REGIONAL INTEGRATION FOR HIGHER EDUCATION DEVELOPMENT

Options for the South Asia Region

WORLD BANK GROUP

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ABBREVIATIONS

ACEs	African Centres of Excellence
ADB	Asian Development Bank
APQN	Asia-Pacific Quality Assurance Network
AQAN	ASEAN Quality Assurance Network
AUW	Asian University for Women
BdREN	Bangladesh Research and Education Network
CERN	European Organization for Nuclear Research
CGIAR	Consortium of International Agricultural Research Centers
INSEAD	European Institute for Business Administration
IT	information technology
MOOCS	mass online open courses
MOU	memorandum of understanding
NIH	National Institutes of Health (United States)
NREN	National Research and Education Network
OECD	Organisation for Economic Co-operation and Development
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
QA	quality assurance
RMIT	Royal Melbourne Institute of Technology
SAARC	South Asian Association for Regional Cooperation
SAESM	South Asian Economics Students' Meet
SAR	special administrative region
SDGs	Sustainable Development Goals
SEAMEO	South-East Asia Ministers of Education Organization
SESAME	Synchrotron-light for Experimental Science and Applications in the Middle East
STEM	science, technology, engineering, and mathematics
UCA	University of Central Asia
UNESCO	United Nations Educational, Scientific and Cultural Organization
UWI	University of the West Indies

"The best reason to go to college: to learn that the world is more than the issues that divide us.

– Siddharth Pico Raghavan Iyer, novelist

Executive Summary[1]

Introduction

Higher education systems in South Asia have undergone significant changes in the past two decades. Each country in the region has experienced a rapid rise in university enrollment, fueled by demographic growth and the resulting expansion of secondary education. However, in the absence of sufficient financial resources to accommodate the ever-increasing student numbers, most higher education institutions are facing daunting challenges.

Unlike the recent evolution in Europe and East Asia, South Asian higher education systems and institutions have made little progress in working together, notwithstanding the positive results of a few noteworthy partnerships, such as the creation of the South Asia University. The ability of South Asian nations to work together in the higher education sphere will, to a significant extent, determine their capacity to support the development efforts of their respective countries in an effective and dynamic manner.

Against this backdrop, the main objective of this report is to explore the potential for increased regional collaboration and integration in higher education in the South Asia region and outline a roadmap for progress in that direction.

Rationale for Regional Cooperation and Integration

All South Asian nations are aware that investing in higher education is indispensable to build dynamic economies and cohesive societies driven by innovation and technology. Furthermore, the Covid-19 pandemic has shown in a dramatic way the important contribution that universities can make in times of acute health crisis through applied research and the provision of scientific advice to policy makers and the general public.

In an increasingly connected and interdependent world, a growing number of universities have developed international collaborations and partnerships in support of their teaching and learning, research, and engagement functions. The main direct advantages are improved quality of academic programs, better learning outcomes, mastery of foreign languages, and students and staff with an international mindset. Regional collaborations have

1. This report was prepared by Jamil Salmi, Global Tertiary Education Expert, upon request from Nina Arnhold, Global Lead for Tertiary Education and Lead Education Specialist under the Higher Education Regional Development Program of the South Asia Region (SAR) of the World Bank (IO2105710). A technical review was conducted by Roberta Malee Bassett, Global Lead for Tertiary Education and Senior Education Specialist. Diane Stamm edited the report. The team would like to thank all interview partners; management in the South Asia Human Development Department, especially Lynne Sherburne Benz, Regional Director; Cristian Aedo, Manger (outgoing) and Keiko Inoue, Manager (incoming), as well as Cecile Fruman, Director, Regional Integration and Engagement and her team for the support of this work. The report was launched at a regional higher education event hosted jointly by the Government of Sri Lanka, the University Grants Commission (UGC) Sri Lanka, and the World Bank in Colombo, Sri Lanka in June 2023.

become more necessary for at least two reasons. First, our planet faces serious global issues that require regional or international solutions. Second, pooling resources among neighboring countries is an effective way of overcoming the high cost involved in establishing a critical mass of high-level researchers and setting up leading-edge scientific infrastructure.

South Asia Regional Cooperation Experiences

South Asian universities tend to privilege collaborations with universities in Europe and North America. However, South Asian countries have considered ways of promoting regional collaborations in higher education through ad-hoc mechanisms, usually on the sidelines of South Asian Association for Regional Cooperation (SAARC) meetings. These are opportunities for the heads of the University Grants Commissions or Higher Education Commissions to exchange views about regional issues in higher education. The pandemic has put these initiatives on the back burner.

