduce the data sample and the profiles of the HEIs which contributed to the survey.

A2.1 Geographical distribution

HEIs were sorted by country then countries were attributed to one of the following four world regions:

1. Africa
2. Americas
3. Asia & Pacific
4. Europe

We use these four regions due to the number of replies received and the statistical relevance. Although at different levels of confidence and with different margins of errors, the number of replies in all these regions is sufficient to be statistically relevant and allow for a regional analysis.

More detailed information on the definition of the regions is provided in **Annex 1**.

The distribution of replies in these four regions is represented in **table 2** along with the distribution of the HEIs in the WHED for comparison.

Table 2. Distribution of replies by region

	Africa	Americas	Asia & Pacific	Europe
Replies per region	11%	18%	33%	38%
Distribution of HEIs in WHED	8%	28%	32%	32%

The Americas is the only region underrepresented and this is due to the low response rate from North America. This is illustrated in **Annex 1**, showing that replies from Latin America and the Caribbean are in line with the distribution of HEIs in the WHED, while replies from North America represent less than 10% of all replies from the Americas region².

Europe is slightly overrepresented among respondents of the survey, while Africa and Asia & Pacific are more or less in line with the distribution of HEIs in the WHED.

In terms of countries replying to the survey, the distribution of replies per country is broad (496 replies in 112 countries or territories) with only two countries representing more than 5% of all replies, which means a good spread of replies among countries. India is the country with the highest number of replies (55, constituting 11% of total answers received and a third of replies from the Asia & Pacific region). The first six countries per number of replies are reported in **table 3**.

2. IAU partnered with ACE to complement the results of the survey for North America with further data. This provides a better perspective from the USA (see **Annex 2** part 1).

Table 3. Distribution of replies by countries (first 6 countries only)

Country	Number of replies	Percentage on all replies
India	55	11.1%
Mexico	27	5.4%
Colombia	16	3.2%
Japan	16	3.2%
Brazil	14	2.8%
Ukraine	14	2.8%

A2.2 Type of institution (private vs. public)

Respondents were mainly public institutions (60%), followed by private not for-profit (30%), with private for-profit institutions having the lowest share (10%). The distribution of respondents does not correspond to the distribution of public and private institutions in the WHED: public HEIs are overrepresented among the respondents of the survey as they provided 60% of the responses while public institutions made up 44% of all HEIs in the WHED.

This overrepresentation of public institutions is visible in all regions, but is particularly noticeable in Africa and the Americas where private HEIs constitute the majority of institutions in the WHED but the majority of the respondents to the survey are from public HEIs. Only in Asia & the Pacific were the majority of respondents (51%) from private HEIs, but less than their distribution in WHED (60%) (**Table 4**).

Table 4: Type of institution (private vs. public)

Region/Type of institution	Percentage of public HEIs in WHED	Percentage of responses from public HEIs
Africa	42%	65%
Americas	34%	53%
Asia & the Pacific	40%	49%
Europe	67%	74%
Global	44%	60%

This overrepresentation of public institutions among the respondents should be taken into account in the results of the survey.

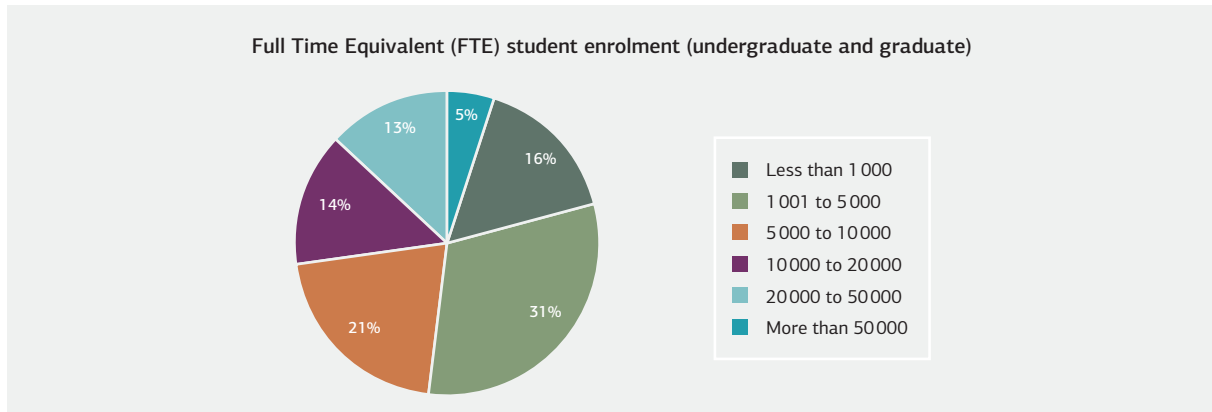
The number of replies from private for-profit institutions is too low to use for any relevant statistical analysis, therefore in our analysis, private for-profit and private not for-profit institutions are treated as one category, private.

The number of replies for public and private institutions is sufficient for a statistically relevant analysis at global level and in all regions, except Africa. This allows investigating the effect of the public/private nature of HEIs at global level and in almost all regions and identifying possible trends due to the overrepresentation of public institutions on overall results.

A2.3 Institution size

The majority of respondents came from medium-small institutions, 68% have fewer than 10,000 students. Almost half of respondents (47%) were from small institutions, with fewer than 5,000 students (**Figure 1**).

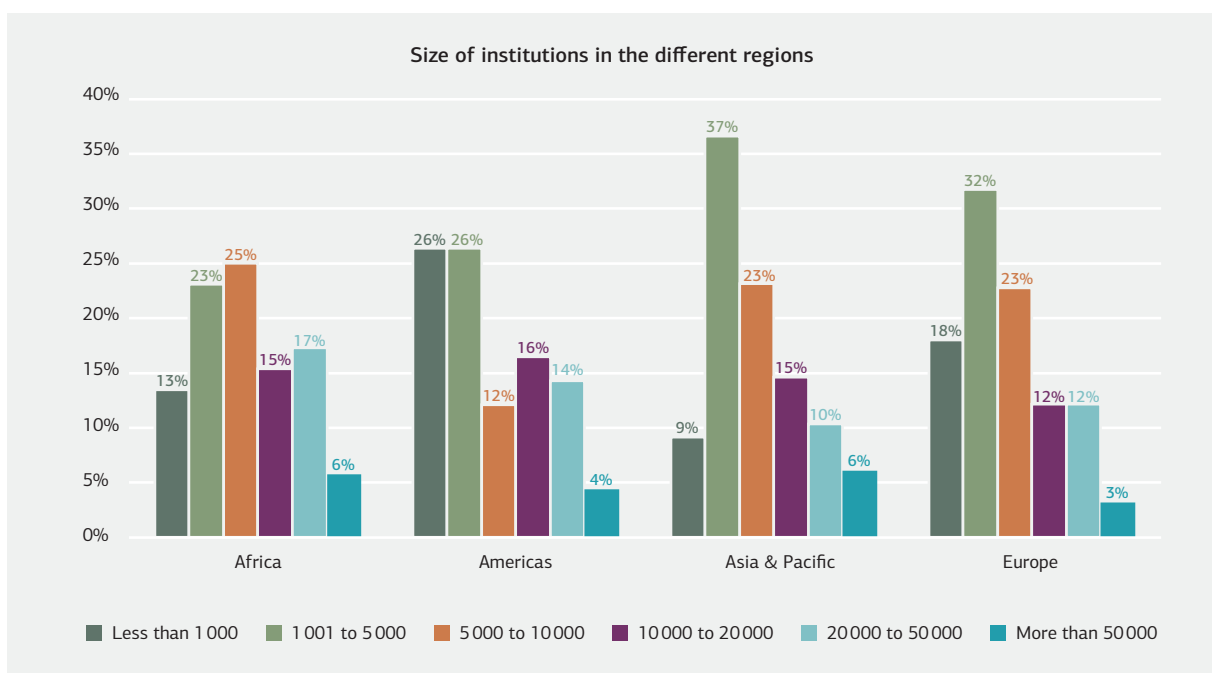
Figure 1: Institution size



Not surprisingly, public institutions are larger (61% have more than 5,000 students) than private institutions (62% have fewer than 5,000 students).

In terms of regional distribution, medium-small institutions make up the majority in each region, with half of these being small, having fewer than 5,000 students. The exception is Africa where institutions are slightly larger, with 48% having between 1,001 and 10,000 students; the bulk of these having between 5,001 to 10,000 students. It is interesting to note that in the Americas 26% of HEIs are very small with fewer than 1,000 students (**Figure 2**).

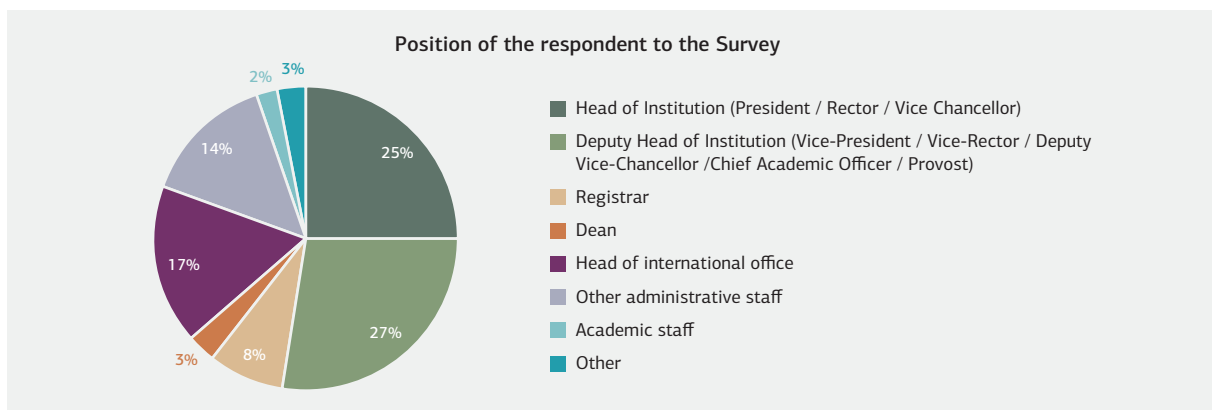
Figure 2: Institution size: regional analysis



A2.4 Respondent attributes

The purpose of the survey was to gather institutional perspectives and therefore the key target group was institutional leadership due to their broad knowledge and understanding of trends within the institutions. This is also reflected in the profile of respondents, where half are either heads of institutions (25%) or deputy heads (27%). The other half identified themselves mostly as being representatives of the leadership and are mainly heads of international offices (17%) or other administrative staff (14%) such as directors of research offices, quality assurance offices, etc. (**Figure 3**).

Figure 3: Respondent attributes



The share of replies, in which academic leadership and heads of administrative departments representing academic leadership constitute the majority of responses, is in line with the aims of the survey – to provide an institutional perspective; this is also confirmed by the low percentage of academic staff (2%), which differs from the first edition of the global survey, where academic staff made up a considerable share of respondents.

Regional and private/public analysis

There are no substantial differences between regions when it comes to respondent attributes. In all regions academic leadership makes up half the replies with the head of institution being the most common position in Africa (31%) and Asia & the Pacific (27%) and the deputy head being the most common in Europe (37%) and the Americas (31%).

As for global distribution, the other half of respondents identified themselves mostly as representatives of leadership, and are mainly heads of international offices or other administrative staff.

The same can be seen when looking at the private/public nature of the institution. Academic leadership constitutes 58% of replies from private institutions and 48% for public ones. Head of institution is the most common position of respondents for private institutions (33%) while deputy head of institution is the most common for public institutions (30%).

A2.5 Language of completion of the survey

Almost all respondents completed the survey in English (93%) with 6% completing it in Spanish, almost all located in Latin America, and very few (1%) completing it in French, almost all located in France.

This result is interesting, as it shows that the translations did not really help increase the number of replies. It was hoped that the Spanish version would have allowed for more replies from Latin America. However, despite this, and as mentioned in **Annex 1**, the response rate from Latin America is in line with their share of institutions in the WHED.

The French version did not increase the response rate from francophone Africa and in fact, compared to the first Global Survey, very few HEIs from Francophone Africa replied to this second edition of the survey.

B

Governance

B. Governance

B1. Introduction

This section presents the findings on the overall governance and management of HEIs. It includes an analysis of the data on financing, human resources, communications and crisis management as well as partnerships and the role of higher education and collaboration with authorities during the pandemic.

B2. Financing

Several questions were designed with the aim of capturing the impact of the pandemic on higher education financing both in terms of income streams, overall spending as well as staff costs. After this series of questions, the respondents were then asked to share their overall assessment of the financial sustainability of their institution, which provides some insight as to the current mindset of institutional leaders one year into the pandemic.

B2.1 Perspectives on financial sustainability

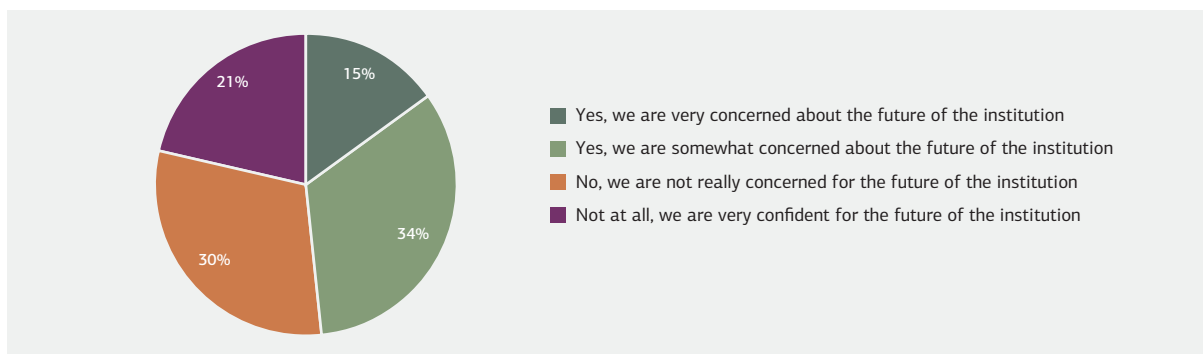
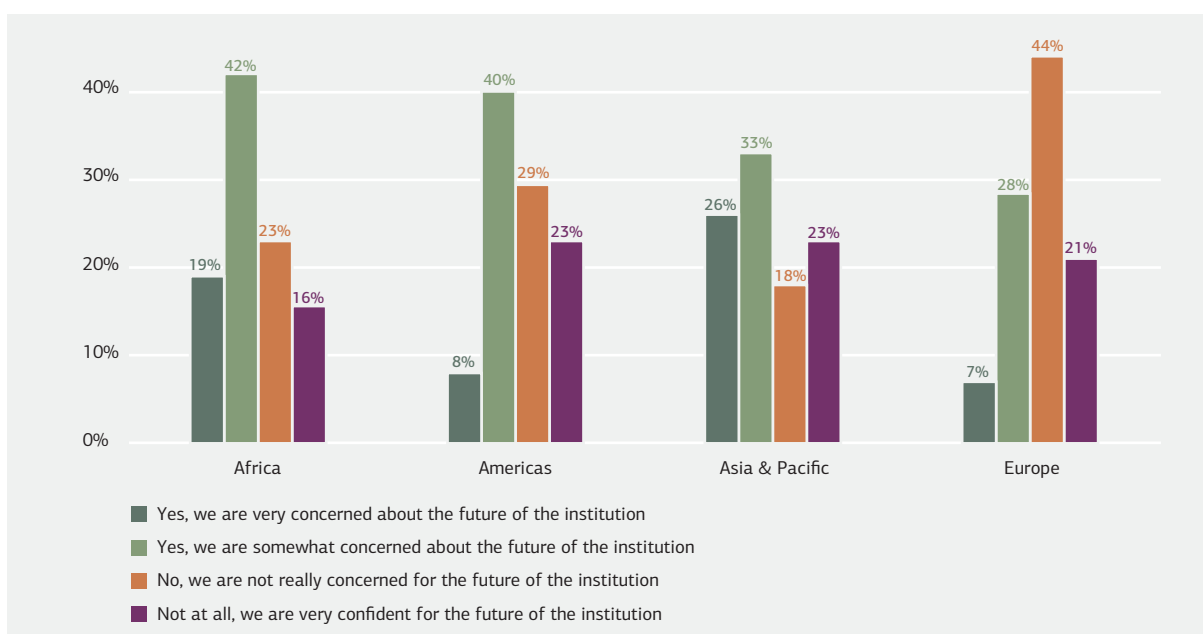
Uncertainty has become the new normal during the pandemic as changes occur at a rapid pace, making long term planning difficult. Beyond the health crisis, the pandemic has also led to an economic crisis and the question of how this crisis will affect HEIs in the medium and long-term remains unknown, yet this report provides us with a snapshot of the situation one year into the pandemic, and offers us information and data about the immediate effects. It goes without saying that regardless of the context of uncertainty, it remains essential that HEIs have the proper means in order to continue to carry out their mission and to ensure higher education for students around the world as an essential resource for societal development – most importantly during times of crisis.

When reviewing the results, it is important to bear in mind that some countries were already undergoing severe economic and social crises before the pandemic, so the context in which each institution replied is very diverse; however, the questions were set out in a way that all respondents could reply irrespective of local contexts, thus allowing them to have their voices heard in this global overview.

When asking respondents to assess to what extent they were concerned about the pandemic and to what degree it was jeopardising financial sustainability of their institutions, they were offered four options from “very” to “not at all” and the results show a very diverse picture. A third of respondents (34%) indicated that they were “somewhat concerned about the future of the institution” and slightly below a third (30%) were not really concerned about the future of the institution. The remaining replies fall into the extremes of the scale, i.e., 15% being “very concerned” and 21% “very confident” about the future of their institution. If we combine the two positive and the two negative categories, the respondents are divided almost equally (51%/49%) at the global level (**Figure 4**).

Regional and private/public analysis

The picture changes somewhat when considering the data per region. Asia & Pacific (26% very concerned and 33% somewhat concerned) and Africa (19% very concerned and 42% somewhat concerned) are the regions where most HEIs are concerned about the financial sustainability of their institutions. Europe stands out when compared to the other regions with 65% of the HEIs being confident about the future (44% are not concerned about the future and 21% are very confident for the future) and only 35% concerned about the future (7% very concerned/28% somewhat concerned). This is roughly the opposite

Figure 4: Impact of the pandemic on the financial sustainability of the institutions (global)**Figure 5: Impact of the pandemic on the financial sustainability of institutions (by region)**

of Africa where 61% of institutions are concerned about financial sustainability and only 39% are confident about the future (**Figure 5**).

The same type of discrepancy appears when looking at public versus private HEIs and that trend is not very different from the overall picture; it is still clear that private institutions (58% are either very or somewhat concerned) are more concerned about their financial sustainability compared to public institutions (41%).

The results point towards a slightly higher level of risk for Africa and for Asia & Pacific and this risk is further exacerbated for private HEIs when compared to public ones. If this trend continues over time, it will place particular strains on higher education systems that rely heavily on privately-funded HEIs. According to the IAU World Higher Education Database (see p. 25, **Table 4**), all regions have a large share of private institutions, but Europe is the only region where public institutions are more common than private ones. According to the survey results, this is also the region in which HEIs are more confident about their financial stability one year into the pandemic.

B2.2 Impact on higher education financing: by source of income

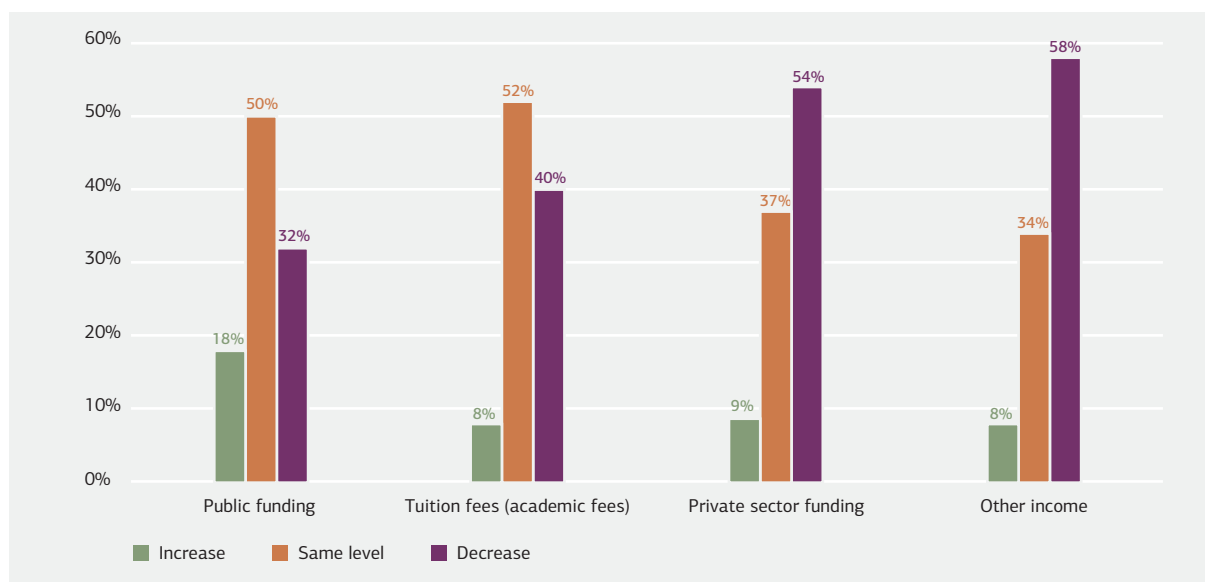
After the more general assessment of the expectations about the long-term impact of the pandemic on the financial sustainability of HEIs, this section looks at impact on different sources of income. Higher education financing is governed at the national level and the systems around the world are composed of different traditions and governance models. Taking into consideration this diversity of systems, the questions were designed to focus on 3 possible trends, namely whether the HEIs experienced stability (no change/same level), whether they were confronted with an increase in funding, or a decrease in funding. This type of scale of course does not allow us to monitor the extent to which the HEIs experienced increases or decreases but it does provide overall trends in terms of the financial impact one year into the pandemic.

The institutions were then asked to evaluate changes in the main types of funding sources, namely: public funding, tuition fees (or academic fees), private sector funding and other funding. Naturally, not all institutions benefit from all these sources of funding and respondents could indicate 'not applicable' for each of the four categories. It is important to keep in mind that these percentages show how many of the institutions receive the different types of funding, but it gives no indication of the weight among the different funding sources within the institutions.

The results show that tuition fees are the most common source of funding (90%) with 74% also receiving public funding. Seventy-three percent of HEIs report receiving other types of funding and fewer, 62% report receiving private sector funding.

When excluding those institutions that replied 'not applicable', the most stable sources of income are tuition fees and public funding, as about half the institutions (52% and 50% respectively) indicated that the level of tuition fees and public funding had not changed compared to prior to the pandemic. However, even for these sources of funding there is a substantial percentage of HEIs that experienced a decrease (40% for tuition fees and 32% for public funding), which points towards a situation of growing inequality between HEIs. The situation is different when it comes to private sector funding and other income where the majority of institutions reported a decrease in income both for private sector funding (54%) and for other income (58%). These are the categories where HEIs experience the most important decrease which may also be due to the fact that these types of funding streams are linked to some of the commercial revenue or extra revenue generated by HEIs through social activities, events, fundraisers etc i.e., social gatherings and which were

Figure 6: Financial impact on the institution



halted during the pandemic. Fortunately, public funding and tuition fees are the most common income sources for HEIs and also those for which the majority of HEIs did not experience a decline (**Figure 6**).

Regional analysis

For the sake of clarity, the regional analysis compares each funding source separately, focussing on public funding and tuition fees as they represent the most important share of higher education financing.

Public funding

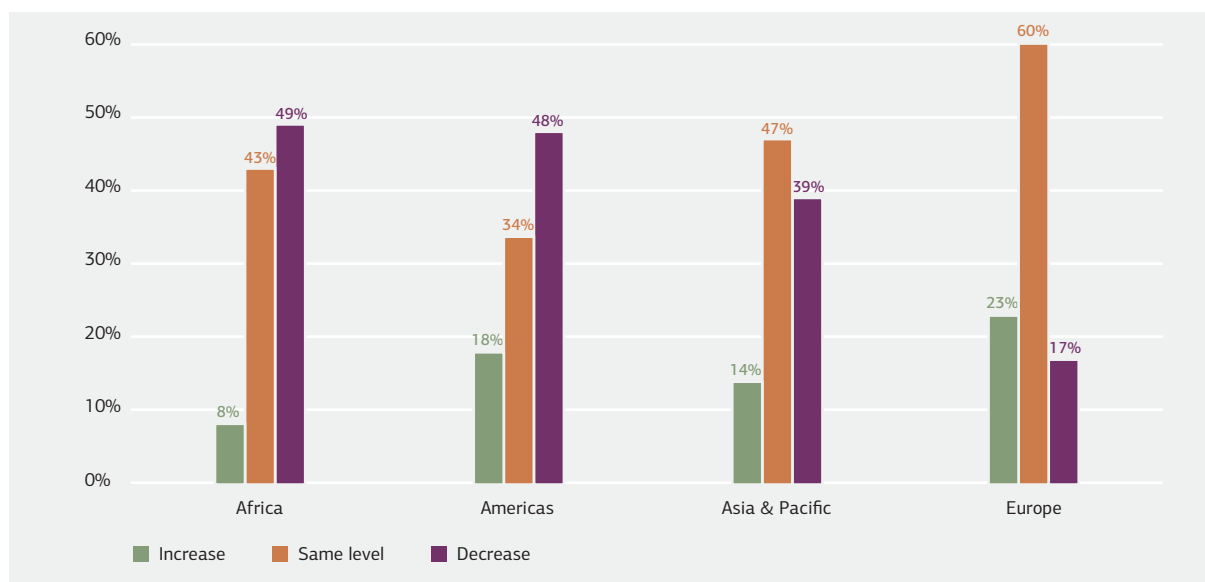
Public funding is common in all regions, with institutions in Europe showing the largest share of public funding (81%) when compared to other regions (Asia & Pacific 73%, Africa 67% and the Americas 66%).

Looking only at those HEIs that have public funding, particularly in Africa and the Americas, more HEIs experienced a decrease in public funding (49% and 48% respectively). Moreover, in Africa few HEIs (9%) experienced an increase in public funding. In Asia & Pacific, most HEIs (47%) reported a stable level of income in public funding, yet more HEIs reported a decrease (39%) in public funding than those reporting an increase (14%). The situation in Europe is completely different as 60% of HEIs reported stable income (no change) in public funding and furthermore, more institutions experienced an increase (23%) than a decrease (17%) (**Figure 7**).

As mentioned already, Europe is also the region with the largest proportion of public HEIs which is also seen in the data as it is the region with the highest percentage of HEIs having public funding. Africa and particularly the Americas have a smaller proportion of public institutions compared to Europe, which is also reflected in the dataset as these regions have the lowest percentage of HEIs receiving public funding. The situation is therefore especially worrisome in these two regions, because not only are there fewer HEIs receiving public funding, but half of those that do have already experienced a decrease in public funding.

It is difficult to compare the impact on public funding between private and public institutions, as 58% of the private institutions indicated 'not applicable' for public funding. It means however that only 42% of the private institutions receive public funding. As there are already proportionally less replies from private institutions than their weight in the WHED, this comparison between public and private institutions concerning public funding was not carried out.

Figure 7: Impact on public funding by region



Tuition fees

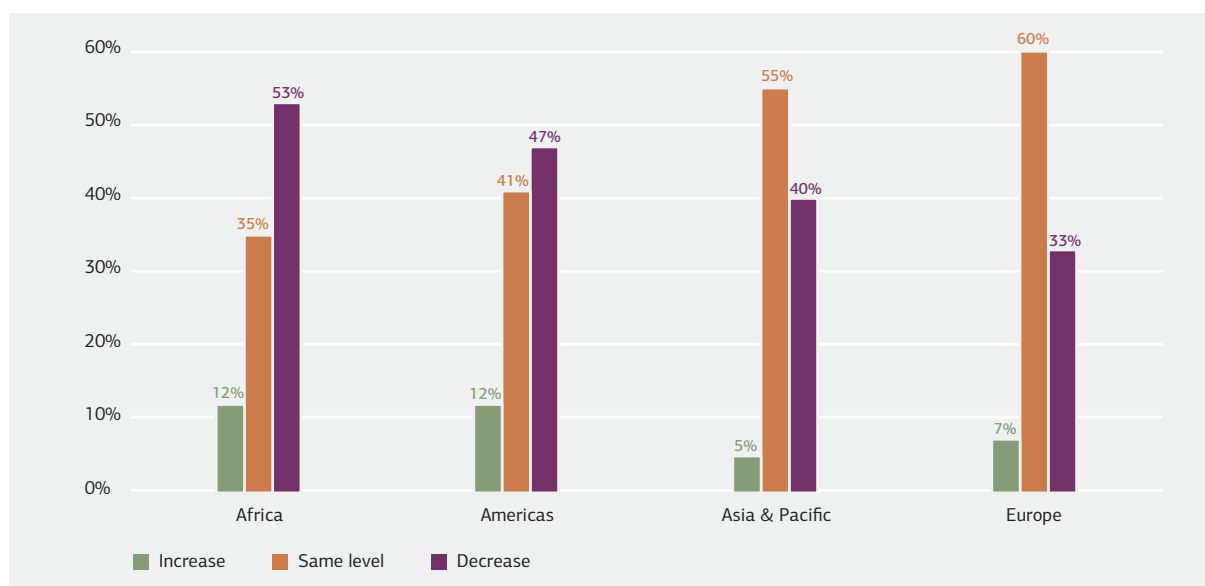
Tuition fees (academic fees) are common throughout regions, but while in Africa and Asia & Pacific almost all HEIs have income from tuition fees (95% and 94%), in Europe (90%) and in the Americas (80%) the percentage is lower. The Americas at the same time is the region with the largest proportion of private HEIs (see p. 25, **Table 4**), but when looking at the institutions in the Americas that do not receive tuition fees, they are all public institutions (apart from one). This shows that in the other regions there is a higher degree of mixed funding sources (public funding and tuition fees), while in the Americas, it seems to be more distinct with private institutions primarily financed by tuition fees. This could explain why the Americas is the region with the lowest share of institutions receiving both tuition fees as well as public funding. Although Europe is the region with the highest proportion of public institutions, many are also receiving tuition fees, however it is important to keep in mind that this refers simply to whether institutions receive tuition fees or not, and not to the proportion that this income stream represents for the overall budget of the institution.

Considering only those institutions that have income from tuition fees, Europe (60%) and Asia & Pacific (55%) are again the two regions with most institutions reporting a stable level of tuition fee income. In the Americas, this drops to 41% and drops even more so in Africa where only a third of all institutions (35%) experienced a stable level of revenue from tuition fees. It is furthermore common for Africa and the Americas that the largest group of HEIs report a decrease in tuition fees. In Africa, this concerns more than half (53%) of HEIs whereas in the Americas it is just below (47%) (**Figure 8**).

These two regions are also experiencing a higher level of disparity within the region, as some institutions are doing well and experiencing an increase in income from tuition fees while another large group is confronted with a decrease in revenue. For example, Africa and the Americas have the biggest share of institutions (12%) reporting an increase in tuition fees when compared to the other regions. Overall, the trend points towards a more stable financial environment for Europe and Asia & Pacific. In Africa and the Americas, the situation is more unstable – a few institutions fared well during the pandemic but a larger group experienced more negative financial impacts one year on.

When combining the categories indicating either increase or stable funding, the numbers show that most HEIs in Europe (67%) were not negatively impacted financially one year into the pandemic in terms of tuition fee revenue, followed by Asia & Pacific (60%) and the Americas (53%). In contrast, in Africa the majority of institutions (53%) experienced a decrease in tuition fee income. So, while the majority of the

Figure 8: Impact on tuition (academic) fees by region



HEIs overall experienced a stable situation, it is still worrisome to see that more than half of the institutions in Africa are experiencing a decrease in tuition fees. The situation is also very fragile in the Americas.

When comparing the impact between public and private institutions, it is first of all worth noting that 13% of public institutions indicated 'not applicable' for tuition fees with 4% of the private institutions also indicating 'not applicable' – this is probably an indication of 'do not know' rather than not applicable as it is unlikely that private higher education institutions would not charge tuition fees. When excluding institutions having indicated 'not applicable', it shows that a majority group of HEIs indicated stability both in public (57%) as well as private (46%) HEIs, yet the number is higher for public HEIs. The increase in tuition fees is the same and concerns 8% of HEIs regardless of type which also means that the remaining difference is to be found among the proportion of HEIs reporting a decrease in tuition fees which is higher in private HEIs (46%) and only 35% for public HEIs. This in turn means that for private institutions, the percentage experiencing stability is the same as that experiencing a decrease in funding. However, as we saw in the previous section on public funding, only around 42% of private HEIs receive public funding meaning that they rely even more so on this kind of funding than public institutions. Our data only allows us to spot trends and not analyse the weight of the decrease, yet this information further emphasizes the fact that private HEIs are likely to be more stressed financially during the pandemic compared to public ones.

Summarizing the trends in terms of income streams one year into the pandemic, it is possible to conclude that the source of funding coming from tuition fees is more likely to decrease compared to public funding. This is not surprising as tuition fees typically come from private household whereas public funding is secured by the state. Yet, some respondents are expressing concerns over the future and whether or not over time the economic crisis will lead to a reduction in public funding of higher education. The level of stability in tuition fee payments will also depend on the capacity of private households to continue to pay tuition fees if their financial situation is negatively impacted by both the pandemic and repercussions of the financial crises around the world. So, while it is positive that the majority of institutions report a stable financial situation, it remains worrisome that a third of respondents experienced a decrease in core funding (public funds or tuition fees) of higher education and even more so for other funding and private sector funding (58%/54%).

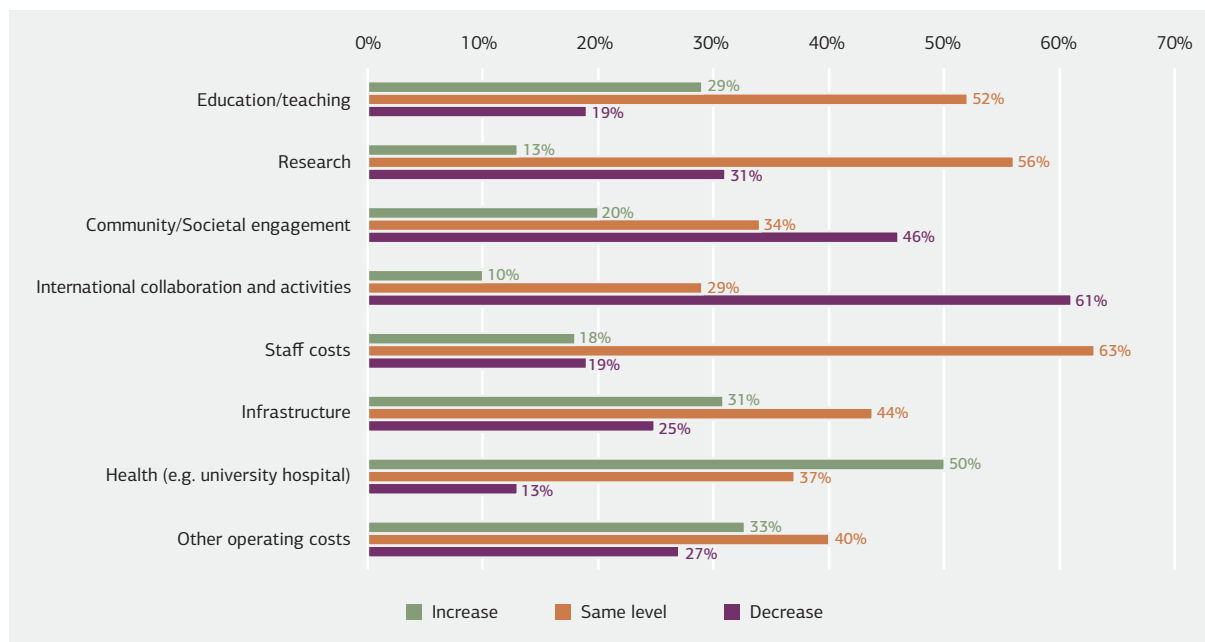
B2.3 Impact on higher education financing: by area of expenditure

After considering the impact of the pandemic on funding sources, this section examines impact on different areas of expenditure. Categories were identified in order to have types of expenditure viewed as being common to all HEIs: education/teaching, research, community/societal engagement, international collaboration and activities, staff costs, infrastructure, health (e.g., university hospital), and other operating costs. In the same manner as for income streams, the questions were designed with a view to assessing which of these categories were particularly impacted by an increase or a decrease in expenditure and which remained stable a year into the pandemic.

Evidently, not all HEIs are concerned by all categories of expenditure, thus before looking at the results, it is important to acknowledge that for health, 33% of respondents indicated 'not applicable'. The second largest group is 'other operating costs' with 12% of HEIs replying 'not applicable'. For all the other expenditure categories more than 93% and up to 98% of the institutions are concerned by the different categories of expenditure. The results of the data are compared only among the institutions concerned by expenditure categories and replies of 'not applicable' have been removed (**Figure 9**).

Signposts of stability

The categories of expenditure that are the most stable one year into the pandemic are **staff costs** (63%), **research** (56%) and **education/training** (52%). For these three categories more than half of the institutions reported expenditure at the same level as prior to the pandemic. For **infrastructure** (44%) and **other operating costs** (40%), most of the respondents referred to stable levels of expenditure, yet for

Figure 9: Impact of the pandemic on expenditures

both these categories the remaining respondents are split between experiencing an increase (infrastructure 31% / other operating costs 33%) and a decrease (infrastructure 25% / other operating costs 27%).

Increase in expenditure

The area that saw the biggest increase in expenditure is **health** (50%), which makes sense in the context of a global health crisis where it is possible that universities are being called upon to put in place new health measures. A large proportion of institutions also reported stable expenditure for health (37%), and health is the only category where the majority of HEIs reported an increase. For a number of categories, roughly a third of institutions reported an increase in expenditure (for example 33% for other operating cost, 31% for infrastructure and 29% for education/teaching). It is however not surprising to see a rise in expenditure in these categories as they are either linked to the shift to remote teaching and learning which in many cases led to the set-up of new digital tools, and infrastructure to facilitate remote teaching and learning.

Decrease in expenditure

International collaboration and activities is the area where most institutions have experienced a decrease in expenditure (61%), which could be explained by difficulties related to international travel, to attend or organise academic conferences or international student fairs etc. While this is the state of affairs one year into the pandemic, it is very likely that this represents a temporary decrease in expenditure as it is linked to restrictions put in place to manage the pandemic. The question that remains unanswered at this stage is whether or not activities (and related expenditure) will resume at the same level as prior to the pandemic and if so, by when? In this category another 29% of HEIs experienced a stable level of expenditure and 10% have experienced an increase. While it may be more surprising to see an increase in spending in this area, the same level of expenditure can be explained by the fact that many activities continue during the pandemic but in different forms. This part is developed further in part C on teaching and learning (page 73).

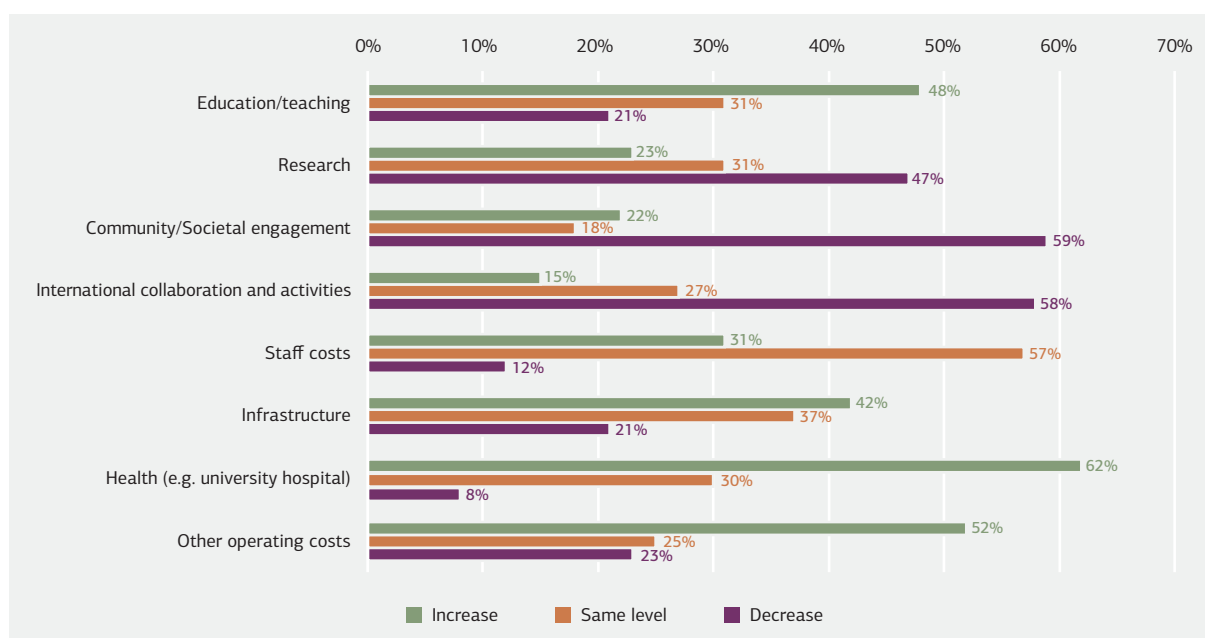
Community/societal engagement also stands out as a category where the majority of institutions reported a decrease in expenditure (46%). For the remaining institutions 34% reported stable levels of expenditure and another 20% have experienced an increase in expenditure in this area. That many

institutions are experiencing a decrease can potentially be explained by activities that have been paused due to physical distancing measures preventing institutions from continuing these types of initiatives. It could also be a sign of refocusing human resources during the crisis around the core mission of teaching and research. It is important to monitor over time whether this decline is a reaction to the restrictions in place and that activities will pick up gradually as society opens up again, or whether it is a shift in priorities. Part E (page 117) of this report specifically looks at the impact of community/societal engagement and also shows a very divided set of replies between those institutions that scaled up activities and those that scaled down.

Regional and public/private analysis

In order to carry out the regional analysis, the trends are first introduced by region and they are compared and discussed at the end of the section.

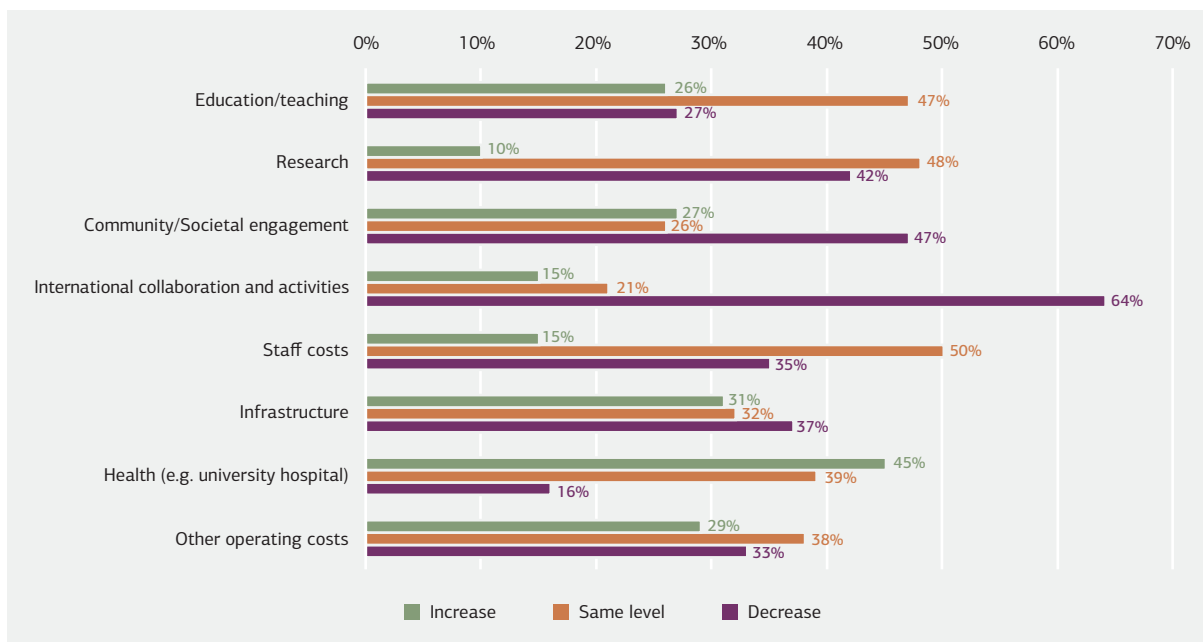
Figure 10: Impact of the pandemic on expenditures in Africa



In Africa the situation is very different from what we see at the global level. The only category where the majority of institutions indicate a stable level of expenditures is staff costs (57%). For all other categories the majority indicate either an increase or a decrease in expenditure, which can be read as an indicator of an unstable situation in this region (**Figure 10**).

The categories that have seen an increase in expenditure are health (62%), as is the case at global level, but in addition, this is also the case for other operating costs (52%), education/teaching (48%) and infrastructure (42%).

In terms of decrease in expenditure, in addition to international activities (58%) and community engagement (59%), research is also hit, where almost half the institutions (47%) are reporting a decrease in expenditure which is a very worrisome development. The question is whether this result is an indication that resources are centred on education to respond to the crisis and the move to remote teaching and learning, whether it is linked to delays or whether it represents a trend in cut-backs to funding for research. Furthermore, is it a temporary trend due to the pandemic or a tendency that may weaken research capacity in Africa over time if this is not redressed rapidly?

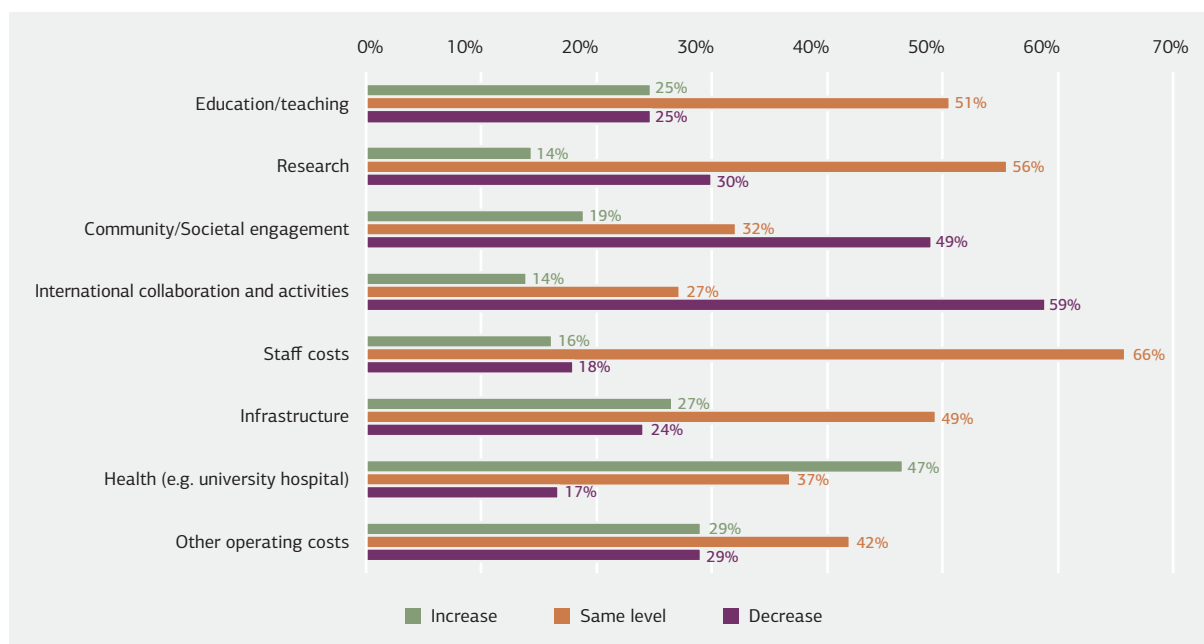
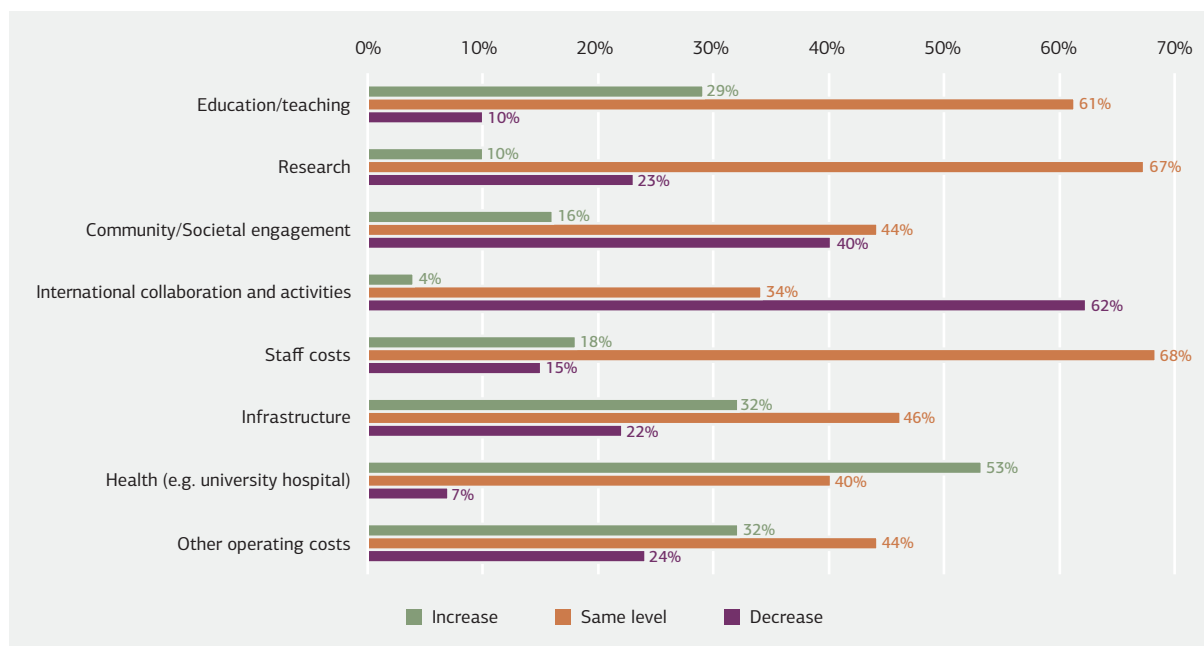
Figure 11: Impact of the pandemic on expenditure in the Americas

For the Americas the overall pattern is closer to the global picture than is the case for Africa; yet although most of the institutions (48%) reported a stable level of expenditure for research, still 42% reported a decrease in expenditure. In the same manner when it comes to staff costs, half the institutions (50%) experienced a stable level of expenditures, yet 35% of the HEIs reported a decrease. Regarding costs related to infrastructure (and the trend is similar for other operating costs) the picture is very diverse as 37% of HEIs reported a decrease in expenditure, 32% a stable level of expenditure and 31% an increase in expenditure. It is difficult to explain this trend based solely on the dataset; it could be an indicator of unequal levels of readiness with institutions in the region to cope with restrictions imposed – restrictions which led to increased reliance on digital technologies in order to continue operations. This very unequal situation serves to illustrate that some institutions are more resilient than others. These inequalities risk being further exacerbated by the pandemic. Finally, it is worth mentioning that 44% of the institutions in the Americas indicated ‘not applicable’ for the category of health (**Figure 11**).

Asia & Pacific closely follows the global pattern and so it is not necessary to repeat this here. However, it is worth mentioning that in the region only 12% of the institutions indicated ‘not applicable’ for health expenditure and it is therefore more common for the majority of the institutions in the region to have seen an increase in expenditures in this area (**Figure 12**).

The general picture in Europe is one of a higher level of stability in expenditure across categories when compared to the other regions. Following the global trend, the categories with the highest level of stability are staff costs (68%), research (67%) and education (61%), the difference being that these categories attracted a higher percentage than at the global level. For most of the institutions, expenditure for infrastructure (46%) and other operating costs (44%) remained stable, and in addition this was also the case for community engagement (44%) where the largest group of institutions reported a stable level of expenditure; in the other regions, however, more institutions experienced a decrease in expenditure for this category. Despite this, the proportion of European institutions reporting a decrease in community engagement still remains rather high (40%). Health is the only category in Europe where most institutions experienced an increase in expenditures (53%), however as for the Americas, a large number of institutions (48%) indicated ‘not applicable’ for this category (**Figure 13**).

Overall, there is a common trend across the regions to a decrease in expenditure in the area of international collaboration which is also the most obvious category to be impacted by restrictions

Figure 12: Impact of the pandemic on expenditures in Asia & Pacific**Figure 13: Impact of the pandemic on expenditures in Europe**

imposed due to the pandemic. The international activities requiring physical presence have in large been halted and some replaced by online activities that may not require the same level of expenditure, yet at least this situation is rather straightforward to explain. What is more worrisome is the decrease in expenditure for community/societal engagement and also the share of institutions reporting a decrease in research expenditure. For the latter, this is particularly pronounced in Africa, but it also concerns an important share of institutions in the Americas. Asia & Pacific and Europe are faring better in this area but still, a large number of institutions (30% for Asia & Pacific and 23% for Europe) have seen a decline in research expenditure. The data does not explain whether this trend is temporary and that research projects are on standby, whether data generation has been scaled down due to restrictions from the

pandemic or whether it is the result of a reduction in research funding. This will have to be carefully monitored moving forward. There was already a great need to build research capacity within Africa prior to the pandemic and it is troublesome to see the large risk of setbacks that the pandemic may cause, particularly in Africa, but also in other regions.

Another trend which is problematic is that HEIs in Africa are experiencing an increase in expenditures across many categories when compared to other regions, whereas in contrast, Europe is experiencing a more stable level. This situation combined with the trends identified in changes in revenue shows that the higher education systems in Africa are more financially stressed as they are to a higher degree experiencing a decrease in revenue and increase in expenditure. Europe is the region that sees the most stable situation financially as it is seeing a more balanced situation in terms of income generation, a large number even seeing increased public funding while experiencing a relatively stable level of expenditure.

Public/private analysis

In line with the previous analysis, institutions indicating 'not applicable' were also excluded in the comparison of trends among public and private HEIs.

Table 5: Impact of the pandemic on expenditures comparing public and private HEIs

	Increase		Same level		Decrease	
	Private	Public	Private	Public	Private	Public
Education/teaching	23%	33%	52%	52%	25%	15%
Research	11%	14%	52%	59%	38%	27%
Community/Societal engagement	17%	21%	31%	36%	51%	43%
International collaboration and activities	12%	9%	27%	31%	61%	61%
Staff costs	18%	18%	58%	66%	25%	15%
Infrastructure	29%	32%	42%	45%	28%	23%
Health (e.g. university hospital)	37%	58%	45%	33%	18%	9%
Other operating costs	29%	35%	38%	42%	32%	24%

Expenditure patterns among public and private HEIs are roughly the same, but with variations in terms of the proportions within the different categories. Overall, there is a tendency to see a greater proportion of private institutions reporting a decrease in expenditure in all categories except international collaboration. In the latter the situation is similar among public and private HEIs. For public institutions, this difference of 5-10% across the different categories is reflected either as an increase or a more important share reporting the same level of expenditures. Health is the category where the public and private institutions deviate the most with public institutions mainly experiencing an increase in expenditure and most of the private institutions reporting a stable level of expenditure (45%) (Table 5).