Unlike other parts of the world, South Asia does not have many formal regional higher education undertakings. Two initiatives do stand out, however: (i) the South Asian University in Delhi, and (ii) the Asian University of Women in Bangladesh. The South Asian University (SAU) was set up in 2010 as a specialized body of SAARC. It is primarily a postgraduate institution, graduating about 200 students every year. The Asian University for Women (AUW), located in Chittagong, was chartered by the Parliament of Bangladesh in 2006 as an independent international university. To date, UAW has graduated more than 900 women from 15 countries in the Middle East, South Asia, and Southeast Asia.

The Way Forward

Modalities of Regional Collaboration. Growing internationalization has been one of the most striking trends characterizing the global higher education landscape in the past two decades. Several models of cross-border collaboration have emerged as a result, which could be of great benefit to the South Asia region: multi-campus universities, branch campuses, academic mobility, joint delivery of instruction, joint research projects, professional networks for academics and higher education institutions, quality assurance and accreditation associations, recognition of qualifications networks, and strategic partnerships and alliances.

Enabling Factors. Three enabling factors that could help facilitate the creation of a higher education regional space in South Asia are (i) the widespread use of English, (ii) advanced information and communications technology, and (iii) the open science and open education resources movement.

External Facilitation. Considering the political difficulties that prevent regional collaboration initiatives for higher education to thrive through official channels, external facilitation provided by multilateral agencies such as the World Bank can be a game changer. This facilitation role can take three complementary forms: (i) a convening function for policy and professional dialogue, (ii) financial and technical support for regional activities, and (iii) support for regulatory harmonization.

Principles of Effective Collaboration. Based on the review of international experience and the interviews conducted for this study, a few principles can be pondered to guide interventions of international donor agencies in support of increased regional collaboration and coordination in South Asia: (i) reliance on professional channels, (ii) gradualism in membership, (iii) seeds planting, (iv) a capacity building focus, (v) sustainability, and (vi) need for monitoring and evaluation.

Conclusion

Moving forward, rather than seeking to expand relationships through government channels — a difficult and complicated endeavor — South Asian universities could achieve more tangible results by participating in bilateral initiatives with like-minded higher education institutions in other countries in the region, or collaborating through national, regional, and international university networks and associations.

Multilateral agencies such as the World Bank could play an important role as convenor and financier, building on and expanding beyond the few successful ongoing regional initiatives in the higher education sphere.

1 Introduction

Background

With 25 percent of the world population living on 3 percent of the Earth's land area, South Asia is the most densely populated region on the planet. Even though they share a common colonial past, South Asian countries are culturally and religiously diverse. South Asia is also a region of striking contrasts, with India becoming the most populated country in the world in 2023, and the Maldives being one of the least. Sri Lanka offers its citizens one of the longest life expectancies (77.1 years), while Afghanistan has one of the shortest (52.1).

Endowed with many natural resources, energy sources, fertile lands, and a young population, South Asia has nevertheless experienced uneven economic growth over the past several decades, with Afghanistan challenged by having the lowest per capita income (US$370) in the region and the Maldives being the region's richest economy (US$10,370) while India is at US$2,260.[2] One of the major development constraints has been the slow progress in enhancing the region's human capital. As underscored by a recent World Bank report, some of the region's main challenges in this area include "high levels of child malnutrition, deep deficits in early learning, continuing infectious disease burden, the disempowerment of women, and pervasive structural inequalities" (World Bank 2021a, 11). The Covid-19 pandemic is likely to have made the situation worse.

Extreme poverty, high population density, structural economic inequalities, and inadequate disaster management have made South Asia particularly vulnerable to climate change and environmental degradation (IPPC 2014). As a result, the region is exposed to damaging conditions and risks in the form of floods, food shortages, diseases, economic stagnation, and mass population displacement. Therefore, implementation of the Sustainable Development Goals (SDGs) adopted by the international community in 2015 is even more pressing in South Asia than in other parts of the planet. Reducing the vulnerability of the region requires purposeful, concerted, and converging actions from governments, economic actors, civil society, and universities, the latter having shown a growing commitment to contribute more proactively to the SDGs through their education programs, research activities, and engagement with the community, as evidenced by the rising number of South Asian universities (86) recognized by the Times Higher Education Impact Rankings.[3]

2. https://datatopics.worldbank.org/world-development-indicators/

3. https://www.universityworldnews.com/post.php?story=20210501085447197; https://www.timeshighereducation.com/impactrankings#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined.

Higher education systems in South Asia have undergone significant changes in the past two decades. Each country in the region has experienced a rapid rise in university enrollment, fueled by demographic growth and the resulting expansion of secondary education. However, in the absence of sufficient financial resources to accommodate the ever-increasing student numbers, most higher education institutions are facing daunting challenges. How can they guarantee equal opportunity of access and success and enhance the quality and relevance of their programs? In response to these trends and tensions, most South Asian governments have undertaken substantial reforms to help higher education institutions reduce disparities, improve the quality and relevance of their programs, and strengthen their research capacity. The South Asia region contributes 5.3 percent of the scientific output of the world, 88 percent of that output coming from India.

Even more radical changes are looming ahead for higher education systems in the region. The French philosopher Paul Valery observed with nostalgia that "the trouble with our times is that the future is not what it used to be." This is particularly true in the realm of higher education, which is in great flux. More than 10 years ago, in 2011, the president of Babson College (U.S.A.) observed that "... the ground is shifting in fundamental ways for higher education. We must reframe our approach to managing colleges and universities in the face of the new normal" (Dennis 2020). Around the same time, the president of Stanford University (U.S.A.) spoke with foresight about the tsunami of digital education about to engulf higher education, and a report from the Pearson Foundation announced an avalanche of disruptive changes coming to higher education (Barber, Donnelly, and Rizvi 2013).

Indeed, a growing number of rupture factors are at play in transforming the ecosystem in which higher education institutions are operating all over the world, drastically challenging how they perform their teaching and research functions and support their students' academic and socio-emotional needs. The first ones are technology-driven innovations, such as flipped classrooms for interactive and peer-based learning, mass online open courses (MOOCs) reaching hundreds of thousands of students all over the world, and EdTech-designed software and platforms based on artificial intelligence and predictive analytics to support the work of academics and administrators in a wide range of activities (online teaching and learning, evaluation, academic management and planning, retention).

The second set of changes comes from new forms of competition as for-profit and corporate universities increase their presence in providing competency-based professional qualifications and certifications closely focused on the evolving labor market needs. Finally, higher education institutions are influenced by new accountability modalities, such as the global and national rankings, which allow for measuring and comparing the performance of universities across all continents or within any country, student engagement surveys that assess the degree of student satisfaction with the quality of their teaching and learning experience, and web-based evaluation systems providing students and employers with real-time information about the performance of colleges and universities (Salmi 2017).

What was true at the beginning of last decade is even more germane today as university leaders assess their readiness to embrace the post-pandemic future. The Covid-19 sanitary and economic crisis has indeed accelerated the impact of these disruptive trends. Having moved swiftly to a virtual delivery mode to compensate for the closure of physical campuses, colleges and universities must now consider adequate transformative measures to

eliminate the structural weaknesses revealed by the pandemic, especially the acute social and connectivity inequalities among countries, institutions, and students, which constrain the learning opportunities of millions of students. The pandemic has revealed underlying flaws in current financing policies for both public universities that are extremely dependent on national or state budget resources and private institutions that are mostly financed by tuition fees. As in other parts of the world, higher education institutions in South Asia are challenged to design and implement more innovative educational approaches and embrace more sustainable economic models (Salmi 2020).

Unlike the recent evolution in Europe and East Asia, two regions that have seen a tremendous growth in collaborative efforts and joint activities among their universities, South Asian higher education systems and institutions have made little progress in working together, nothwithstanding the positive results of a few noteworthy partnerships, such as the recent Bangladesh-Afghanistan initiative or the creation of South Asia University. Reflecting on the Bologna Process and the construction of the European Higher Education Area, or the strong role of the South-East Asia Ministers of Education Organization (SEAMEO) and that region's quality assurance networks (Asia-Pacific Quality Assurance Network [APQN] and ASEAN Quality Assurance Network [AQAN]), the ability of South Asian nations to work together in the higher education sphere will determine, to a significant extent, their capacity to support the development efforts of their respective countries in an effective manner.

Objective of the Note

Against this backdrop, the main objective of this report is to explore the potential for increased regional collaboration and integration in higher education in the South Asia region and outline a roadmap for progress in that direction. Specifically, the report seeks to answer the following questions:

- What potential benefits could regional cooperation bring to South Asian higher education systems and institutions?
- What lessons of experience arise from the few existing examples in this area? How relevant are experiences from other parts of the world?
- What modalities and instruments could be envisaged to develop regional cooperation and integration in South Asian higher education?
- What roadmap would be realistic to guide South Asian countries in their efforts toward closer cooperation and collaboration in support of higher education development?