This tendency of a slightly higher degree of expenditure decrease among private HEIs correlates well with the pattern established in relation to the income movements where private HEIs are typically at a higher risk of a loss in revenue compared to public institutions where the situation is more stable, although this of course depends on the situation in each country. This can also be seen in the decrease in staff costs, which is 10% higher in private institutions than in public ones, where we can see that a larger share of institutions indicating that staff costs remained stable.

B2.4 Emergency or special funding for higher education during the pandemic

The pandemic is first and foremost a health crisis, yet has repercussions in all sectors of society and higher education is no exception. In light of this exceptional situation, some countries have provided extraordinary financial support to higher education, and 38% of HEIs reported having such a scheme in place at the national level. When looking at the data per region, the percentage of institutions confirming the existence of such a scheme is higher in Europe (45%) and lower in Asia & Pacific (30%), showing that while this measure does not apply to a majority of countries, it is still however present across all regions.

Out of the 38% HEIs that affirmed the existence of emergency or special funding schemes in their countries, 79% confirmed that they benefited financially from the scheme. When looking at the data per region, only Europe stands out with 85% of institutions having benefited from the scheme, which makes sense as Europe is the region where the scheme is more common.

It is interesting to note that while 48% of public HEIs reported the existence of a governmental scheme providing emergency/special funding for higher education in the context of the COVID-19 pandemic, only 23% of private HEIs did so. Analysing the location of the 77% of private HEIs that indicated the lack of such a scheme, 52% of them are based in the same countries where public HEIs indicated the existence of such a scheme; this is likely due to the fact that the scheme does not apply to private institutions and the replies from these private institutions disregarded this. This interpretation could be reinforced by the results of the following questions, as it is much more likely for public institutions (88%) to receive this type of support than private HEIs (51%).

To assess whether there are other types of non-public funding support, institutions were also asked whether they had received any external non-governmental funding in light of the pandemic. Only 16% of institutions affirmed this with no significant difference between public and private HEIs nor among the regions. Only in Africa is there a slightly higher percentage of HEIs reporting such a type of funding mechanism (23%).

Overall, less than a third of institutions benefited from special public funding schemes during the pandemic, and this type of support is more likely to benefit public rather than private institutions. Only a small percentage (16%) of institutions benefited from special funding from funding sources other than from the public scheme.

B2.5 Conclusion

Publicly funded institutions are faring slightly better than private institutions in terms of income stability. As public funding and tuition fees in most cases represent the biggest share of the university funding it is reassuring to note that these funding streams are less impacted compared to other income and private sector funding, yet it remains worrisome that almost a third of HEIs have experienced a decrease in public funding and even more (40%) in tuition fees only one year into the pandemic. An even more pronounced trend of decrease in funding is observed for other income and private sector funding, and although this portrays a system that is impacted negatively by the pandemic, these categories represent a smaller share of overall higher education funding.

In terms of the regions, Europe stands out as the region with a more important group of HEIs experiencing stable revenue streams compared to the other regions, not only because a bigger proportion of institutions receive public funding, which is more stable than tuition fees, but also because more institutions in Europe experienced an increase in public funding. Europe is also among the regions that experienced more stability in tuition fee revenue although this is less stable than public funding. The situation is different in Africa and the Americas where the biggest proportion of institutions reported a decrease both in terms of public funding and tuition fees. This paints a picture of increasing inequality among the regions, but not only among regions but also within the regions – particularly in Africa and Americas where a few institutions are likely to do well during the crisis, with others suffering from greater negative impact. This was also the trend which came out of the question on financial sustainability. While we saw a very diverse

set of replies at the global level, it clearly showed that in Europe, few institutions were concerned about the future of their institution, while in the other regions, a larger share of HEIs, particularly in Africa, expressed concern about institutional financial sustainability. It was also shown that in some countries HEIs have been receiving extraordinary support either from national public schemes or, and more rarely, from other sources, yet overall, this type of funding was provided to less than half of the institutions. At this stage – one year on – the data shows that some regions are more resilient than others during the pandemic which is a sign of inequalities in resilience during the pandemic. If this trend is to continue or even worsened by additional implications of the financial crisis, it may ultimately lead to a reduction in the number of HEIs in the long run, and an overall decline in the offer of higher education, particularly in regions that are more reliant on private higher education. At a time when we seek to increase the rate of access to and success in higher education, this would mean a great set-back particularly in regions where the gross enrolment rate is already low and thus leading towards an exacerbation of inequalities.

The present survey does not allow for a national analysis, yet it would be interesting to conduct further research in order to understand how much the inequality inside a specific region of the world depends on the specific country and how much depends on inequality between HEIs with a country. This would provide a more nuanced picture of the general trends that are depicted at the regional and global level.

In terms of impact on expenditure, many institutions have reported an increase in expenditure related to health, which is not surprising in the midst of a global health crisis.

Regarding decreases in expenditure, it is likewise not a surprise to see that most institutions are reporting a drop in the area of international collaboration and activities, which is also the most obvious category to be impacted by restrictions imposed to manage the pandemic; but this is likely to be temporary and the situation is expected to be gradually reversed as the restrictions are lifted. It is maybe even more worrisome to see a large share of institutions reporting a decrease in expenditure for community/societal engagement and it would require further research to investigate whether this reduction represents a decreasing level of priority and available funding for community engagement or whether it is also a temporary trend linked to the restrictions in place due to the pandemic.

Finally, it is important to underline that although Europe reports a large proportion of institutions with a stable level of expenditure in research, almost one out of four institutions experienced a decrease in expenditure – yet this is the region where the situation is less negatively impacted. In Africa it increases to almost half of the institutions (47%) and 42% for institutions in the Americas (and 30% for Asia & Pacific). Whether this is temporary due to the pandemic, or a sign of policy-change is not clear, but is worth monitoring as we go forward.

This analysis of institutional finances serves to show how the pandemic has exacerbated inequalities that were already evident between regions, within regions and within countries.

B3. Impact on student enrolment and dropout rates

Student enrolment and dropout rates are closely linked to the financial situation of HEIs and this section will examine current trends, using the same approach as for the financing section namely to identify the degree of stability versus changing trends (increases or decreases) compared to the situation prior to the pandemic. The trends regarding domestic students are presented first followed by adult learners and international students.

B3.1 Movement in domestic student enrolment and dropout rates

Enrolment

For domestic student enrolment approximately half of the institutions (49%) indicate having a stable student enrolment one year into the pandemic, with 27% experiencing an increase in enrolment and 21% facing a decrease in student enrolment. After the first year of the pandemic, the results show overall relatively encouraging figures as half of the institutions reporting a stable enrolment rate and more than a quarter have experienced an increase in the student body. Yet, it is worrisome that one out of five institutions (21%) sees their student body decreasing. This also shows a trend of increasing inequality among HEIs around the world.

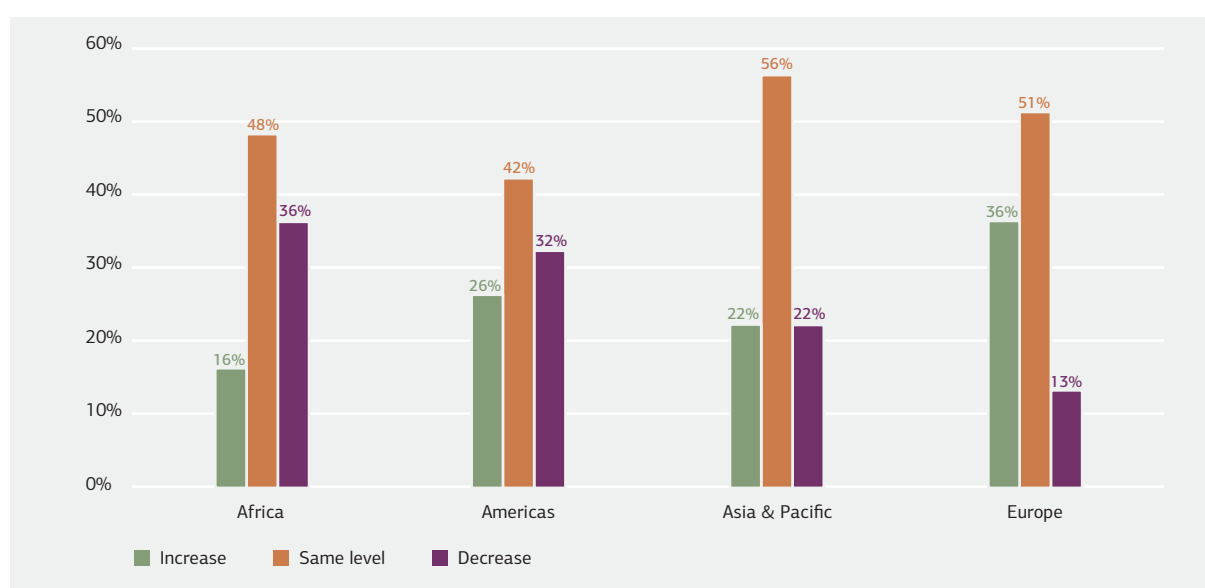
Three percent of HEIs replied 'not applicable' to this question; this is likely to be institutions that do not know as it seems implausible that they do not enrol domestic students. As the data is not available for these institutions, they have been excluded from the following analysis, and we include only institutions that have provided information on student enrolment.

Comparing the trends among public and private institutions, it is clear that public institutions are experiencing a more stable situation compared to the private HEIs (with 55% reporting stable domestic enrolments compared to 44% in the private sector). At the same time almost a third (31%) of public institutions experienced an increase in enrolment against only 14% experiencing a decrease. This trend is inverted for private HEIs where more than a third (34%) were faced with a decrease in enrolment and even fewer (22%) experiencing an increase. In line with the conclusions from the previous section on financing of higher education, this shows that one year into the pandemic private HEIs are more severely impacted and at risk compared to public institutions as the domestic student population often represents the most important share of students.

When considering the data per region (**Figure 14**), what is common to all regions is that most institutions indicated a stable level of enrolment (i.e., no change), but it is slightly higher in Asia & Pacific (56%) and Europe (51%) than in Africa (48%) and the Americas (42%).

At the same time more than a third (36%) of institutions in Europe experienced an increase in enrolment, which is more than double those experiencing a decrease (13%), so there is mostly a positive trend for the majority of institutions in Europe. For Asia & Pacific the remaining HEIs are equally split between

Figure 14: Domestic student enrolment (compared to the year before the pandemic)



having an increase and a decrease (22%). The situation is less optimistic for Africa and the Americas where there is a higher tendency towards a decrease in student enrolment (Africa 36% / Americas 32%) rather than towards an increase (Africa 16% / Americas 26%). In Africa the situation is more or less the opposite of the one in Europe.

If one combines the number of institutions that report either increasing or stable enrolment rates, it is positive that 78% HEIs are faring well in terms of domestic student enrolment. Yet, this also means that it is not necessarily the case for one out of five HEIs (22%) that are faced with a decreasing student body. This is particularly worrisome for Africa (36%) and Americas (32%) where this concerns a third of institutions. This further confirms an increasing degree of inequalities among HEIs not only among regions but also within the regions. According to data from the UNESCO Institute of Statistics³, Europe and Africa were already poles apart in terms of enrolment rates, however the trend observed in this global survey unfortunately indicates that the situation has been further exacerbated during the pandemic.

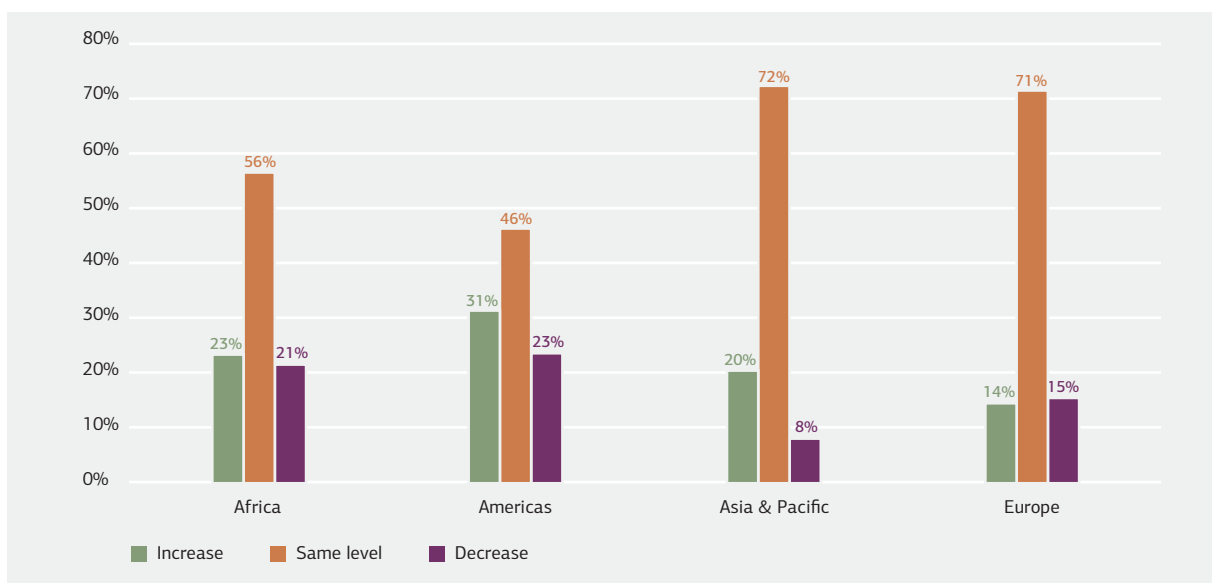
Dropouts

While enrolment rates are essential, it is likewise important to track whether the pandemic has had an impact on dropout rates and successful completion of higher education, especially when HEIs have been forced to shift to remote teaching and learning, potentially creating an obstacle to students who are not particularly equipped for this mode of learning. It would be logical to assume that pandemic would lead to increased dropout rates; one year into the pandemic, and this is indeed the case for roughly one out of five institutions (19%).

Sixty percent of institutions reported that the dropout rate for domestic students was at the same level as it was prior to the pandemic, with the remaining institutions being somewhat equally divided between those reporting an increase and those reporting a decrease, albeit a slightly higher percentage reporting an increase (19% vs. 14%). As for enrolments, 7% of respondents indicated 'not applicable' which we interpreted as "do not know" and these have been excluded from the following analysis.

The trends among public and private institutions are very similar, but public institutions experienced a slightly more stable situation compared to private HEIs with the majority of public institutions (62%)

Figure 15: Domestic student dropouts (compared to the year before the pandemic)



3. <http://data.uis.unesco.org/>

reporting a stable enrolment rate, while for private institutions it drops to 58%. Also, for private institutions, the remaining 42% is equally distributed between an increase and a decrease in enrolments. So this divergence is slightly higher among private HEIs and slightly more stable for public institutions, but as the numbers are so close it is difficult to consider this as a firm trend.

When looking at regional data, (**Figure 15**), it is clear that a stable rate of dropout (i.e., no change) elicited the most replies across each region, although in Asia & Pacific (72%) and Europe (71%) the percentages are significantly higher than in Africa (56%) and Americas (46%). The Americas is likewise the region with the most institutions experiencing an increase in dropouts (31%) whereas this concerns only 14% in Europe. However, Americas also has the highest proportion of HEIs reporting a decrease in dropouts (23%) showing that it is also the region with the highest level of polarization among institutions regarding dropouts.

Overall, institutions reporting dropout rates that are stable or decreasing make up 80% of replies, which is somewhat reassuring; but this also means that 20% are faced with an increase in dropout rates. Europe is faring slightly better than average with 86%, while in the Americas one in three institutions faced increasing dropout rates (31%).

B3.2 Movement in adult learner enrolment and dropout rates

In the context of increased focus on lifelong learning, it was decided to track trends related to enrolment and dropout of adult learners. Before exploring the results, it is important to note that more than a third of HEIs indicated 'not applicable' (34% for enrolment and 40% for dropouts), which we interpreted as the sum of the institutions that do not enrol adult learners and those that do not have the data to report on it. The numbers are more or less the same among the regions. Slightly above the average, Africa had 40% of institutions indicating 'not applicable' for adult enrolment, with this reply being more frequent among public institutions (37%) than private (30%). It is a similar picture for adult learner dropout rates in Africa, while in Europe the rate of institutions indicating 'not applicable' is slightly lower than average, at 37%. Among public institutions, 44% opted for 'not applicable' while only 33% of private institutions did so. In the following analysis, it was decided to look at institutions that felt concerned by this, and so those indicating 'not applicable' were excluded.

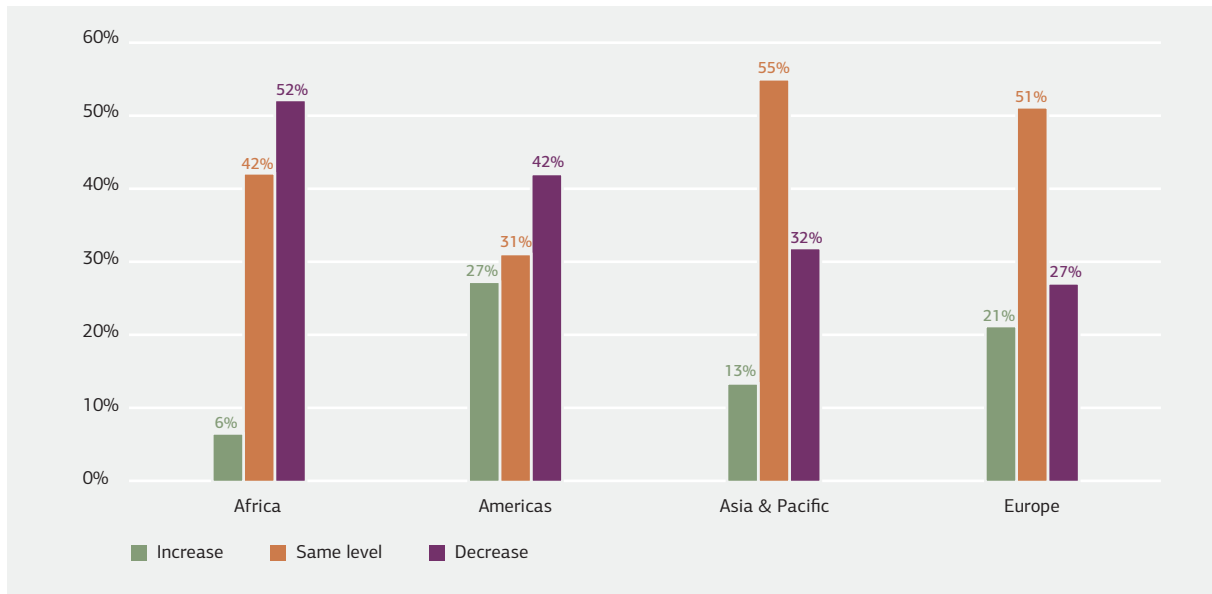
Enrolment

At the global level, almost half the institutions (48%) have a stable adult enrolment rate followed by 34% having a decrease and 18% an increase. So, while one in five institutions reported an increase, more than a third experienced a drop in adult enrolments, painting a picture of divergence and inequality among institutions.

However, the picture looks different when considering the data per region (**Figure 16**). While Asia & Pacific (55%) and Europe (51%) experienced a higher degree of stability, in Africa and the Americas the majority of institutions reported a decrease in the number of adult learners (52% and 42% respectively). For Asia & Pacific (32%) and Europe (27%) almost a third of the remaining institutions also experienced a decrease in enrolment, a larger share than those experiencing an increase (Europe 21% / Asia & Pacific 13%).

For the Americas the situation is slightly different and even more polarized. While the largest share (42%) reported a decrease, the remaining institutions in the Americas were split between stable enrolments (31%) and an increase in enrolments (27%). In Africa only 6% of HEIs reported an increase in enrolments and it is the region showing the highest decrease (52%); it is therefore the region where there is the highest risk of a declining rate of adult learners. Incidentally, it is also the region with the smallest share of institutions replying to this question (i.e., it has the highest rate of 'not applicable').

While it is positive that half the institutions at global level are experiencing stability during the crisis, it is still worrisome to see a high degree of institutions reporting a decrease in adult learners (34%), and

Figure 16: Enrolment of adult learners (compared to before the pandemic)

most importantly in Africa (52%). While Europe and Asia & Pacific reported a more stable environment for adult learners, there is still an important share of institutions showing a decrease, with the situation being particularly fragile in Africa and very polarized in the Americas.

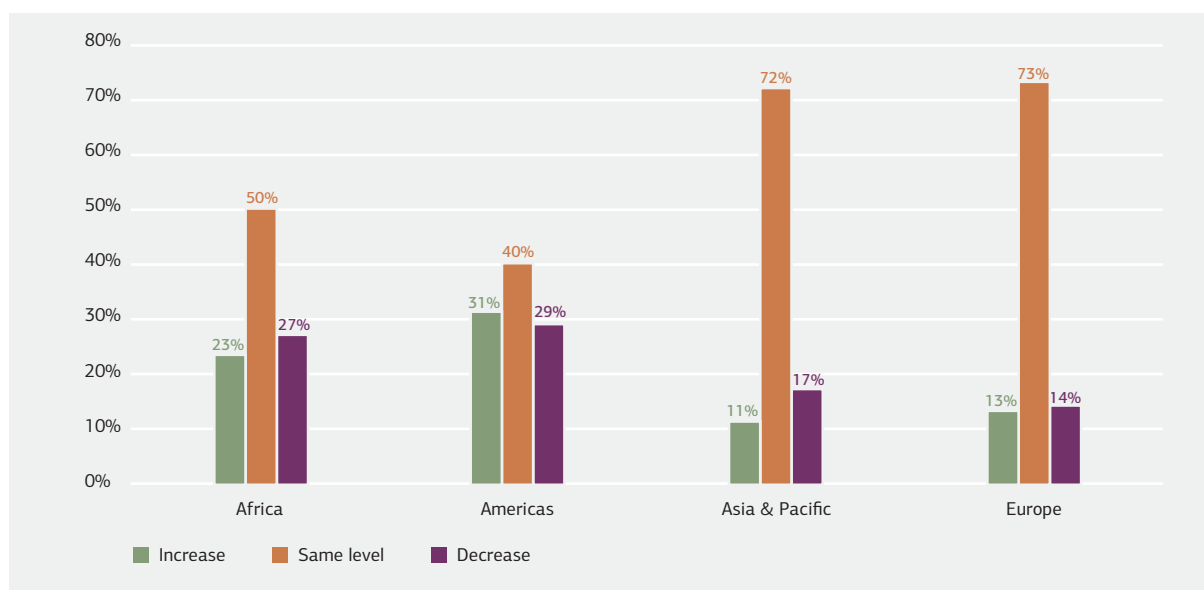
Comparing public and private HEIs, public institutions are more stable with half the institutions reporting the same level of enrolment and 26% reporting a decrease. For private HEIs, more experienced a decrease (44%) than a stable situation (42%) which of course also means that a lower percentage of private HEIs showed an increase (14%) when compared to public institutions (22%). This is yet another trend that shows a more negative impact on private HEIs than on public HEIs.

Dropouts

Overall, 64% of institutions having adult learners reported stability in dropout rates, with remaining institutions more or less equally divided between an increase and a decrease in dropout rates of adult learners (17% and 19%, respectively).

However as was the case for enrolments, the situation varies between regions. Europe (73%) and Asia & Pacific (72%) are again the regions with the largest number of institutions experiencing a stable level of dropouts among adult learners. For the Americas (40%) and Africa (50%) this is also the biggest group of institutions, but in these regions, there is also a higher degree of disparity among institutions. Those that experienced a change in dropouts were more or less equally divided between an increase (Americas 31% / Africa 23%) and a decrease (Americas 29% / Africa 27%). So, while it is positive that some HEIs experienced a decrease in dropouts, it is worrisome for those reporting an increase in dropouts. In Asia & Pacific (11%) and Europe (13%) few HEIs are faced with an increase in dropouts – an indication that these regions were faring well in this domain at this point in the pandemic, whereas the situation was less stable and more divided among the institutions in the Americas and in Africa (**Figure 17**).

Public HEIs had a slightly higher rate of stability in dropout rates compared to the private ones (67% versus 61%), however more private institutions saw a decrease in dropouts (23%) compared to public institutions (16%). Thus, while public institutions were likely to experience more stability, private institutions were more likely to experience a decrease in dropouts. In terms of increasing dropouts, public and private reported similar rates and so the situation was slightly more positive for private institutions when it comes to adult learner retention.

Figure 17: Dropout of adult learners (compared to before the pandemic)

B3.3 Movement in international student enrolment and dropout rates

Enrolment

For international students, HEIs were asked to report on enrolment trends for both degree-seeking and exchange students. For each category, students were divided between those from the same region and those from other regions to see if there was a move towards more intra-regional mobility. The first thing to note is that not all HEIs have international students and that the percentage of HEIs having degree-seeking students is higher than those having exchange students; furthermore, the percentage of HEIs having students from the same region is higher than from other regions (**Table 6**).

Table 6: Enrolment of international students

Type of international students:	% of HEIs with this type of students
Degree-seeking students (same region)	71%
Degree-seeking students (other regions)	65%
Exchange students (same region)	61%
Exchange students (other regions)	58%

More public than private HEIs have international students for all categories, but the difference is few percentage points (less than 7%).

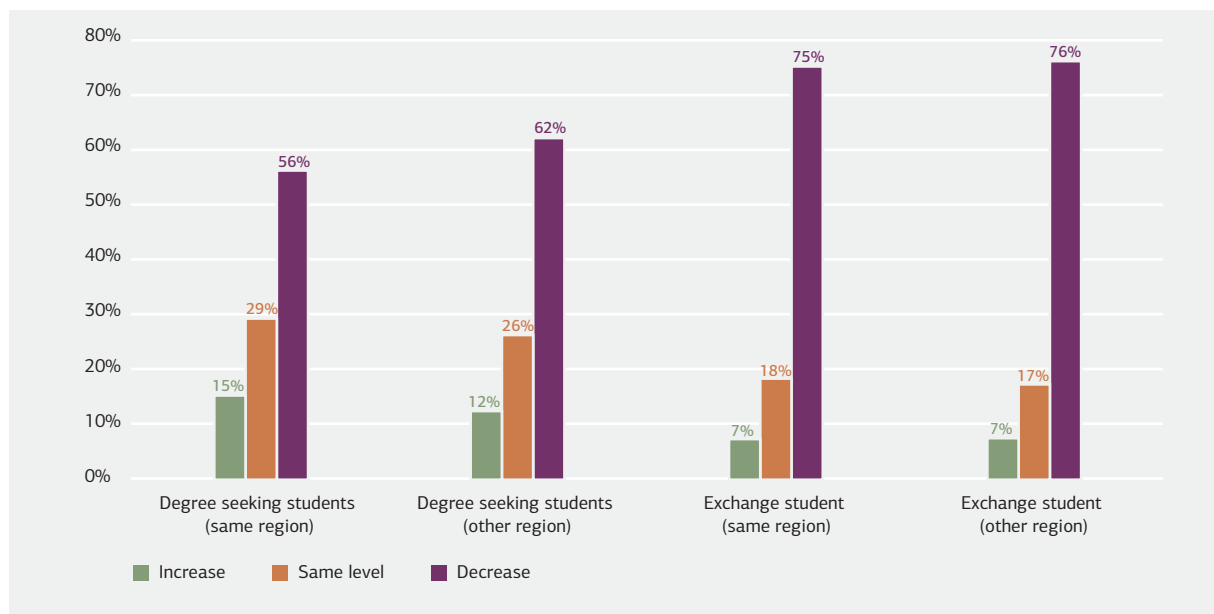
There is more variation when looking at the different regions. Europe is the region with the highest percentage of HEIs receiving both international degree-seeking students and exchange students, all above 80%. These percentages are lower in all other regions, with the percentage of international degree-seeking students in the Americas being the lowest (**Table 7**).

Table 7: Enrolment of international students, regional analysis

Type of international students	Africa	Americas	Asia & Pacific	Europe
Degree seeking students (same region)	75%	64%	76%	89%
Degree seeking students (other regions)	60%	56%	71%	84%
Exchange students (same region)	65%	65%	61%	87%
Exchange students (other regions)	60%	64%	60%	82%

In contrast to enrolments in domestic students and adult learners, it is not a surprise to see that most of the institutions have experienced a decrease in international student enrolment as a consequence of the pandemic and ensuing restrictions. The decrease is higher for exchange students than for degree-seeking students.

Out of the institutions that do have exchange students, three quarters of them experienced a decrease. Where degree-seeking students are concerned, it may be positive to note that the number of institutions reporting a drop is not higher (56% reporting a drop in degree-seeking students from the same region and 62% report a drop in degree-seeking students from other regions) (Figure 18).

Figure 18: Movements in international student enrolment

Looking at where international students come from, for degree-seeking students the number of institutions experiencing stability in enrolment is slightly higher (29%) for students from the same region than those from other regions (26%) and for exchange students there is no difference in where they come from with 17% reporting stability among students from the same region and other regions.

It can be concluded that international student enrolment has been very severely impacted by the pandemic and most importantly for exchange students, yet no substantial difference between mobility within the same region and other world regions can be observed.

When comparing the different regions (excluding the institutions that indicated ‘not applicable’), what is common to all regions is that most institutions are experiencing a decrease in international student enrolments, whether they be degree-seeking or exchange students. However, there are some differences among the regions (**Table 8**).

Table 8: Movements in international student enrolments by region

	Increase	Same level	Decrease
Africa			
Degree seeking students (same region)	5%	23%	72%
Degree seeking students (other region)	13%	19%	68%
Exchange student (same region)	3%	15%	82%
Exchange student (other region)	10%	23%	67%
Americas			
Degree seeking students (same region)	14%	19%	67%
Degree seeking students (other region)	14%	20%	67%
Exchange student (same region)	15%	8%	77%
Exchange student (other region)	10%	12%	78%
Asia			
Degree seeking students (same region)	14%	30%	56%
Degree seeking students (other region)	8%	30%	62%
Exchange student (same region)	7%	22%	71%
Exchange student (other region)	6%	20%	74%
Europe			
Degree seeking students (same region)	18%	33%	49%
Degree seeking students (other region)	14%	27%	59%
Exchange student (same region)	5%	18%	76%
Exchange student (other region)	5%	16%	79%

In all regions the number of HEIs reporting a decrease in exchange students is larger than those reporting a decrease in **international degree-seeking students**. This difference is particularly pronounced in Europe, the region with the fewest HEIs reporting a decrease in degree-seeking students (49% from the same region / 59% from other regions). More HEIs are experiencing a decrease in the other regions (Asia & Pacific (56% from the same region / 62% from other regions), The Americas (67% from the same region and also from other regions) and Africa (72% from the same region / 68% from other regions). The breakdown also shows that the decrease in degree-seeking students is smaller within the same region for Europe and Asia & Pacific, whereas the numbers are the same for the Americas. However, for Africa it differs as the decrease in degree-seeking students from the same region is larger than from other world regions.

The impact in terms of **exchange students** is very similar across the different regions where most institutions experienced a decrease in exchange students. Although the numbers are slightly higher when it comes to exchange students from other regions, the numbers are still very close and less pronounced when compared to the differences observed for international degree-seeking students: Americas (77% from the same region / 78% from other regions), Asia & Pacific (71% from the same region / 74% from other regions) and Europe (76% from the same region / 79% from other regions). This shows that the obstacles to pursuing mobility seem equally high for students from the same region as for those from outside the region. Only Africa stands out from this trend as the share of institutions experiencing a

decrease in exchange students from the same region is larger than those reporting a drop in exchange students from within the region (72% vs. 67%). This may be an indication that more international students in Africa are coming from the same region, as opposed to another one.

Out of the remaining replies, the majority of institutions indicated stable levels of enrolment, and the percentage of institutions showing an increase in international enrolments were for the most part less than half than for stable levels in each category. It is, however, worth mentioning that for the Americas, there is more of an even share among replies for those reporting a stable level of enrolments and an increase, leading us to conclude that the situation is more divergent than elsewhere. At the same time, it is clear that across all regions, the majority of institutions experienced a decrease in international mobility particularly for exchange students, but also for degree-seeking students.

It is worth noting that almost one out of five institutions in Europe (18%) reported an increase in degree-seeking students from within the same region and 14% from other regions. This shows that some students are still pursuing degrees abroad although the pandemic has made it more difficult to cross borders.

Dropout

In terms of international student dropouts there are no important changes to report and the biggest proportion of institutions reported stable dropout rates (between 53-60%) whereas the rest are more or less equally split between an increase and a decrease in dropout rates. For the regions, the trend is more or less similar, except for the Americas, where the responses are a bit more equally distributed among all three categories. The number of institutions reporting a stable dropout rate ranges from 30-42% in this region which indicates more diversity among institutions in terms of how they are coping. For Europe the trend is inversed with a bigger share of stable institutions (61%-67%). The data does not allow for an explanation as to whether this is due to different national contexts or whether it is diverse within the different countries in the region, but it is a common trend across the replies that there is a higher tendency towards diversity in the responses within the Americas whereas within Europe there is often a high share of institutions reporting stability.

Conclusion

The main share of students are domestic students in most HEIs around the world and from that perspective it is relatively positive to note that a great majority experienced either a stable enrolment rate or an increase in domestic students. However, it remains a concern that one out of five experienced a decrease and this trend is particularly worrisome in Africa and the Americas where a third of HEIs reported a decrease.

For adult learners a similar trend is observed, yet fewer HEIs enrol adult learners and they represent a smaller share of the overall student body. While the situation is stable for the majority of institutions with adult learners, again the situation is less positive in Africa and the Americas compared to other regions.

Finally, in the current context of the pandemic, it is not surprising that international student enrolment is particularly negatively impacted and institutions across all regions experienced a decrease in numbers. This decrease is however more pertinent for exchange students than for degree-seeking students.

Before the pandemic, international students represented a minority of the overall student body in many institutions around the world and it is therefore important to keep in mind that in student numbers, a decrease in domestic students may be significantly higher than a decrease in international students. This survey only considers overall trends and does not allow us to look further into the proportion of students and actual numbers.

Finally, it might be expected that international mobility will resume once any restrictions in place are lifted. The question remains of whether the decrease observed in domestic student enrolments (and adult learners) will continue. This trend (i.e., drop in domestic and adult learners) is less obviously linked to the pandemic and could be affected by other factors such as barriers to enrolling at local level, but will have to be monitored closely in the years to come.

B4. Human resources

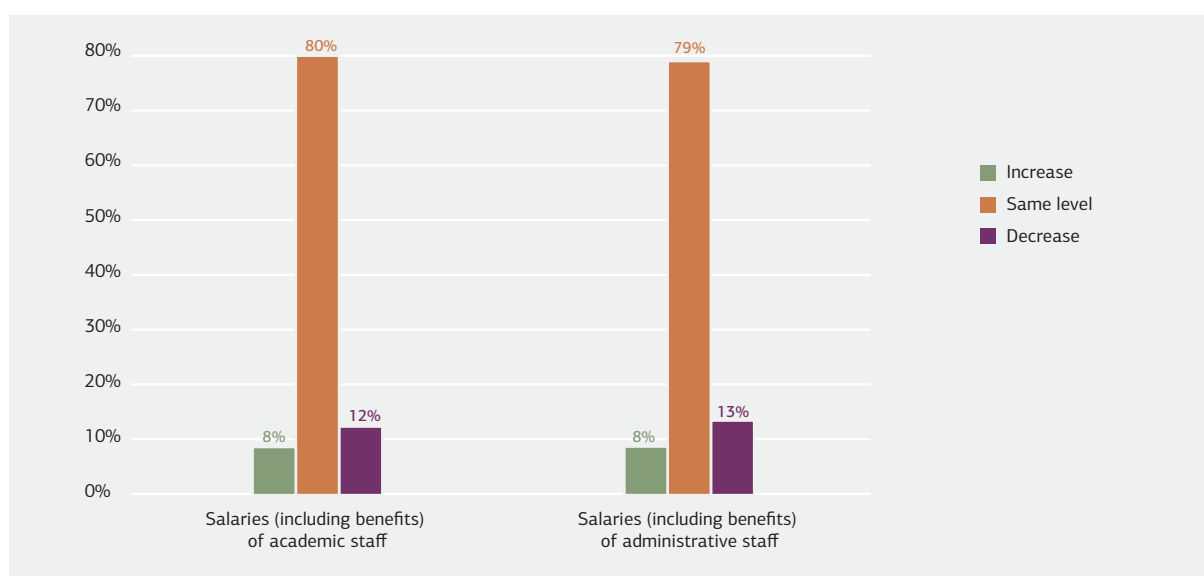
Human resources are another important aspect for a thriving HEI and so it was decided to monitor the impact on human resources from different perspectives. This first part of this section examines employment trends such as changes in salaries and benefits; redundancies (temporary and permanent layoffs) and recruitment. The second part will look at changes in terms of workload as well as physical and mental health.

B4.1 Movements in human resources

B4.1.1 Salaries (including benefits)

Salaries remained stable for both academic staff and administrative staff for large majority of institutions (80% and 79% respectively) (**Figure 19**).

Figure 19: Changes in salaries (including benefits) for academic and administrative staff



Regionally, there are no significant variations although Africa and the Americas did report slightly less stability and a higher increase and decrease, but the numbers are negligible and not worth exploring further. When looking at the breakdown between private and public institutions, the trend is similar, yet more private institutions reported a decrease than public (private HEIs 17% (academic) - 17% (administrative) staff vs. public HEIs: 8% (academic) - 10% (administrative) staff) and the base of stable institutions is in the same manner lower in private HEIs (private: 75/76% vs. public 82/82%). It is not a very large variation, but still interesting to note this difference as it is in line with the fact that private HEIs are more negatively impacted financially as a result of the pandemic as demonstrated in the previous sections.

From a global perspective, salaries overall are stable, with few institutions being able to provide an increase (8% for academic staff and 8% for administrative staff) and 12% for academic staff and 13% for administrative staff showing a decrease in salary. The proportion of institutions experiencing a decrease is slightly higher in private HEIs whereas public institutions are closer to the global trend, i.e., stability in salaries, and there are no significant differences between academic and administration staff.

B4.1.2 Staff layoffs

To monitor changes in terms of layoffs, the questions were in the same manner again divided by academic and administrative staff. It was furthermore divided into different types of layoffs, distinguishing between temporary and permanent layoffs (redundancies) as some countries have extraordinary schemes in place with possibilities of temporarily suspending work contracts for a period of time in return for social benefits provided by the state.

First of all, it must be noted that a slightly less than 40% of HEIs replied 'not applicable' to these questions. Although it is not straightforward to interpret these data, it may be an indication that many HEIs do not have enough information on redundancies to quantify whether the numbers have increased, decreased or remained the same. For some public institutions, they may be operating with a system of staff quotas and thus it may be difficult to lay off staff.

Considering only institutions that replied to the questions (excluding those who replied 'not applicable'), the data shows that an overwhelming majority of institutions did not have to decrease staff, whether temporarily or permanently. The most stable category is academic staff with 77% of institutions reporting a stable situation for redundancies and 73% for temporary layoffs. And while administrative staff movements are also stable, they do appear slightly more at risk compared to academic staff, albeit by just a few percentage points (16% vs.11% for redundancies and 18% vs.15% for temporary layoffs) (**Figure 20**).

There are no important variations to report between public and private institutions, except that private HEIs seem to have less information on redundancies than public HEIs (the percentage of 'not applicable' is 10% higher for private HEIs).

At regional level, Europe is the region with the lowest percentage of HEIs replying 'not applicable' (26% administrative staff – 32% academic staff) so with the highest number of HEIs providing information on redundancies and temporary layoffs, compared to the other regions where these percentages are over 40% (in the Americas they are close to half of the institutions).

Considering only those HEIs that provided information on layoffs, there are interesting differences at regional level. Particularly in Europe, followed by Asia & Pacific, there is a higher degree of stability in the level of redundancies. For Europe 74-87% report being at the same level for all categories (academic and administrative staff, temporary and permanent) whereas for Asia & Pacific the numbers are slightly

Figure 20: Impact on redundancies for Academic and Administrative Staff (temporary and permanent layoffs)

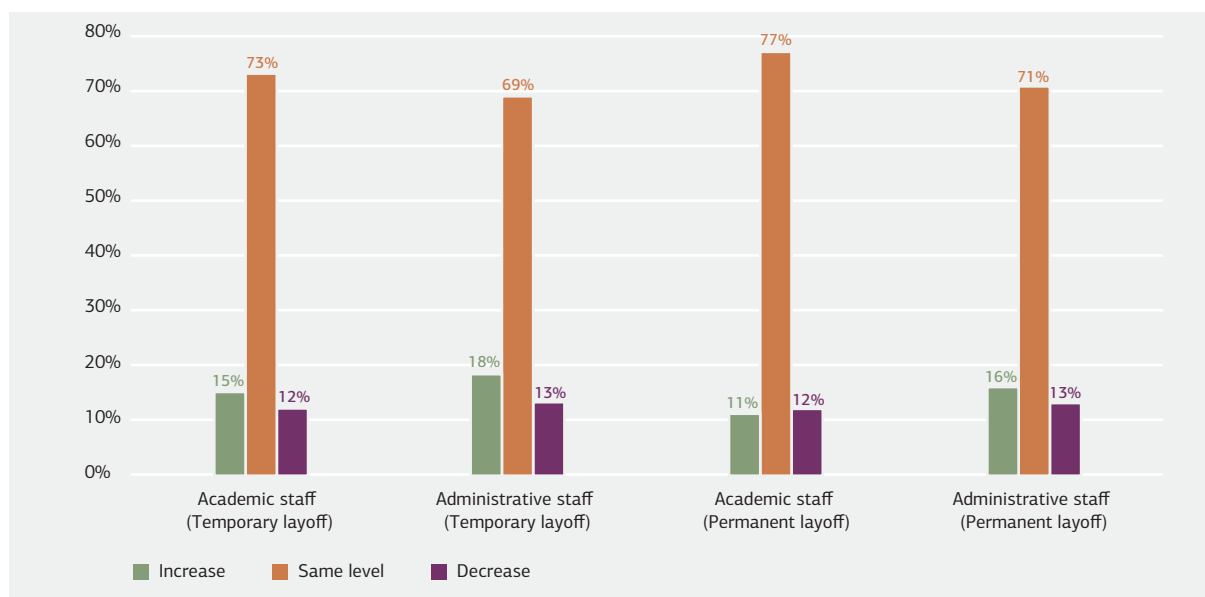


Table 9: Impact on redundancies by region

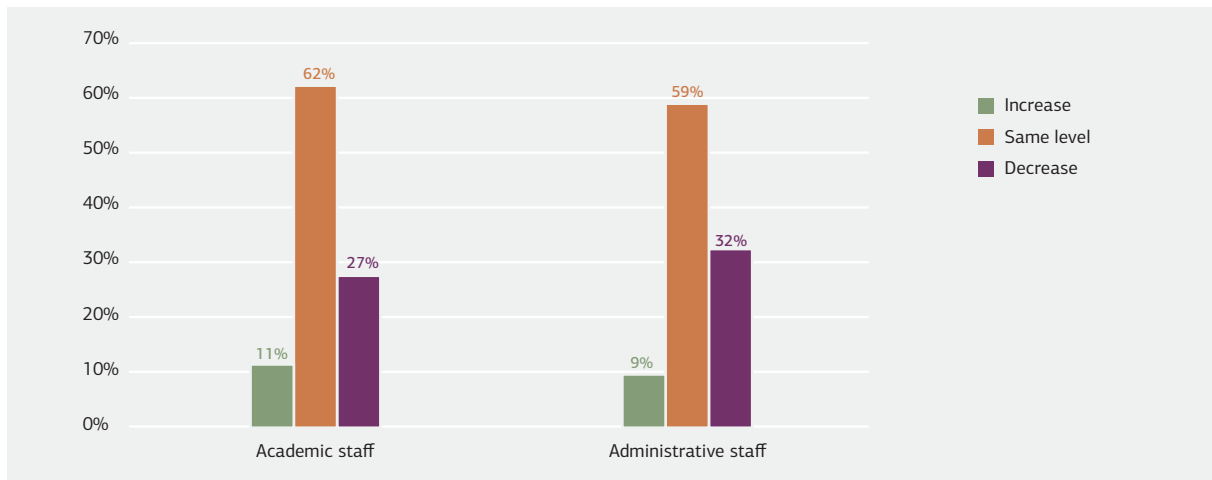
	Increase	Same level	Decrease
Africa			
Academic staff (Temporary layoff)	26%	58%	16%
Administrative staff (Temporary layoff)	19%	61%	19%
Academic staff (Permanent layoff)	22%	48%	30%
Administrative staff (Permanent layoff)	22%	48%	30%
Americas			
Academic staff (Temporary layoff)	26%	67%	7%
Administrative staff (Temporary layoff)	27%	69%	4%
Academic staff (Permanent layoff)	21%	72%	6%
Administrative staff (Permanent layoff)	25%	65%	10%
Asia & Pacific			
Academic staff (Temporary layoff)	12%	68%	20%
Administrative staff (Temporary layoff)	16%	64%	20%
Academic staff (Permanent layoff)	13%	73%	14%
Administrative staff (Permanent layoff)	16%	68%	16%
Europe			
Academic staff (Temporary layoff)	10%	83%	7%
Administrative staff (Temporary layoff)	17%	74%	9%
Academic staff (Permanent layoff)	4%	87%	8%
Administrative staff (Permanent layoff)	11%	79%	9%

lower, 64-73%, and they have a larger share of institutions showing a decrease in staff layoffs across the board. So, if we combine stability and decreases in Europe and Asia & Pacific, these two regions are very similar and are the regions with the fewest institutions showing an increase in layoffs. Africa and the Americas have the highest numbers reporting an increase in redundancies (19-26% for Africa and 21-27% for the Americas). Although they are similar here, Africa differs from the Americas as it shows more diversity in the replies among institutions as those showing stability are lower than in the Americas as more institutions are reporting a decrease in layoffs (**Table 9**).

B4.1.3 Recruitment

Contrary to the questions on layoffs, the vast majority of institutions provided information on recruitment trends (over 90%). Excluding the 'not applicable', the majority of respondents indicated that recruitment was at the same level as prior to the pandemic both for academic staff (62%) and administrative staff (59%). Yet, a higher proportion of institutions experienced a decrease in recruitment rather than an increase (27% for academic / 32% for administrative staff). The percentage of institutions reporting a decrease in this case is more than double than for the other questions linked to human resources. The proportion of institutions reporting an increase is however similar to the other questions on human resources with 11% for academic staff and 9% for administrative staff (**Figure 21**).

While the overall staff recruitment remains stable, it is important to highlight that recruitment of new staff is slowing down for more than one out of four institutions where academic staff are concerned, and nearly a third of institutions for administrative staff.

Figure 21: Recruitment of academic and administrative staff (global)

Regional analysis

The first difference to note at regional level is that the share of HEIs replying ‘not applicable’ is higher in the Americas than in all other regions (16% for academic and 21% for administrative staff) probably indicating more difficulties for institutions in the Americas in collecting this data as was the case for layoffs. Considering only those HEIs reporting information, Asia & Pacific and Europe show a very similar trend with the majority of HEIs (between 61 and 67% for both categories of academic and administrative staff) reporting stability in recruitment. For the remaining institutions more HEIs reported a decrease (21-28%) than an increase (8-12%). In Africa the situation is less stable with higher percentages of HEIs reporting a decrease in recruitment (38 – 40%), but with still almost half HEIs reporting no change (48-49%). Finally, in the Americas there is a clear difference between academic and administrative staff. While for academic staff more than half of HEIs reported no change (55%) and 38% reported a decrease, for administrative staff the situation is reversed with almost half of HEIs reporting a decrease in recruitment (49%) making this the biggest group for a drop in recruitment throughout all four regions (**Table 10**).

Overall, it can be concluded that the pandemic had a negative effect on recruitment at a number of HEIs around the world but most importantly in the Americas and Africa, where administrative staff seems to be the hardest hit, particularly in the Americas.

Table 10: Movements in recruitment of academic and administrative staff per region

	Increase	Same level	Decrease
Africa			
Academic staff	15%	48%	38%
Administrative staff	11%	49%	40%
Americas			
Academic staff	7%	55%	38%
Administrative staff	7%	44%	49%
Asia & Pacific			
Academic staff	12%	63%	25%
Administrative staff	11%	61%	28%
Europe			
Academic staff	12%	67%	21%
Administrative staff	8%	65%	27%

In the breakdown between the public and private institutions, both public and private follow the global trend, with the majority of them reporting no change in recruitment, although the situation is more stable for public institutions than private ones (64% for both academic and administrative staff vs. 58% for academic and 51% for administrative staff). The percentage of private institutions reporting a decrease in administrative staff recruitment is higher than for public institutions (38% vs. 29%). The same is true for academic staff recruitment but is less pronounced (29% vs. 25%). The percentage of private institutions reporting an increase in recruitment is also slightly higher than for public institutions but the difference is but a few percentage points.

Recruitment of differently skilled staff

Due to the shift in operations, the respondents were asked to assess whether the pandemic had led to recruitment of staff with different skills (administrative and academic) staff. Only 22% of respondents answered yes to this question, but for the vast majority (78%), this is not the case. There are no important variations within the regions; only in Africa there is a slightly more important share of institutions that confirmed recruitment (29%) and the contrary is observed in Europe where 83% indicated that the pandemic has not led to recruitment of staff with different skills. This could be explained by the level of infrastructure that facilitates remote operations, which is already advanced in many European countries and likewise often an important challenge in many countries across Africa.

In the examples and explanations given by the institutions that did experience this change in recruitment mainly two trends of skills stand out: first, the need for more experienced staff to cope with remote learning and digital infrastructure, training on the use of Learning Management Systems (LMS) which also increased workload on public relations use of social media. The second stream is more directly linked to skills for crisis management which includes staff knowledgeable about the pandemic from psychologists to support staff and students through the crisis.

B4.2 Staff workload (academic and administrative staff)

While the majority of institutions reported a stable situation when looking at staff movements both in terms of salaries and recruitment and layoffs, the situation is different when looking at the staff workload. For both academic and administrative staff, the majority of the institutions reported an increase in workload. Most importantly for academic staff where 63% of the institutions report that the

Figure 22: Change in workload of academic staff by region

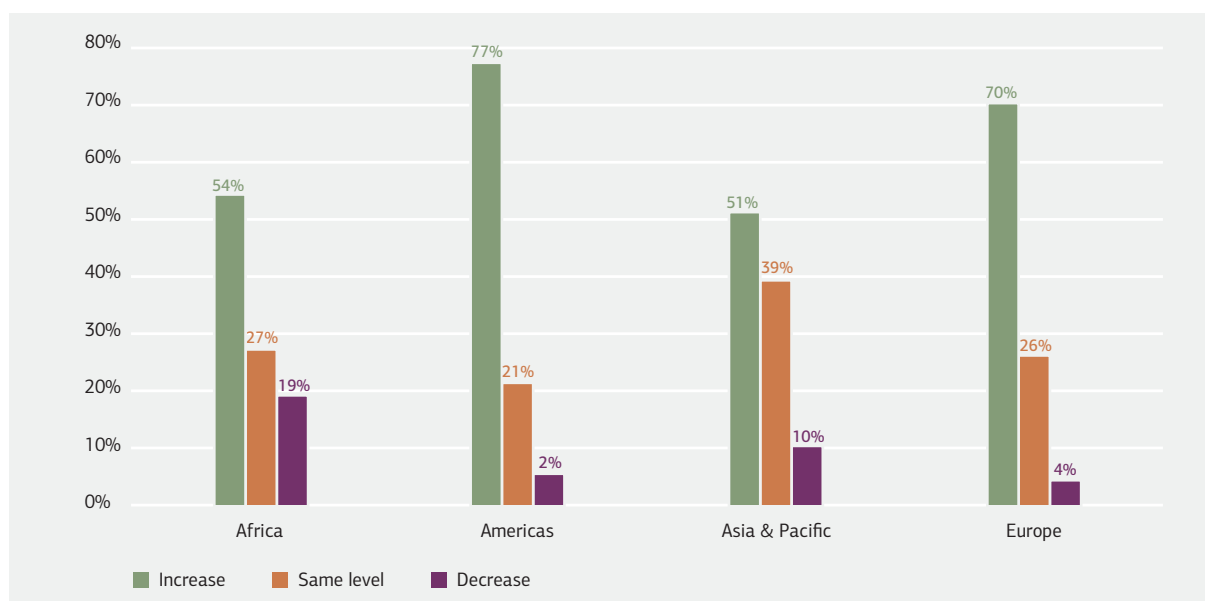
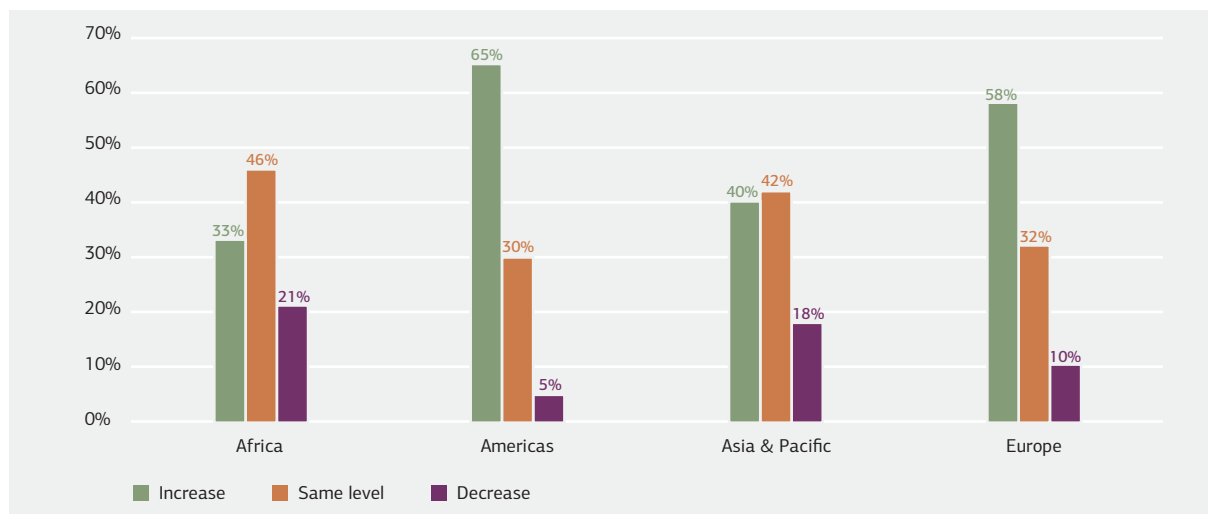


Figure 23: Change in workload of administrative staff by region

workload increased. For administrative staff this also represents a large share (50%) although slightly lower compared to academic staff.