Methodology, Scope, and Outline

This policy note is principally informed by a series of interviews with key informants in various South Asian countries and World Bank offices in the region. It also relies on a desktop literature review of existing documents, including the following sources:

- Official publications and policy documents of South Asian governments, regional reports (Asian Development Bank [ADB], UNESCO), and relevant studies produced by the Organisation for Economic Co-operation and Development (OECD) and the World Bank

- Recent academic works on regional integration in OECD countries and South Asia.

The countries of South Asia included in this report are Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka.

The report is divided into three parts. Part 1 reviews the benefits that could arise from increased collaboration and integration in the higher education sphere, Part 2 explores lessons from a few known examples of ongoing collaborative activities, and Part 3 examines various modalities and instruments to accelerate the move toward collaboration and integration among South Asian higher education systems and institutions and outlines a roadmap to take this agenda forward.

Main Messages

- Regional collaboration carries many benefits for higher education institutions: bringing together a critical mass of scientists to resolve regional issues that cannot be effectively addressed by any single country, building institutional capacity through mutually beneficial partnerships, and sharing the financial burden of setting up a critical mass of high-level researchers and expensive advanced scientific facilities.

- Most collaborative initiatives and partnerships in which South Asian higher education institutions are currently involved tend to be with universities in Europe and North America, and to a lesser extent East Asia and the Pacific.

- Because of political tensions in the region, there are few efforts to develop collaborative relations that could bring the higher education systems and institutions of South Asian nations closer.

- Moving forward, rather than seeking to expand relationships through government channels — a difficult and complicated endeavor — South Asian universities could achieve more tangible results by participating in bilateral initiatives with like-minded higher education institutions in other countries in the region, or collaborating through national, regional, and international university networks and associations.

- Multilateral agencies, such as the World Bank, the Asian Development Bank, and UNESCO, could play an important role as convenor and financier, building on and expanding beyond the few successful ongoing regional initiatives in the higher education sphere.

2 Rationale for Regional Cooperation and Integration

All South Asian nations are aware that investing in higher education is indispensable to build dynamic economies and cohesive societies driven by innovation and technology. Higher education supports knowledge-driven economic growth and poverty reduction strategies by (a) training a qualified and adaptable labor force, including high-level scientists, professionals, technicians, teachers in basic and secondary education, and future government, civil service, and business leaders; (b) generating new knowledge through basic and applied research; and (c) providing the platform for accessing existing stores of global knowledge and adapting this knowledge to local use. Universities are unique in their ability to integrate and create synergy among these three dimensions (Salmi 2017).

Furthermore, the Covid-19 pandemic has shown in a dramatic way the important contribution that universities can make in times of acute health crisis. All over the world, many of them have stepped in to provide scientific advice to governments and the general population, donate medical equipment, and produce Covid-19 tests, protective gear, and ventilators. Several universities have been at the forefront of emergency research to find effective treatments for contaminated people and discover a vaccine that could put an end to the pandemic.

In an increasingly connected and interdependent world, a growing number of universities have developed international collaborations and partnerships in support of their teaching and learning, research, and engagement functions. Higher education systems and institutions do not work together across national borders because internationalization is the flavor of the day or because everyone is keen to emulate the European model of the Bologna Process. Internationalization is seen as bringing many benefits to students and higher education institutions, with resulting positive spillovers to countries at large. The main direct advantages are improved quality of academic programs, better learning outcomes, mastery of foreign languages, and students and staff with an international mindset. Academic mobility for staff and students can be a life-changing experience, and the presence of foreign academics and students helps to broaden the intellectual horizons of domestic students. Societies with a high degree of internationalization are prone to adopt a more tolerant and open-minded worldview (Jibeen and Khan 2015).

Regional collaborations have become more necessary for at least two reasons. First, our planet faces serious global issues that require regional or international solutions. Second, pooling resources among neighboring countries is an effective way of overcoming the high cost involved in establishing a critical mass of high-level researchers and setting up leading-edge scientific infrastructure.

Resolving Global Issues

A number of essential scientific questions and issues are of a regional or global nature. To take just a few examples, communicable diseases, climate-related phenomena, and water flows are oblivious of political borders. In the past two decades, the severe acute respiratory syndrome (SARS), Ebola, and Zika epidemics were a forewarning that infectious diseases can originate in one country and spread rapidly across national frontiers. The Covid-19 pandemic has brought this reality to the entire planet in a brutal and tragic way.

Similarly, natural disasters such as hurricanes, droughts, earthquakes, floods, landslides, and volcanic eruptions more often than not have adverse cross-border effects, and the transboundary risks are usually more severe for neighboring countries.

> "Even disasters with seemingly localized impacts contained within the national borders of a given state may have indirect short-term or long-term effects on other countries through refugee flows, conflict spillovers, volatility of global commodity prices, disruption of trade relations, financial flows, or global supply chains"
>
> (McLean and Bas 2020, p. 2).

With respect to water-sharing issues, it is estimated that the planet has 214 rivers that cross at least one national border.[4] This means that many dam construction and water development projects may cause international problems or even conflicts. The Mekong Basin in East Asia, the water flows between India and Pakistan, and the Nile Valley in Africa are three examples in that respect.

The global nature of scientific inquiry is not restricted to understanding, preventing, and mitigating threats to humanity. Many other domains require cooperation and collaboration across nations because of their complexity in geographic and disciplinary scope. For instance, the study of migratory species requires the contribution of several scientific areas, such as data science, environmental fieldwork, molecular biology, and morphology. To study the universe, astronomers use globally distributed telescope facilities, as illustrated by the recent breakthrough in the observation of black holes, which was made possible by sustained international collaboration bringing together hundreds of radio astronomers and computer specialists from 59 institutes in 20 countries (American Academy of Arts and Sciences 2020).

Therefore, advancing and applying scientific knowledge to solve the planet's most pressing challenges requires working collaboratively with colleagues in different countries through

4. https://www.waterpowermagazine.com/news/newscross-border-challenges/.

collaborative research projects and training programs. Box 2.1 illustrates a successful experience of cooperation between researchers in India and the United States to combat a widespread deadly disease, rotovirus. In Southeast Asia, the One Health University Network (SEAOHUN) was established in 2011 by 13 universities from Indonesia, Malaysia, Thailand, and Vietnam to promote the one health concept to training specialists and technicians working on animal and human health issues. The "one health" approach recognizes that many contagious diseases originate from wildlife, then jump to livestock, and then to humans, outlining the need for a common scientific framework to look at the ecosystem of many infectious diseases. In addition to promoting research on "one health" issues, SEAOHUN works with academics from member universities to ensure coordination and alignment in program and curriculum design among all those involved in teaching in scientific areas that deal with animal health and human health (ADB 2012).

BOX 2.1 Developing a Rotavirus Vaccine to Prevent Death

Rotavirus is a universal childhood infection that, prior to the introduction of a safe and effective vaccine in 2006, was the most common cause of diarrhea in infants and children worldwide. The rotavirus remains responsible for more than 215,000 infant and child deaths every year. Today, a range of vaccines is available for prevention of rotavirus-induced diarrhea. One of these is currently widely used in India, where nearly one-third of all babies in the world are born.

This vaccine was developed during a collaboration between Indian scientists and researchers at the National Institutes of Health (NIH) in the United States. Maharaj Kishan Bhan, an Indian gastroenterologist and researcher at the All India Institute of Medical Sciences, formed a collaboration with Roger Glass at the NIH, and Durga Rao, a researcher at the Indian Institute of Science in Bangalore, collaborated with Harry Greenberg at Stanford University, to develop a vaccine for rotavirus. The four researchers worked in collaboration with a new Indian company, Bharat Biotech, as they moved from the basics of virology to real-world development.