There is no discernible difference between private and public institutions.

Less than 1% of institution indicated 'not applicable' and these were excluded from the regional analysis. When looking at the regional breakdown for academic staff particularly in the Americas (77%) and Europe (70%) the percentage of HEIs reporting an increase in workload is very high, much more so than in Asia & Pacific (51%) and Africa (54%) where only about half of institutions reported such an increase. In the Americas and Europe, the trend is the same for administrative staff, yet the percentages of HEIs reporting an increase in workload are slightly lower, 65% for the Americas and 58% for Europe, while in Asia & Pacific and especially in Africa the biggest group of HEIs reported stability in workload rather than an increase (42% vs. 40% in Asia & Pacific and 46% vs. 33% in Africa). In the Americas (2%) and in Europe (4%) only very few institutions experienced a decrease in workload for academic staff. This percentage is slightly higher in Asia & Pacific (10%) and not negligible in Africa (19%) (Figure 22).

A similar trend is visible for the workload of administrative staff, but with a slightly higher proportion of institutions reporting stability, particularly in Africa (46% stable vs. 33% increase) and Asia & Pacific (42% stable vs. 40% increase), while approximately a third of the institutions in Europe (32%) and Americas (30%) report stability as the majority are experiencing an increase (Europe 58% / Americas 65%). The highest percentages of HEIs reporting a decrease in workload is to be found in Africa (21%) and Asia & Pacific (18%) where this concerns approximately one in five institutions (Figure 23).

This clearly shows that the higher education community, most particularly academic staff, but also administrative staff, have invested extra time and efforts to ensure the shift to remote operations. This trend is even more pronounced in Europe and the Americas. However, their investment has not been rewarded by any increase in salary but rather by a status quo in salaries and benefits. There is an important share of institutions that remains stable and, apart from a few institutions, there are no signs of any significant increase in layoffs one year into the pandemic; there is, however, a tendency towards a slowdown in recruitment.

B4.3 Changes in institutional support for the physical and mental health of staff

During the health crisis, the pandemic has had consequences both in terms of physical health and mental health of staff. Some have been affected directly by contracting the disease, or have had friends and family impacted; in the worst cases it led to the loss of loved ones. In many cases staff experienced

a change in working environment, having to operate remotely (partly or full time). While some enjoy working from home, for others it has meant isolation. For others, it meant having to juggle several tasks – looking after children at home, or taking care of elderly family members. For this reason, we included a question to assess whether or not there had been any change in support provided to staff in terms of both physical and mental health. Only a few institutions replied ‘not applicable’ to this question, with most institutions providing support for physical health (90%) and mental health (87%), even if the questions do not allow to discern which types of service are provided. Overall, there is a tendency to increase institutional support for both physical health (51%) as well as mental health of staff (49%) and the other significant group of institutions reported stable levels of support compared to before the pandemic (physical health 42% / Mental health 46%). Only very few (7/5%) have experienced a decrease in physical and mental health services.

Private/Public and regional analysis

There are no differences between private and public HEIs in terms of the percentage of institutions offering this kind of service and the trends are also similar, with only a slightly higher proportion of private HEIs reporting an increase in support for both physical and mental health (54 / 51% vs. 49 / 48% in the public).

Africa particularly stands out in the regional comparison as the region with the most institutions experiencing an increase in support offered for **physical health** (65%), followed by Asia & Pacific, where the majority of HEIs also reported an increase (54%). In the Americas the group of HEIs reporting an increase is still the largest, but very closely followed by those reporting no change (46% vs. 43%). Finally, Europe has the majority of institutions reporting no change when it comes to support, although there is very little difference with those reporting an increase (47% vs. 46%).

Regarding **mental health**, the majority of institutions in Asia & Pacific (55%) and the Americas (54%) reported an increase of support, while in Europe (54%) the majority reported no change. In Africa the two groups of institutions reporting an increase and no change are of the same size (46%) (**Table 11**).

To which extent the universities are increasing these types of services may be very much related to the healthcare system and its accessibility within the different countries. One may be inclined to think that in countries where healthcare systems are easily available to all, the role of the university would be less important (apart from perhaps teaching hospitals that form part of or be complimentary to the national system) whereas in countries where there is limited access to health care, this responsibility would be of concern to universities to a larger extent in order to ensure the well-being of their staff (and students).

Table 11: Changes in institutional support for physical and mental health of staff

	Increase	Same level	Decrease
Africa			
Physical health of staff (support for)	65%	28%	7%
Mental health of staff (support for)	46%	46%	7%
Americas			
Physical health of staff (support for)	46%	43%	11%
Mental health of staff (support for)	54%	36%	10%
Asia & Pacific			
Physical health of staff (support for)	54%	42%	4%
Mental health of staff (support for)	55%	41%	4%
Europe			
Physical health of staff (support for)	46%	47%	7%
Mental health of staff (support for)	42%	54%	4%

B5. Crisis management and communications

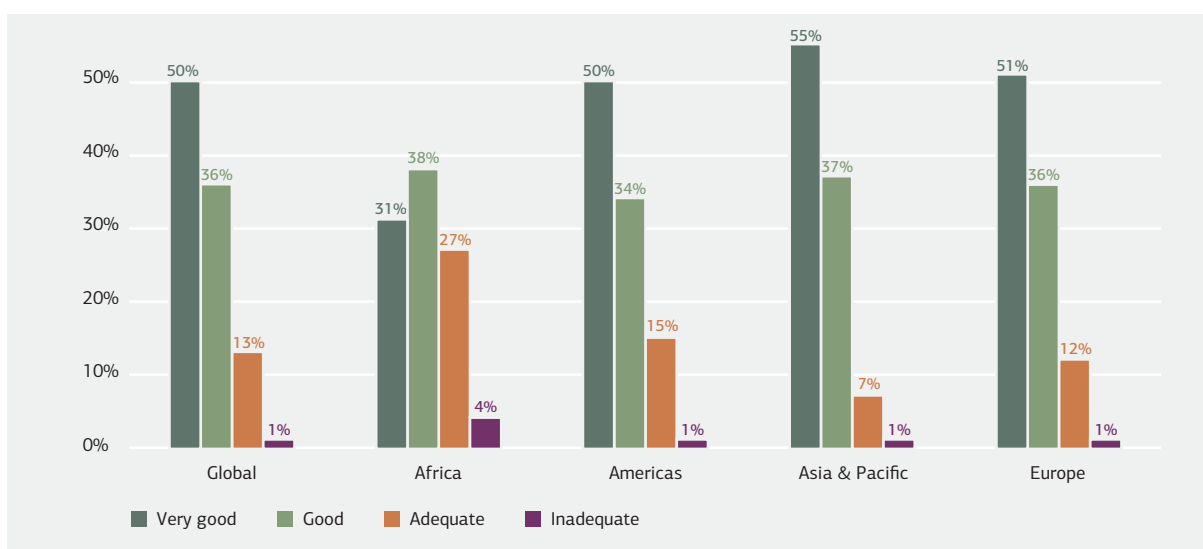
B5.1 Crisis management

One year into the pandemic, HEIs were asked retroactively to evaluate the institution's crisis management and communications during the pandemic.

Concerning crisis management, most of the respondents were very pleased with their crisis management (50% 'very good' / 36% 'good'). Public and private HEIs are rather close with private HEIs being slightly more satisfied than public HEIs, (e.g., 52% vs. 49% 'very good', 38% vs. 35% 'good').

Across the regions the great majority of the respondents were very satisfied with their crisis management, and the trends are very similar across the regions. Asia & Pacific is the region with the highest percentage of satisfied HEIs (55% 'very good', 37% 'good') while Africa stands out as having only a third of institutions indicating 'very good' (31%) and the highest proportion of institutions indicating that the response was adequate (27%) compared to other regions (**Figure 24**).

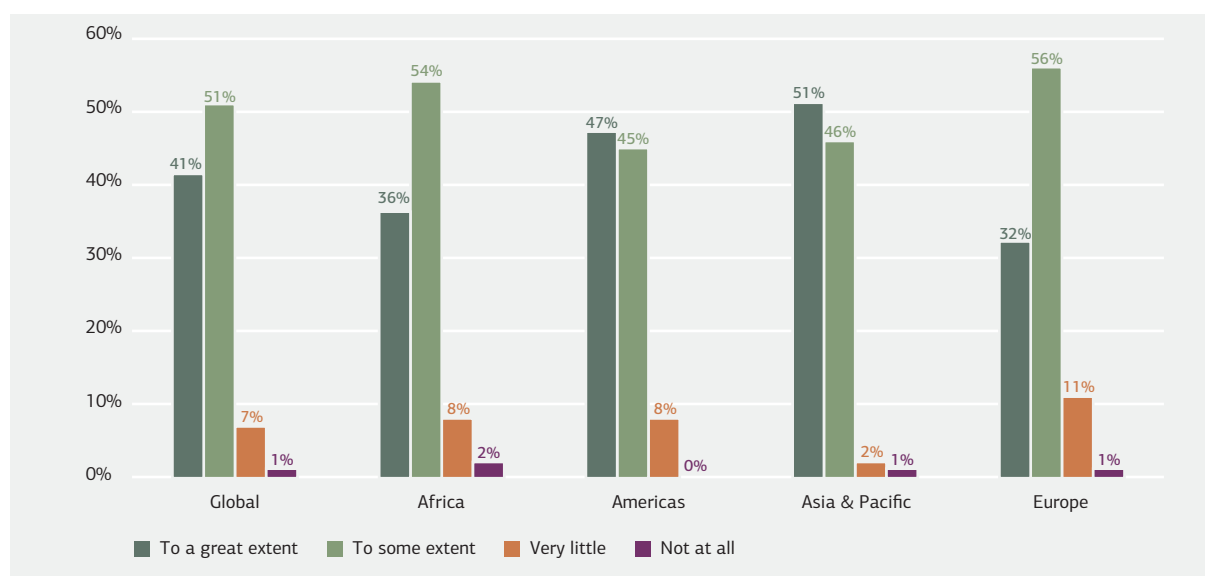
Figure 24: Self-evaluation of crisis management of the institution



B5.2 Enhanced transversal collaboration

Crisis management has to a large extent enhanced transversal collaboration within HEIs and 41% reported that transversal collaboration has improved to a *great extent* and 51% to *some extent*. This is even more pronounced in private HEIs (50% / 45%) compared to public HEIs (36% / 54%).

At regional level, the trend is similar across the regions, but Asia & Pacific is the region with the most universities reporting an improvement in transversal collaboration at 97% (combining the categories to a *great extent* (51%) and to *some extent* (46%); in Europe we see the fewest institutions compared to other regions reporting an improvement at 88% (with a third of institutions reporting to a *great extent* (32%) and 56% to *some extent*). In Europe 12% of institutions indicate that the impact was *very little* or *non-existent* which is slightly higher than in other regions. Despite these small differences in the data per region, it is very clear that crisis management during the pandemic has led to more transversal collaboration within institutions. The question is whether this trend will continue beyond the pandemic or whether it is a temporary trend brought on by the crisis (**Figure 25**).

Figure 25: Improvement of transversal collaboration

B5.3 Effectiveness of communications during the pandemic

The habit of exchanging with colleagues in meeting rooms or offices, or discussing with students after a class was also disrupted when institutions started to operate remotely to a great extent and for this reason, several questions were included in the survey in order to assess communication among staff as well as between staff and students. In line with the evaluation of institutional crisis management, the outcome is very positive: 61% of institutions indicated that communication was *to a great extent* effective and 36% *to some extent* effective. Again, there is a higher percentage of private institutions

Table 12: Level of effectiveness in communications during the pandemic

	To a great extent	To some extent	Very little	Not at all
Global				
Among staff	61%	36%	3%	0%
Among staff and students	57%	40%	2%	0%
Africa				
Among staff	50%	44%	6%	0%
Among staff and students	44%	46%	10%	0%
Americas				
Among staff	62%	35%	3%	0%
Among staff and students	48%	51%	0%	1%
Asia and the Pacific				
Among staff	66%	31%	1%	1%
Among staff and students	66%	31%	1%	1%
Europe				
Among staff	58%	38%	4%	0%
Among staff and students	58%	38%	4%	1%

reporting that communication was to a great extent effective, but this time the difference with public HEIs is small (64% vs. 59%). While the proportion may vary slightly among these two positive categories within the regions, the overall trend is the same. Asia & Pacific is again the region with the highest proportion of *to a great extent* (66%). Only very few respondents indicated that communication was *very little or not at all* (3%) effective.

For communication among staff and students, the trend is similar. Fifty-seven percent of institutions indicated that communication among staff and students was *to a great extent* effective and 40% *to some extent* effective, and very few respondents indicated that effective communication was *very little or not at all* (2%). Again, there is a higher percentage of private institutions reporting that communication was effective to a great extent (63% vs. 53% for public HEIs). While the proportion may vary slightly among these two positive categories within regions, the overall trend is the same. Once more Asia & Pacific is the region with the highest proportion indicating *to a great extent* (66%) and only Africa stands out in this category with 10% of institutions indicating *very little to effective* communication with students (**Table 12**).

It is important to underline that these results reflect the perspective of the institution and it would be very interesting to compare these results to those of other surveys that include the same type of assessment from the students' point of view in order to understand whether institutions and students have the same opinion of the effectiveness of communication in times of pandemic.

B6. Disruption of activities and impact on strategic plan

Some important concerns, subject to debates taking place during the time of the pandemic, were to what extent it was possible to avoid disruption and continue the mission and mandate of HEIs despite the restrictions in place, and the short timeframe in which institutions rolled out changes. To monitor this aspect, HEIs were asked to report whether any activities were completely halted during the pandemic.

B6.1 Disruption of activities due to the pandemic

Fifty-nine percent of institutions indicated that certain activities had been completely stopped and would resume only after the end of the pandemic. There were no significant differences between private and public HEIs and at regional level the situation is also very similar, only the Americas is slightly higher at 62% and Europe slightly lower at 57%. In terms of the disrupted activities, the following categories stand out as the most common:

Internationalization, most particularly mobility

Many institutions stated that mobility was the activity that had been particularly disrupted during the pandemic, and this is in line with the survey results on international student enrolments. One institution underlined that while some student mobility still took place, academic staff mobility particularly had completely ceased. International conferences and programmes were put on hold and activities such as language teaching had been halted due to a lack of international students. Several HEIs reported that international summer schools and similar activities had likewise been postponed or cancelled.

Social events and extra-curricular activities

Beyond international social events, another general trend was that social events had been cancelled or moved to online formats that do not necessarily allow the same type of exchange among participants. This category also included several extra-curricular activities, business trips, internships, field trips, job fairs, open days, sports or arts events and other practical performances that were, and continue to be, cancelled. Especially activities linked to students' social life have been cancelled; several universities also reported that university restaurants have closed, and staff team-building events have been cancelled.

Practical and face-to-face education

Finally, many institutions underlined those certain disciplines requiring practical training, such as medicine, sports or the arts (music, theatre) also suffered; clinical trials and sporting tournaments were cancelled; practice sessions and live performances for musical and theatre studies were also cancelled; computer labs and learning centres normally open to students were closed. Several HEIs also reported that face-to-face education was disrupted, although remote solutions were put in place, and likewise for physical *in-situ* exams.

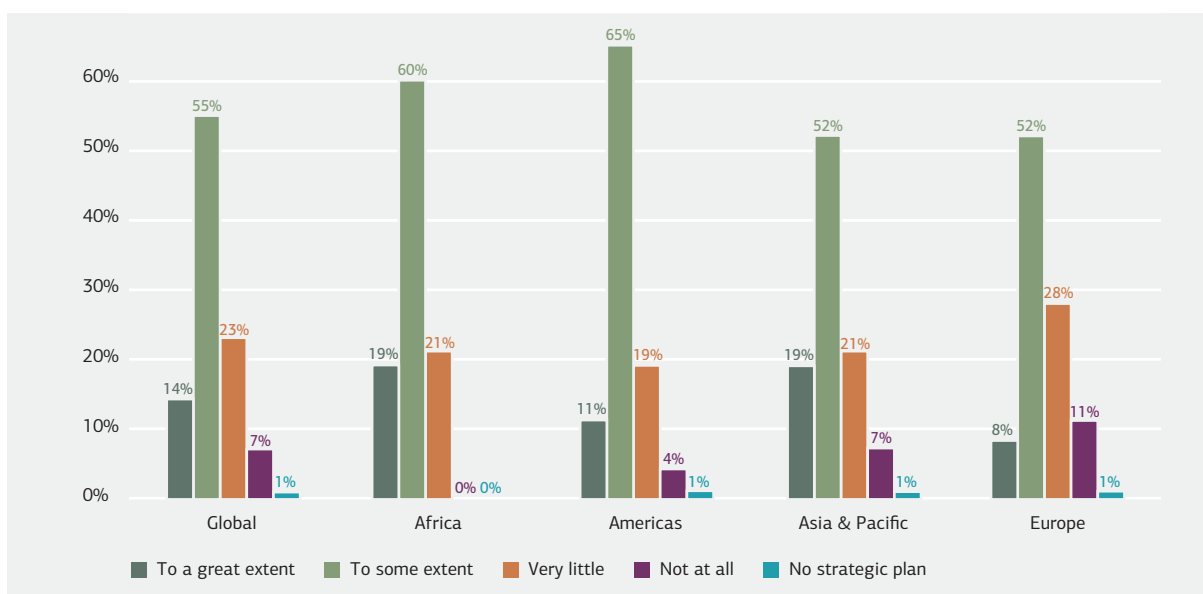
B6.2 Impact on the institutional strategic plan

First of all, it is worth noting that only 1% of HEIs indicated not having a strategic plan. In terms of impact of the pandemic, the majority of institutions indicated that the pandemic had to some extent (55%) impacted implementation of the institutional strategic plan, with 23% reporting that implementation of the strategic plan had only been impacted *very little*. For the remaining respondents 14% indicated that it had been impacted to a great extent and 7% indicated not at all.

There is no significant difference between public and private institutions.

At regional level, in Europe, although the majority of institutions reported an impact on the institutional strategic plan, only 8% report that the pandemic had done so to a great extent and 52% to some extent. Twenty-eight percent of institutions reported that impact was very little and 11% reported that there was no impact on the strategic. In Asia the trend is similar although there is a bigger share of institutions (19%) reporting an impact to a great extent. On the other hand, in Africa all institutions reported an impact on the strategic plan, with the majority saying *to some extent* (60%) and the remainder almost equally divided between *a great impact* (19%) and *little impact* (21%). The Americas is the region with the biggest group of institutions reporting an impact *to some extent* (65%) (**Figure 26**).

Figure 26: Degree of impact on the implementation of the strategic plan



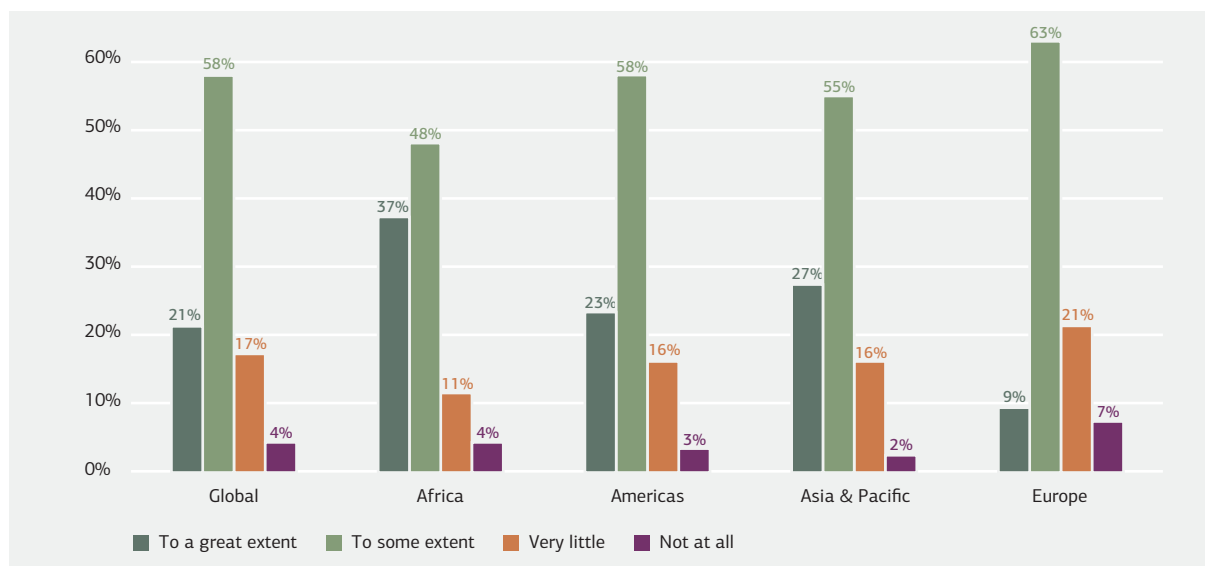
To the question on whether the institution had plans to modify the strategic plan in order to take into account the impact of the pandemic, the responses were similar to the previous question. The majority of institutions responded *yes to some extent* (58%). However, the remaining respondents were more divided between whether the strategic plan would be modified to a *great extent* (21%) or *very little* (17%) and *not at all* (4%). This probably also depends on to what extent a strategic plan is set out as a visionary

road map or a more of an operational plan. As most of the changes observed were linked to modalities of implementation rather than the purpose of the activities, these different approaches to institutional strategic plans could also impact responses within institutions.

There is no great difference between public and private HEIs with only a slightly higher percentage of private HEIs reporting that they plan to modify their strategic plan to a *great extent* (24% vs. 18%).

The general trends are similar across the regions; nevertheless, Africa stands out with 37% indicating that the plan would be modified to a great extent whereas in Europe this drops to 9%. Europe is the region with the most important share of institutions foreseeing only little or no change to the strategic plan (21% / 7%). In comments received for this question, several respondents clarified that digitalisation was already part of the strategic plan and that this had been further accelerated by the pandemic, others that this would be further addressed in the strategic plan (Figure 27).

Figure 27: Will the strategy be modified as an effect of the pandemic?



B7. Partnership developments

Institutions were asked to report if the pandemic had caused any change (increase/decrease) in partnerships, and different types of partnerships were accommodated for in the survey. The first thing to note is that not all types of partnership are present within all institutions. While academic partnerships for mobility, for international collaborative learning and for research (beyond health), as well as membership in associations and organisations, were very common (more than 90% of HEIs reported having such partnerships), partnerships for research in health-related domains were less common, both for academic partnerships (present in 79% of HEIs) and with the private sector (in 70% of HEIs).

Considering only HEIs that reported having a specific type of partnership, it is interesting to note that for all types of partnership the biggest group of HEIs reported a stable situation (no change). The highest percentage of institutions reporting no change is for membership in associations and organisations (69%) and the lowest is for academic partnerships for international collaborative learning (37%). Only for academic partnerships for mobility did the biggest group of HEIs report a decrease (43% against 40% reporting no change). This is not surprising due to the disruption caused by the pandemic on mobility.

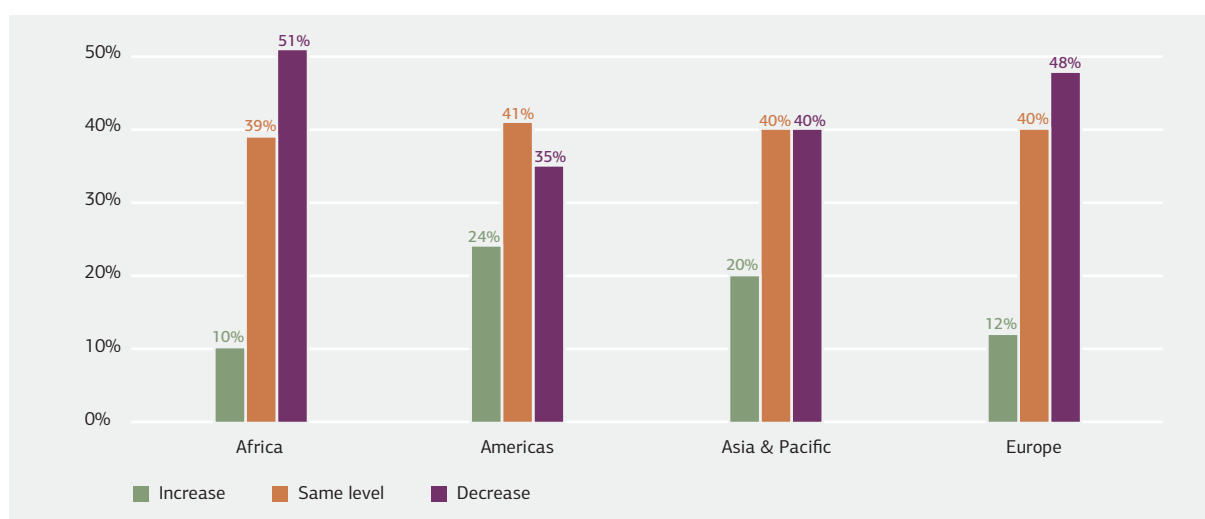
To examine the data per region and to compare public and private HEIs, each type of partnership will be analysed separately in the following section.

B7.1 Mobility partnerships

As mentioned before, the biggest group of HEIs reported a decrease in this type of partnership at global level. When looking at the private/public nature of HEIs, this is true only for public HEIs (45% reported a decrease vs. 38% no change), while for private HEIs there is a higher percentage of institutions reporting no change (44%) while 41% reported a decrease.

At regional level, Africa and Europe show a similar trend with the biggest group of HEIs reporting a decrease in academic partnerships for mobility (51% in Africa and 48% in Europe). In Asia & Pacific there is the same percentage of HEIs reporting both a decrease and no change (40%) and a not negligible percentage of 20% reporting an increase. In the Americas the situation is even more diverse with the biggest group of HEIs reporting no change (41%), 35% reporting a decrease and 25% reporting an increase. Inequality is present in all regions, but while in Africa and Europe there is almost an equal split between HEIs negatively impacted and those not impacted, in Asia & Pacific and even more so in the Americas, there is also a non-negligible percentage of HEIs which have increased their academic partnership for mobility. There is no obvious explanation for this trend and it would be worth looking more into the reasons for this (**Figure 28**).

Figure 28: Academic partnership for mobility



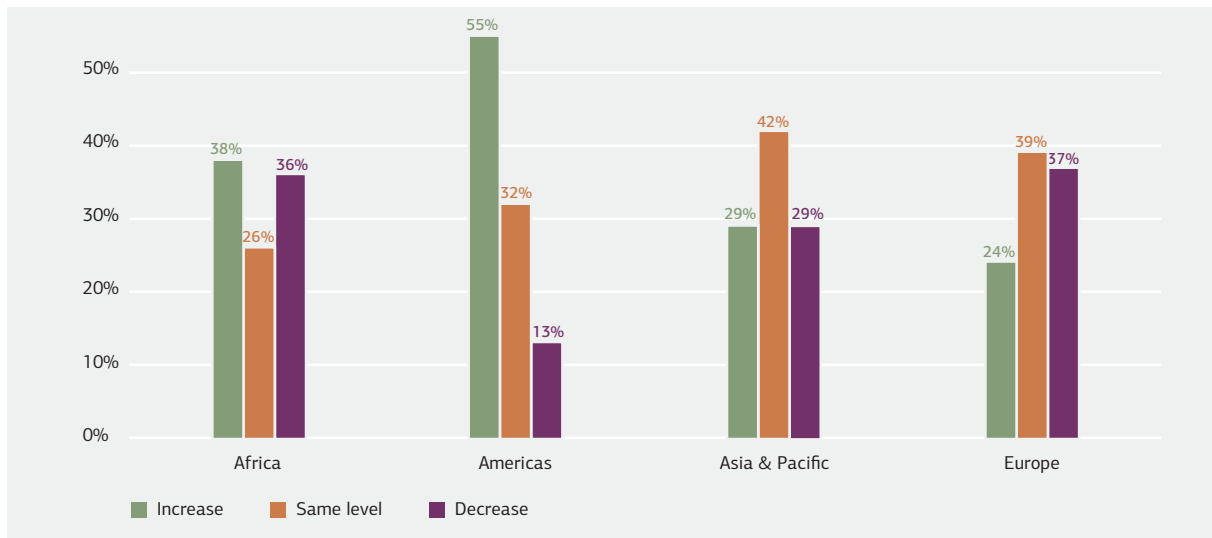
B7.2 International Collaborative Learning partnerships

Academic partnerships for international collaborative learning show the highest degree of inequality. HEIs are clearly divided in three groups of almost equal size (37% no change, 33% increase, 30% decrease). This result is somewhat surprising, especially the fact that almost one-third of institutions reported a decrease in partnerships for international collaborative learning, as this is an activity that could be carried out online and, as reported in the following parts of the report, the importance of international online collaborative learning (COIL) is increasing and with the introduction or expansion of COIL it would be expected that partnerships for international collaborative learning would increase or at least remain stable.

Regional and private/public analysis

The trend for public and private HEIs is very similar, with a slightly higher percentage of private HEIs having increased academic partnerships for international collaborative learning (36% vs. 30% of public institutions) and a slightly lower percentage of private HEIs having experienced a decrease (27% vs. 33%).

Regions are very diverse from one another. In the Americas the majority of HEIs (55%) experienced an increase in academic partnerships for international collaborative learning with few experiencing a decrease

Figure 29: Academic partnership for international collaborative learning

(13%). In Asia & Pacific almost half of the HEIs (42%) experienced no change, while the remainder are split in two equal groups (29%). In Europe the biggest group (39%) also experienced no change, but the percentage of HEIs experiencing a decrease is very close (37%) and definitely higher than those experiencing an increase (24%). In Africa we see the opposite, HEIs experiencing an increase are the biggest group (38%) but the percentage of those experiencing a decrease is very close (36%) (Figure 29).

Other than in the Americas, the results of the regional analysis confirm the existence of inequality among HEIs within the same region. The reasons for such inequality are not evident and would be worth further investigation.

B7.3 Academic Research partnerships

HEIs were asked to evaluate the changes caused by the pandemic in terms of research partnerships. This topic was divided into two questions, one focusing on research on health-related issues and one on all other kinds of research.

The first difference to be noted between the two kinds of partnerships is that fewer HEIs have health-related partnerships than other kinds of research partnerships, but the percentages are high in both cases (79% vs. 82%).

When analysing only HEIs that have any specific kind of partnership, there is a clear difference between health-related and other kinds. In case of health-related partnerships, there are two more or less equal groups, institutions having increased their partnerships (42%) and those reporting no change (44%), with few institutions showing a decrease in partnerships (14%). For non-health related research partnership, the majority of institutions (56%) experienced no change and the rest were divided in two equal groups at 22%.

The fact that there is a higher percentage of HEIs at which health related research academic partnerships have increased comparing to non-health related partnership is not surprising, it might be surprising that this percentage is only 42%, but this is in line with the results for research priorities, which can be found later in the report. These results can be positively interpreted in the sense that HEIs around the world have not overreacted by focusing only on health-related research but have kept their focus on other areas of research.

Regional and private/public analysis

There are fewer private HEIs having academic partnerships for both health (75%) and non-health related research (82%) than public HEIs (89% vs. 94%). The results for non-health related partnerships are

almost identical for both private and public HEIs. For health-related research, the biggest group of public HEIs have increased partnerships (44% vs. 42% reporting no change), while they remained stable at the biggest group of private HEIs (46% vs. 38% reporting an increase).

At regional level, health-related partnerships are more common in Africa (85%) and Asia & Pacific (86%) than in the Americas (76%) and Europe (74%) whereas non-health related partnerships are common everywhere (the lowest percentage being 86% in the Americas).

For non-health related partnerships, the biggest group of HEIs are those reporting no change, while for health-related partnerships, this is true only in Europe and Asia & Pacific, while in Africa (50%) and the Americas (55%) at least half of HEIs reported an increase in health-related partnerships. For both kind of partnerships Europe is the region showing the highest rate of stability (51% for health-related and 63% for non-health related) while in Africa we see a high level of inequality for non-health related partnerships with almost three groups of HEIs reporting more or less an equal share (34% increase, 36% no change and 30% decrease) (Figures 30 & 31).

Figure 30: Academic partnership for research on health-related issues

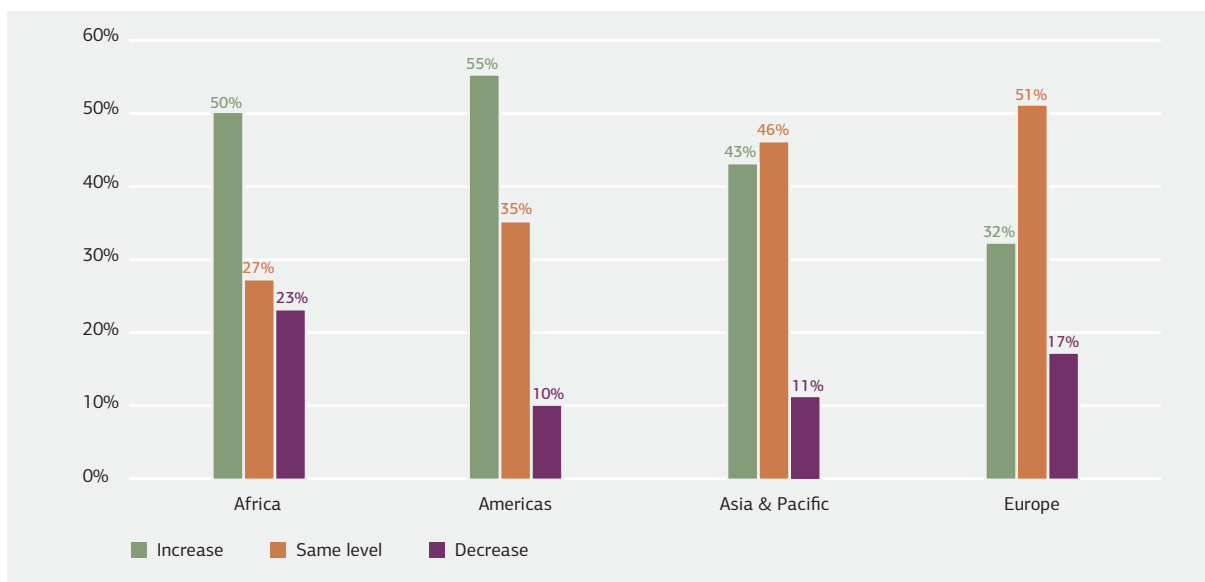
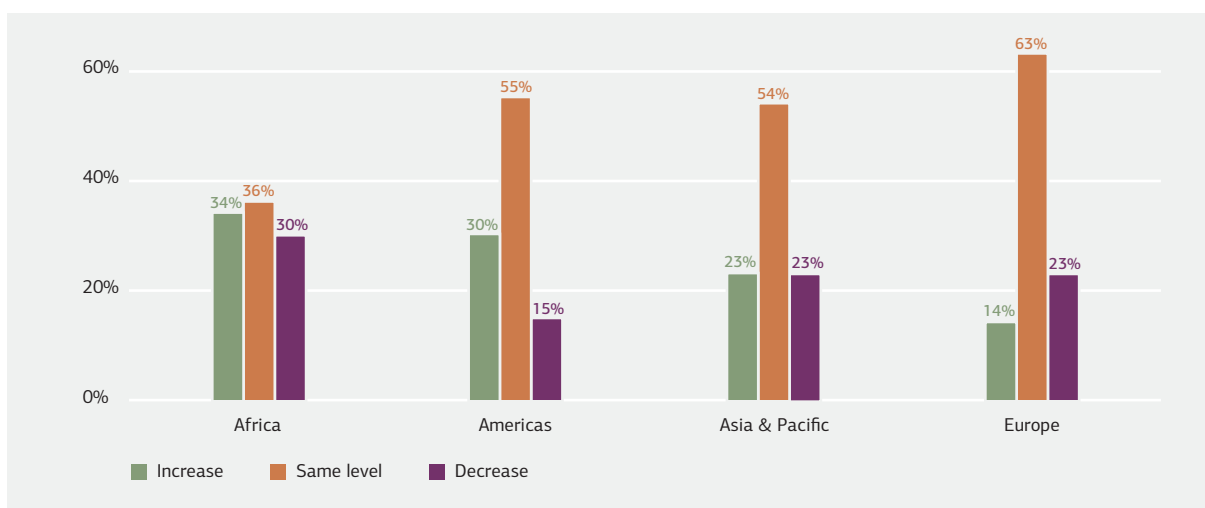


Figure 31: Academic partnership for research (beyond health)



B7.4 Private sector partnerships for research

As was the case for academic partnerships, private sector partnerships were also divided into health and non-health related partnerships.

Once more the percentage of institutions having such kinds of partnerships is higher for non-health related research (81%) than for health-related ones (70%). Both are high in absolute terms, but they are lower than the respective academic partnerships.

Looking only at HEIs having this kind of partnership, contrary to academic partnerships, the majority of HEIs reported no change for private sector partnerships for research in health-related issues (56%). The difference between health and non-health related research is that in the first case the percentage of HEIs reporting an increase in partnership (28%) is higher than those reporting a decrease (16%), while in the second case the situation is reversed (20% decrease vs. 17% increase and 63% no change).

It is interesting to note that private sector partnerships for research in health-related issues have increased only at 28% of HEIs that responded to the survey. One could have expected more, especially since research was needed on vaccines for COVID-19, but it is likely that this kind of research was carried out within only a few institutions and not all of them were able to create partnerships with the private sector.

Regional and private/public analysis

There is almost no difference between private and public HEIs in terms of research partnerships with the private sector for both health and non-health related research.

At regional level, private sector partnership for research on health-related issues are the least common in Europe, only 58% of HEIs reported having them, while the percentage is 81% in Africa and 80% in Asia & Pacific and 70% in the Americas. Private sector partnerships for research beyond health are instead common in every region, with the lowest percentage being 71% in the Americas. The majority of HEIs reported no change for both types of partnerships, except in Africa for health-related partnerships where only 47% of HEIs reported no change. However, they still constituted the biggest group. The biggest percentage of HEIs reporting an increase in partnerships is to be found in Africa for health-related research partnerships, but the figure is only 36%. As was the case for academic partnerships, the most stable region was Europe with 68% reporting no change for non-health related partnerships and 61% for health-related. The percentage of HEIs reporting a decrease in partnership was low and for health-related partnerships it is lower than the percentage of HEIs reporting an increase. However, for non-health related partnerships it is in the order of 20% and in Asia & Pacific and especially Europe it is higher than the percentage of HEIs reporting an increase (20% vs. 19% in Asia & Pacific and 22% vs. 10% in Europe) (**Figures 32 & 33**).

Figure 32: Private sector partnership for research on health-related issues

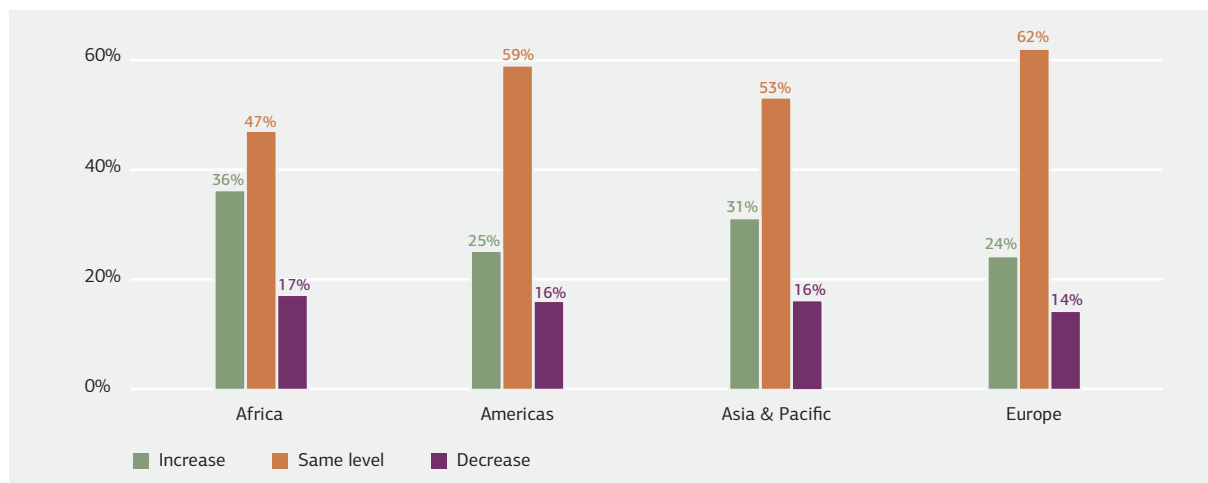
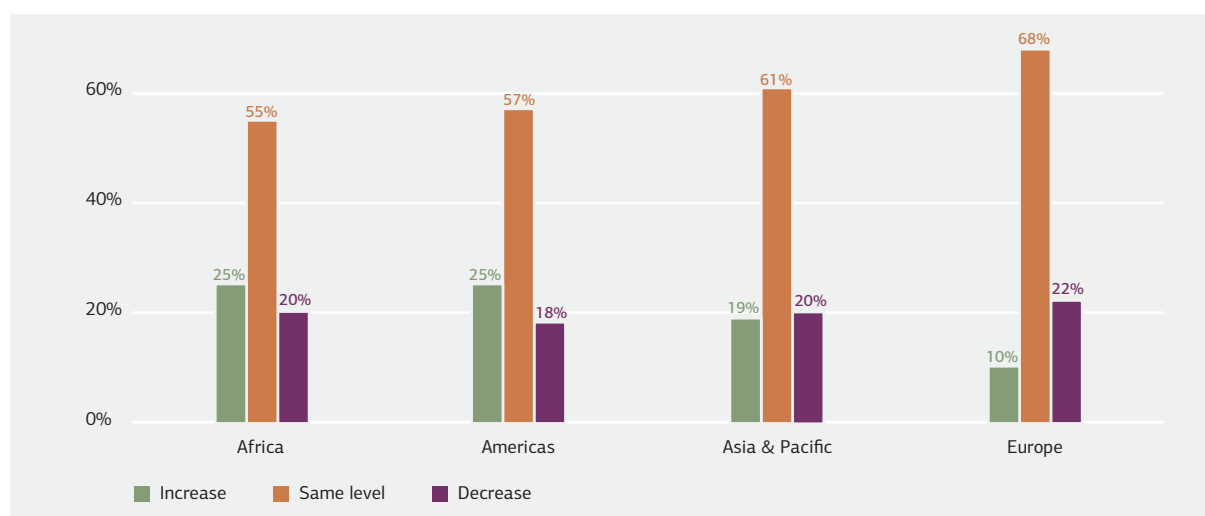


Figure 33: Private sector partnership for research (beyond health)

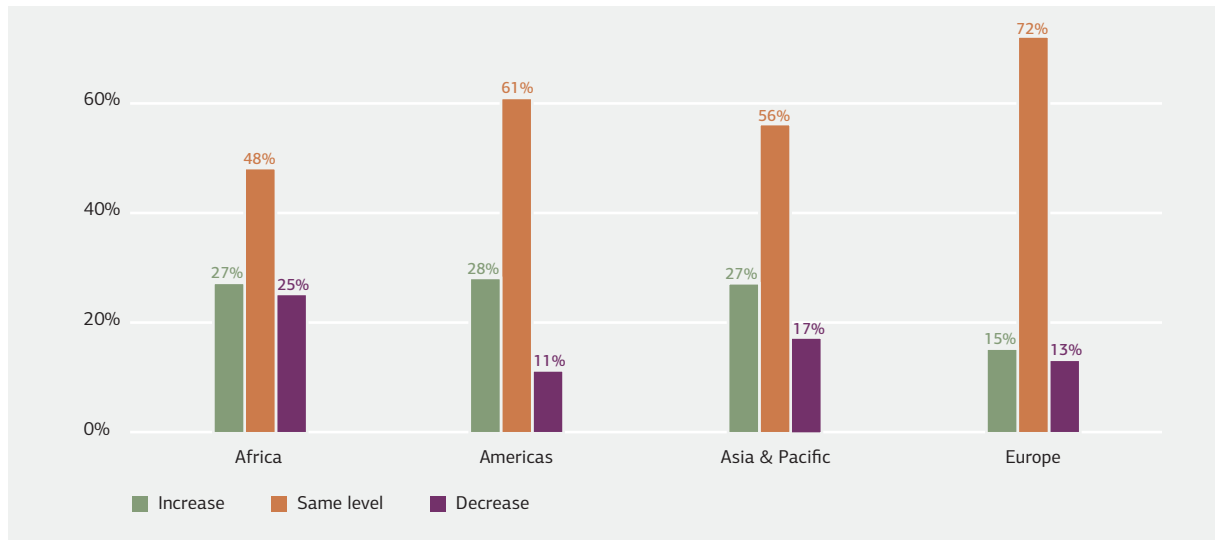
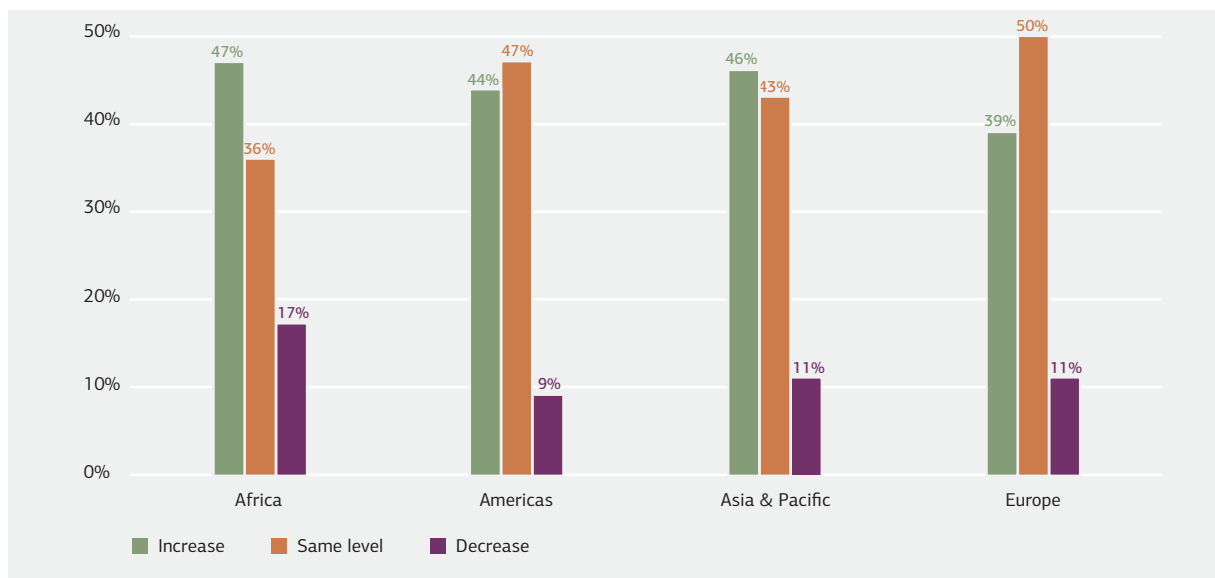
B7.5 Private sector partnership for Education Technology and beyond

The great majority of HEIs have private sector partnerships both for education technology (86%) and beyond (84%). Although the biggest group of HEIs is the one reporting no change for both kinds of partnerships (45% and 62%), there is a clear difference in the percentage of HEIs reporting an increase, which is 43% for education technology and only 23% for those partnerships beyond education technology. It might be surprising that only 43% of HEIs reported an increase in partnership with the private sector for education technology due to the huge increase in distance teaching and learning. A possible explanation for this is that many HEIs already had these kinds of partnerships in place prior to the pandemic and during the pandemic it was not necessary to create them, but simply to use the education technology already available, but it is probably also because in many cases HEIs have increased subscriptions to services offered by the private sector, but not necessarily in form of a partnership.

Regional and private/public analysis

There is almost no difference in terms of percentages of public and private HEIs having these kinds of partnership. However, for private sector partnerships for education technology the biggest group of private HEIs are those which increased this kind of partnership (48% vs 43% reporting no change) while for public HEIs we see the inverse (47% no change, 40% increase). For partnerships beyond education technology the majority reported no change both at public (65%) and private HEIs (58%).

These kinds of partnerships are common in all regions, with the lowest percentage being 78% for partnerships beyond education technology in the Americas. Europe again is the region showing the highest stability with half the HEIs reporting no change in partnerships for education technology and even going as high as 72% for partnerships beyond education technology. For this kind of partnership, the majority of HEIs reported no change also in Asia & Pacific (56%) and the Americas (61%). In Africa there is more inequality, even if the biggest group remains those HEIs reporting no change (48%). In the Americas and Asia & Pacific there are more HEIs reporting an increase rather than a decrease, while in Europe and Africa these two groups are of almost equal. For partnership for education technology the situation is different. In Africa the biggest group of HEIs are those reporting an increase in partnerships (47% vs. 36% reporting no change). In Asia & Pacific and the Americas these two groups of HEIs are almost the same size, with slightly more HEIs reporting an increase in Asia & Pacific and slightly more HEIs reporting no change in the Americas (**Figures 34 & 35**).

Figure 34: Private sector partnership for beyond Education Technology**Figure 35: Private sector partnership for Education Technology (technology platforms, data and device providers etc.)**

B7.6 Membership in associations and organisations

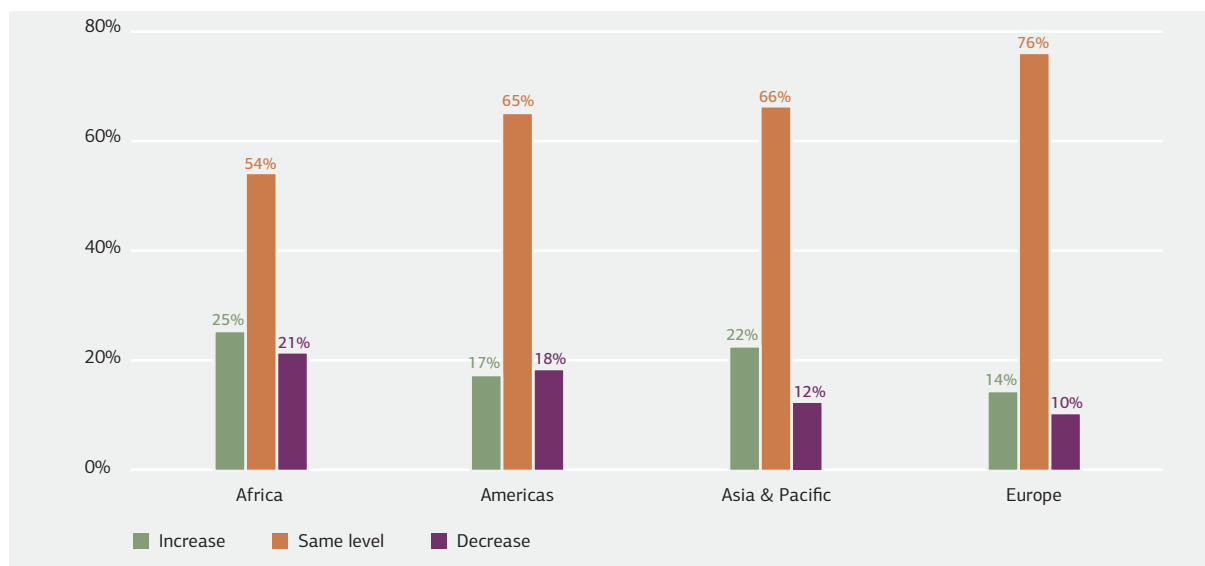
The overall majority of HEIs (69%) reported no change in membership in associations and organisations due to the pandemic and the percentage of HEIs reporting an increase (18%) is higher than those reporting a decrease (13%). This result is good news for associations and organisations that had feared that the economic crisis arising out of the pandemic would have diminished the number of their members. According to the results of the survey this does not seem to be the case, at least not for the time being.

Regional and private/public analysis

The results for private and public HEIs are almost the same. Membership in associations and organisations is very common, extremely in Asia & Pacific and Europe (96% and 97% of HEIs respectively), but also in the other regions (92% in Africa and 85% in the Americas). The majority of HEIs reported no change in all

regions, with Europe being once again the most stable region with 76% of HEIs reporting no change, and Africa was the region showing more inequality (25% increase, 54% no change, 21% decrease) (**Figure 36**).

Figure 36: Membership in associations and organisations



B8. Collaboration with authorities

This section looks at development in terms of collaboration with local, national and foreign authorities. This topic was already investigated in the first survey report and the trend identified at that time was that HEIs experienced an increase in this type of collaboration. In this survey, another question was added in order to assess whether HEIs experienced a lack of support and if so, what type of support they were lacking.

B8.1 Collaboration with authorities

For 43% of the HEIs, the pandemic led to reinforced collaboration among HEIs and national authorities with the figure for collaboration with local authorities being slightly higher at 46%. This is an important share of institutions although more institutions reported a stable level of collaboration (national authorities 53% and local authorities 46%). Thirty-eight percent of HEIs also assessed that there was an increase in contributions from higher education to inform policy development with 58% reporting a stable level of contributions to policy making. For all these kinds of collaboration, the percentage of HEIs reporting a decrease was very small (less than 6%).

With regards to collaboration with foreign authorities, the trend is slightly different, with 64% reporting no change during the pandemic and the rest being split between an increase (19%) and a decrease (17%). Strengthened collaboration with authorities is a positive indicator of the important role HEIs play in the context of the pandemic, not only for research on health-related matters but also to address other societal crises that come with the current pandemic.

Regional and private/public analysis

The trends are similar for private and public HEIs but while for private HEIs the majority of institutions reported no change for all types of collaborations, for public HEIs, the biggest group reported an increase in collaboration with local authorities (49% vs. 44% reporting no change). Also, for collaboration with national authorities public

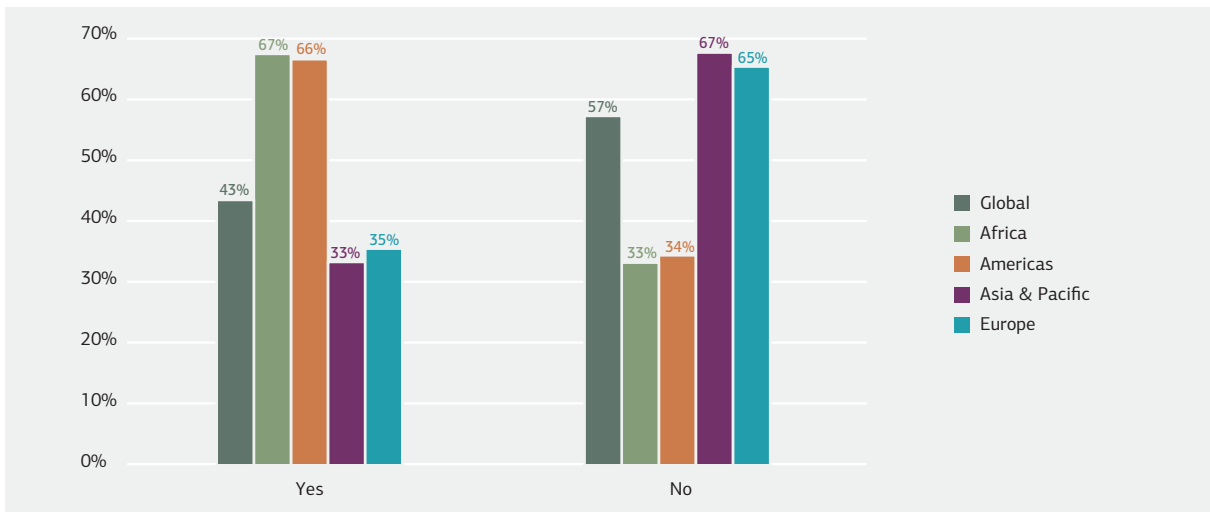
HEIs were split between those reporting an increase (47%) and those reporting no change (49%). It can therefore be concluded that collaboration with local and national authorities has increased more than collaboration with foreign authorities, and this increase is more marked in public institutions than in private ones.

When looking at the data per region, the trends are similar. In all regions, the biggest group of HEIs reported stability (no change), although it is interesting to highlight that in the Americas the biggest group of HEIs reported an increase both in national (49% vs. 45% reporting no change) and local collaborations (55% vs. 42% reporting no change). The percentage of HEIs reporting a decrease in collaboration is small in each region and for all types of collaboration, except in Africa where 31% of HEIs reported a decrease in collaboration with foreign authorities.

B8.2 Support from authorities

The majority of institutions (57%) replied that they did not find any support from authorities lacking, which, if we look at it another way, would be the equivalent to being satisfied with national response to the pandemic. There was no great difference between public and private institutions. However, looking at the data per region, institutions particularly in Africa (67%) and the Americas (66%) found that support from authorities was lacking at the time of the pandemic. We see the opposite in Asia & Pacific and Europe where 67% and 65% of HEIs respectively were satisfied with the support from authorities. These results show a rather polarized situation, with two regions being satisfied with support from authorities and two unsatisfied; this also correlates with the regions identified as experiencing a more severe impact of the pandemic in terms of higher education financing (**Figure 37**).

Figure 37: In light of the pandemic, is there any support from authorities that you find is lacking?



The institutions indicating a lack of support from local authorities were asked to explain what support they would have liked to have seen from the authorities and the following areas were mentioned frequently:

1) Financial support

In more general terms institutions looked for increased financial support in light of the pandemic – additional funding to address health-related issues, funding for areas such as canteens and dormitories, which suffered financial losses during the pandemic, or financial support for digital infrastructures, both within the university and for students to enable them be well-equipped to study remotely. Many others simply referred to the need for increased financing without being more specific.

2) Health-related support

Several universities indicated that guidelines and instructions provided during the pandemic were unclear, with no long-term measures in place which made it difficult for institutions to operate in an ever-changing environment. A few institutions were also encouraging authorities to work closer with them in order to develop guidelines in response to the pandemic. Others focused on the fact that more financial support was required to support institutions, for example on campus COVID-19 testing capacity. Several respondents indicated that more focus was needed on physical and mental health of staff and students.

3) Support for students

Several institutions also called for increased financial support for students, to cover costs of, for example, accommodation, equipment and to facilitate access to proper infrastructure. Others referred in more general terms to cost of living support for students, or to help them obtain scholarships or internships.

4) Support for innovations and infrastructure

Here, institutions called for support for the development of digital infrastructure and any related material that was required. At the same time there was also a need for resources to build the capacity of faculty to use technologies and learn more about remote teaching and learning pedagogies, and the design of remote learning programmes. Finally, there was a demand for policy development with regards to teaching and learning environments and designing new models for research, teaching and learning, and a mechanism to foster sharing information and experiences.

In summing up, it is positive to note that a substantial percentage of HEIs reported an increase in collaboration with authorities with the majority affirming that additional support from authorities wasn't lacking. This is an indicator of the important role that higher education is playing during the pandemic. This will also be further developed in section E that covers community/societal engagement. It does however reveal different levels of support and collaboration between the regions and that Africa and the Americas particularly stand out as the regions indicating to a higher extent that they found support from authorities lacking. These two regions were also those reporting a larger financial impact due to the pandemic and thus these results are a potential indicator of further inequalities.

C

Teaching and
learning

C. Teaching and learning

C1. Introduction

Before the pandemic, a traditional university would typically be seen as a campus-based institution, where students came to attend classes and lectures, to access various physical learning spaces – lecture halls, libraries, laboratories, multimedia centres. Beyond the official curriculum, campus-based life also represents a place of belonging and where any number of extracurricular activities take place, where students can eat together, take part in leisure activities, in other words where students have a social life. This on-campus social life was disrupted by the pandemic since one of the key measures to fight the spread of the virus was social distancing. So, while distance education pre-pandemic was limited to a minority of institutions, or offered by few courses within an institution, it suddenly became the sole option for maintaining teaching and learning for many HEIs so as not to jeopardize learning paths of students around the world.

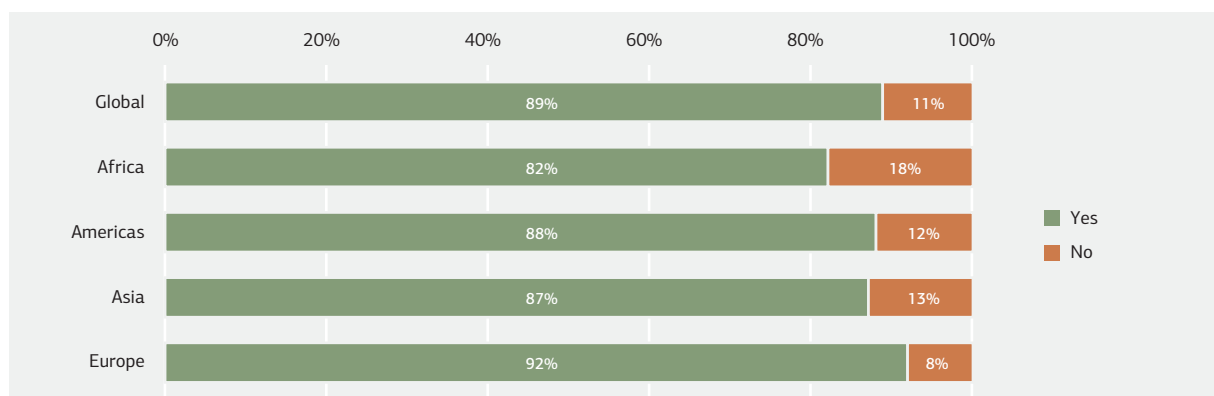
This part of the report focuses on teaching and learning and examines the situation one year on, investigating the shift to remote teaching and learning, the impact on exams, assessments and internships; the impact on internationalization and alumni relations. It also includes a section that assesses to what extent students' perspectives were considered during the first year of the pandemic.

C2. Shift to remote teaching and learning

C2.1 Remote teaching and learning

The first Global Survey on the Impact on COVID-19 on Higher Education in 2020 was conducted at the beginning of the pandemic in March and April of the same year, and at that time there were large discrepancies between the capacity of HEIs to shift to remote teaching and learning. For example, at that moment in time only 29% of African HEIs were able to quickly move teaching and learning online, compared to 85% of HEIs in Europe. One year into the pandemic, the situation seems to have improved as 89% of HEIs offered remote teaching and learning and only 11% didn't. When looking at the regional breakdown, Europe and Africa remain the extremes among the four regions as 92% of HEIs in Europe offered remote teaching and learning while it drops to 82% in Africa, but the situation has drastically improved in Africa since the first Global Survey (**Figure 38**).

Figure 38: Does your institution offer remote teaching and learning?



In the two editions of the survey, the questions were formulated differently and cannot be compared directly. The data still show that while institutions were very fast to shift to remote teaching and learning from the start of the pandemic, particularly in Europe, one year later, measures have been put in place to offer teaching and learning remotely across the world. The survey did not seek to measure the proportion of teaching and learning offered remotely and on campus, because the situation from country to country is very volatile; the different waves of the pandemic hit countries at different times, making it difficult to compare.

When comparing public and private institutions, slightly more private institutions (91%) provided remote teaching and learning than their public counterparts (87%), but the difference is small.

C2.2 Outreach to students during the time of pandemic

Following on from the question on remote teaching and learning, institutions were also asked to assess the percentage of students that were able to follow remote teaching and learning. It is one thing is to offer remote teaching and learning options, but whether students are able to access it is another. The global average is rather positive as 86% of students were able to access remote teaching and learning offered; it is encouraging that such a large share of the student population had access to remote teaching and learning at a time when it continues to be provided remotely in many countries, however it does imply a potentially worrisome situation for the remaining 14% of students.

No major differences were observed when comparing public and private institutions.

In the regional breakdown, Europe and Africa are at opposite ends of the scale, as 92% of the students have access in Europe compared to 74% in Africa. In other words, while 8 out of 100 students are likely to have missed out on remote teaching and learning in Europe, this increases to 26 students out of 100 in Africa. Furthermore, the data also show that a bigger proportion of HEIs in Europe declare being able to reach out to 100% of their students (39% of respondents) whereas this drops to 14% in Africa. In the same manner, very few institutions (2%) in Europe indicate reaching out to fewer than 50% of their students, whereas this increases to 24% in Africa.

So, while the situation has improved when compared to the first IAU Global Survey Report, the data still reveal divergent and unequal situations across the regions, a clear indication of how the pandemic reinforces existing inequalities. This inequality is also shown if we look at the gross enrolment ratio for tertiary education recorded by the UNESCO Institute for Statistics (UIS) for 2019⁴: in Europe 73% of the population in the 5-year age group immediately following upper secondary education are enrolled in higher education, compared to only 9% for sub-Saharan Africa.

While it is positive to see improvements have been made over the past year, when looking at the big picture, it still shows that the student population, already very small in Africa, is potentially at a higher risk of losing out on higher education compared to a much larger student population in Europe (Table 13).

Table 13: Percentage of students are able to follow remote teaching and learning

	Overall average	% of HEIs indicating 100%	% of HEIs indicating 80% or more	% of HEIs indicating less than 50%
Global	86%	27%	69%	10%
Europe	92%	39%	79%	2%
Asia & Pacific	84%	30%	72%	6%
Americas	82%	25%	69%	6%
Africa	74%	14%	55%	24%

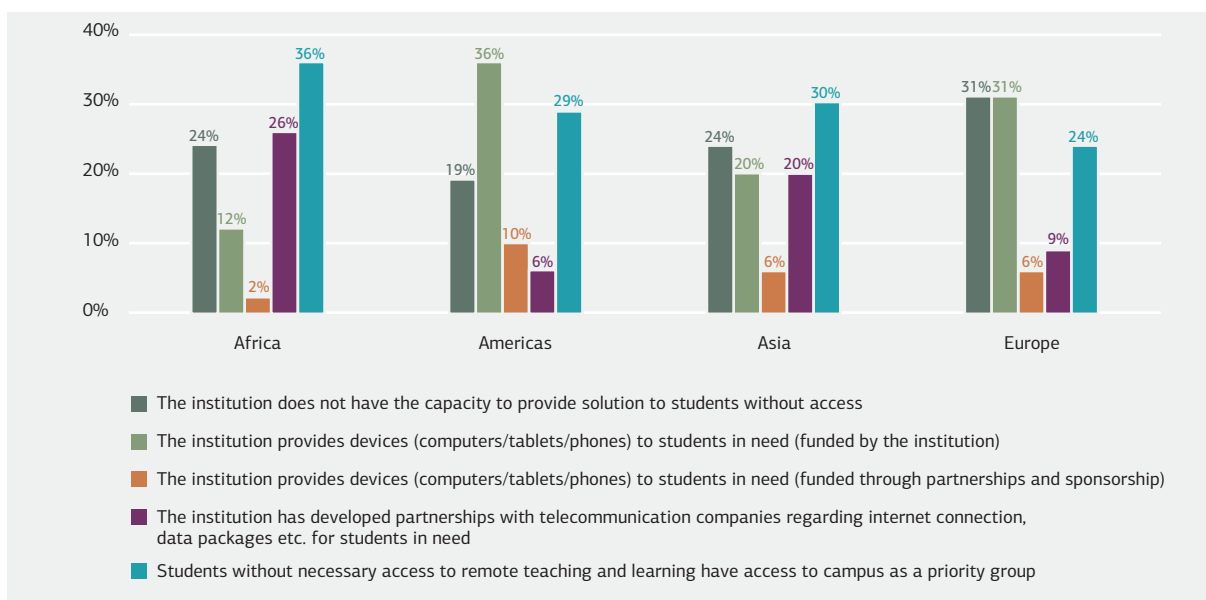
4. <http://data.uis.unesco.org/> (Accessed on 10 August 2021) SDG Indicator 4.3.2: Total enrolment in tertiary education regardless of age expressed as a percentage of the population in the 5-year age group immediately following upper secondary education.

C2.3 Support for students without access to remote teaching and learning

The 89% of HEIs indicating that they provide online or remote teaching and learning were also asked to explain which measures had been taken in order to support students without the necessary access. The replies were particularly divided across the three following categories: 28% indicated that students without access to remote teaching and learning took priority for accessing campus, 26% of institutions explained that they were unable to provide solutions to students without access to remote teaching and learning and another 26% indicated that they directly supported students in need by financing devices necessary for access. Six percent provided students with devices via funding through partnerships or sponsorship. The remaining 14% indicated having developed partnerships with telecommunication companies in areas such as internet connection and data packages for students in need.

When looking at the data per region, it is noteworthy that in Africa a greater proportion of institutions (36%) provided priority access to campus for students in need compared to 24% in Europe; this can probably be explained by greater internet penetration and access to data and devices in Europe therefore reducing the need for priority access to campuses. Africa also has the largest proportion of institutions (26%) having developed partnerships with telecommunication companies, against 9% in Europe, which can be explained by the different context in Africa and the needs of students in terms of access to internet and data. In the Americas 36% of institutions have been providing direct support to students in need by funding devices necessary for access, similarly 30% of institutions in Europe have also provided this type of support for students whereas in Africa, only 12% indicated this. Roughly a third of all institutions (31%) in Europe indicated that they did not have the capacity to provide solutions for students without access, but at the same time Europe is the region where access to remote teaching and learning is less of an issue as most students already have access to data, devices and internet connections (**Figure 39**).

Figure 39: Support to students without access to remote teaching and learning



There is no noticeable difference between public and private institutions – the only difference worth mentioning is that among private institutions 17% would be slightly more likely to enter into partnership with telecommunication companies, where this concerns only 11% of public institutions, but then again Europe is the regions with the fewest obstacles to internet access, and also the region with the highest concentration of public institutions, so this could also affect the data.

C2.4 Increased use of digital tools for teaching and learning

The shift of the majority of institutions to operating remotely is a clear indication of their great commitment to continue to deliver teaching and learning during the pandemic, which has forced HEIs to rely on digital technologies as never before. This also comes out very clearly in the results of the questions looking at changes in the use of digital tools and related capacity-building measures. Globally, very few (less than 3%) indicated 'not applicable', only for 'Open Educational Resources (OERs)', 'Learning Management Systems (LMS)' and 'use of learning analytics' were the percentages slightly higher (5-8%). These percentages are particularly high in Africa where they represent 12-20% of the HEIs. This is probably an indication of HEIs either not making use of these or not having the necessary data to report on it.

When comparing the institutions that provided data, it is very clear that in all regions there has been a huge increase in the use of digital tools and related capacity-building measures. The increase is so significant among HEIs that **Table 14** presents only the data of those HEIs reporting an increase (less than 2% of institutions reported a decrease in use and the remaining HEIs indicated no change). Globally, 96% of HEIs reported an increase in online learning and 95% an increase in the use of digital tools to communicate with students. Virtual exchanges and collaborative online learning follow very closely with 90% reporting an increase. For capacity building for the use of technologies (86%) and online teaching pedagogies (85%) it is slightly less, yet still a large majority of institutions are scaling up these types of services. Use of LMS (81%), use of OERs (78%) and use of learning analytics (68%) are slightly lower which could be because they are simply used less, or they were already in use prior to the pandemic and the increase is therefore less pertinent. The results are probably a combination of both but this cannot be concluded by looking at the data alone.

While there are no pertinent differences between public and private institutions, we do notice that for use of Learning Management Systems (LMS), there were more private HEIs (84%) reporting an increase than public (78%). On the other hand, more public institutions reported an increase in virtual exchanges and collaborative learning (94% against 86% from private institutions).

Table 14: Increases in the use of digital tools and related capacity building

	Global	Africa	Americas	Asia & Pacific	Europe
Use of online learning	96%	92%	97%	94%	98%
Use of digital communication infrastructure to communicate with students	95%	90%	95%	94%	96%
Virtual exchanges and collaborative online learning	90%	96%	92%	91%	87%
Capacity building and provision of training in the use of technologies	86%	85%	87%	87%	86%
Capacity building and training offer on online teaching pedagogies	85%	85%	87%	89%	82%
Use of Learning Management System (LMS)	81%	77%	81%	86%	76%
Use of Open Educational Resources (OERs)	78%	82%	79%	79%	75%
Use of learning analytics	68%	76%	66%	79%	57%

As the trends are very pronounced in the global dataset, there are no big differences when comparing the data among regions. However, it is worth mentioning that Africa is slightly below the other regions

reporting an increase in digital communications with students (90% vs. 95%) while at the same time more HEIs are reporting an increase in virtual exchanges and collaborative online learning (96% vs. 90%). Europe is behind other regions regarding the increase in use of learning analytics (57% versus 68%), but the question is whether this is because this is used less in Europe or whether it was already used prior to the pandemic, so the increase is less marked in this region. In terms of increased online learning, the figure goes as high as 98% in Europe – slightly higher than in the other regions, but overall, the regions are very close, apart from these small nuances in the data.

This survey provides a snapshot of the situation one year into the pandemic but it does not provide information about the long-term impact in terms of change, obviously leaving questions about what this will imply for the future of higher education.

It is unsurprising to see online learning and digital communications with students at the top of the list if we consider the restrictions put in place, and various lockdowns in most countries around the world. While it is doubtful that HEIs will continue to rely on remote teaching and learning to the same extent beyond the pandemic, it is likely that digital communication infrastructures that were developed and streamlined during the pandemic are here to stay. It is also likely that communication with students will improve. Likewise, digital infrastructure has been upgraded in many institutions, thus offering more opportunities to combine ways of learning and move toward more blended modes of teaching and learning. And although the use of learning analytics is the lowest on the list with 68% of institutions reporting an increase, it is one of the least developed currently but its use is likely to increase over time when more digital data become available and potentially more useful for improving teaching and learning. These, however, remain educated guesses and both time and data will be needed to follow any developments. Nevertheless, the survey results have clearly shown us the extent to which digital technologies have been essential for institutions in pursuing their mission and mandate at a time when physical distancing was necessary in order to prevent the spread of the virus.

C2.5 Impact according to academic discipline

Another important impact to come out of the first IAU Global Survey Report was the fact that some disciplines fared better than others in the face of remote teaching and learning; some fields of study lend themselves more easily to remote teaching, where others require practical assignments, group work, access to particular material or laboratories, all of which are not easily accessible or doable from home. In order to examine the impact per discipline, we decided to use the International Standard Classification of Education (ISCED) categorization of disciplines and to assess to which extent it is feasible to teach a discipline from a distance.

Before looking at the results, it is important to mention that of course not all institutions offer all disciplines and thus ‘not applicable’ was provided as an option. Most disciplines were offered in more than two-thirds of institutions however business and administration and computing were offered by some 80% of respondents. However, less common were agriculture (42%) and journalism and information (57%). The following analysis includes only data from institutions concerned by the disciplines in question.

Table 15 clearly demonstrates that some disciplines lend themselves better to remote teaching and learning compared to others. For example, more than 70% of institutions affirmed that the curriculum for the following three disciplines humanities, business and administration, and law, could be taught from a distance. For others such as social and behavioural sciences, mathematics and statistics, journalism and information, just over 60% of institutions indicated that these could be taught remotely. What is common to all these disciplines is that less than 6% indicated that they required physical presence and were heavily impacted by the pandemic.

In contrast, health and welfare (43%), agriculture (35%), engineering, manufacturing and construction (32%) and physical sciences (28%) are the disciplines most heavily impacted by the pandemic because of social distancing measures in places. For the remaining disciplines HEIs were rather divided. This implies that the shift to remote teaching and learning is more likely to be successful for students enrolled in humanities, business and administration, law, social and behavioural sciences and journalism and

information, while the impact of this shift may have been more negative for students in the areas of health and welfare (43%), agriculture (35%), engineering, manufacturing and construction (32%) and physical sciences (28%), as all of these disciplines require practice, access to laboratory or special equipment that were not necessarily at the disposal of students during the various lockdowns (Table 15).

Table 15: Disciplines particularly affected by the pandemic

	The curriculum can be taught from distance	The curriculum can partially be taught from distance	The curriculum requires physical presence and is heavily impacted by the pandemic
Humanities	77%	20%	3%
Business and administration	72%	27%	1%
Law	72%	26%	2%
Social and behavioural science	66%	31%	3%
Mathematics and statistics	63%	31%	6%
Journalism and information	63%	35%	2%
Computing	59%	31%	10%
Education	57%	35%	8%
Arts	45%	33%	22%
Services (Hospitality and tourism, sport, transport, environmental protection, security services, etc.)	29%	43%	28%
Life sciences	24%	49%	27%
Engineering, manufacturing and construction	23%	45%	32%
Physical sciences	21%	51%	28%
Agriculture	19%	46%	35%
Health and welfare	15%	42%	43%

There is a similar trend among regions in terms of which type of disciplines lend themselves more favourably to remote teaching and learning and although the order is not exactly the same, there are no big differences. However, in Africa, fewer institutions indicated that the curriculum could be taught from a distance. For example, humanities is the most appropriate for remote teaching and learning in all regions, yet the share of institutions varies among regions (84% in the Americas, 78% in Europe, 77% in Asia & Pacific and 64% in Africa). This trend is similar across most of the disciplines for which fewer institutions indicated that they could be taught from a distance and on the other hand more institutions reported that the curriculum was heavily impacted. This is probably also an indicator of the presence and quality of digital infrastructure at many HEIs in Africa that make it more difficult to shift to remote teaching and learning.

C2.6 Changes in curricula

To further understand the impact of the pandemic on teaching and learning, HEIs were asked to indicate whether the pandemic had led to changes in curricula. The majority of replies are divided between “yes for some courses” (36%) and “no, but there were consequences in terms of the implementation (37%)” with 20% reporting that they had not experienced any change (No), while the remaining 7% indicate that they did (Yes).

The 43% of HEIs that did experience some kind of impact were asked to explain how. They could choose multiple replies from a list of possible changes in curricula due to the pandemic.

The first thing to be mentioned is that there was no overall majority for the changes proposed. The most common change, that curricula had a more theoretical than practical focus because of the restrictions, was selected by half of the institutions (51%). At the same time 39% reported that curricula have become more practical, using more case studies and problem-based learning to incite student engagement and 37% indicated that curricula have become more flexible and include more freedom for students to choose their learning path; these were the three categories referred to most frequently. The share for the remaining categories was around 20% or lower. At the same time, it is reassuring to see that so few institutions indicated that the curriculum is less interdisciplinary (4%) or less internationalized (8%). On the contrary, for both these categories 21% indicated that curricula are more interdisciplinary and 22% that curricula are more internationalized despite the reduction in international students. In the same vein, it is also positive to note an increase in the focus on sustainable development as part of curricula (22%).

Although the overall pattern is similar among the four regions, there are still some differences. For Africa change towards more practical curricula is at the top of the list with 58%. Enhanced focus on sustainable development is also higher in Africa (32%) compared to the other regions (14-24%); likewise for more focus on employability (26%) in contrast to Americas where it is 5%. Fewer institutions in Europe (14%) refer to more interdisciplinarity while in other regions it is between 24-29%. Despite these differences among the regions, there is a larger share of institutions referring to a more theoretical focus rather than practical, more practical in the sense of using case studies and more flexibility for students to compose their learning paths. Although the first two categories can seem contradictory, it could be an indication that disciplines requiring physical presence for practice or labs have turned to a more theoretical approach, whereas other disciplines more suited to remote teaching and learning have integrated a higher degree of case studies and problem-based learning as a means to engage students from a distance compared to the classroom (Table 16).

Table 16: Changes in curricula due to the pandemic

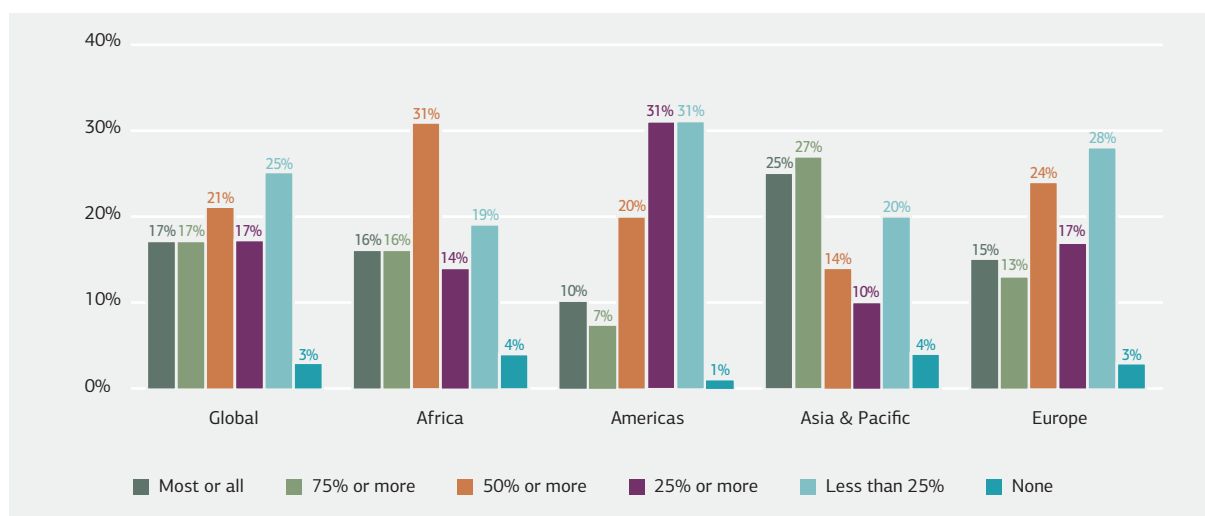
	Global	Africa	Americas	Asia & Pacific	Europe
Our curricula have more theoretical than practical focus because of restrictions due to COVID-19	51%	53%	50%	55%	49%
Our curricula became more practical in the sense of using case studies (problem-based learning) in an effort to try to engage the students from distance	39%	58%	43%	36%	35%
Our curricula are more flexible, students have more freedom in choosing their learning path	37%	26%	40%	33%	42%
Our curricula have an enhanced focus on sustainable development	22%	32%	14%	24%	21%
Our curricula are more internationalized, include more international/intercultural and global perspectives	22%	11%	19%	23%	25%
Our curricula are more interdisciplinary	21%	26%	29%	24%	14%
Our curricula have an enhanced focus on employability due to rising unemployment	12%	26%	5%	18%	7%
Our curricula are less internationalized	8%	16%	5%	6%	10%
Our curricula are less interdisciplinary	4%	5%	2%	3%	5%

C2.7 Readiness of academic staff to shift to remote teaching and learning

Institutions were asked to assess how many of their academic and teaching staff had experience with online or distance teaching and learning prior to the pandemic. At the global level, the replies to this question were more or less equally spread among the different categories, except for “none” which only 3% of institutions indicated. Yet the reply that garnered the largest share of replies, at 25%, indicated less than 25% of staff had experience with online or distance teaching and learning before the pandemic.

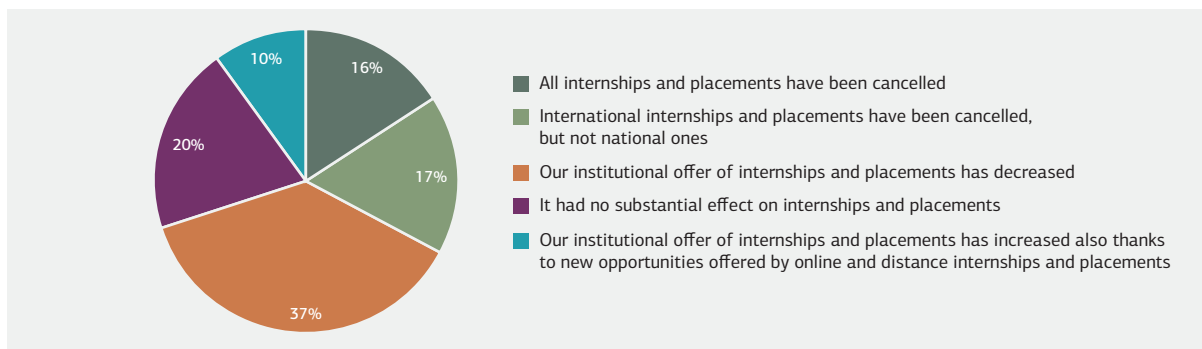
When comparing the different regions, the Americas stands out particularly as having the most replies (63%) across the two categories between 0-50%, in contrast to Asia & Pacific where the majority of institutions indicated 75-100% of teaching staff had prior experience. In Africa and Europe, replies are more equally spread out, although in Africa, a third of institutions (31%) indicated that 50-75% of teaching staff had experience before the pandemic. In Europe on the other hand the highest percentage of institutions (28%) indicated that less than 25% of the teachers had prior experience. Thus, considering this data, it seems that teaching staff in Asia & Pacific were better prepared for the shift to online teaching and learning when the pandemic hit and less so in the Americas. In any case, all regions show a high degree of inequality with some HEIs having teachers with prior experience and were therefore ready to teach online, while others had very few teachers with prior experience and were therefore unprepared for the shift to remote teaching and learning (Figure 40).

Figure 40: Percentage of teachers per institution experienced with online/distance T&L prior to the pandemic



C3. Student internships and placements

Student internships and placements were also activities for which a major impact of the pandemic was expected, due to health and safety restrictions being imposed, making it more difficult to accept students; travel restrictions would also have hit international internships and placement. Indeed, as expected there has been a negative effect on the offer of student internships and placements at the majority of institutions: at 37% of HEIs the offer has decreased, at 17% international internship and placements were cancelled and at 16% all internships and placements, including national ones, were cancelled. Only at 10% of institutions did the pandemic have a positive effect, with the offer of internships and placements increasing also thanks to new, online and distance opportunities (Figure 41).

Figure 41: Student internships and placements

Regional and private/public analysis

No great differences can be seen between public and private institutions, nor among the regions – the global trend is common to all regions. Slightly more private institutions experienced a positive effect of the pandemic with 13% of institutions indicating an increase of internships and placements compared to 8% at public ones. The percentage of HEIs experiencing no impact is also higher (23% vs. 18%), but this doesn't change the overall trend.

C4. Graduation during the pandemic

As teaching and learning have been greatly impacted by the shift to remote operations, so have assessments, exams and graduations, and these are looked at in the following section, along with whether the shift in increased reliance on digital technologies has had any impact on the use of microcredentials.

C4.1 Exams

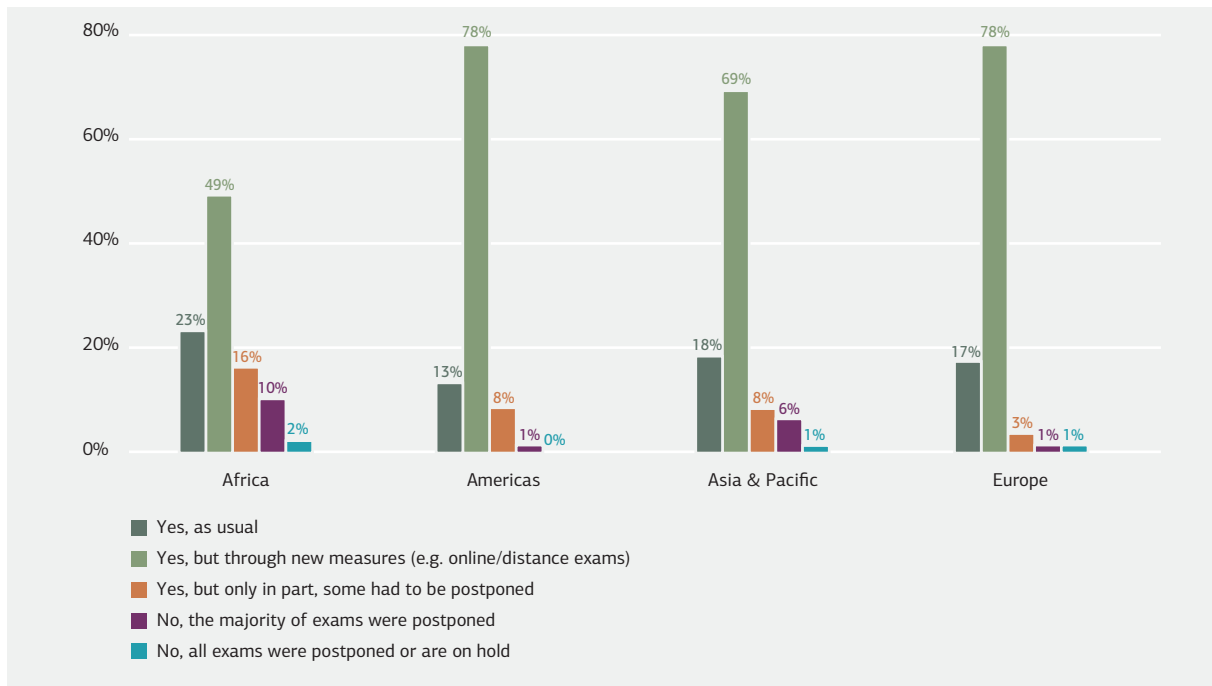
Almost three quarters of HEIs (72%) were able to carry out exams despite the disruption brought by COVID-19, but they had to do so with new measures such as online/distance exams. Seventeen percent were able to conduct exams as usual, 7% were able to conduct exams only in part while some had to be postponed and only 4% had to postpone or cancel exams.

This result is proof of the resilience and reactivity of HEIs around the world, which were able to continue conducting exams despite the challenges brought by the pandemic.

Regional and private/public analysis

The private/public nature of institutions did not affect their capacity to carry out exams and results are almost the same for both types of institutions.

At regional level there are no major differences except for Africa, where the percentage of HEIs having had difficulties conducting exams is higher than in other regions (16% had to postpone some exams, 10% had to postpone the majority and 2% had to cancel exams), however these HEIs make up just less than one-third, which means that just over two-thirds were able to conduct exams. It is interesting that Africa is also the region where the percentage of institutions conducting exams as usual is the highest (23%) but the percentage conducting exams through new means is the lowest (49%) (Figure 42). This might be an indicator of the existence of a digital divide in Africa and the risk of growing inequality among HEIs in Africa.

Figure 42: Exams: regional analysis

C4.2 Assessment measures

Assessment measures changed at the majority of HEIs, with only 23% replying that they didn't change. However, only 44% of institutions developed new assessment measures, especially for online exams, for all courses in all faculties/departments, while the remaining 33% did so only for some courses in some faculties/departments.

Regional and private/public analysis

More private HEIs changed assessment measures compared to public ones, and only 16% of private HEIs did not develop new assessment measures while at public institutions, it was 27%.

Moreover, half the private institutions developed new assessment measures, especially for online exams, for all courses in all faculties/departments, while only 40% did this at public HEIs.

In terms of regional analysis there are substantial differences among the regions. In the Americas 56% of HEIs developed new assessment measures, especially for online exams, for all courses in all faculties/departments and only 10% did not change assessment measures. On the other hand, in Africa as many

Table 17: Assessment methods: regional analysis

	Africa	Americas	Asia & Pacific	Europe
Yes, our institutions developed new assessment measures, especially for online exams, for all courses in all faculties/departments	33%	56%	52%	34%
Yes, our institutions developed new assessment measures, especially for online exams, but only for some courses, in some faculties/departments	30%	34%	28%	39%
No	37%	10%	20%	27%

as 37% of HEIs did not change assessment measures while 33% developed new assessment measures for all courses in all faculties/departments. In Africa the three groups of HEIs are almost the same size, indicating a possible risk of inequality. Asia & Pacific and Europe lie in between these extremes with the situation in Asia & Pacific closer to the one in the Americas and the one in Europe closer to the one in Africa (**Table 17**).

C4.3 Graduation

Almost all HEIs were able to graduate last year's cohort of students, and only 3% were not. The majority of HEIs (62%) were able to fully graduate last year's cohort of students while 30% replied 'mostly' and 5% 'only some'.

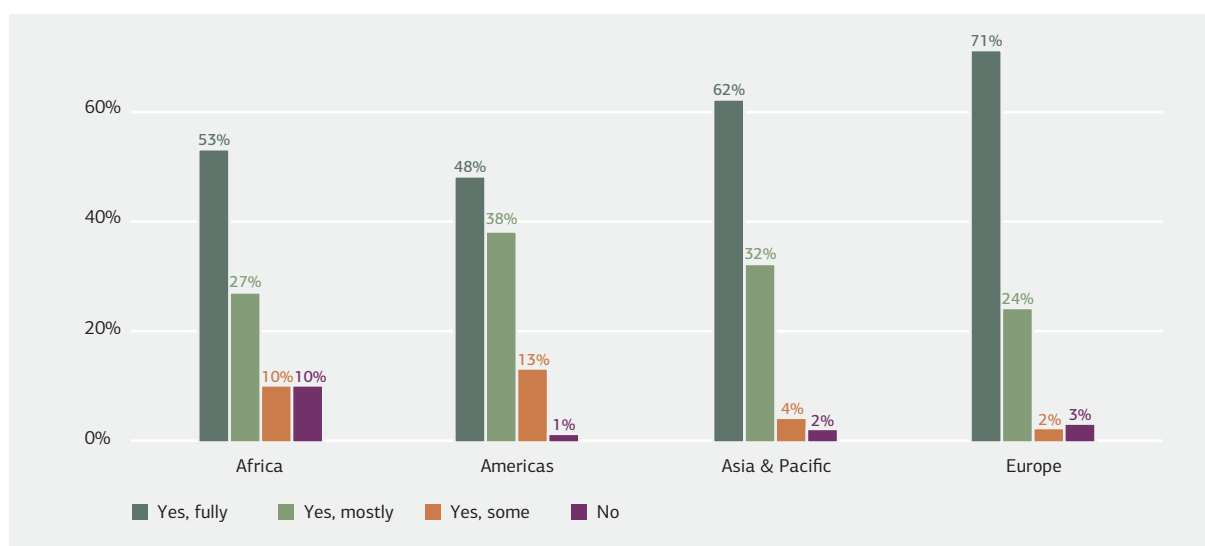
As was the case for exams, this is proof of the resilience and reactivity of HEIs around the world, which were able to continue graduating students despite the challenges brought on by the pandemic.

Regional and private/public analysis

Results for private and public HEIs are similar and although the percentage being unable to graduate last year's cohort is small, it is slightly higher in private institutions (5% vs. 2% in public HEIs); we see the same pattern in those having been able to graduate only some students, 7% for private institutions and 4% for public institutions.

In terms of regional analysis, there are some interesting differences among regions. In Europe we see the highest percentage of HEIs being able to fully graduate last year's cohort (71%). This percentage is also high in Asia & Pacific (63%) but it decreases in Africa (53%) and the Americas (48%). The percentage of HEIs not able to graduate last year's cohort is very low in all regions except Africa, where it reaches 10% (**Figure 43**).

Figure 43: Graduation: regional analysis



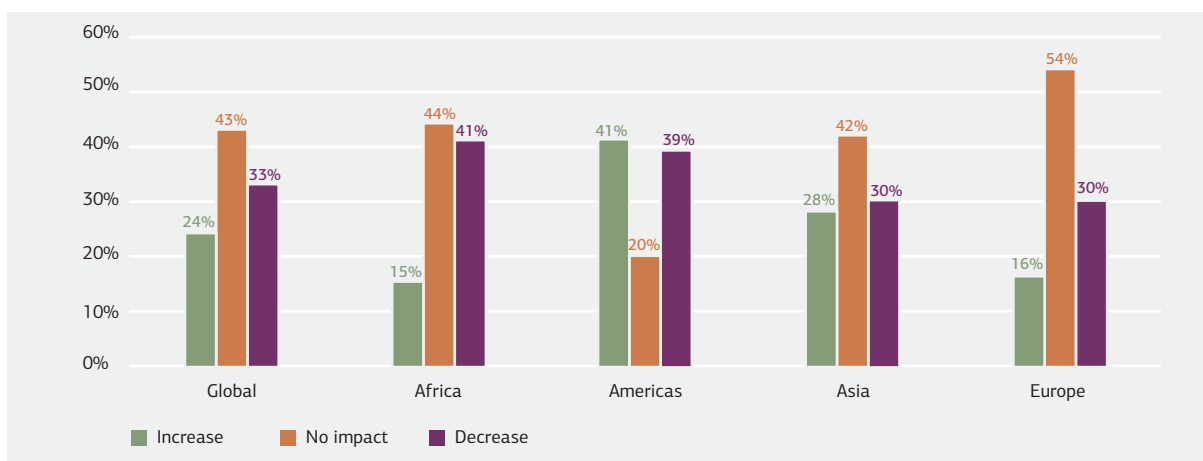
Overall, graduation rates are positive in all regions, but there are some HEIs, especially in the Americas and in Africa which experienced difficulties and this should not be forgotten.

C4.4 Micro-credentials

Micro-credentials are part of the conversation on the future of higher education, lifelong learning, reskilling and updating competences, yet as for the question on adult education in the section on Governance the reply shows that firstly, a third (32%) of institutions indicate “non applicable”, which is interpreted as either the institutions do not offer micro-credentials or that they did not know the answer. This percentage is particularly high in the Americas (46%) and lowest in Asia & Pacific (18%). When excluding these institutions, the results remain very divided across the different replies, with the 43% saying that there is no impact, 33% expressing a decrease in the offer of micro-credentials and 24% expressing an increase. Comparing the regions, Europe stands out with 54% HEIs indicating no impact due to the pandemic on the offer of micro-credentials, 30% experiencing a decrease and the remaining 16% an increase. In the Americas on the other hand, only 20% reported a status quo however the remaining institutions were very divided between an increase (41%) and decrease (39%) of the offer. Asia & Pacific is close to the global average where Africa has a somewhat higher percentage showing a decrease in the offer (41%) compared to other regions, yet the majority indicated stability in Africa (44%).

When comparing public and private institutions there are slightly more public institutions indicating ‘not applicable’ at 33% against 29% for the private institutions, yet when looking at the data for the other replies there are no important differences (**Figure 44**).

Figure 44: Impact of COVID-19 on the offer of micro-credentials



C5. Internationalization

International activities were among the most negatively affected by the pandemic, as we have already seen in the section on Governance and the impact on expenditure and international student enrolment. In this section, the impact on internationalization strategies and shift in priorities is analysed further, especially foreign recognition and transnational education and collaborative programmes.

C5.1 Internationalization strategy

The first result to underline is that 91% HEIs that responded to the survey have an internationalization strategy, and only 9% do not have it. There is no difference between public and private HEIs.

At regional level, in Europe this percentage is as high as 99%, so only 1% reported not having an internationalization strategy, while in the other regions between 12% (in Asia & Pacific) and 16% (in the Americas) of HEIs reported not having an internationalization strategy.

Considering only those HEIs that have an internationalization strategy, the percentage of institutions having revised it due to the pandemic (31%) is similar to the one for those that did not (26%). However, the biggest group are those in the process of discussing a revision (43%).

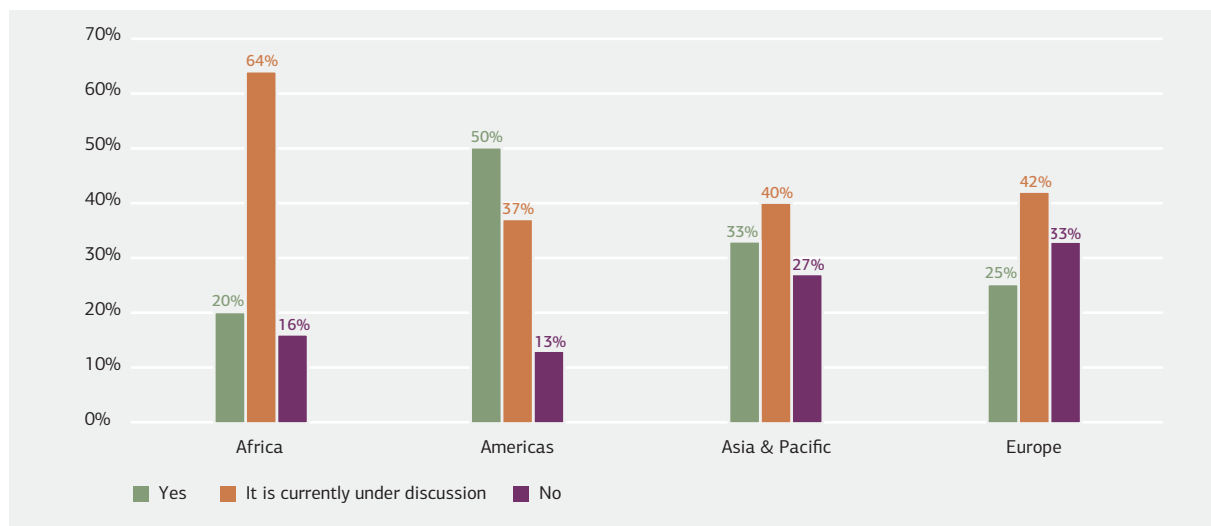
It can be concluded, therefore, that the pandemic had an effect on internationalization strategies at the majority of HEIs, but that for many this effect has not yet resulted in a change in strategy. This could also be explained by the fact that HEIs consider the disruption as short-term, and any disrupted activity would resume in the not too distant future – any strategy would thus remain relevant despite the temporary disruption. So, while the pandemic was far from over at the time of the survey, it is not yet possible to completely capture any transformational impact it may have on any strategy.

Regional and private/public analysis

Private HEIs seem to be more reactive, with 41% having already revised their internationalization strategy compared to 24% of public HEIs, and only 20% not having done so, compared to 30% of public ones. However, this latter result could also mean that public HEIs have been less affected by the pandemic in their internationalization than private ones, and therefore do not need to change their internationalization strategy.

At regional level, American HEIs are the most reactive, and half of them have revised their internationalization strategies, while African HEIs are the least reactive – only 20% did so while 64% of them are currently discussing a revision. However, it is in Europe where the biggest percentage of HEIs that have not revised their internationalization strategy can be found (33%). Again, this could also mean that internationalization in Europe is the least affected and therefore HEIs do not feel the need to change their internationalization strategy (Figure 45).

Figure 45: Change in internationalization strategy: regional analysis



C5.2 Priorities in internationalization strategy

HEIs having replied that they had revised or were planning to revise their internationalization strategy due to the pandemic were asked to evaluate whether the importance of different internationalization activities would change in any revised strategy.

HEIs were asked to evaluate the following activities:

- Attracting international students
- Student exchanges

- Virtual exchanges and collaborative online learning
- Internationalization of the curriculum/at home
- Academic staff mobility for teaching
- Academic and administrative staff training in global and intercultural competences

All the above activities are very common, with the most common being virtual exchanges and collaborative online learning and academic staff mobility for teaching (at 93% of HEIs); the least common is internationalization of the curriculum/at home (at 89% of HEIs).

Considering only HEIs that do include a certain activity in the internationalization strategy, in terms of priorities it is clear that virtual exchanges and collaborative online learning have increased their importance as 81% of HEIs reported such an increase – making it by far the activity which has been the most prioritised at the majority of HEIs. Internationalization of the curriculum/at home has also grown in importance at a majority of HEIs (58%).

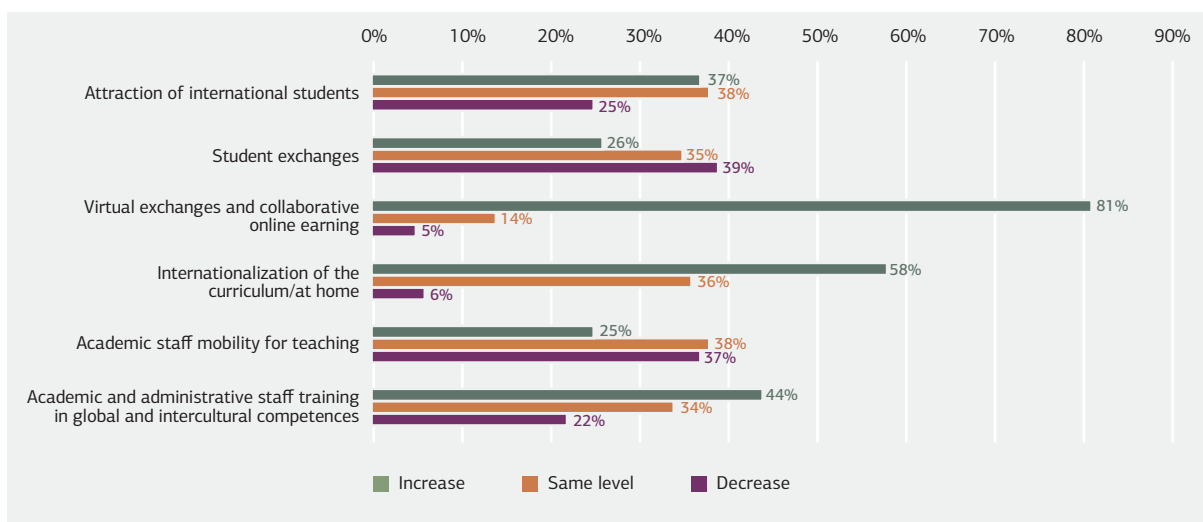
The percentage of HEIs where virtual exchanges and collaborative online learning and internationalization of the curriculum/at home have decreased in importance is very low (5% and 6%, respectively).

For other activities the situation is more diverse, with three different groups of HEIs – those for which the activity has increased in importance due to the pandemic, those for which the level of importance has not changed and those for which the level of importance has decreased. This is visible for academic and administrative staff training in global and intercultural competences, which have increased in importance at 44% of HEIs, remained stable at 34% and decreased at 22%.

It is even more interesting when it comes to attracting international students, as the results show that despite the barriers created by the pandemic, more respondents indicated an increase in the importance of attracting international students (37%) than a decrease (25%).

On the other hand, the negative effect of the pandemic is more visible on the importance of student exchanges (39% decrease vs. 26% increase) and for academic staff mobility for teaching (37% vs. 25%). However, for these two activities, the replies were more homogenous across the three different groups (**Figure 46**).

Figure 46: Priorities in internationalization strategy



The most important finding is therefore that the pandemic has clearly stimulated an increase in importance of virtual exchanges and collaborative online learning and internationalization of the curriculum/at home, as could have been expected, but for mobility the effect is more mixed with no one stand-out trend.

This situation is worth reflection as, on one hand, it could help reduce inequality in internationalization by reaching out to more students via virtual exchanges, collaborative online learning and internationalization of the curriculum/at home, but at the same time it could also lead to increased inequality, in which student and staff mobility would remain important only at some HEIs.

Regional and private/public analysis

In order to conduct the regional and private/public analysis it is easier to look at each activity separately.

Attracting international students

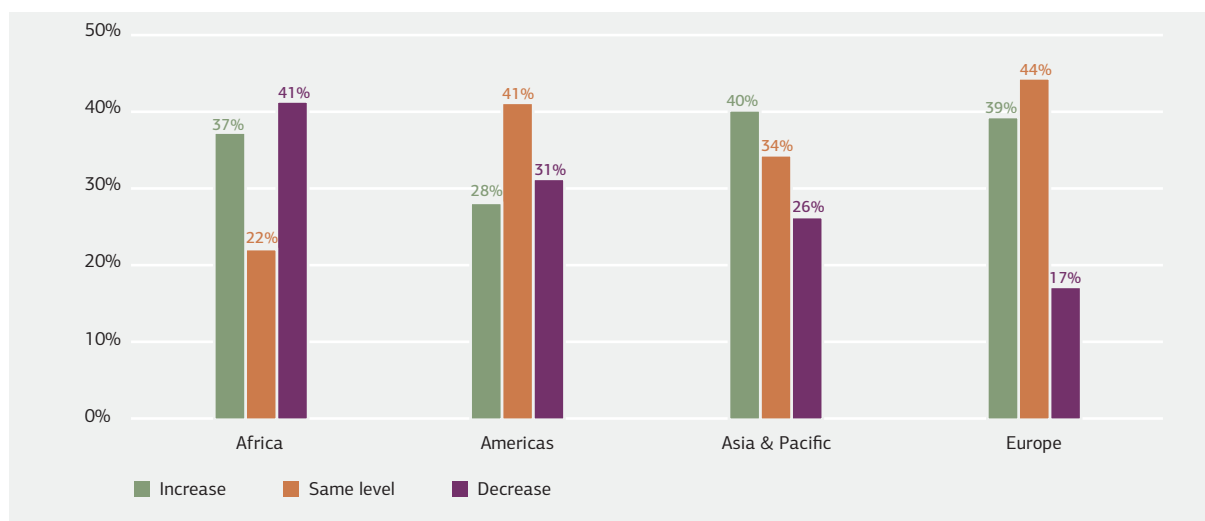
Almost all private and public HEIs include attracting international students in their internationalization strategies, and this is also in all regions but with some small differences (from 86% in Africa to 95% in Europe).

Looking only at HEIs that do include this as a priority in their strategy, we can see some inequality for both private and public institutions, and across all regions, as three groups of institution can be seen – those reporting an increase, those with no change those with a decrease.

For private HEIs these three groups are similar in size, while for public HEIs the largest one reports no change (42%) and there are fewer HEIs reporting a decrease (20%) than for private HEIs (31%).

Inequality is also clearly visible in all regions; however, trends differ from region to region. In Africa the highest percentage of HEIs reported a decrease (41%), while in the Americas and Europe the highest percentage reported no change (41% and 44% respectively) and in Asia & Pacific the highest percentage reported an increase (40%). Europe is the region with the lowest percentage of HEIs reporting a decrease (17%) while in Africa the situation is polarized between those reporting an increase and those reporting a decrease (**Figure 47**).

Figure 47: Attraction of international students



Student exchanges

Student exchanges are also a common priority in the internationalization strategy, even more so for public institutions (93%) than for private ones (86%). At regional level they are also very common, especially in Europe (93%) and the Americas (94%) but also in Africa (81%) and Asia & Pacific (87%).

If we take only those HEIs that do include student exchanges as a priority in their strategy, it is interesting to note that there is more inequality among public HEIs; while there are more public HEIs reporting an

increase in importance of student exchanges than private HEIs (29% vs. 20%), at the same time the biggest group of public HEIs reported a decrease (40%).

At regional level the trend is similar with the highest percentage of HEIs reporting a decrease in all regions (around 40%), yet we do see inequality, especially in Europe where the percentage of HEIs reporting an increase of importance of student exchanges is the highest (28%) and the percentage of HEIs reporting no change and those reporting a decrease is the same (36%).

Overall, it can be concluded that the priority of student exchanges has mainly decreased because of the pandemic, and that there is a level of inequality among HEIs, with a not negligible percentage of HEIs reporting that the importance of student exchanges has increased.

Virtual exchanges and collaborative online learning

Virtual exchanges and collaborative online learning are also common priorities in the internationalization strategy, both for public (94%) and private HEIs (91%). At regional level, they are also very common (95% in the Americas, 94% in Europe, 92% in Asia & Pacific, 86% in Africa).

Once again, if we look at only those HEIs that do include them as a priority in their strategy, the importance of virtual exchanges and collaborative online learning has increased more at public institutions (85%) than at private ones (76%).

Overall, there are no marked differences between regions; the importance of virtual exchanges and collaborative online learning has increased at the majority of HEIs in all regions (75% or more) and the percentage of HEIs for which its importance has decreased is very low across the regions (9% or less).

Internationalization of the curriculum/at home

Internationalization of the curriculum/at home is a common priority for both public and private HEIs (89% for both) and in all regions (92% in Europe, 90% in Asia & Pacific, 86% in the Americas and 84% in Africa).

For those HEIs that do include internationalization of the curriculum/at home as a priority in their strategy, there is no difference between public and private institutions, while at regional level the Americas is the region with the highest percentage of HEIs reporting an increase of importance (71%). In Europe and Africa, the majority of HEIs (59% and 58% respectively) also report an increase in importance, while in Asia & Pacific the percentage of HEIs reporting an increase in importance (48%) is almost the same as those reporting no change (46%). The percentage of HEIs reporting a decrease in importance is low in all regions.

Academic staff mobility for teaching

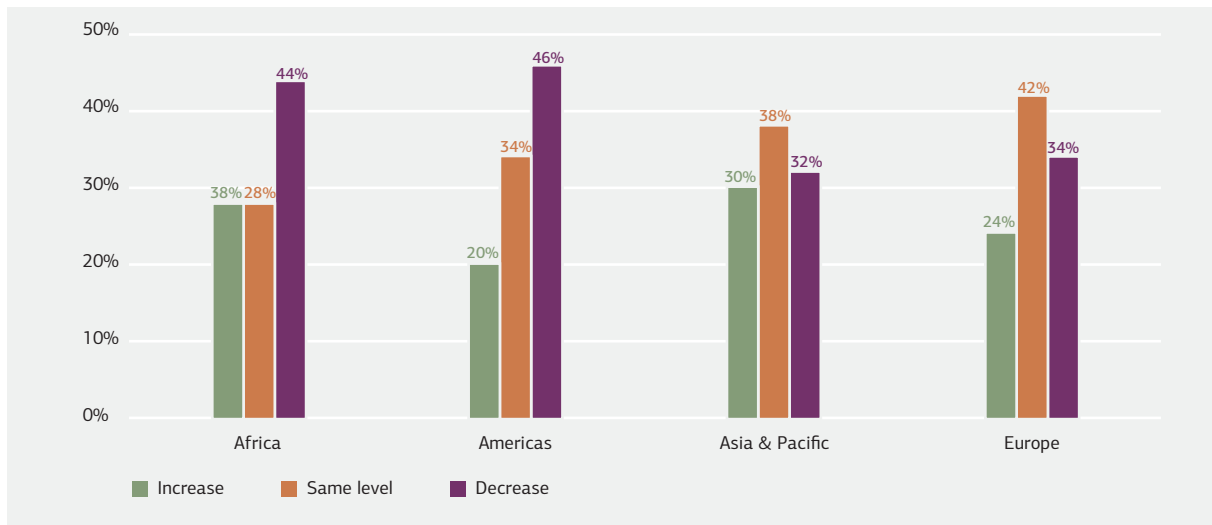
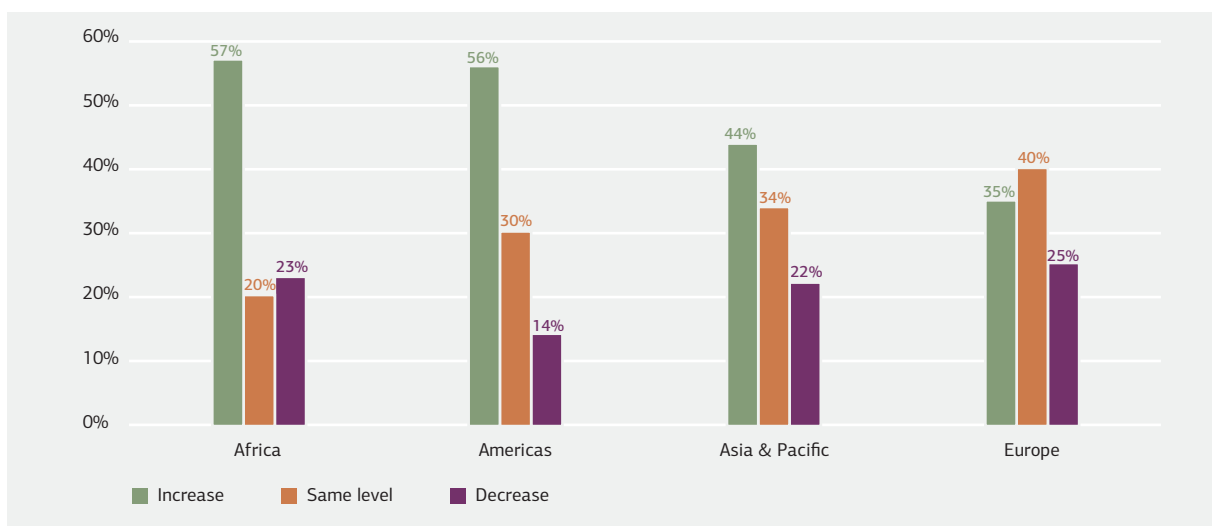
Academic staff mobility for teaching is a common priority for both public (94%) and private HEIs (93%) and in all regions (92% in Asia & Pacific, 91% in the Americas and 86% in Africa), and especially so in Europe (98%).

Among those HEIs that do include academic staff mobility for teaching as a priority in their strategy, inequality is clearly visible both for public and private HEIs and in all regions, with three groups of HEIs (those reporting an increase, no change and a decrease) clearly visible. The major difference is that in Asia & Pacific (38%) and Europe (42%), the highest percentage of HEIs report no change, while in Africa and in the Americas the highest percentage report a decrease (44% and 46%) (**Figure 48**).

Academic and administrative staff training in global and intercultural competences

Academic and administrative staff training in global and intercultural competences is also a very common priority, even more at public (94%) than private HEIs (88%). At regional level it is also very common, but slightly less in Africa (81%) than in all other regions (92% in Europe, 94% in Asia & Pacific, 91% in the Americas).

Within those HEIs that do include academic and administrative staff training in global and intercultural competences in their strategy, their importance increased at almost half of public HEIs (47%) and at 40%

Figure 48: Academic staff mobility for teaching**Figure 49: Academic and administrative staff training in global and intercultural competences**

of private ones, however, there is a level of inequality as for both type of institutions the percentage of HEI reporting a decrease is not negligible (more than 20%). At regional level, in Africa and the Americas the majority of HEIs (57% and 56% respectively) reported an increase in importance of academic and administrative staff training in global and intercultural competences. In Asia & Pacific the highest percentage of HEIs also reported that importance has increased but with more inequality, and finally in Europe, the highest percentage of HEIs reported that importance had not changed (40% vs. 35% reporting an increase) (Figure 49).

Conclusion

The increased importance of virtual exchanges and collaborative online learning and internationalization of the curriculum/at home within the majority of HEIs in all regions and the existence of three different groups of HEIs giving different levels of importance to mobility (student and staff) and staff training, are the most salient results. Inequality in mobility and staff training does not seem to be connected either with the private/public nature of institutions or with their geographical location, as these three different groups of HEIs are present in all regions. It might be related to national contexts or the nature of the institution (comprehensive or specialised), but unfortunately the present survey does not allow for such

analysis. It would be worth investigating these aspects more as they could definitely lead to an increase in inequality in internationalization, with some activities (especially mobility) becoming relevant only for a restricted group of HEIs. On the other hand, as mentioned before, the increased importance of virtual exchanges and collaborative online learning and internationalization of the curriculum/at home gives hope for a reduction in inequalities and for internationalization which is accessible to all.

C5.3 Evaluation of foreign qualifications

In collaboration with the ENIC-NARIC networks, questions were included in the survey in order to assess whether there had been any COVID-19 related challenges to evaluating applications from students with foreign qualifications.

Twenty-four percent of HEIs reported that they did not have students with a foreign qualification applying to the institution and 13% did not know, and the remaining two-thirds (63%) did receive these types of application. Out of those institutions concerned by this, two-thirds (65%) reported that they had not encountered any COVID-19 related challenges and only one-third (35%) did so.

We can take from this that the pandemic does not seem to have been a major destabilising factor in evaluating foreign qualifications.

Moreover, for those HEIs reporting pandemic related changes, there was no clear unequivocal effect; none of the challenges listed was chosen by more than 33% of HEIs and many challenges were chosen by a similar percentage (Table 18).

Table 18: challenges in evaluating foreign qualifications

Challenge	Percentage
Access to COVID-19 related information to make the evaluation (i.e., altered exam dates)	33%
Trust in the quality assurance of the degree	31%
Incomplete application files	30%
Disrupted evaluation process	29%
Trust in the learning outcomes of the degree	27%
(part of) our application process is paper based	25%
Trust in the authenticity of the degree	23%
(part of) our internal evaluation process is paper based	17%
Trust in the level of the degree	15%

Regional and private/public analysis

Slightly more public HEIs reported COVID-19 related challenges to evaluating foreign qualification than private ones (38% vs 30% of those reporting having applications from students with foreign qualifications). For those HEIs reporting challenges, there is an interesting difference. Almost half the private HEIs (46%) report “Access to COVID-19 related information to make the evaluation (i.e., altered exam dates)” as the most common challenge, while this is not one of the most common challenges for public HEIs. Public HEIs did not really identify a most common challenge, but the one selected by the highest percentage (37%) was “Trust in the quality assurance of the degree”.

At regional level it is interesting to note that the percentage of institutions having students with foreign qualifications applying varies from 44% in the Americas to 69% in Europe (64% In Asia & Pacific and 65% in Africa). The percentage of institutions reporting COVID-19 related challenges is higher in Africa

and Asia & Pacific than in Europe and the Americas, but in all regions is lower than the percentage of institutions reporting no COVID-19 related challenges.

In terms of challenges, 57% of African HEIs indicated “Incomplete application files” and 50% “(part of) our application process is paper based”, 43% of HEIs in Asia & Pacific indicated “Trust in the quality assurance of the degree” and 40% “Trust in the learning outcomes of the degree”, while In Europe and in the Americas there are no clear challenges that emerge, the most common ones being “Access to COVID-19 related information to make the evaluation (i.e. altered exam dates)”, chosen by 38% of HEIs in Europe and in the Americas and “Disrupted evaluation process” only in the Americas (38%).

C5.4 Transnational education (TNE)

Almost two-thirds of respondents are involved in transnational education (TNE) and they are clearly divided into three groups, those for which the pandemic had no effect (43%), those for which the pandemic decreased their engagement in TNE activities (32%) and those for which the pandemic increased their engagement in TNE activities (25%).

Although the highest percentage of HEIs reported no effect of the pandemic on TNE, the existence of two similar groups, those reporting an increase and those reporting a decrease, does indicate some level of inequality.

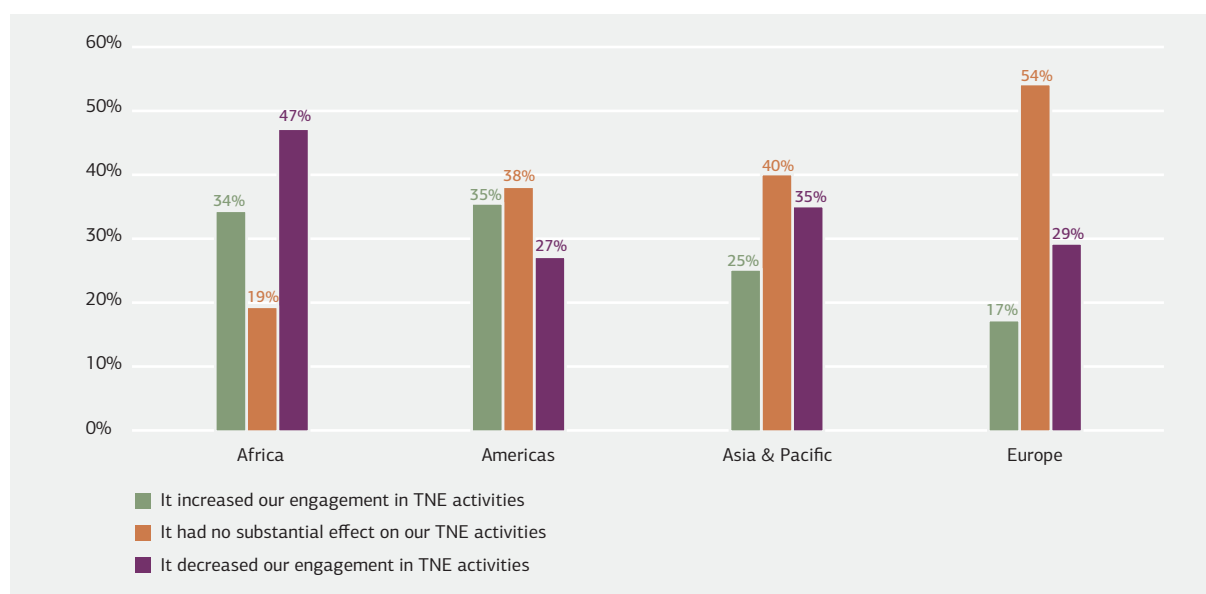
Regional and private/public analysis

There is no difference between public and private HEIs concerning the engagement and the effect of the pandemic on TNE activities.

At regional level, in the Americas there is a lower percentage of HEIs involved in TNE than in the other regions, but they are still more than half (55%). In the three other regions the percentage of HEIs involved in TNE is similar (Africa 63%, Asia & Pacific 69%, Europe 65%).

For those HEIs involved in TNE, in terms of impact of the pandemic, in all regions three groups are clearly visible, denoting inequality among HEIs inside the region, but while in Europe HEIs reporting no impact are the majority (54%), in Africa the situation is the opposite, only 19% reported no impact with almost half (47%) reporting a negative impact and 34% a positive impact. In the Americas the three

Figure 50: Transnational education (TNE)



groups are of similar size, but there are more HEIs reporting an increase in TNE activities than those reporting a decrease (35% vs. 27%), while in Asia & Pacific the situation is opposite (25% increase vs. 35% decrease). However, in both regions the biggest group of HEIs is composed of those reporting no change (**Figure 50**).

The regional analysis sheds some light on the different impacts of the pandemic on TNE but not completely as the three groups of HEIs are present in all regions; there must therefore be other factors determining the different impacts of the pandemic (e.g., comprehensive/specialised nature of institutions, urban vs. rural location, etc.). More investigation is needed to understand why the pandemic had such an unequal effect on TNE activities.

C5.5 Collaborative programs (dual/double or multiple and joint degree)

Seventy percent of respondents are involved in collaborative programs and taking only those involved in collaborative programmes, and as we saw for TNE, we see some inequality since there are three groups of similar size. The biggest group (43%) is composed of HEIs indicating that the pandemic had no substantial effect on collaborative degrees. Of the other two groups, 28% reported a positive effect of the pandemic (the pandemic opened up opportunities to create new collaborative degrees with institutions abroad) and another (29%) reported a negative effect (18% reported that the pandemic negatively affected collaborative programs (e.g., fewer student enrolments) and 11% that some collaborative degree programs had to stop).

Regional and private/public analysis

Involvement in collaborative programs is slightly more common for public HEIs (73%) than for private ones (65%). For those that are involved in collaborative programmes, the pandemic seems to have had more impact at private (63%) than at public HEIs (54%). However, in both cases there is a high degree of inequality with three distinct groups.

At regional level, 80% of HEIs in Europe are involved in collaborative degrees, a higher percentage than in the other three regions (Africa 63%, Americas 67%, Asia & Pacific 62%).

When looking at those involved in collaborative degrees, Europe is the region where HEIs were less impacted (48% reported no impact). Among those impacted by the pandemic the percentage reporting a negative impact (33%) is higher than those reporting a positive impact (19%). In Asia & Pacific the biggest group of HEIs are those reporting no impact (44%) but the percentage of HEIs reporting a positive impact (31%) is higher than those reporting a negative impact (25%). In the Americas the percentage of HEIs reporting a positive impact and those reporting no impact is the same (36%), but it is in Africa where the highest percentage of HEIs reporting a positive impact can be found – half the institutions reported that the pandemic opened up opportunities to create new collaborative degrees with institutions abroad.

However, in all regions the three groups of HEIs are again present, posing questions as to which other factors could explain the different impacts of the pandemic on collaborative programs. What can be concluded from the responses is that despite the pandemic, collaborative programs continue everywhere in the world, with less than 14% reporting that some collaborative degree programs had to stop.

More investigation is needed to understand why the pandemic had such an unequal effect on collaborative programs and which factors other than the regional location of the institution determine such impacts.

C6. Student consultations and evaluations

Eighty-six percent of HEIs were able to conduct student evaluations, where students assessed institutions during the pandemic.

Student evaluations were positive at the majority of institutions and appreciated; 58% of HEIs replied that information collected from students is fully used for decision-making and another 39% replied that it is somewhat used, with only 3% replying that it is not used. Students were on the whole satisfied with academic programmes offered (44% fully and 52% somewhat) and with the institution's communication in response to the pandemic (39% fully and 58% somewhat).

Eighty percent of HEIs offered support for mental health and 78% offered support for physical health. From those offering support, it can be noted that students are generally satisfied with support for physical health (38% fully and 52% somewhat satisfied) and for mental health (36% fully and 54% somewhat).

Students actively participated in decision making at 80% of institutions (36% fully and 44% somewhat).

These results show that institutions had a positive perception of student evaluations. It would be very interesting to compare these data with data collected directly from students to see if students themselves had the same positive opinion that HEIs believed they had.

Regional and private/public analysis

A higher percentage of private HEIs (91%) were able to conduct student evaluations than public (83%). At regional level, the situation in Africa is worth reflecting on, because as many as 32% of HEIs were unable to conduct evaluations. Although not statistically relevant, due to the low number of replies, this percentage reaches 41% for public HEIs in Africa, while it is only 17% for private HEIs. Thus, results seem to indicate that many public HEIs in Africa were not able to conduct student evaluations during the pandemic.

For the sake of clarity and ease, we follow with an analysis on the results from the regional and private/public analysis for each area evaluated.

Institution's communication in response to the pandemic

Higher percentages of private institutions reported that students were satisfied with the institution's communication in response to the pandemic (43% fully and 55% somewhat for private HEIs vs. 36% fully and 60% somewhat for public HEIs).

In terms of regional analysis, students were satisfied with the institution's communication in response to the pandemic in all regions (at more than 95% of HEIs), but in Asia & Pacific (44%) and Europe (40%) there is a higher percentage of HEIs where students are fully satisfied than in the Americas (32%) and Africa (24%).

Satisfaction with academic programme offered

Higher percentages of private institutions reported that students were satisfied with the academic programme offered (50% fully and 48% somewhat) than public ones (40% fully and 55% somewhat).

In terms of regional analysis, students were satisfied with the academic programme offered in all regions (at 94% or more of HEIs). The percentage of HEIs where students were fully satisfied is highest in Asia & Pacific (48%) and lowest in the Americas (39%) but the difference is not so great.

Information collected from students used to inform decision-making

Slightly higher percentages of private HEIs (61% fully and 36% somewhat) reported that information collected from students was fully used for decision-making than public HEIs (57% fully and 38% somewhat).

The information collected from students was used fully at the majority of HEIs in all regions. In Africa and the Americas, the percentages of HEIs that fully use the information (65% and 63% respectively) are higher than in Asia & Pacific (53%) and in Europe (59%).

Support for physical and mental health

In terms of support to students, the percentages of HEIs offering physical and mental support are similar for private and public HEIs (79% vs. 77% for physical health and 82% vs. 80% for mental health), but higher percentages of private HEIs reported student satisfaction (41% fully and 54% somewhat vs. 35% fully and 50% somewhat for physical health and 42% fully and 50% somewhat vs. 31% fully and 56% somewhat for mental health).

Support for physical health is less common in Europe and in the Americas than in the other two regions (31% of HEIs in Europe and 23% in the Americas do not offer this kind of support compared to 15% in Africa and 12% in Asia & Pacific). On levels of satisfaction, students were satisfied at more than 85% of HEIs in all regions and the highest level of satisfaction is in Asia & Pacific (41% of HEIs reported that students were fully satisfied and 53% somewhat satisfied) and the lowest is in Europe (35% fully satisfied and 50% somewhat satisfied).

Similar trends are visible for mental health, and once more this kind of support is least common in Europe (28% of HEIs do not offer it, while 19% do not do so in the Americas, 18% in Africa and 10% in Asia & Pacific). Students are satisfied at more than 85% of HEIs in all regions and the highest level of satisfaction is again in Asia & Pacific (43% of HEIs reported that students were fully satisfied and 49% somewhat satisfied).

Student participation in decision-making

Here, there is no substantial difference between private and public HEIs, with percentages of satisfaction being a couple of points higher at public HEIs.

At regional level, student participation is lowest in the Americas as 21% of HEIs reported that students did not really participate and 3% did not participating at all; 10% also indicated 'not applicable', which could be interpreted as a lack of student participation. Summing up these percentages, it is clear that students did not participate in decision-making at one-third of HEIs in the Americas, more than double than in Africa (15%) and in Europe (13%). Asia & Pacific lies somewhat in the middle at 23%. This trend is also reflected in the percentages of HEIs replying that students did fully participate as these percentages are higher in Africa (44%) and Europe (42%) than in Asia & Pacific (34%) and the Americas (22%).

C7. Alumni relations

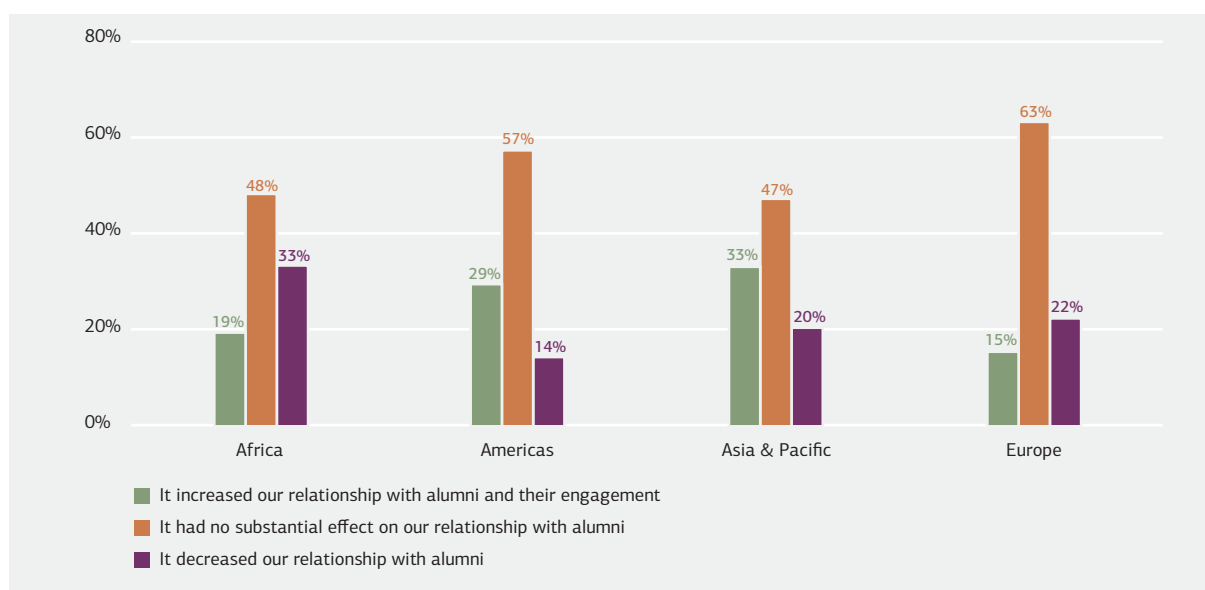
Almost all respondents engaged with alumni, with only 5% indicating the opposite. The majority of respondents (52%) reported that the pandemic had no effect on their relationships with alumni. However, there are other two groups of almost the same size that reported opposite effects, 23% reporting that the pandemic increased their engagement with alumni and 20% that it decreased engagement.

Regional and private/public analysis

Almost all private (97%) and public (93%) HEIs engage with alumni. If we exclude those institutions that do not engage with alumni, the majority of public HEIs (60%) reported there was no effect of the pandemic on their engagement with alumni, and more HEIs reported an increase (24%) rather than a decrease (16%). Almost half of private HEIs reported no change in alumni engagement (48%), however the percentage of HEIs reporting a decrease (28%) is slightly higher than those reporting an increase (24%). It seems that the pandemic has had a more negative impact for private institutions than public, but in both cases only for a minority of HEIs.

At regional level, almost all HEIs – over 92% in all regions – engage with alumni. Once again, excluding those that do not engage with alumni, in each region the largest group is composed of those reporting no effect on engagement with alumni. In Europe and the Americas, they make up the majority of respondents (63% and 57% respectively), while Africa and Asia & Pacific show a higher degree of inequality. Looking at those HEIs that reported an effect of the pandemic on their engagement with alumni, in Africa and Europe we see the opposite trend to the Americas and Asia & Pacific. In the first two regions, there are more HEIs reporting a decrease in engagement rather than an increase, while in the second two regions the situation is reversed (**Figure 51**).

Figure 51: Relationship with alumni and their engagement



Once more the private/public and regional analysis explain partially, but not completely, the existence of inequality in the effect of COVID-19 on the relationship and engagement with alumni. More research is needed to understand the reasons behind the different impact of COVID-19 on different HEIs around the world.

D

Research

D. Research

As was the case for teaching and learning, before the pandemic, a traditional university would typically be seen as a campus-based institution and research would be conducted on campus, in laboratories with the necessary tools and instruments. Research results would be discussed at academic conferences and shared with the academic community, visiting professors and researchers would also be present. COVID-19 disrupted this model of conducting research, questioning the extent to which HEIs were able to continue in the same vein. What changes has the pandemic brought to the way research is conducted?

This section focuses on research and examines the situation one year into the pandemic. We start by investigating whether research priorities have changed, and then explore whether there has been any delay in research activities and if so, the possible reasons. We focus on the impact of the pandemic on specific research activities, looking at the level at which research is conducted, of research funding and especially sources of funding. We conclude with an analysis of research collaborations and their quality.

We first asked whether institutions conducted research, and only those that responded positively were invited to provide answers to subsequent questions. Almost all HEIs that replied to the survey did conduct research (94%) and there were no major differences among the regions (percentages vary between 96% in Asia & Pacific and 90% in the Americas).

D1. Research priorities

HEIs were asked to evaluate if the importance of research in each academic discipline had increased, remained the same or decreased. Academic disciplines were classified according to ISCED codes as in previous sections.

The first result to underline is that not all HEIs conducted research in all disciplines.

The most common discipline is business and administration, with 80% of HEIs stating that they conducted research in this discipline. The least common is agriculture – less than half (46%) of HEIs conducted research in this domain.

Other common disciplines, present at more than three quarters of HEIs, were computing, social and behavioural sciences, and education. On the other hand, journalism and information, law, services (hospitality and tourism, sport, transport, environmental protection, security services, etc.) and arts were present at only 60% or less of HEIs.

If we discount those institutions that replied ‘not applicable’, not surprisingly, the most commonly, and to a certain extent only, prioritised discipline was health and welfare. Almost half (46%) the HEIs prioritised it, 45% replied that its importance had remained the same and only 9% indicated that it had decreased in importance.

Health and welfare is the only discipline where more institutions reported an increase in importance rather than no change. For all other disciplines, the majority of HEIs replied that there was no change in the importance. Life sciences is the second discipline in terms of percentage of HEIs replying that its importance had increased, but this percentage is only 33%, while 56% replied that its importance remained the same. The percentage of HEIs reporting a decrease in importance of any discipline is low (15% or less) and in all disciplines is always lower than the percentages of HEIs reporting an increase (**Table 19**).

Table 19: Change in research priorities

	Increase	Same level	Decrease
Health and welfare	46%	45%	9%
Life sciences	33%	56%	11%
Computing	28%	63%	9%
Social and behavioural science	26%	66%	8%
Education	24%	68%	8%
Services (Hospitality and tourism, sport, transport, environmental protection, security services, etc.)	23%	62%	15%
Engineering, manufacturing and construction	21%	66%	13%
Journalism and information	20%	70%	10%
Physical sciences	19%	67%	14%
Agriculture	18%	69%	13%
Business and administration	17%	73%	10%
Law	16%	74%	10%
Humanities	16%	76%	8%
Mathematics and statistics	16%	74%	10%
Arts	13%	77%	10%

The main conclusion that can be drawn from this is that, other than for health and welfare, the pandemic did not have any major repercussions on research priorities at the majority of HEIs. Even research in health and welfare was prioritised only at half of HEIs.

These results can also be taken as a positive sign in the sense that HEIs have not been forced to change their research priorities due to COVID-19; neither have they neglected other disciplines by overreacting and focusing their research only on health and welfare.

Regional and private/public analysis

There are both similarities and differences between private and public HEIs in terms of the most common research areas.

Business and administration are most commonly found at private HEIs, with 85% carrying out research compared to 76% of public ones, while education is the most common at public HEIs (81% vs. 72% at private). Computing and social and behavioural sciences are the second and third most common domains at both public and private HEIs. Agriculture is the least common both in public (49%) and in private institutions (only 39% of private HEIs conduct research in this area).

At regional level, the first point of note is that research in Africa seems more comprehensive while in Europe it appears more specialised; the least common research area in Africa, journalism and information, is still carried out by 62% of institutions in the region, whereas only 33% of European institutions conducted research in the least common domain, agriculture.

The most common research areas differ across the regions: the Americas has 91% of institutions indicating education, in Africa 94% indicated computing, in Asia & Pacific 84% indicated business and administration; in Europe social and behavioural sciences were identified by 76% of institutions, closely followed by business and administration, at 75% of institutions.

As previously mentioned, the least common research domain in Africa is journalism and information (62% of HEIs), which is second least common in all other regions. For the other three regions, agriculture is least common (33% in Europe, 50% in the Americas, 49% in Asia & Pacific).

If we look at only HEIs conducting research in certain fields, there is no huge difference in terms of research priorities between public and private HEIs. For both, health and welfare is the only domain for which the percentages indicating an increase in priority is higher or similar to the percentages indicating no change in priority (44% vs. 41% for private HEIs and 47% vs. 48% for public HEIs). For all other domains the majority of HEIs replied that priorities had remained the same. The percentage of HEIs reporting a decrease in priority is low in all research areas, both for private and public.

Although health and welfare has been the most prioritised in all regions, there are substantial differences from region to region. In the Americas 58% of HEIs prioritised this, while only 38% did so in Europe. In Europe, research priorities in all domains have not changed for the majority of institution, and, with the exception of health and welfare, this is true also for the Americas and Asia & Pacific. However, in Africa, the situation is different. Africa is the only region which shows a significant percentage of HEIs having reduced priority for some domains, and it is highest for services (hospitality and tourism, sport, transport, environmental protection, security services, etc.) where 38% reduced priority, 32% kept it the same and 30% increased priority. In general, Africa shows higher inequality, both in terms of research priorities (e.g. health and welfare vs. services) and in terms of different groups of HEIs. In fact, in Africa, for some domains (services, engineering, manufacturing and construction, social and behavioural sciences), three different groups of HEIs (those that increased, decreased or did not change priority for research in a certain domain) of almost the same size are clearly identifiable.

D2. Delay in research activities

Research activities have been delayed at two-thirds of HEIs with no substantial difference between private and public HEIs. The Americas and Africa are the regions where research activities have been delayed at the highest percentage of HEIs (78% and 77% respectively) followed by Asia & Pacific (71%), and while the percentage is lowest in Europe (59%), there is still a majority of institutions indicating a delay in research activities.

The four most common reasons for this delay, present at the majority of HEIs are:

- Staff could not travel to conferences and meetings (at 71% of HEIs)
- Staff could not undertake field work or other planned events requiring physical presence which could not be simulated remotely (at 66% of HEIs)
- Staff had to spend more time on teaching activities due to the sudden shift to remote learning (at 61% of HEIs)
- Staff did not have access to laboratories or specialized equipment for the purpose of the research (at 58% of HEIs)

Other reasons for delay are reported in **Table 20**.

The top two reasons are clearly related to travel restrictions and the impossibility of conducting research activities from a distance. The fourth one is clearly linked to campus closures and again to the impossibility of conducting research activities remotely.

The third reason is more interesting, as it shows that the shift to remote teaching caused a delay in research activities. This, combined with the increase in workload for academic staff due to the pandemic, shows that although the shift to online teaching was a great solution to ensure continuity of teaching and learning, it did not come without a cost, especially for research. HEIs are and will be confronted by the challenge of how to ensure quality remote teaching and learning without jeopardizing research activities or increasing the workload of academic staff too much.

Table 20: Reasons for delay in research activities

Reason for delay	Percentage
Staff could not travel to conferences and meetings	71%
Staff could not undertake field work or other planned events requiring physical presence and which could not be simulated remotely	66%
Staff had to spend more time on teaching activities due to the sudden shift to remote learning	61%
Staff did not have access to laboratories or specialized equipment for the purpose of the research	58%
Staff had to juggle extra workload combined with personal obligations arising from the pandemic	42%
Staff did not have access to the required information for research (access to national archives, museums or other spaces which have been closed due to the pandemic)	31%
Staff faced a reduction in funding of research activities	30%
Staff did not have the appropriate infrastructure and technological competencies to work remotely	24%
Staff has been more absent due to health issues in the close family	23%
Staff has been less productive due to mental health issues linked to the pandemic	15%

Regional and private/public analysis

The four most common reasons for delays to research as listed above are identical for both private and public institutions. However, for public ones, travel restrictions are clearly the most common (at 75% of HEIs) while for private HEIs, the three reasons are almost at the same level.

The four most common reasons are also shared by the four regions. However, in Europe and Asia & Pacific the most common reason are clearly travel restrictions which made travel to conferences and meetings impossible (at 77% and 72% of HEIs respectively), while in the Americas it is the impossibility of conducting field work (at 75% of HEIs). In Africa, the top spot for delays in research are shared – impossibility to travel and impossibility of carrying out fieldwork were both selected by 69% of institutions.

D3. Impact of the pandemic on research activities

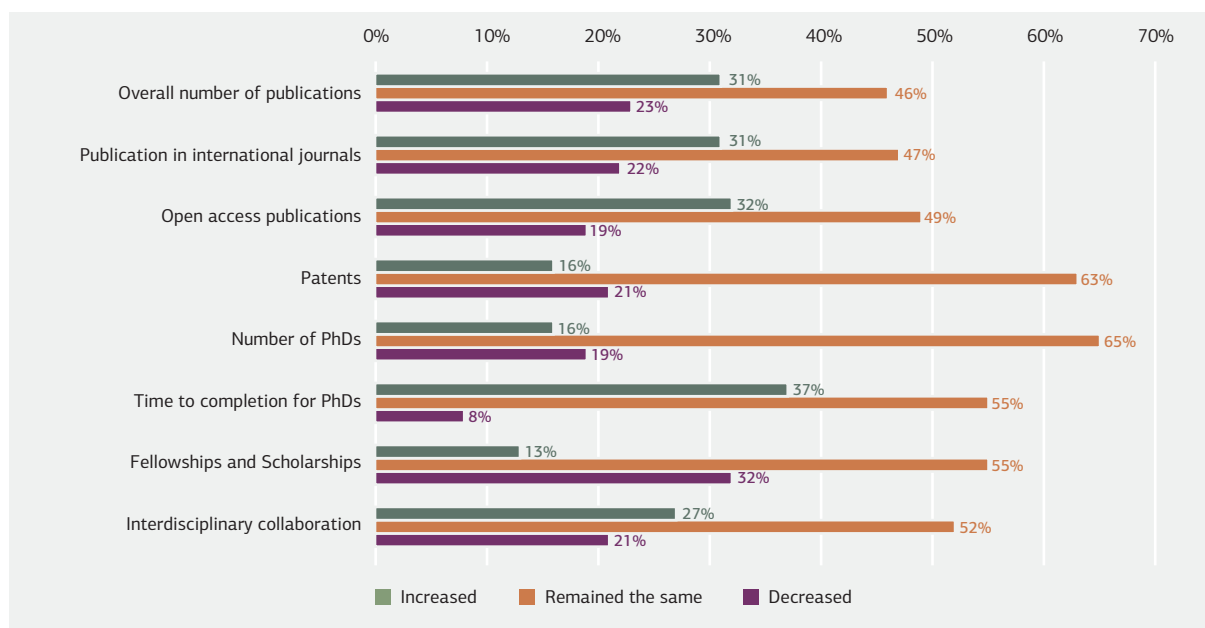
Respondents were asked to identify, from a list, research activities present in their institutions, and to indicate the impact of the pandemic on these activities. All the activities in the list were found at the majority of HEIs, the most common being publications, which was present in over 90% of cases, and the least common was patents, present at 68% of institutions.

Looking only at those HEIs indicating a specific research activity, the results are very interesting, as for all activities the biggest percentage of HEIs reported that the pandemic had no substantial impact (**Figure 52**).

However, there are some differences to be noted.

For patents and numbers of PhDs the percentages of HEIs reporting an increase or a decrease are small and similar, showing little effect of the pandemic on these activities.

For fellowships and scholarships, the percentage of HEIs reporting a decrease is higher than for those reporting an increase (more than the double), while for time to completion for PhDs we see the opposite, with an increase in time taken to complete them. Both these results show the negative effect of the pandemic on these activities.

Figure 52: Impact of the pandemic on research activities

For activities related to publications and interdisciplinary collaboration, the percentage of HEIs reporting an increase is higher than for those reporting a decrease, but the two groups of HEIs are comparable in size. This is at the same time encouraging, as it shows that the pandemic has stimulated more interdisciplinary collaboration and it has increased the number of publications rather than decreasing it. It does, however, ring an alarm bell as it shows the existence of inequality between HEIs around the world. It is worth mentioning that the trend for the overall number of publications, for publication in international journals and for open access publications is almost the same, with almost half HEIs not being affected and more HEIs having experienced an increase rather than a decrease. It might be surprising that the number of open access publications has not increased at the majority of HEIs.

Overall, the results show that the impact of the pandemic on research activities has not been substantial for many HEIs, but for a not negligible group it has been. They also show that the inequality generated by the pandemic is especially pertinent for publications and interdisciplinary collaboration.

Regional and private/public analysis

All research activities are more common at public HEIs than at private HEIs, but the trend is similar, and the most common research activity are publications (at 90% or more at both public and private) and least common are patents (at 72% of public HEIs and at 60% of private).

The private/public nature of institutions does not really help us in understanding the existence of inequality between HEIs as the trends are similar for both public and private HEIs, with the highest percentage reporting no impact for all research activities.

Considering only HEIs conducting a specific activity, some small but interesting differences can be noted.

The majority of private HEIs report no change in priority for all activities except the overall number of publications; the same goes for public institutions, with the added exceptions of publication in international journals and open access publications.

The percentage of private HEIs reporting an increase in the overall number of publications (25%) is identical to those reporting a decrease, while for the public institutions, it is higher (34% vs. 21%). There are fewer private HEIs reporting an increase in the overall number of publications, publications

in scientific journals and open access publications (25%) than for public ones (35%), suggesting that the private nature of the institution could play a small role in explaining the different impact of the pandemic.

Although small, the percentage of public HEIs reporting a decrease in patents (25%) is higher than those reporting an increase (12%), while we see the opposite for private HEIs (25% increase vs. 14% decrease), again pointing out the possible role played by the nature of the institution on impact of the pandemic.

For all other activities the trends are similar, showing no effects on the private/public nature of the institutions.

All research activities are present at the majority of HEIs in all regions, except patents which are present only at 49% of HEIs in the Americas. The most common activity in all regions are publications (present at 90% or more) and least common are patents, however the percentage of HEIs having patents varies from 81% in Asia & Pacific to 77% in Africa, 62% in Europe and only 49% in the Americas.

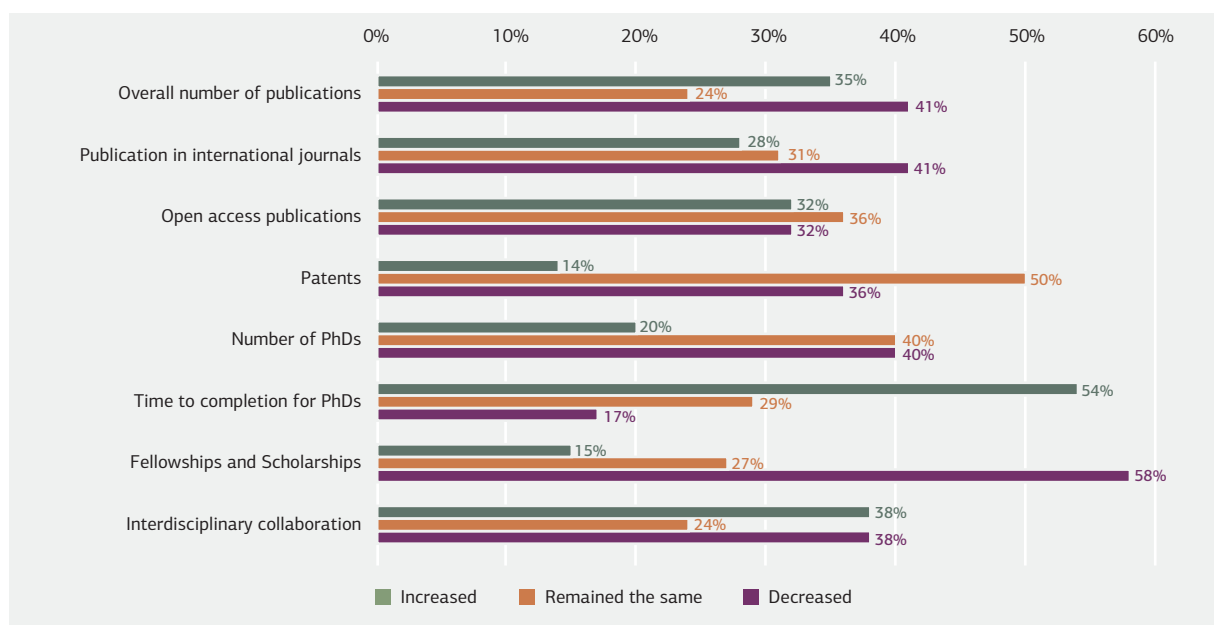
The regional analysis clearly shows the different impact of the pandemic in Africa. While in all other regions the highest percentage of HEIs (in Europe it is even the majority) reported no effect of the pandemic for all activities, as was the case for the global trends, the situation in Africa is more complex and worth an analysis of its own. Overall, the impact of the pandemic has been much more important than in all other regions, and consequences more negative.

In terms of publications, three different groups of HEIs of similar size are visible, those reporting an increase, no change or a decrease. These groups are comparable in size both for the overall number of publications, for publications in scientific journals and for open access publications, clearly showing a level of inequality. The situation is especially negative for the overall number of publications and for publications in international journals as the biggest group reported a decrease (41%).

Concerning fellowships and scholarships, the impact of the pandemic is clearly negative, with the majority of HEIs (58%) reporting a decrease and only 15% reporting an increase.

The impact of the pandemic is also negative for the number of PhDs and for the time to completion, with the biggest percentage of HEIs reporting a decrease in the number of PhDs (40%) and an increase in the time to completion (54%).

Figure 53: Impact of the pandemic on research activities in Africa



Although the biggest percentage of HEIs reported no change concerning patents, the percentage of HEIs reporting a decrease (36%) is more than double those reporting an increase (14%).

Finally, for interdisciplinary collaboration the percentage of HEIs reporting an increase and a decrease is the same (38%) (Figure 53).

These results depict a worrying situation for research in Africa, as they show that the pandemic had a mainly negative impact on almost all research activities while at the same time creating inequality between institutions.

The results in the other regions are less preoccupying, Europe is the least affected and trends for all activities are very similar to the global ones; for the Americas it is worth mentioning that the percentage of HEIs reporting a decrease in the overall number of publication and publications in scientific journals is slightly higher than those reporting an increase; and finally in Asia & Pacific it is interesting to see that the pandemic seemed to have an effect on completion times for PhDs (44% of HEIs report an increase vs. 5% reporting a decrease) but not on the number of PhDs as the percentage of HEIs reporting an increase (22%) is slightly higher than those reporting a decrease (18%).

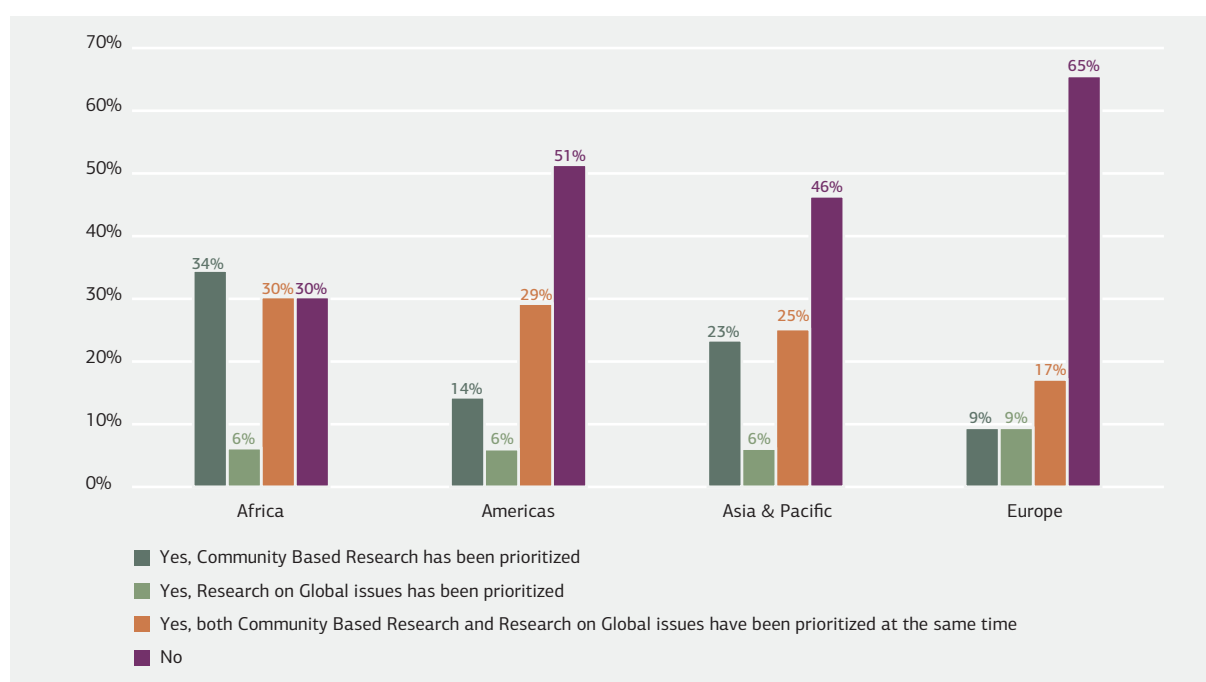
D4. Community-based research and research on global issues

The pandemic did not have any marked effect on the level at which research is conducted. The majority of HEIs (53%) reported no change, while 23% reported that both have been prioritised. Only a quarter of HEIs prioritised one or the other, among them the percentages reporting a prioritisation of community-based research (17%) are higher than those reporting a prioritisation of research on global issues (7%).

Regional and private/public analysis

There is no real difference between public and private HEIs, with the percentage of private HEIs having prioritised community-based research only slightly higher (21% vs. 15%).

Figure 54: Change in level at which research is conducted



The regional analysis provides more interesting results. If in Europe 65% of HEIs report no change in the level at which research is conducted, in Africa this percentage is only 30%. In Africa there are three groups of HEIs of almost equal size, those which prioritised community-based research (34%), those which prioritised both (30%) and those for which the pandemic had no effect (30%).

In Asia & Pacific almost half of respondents reported no effect (46%) and the percentage of those HEIs reporting having prioritised community-based research (23%) is similar to that reporting having prioritised both (25%). Results for the Americas are similar to the global trends, while Europe is the only region for which the percentage of HEIs prioritising community-based research is the same as those prioritising research on global issues but they are less than 10% each (**Figure 54**).

Overall, it can be concluded that the pandemic did not change the level at which research is conducted at the majority of institutions and if it has done so, it stimulated both community-based research and research on global issues. If only one of the two had to be prioritised, this has been community-based research; especially in Africa there is a considerable percentage of HEIs which did so.

D5. Research funding

Research funding has not changed at the majority of HEIs that replied to the survey (60%), and it decreased at 25% and increased at 15%.

It is reassuring to see that the majority of institutions are faring well during the pandemic and seeing a stable base of research funding and that some – albeit a minority – even experienced an increase. Yet, we must not overlook the fact that one quarter of institutions were already experiencing a decrease in research funding one year into the pandemic and would be crucial to monitor this trend over time in order to see whether it was an immediate effect due to restrictions in place or whether it was due to a reduction in funding for research.

There is no great difference between private and public HEIs, but we do see more private HEIs where research funding has changed, and in both senses (17% vs. 14% increase and 29% vs. 23% decrease).

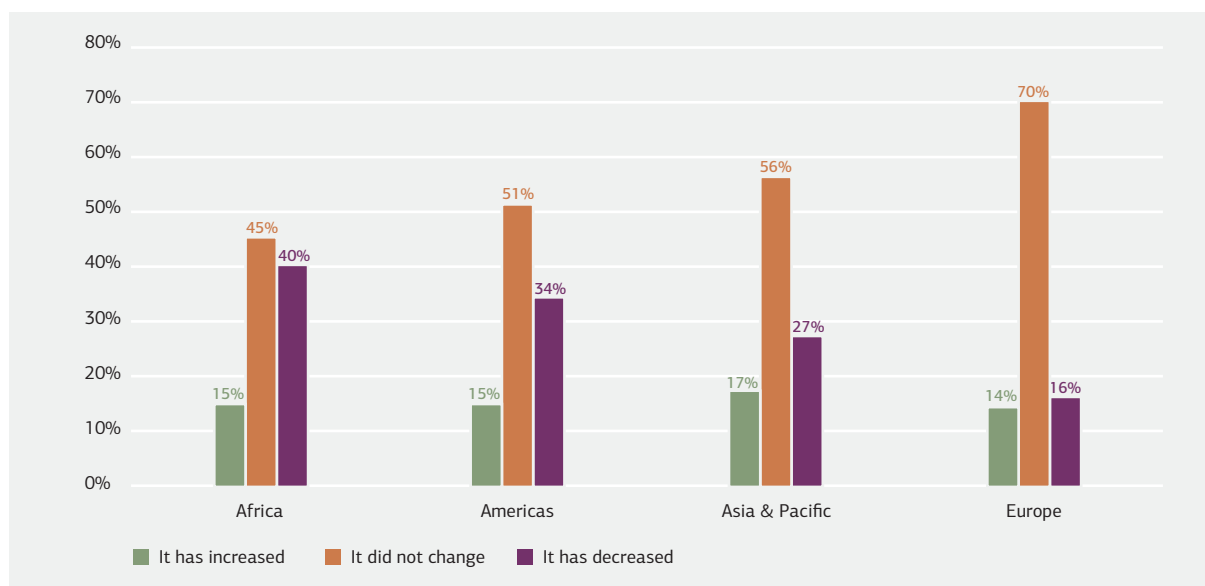
The regional analysis uncovers a different reality in the four regions of the world.

In Europe, research funding has not changed at 70% of HEIs, in Asia & Pacific this percentage is 56%, in the Americas it is 51% and in Africa it is only 45%. At the same time the percentage of HEIs reporting a decrease in research funding is 16% in Europe, 27% in Asia & Pacific, 34% in the Americas and 40% in Africa. The percentage of HEIs which have experienced an increase in research funding is more or less the same across the regions (15%) (**Figure 55**).

These results show a completely different reality for research funding in the four regions. While in Europe the effect of the pandemic on research funding is visible only for 30% of HEIs, which are divided in two groups of the same size, inequality created by the pandemic is more noticeable in the other regions, with the group of HEIs reporting a decrease in research funding becoming more significant moving from Asia & Pacific to the Americas and to Africa.

In Africa the percentage of HEIs which experienced a decrease in research funding is comparable to that of HEIs experiencing no change.

Therefore, while the majority of HEIs did not experience a decrease in research funding at global level, regionally there are substantial disparities and there are HEIs which have been hard hit in their research funding by the pandemic, particularly in Africa, the region that already accounts for the lowest share of global research and development and only 2.6% of the world's research publications (UNESCO, Paris: 2015). This is a very worrisome example of a region that is already in a fragile state and which, during times of crisis, is suffering from a greater set-back when compared to the other regions. The same trend was uncovered in the section on Governance, particularly when look at changes in expenditure.

Figure 55: Change in research funding: regional analysis

D5.1 Sources of research funding

The majority of respondents indicated that they received research funding from all sources listed in the survey: 88% from their own government, 63% from private businesses, 60% from foreign governments and from international organisations and 56% from other private donors such as charities. They were asked to report any changes in these funding sources.

Considering only those HEIs that have a particular source of funding (so not counting institutions that indicated 'not applicable') it is interesting to note that the majority of HEIs reported no change for all sources and that the percentage of HEIs reporting a decrease for all sources is higher than those reporting an increase, which is small for all sources (between 9% and 16%). However, the percentage of HEIs reporting a decrease varies from 25% for funding from their own governments and international organisations to 40% for funding from private businesses.

It is therefore interesting to analyse the changes in each of these sources separately.

D5.1.1 Funding from own government

As mentioned before, the majority of HEIs (59%) reported no change in funding from their own government, 25% reported a decrease and 16% reported an increase.

As expected almost all public HEIs (94%) have research funding from their own government and also the majority of private HEIs (77%). Considering only those HEIs that do have funding from their own government there is not much difference between private and public HEIs, with only a slightly higher percentage of private HEIs reporting a decrease compared to public HEIs (29% vs. 23%).

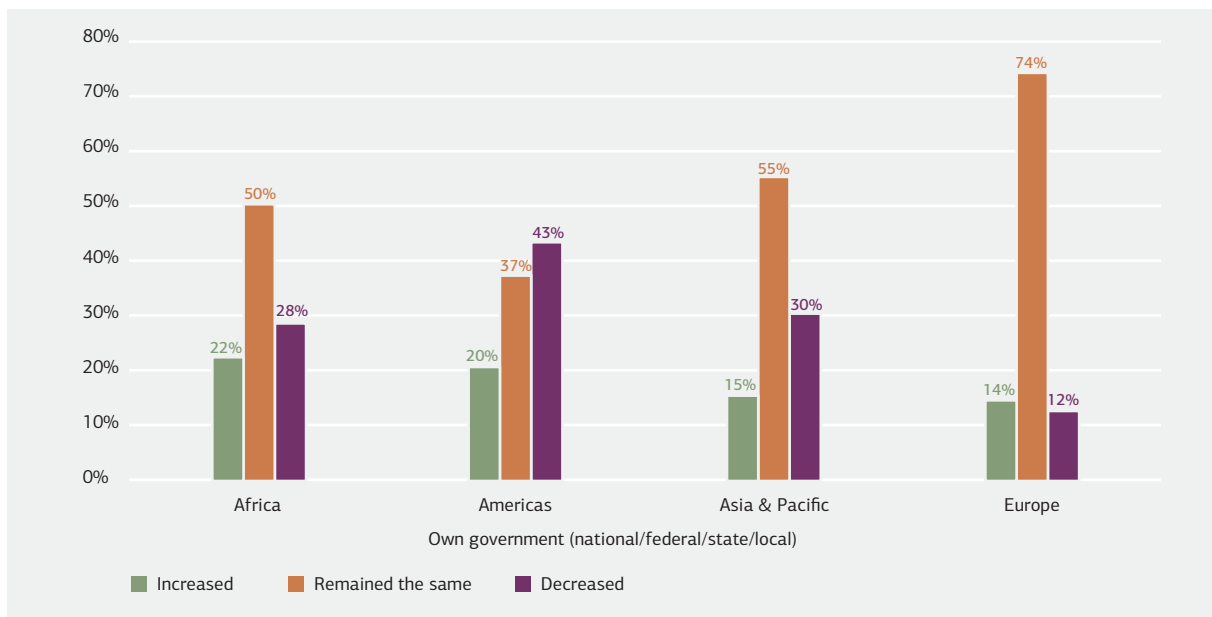
At regional level, in Africa there is a lower percentage of HEIs having research funding from their own government (77% vs. 87% in the Americas, 89% in Asia & Pacific and 91% in Europe).

Considering only those HEIs that do have funding from their own government, the regional analysis reveals interesting differences among the regions.

In Europe three quarters of HEIs reported no change in funding, with the remaining almost equally split between those reporting an increase and those reporting a decrease. A similar situation can be found in Africa, but the percentage of HEIs reporting no change is only 50% with those reporting a decrease

(28%) slightly higher than those reporting an increase (22%). In Asia & Pacific the percentage of HEIs reporting no change is 55% but the percentage of HEIs reporting a decrease (30%) is double those reporting an increase (15%). Finally, in the Americas the percentage of HEIs reporting a decrease is the highest (43%) – even higher than those reporting no change (**Figure 56**).

Figure 56: Change in funding from own government



These results clearly show inequality in funding from institutions' own government among the regions and even inside the same region and while this is less pronounced in Europe, it is substantial in all other regions. It would be interesting to investigate the reason for inequalities inside a specific region – they might be due to national differences, but unfortunately the number of replies per country does not allow for a national analysis and further research is needed.

D5.1.2 Funding from foreign governments (aid and development)

The majority of HEIs (60%) reported no change in funding from foreign governments with 30% reporting a decrease and 10% an increase.

There is almost no difference in the presence of funds from foreign governments between private and public HEIs with around 60% of them having this type of funding.

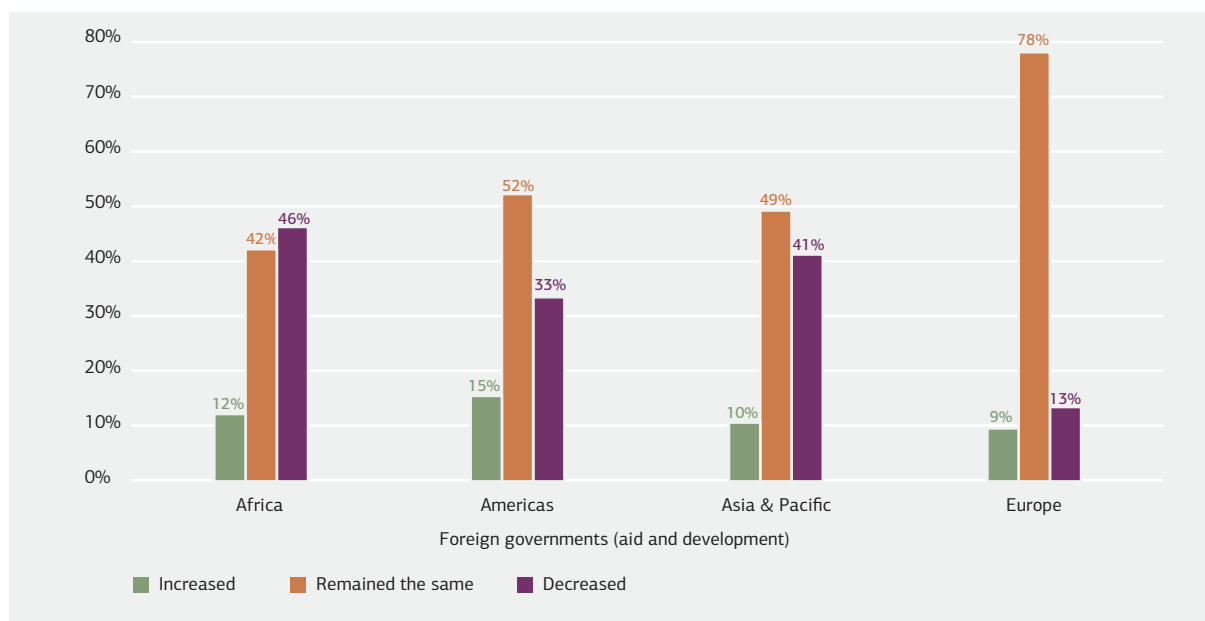
If we look only at HEIs having this type of funding, we see more inequality within private institutions, as they have a higher percentage of both institutions that reported an increase in funding (14% vs. 9% for public) and a decrease (31% vs. 28% public). However, in both cases the majority reported no change (55% private, 63% public).

At regional level the percentage of HEIs having funds from foreign governments is around 60% in all regions, and somewhat surprisingly this percentage is the lowest in Africa (55%).

At regional level, the situation is similar to the one for institutions receiving funding from their own government. In Europe 78% of HEIs reported no change in funding, with a slightly higher percentage reporting a decrease than an increase. In all other regions there is some inequality, with a small group of HEIs reporting an increase in funding (between 10% and 15%) and two big groups of HEIs reporting either a decrease or no change in funding. In Africa the percentage of HEIs reporting a decrease in

funding from foreign governments is the highest, higher than those reporting no change (46% vs. 42%) (Figure 57).

Figure 57: Change in funding from foreign government



Considering that Africa is the region in which the majority of aid and development funding is present, these results present us with a worrying situation, with a decrease in funding from foreign governments at many HEIs when an increase in aid and development is needed instead.

D5.1.3 Funding from international organisations

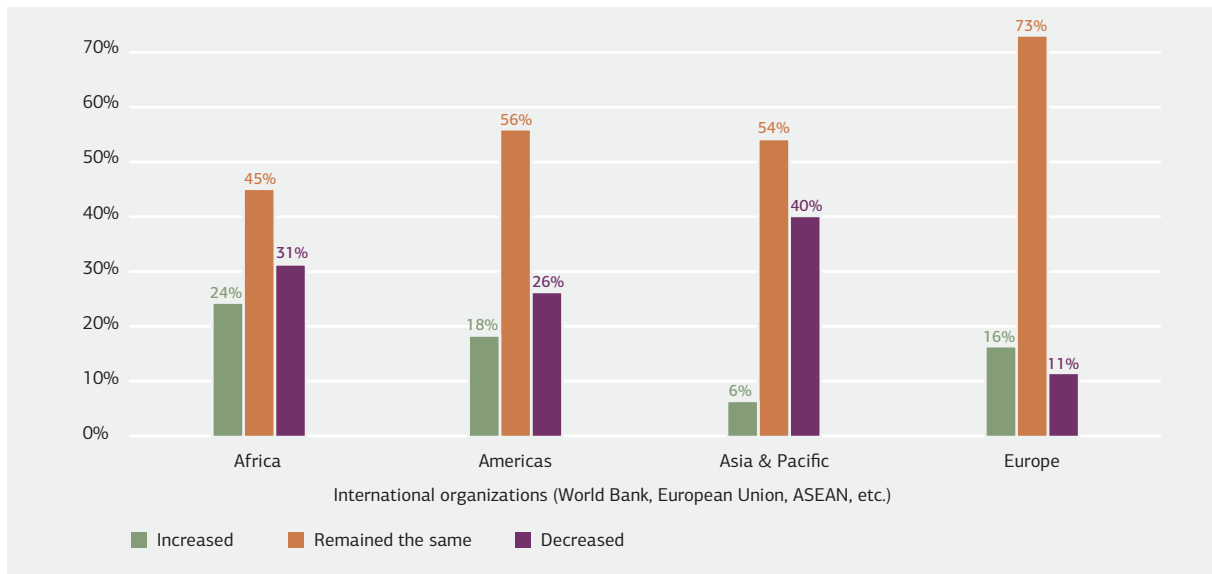
Results for funding from international organisations at global level are similar to other sources of funding, with the majority (61%) reporting no change, 25% reporting a decrease and 14% an increase.

Funding from international organisations is more common among public HEIs (63%) than private ones (53%) and, as was the case for other sources of funding, private HEIs show more inequality with higher percentages of both HEIs having experienced an increase (16% private vs. 13% public) and a decrease (28% private vs. 23% public). However, in both cases the majority reported no change (56% private, 64% public).

At regional level, funding for international organisations is most common in Europe where 66% reported having this, followed by Africa (62%), Asia & Pacific (56%) and the Americas where only half the respondents reported having them (51%).

In Europe, 73% of HEIs reported no change in funding from international organisations with more HEIs reporting an increase (16%) than a decrease (11%).

In Africa and the Americas there is more inequality, although in the Americas the majority reported no change (56%), the percentages of HEIs reporting increases (18%) and decreases (26%) are not negligible. Even more so in Africa, where 45% reported no change, 31% a decrease and 24% an increase. The situation is different in Asia & Pacific, where only a very small percentage (6%) reported an increase, and quite a substantial percentage reported a decrease (40%), even if the majority reported no change (54%) (Figure 58).

Figure 58: Change in funding from international organisations

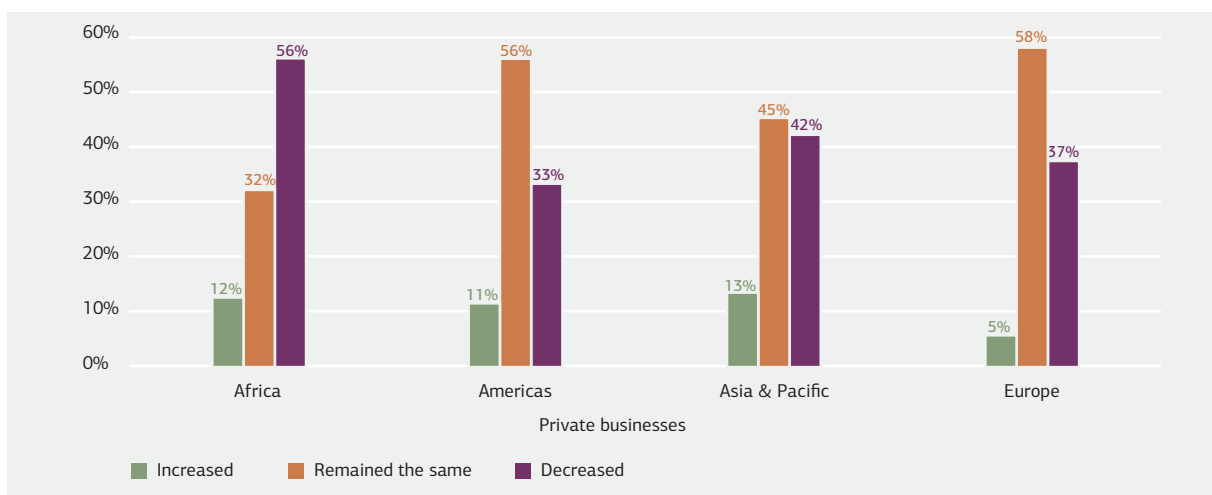
It is not easy to explain why funding from international organisations seems to be more negatively affected in Asia & Pacific than in all other regions and once again, more research is needed.

D5.1.4 Funding from private businesses

HEIs at global level seem to be divided in two groups, half (51%) experienced no change in funding from private businesses, while 40% experienced a decrease and only 9% reported an increase.

Somehow, surprisingly, there is no difference between private and public HEIs and little difference in terms of change due to the pandemic, with private institutions reporting an increase almost double the number of public institutions, but percentages are, however, small (13% vs. 7%).

At regional level, two-thirds of European HEIs (67%) reported having funding from private businesses, while only half of African HEIs did so (53%). Asia & Pacific and the Americas are between these two extremes (62% and 60%).

Figure 59: Change in funding from private businesses

The situation is similar in Europe and the Americas with the majority of HEIs reporting no changes (58% and 56%) and one-third or more reporting a decrease (37% and 33%). In Asia & Pacific the percentage of HEIs reporting a decrease is higher (42%) and only slightly below those reporting no change (45%). Africa is clearly the most affected region as a majority of institutions reported a decrease in funding from private businesses (56%). In every region, few HEIs reported an increase in funding (**Figure 59**).

The results show that funding from private businesses has been negatively affected in every region, but especially in Africa, and that inequality is present among HEIs from the same region. It would be interesting to conduct more research to understand the reasons why some HEIs in a region were affected more than others in the same region.

D5.1.5 Other private donors (charities, etc.)

At global level, results for funding from other private donors (charities, etc.) are almost the same as for private businesses with half of HEIs (51%) experiencing no change, 39% experiencing a decrease and 10% reporting an increase.

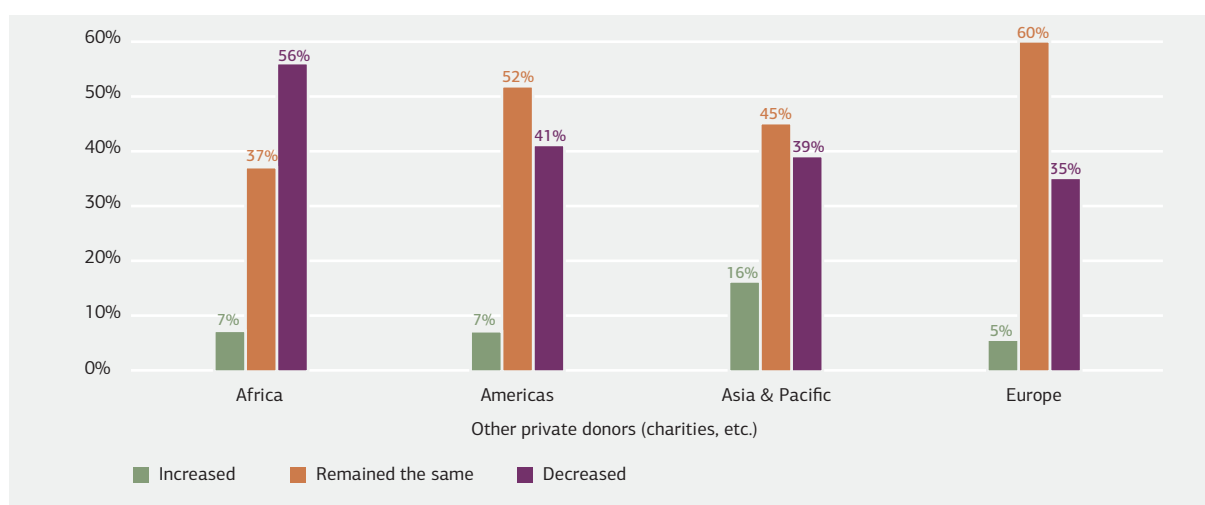
Funding from other private donors is more common for private HEIs (61%) than from public HEIs (54%). More public HEIs (42%) experienced a decrease in this kind of funding than private HEIs (35%).

At regional level the presence of funding from private donors is almost the same in all regions (around 55% of HEIs).

European HEIs are the least affected by the pandemic in terms of funding from other private donors (60% of them reported no change), but those affected are negatively affected – 35% reported a decrease and only 5% reported an increase. Likewise in the Americas the majority reported no change (52%) with a higher percentage of HEIs reporting a decrease (41%). In Asia & Pacific the biggest group is still composed of HEIs reporting no change but they are less than half (45%), followed by those reporting a decrease (39%), and 16% reported an increase – more than double than in all other regions.

Finally in Africa the majority of HEIs reported a decrease in funding from other private donors (56%) (**Figure 60**).

Figure 60: Change in funding from other private donors



Once more these results show inequality both among regions, with Africa being the most negatively affected region, and inside regions.

D5.1.6 Conclusions

Although it is reassuring that at global level for the majority of HEIs funding from all sources has not changed, the regional analysis unveils the existence of inequalities both among regions and inside a specific region. Europe is clearly the region which has been the least affected and where there is the lowest level of inequality among HEIs. On the other hand, Africa and the Americas have been affected more and they also show a high level of inequality among HEIs inside the region. In Africa, the situation is particularly worrying for funding from foreign governments, from private businesses and from other private donors as these kinds of funding have decreased at the highest percentage of HEIs. On the other hand, the Americas show a worrying situation with a decrease in funding from their own governments at almost half the HEIs that responded to the survey.

Global challenges such as the COVID-19 pandemic call for more research and therefore more funding. Nevertheless, the survey results show us that the danger that research would be appropriately funded and therefore prioritized only at some HEIs, and only in certain regions is real.

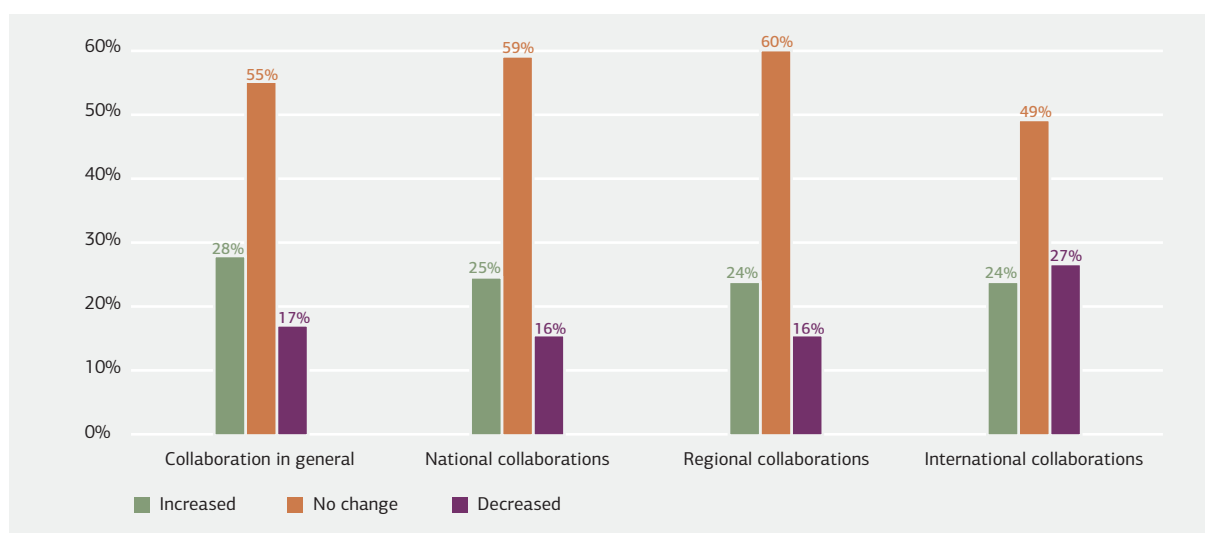
D6. Research collaboration

The pandemic had no impact at the majority of HEIs when it comes to collaboration in general (55%), national collaboration (59%) and regional collaboration (60%). The results for these three types of collaboration are very similar with a higher percentage of HEIs reporting an increase (between 24% and 28%) than those reporting a decrease (between 16% and 17%).

Concerning international collaboration, almost half of HEIs reported no change (49%), with a slightly higher percentage of HEIs reporting a decrease (27%) rather than an increase (24%).

The main conclusion that can be drawn from the results at global level is that the pandemic did not have a major impact on the majority of HEIs, but that there is inequality among HEIs (**Figure 61**).

Figure 61: Research collaboration



Regional and private/public analysis

The private/public nature of the institutions does not seem to have a major role to play here, with results similar to the global trend. The only remarkable difference being that there are more private HEIs that reported an increase in international collaboration than a decrease, but the percentages are similar

(26% vs. 24%). The percentages of public HEIs reporting a decrease in collaboration in general, national collaboration and regional collaboration are also slightly higher than the respective for private HEIs.

The regional analysis shows more variation and it is easier to analyse each type of collaboration separately.

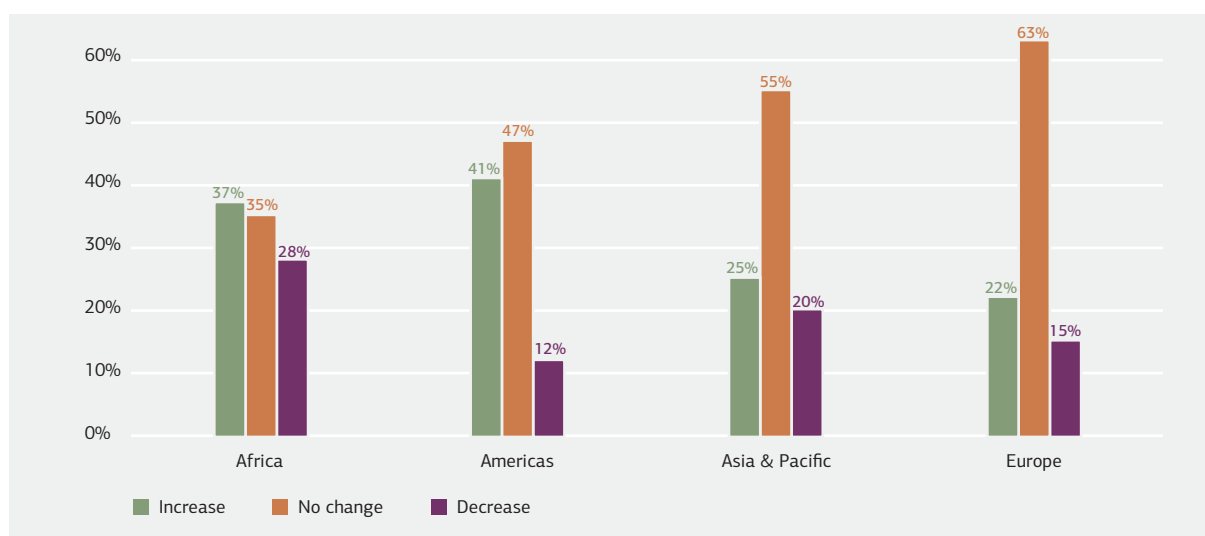
1) Collaboration in general

Europe and Asia & Pacific show a similar trend, with the majority of HEIs reporting no change due to the pandemic for collaboration in general (63% and 55% respectively) and more HEIs reporting an increase (22% and 25%) rather than a decrease (15% and 20%).

In the Americas there are few HEIs reporting a decrease (12%) and it is the region with the highest percentage of HEIs reporting an increase (41%) although the biggest group remains those HEIs reporting no change (47%).

In Africa there are three groups of considerable size: HEIs reporting an increase of collaboration being the biggest (37%), followed by no change (35%) and decrease (28%) (**Figure 62**).

Figure 62: Collaboration in general



2) National collaboration

European HEIs have been the least affected by the pandemic in terms of national collaboration, 70% of them reported no change, with 17% reporting an increase and 13% reporting a decrease.

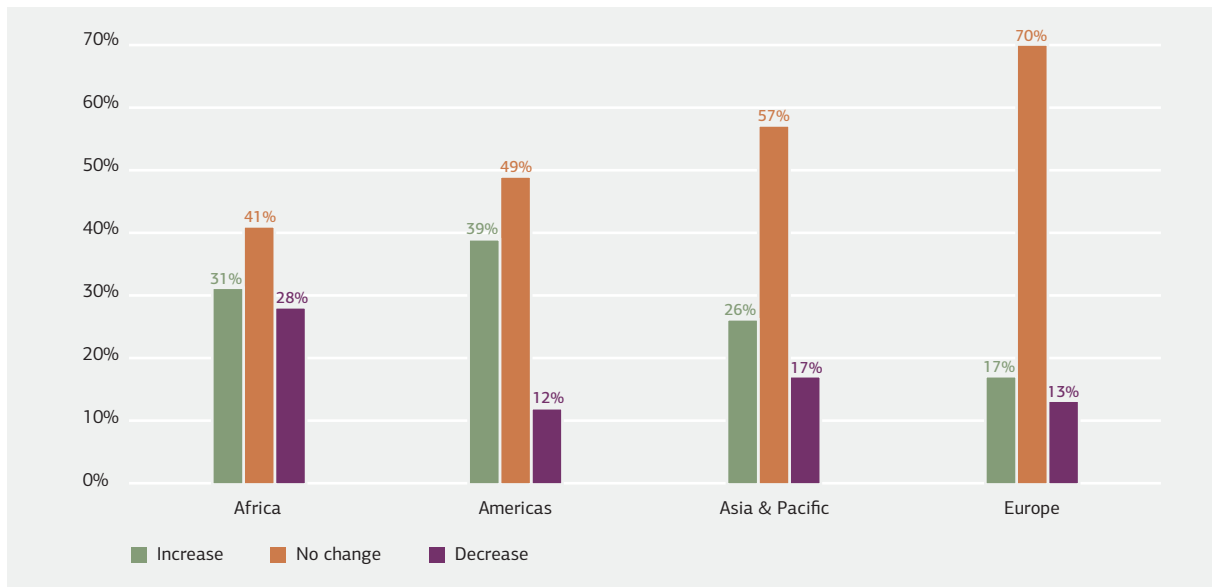
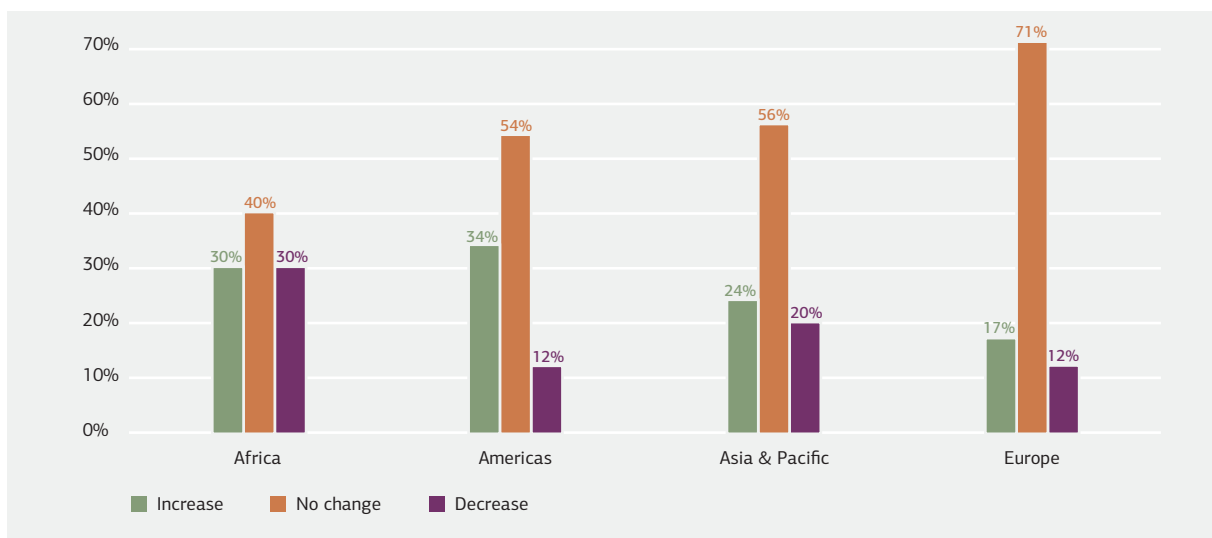
In Asia & Pacific the trend is similar, although with more inequality, the majority of HEIs (57%) reported no change, 26% reported an increase and 17% reported a decrease.

In the Americas, half HEIs reported no change (49%) but the percentage of HEIs reporting an increase is much higher (39%) than those reporting a decrease (12%).

Finally in Africa, there are three groups of almost the same size (41% no change, 31% increase and 28% decrease) (**Figure 63**).

3) Regional collaboration

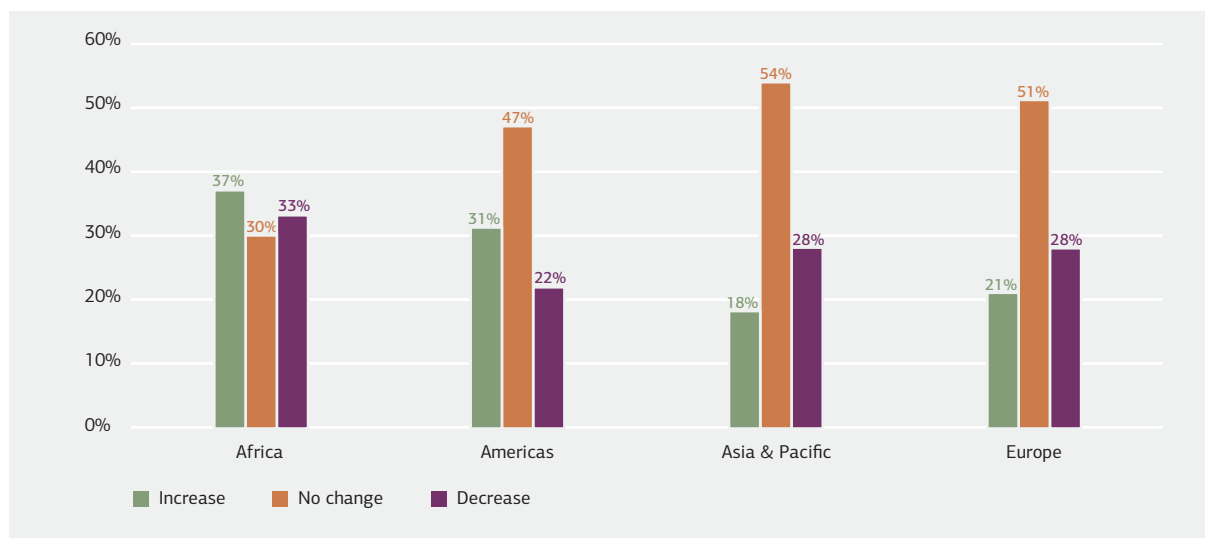
In all regions the trend for regional collaboration is almost the same as the one for national collaboration with no substantial differences for these two types of collaboration (**Figure 64**).

Figure 63: National collaboration**Figure 64: Regional collaboration**

4) International collaborations

The trend for international collaboration in all regions shows a high level of inequality, and once more Africa is the region where this is more visible with three groups of HEIs of almost the same size, the biggest of which being the HEIs reporting an increase in international collaboration (37%) as was the case for collaboration in general.

Europe and Asia & Pacific show a very similar trend with the majority of HEIs reporting no change (51% and 54%), followed by slightly more HEIs reporting a decrease (28% for both regions) rather than an increase (21% and 18%). In the Americas the biggest group is also composed of HEIs reporting no change (47%) but the percentage of HEIs reporting an increase (31%) is higher than those reporting a decrease (22%) (Figure 65).

Figure 65: International collaboration

Conclusions

Overall, Africa is the region showing the highest degree of inequality with three groups of HEIs of almost equal size for all types of collaboration. It is also the only region where HEIs experiencing an increase in collaboration in general is the largest, and this is clearly due to the increase in international collaboration. This could be explained by the new opportunities created by online collaboration, which in Africa could have had a bigger impact as, previous to the pandemic, African HEIs were among those experiencing the biggest barriers to international travel due to lack of funding, visa problems, etc.

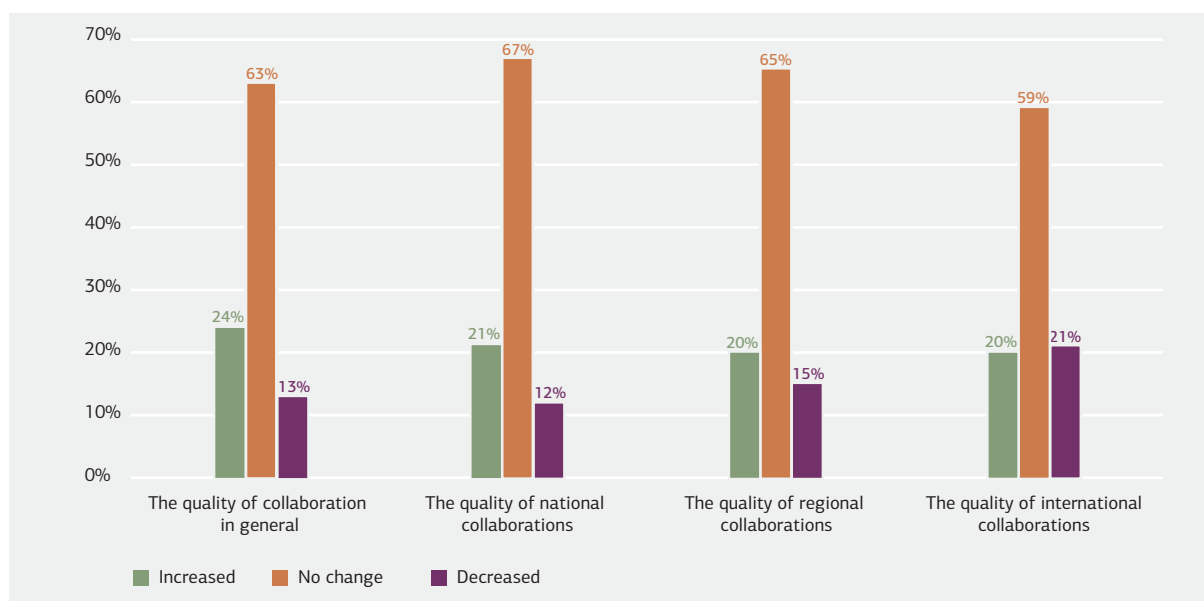
The Americas is the region showing the biggest percentage of HEIs with an increase in collaboration in general, but this is due mainly to national collaboration.

In Asia & Pacific, just over half of respondents experienced no change in all types of collaboration and slightly more experienced an increase over a decrease in all types of collaboration except for international collaboration where the situation is reversed.

Finally, Europe is clearly the least affected region for collaboration as the majority of HEIs reported no change, and this is especially true for national and regional collaboration, less so for international, where we see more inequality among HEIs in the region.

D6.1 Quality of research collaboration

At the majority of HEIs the pandemic had no impact on the quality of research collaboration, whether it be quality of collaboration in general, or quality of national, regional and international collaboration. The results for quality of national and regional collaboration are almost identical and they seem to be the influencing factor on the results of quality of collaboration in general, with a majority comprised of between 63% and 67% that reported no change and more HEIs reporting an increase in quality (20-24%) than HEIs reporting a decrease (12-15%). The results for the quality of international collaboration are slightly different for the reason that the percentages of HEIs reporting an increase and a decrease in quality are almost the same and the percentage of HEIs reporting no change slightly lower than for the other types of collaboration but still the majority (59%) (Figure 66).

Figure 66: Quality of research collaboration

Regional and private/public analysis

There is no difference between private and public HEIs in quality of research collaboration, the trend is the same as at global level for all types of collaboration and the difference of a few percentage points is not really significant. The regional analysis shows more variation and it is easier to analyse each type of collaboration separately.

1) Collaboration in general

Europe is the region with the highest percentage of HEIs (74%) experiencing no change in the quality of collaboration in general because of the pandemic, with the percentage of HEIs having experienced an increase being slightly higher than those having experienced a decrease (16% vs. 10%).

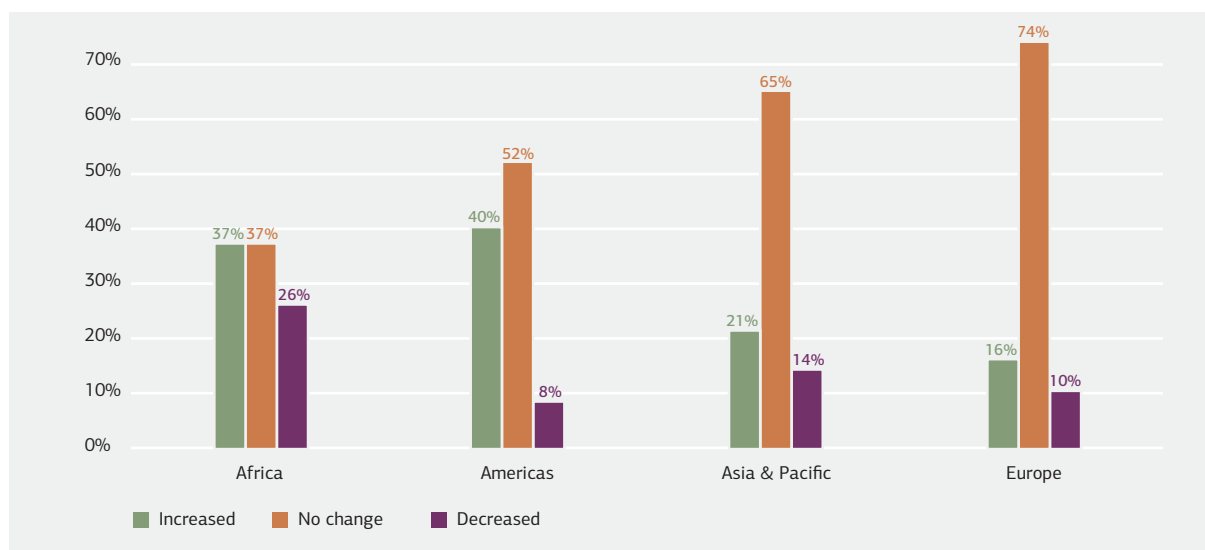
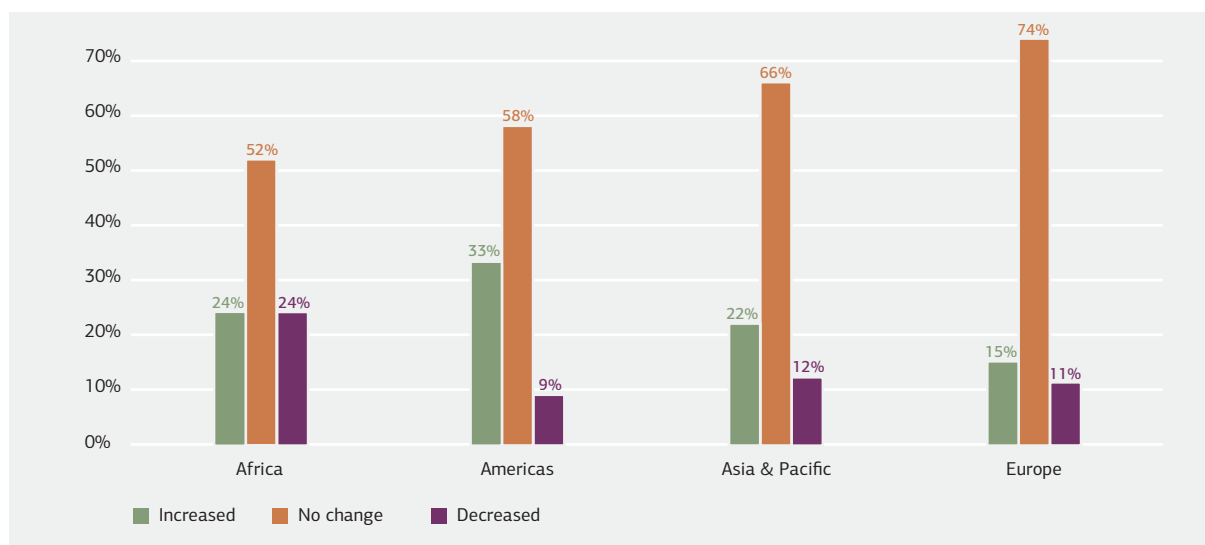
A similar trend is visible in Asia & Pacific, where the majority of HEIs experienced no change even if this percentage is slightly lower than in Europe (65%).

In the Americas the majority of HEIs also reported no change (52%) but there is also a high percentage of HEIs reporting an increase in the quality of collaboration (40%), the highest of all regions. Finally in Africa the percentage of HEIs experiencing an increase is the same as those experiencing no change (37%) and the percentage of HEIs experiencing a decrease is also not negligible (26%). As was the case for other aspects, Africa is the region showing the highest degree of inequality among HEIs in the region (**Figure 67**).

2) National collaboration

The majority of HEIs in all regions reported no change in the quality of research collaboration. However, once more Europe is the least affected region as three quarters of respondents reported no change, while Africa is the most affected with 52% of HEIs reporting no change.

As for collaboration in general the Americas is the region with the highest percentage of HEIs reporting an increase (33%) and the lowest reporting a decrease (9%). Africa is once more showing the highest degree of inequality with half the institutions reporting no change and the other half equally split between those reporting an increase and a decrease (**Figure 68**).

Figure 67: Quality of collaboration in general**Figure 68: Quality of national collaboration**

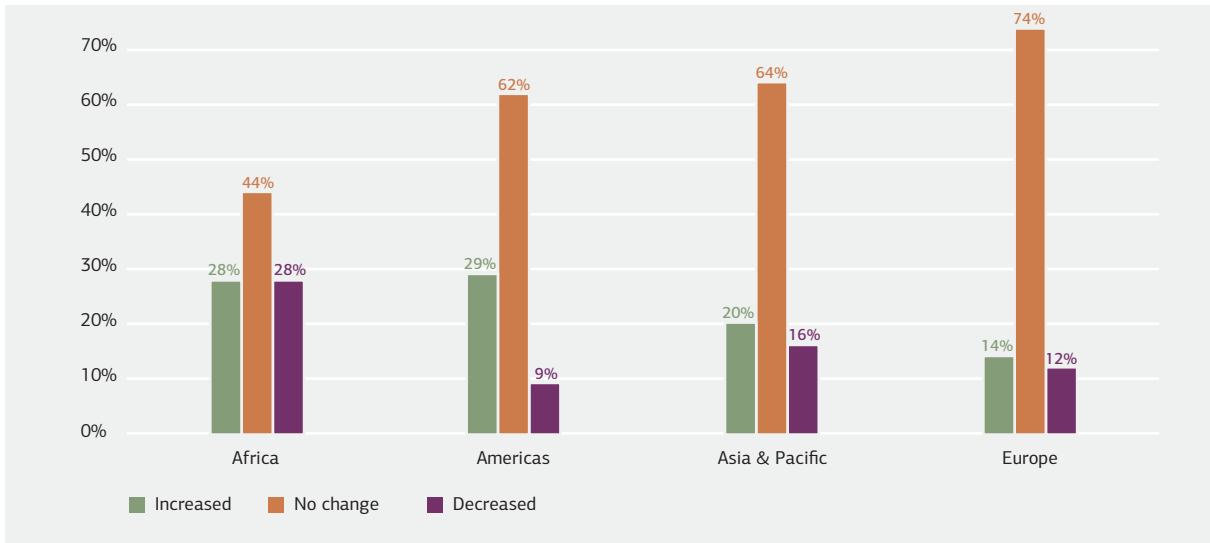
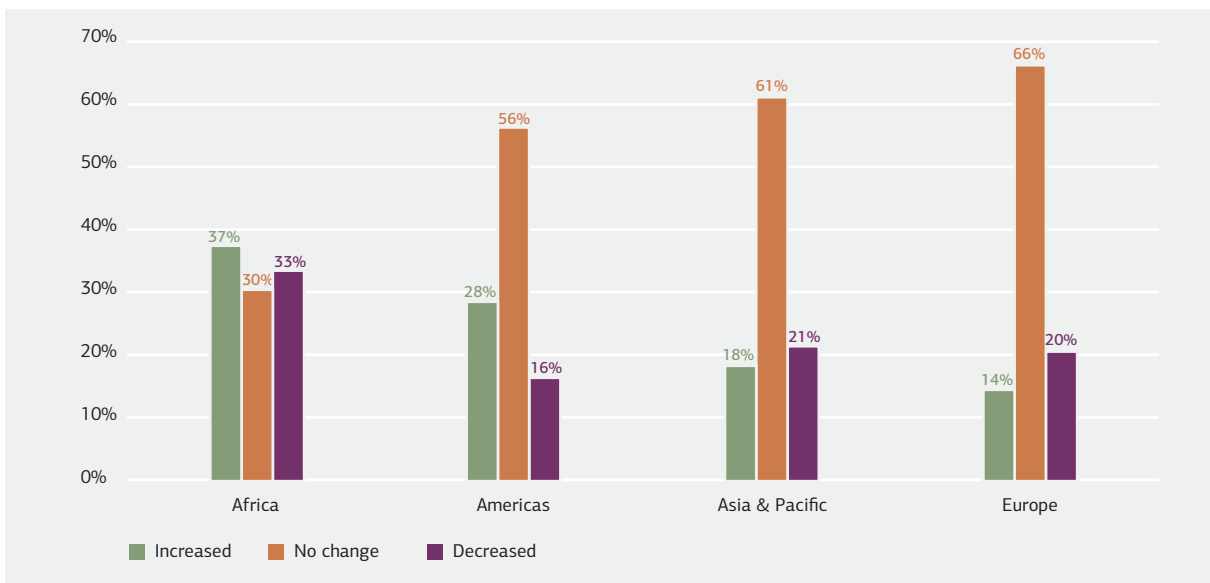
3) Regional collaboration

The trend for the quality of regional collaboration is similar to national collaboration in all regions with the difference being that in Africa inequality is even more pronounced, with less than half the HEIs (44%) reporting no change and an equal share (28%) reporting either an increase or a decrease (**Figure 69**).

4) International collaboration

The majority of HEIs in Europe, Asia & Pacific and the Americas reported that the pandemic did not change the quality of international collaboration while the situation in Africa is completely different with three groups of HEIs of almost the same size, the percentage of HEIs reporting an increase (37%) being slightly higher than those reporting a decrease (33%).

The trend in Europe and Asia & Pacific is the same with a slightly higher percentage of HEIs reporting a decrease over an increase, while in the Americas the situation is opposite with a higher percentage of HEIs reporting an increase over a decrease (28% vs. 16%) (**Figure 70**).

Figure 69: Quality of regional collaboration**Figure 70: Quality of international collaboration**

While it is reassuring to see that the majority of HEIs are experiencing stability in the quality of research collaboration during the pandemic, it is somewhat surprising to see that between 20-24% have experienced an increase in the quality of research collaboration. It was feared when designing the question that many institutions would have experienced a decrease in quality, yet this does not seem to be the case. The increase in quality is particularly pronounced in Africa where it concerns the biggest group of respondents (37%) and in the Americas, with more HEIs experiencing this rather than a decrease. Differing from other regions, Africa shows a high degree of inequality among HEIs inside the region, as three groups of HEIs of almost the same size are noticeable, especially for quality of collaboration in general and international collaboration.



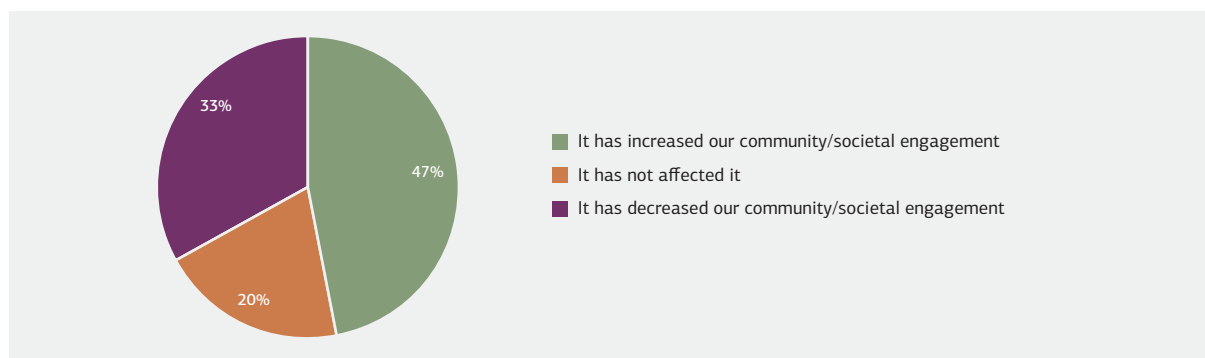
E

Impact on
community/
societal engagement

E. Impact on community/ societal engagement

For the large majority of HEIs, COVID-19 had an impact on community/societal engagement. For just under half of them (47%) the impact was positive – the crisis increased HEI community engagement, whereas at one-third the impact was negative, decreasing HEI community engagement (**Figure 71**).

Figure 71: Impact on community/societal engagement



It is interesting to note that this question was also included in the first edition of the global survey on the impact of COVID-19 around the world, conducted in March-April 2020 and the results are the same.

It is also interesting to note that while 47% of HEIs reported an increase in community/societal engagement only 20% of HEIs reported an increase in expenses for community/societal engagement, while 46% reported a decrease in expenses and only 33% reported a decrease in community/societal engagement.

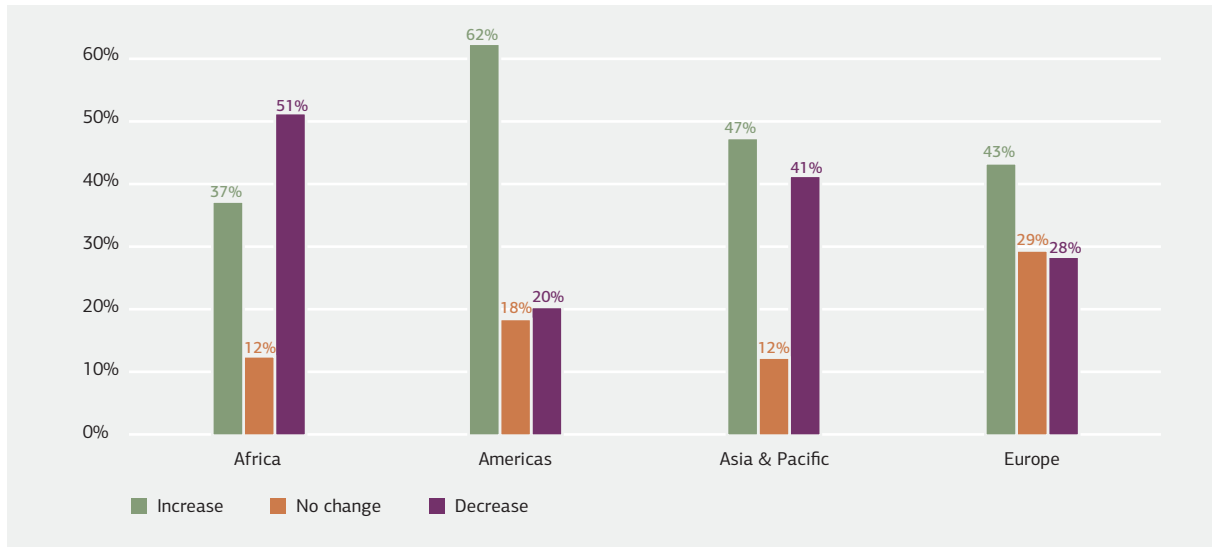
This means that there are some HEIs doing more for the community/society with fewer resources.

Regional and private/public analysis

There is a difference between private and public HEIs. There are more public HEIs reporting an increase of community/societal engagement (49% vs. 44%) and fewer reporting a decrease (30% vs. 38%). For private HEIs, the two opposite groups (increase vs. decrease) are of a comparable size (44% vs. 38%) while there are clearly more public HEIs reporting an increase rather than a decrease. It can be concluded that for public HEIs the impact of COVID-19 on community/societal engagement has been more positive than negative, but with some inequality present, inequality that is even more visible for private HEIs.

There are huge differences between regions. In the Americas a clear majority (62%) reported an increase of community/societal engagement, with only 20% reporting a decrease. On the other hand, in Africa half the HEIs reported a decrease with 37% reporting an increase and only 12% reporting no change, showing a mostly polarised situation. The split is inversed in Asia & Pacific, with more HEIs reporting an increase than a decrease (47% vs. 41%), and in Europe, an increase is indicated by the largest group (43%) with the other two groups being of roughly the same size (29% and 28%). (**Figure 72**).

It is interesting to compare the results with those of the first Global Survey. In the Americas the situation is almost the same with even more HEIs reporting an increase (62% vs. 56%); likewise in Europe the situation has not changed much with slightly fewer HEIs reporting an increase (43% vs. 46%). On the other hand, the situation in Africa has worsened, with the percentage of HEIs reporting a decrease

Figure 72: Impact on community/societal engagement: regional analysis

growing from 34% to 51% while the percentage reporting an increase remained stable. In Asia & Pacific the situation has improved as the percentage of HEIs reporting an increase went from 39% to 47% while HEIs reporting a decrease fell from 48% to 41%.

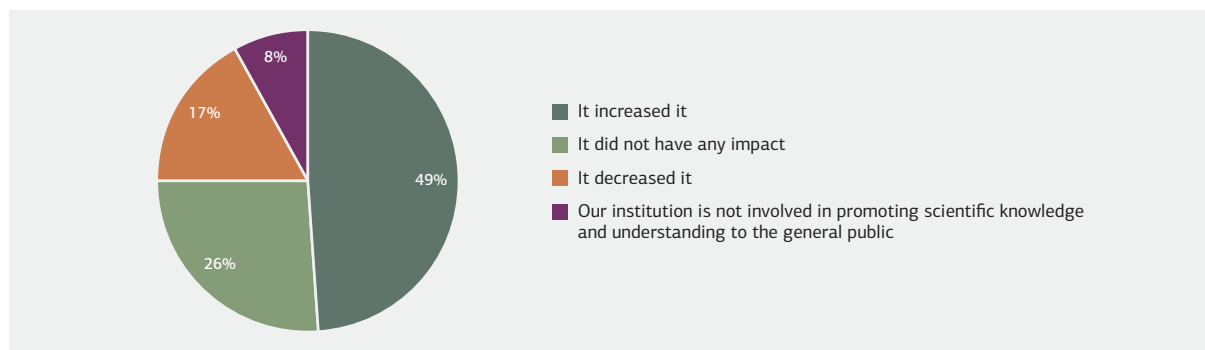
While we could explain the change in Africa by the fact that, over a year, the pandemic has negatively impacted more HEIs than had been affected at the beginning, the change in Asia & Pacific is more complex; this could be partially due to the profile of respondents in that region, especially since the weight of Indian HEIs was more important in the second survey – 33% against 19% in the first one. Furthermore, the percentage of Indian HEIs reporting an increase in community/societal engagement is slightly higher than the average for the region (50% vs. 47%). However, this alone does not explain the change and it would be worth more investigation to discover the reason for this.

E1. Promoting scientific knowledge and understanding to the general public

Almost all (92%) the institutions are involved in promoting scientific knowledge and understanding to the general public.

The pandemic had a positive effect at half of the institutions, as it increased their involvement, while at one quarter of them it had no effect and only at 17% did it decrease their involvement (**Figure 73**).

The most common way of disseminating scientific knowledge is through conferences and seminars (including virtual ones), organised by 77% of institutions. All other suggested ways of promoting scientific knowledge and understanding to the general public are present at more than half the institutions and are reported in **Table 21**.

Figure 73: Involvement in promoting scientific knowledge and understanding to the general public**Table 21: Ways of promoting scientific knowledge and understanding to the general public**

	Percentage of HEIs
Our institution organizes conferences and seminars (including virtual) to disseminate scientific knowledge	77%
Our researchers and scientists are active on social media	60%
Our researchers and scientists participate in public debates on television, radio, etc.	58%
Our researchers and scientists write divulgation articles in the press	54%

Regional and private/public analysis

There are no significant differences between public and private HEIs. There are slightly more private than public HEIs that do not promote scientific knowledge (10% vs. 7%) and more public HEIs where promotion has increased (52% vs. 48%).

The trend for the ways institutions promote scientific knowledge is the same for private and public institutions, but there are higher percentages of public HEIs for each category.

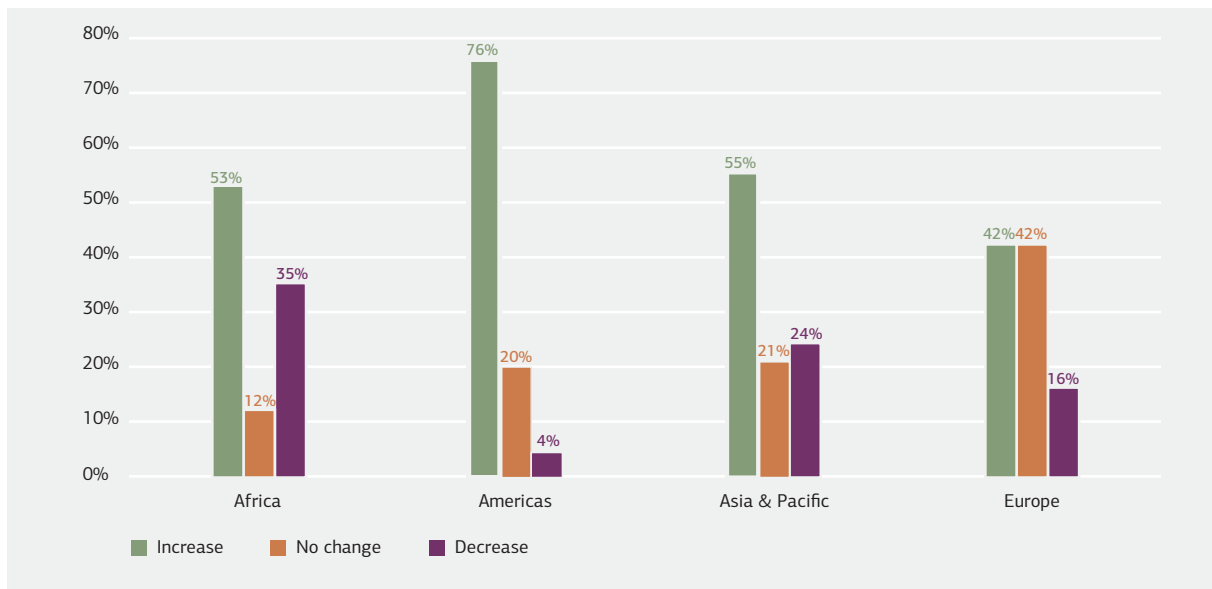
At regional level, there are more HEIs involved in knowledge promotion in Europe (95%) and Asia & Pacific (94%) than in Africa (88%) and the Americas (84%), but in all regions percentages are very high.

If we look only at those involved, the four regions do present some differences.

The majority of HEIs experienced an increase in promoting scientific knowledge and understanding to the general public in all regions but Europe, where the percentage is the same as for those that experienced no change (42%). It is interesting that the percentage of HEIs having increased their role in promoting scientific knowledge and understanding to the general public is highest in the Americas, where three-quarters of them have increased knowledge promotion. Asia & Pacific and Africa show a similar trend even if in Africa there is more polarisation with 53% of HEIs having experienced an increase and 35% a decrease (**Figure 74**).

The results at the global level are not surprising, at regional level it might be surprising that Europe is the region where the lowest percentage of HEIs experienced an increase, but at the same time Europe is the region with the highest percentage of HEIs not impacted and this trend is visible for other aspects. The same is true for Africa being the region showing the highest inequality for many aspects. At the same time, it is reassuring that in Africa the majority of HEIs increased their involvement in promoting scientific knowledge and understanding to the general public.

Organising conferences and seminars (including virtual ones) is the most common way of disseminating scientific knowledge in all regions, carried out by the majority of HEIs in all regions and by more than

Figure 74: Involvement in promoting scientific knowledge and understanding to the general public: regional analysis

80% of HEIs in the Americas and Europe. The popularity of the other ways of disseminating scientific knowledge is different in each region but almost all of them are carried out by the majority of HEIs, or almost half of them, with the lowest percentage being 46% for the participation of researchers and scientist in public debates on television, radio, etc., in Asia & Pacific (**Table 22**).

Table 22: Ways of promoting scientific knowledge and understanding to the general public: regional analysis

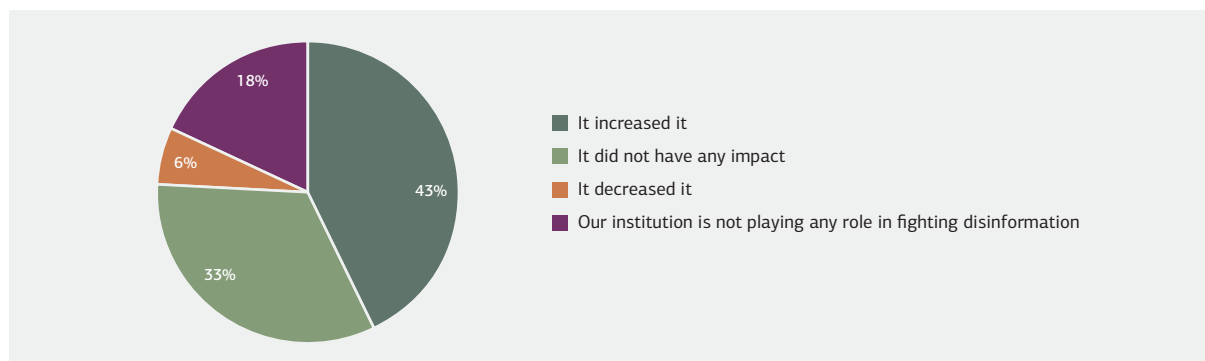
	Africa	Americas	Asia & Pacific	Europe
Our institution organizes conferences and seminars (including virtual) to disseminate scientific knowledge	68%	81%	72%	82%
Our researchers and scientists participate in public debates on television, radio, etc.	61%	56%	46%	68%
Our researchers and scientists are active on social media	57%	48%	55%	69%
Our researchers and scientists write divulgation articles in the press	48%	59%	50%	57%

E2. Institution's role in fighting disinformation

A great majority of institutions (82%) replied that they were active in fighting disinformation.

The pandemic had a positive effect at almost half the institutions (43%), as it increased their role in fighting disinformation, at one-third of them it did not have any effect and only at 6% did it decrease (**Figure 75**).

Out of the suggested methods for fighting disinformation, there isn't any particular one that stands out, as all of them are present in more or less half of all HEIs. Writing official institutional statements and position papers, and divulging factual information based on scientific results are slightly more common among respondents (**Table 23**).

Figure 75 Institution's role in fighting disinformation**Table 23: Ways of fighting disinformation**

	Percentage of HEIs
By writing official institutional statements and position papers	52%
By divulging factual information based on scientific results	52%
By engaging in social media debate and reporting disinformation	48%
By providing expertise for fact checking and debunking false information in the press and media in general	42%

Regional and private/public analysis

There are no significant differences between public and private HEIs. There are more private HEIs that are not involved in fighting disinformation than public ones (23% vs. 15%) and slightly more public HEIs where the pandemic has increased the institution's role in fighting disinformation (44% vs. 41%).

At regional level, the percentage of HEIs active in fighting disinformation is almost the same in all regions, being only slightly higher in Europe (84%) than in all other regions (81% in Asia & Pacific and 80% in Africa and the Americas).

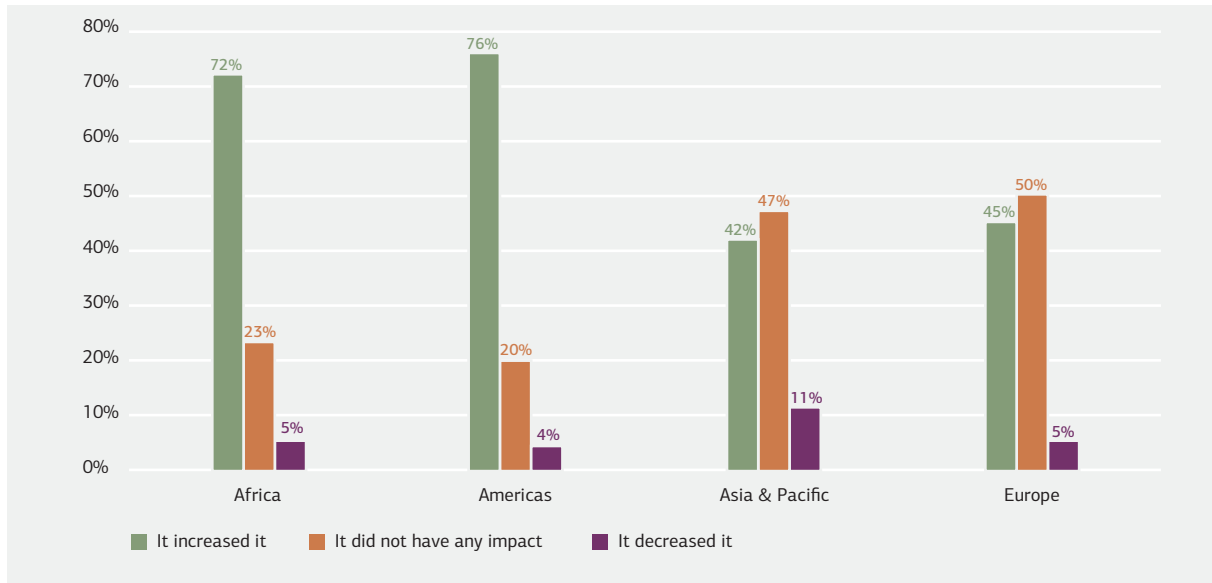
Taking only HEIs active in fighting disinformation, we see two distinct groups emerging. Africa and the Americas make up one, where the pandemic has greatly increased the role of institutions in fighting disinformation, with about three quarters of HEIs (72% and 76% respectively) indicating this. In the second group, made up of Asia & Pacific and Europe, HEIs are split in two almost equal groups, those at which the pandemic did not change their role in fighting disinformation (47% and 50%) and those where the pandemic increased this role (42% and 45%).

The percentage of HEIs for which the pandemic diminished their role is low in all regions and reaches 11% only in Asia & Pacific (**Figure 76**).

As to the proposed methods of fighting disinformation, they are present at about half of HEIs in all regions, with the exception of the Americas where writing official institutional statements and position papers is present at two-thirds of institutions. This is also the most common method in Asia & Pacific but at a much smaller percentage of HEIs (46%).

In general, the most common method varies between regions but the difference in percentages with the second most common is small in all regions (less than 5% points).

Providing expertise for fact checking and debunking false information in the press and media in general is the least common method in all regions (**Table 24**).

Figure 76: Institution's role in fighting disinformation: regional analysis**Table 24: Ways of fighting disinformation**

	Africa	Americas	Asia & Pacific	Europe
By writing official institutional statements and position papers	56%	67%	46%	50%
By divulging factual information based on scientific results	54%	62%	42%	54%
By engaging in social media debate and reporting disinformation	59%	48%	44%	50%
By providing expertise for fact checking and debunking false information in the press and media in general	36%	41%	39%	46%

Overall, we can conclude that the majority of HEIs are involved in fighting disinformation and that the pandemic has had a positive effect by increasing the institution's role, especially in Africa and the Americas. While institutions are using different methods, none of the suggested methods appears to stand out – this could mean that institutions are using other methods not present in the proposed list, or there is a real variety of methods used to fight disinformation and none is used widely at the overall majority of HEIs around the world.

E3. Institutional support to the local community

Three quarters of institutions supported their local community in times of COVID-19 crisis.

None of the proposed methods of support was present at the majority of HEIs, the most common ones being provision of medical advice and support (at 44% of HEIs), provision of psychological support (at 43% of HEIs) and provision of expertise to local authorities by HEIs' social scientists (at 42% of HEIs). This question differs from the previous one on fighting disinformation and promoting scientific knowledge as respondents could also select 'other' – and this was done by 27%. This means that the diversity of support to the local community is real and that different institutions in different contexts

around the world are providing various kinds of community support, but there is no one common type of support (**Table 25**).

Table 25: Ways of supporting the local community in the time of COVID-19 crisis

	Percentage of HEIs
We provide medical advice and support	44%
We provide psychological support	43%
Our social scientists provide expertise to local authorities	42%
Our students and staff provide mobile care for affected people	35%
Our university hospital provides care for affected people	33%
Our laboratories provide COVID-19 testing	28%
Other (please specify)	27%
We provide training for unemployed people	18%

Regional and private/public analysis

Slightly more public HEIs (77%) provided support to their local communities than private ones (70%), but this activity is common for both types of HEIs. Concerning ways of supporting, the variety seen at global level is also visible for private and public HEIs. However, for private HEIs, the provision of psychological support (at 53% of HEIs) and of medical advice and support (at 48% of HEIs) are more common than any other. At public HEIs, provision of medical advice and support is also the most common, together with provision of expertise to local authorities by the institution's social scientists (at 43% of HEIs).

At regional level, providing support to the local community is most common in Asia & Pacific (84% of HEIs do so) and least in Europe (64% of HEIs do so). In Africa and the Americas there are similar percentages of HEIs providing support to the local community (78% and 76% respectively).

The diversity of ways of providing support is visible in all regions, only in two regions, Asia & Pacific and the Americas the most common method is present at slightly more than half of HEIs (52%).

Provision of medical advice and support is the most common in Africa and Asia & Pacific, while provision of expertise to local authorities by the institution's social scientists is the most common in the Americas and Europe. Provision of psychological support, which is the other most common method at global level, is more common in the Americas (49%) and Asia & Pacific (47%) than in Africa and Europe (39% and 38%).

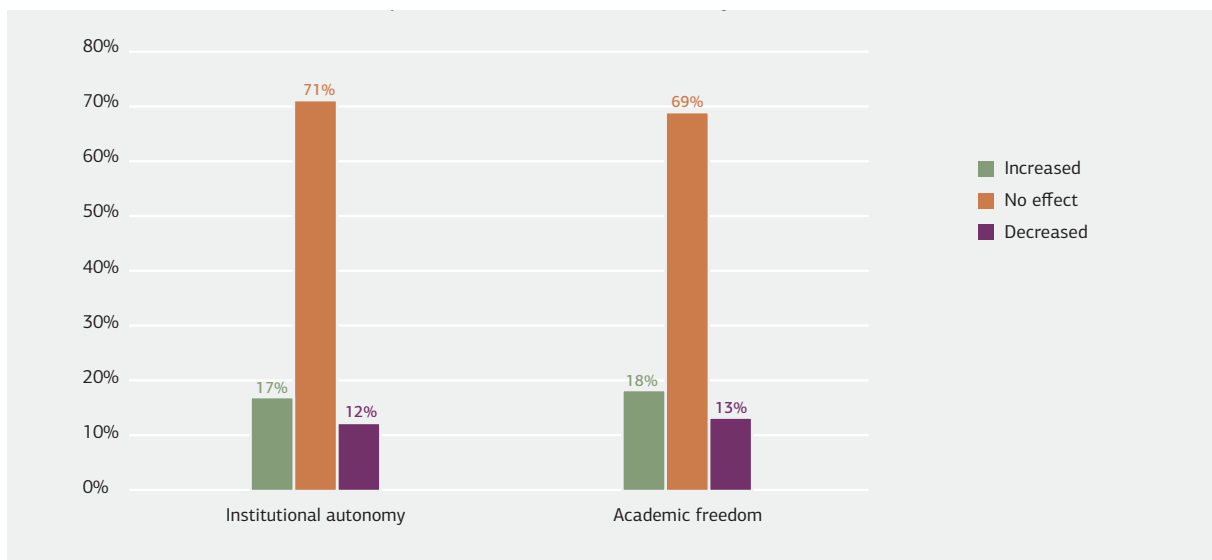
Overall, it can be concluded that HEIs do provide support to the local community in times of COVID-19, but that there are significant regional differences in terms of how common this is.

It can also be concluded that there are multiple ways of providing support, none of them being overall common around the world, but with provision of medical advice and support, provision of psychological support and provision of expertise to local authorities by HEIs' social scientists being a bit more common than others, with some regional differences.

E4. Effect of the pandemic on institutional autonomy and academic freedom

The results for the effect of the pandemic on institutional autonomy and academic freedom are almost the same (**Figure 77**).

Figure 77: Effect of the pandemic on institutional autonomy and academic freedom



At the vast majority of HEIs (71%-69%) the pandemic affected neither institutional autonomy nor academic freedom. However, there are two small groups of HEIs which experienced opposite effects. The percentage of HEIs experiencing an increase in institutional autonomy or academic freedom is slightly higher (17%-18%) than that of those experiencing a decrease (12%-13%).

Regional and private/public analysis

There is no marked effect of the private/public nature of HEIs, except that there is a slightly higher percentage of private HEIs having increased their institutional autonomy and academic freedom than public HEIs (22% – 23% vs. 14% – 15%).

At regional level, Asia & Pacific has a higher percentage of HEIs having increased their institutional autonomy and academic freedom (21% – 26%) while Africa has a higher percentage of HEIs experiencing a decrease (23% – 27%).

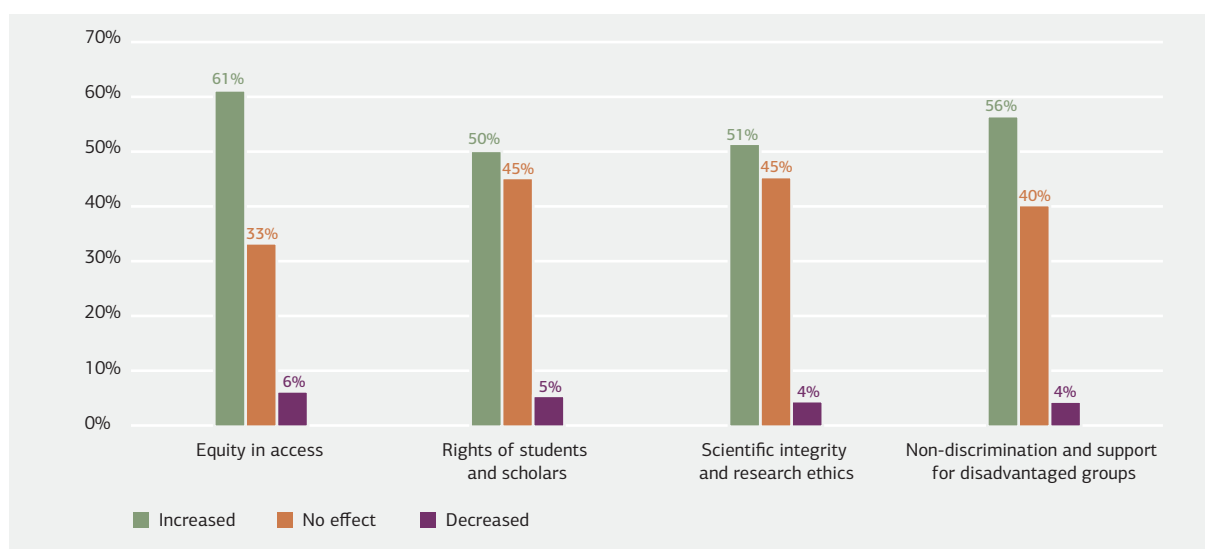
However, when looking only at HEIs having increased their institutional autonomy and academic freedom and at HEIs having decreased their institutional autonomy and academic freedom, no clear institutional profile emerges from the data, neither in terms of private/public nature nor in terms of geographic location.

Overall, there seems to be no marked effect of the pandemic on institutional autonomy and academic freedom at HEIs around the world. However, the percentage of HEIs, especially in Africa, having experienced a decrease in their institutional autonomy and academic freedom is not negligible and the situation deserves to be followed and investigated in more detail in the future.

E5. Re-definition/rethinking of academic values

The pandemic has led to the redefining of academic values at slightly over half the institutions (53%). The most affected academic value is 'Equity in access' whose importance increased at 61% of HEIs while remaining stable at 33%. The second is 'Non-discrimination and support for disadvantaged groups', whose importance increased at 56% of HEIs and remained unchanged at 40%. For the other two academic values 'Rights of students and scholars' and 'Scientific Integrity and research ethics', importance increased at half the institutions and remained stable at 45%. The percentage of HEIs at which the importance of academic values decreased is very small (less than 6%) for all academic values (Figure 78).

Figure 78: Effect of the pandemic on re-definition/rethinking of academic values



It is interesting that 'Equity in access' is the academic value whose importance increased the most, because as shown by the results of other questions in the survey, the pandemic has clearly increased inequality among HEIs and students, yet it can potentially be explained by the extraordinary measures that HEIs have been taking in order to ensure access to their student populations through different initiatives or providing devices needed for remote teaching and learning and finally providing students without access to remote teaching and priority access to campuses in order to minimize the number of students left behind. The fact that HEIs recognise the importance of equity in access is positive and gives hope that institutions will find solutions to barriers to equality created by the pandemic.

Regional and private/public analysis

There is almost no difference between public and private HEIs in terms of percentage of HEIs having redefined their academic values.

The percentage of HEIs for which the importance of a certain academic value has increased is higher at public HEIs than at private HEIs for all values. The trend for both private and public is the same as the global one. The importance of 'Equity in access' has increased at a higher percentage of HEIs for both public (63%) and private HEIs (58%).

There are interesting differences among the regions. While in Asia & Pacific and in Africa the majority of HEIs have rethought/redefined their academic values (66% and 63% respectively) in the Americas (47%) and in Europe (42%) this was not the case.

The Americas is the region where the highest percentage of HEIs reported an increase in importance for almost all academic values, but especially 'Non-discrimination and support for disadvantaged groups' (at 78% of HEIs) and 'Equity in access' (at 75% of HEIs). Only for 'Scientific integrity and research ethics' are HEIs reporting an increase in importance (50%) and no change (45%) comparable.

The situation is similar in Africa where the majority of HEIs reported an increase in importance for all academic values, but it differs from the Americas as, 'Scientific integrity and research ethics' has increased in importance at the highest percentage of HEIs (61%).

In Asia & Pacific and Europe, the situation is different. The importance of 'Equity in access' has increased the most and at the majority of institutions in both regions, and by the same amount – 59%. For all other values, institutions are split into two groups: one where there has been an increase in importance and one where it has not changed. For some values ('Rights of students and scholars' in both regions and 'Scientific integrity and research ethics' in Asia & Pacific) the group of HEIs reporting no change is the biggest. The percentage of HEIs reporting a decrease in the importance of academic values is small for all values in all regions. Only in Africa is this percentage above 10%, reaching 16% for 'Rights of students and scholars'.

Overall, we can conclude that the pandemic led to redefining/rethinking academic values at about half the institutions and at those institutions where this took place, this increased the importance of academic values. This is particularly visible in the Americas where the importance of equity, non-discrimination and support for disadvantaged groups has clearly increased. This could be linked to the fact that the Americas is the most unequal region in the world and that the pandemic has caused an increase in inequality. As previously stated, recognition by HEIs of the importance of equity is a positive signal that gives us hope that the negative consequences of the pandemics in terms of inequality could be mitigated by pro-active HEIs.

Conclusion

The outcomes of the survey show the current state of higher education around the world one year into the pandemic, and takes into account various aspects and functions of HEIs.

Overall, it is positive to note that most institutions were able to continue the majority of their work despite pandemic-related restrictions. It is an important finding to underline as it illustrates that HEIs have shown resilience during multi-dimensional crises triggered by the pandemic. HEIs across the world have had to come up with innovative solutions, they have invested extra time and energy in order to minimize disruption when conditions led to complete or partial closures of campuses in many countries. This is the collective result of the higher education community at large, from leadership to students, from academics to administration. There has been a need for greater level of flexibility and agility to find solutions that respect policy and governance while at the same time allowing institutions to operate under completely different conditions than those foreseen in any policy instruments. This report demonstrates this shift to remote operations for the core activities of institutions from teaching and learning, including exams and assessment, to research and community/societal engagement.

However, this large degree of resilience aside, the picture painted in this report is also one of great concern, one of decreasing financial means, with a number of students unable to access remote teaching and learning, one where research activities not only are delayed but also have seen a decrease in funding, one where staff are overworked and recruitment is slowing down; and most importantly, these challenges are affecting regions, countries and institutions differently and, unfortunately, with a clear tendency to further exacerbate pre-existing inequalities.

On a better note, the survey confirms enhanced transversal collaboration across institutions, extraordinary measures have been put in place to support students in need, most graduations have been ensured despite challenges, research collaboration and interdisciplinary research have increased; we even see an increase in the quality of research collaboration and increases in domestic student enrolments.

The results from the survey do, however, generate deep concern about the future ahead for some institutions, but at the same time shed light on some of the positive outcomes as this crisis has brought about new opportunities and possibilities.

This has been a very extensive survey with many questions being put to respondents. It is thanks to the participating institutions that IAU can now share these results, and use them to discuss the risks for higher education during the pandemic. This report is an important source of information that serves to outline key challenges, as well as inform not only recommendations on how to address these challenges, but also to inform policy and decision-making and to reaffirm that investing in higher education is absolutely essential in order to build a resilient sector that can continue its mandate: to educate learners to actively participate in society, and to pursue research and knowledge to address global challenges faced by the world.

The number of replies to the survey allowed us to consider the findings from a global perspective as well as to look at the impact in and among four regions of the world. While acknowledging that each of those regions is composed of a very diverse set of countries, with different types of HEIs operating within distinct higher education systems, both in terms of governance and funding, this regional information is very valuable in order to identify main trends.

Unfortunately, the number of replies per country did not allow us to compare the results for different countries nor conduct any country-specific analysis, yet the report demonstrates important trends that can be further explored and analysed at the regional or national level through other research projects as suggested several times throughout this report. IAU will continue beyond this report to work with

partners across the world to pursue further analysis of trends at regional, sub-regional or national level. This has already been done by some IAU member and partner organisations and these regional/national reports are annexed to this report.

The survey paints two very different pictures: one of resilience and one of distress. While the situation differs from one region to another and from institution to institution within the same region, the results show a real risk that financial support for higher education could decrease rather than increase – one year into the pandemic, the effect is already visible on tuition fees which are most typically generated by households. If the impact on public funding has been mitigated by active actions by national governments, these actions should be sustained over time and it is essential that higher education financing is seen by governments as an investment and as a crucial part of “building back better” to quote the United Nations Secretary-General, António Guterres⁵. Higher education is what equips young people with the skills necessary to actively participate in society and to contribute to transforming and developing sustainable societies. At times of economic crisis, there will be more competing priorities for fewer funding opportunities, and if higher education is not prioritized in such contexts, it may have important repercussions on the extent to which young people are able to fulfil their potential and contribute to developing sustainable societies. It is therefore essential to underline that investment in strong and sustainable higher education systems across the world is an investment in the future and in humanity. This needs to be carefully monitored in the years to come.

The results of this report have shown alarming trends particularly in areas of the world where access to higher education is already marginal. These trends will, in the worst-case scenario, lead to a decline in the offer of higher education in areas where there is already a need to increase access, thus further exacerbating inequalities globally.

We have seen a reinforcement of digital infrastructures and of digital literacies of staff across the world, but this also highlights the fact that not everyone has access or the competences to make use of any opportunities available. In a world where huge amounts of information are available online, it is therefore paramount to ensure that not only education but also connectivity is a human right.

Research is essential if we are to continue the quest for truth, to create new knowledge and develop solutions to address challenges both of today and of the future, to fight disinformation and to encourage exchange and critical thinking. The impact of the pandemic on research, most particularly in terms of delays, must not be forgotten although it appears less visible when compared to the impact we see on teaching and learning. At the same time, the pandemic has had a positive impact on research collaboration as we see it did expand internationally, with increasing collaboration with authorities, at the same time having no negative impact on institutional autonomy and academic freedom; we see universities promoting scientific knowledge to the public in an effort to fight disinformation and to allow citizens to take informed decisions about their lives.

This report offers a very detailed description of the impact of COVID-19 on higher education and of the responses by higher education institutions and other stakeholders one year into the pandemic.

The pandemic has reaffirmed that higher education is a vital pillar of society and that the higher education sector has shown incredible resilience and innovation to avoid any disruption to their mandate and to operations. The pandemic has also served as a clear example that global challenges require global solutions and that cooperation among the different stakeholders at global level is fundamental.

5. <https://www.un.org/en/coronavirus/building-back-better-requires-transforming-development-model-latin-america-and-caribbean>

Bibliography

American Council on Education (ACE) (2021) *Leaders Respond: Covid-19 on Campus*. Retrieved 13 Oct 2021 from <https://www.acenet.edu/Research-Insights/Pages/Senior-Leaders/Leaders-Respond-COVID-19-On-Campus.aspx>

Bergan, S., Gallagher, T., Harkavy, I., Munck, R., and van't Land, H. (2021) *Higher education's response to the COVID-19 pandemic – Building a more sustainable and democratic future*, Strasbourg: Council of Europe.

eLearning Africa (2020) *The Effect of COVID-19 on Education in Africa and its Implications for the Use of Technology*. Berlin: ICWE GmbH. Retrieved 14 Oct 2021 from https://www.elearning-africa.com/conference2022/ressources/pdfs/surveys/The_effect_of_Covid-19_on_Education_in_Africa.pdf

ESN and IAU (2020) *COVID-19 impact on Higher Education: Institutional and Students' Perspectives*, Brussels and Paris: ESN and IAU.

European Student Union (2021) *Student life during the COVID-19 pandemic lockdown. Europe-wide insights*, Brussels: European Student Union.

Farnell, T., Skledar Matijević, A., and Šćukanec Schmidt, N. (2021) *The impact of COVID-19 on higher education: a review of emerging evidence*, Brussels: European Union. Retrieved 14 Oct 2021 from https://nesetweb.eu/wp-content/uploads/2021/03/NESET-AR4-2020_Full-Report-1.pdf

Gabriels, W., and Benke-Åberg, R. (2020) *Student Exchanges in Times of Crisis Research report on the impact of COVID-19 on student exchanges in Europe*, Brussels: Erasmus Student Network AISBL.

IAUP-Santander (2020) *Leadership responses to COVID-19 – a global survey of college and university leadership*, New York: IAUP-Santander.

Marinoni, G., Jensen, T., and van't Land, H. (2020) *The Impact of Covid-19 on Higher Education around the World*, Paris: International Association of Universities. Retrieved 14 Oct 2021 from https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf

OECD (2021) *The state of higher education one year in to the COVID-19 pandemic*, Paris: OECD. Retrieved 14 Oct 2021 from <https://www.oecd-ilibrary.org/docserver/83c41957-en.pdf?expires=1634203177&id=id&accname=guest&checksum=37C04000D74D97497908014102B36B6>

UNESCO (2015) UNESCO, Science Report: Towards 2030 Paris, UNESCO Retrieved 10 September 2021 from <https://unesdoc.unesco.org/ark:/48223/pf0000235406>

UNESCO (2021) *COVID-19: reopening and reimagining universities, survey on higher education through the UNESCO National Commissions*, Paris: UNESCO. Retrieved 13 Oct 2021 from <https://unesdoc.unesco.org/ark:/48223/pf0000378174>

UNESCO-IESALC (2021a) *Closing now to reopen better tomorrow? Pedagogical continuity in Latin American Universities during the pandemic*, Paris: UNESCO. Retrieved 14 Oct 2021 from https://www.iesalc.unesco.org/wp-content/uploads/2021/07/Closing-now-to-reopen-better-tomorrow-FINAL_EN.pdf

UNESCO-IESALC (2021b) *Educación superior y COVID-19 en América Latina y el Caribe: Financiamiento para los estudiantes*, Paris: UNESCO. Retrieved 14 Oct 2021 from <https://www.iesalc.unesco.org/wp-content/uploads/2021/07/09-07-2021-COVID-19-FINANCIAMIENTO-3.pdf>

UNIMED (2021) *The perceived impact of COVID-19 on Higher Education in the Southern Mediterranean*, Rome: UNIMED. Retrieved 13 Oct 2021 from <https://www.uni-med.net/unimed-occasional-paper-the-perceived-impact-of-COVID-19-on-higher-education-in-the-southern-mediterranean/>

World Health Organization (2021) *WHO Coronavirus (COVID-19) Dashboard*. Retrieved 13 Oct 2021 from <https://covid19.who.int/>

Annex 1

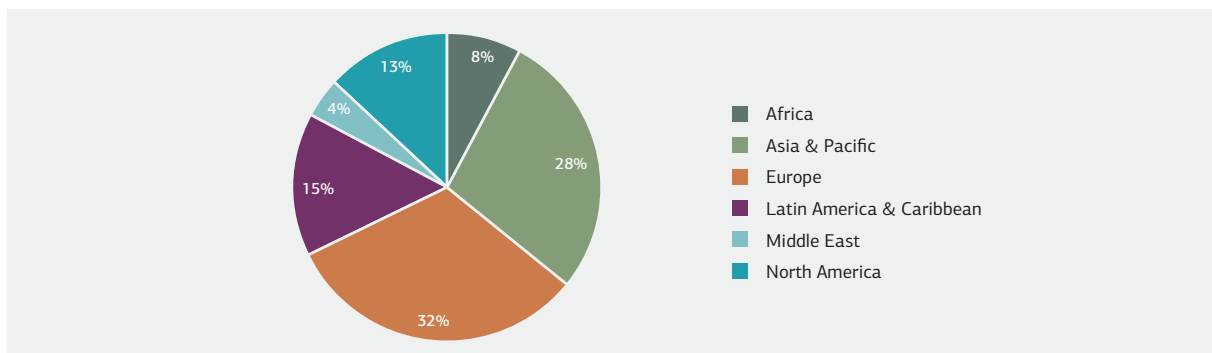
Classification of HEIs in the different regions of the world

Firstly, HEIs were classed by country, then each country was sorted into a region, using one of the six world regions that are usually defined and used by IAU:

1. Africa
2. Asia & Pacific
3. Europe
4. Latin America & Caribbean
5. Middle East
6. North America

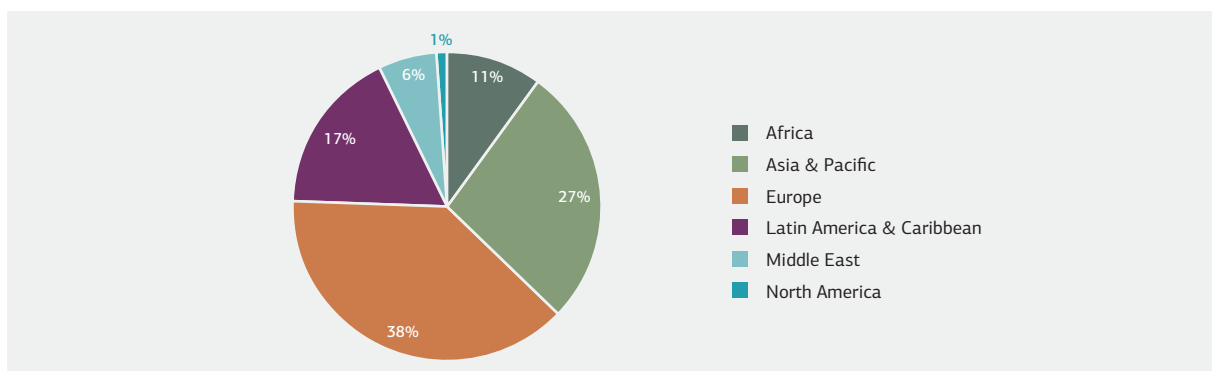
Figure 79 represents the distribution of the 9,670 HEIs contacted through the WHED in the six regions

Figure 79: Regional distribution of HEIs in WHED regions



The distribution of the 496 replies to the survey in the six world regions is represented in **Figure 80**.

Figure 80: Regional distribution of replies in 6 world regions



When comparing the distribution of replies in Fig. 80 with the one of HEIs in Fig. 79 it appears clearly that the response rate of HEIs in North America is very low and that HEIs in Europe replied more than the weight of the respective HEIs in the world distribution, while HEIs in the other three regions (Asia & Pacific and Latin America and the Caribbean and the Middle East) replied more or less in line with the weight of their HEIs in the world distribution.

However, while the number of 496 replies (or 469 considering only those completed) at world level is enough to be statistically relevant, the number of replies in some regions is not. More specifically, the number of replies in the Middle East and especially in North America is so low that it is not statistically relevant. This makes it impossible to categorise the replies in six regions of the world; replies from the Middle East and North America have to be included in other regions.

For this reason, as it was the case also for the first IAU Global Survey on the impact of COVID-19 on higher education around the world, HEIs from the Middle East are included in the Asia & Pacific region, while HEIs from North America are merged with the ones from Latin America and the Caribbean; together they are considered as the new region of 'the Americas'.

Therefore, the regions used in this report are only four:

1. Africa
2. Americas
3. Asia & Pacific
4. Europe

Annex 2

National and Regional perspectives

This annex presents one national and four regional perspectives, written by organisations and association of universities. The contributions are the following:

1. Perspective from the United States of America: Summary of Pulse Point Surveys on COVID-19

By **Maria Claudia Soler**, Senior Analyst, Research, American Council on Education (ACE)

2. The Impact of Covid-19 on the Arab Higher Education

By **Amr Ezzat Salama**, Secretary-General, Association of Arab Universities (AArU), **Maher Saleem**, Former University President, **Najm Abed Khalaf Aleessawi**, Head of studies and Research Department (AArU)

3. One year of Covid-19: the impact on European higher education

By **Michael Gaebel**, Director of the Higher Education Policy Unit & **Henriette Stoeber**, Policy Analyst, European University Association (EUA)

4. Perspective from Latin America and Caribbean

By **Roberto Escalante**, Secretary General and **Orlando Delgado**, President of the Council of International Evaluation and Accreditation, UDUAL – Union of the Universities of Latin America and the Caribbean

5. Perspective from the Asia-Pacific region

By **Philip Vaugther**, consultant, United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS)

The views expressed in these documents are those of the authors and do not necessarily reflect the position of the International Association of Universities (IAU).

1. Perspective from the United States of America: Summary of Pulse Point Surveys on COVID-19

Maria Claudia Soler¹, Senior Analyst, Research, American Council on Education (ACE)

In a time of unprecedented crisis, the American Council on Education (ACE) considered more valuable than ever to have an up-to-date record of the concerns and challenges faced by college and university presidents. Since April 2020, ACE has surveyed college and university presidents to gather presidents' insights and experiences with COVID-19 and its effects on their institutions and the larger higher education landscape.

Nine surveys have been conducted so far: six of them were conducted in 2020 and three in 2021. The surveys are distributed among college and university presidents who typically take between five and seven minutes to complete each survey. Each survey is typically in the field for one or two weeks approximately. On average, 300 college and university presidents have answered to each survey. These presidents represent institutions from all sectors but for analysis purposes, ACE focuses on public four-year, private four-year, and public two-year institutions. It is important to note that each survey captures what presidents were thinking in a specific point in time in which the survey is conducted—given the uncertainties related to the pandemic, presidents' views will almost certainly continue to evolve.

The series of Pulse Point surveys has covered a variety of topics regarding COVID-19, some examples of such topics include presidents' most pressing concerns; operating plans; the impact of the pandemic on enrollment and financial stability; diversity, equity, and inclusion; and mental health, among other topics.

Given that the IAU survey is structured around four categories, the results presented in this document will be organized in the following way:

- Governance
- Teaching and Learning
- Research
- Impact on Community/Societal Engagement

GOVERNANCE

Top of Mind Issues

In every survey, we have asked presidents to select up to five issues from a list of about eighteen to twenty that they consider to be most pressing. During 2020, presidents expressed concerns about enrollment. Fall enrollment was a top issue in April, May and June, and it was the second most important issue in July. As the fall term approached, mental health of students started to become more important among presidents. Since September 2020, “mental health of students” was the pressing issue cited most frequently by presidents. Results from the fall 2021 survey indicate that almost three-quarters of all presidents (73 percent) identified student mental health as a pressing concern, representing an increase from Fall 2020 when only slightly more than half of the presidents (53 percent) had reported the same.

Further analyses of the Fall 2021 survey indicate that across all sectors, “mental health of students” was the most frequently selected pressing issue; presidents at private four-year institutions (76 percent)

1. Maria Claudia Soler prepared the content included here. The majority of the information included in this chapter come from six different surveys of presidents conducted by ACE in 2020. The following individuals contributed to this series of surveys: Johnathan Turk (April, May, June, July, Fall Term Part I, and Fall Term Part II); Maria Claudia Soler (April, June, July, Fall Par II); Hollie Chessman (July); Morgan Taylor (May); Anna Marie Ramos (Fall Term Part I); Ángel Gonzalez (Fall term Part II), Darsella Vigil (April), and Charles Sanchez (May.) For more information about the series, as well as more information on recent surveys on how college presidents respond to COVID-19, visit <https://www.acenet.edu/Research-Insights/Pages/Senior-Leaders/Leaders-Respond-COVID-19-On-Campus.aspx>

were slightly more likely than presidents at public four-year (71 percent) and public two-year (73 percent) institutions to report this.

In addition to enrollment and mental health, long-term financial viability has usually been ranked as the second or third most pressing issue among presidents. However, concerns around financial viability have decreased over time. For instance, while 64 percent of the presidents indicated “long-term financial viability” as a concern in April 2020, forty two percent of the presidents did so in 2021.

Finally, other issues that have been at the top of presidents’ minds across the nine Pulse Point surveys are: mental health of faculty and staff, short-term viability, racial equity, sustaining an online learning environment, and financial actions such as furloughs or reductions of salary. The last two issues were particularly relevant in 2020 among presidents, but they have decreased in importance during 2021.

Enrollment

The potential impact of the global pandemic on student enrollment has been one of the issues top of mind for the majority of presidents across all the Pulse Point surveys on COVID-19, especially during 2020. To better understand enrollment expectations, all the surveys conducted in 2020 included specific questions on student enrollment. For instance, in the fall 2020 survey, ACE asked presidents to indicate how their fall 2020 enrollment compared to their fall 2019 enrollment in four categories: total enrollment, In-state enrollment, out-of-state enrollment, and international student enrollment. For each, presidents could report that their enrollment had increased, decreased, or stayed about the same relative to fall 2019. The results to that question indicate that over half of presidents reported that their fall 2020 enrollment had decreased relative to fall 2019 enrollment. Twenty three percent of presidents said that their enrollment remained about the same as last fall, while twenty two percent reported an increase. Moreover, presidents at public two-year institutions (79 percent) were the most likely to report an enrollment decrease, followed by presidents at public four-year (52 percent), and presidents at private four-year institutions (48 percent). Also, over half of presidents at public four-year institutions (51 percent) reported a decrease in out-of-state enrollment. Finally, approximately seventy percent of presidents at both public and private four-year institutions reported a decrease in international student enrollment.

Internationalization

ACE has long been committed to supporting colleges and universities in defining and meeting their internationalization and global engagement goals. With that in mind, two questions were included in the fall 2020 survey in order to better understand how the COVID-19 pandemic is affecting institutions’ internationalization strategies and priorities. Using a five-point scale, presidents were asked to indicate their level of agreement with the statement, “The COVID-19 pandemic will affect my institution’s long-term strategy (past the 2020–21 academic year) related to internationalization.” Sixty-six percent of presidents said they “strongly agree” or “somewhat agree” with the statement. Presidents at public four-year institutions were the most likely to “strongly agree” or “somewhat agree” with this statement (84 percent), while 66 percent of presidents at private four-year institutions and 53 percent of presidents at public two-year institutions said the same.

Presidents were also presented with a list of nine internationalization actions and asked to select up to three they believe will be priorities for their institution’s internationalization strategy beyond the 2020–21 academic year. More than half of presidents (51 percent) indicated that “recruiting international students” will be their institution’s top internationalization priority. This was followed by “partnerships with institutions/organizations abroad” (41 percent) and “increasing education abroad for U.S. students” (29 percent). Presidents at public two-year institutions (19 percent) were the most likely to select “faculty development” as a top internationalization priority compared with presidents of both public four-year (13 percent) and private four-year institutions (10 percent). “International research collaborations” (8 percent) and “internationalization of the curriculum/co-curriculum” (16 percent) were ranked at the bottom of the list of priorities.

Mental Health

To better understand COVID-19's impact on institutional responses to student mental health, ACE asked presidents in April 2020 about the types of strategies their institutions were implementing to address the growing mental health concerns related to COVID-19. Fifty nine percent of the presidents reported that their institutions had “invested in virtual or tele-therapy services and/or tele-psychiatry”, which was the most commonly implemented strategy. This was followed by 47 percent of the presidents who reported “implementing new student engagement strategies to provide students with resources on mental health and well-being” and by 43 percent who reported having “expanded campus access to digital mental health programs and promotion platforms.”

In spring 2021, ACE asked presidents to consider what changes or adaptations that have been made in light of the pandemic might continue to be in place after the pandemic. Adaptations to student counseling and mental health was selected by 73 percent of the presidents. The other two options selected by presidents were “academic support services” (73 percent), and “academic advising” (72 percent). By sector, presidents at private four-year institutions were most likely to anticipate keeping changes made to “student counseling and mental health services” (69 percent), “academic support services” (67 percent), “academic advising” (59 percent), and “admissions” (58 percent).

TEACHING AND LEARNING

Remote Learning and Operations and Fall Operating Plans

Using a five-point scale, presidents were asked to rate how well their institutions had transitioned to fully remote instruction and operations just a couple of weeks after the pandemic started. Responses to the April 2020 show that nearly 86 percent of all presidents said their institutions transitioned either “well” or “very well.” The remaining 14 percent reported that the transition to fully remote instruction went only “somewhat well;” and no presidents surveyed reported their instruction transition going “poorly” or “very poorly.” Furthermore, presidents of private four-year institutions were the most likely to report the instruction transition as having gone “well or very well” (88 percent), followed by presidents of public four-year institutions (83 percent) and those at public two-year institutions (79 percent).

In the fall 2021 survey, presidents were also asked to indicate the ways that the COVID-19 pandemic affected the modality of instruction offered at the beginning of the fall 2021 term. Half of all presidents (50 percent) indicated that their institutions were offering “primarily in-person instruction, but have more virtual instruction than before the pandemic,” and 2 percent indicated that their institution “planned to be in-person, but moved to completely virtual instruction.” Slightly less than one-third (31 percent) of presidents indicated that “COVID-19 has not affected instruction modality for the fall 2021 term,” and 18 percent indicated that their institution’s “instruction modality was affected in another way.” In terms of sector, presidents at public two-year institutions (60 percent) were the most likely to report that they are “offering primarily in-person instruction, but have more virtual instruction than before the pandemic,” followed by presidents at public four-year (50 percent) and private four-year (47 percent) institutions. Presidents at private four-year (38 percent) and public four-year (36 percent) institutions were about three times as likely as presidents at public two-year institutions (12 percent) to report that “COVID-19 has not affected instruction modality for the fall 2021 term.” Presidents at public two-year institutions (29 percent) were twice as likely as presidents at public four-year (14 percent) and private four-year (13 percent) institutions to report their “instruction modality was affected in another way.”

Presidents who selected “instruction modality was affected in another way” were asked to provide further explanation of these effects. Several presidents indicated that their institution was offering multi-modal instruction, including a mix of in-person, hybrid, and online courses. Some presidents reported increased enrollment in online courses, though the number of online courses offered did not change compared with previous years. A few presidents also indicated more flexibility of instruction if faculty were ill or had health conditions.

RESEARCH

The 2020 Presidential Election

ACE asked presidents to review seven higher education policy topics and using a four-point scale, indicate the level of priority the Biden administration should place on each topic. Almost 80 percent of presidents thought “supporting congressional efforts for additional, substantive COVID-19 relief funding for higher education” should be a high priority for the Biden administration. Seventy-two percent of presidents thought “expanding need-based aid (e.g., double the maximum Pell Grant)” should be a high priority for the Biden administration. Only 25 percent of presidents thought “increasing research funding” and only 39 percent thought “expanding student debt relief” should be high priorities for the Biden administration.

IMPACT ON COMMUNITY/SOCIETAL ENGAGEMENT

Student Support

The COVID-19 pandemic has heightened inequities among different students. In June 2020, ACE used an open-ended question to ask presidents to identify some of the challenges that underrepresented or marginalized students at their institutions were facing and how their institutions were planning to support these students in fall 2020.

In terms of challenges, presidents highlighted disparities among who has access to high-quality and affordable broadband Internet, personal computers, and other technology; difficulties to transition to online learning; and financial hardships, including housing and food insecurity.

Regarding additional supports provided by the institutions, presidents emphasized implementing strategies such as increasing the number of laptops, tablets, and mobile hotspots available to students; boosting their campus Wi-Fi for students to be able to access it from parking lots; increasing outreach and training to navigate learning resources; increasing emergency aid availability; working with donors to create new student support funds; and increasing psychological counseling resources.

Student Voting and Civil Engagement

On November 7, 2020, Joe Biden became president-elect of the United States. Given this important moment, ACE asked presidents to share how their institutions helped support student voting and civic engagement during the 2020 election cycle, beyond distributing voter registration forms to students as required by the Higher Education Act (HEA). Almost all presidents (89 percent) reported that their institutions had active campaigns to help students understand their state voter registration and voting requirements. More than three-quarters (78 percent) of presidents reported that their institution sent out reminders to students encouraging them to vote. Over half (57 percent) indicated that their institution held in-person and/or virtual get-out-the-vote events

Support for Individuals Affected by the Crisis in Afghanistan

ACE sought to better understand how institutions were supporting or planning to support individuals affected by the crisis in Afghanistan in summer 2021. About one in five (19 percent) presidents reported that their institution was currently providing or planning to provide support to individuals affected by the crisis in Afghanistan. By sector, one-quarter (25 percent) of presidents at private four-year institutions reported that their institution was currently providing or was planning to provide support, as did 17 percent of presidents at public two-year institutions and 16 percent of presidents at public four-year institutions.

Some of the support services for individuals affected by the crisis in Afghanistan that some institutions were offering include “establishing enrollment pathways for Afghan refugees and/or students” (38 percent), and “creating teaching and/or research opportunities for Afghan scholars and professors” (26 percent).

2. The Impact of Covid-19 on the Arab Higher Education

Amr Ezzat Salama, Secretary-General, Association of Arab Universities (AArU)

Maher Saleem, Former University President

Najm Abed Khalaf Aleessawi, Head of studies and Research Department. AArU

The outbreak of the corona virus that is called COVID-19 pandemic has affected human life worldwide. Many people have lost their jobs or suffer of income cut. Unemployment rates have increased across major economies. Indeed, COVID-19 disturbed all aspects of life including public health, education, companies and factories, traveling and tourism, hospitality, shops, trading, etc. Many countries reacted to the pandemic concerns by imposing closure of borders, airports, seaports, entertainment facilities, and educational institutions. It was reported that the global economy struck by 4.4% in 2020 which is considered as the worst since the Great Depression of 1930s.

In March 25, 2020, higher education was bumped by unprecedented effect of COVID-19 worldwide. Universities and colleges were forced to close which was all of sudden with no time and proper planning. Countries seemed to continue the education process according to their capabilities and their readiness to shift from face-to-face towards online education. Moreover, the pandemic raised the demand on computers, iPads, tablets, smart phones, and internet. Many countries, especially developing and underprivileged were unable to implement online education due to impairment of infrastructure and knowledge to deliver online education. Therefore, the whole process of education in these countries took a period of time to catch up and get used to the situation.

In the Arab region, the impact of the pandemic on the educational process was severe according to officials of the United Nations Educational, Scientific and Cultural Organization (UNESCO). Universities and colleges, with some exceptions in the rich Arab countries, were not prepared for online education due to poor IT infrastructure and knowledge for all stakeholders such as students, staff, and administration.

Therefore, COVID-19 resulted in lockdown and closure of almost all Arab universities and colleges. Resumption of the education process, adopting the online education instead of face to face, varied in time and quality according to the country and their educational institutions capabilities and readiness. Moreover, various activities have been completely halted from the start of the pandemic such as practical classes/ labs, field research, graduation ceremonies, seminars, conferences, sportive activities, and entertainments. Certain activities of administrative type were resumed in campuses with complete abidance to COVID-19 national directions.

Important to realize, the pandemic has uncovered the inadequacies and inequities in the Arab education systems including readiness to online education and availability of supportive environments required for such learning activities. Undoubtedly, the educational processes resumed with a lot of confusion and chaos that affected all players and stakeholders involved in the education cycle. The impacts of the pandemic on the Arab higher education were sensed and a lot of measures were taken by local authorities and institutions that were, indeed, insufficient to alleviate the effect of pandemic.

The impact of COVID-19 on Arab higher education survey was carried out by sending the survey prepared by the International Association of Universities (IAU) to various higher education institutions in the Arab region. As a result, only 47 entities responded mainly from Iraq, Jordan, United Arab Emirates, Egypt, Palestine, Bahrain, Saudi Arabia, Syrian Republic, Yemen, and Libya. 40.4% of the responses were prepared by the deputy head of institution (Vice President), 25.5% by the heads of institutions (presidents), (29.8%) by their representatives while registrars' answers made (4.3%) of the total. Public institutions were more responsive with a percentage of 53.2% compared to non-profit private entities 31.9%. Private for profit institutes percentage was 14.9%. Moreover, 44.7% of institutions with 1000 to 5000 student population reacted to the survey more than institutions with less than 1000 population body (4.3%). The degree of satisfaction related to how the institute managed the crisis was not unanimous 63.8% (very good), 31.9% (good) and 4.3% (adequate).

The respondents to the survey indicated and pointed out the real impacts and challenges of Covid-19 on the Arab higher education at the level of the institute governance, management, teaching & learning, research, stakeholders, and community.

The impact of Covid-19 pandemic on the higher education Governance and Management:

- The pandemic resulted in complete closure of all higher education institutions in the Arab region in 2020 and adopted online education that replaced face to face system. Moreover, certain activities have been cancelled and postponed to unknown dates.
- Technical assistance, webinars, and trainings for the online approach were offered by higher education institutions for all players such as staff, faculty, and students but the quality of service varied from entity to entity and from country to another.
- Meetings of the boards, faculties, departments, and all other committees were carried out remotely.
- Transversal collaboration and communication between faculties and departments enhanced to a great extent (55.3%) during the crisis.
- There was strong communication among and between all staff (academic or administrative) to a great extent (63.8%).
- Communication between staff and students varied between the different institutions depending on the infrastructure and capabilities. 63.8% of the survey respondents were satisfied to a great extent but 4.2% were not. The rest (31.9%) were doubtful.
- Strategic plans implementation at the higher education institutions were disrupted to some extent (55.3%). In the other hand, 6.4% claimed no impact.
- As a result of the pandemic, 87.3% of the Arab Higher education institutions are convinced with the urgencies of modifying their strategies to face the existing and future challenges and to mitigate negative resulted consequences.
- The academic freedom and autonomy of higher education institutions were disrupted due to national governments strict new measures including compulsory closure and reinforcement of digital communications and teaching. 44.7% of Arab institutions respondents confirmed the threat despite of 55.3% claimed no impact.

The impact of Covid-19 on Finance of the higher education institutions:

- Covid-19 resulted in financial challenges for Arab education institutions such as loss of international students and auxiliary revenues while at the same time had to accommodate expenses including cost of scaling the virtual engagements in the institution environment.
- Public funding to Arab education institutions have dropped down as 42.6% of the respondents indicated. Other respondents claimed no change (27.7%). Surprisingly, 4.3% respondents announced increase in the public funding. Moreover, private sector funding was also affected and 29.8% of respondents agreed with this fact.
- Despite the support of the national higher education to the Arab institutions in terms of issuing the guidelines for completing the academic year, the institutions believe the support did not tackle the financial challenges resulted from the pandemic. Therefore, 48.9% of the respondents indicated lack of support in this regard.

- 36.2% of Arab education institutions claimed reduction of income generated from student's fees, while, 51.1% claimed no impact.
- 42.6% of respondents suffered from the reduction of income generated from auxiliary revenues.
- 32.4% of respondents claimed increase in spending to enrich the institution environment including upscale of technology to facilitate proper teaching as an urgent consequence to Covid-19 pandemic. On the contrary, expenditures on research dropped down as 27.7% respondents declared.
- The expenditure of Arab education institutions on social responsibility and societal engagement declined as 38.3% respondents reported.
- Covid-19 impacted the expenditure of international collaboration and activities including students' mobility and staff exchange as 42.6% of respondents confirmed.
- Even though, Covid-19 resulted in the termination of staff including educators and administrative contracts especially in the private sector, 70.2% of Arab education institutions claimed no effect. Only, 19.1% respondents admitted reduction.
- 46.8% of Arab institutions respondents claimed no financial impact of the pandemic on the infrastructure of their institutions, while, 23.4% reported decrease and 27.7% claimed increase.
- 38.3% of Arab institutions respondents reported extra costs of health challenges for staff, faculties, and students including health insurance and university hospital expenditures.
- The pandemic impacted other operating costs including internet accessibility, platforms, social media, and marketing as 23.4% claimed. Other institutions respondents reported decrease in costs.
- Governments in the Arab region did not declare any major funding for higher education. Respondents' answers were confusing and contradicting where 53.2% answered positively and 46.8% answered negatively. Nevertheless, Arab institutions in rich countries might have received some funding but others did not enjoy any privileges. Moreover, Arab institutions did not benefit from any substantial external non-governmental funding to confront the pandemic and 80.9% of respondents agreed with this fact.
- Regrettably, Arab institutions feel threatened of the future and sustainability of existence. 66.0% of respondents shared the threats.
- So far, the salaries of existing academic administrative staff benefits were not altered according to Arab institutions respondents (70.2%). However, news of contract terminations to academic and administrated staff is very prevalent.

The impact of Covid-19 on Partnerships of the higher education institutions:

- The Arab institution's relationship and collaboration with the national authorities progressed from the start of pandemic in order to keep up with national directives. Therefore, 53.2% of respondents admitted enhancement in the collaboration, while, 31.9% claimed no change.
- 42.6% of the Arab institutions respondents claimed that their senior management were consulted by the national higher education authorities in the context of public policies related to measures and instructions belonging to Covid-19, while, 48.9% claimed that they were not involved.
- Despite the support of the national higher education to the Arab institutions in terms of issuing the guidelines for completing the academic year, the institutions believe the support did not tackle the financial challenges resulted from the pandemic. Therefore, 48.9% of the respondents indicated lack of support in this regard.

- Students of the Arab institutions have not the same opportunity to access remote learning due to financial capabilities and/or lack of technical skills. Only, 34.0% of the Arab institutions respondents showed that 100% of their students managed to follow remote learning activities but the rest showed lesser percentages. To overcome the obstacles, 40.0% of the Arab institutions' respondents claimed providing their students with funded devices, 27.7% developed partnerships with telecommunication companies regarding internet connection and data packages, 19.1% failed to provide solutions to their students, and 12.8% allowed those students access to their facilities as priority group.
- 42.6% of the Arab institutions respondents reported that Covid-19 weakened their academic partnership; against 31.0% who reported that it strengthened them and created new opportunities with partner institutions. The rest of respondents claimed no impact.
- 38.3% of the Arab institutions respondents claimed that Covid-19 strengthened academic partnerships for international collaborative learning; against 29.8% who opted for decline, and 31.9% stated no impact.
- Covid-19 stimulated all aspects of related health research issues that drove many institutions to collaborate for the aim to produce vaccines and medicines. As a result, many Arab institutions showed interest to compact the disease by carrying out related research either independently or on collaboration with other institutions and research centers whether locally or internationally. 44.7% of Arab institutions respondents claimed involvement in partnership in relation to Covid-19 and health issues research. On the other hand, only, 31.9% of the respondents announced academic partnership in research not related to Covid-19.
- 34.0% of respondents reported strengthened partnerships with private sector in research related to Covid-19 and other health domains, while, 21.3% respondents stated that partnerships were weakened. The rest indicated no impact.
- 27.7% of Arab institutions respondents proclaimed growth in partnerships with private sector in issues not related to Covid-19, while 21.3% respondents announced a reduction.

The impact of Covid-19 on the Learning and Teaching of the Higher Education Institutions:

- Arab institutions closures due to Covid-19 drove them to adopt technology. Various tools such as zoom, Skype, and other videoconferencing platforms became the ultimate new classrooms. Academic staff utilized blackboards, Microsoft Teams and other applications to collaborate and deliver their courses. The institutions had to invest in technical infrastructure to be able to shift from face-to-face to online. The Arab institutions respondents (55.3%) indicated growth in their capacity to acquire technology from the private sector.
- Arab institutions were encouraged to find ways and means of supporting online learning, including learning analytics, assistive technologies for academic staff and students with disabilities and more advanced means such as virtual reality and artificial intelligence applications.
- 74.5% of Arab institutions respondents announced the adoption and usage of various Learning Management Systems (LMS).
- 76.6% of respondents admitted usage of Open Education Resources (OERs)
- 83.0% of respondents reported that communicating with students was performed through digital communication infrastructure arrangements available in their institutions.
- In support of online learning 76.6% of the respondents embraced the usage of the learning analytics.
- Arab institutions initiated many online activities to train academic staff how to perform “teaching” online. 78.7% of Arab institutions respondents claimed offering online teaching pedagogy to adapt with the epidemic challenges and the closure of their campuses. Moreover, 78.7% of the respondents reported advancement in capacity building and provision of training to use technology. As a result, 83.0% of the respondents claimed an increase in virtual exchanges and collaborative online learning.
- Students of the Arab institutions have not the same opportunity to access remote learning due to financial capabilities and/or lack of technical skills. Only, 34.0% of the Arab institutions respondents

showed that 100% of their students managed to follow remote learning activities but the rest showed lesser percentages. To overcome the obstacles, 40.0% of the Arab institutions' respondents claimed providing their students with funded devices, 27.7% developed partnerships with telecommunication companies regarding internet connection and data packages, 19.1% failed to provide solutions to their students, and 12.8% allowed those students access to their facilities as priority group.

- Prior to Covid-19, Arab Institutions started to promote online education and many had initiatives to adopt blended models of eLearning but it was at preliminary stages. Few institutions were known as digital or open education institutions. Therefore, 38.3% of the Arab institutions respondents claimed all of their academic staff had experience with online learning & teaching, 29.8% announced 75% or more had experience, 19.1% stated 50.0% or more had experience, 4.3% stated 25.0% or more had experience, and 8.5% claimed less than of 25.0% of their academic staff were acquainted with experience.
- Covid-19 disrupted the Arab institutions and forced them to emergent remote teaching. Academic staff members had to adapt with the urging situation and started to convert the curricula content into digital content to cope with the needs of remote delivery. Numerous challenges emerged due to their level technology skills, lack of experience, and the type of theme subjects. However, 57.4% of the Arab institutions respondents declared that their curricula have more theoretical parts than practical which made it easier for them to deliver. 27.7% converted their curricula to problem based learning in an effort to engage students from distance.
- In fact, the field of study determines the magnitude of Covid-19 impact on the delivery of curricula. Medicine, pharmacology, engineering and other several specializations that require laboratories cannot be taught remotely. Moreover, topics require practicing and supervision cannot be delivered totally online such as music and arts. 48.9% of the Arab institutions respondents claimed that education, humanities, social and behavioral science, journalism, information, business, administration, and law can be taught digitally. On the other hand, life sciences, physical sciences, mathematics & statistics, computing, engineering, manufacturing, construction, agriculture, and health specialties face true difficulties where the learning and teaching will be obstructed seriously with digital learning option only. Moreover, hospitality, environmental protection, and security services contents are also difficult to deliver remotely where delivery will be too limited quality wise.
- Arab institutions declared no significant impact in offering micro credentials because they can deliver digitally. 48.9% of the Arab institutions respondents disclosed no impact.
- Covid-19 has affected all internships and placement tests in many Arab institutions. 17.0% of the Arab institutions respondents announced cancellation of all internships and placements. 21.3% declared cancellation of international internships and placements. On the contrary, 21.3% claimed increase in offering online internships and placements.

The impact of Covid-19 on Staff of the higher education institutions:

- The Covid-19 pandemic and subsequent closure resulted in sudden shock to the academic staff and forced them to adopt remote education. The level of readiness to perform varied between staff due to numerous reasons including availability of infrastructure, tools, previous experience, field of specialization, technical skills, etc. Unsurprisingly, all staff started to deliver different types of remote learning including blended and mixing synchronous with asynchronous learning. As a result, staff had to spend time in preparing and interacting with their students which added extra workload. 42.6% of the Arab institutions respondents confirmed that academic staff workload had increased.
- Administered staff was obliged to communicate remotely with their institutions and this situation led them to work harder to cope with the challenges imposed by the pandemic. Nevertheless, 23.4% of respondents agreed and 27.7% claimed decrease. Surprisingly, 48.9% of respondents claimed no extra work was done by administrative staff and their work was as usual.

- 44.7% of the respondents reported that their institutions showed institutional support for physical health of academic staff, while, 38.3% claimed no support. On the contrary, 14.9% declared reduction of support.
- Even though, Covid-19 resulted in the termination of staff contracts including educators and administrative contracts especially in the private sector, 70.2% of Arab education institutions claimed no effect. Only, 19.1% respondents admitted reduction.
- Academic staff has been more absent due to health issues related to them or to their families as a result of the pandemic spread out.
- The Arab institutions showed less concern for their staff in regards to supporting their mental health although many suffered effects of social distancing and uncertainty. Therefore, only 29.8% claimed offering of such support.
- The Covid-19 pandemic stimulated some Arab institutions to recruit skilled academic and administrative staff to confront with the sudden change of learning and teaching methods. 46.8% of respondents were positive and the rest were negative.

The impact of Covid-19 on Students of the higher education institutions:

- Students of Arab institutions were forced to migrate from face to face to online learning and this prompt change exposed incapacity among many students especially those who lack skills in technology or ability to access technology due to financial issues.
- Academic performance of the Arab institutions students worsened and retreated because the general preference is the conventional class learning in addition to the fact that they are not adapted to online learning.
- Covid-19 resulted in social distancing and absence of student to student interaction in all Arab institutions which may cause serious complications.
- The enrollment of domestic students in the Arab education institutions was not altered significantly as 57.4% respondents stated in the survey. On the contrary, 21.3% claimed increase and 17.0% indicated decrease in students' enrollment.
- The enrollment of international students whether from the same region or worldwide dropped off compared to prior academic years. 48% of respondents declared decrease. The rest claimed no change or slight increase.
- The total population of the Arab institutions suffered of a reduction due dropout of students as a result of the epidemic. 20% of the respondents announced increase in the dropout compared to the prior academic year; before the spread of the virus.
- The dropout of research students was noticed at the time of pandemic spread in certain institutions as reported by 11.0% of respondents. Also, another student dropout was observed in their engagements in community service and social responsibility.

The impact of Covid-19 on Research Activities of the higher education institutions:

- Research at the Arab higher education was impacted negatively from the spread of epidemic and closure and lockdown. 63.8% of the Arab institutions respondents claimed delay in research activities because staff had to spend more time in teaching activities (51.1%). Moreover, staff could not travel to conferences and meetings and they could not undertake field planned events or other events require physical presence.

- Academic staff has been more absent due to health issues related to them or to their families as a result of the pandemic spread out.
- The research priorities at Arab institutions were shifted towards issues related to epidemic. 60.3% of respondents reported increase in research in the fields of education, social and behavioral sciences, life sciences, and health welfare.
- The overall number of publications increased in certain universities (34.0%) and decreased in others (27.7%). The rest announced no change (38.3).
- The publication in international journals increased as stated for 34.0% of the respondents, whereas, 29.8% admitted decrease.
- The open access publications increased as reported by 40.4% of the respondents with a decrease in 17.0%.
- Covid-19 impacted the claiming of patents negatively. 19.1% of respondents reported reduction and 10.6% reported increase.
- Covid-19 did not change the number of PhD students (51.1%) but, however, delayed the time to complete their degrees (25.5%).
- The Interdisciplinary collaboration of research activities reduced in Arab institutions as 19.1% of the respondents claimed.
- Community based research and other research on global issues related to the epidemic had been prioritized at the same time (34.0%).
- Funding of the Arab institutions on research activities was impacted negatively at level of each local government (25.5%), at foreign level (25.5%), and among international organizations (19.1%). Moreover, funding from different sources also reduced such as, private sector (27.7%) and other private/ independent donors (27.7%).
- Covid-19 has impacted the research collaboration at Arab institutions positively where it scored (38.3%) at the level of national collaboration (36.2%), (27.7%) at the regional collaboration level and (34.0%) for the international collaboration.
- The Arab institutions claimed that the quality of research collaboration in general rose up to (34.0%). Moreover, the score of quality of research on the national level was (29.8%), the quality of research on the regional level score was (29.8%), while quality of research on the international level increased to 36.2%.
- Covid-19 stimulated all aspects of related health research issues that drove many institutions to collaborate for the aim to produce vaccines and medicines. As a result, many Arab institutions showed interest to compact the disease by carrying out related research either independently or on collaboration with other institutions and research centers whether locally or internationally. 44.7% of Arab institutions respondents claimed involvement in partnership in relation to Covid-19 and health issues research. On the other hand, only, 31.9% of the respondents announced academic partnership in research not related to Covid-19.

The impact of Covid-19 pandemic on the International Strategies of the Higher Education Institutions:

- Covid-19 resulted in driving the Arab institutions to reviewing and revising their international strategies. 91% of the Arab institutions respondents declared their international strategies were already revised or under revisions. 31.9% of the Arab institutions respondents strengthened the

attraction of international students with 23.4% of student exchange plans. Moreover, 38.3% of the respondents showed interest on internationalization of their curricula and 34.0% emphasized the importance of academic staff mobility. Interestingly, 34.0% of the respondents expressed it was essential to get academic and administrative staff trained internationally.

- Arab institutions expressed positive attitudes towards foreign qualifying applicants taking into consideration the Covid-19 challenges.

The impact of Covid-19 epidemic on the Communities of the Higher Educations:

- Covid-19 epidemic had a severe impact on the Arab communities as the same as it affected the rest of the globe. As a result, the pandemic caused devastating socio-economic impacts such as reduction of salaries and income in addition to jeopardizing businesses and caused serious health concerns. Community engagement and social responsibility are main pillars of the higher education institutions. 46.8% of the Arab institutions respondents claimed increased societal engagement. Moreover, 51.1% of the respondents showed involvement in the dissemination of scientific knowledge and awareness to the general public.
- Arab institutions were active in a way or another in promoting scientific knowledge and increasing awareness of the public by mainly organizing virtual conferences and seminars to disseminate scientific knowledge (40.4%). Moreover, the scientists and researchers were active in writing divulgation articles (25.5%) and participating in public media debates (21.3%). As a matter of fact, Arab institutions were involved in fighting disinformation by writing official institutional statements and divulging factual information based on scientific results (44.7%).
- Arab institutions claimed support for local communities during the Covid-19 spread peak (98.4%) in various manners based on their capabilities by providing available medical care and Covid-19 checks. Moreover, staff and students volunteered to provide mobile care for affected people while social experts provided expertise to local authorities.

The impact of Covid-19 on the Academic Values of the Higher Education Institutions:

- The Covid-19 drove the Arab institutions to restudy their academic values. Results showed strengthened impact on the equity in access (38.3%) rights of students and scholars (36.2), scientific integrity and research ethics (34.0%), and non-discrimination and support of the disadvantaged groups (34.0%). Nevertheless, a minority claimed weakened impact and the rest claimed no impact.

Important changes in Higher Education triggered by the pandemic that may stay beyond the pandemic:

- The Arab institutions believe that Covid-19 triggered changes in higher education that may stay beyond the pandemic including, online and blended learning (46.8%), increasing digital skills of academic staff and learners (8.5%), and usage of technology (8.5%).
- The Arab institutions believe that some changes triggered by the epidemic will unfortunately have negative effects on higher education beyond the epidemic such as:
 1. decreasing in students commitment to attending physical classes and engaging with academic staffs and peers,
 2. decreased international students and collaboration,
 3. decreased practical experience of students, decreased learning out comes as a result of conducting teaching on video platforms instead of using proper online platforms,
 4. decreased students' trust in the national educational system
 5. decreased community contribution,

6. there will remain numbers of unprepared academic staffs and students in dealing with online mandatory skills,
7. increased financial challenges.

3. One year of Covid-19: the impact on European higher education

Michael Gaebel, Director of the Higher Education Policy Unit & **Henriette Stoeber**, Policy Analyst, European University Association (EUA)

The second global IAU survey “Impact on Higher Education – One Year into the Covid-19 Pandemic” has received a substantial and geographically well-spread response from 189 higher education institutions in 40 EHEA countries – representing 38% of the total sample. In respects, the responses of the European universities resemble those from other regions. As elsewhere in the world, universities in the European Higher Education Area² (EHEA) had to adjust to the lock-down and sanitary measures, and have suffered from planning uncertainty. However, in comparison with other regions, the Covid-19 crisis may have impacted them less severely, for instance regarding funding, enrolment numbers, and strategic reorientation. Moreover, in some areas, such as digital learning and teaching, the pandemic may have fostered and accelerated positive change. While the data shows some differences between Europe and other regions, one has to keep in mind the diversity within the EHEA, for example regarding the autonomy and financial support that institutions enjoy.

Strategic responses to the pandemic

The Covid-19 crisis has been a shake-up for economies and societies, resulting in a reflection, possibly also a revision of established approaches. In light of the pandemic, almost three quarters of EHEA institutions plan to revise their central strategies, at least to some extent (63%). This includes 9% of institutions which indicate a major revision – relatively low compared to 21% worldwide. One can only speculate about the reasons: As public funding support continued, and in some countries was even enhanced for European institutions, the situation may not have called for drastic strategic changes. Another possible reason could be, that at many European institutions strategic change approaches, for example for digitally enhanced education, were already under preparation – and the crisis required acceleration and mainstreaming of already existing developments.

An illustrative example for this latter assumption is internationalisation strategies, which at the time of the data collection, a quarter of EHEA institutions had already revised due to the pandemic, and another 41% were discussing changes. Institutions point to an increased strategic focus on internationalisation of the curriculum, internationalisation at home (54%), and virtual exchanges and collaborative online learning (79%). Plans for the latter may have already been in place before the pandemic: at the start of the pandemic in 2020, 85% of institutions responding to an EUA survey state that they generally plan to emphasise digitalisation as a strategic priority in their collaboration with other institutions at international level³. But in the immediate, unsurprisingly, a negative trend can be observed in the EHEA in academic partnerships for mobility (at 46% of HEI). Academic partnerships for international collaborative learning were also decreased at a third of institutions.

The majority of the EHEA survey respondents (87%) is quite satisfied with their institutions’ Covid-19 response, and some even report positive side effects from the crisis management, such as enhanced transversal collaboration between faculties and departments (to a great extent 32%, to some extent 56%). That said, nobody negates the deficiencies and shortcomings of the crisis management. Most institutions believe that students tend to assess the crisis management positively (fully or somewhat) regarding the general communication, consultation and involvement of students in decision making, and management of the academic programmes. For student satisfaction regarding measures for physical and mental health about one third of institutions chose the response “non-applicable” – which might indicate that these services are provided by other structures than higher education institutions themselves.

2. Which consist of 49 countries’ respective higher education systems, including all of the European Union’s. Further information: <http://ehea.info/>

3. EUA (2021). Digitally enhanced learning and teaching in European higher education institutions, which reports early 2020 data. <https://eua.eu/resources/publications/954:digitally-enhanced-learning-and-teaching-in-european-higher-education-institutions.html>

Students: retention, enrolment and wellbeing

The situation of students was certainly very stressful, given that 1.5 years of pandemic is a relatively long period of the time in a three- or four-year Bachelor programme, and in the life of a 20 year-old. It is intensive period of transition of life and career shaping nature, and hence of high expectations. In addition, students tend to have no steady income, but depend often on parents, grants and usually also on temporary employment – all factors that made them quite vulnerable in the crisis and enhanced their socio-economic vulnerability and potential mental distress. However, this may not have caused increased student drop-out: more than half of the EHEA institutions reported no change across all types of learners. This is also confirmed by an internal EUA survey of national university associations conducted in October 2021⁴, which found that there was no increase in dropouts in any of the higher education systems where such data was available at the national level. Three countries even reported enhanced retention.

More than a third of the EHEA institutions in the IAU survey reported an increase of domestic student enrolment, and only 12% a decrease – considerably lower than at institutions globally (21%) in enrolment of domestic students. This trend, which could already be observed in the years following the 2008 financial crisis⁵, is confirmed by EUA's national university association members⁶, of which almost half report increased domestic enrolment, the other half stable figures, and only one a decrease. Studying is perceived as a smart strategy to avoid unemployment and to enhance employability, in particular if tuition fees are low or not existent. In some systems, this is explored systematically, for instance in Finland and Norway, who offered funds for additional study places, explicitly in response to job loss or unemployment during the pandemic. In an even more targeted manner, Sweden financed additional short courses for lifelong learners and study programmes leading to professions where there is a shortage of labour in the country.⁷

Perhaps unsurprisingly, the pandemic has negatively impacted the numbers of international degree-seeking students at EHEA institutions, similarly as in global average: 43% saw a decrease in enrolment of students from the same world region, 50% for students from other regions. Negative impact is especially evident for the numbers of exchange students (credit mobility), where 66% of EHEA institutions saw a decrease. But some EHEA institutions also reported increased international student numbers, especially for degree seeking students, (16% for students from Europe, and 12% for students from other world regions), but rarely for exchange students: only 5% state an increase of exchange students from the same world region, 4% from other regions. National university associations participating in EUA's survey in October 2021⁸ confirm these general trends of international student enrolment, with slightly more positive figures for degree-seeking international students (27% report an increase).

Education and research in an utterly changed environment

During the pandemic, higher education around the world largely switched to online provision. At the time of data collection, 89% of institutions worldwide and 92% in the EHEA offered remote learning and teaching. This ad-hoc shift of education provision brought accessibility challenges, as not all students were able to follow online learning. In international comparison, in Europe the situation for students to participate in online learning may have been slightly more favourable, than in the global average. In the EHEA 92% of institutions state that their students could access classes online, but only 86% globally. Two thirds of EHEA institutions and three quarters worldwide were able to provide additional support to their students, including e.g., provision of devices to students in need (31% EHEA, 26% world). In almost a quarter of EHEA institutions, students with no access to remote learning were granted access to campus as a priority group.

4. EUA (2021). The impact of Covid-19 on European higher education. Survey of National Rectors' Conferences – autumn/winter semester 2021/22. Available online: <https://eua.eu/resources/publications/989:the-impact-of-covid-19-on-european-higher-education.html>

5. E.g., EUA (2015). Trends 2015: Learning and Teaching in European Universities. Available online: <https://eua.eu/resources/publications/388:trends-2015-learning-and-teaching-in-european-universities.html>

6. EUA (forthcoming 2021). Universities' response to Covid 19 – state of play autumn 2021. A survey of national level university associations.

7. OECD (2021). The State of Global Education 18 Months into the Pandemic. Available online: https://read.oecd-ilibrary.org/education/the-state-of-global-education_1a23bb23-en

8. EUA (forthcoming 2021). Universities' response to Covid 19 – state of play autumn 2021. A survey of national level university associations.

In addition, there was clearly a need for staff development at many institutions when switching online: Only 28% of EHEA institutions state that the majority of their staff already had experience with online/distance learning and teaching prior to COVID-19. For 85% of institutions the crisis brought an increase in capacity building and training provision of technology use. Many institutions provided guidelines, pedagogical resources, opportunities for good practice sharing for staff, but also for students, in order to enable them to handle technology and learn more autonomously⁹.

Beyond changes in delivery modes and the enforced use of digital technology, the immediate impact on learning and teaching across the EHEA institutions may have been less drastic and radical than initially expected. Slightly higher than the global average, 45% of EHEA institutions report an impact of the pandemic on curricula, but most of them only for some specific programmes or courses. But overall, whether in Europe or globally, more than half of the institutions found that the pandemic did not provide any reason for curricula change.

While in the Summer semester 2020, examinations were identified as a key challenge, for the past semester or academic year, the vast majority of EHEA institutions (98%) was able to carry out exams as planned. Thus, also 71% of the EHEA institutions were able to graduate last year's cohort of students (62% world), and 24% most students (29% world). This may have been due to an improved sanitary situation, which allowed at least partial return to campus, at least for examinations; but 78% of institutions also indicate to have established new assessment formats, such as online/distance exams. In some higher education systems, national authorities, networks or institutions provided guidance on how to conduct online/remote assessments. Already pre-pandemic, at 68% of EHEA institutions a growing trend towards digital assessment could be observed, either throughout the institution or at least in some faculties¹⁰. No doubt that the crisis has accelerated this development. Still open is what impact of the pandemic will have on learning and teaching in the long run: EUA's survey of university associations¹¹ found that by October 2021, only in two higher education systems' teaching continued fully online, as a temporary sanitary measure. But most respondents confirmed that increased use of blended learning, enhanced online services and generally a more flexible learning offer will continue beyond the crisis.

The impact of the pandemic on education missions received strong institutional level and public attention, certainly because it concerns large numbers of students and staff, and requires considerable planning and logistical effort. Research by contrast, was a commonly mentioned strategy and means to address the medical, technical and broader societal challenges brought on by the pandemic. Out of those EHEA institutions active in medical research, 38% report increased prioritization for research in this area. There has been an increase for almost a quarter of institutions in partnerships for research on health-related issues, and for private sector partnership for education technology. Funding for research is reported to be more stable in Europe (66%), with 10% of EHEA institutions noting an increase and 22% a decrease, compared to 30% reporting a decrease worldwide. In addition, several European higher education systems reported increases in ad-hoc competitive funding for research in health and medicine¹².

9. A few examples are gathered in Coimbra group (2020). Practices in Coimbra Group Universities in response to Covid-19. Available online: <https://www.coimbra-group.eu/wp-content/uploads/Final-Report-Practices-at-CG-Universities-in-response-to-the-COVID-19.pdf>

10. EUA (2021). Digitally enhanced learning and teaching in European higher education institutions. Available online: <https://eua.eu/resources/publications/954:digitally-enhanced-learning-and-teaching-in-european-higher-education-institutions.html>

11. EUA (2021). The impact of Covid-19 on European higher education. Survey of National Rectors' Conferences – autumn/winter semester 2021/22. Available online: <https://eua.eu/resources/publications/989:the-impact-of-covid-19-on-european-higher-education.html>

12. EUA 2021. Public Funding Observatory 2020/2021. Part 1: Financial and economic impact of the Covid-19 crisis on universities in Europe. Available online: <https://eua.eu/resources/publications/944:public-funding-observatory-2020-2021.html>

Institutional values and contribution to society

The pandemic has also promoted a re-definition, or rethinking, of values at 42% of institutions in the EHEA (53% world), regarding equity of access (59%), non-discrimination and support for disadvantaged groups (53%), scientific integrity and research ethics (53%).

One cannot deny that during the pandemic, public authorities were more likely to interfere in higher education and research than usually. However, one has to consider that many of the public restrictions did not specifically target higher education institutions, but also other sectors of society, and therefore can hardly be perceived as a violation of autonomy and academic freedom. Likewise, pressure to focus research on Covid-19 related issues cannot be seen as governments' interference with institutional autonomy on this matter.¹³ This is confirmed by about three quarters of the EHEA institutions, which report no effect of the pandemic on institutional autonomy and academic freedom. However, concerns about a deterioration of institutional autonomy and academic freedom have been confirmed by 12% of the EHEA institutions, contrasted by 14% and 15% respectively reporting a positive development. A similar picture emerges in the world sample, with slightly more positive developments overall. In addition, there is anecdotal evidence that institutions in some systems were given higher levels of subsidiarity – probably mainly because central governments were not able to manage everything top-down. This however is not likely to result into enduring autonomy gains.

The pandemic has also positively impacted the role of higher education institutions as societal actors. For instance, 43% of EHEA institutions report an increase in community engagement activities, despite a decrease in expenditure in this area (reported by 36%). Furthermore, 64% of EHEA institutions (and three quarters around the world) are actively supporting the local community during the pandemic, for example through psychological support and mobile care for affected people (37% each), promotion of scientific knowledge and understanding to the general public (40%) and provision of expertise to local authorities (43%). For instance, in Austria, the national university association provided access to a network of university experts for the media in order to fight fake news with research-based evidence, in support of a broader public debate on possible solutions and consequences.¹⁴ Overall, 34% of the EHEA institutions confirm that their collaboration with local and national authorities, and generally the contribution to policy making, has increased; but at half of the institutions, it also remained unchanged.

Higher education – a public responsibility

There is probably not one Bologna Process Communiqué¹⁵, which has not been highlighting public responsibility and the important role of public funding for higher education. While exercised quite differently across the EHEA, this commitment and the fact that most European higher education institutions are by and large publicly funded, has shielded them from immediate economic and financial consequences of the crisis. To date, the financial impact of Covid-19 is comparatively moderate across Europe's higher education sector¹⁶. In the IAU survey, half of the EHEA institutions saw no changes in public funding due to the pandemic and 14% saw a decrease, whereas in the worldwide sample, almost a quarter saw decreases. Where applicable, income from tuition fees remained stable in more than half of the EHEA institutions, but decreased for a third. At least half of the EHEA institutions also report that their overall expenditure remained fairly stable, with notable – albeit not surprising – exceptions of decreased spending on international collaboration (for 61% of institutions), and community engagement (36%). In addition, a third noted increased infrastructure spending. More than half of the institutions with university hospitals saw an increase in spending on health.

13. Bergan, Sjur (2021). Academic freedom and institutional autonomy: victims of the Covid-19 pandemic? In council of Europe (2021). Higher education's response to the Covid-19 pandemic: Building a more sustainable and democratic future. Available online: <https://rm.coe.int/prems-006821-eng-2508-higher-education-series-no-25/1680a19fe2>

14. uniko (2020). Corona: Expert_innen der Universitäten gegen Fake News. <https://uniko.ac.at/newsroom/pressekit/index.php?ID=2849>

15. Which mark the transition from one to the next phase of the Bologna Process, which aims at maintain and enhancing higher education cooperation and systems convergence across the EHEA. www.ehea.info

16. EUA 2021. Public Funding Observatory 2020/2021. Part 1: Financial and economic impact of the Covid-19 crisis on universities in Europe. Available online: <https://eua.eu/resources/publications/944:public-funding-observatory-2020-2021.html>

Overall, the IAU survey finds that 44% of EHEA institutions feel less concerned about the pandemic jeopardising their financial sustainability in the future, compared to 30% of the world sample. This might partially be due to the fact that a fifth of EHEA institutions indicate that they have received additional public support – they were 13% more likely to benefit from a governmental scheme providing emergency or special funding in the context of the COVID-19 pandemic than their counterparts around the world. EUA's Public Funding Observatory¹⁷ confirms this for 22 higher education systems in Europe (EU countries, and the UK), where authorities have allocated additional funding for e.g., Covid-19 related research, student aid, investment in digital and physical infrastructure, and enhancement of research and teaching capacity. The study shows that for this sample of countries, also legal amendments to enact extraordinary rules, and information support by governments were quite common.¹⁸ This aligns with the finding that EHEA institutions were a bit more positive in their assessment of governmental support, than institutions around the globe. Only 35% of EHEA institutions found government support lacking, compared to 43% in the world sample.

But any prediction on Europe's universities' post-crisis financial situation would be premature. The aftermath of the 2008 financial crisis has shown that public funding cuts may arrive with a delay but can be significant and enduring. EUA's Public Funding Observatory found that most cuts took place in 2012.¹⁹ While currently in Europe, unlike in 2008, the emphasis is not on austerity measures, but on investment for recovery, it would be naïve to assume that this will not impact the higher education institutions. The national university associations participating in EUA's Public Funding Observatory confirm that sector projections about future income are marked by high levels of uncertainty, and it is broadly expected that the main financial impact of the pandemic will be felt in a few years. This may concern public funding, but also the universities' own income from research and education.

Conclusion: What changes are going to stay, or even continue?

The outbreak of the pandemic which hit universities in the summer semester 2020 came as a surprise and required immediate and ad-hoc action. In the academic year 2020/2021 – year two of the pandemic – higher education institutions seem to have been more adapt to the situation, due to adjusted strategies, organisational structures and technology resources. Partial reopening of campuses in spring and autumn 2021 are of course a promising first step towards a full return. But going into the new academic year, there is little planning security, as the sanitary situation may require another round of full or partial campus closures. In October 2021, several of EUA's national university association members were hesitant to provide information on the rules for this semester, as they were awaiting new decisions from their governments. In most EHEA countries, institutions cannot request staff and students to be vaccinated, and only 17 of the 48 EHEA countries have fully vaccinated population at 70% or higher²⁰. Beyond the question of re-opening campuses, this is likely to result into continued challenges, probably less for degree mobility, but certainly for temporary mobility of students and staff. This concerns exchanges with global partners, but of course also exchanges within the EHEA and maybe even the European Union.

Beyond the ongoing pandemic, a big question is also how some of the changes that it evoked can benefit higher education. As the crisis situation pushed higher education institutions to change their mode of operation, some of these changes may be retained, and have also triggered reflections on further changes. At many institutions, leadership and staff have confirmed the opportunity for enhancing learning and teaching, including but well beyond digital aspects; student wellbeing and inclusion receives increased attention, as the importance of the campus for informal learning and learning support has been confirmed; virtual exchange may be a bad substitute, but a great complement for physical mobility, and could make international cooperation much more fluid and interactive. But it also gave further reason for a broader reflection on the ways of how higher education contributes to societies, in reflection of the

17. *Ibid.*

18. *Ibid.* (p. 16)

19. EUA 2021. The impact of the Covid-19 crisis on university funding in Europe. Available online: <https://eua.eu/resources/publications/927:the-impact-of-the-covid-19-crisis-on-university-funding-in-europe.html>

20. On 17 Oct 2021 the WHO monitor shows Europe with a share of 54% fully vaccinated, and the EU with 64%. The lowest vaccination rates in the EHEA are 6% (Armenia), and in the EU 30% (Romania). <https://ourworldindata.org/covid-vaccinations>

economic and social changes that come with the Agenda 2030 and the Sustainable Development Goals and generally on the sustainability of the institution considering quality, economic and ecological aspects.

EUA's 2020 vision paper of a university without walls puts it as follows: "The Covid-19 pandemic has accelerated change. This is leading to a rapid expansion in digital provision and research capacity to solve major societal challenges. This is likely to have a long lasting impact in the future. The knowledge base built by curiosity-driven basic research has been the foundation of a quick response to the challenge and should be preserved in order to prepare for future challenges".²¹ This to happen will depend to some extent on the higher education institutions themselves, and a critical factor will of course be sufficient resources and funding. Hence continued and even enhanced public investment in higher education and research will be required, not only to keep them alive, but to enable them to contribute proactively to European and national strategies for technical, economic and social innovation in view of the grand challenges. But it also requires sufficient levels of autonomy and generally, changes in the regulatory frameworks. In autumn 2020 EUA survey to national ministries in the EHEA, 16 out of 19 confirmed ongoing or planned changes in the legislation, to better align with and support formats of digitally enhanced learning, that during the pandemic became mandatory²². The present 2021-2024 Bologna Process phase could provide some evidence on these changes, and their impact.

-
21. EUA 2021. Universities without walls A vision for 2030. (p. 5). Available online: <https://eua.eu/resources/publications/957:universities-without-walls-%E2%80%93-eua%E2%80%99s-vision-for-europe%E2%80%99s-universities-in-2030.html>
 22. EUA (2021). Digitally enhanced learning and teaching in European higher education institutions. Available online: <https://eua.eu/resources/publications/954:digitally-enhanced-learning-and-teaching-in-european-higher-education-institutions.html>

4. Perspective from Latin America and Caribbean

Roberto Escalante, Secretary General and **Orlando Delgado**, President of the Council of International Evaluation and Accreditation, UDUAL – Union of the Universities of Latin America and the Caribbean

The context

The crisis Latin America and the Caribbean is facing as a result of the pandemic is complex. All the universities in the region, including the most renowned ones (UNAM, Buenos Aires, Sao Paulo) have been affected. At the beginning of the pandemic all universities closed their campuses and had to continue working virtually. They did so in conditions for which they were not prepared at all. Neither lecturers nor students and administrative staff were equipped with the knowledge and infrastructure to warranty virtual education with quality. This shift was – due to the urgency of the situation – more a situation of emergency remote teaching and learning rather than planned and well prepared online or distance learning. Other activities such as, research and community engagement were also badly affected.

In recent months of this year (2021) the situation has changed in most of the countries, except for the Caribbean universities and some Mexican ones. The trend is to start the reopening with restricted capacities. For example, the Argentinian and Colombian universities are working at 50% capacity, and the Chilean ones are working quasi-normally. In the case of Brazil all universities are operating remotely, with the exception of University of Campinas, and something similar happens in Peru. In other words, public and private universities moved to virtual teaching and research, but almost all of them did it in a way which was characterized by improvisation. The precise consequences of such circumstances are not still well known. However, it is fair to recognize that despite the fact that campuses were closed, universities continued with their core activities. This experience has taught new lessons that will inform changes to higher education when the pandemic allows them to return to normal activities.

Enrollment and dropout

Different types of universities have shown different types of behaviour for what concerns enrollment and dropout. Some public universities have experienced large number of students who abandoned their studies. For some others, 30% of students who were enrolled in 2019 they did not come back to the university, particularly for the second semester of 2020. Nevertheless, there are cases like the National University of Colombia which lost a very small percentage of students. This was possible thanks to well organized efforts to avoid the loss of students. In public universities the main problem students faced was the lack of equipment and training to use virtual tools. These situations reflect the great economic disadvantage that exists in public universities. LAC countries are extremely economically unequal and for the population with more economic difficulties, public universities are the only possibility they have to access this level of education. Despite the fact that these universities made very important efforts to invest in computers, tablets and other gadgets to be lent to students in need, those efforts were not enough to satisfy the demand of such software.

Private universities faced difficulties of different nature. However, similarly to public universities, they did not have enough infrastructure (hardware and software) to provide their students with the required facilities of this kind, but they lost students mainly because of the unemployment triggered by the pandemic. In many cases the loss of job meant that the families were incapable of paying the tuition fees. To underscore the level of inequality, it has been documented, however, that some wealthy families with students enrolled in private universities were able to pay teachers to go to their houses to continue with face-to-face teaching.

The loss and dropout of students will be one of the biggest challenges university institutions will face once the restrictions related to the pandemic are lifted. In many universities such as UNAM, private universities in Brazil and Peru, public universities in Peru (San Marcos, for example) This also means that

the generations of students during the pandemic will suffer great deficiencies in their education and therefore in their future professional development.

As far as enrollment is concerned, given the heterogeneous characteristics of higher education institutions in the region, reenrollment and new enrollments have behaved differently. For example, in the Province of Buenos Aires, universities recovered not only students who had abandoned their studies but also enrolled new ones up to 63% of the level they had at the beginning of the pandemic. On the other hand, private universities in Brazil could not reenroll students who in past semesters had abandoned the university. For what concerns the federal universities in Brazil it is difficult to know, because students can interrupt their studies and continue being counted as such. In Mexico, public and private universities have not been able to recover students lost. Different causes, but same effects. In Colombia, as it has been said above, the situation remained stable. In Peru despite the fact that at the beginning of the pandemic dropouts were very large, in the present semester showed a good return of students. However, there is not precise data to give a precise number

Teaching, research and community engagement

The Rector of a prestigious public university in LAC said in a webinar that some of their most recognized professors were the most incapable virtual lecturers. This is unfortunately not a surprise. In many public universities of the region the average age of the staff is over 60. Undoubtedly, this represents an enormous difficulty to have lecturers, professors and researchers prepared to move from face-to-face activities to virtual ones. The main problem is not only to have the ability to use the digital tools, but also the lack of competences for online teaching and learning. They simply are part of a tradition of teaching and learning which was disrupted by the pandemic and that probably will never completely return to what it used to be prior to the pandemic.

UDUAL and other organizations organized courses to train lecturers on how to use digital tools. However, it must be recognized that they encompassed only hundreds of lecturers and the courses were not as advanced and they should have been.

The experience of the Covid-19 pandemic may have an impact on the future of teaching strategies and this could potentially generate conflictual situations within the universities. For example, the pandemic has shown that with virtual education more students could have access to higher education if the necessary infrastructure i.e., connectivity, training, governance, are enlarged at great scale. Virtual education requires investment in what economists call sunk costs. It is possible to imagine that there will be a generational shift in teaching faculty in LAC although this would entail conflictual situations with labor unions.

Research was largely interrupted due to various factors. In most cases the University facilities were closed. Only strategic laboratories were kept open for the kind of research that was extremely expensive to interrupt. However, research that included field work activities was simply abandoned. Very few universities were able to contribute with strategic research i.e., development of vaccines and other items related to Covid-19, with the exception of Cuba. Despite the extremely blockage they have suffered for decades, they managed to develop four vaccines.

Many research projects were also subject to delays or extensions, particularly those working with groups of different kinds in urban areas. Nevertheless, it should be mentioned that large (and some medium-size) public universities contributed with the provision of antibacterial gel, the production syringes, virtual counselling and other activities. Doctoral students carrying out research in rural areas had to modify their strategies of investigation simply because governments declared internal lockdowns which impeded travelling to such areas.

Other activities

Fortunately, universities have been very sensitive to the psychological effects the pandemic not only on students but their families as a whole. In the pandemic higher education and other levels of education

became part of the day to day lives of families. Students from lower income families had to compete for spaces to study, facilities to connect to internet and many other undesirable disturbances.

Universities provided counselling to students and parents and provided facilities to follow webinars and conferences dedicated to the psychological problems university people were facing. The psychological consequences of long lockdowns will remain on the agenda of universities for a long time.

The future

It is impossible to predict the future, but there are different discussions taking place in LAC. To consider some of the issues at stake it is important to consider the socioeconomic and political conditions in which the universities are operating, as these will have an important impact on the universities and other higher education institutions. Some of the issues which must be included in the agenda related to the future of these institutions are the following:

- The impact of the economic model adopted in the region;
- The crisis of university autonomy;
- The insecurity and violation of the Human and Social Rights;
- The stratification higher education has developed during the crisis;
- The accentuated levels of quality and development amongst the higher education institutions and,
- The need to define what we want to change: education or universities, or both.

The pandemic has greatly impacted how the universities are delivering their activities and new opportunities have emerged. Depending on the conditions in which they operate and external factors affecting them such as financing, transformations are expected to follow through different paths and different degrees of changes. If the universities do not change, the risk is that societies will not consider them worthwhile and other actors will take their place.

5. Perspective from the Asia-Pacific region

Philip Vaughter, consultant, United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS)

Introduction

Overall, the higher education sector in the Asia-Pacific region during the COVID-19 pandemic has shown great resilience. However, the great diversity within the region means that an overall picture of resilience and stability also includes a high level of variability at the institutional, city, and national level in how higher education institutions and the populations they serve have weathered nearly two years of the crisis. The variability of response and subsequent impact on the sector also has a temporal component. As the first IAU report aptly pointed out, the pandemic was largely under control in early 2020 in many East Asian countries just as infection numbers were rapidly rising in Europe and the Americas, and had yet to hit Africa (Marinoni *et al.*, 2020). The same was true in much of Southeast Asia and the Pacific. Earlier and shorter lockdowns as well as effective testing and tracing procedures meant these regions did not experience medical systems being overwhelmed or the economic fallout of extended lockdowns that were to occur in other regions. Therefore, in the early days of the pandemic, while many higher education institutions in the Asia-Pacific region had to switch to fully online modalities for coursework, a large proportion of the sector was spared some of the turmoil that was unfolding in other regions of the world.

However, over a year later, the picture has changed somewhat. A surge of infections in South Asia spread largely by the delta variant of the virus caused infection numbers to rise rapidly and prompt lockdowns and extended states of emergency in many countries. Many universities in countries such as India found themselves trying to respond to a public health crisis with material support (such as medical equipment and oxygen cylinders) while simultaneously trying to carry on their regular duties. While Eastern Asia, Central Asia, Southeast Asia, and the Pacific, were largely spared surging cases at the end of 2020 and into the beginning of 2021, the protracted limbo of closed borders and ongoing remote learning coupled with slow vaccine roll outs throughout the region have begun to leave a mark on the higher education sector.

Enrollment

The enrollment of domestic students as well as adult learners has remained relatively stable within universities in the Asia-Pacific region, with over three-fourths of responding institutions reporting stable or increasing levels of enrollment compared to the year before the pandemic. Furthermore, over 60% of institutions in the region report they were able to fully graduate their cohort of students one year into the pandemic. However, the situation is very different for international students within the region. Large drops in enrollment for both degree-seeking and exchange students have continued into 2021, as border closures remain in effect in many countries in the region, even for those who are vaccinated and willing to quarantine. For higher education systems in the region heavily reliant on international students, such as those in Australia, these extended border closures will without a doubt impact both finances and governance within their universities (Mok and Montgomery, 2021). The fear of being cut off from their country of origin or being stuck in a limbo status for immigration is already having a palatable impact on demand for international degrees in the region – according to a study of students in Mainland China and Hong Kong, over 80% of potential international students surveyed said they had no interest in studying abroad after the pandemic because constantly changing policies around international travel (Mok *et al.*, 2021). Despite reservations from potential students, 40% of universities surveyed reported attraction of international students has actually increased since the pandemic. All universities within the region are likely going to have to rethink internationalization strategies, which may mean completely restructuring recruitment and development strategies in the coming years.

Teaching & Learning

In terms of distance learning, the higher education sector of the Asia-Pacific region has been highly adept at reaching most, though not all learners through online modalities. While the majority of learners

have had access to online modalities for learning during the pandemic in the region, critical gaps remain both between and within individual countries. The region also reports the highest number of teaching faculty familiar with online teaching compared to any other region, which may help explain the relatively high level of satisfaction reported by students in the region when evaluating their institution's crisis response. This may also explain why academic staff in the Asia-Pacific region reported the least increase in workload in response to switching to online learning (though this was still 51% of academic staff reporting an increased workload due to the pandemic) – as a higher percentage of academic staff in the region were familiar with online teaching before the outbreak of the virus and subsequent social distancing mandates. Thus, while the quality of online pedagogy is reported as relatively high in the region, access to online learning remains a reported challenge for tertiary students in countries as diverse as Australia, Cambodia, China, India, and Malaysia (Eri *et al.*, 2021). It is important to note these challenges are still present in richer countries with highly developed digital infrastructure. The assumption that all learners can seamlessly transition to online learning in higher education is an inaccurate one. Subsequently, 'equity in access' to learning has been the academic value that has increased the most within the region during the pandemic among the institutions surveyed.

Research

In terms of funding for research, over half (56%) of universities in the Asia-Pacific region have reported no substantial change, while a little over one-fourth (27%) have reported a decrease in funding for research. What has radically changed in the region, like teaching and learning, is the modality of research conducted. Ongoing lockdowns and movement restrictions within the region have greatly limited most field research, both domestically and abroad. For nearly two years, almost all research within the region has had to be desktop research for both students writing theses as well as faculty conducting funded research projects. While research has continued, it has shifted more towards the theoretical and the abstract as researchers are limited to what type of data collection and analysis, they are able to do online while socially distancing. As with coursework, this has begun to create somewhat of a legitimacy crisis for student researchers who have to prove their online theory building is just as applicable to the job market as past graduates who have had research experience in the field (Mok *et al.*, 2021).

Finance

A little under half of universities in the Asia-Pacific region that receive public funding (47%) report stable financial resources for their institutions, however, this is contrasted to the 39% of universities receiving public funding in the region that report having funding cut as governments shift finances to tackle the pandemic. Whether or not this is a sign of governments in the region shifting from traditional investment models that have characterized the development strategies of many Asia-Pacific societies over the last several decades to a more reactionary budgeting style to deal with a public health crisis over the longer term will be revealed in whether these funding cuts are temporary or a permanent fixture. Only 30% of institutional respondents surveyed in the region report any kind of governmental financial support for the higher education sector. While tuition fees have remained stable in the region, for how long this can fill the gap for those institutions that have lost public funding remains in question. Funding support from foreign governments as well as the private sector for higher education has also been hit particularly hard in the Asia-Pacific region during the pandemic, though not to the same extent as universities in Africa. However, universities in the Asia-Pacific region report a greater loss in funding from international organizations than all other regions. Why this particular stream of revenue was so significantly disrupted by the pandemic is a topic for further investigation.

Health & Support

While most of the world's government responses have prioritized health and support to the elderly, a group that was quickly identified as especially vulnerable to the virus, the higher education sector has also had to design modalities and interventions that keep in mind health and support for a student body that is predominantly young people. In this regard, students from universities in the Asia-Pacific region report the highest level of satisfaction among all regions (41% of HEIs in the Asia-Pacific region report that students are fully satisfied and 53% of HEIs in the region report that students are somewhat satisfied). However, while the patience and resilience of young people should be applauded in the face of

so much disruption, it is important to note that it is not infinite. Health and support interventions must be developed to support students in addressing not only COVID-19 itself, but the psychological impact of public health measures that demanded isolation for so long. A recent study conducted by Jiang *et al.* (2021) illustrates that over 68% of university students surveyed among four countries in the region (China, Indonesia, Malaysia, and Thailand) had moderate to severe anxiety, depression, and stress as a direct result of the pandemic and subsequent social distancing measures. Another study by Hawley *et al.* (2020) points to similar patterns, with students enrolled at universities in Asia feeling equivalent levels of anxiety and depression due to the pandemic as their peers in Europe and the United States. How universities in the region (or any other) will deal with this reality remains to be seen.

Next Steps

While the higher education sector in the Asia-Pacific region has shown great stability during the ongoing COVID-19 pandemic, important questions remain about what the future will hold for the sector in the region. This is especially true in regards to internationalization in the sector and the recruitment of international students –principles that underpinned the development strategies of many universities in the region and remain a priority today. How internationalization will develop for higher education in a region when so many countries have kept borders closed to international students for longer than anticipated will be a topic of great importance. So too will the topic of access to online learning, which even the richest and most developed countries in the region have struggled in securing for all tertiary education students. How receptive the labor market in the region will be to degree holders that had one or two years of course work and research done completely online will likely be a topic of research for many education scholars in the coming decade. Additionally, how the higher education sector in all regions deals with the mental health of a generation that has had their socialization disrupted for so long will be a critical test of the field's commitment to not only the generation of students that endured COVID-19, but for future generations as well.

References

- Eri, R., Gudimetla, P., Star, S., Rowlands, J., Girgla, A., To, L., Li, F., Sochea, N. and Bindal, U.** (2021) 'Digital resilience in higher education in response to COVID-19 pandemic: Student Perceptions from Asia and Australia', *Journal of University Teaching and Learning Practice* 18(5):7
- Hawley, S. R. et al** (2021) 'Concerns of college students during the COVID-19 pandemic: Thematic perspectives from the United States, Asia, and Europe', *Journal of Applied Learning and Teaching* 4(1). Published online 25 March. doi <https://doi.org/10.37074/jalt.2021.4.1.10>.
- Jiang, N., Yan-Li, S., Pamanee, K. and Sriyanto, J.** (2021) 'Depression, Anxiety, and Stress During the COVID-19 Pandemic: Comparison Among Higher Education Students in Four Countries in the Asia-Pacific Region', *Journal of Population and Social Studies* 29: 370-383.
- Marinoni, G., van't Land, H. and Jensen, T.** (2020) *The Impact of Covid-19 On Higher Education Around the World*. IAU Global Survey Report, Paris: IAU
- Mok, K. H. and Montgomery, C.** (2021) 'Remaking higher education for the post-COVID-19 era: Critical reflections on marketization, internationalization and graduate employment', *Higher Education Quarterly*. Published online 8 June. doi <https://doi.org/10.1111/hequ.12330>.
- Mok, K. H., Xiong, W., Ke, G. and Cheung, J. O. W.** (2021) 'Impact of COVID-19 pandemic on international higher education and student mobility: Student perspectives from mainland China and Hong Kong', *International Journal of Educational Research* 105: 101718.

In February 2021, the International Association of Universities launched the second edition of the global survey on the impact of COVID-19 on higher education, to monitor the situation one year into the pandemic. The survey gathered replies from 496 HEIs in 112 countries and territories from all regions of the world. This second edition was a comprehensive survey gathering institutional responses in all aspects of higher education mission and functioning, namely, governance, teaching and learning, research and community/societal engagement. The Report on the results introduces the global perspective as well as a comparison between regions as well as among public and private HEIs.

The results of the survey illustrate how HEIs have shown resilience during the pandemic. HEIs across the world have created innovative solutions, have invested extra time and energy to minimize disruption at a time when the health crisis led to complete or partial closure of campuses in most countries. This is the collective result of the higher education community at large, from leadership to students, from academics to administration.

Yet, this important degree of resilience aside, the picture that is painted in this report is also one of great concern, one of decreasing financial means, one where a number of students cannot benefit from remote teaching and learning, research activities are delayed and we also see a certain level of decreased funding, one where staff is overworked, and recruitment is slowing down; and, most importantly, these challenges hit regions, countries and institutions differently, and with a clear tendency to further exacerbate pre-existing inequalities.

At the same time the results of the survey generate concern about the future for some institutions, but it also highlights a number of positive outcomes, where the crisis has brought about new opportunities and possibilities.

This report offers a very detailed picture of the impact of COVID-19 on higher education using the responses by higher education institutions and other stakeholders one year into the pandemic.