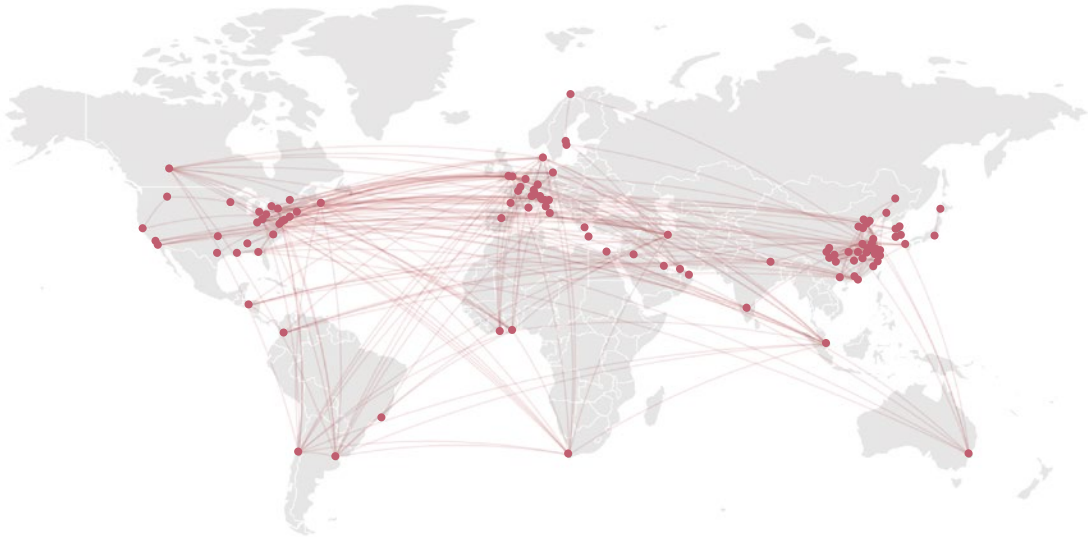
A major challenge was to create capacity at Bharat Biotech to manufacture the rotavirus vaccine for broad deployment in India. The Bill & Melinda Gates Foundation was essential in bringing in funding to launch this Indian initiative. Bhan was also able to bring in the support of the Indian government, while Glass represented the Centers for Disease Control and Prevention (CDC). The Gates Foundation negotiated a price of one dollar per dose, and the vaccine developed from this collaboration has since become the default treatment for India's poor. It has prevented the deaths of tens of thousands of babies.

Due to this collaboration, capacity and expertise in virus manufacturing grew substantially at Bharat Biotech, which has since expanded to develop typhoid fever, rabies, and hepatitis vaccines, and is currently working to develop a Covid-19 vaccine. Today, most measles vaccines in the world are manufactured in India thanks to expanding scientific capacity.

Source: American Academy of Arts and Science 2020, 8.

There is no better illustration of the need for and usefulness of transborder scientific collaborations than observing what has happened since the beginning of the Covid-19 pandemic. Despite the lack of transparent communication from some governments and the refusal of several political leaders to adopt policies based on scientific evidence, scientists all over the world have worked together to understand the virus, its modes of transmission, and its impact on human beings, to find effective treatments, and to develop a vaccine (figure 2.1). Research teams have shared databases that have permitted rapid genome sequencing of the virus. Never in the history of epidemics have vaccines been developed as rapidly, as a result of unprecedented levels of international cooperation and collaboration in an interdisciplinary fashion, reflecting advances in medical research, bioengineering, chemical engineering, and systems engineering.

FIGURE 2.1 **Map of International Collaborations on Covid-19 in Scientific Journals**



Source: American Academy of Arts and Science 2020, 10.
Note: As of April 2020.

Regional Approaches to Scientific Excellence

The high cost of scientific infrastructure and the need for a critical mass of researchers and technicians to develop and operate cutting-edge facilities is the third reason in support of regional approaches to the advancement of science. In many fields and interdisciplinary areas, regional endeavors and projects help to achieve economies of scale and conduct leading-edge scientific research that many countries would be unable to do on their own for lack of adequate financial and scientific resources. Successful initiatives abound around the world, as the following examples illustrate:

- The Consortium of International Agricultural Research Centers (CGIAR) was established in 1971 as a global partnership to promote scientific research focusing on food security. Its members are national governments, international agencies, civil society organizations, universities, and private firms. It seeks to increase food security through programs and projects aiming at reducing rural poverty, improving human health and nutrition, and achieving sustainable management of natural resources. The CGIAR has supported the establishment and development of 15 specialized research centers, most of which are located in developing countries.[5] Two of the CGIAR centers are located in South Asia: the International Crops Research Institute for the Semi-Arid Tropics in India, and the International Water Management Institute in Sri Lanka.

- In Africa, the creation of a network of African Centres of Excellence (ACEs) has had a transformative effect on the higher education systems and institutions of several countries among the poorest in the world (World Bank 2021b).

5. https://www.cgiar.org/.

- The Asia Engineering Education Development Network, a subnetwork established in 2001 under the auspices of the Asean University Network (AUN), is a Japan International Cooperation Agency (JICA)-funded project that gives faculty members mobility opportunities to teach and conduct research at any participating university in the Southeast region.[6]

- The Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is a regional governance mechanism set up in 2009 to implement the marine strategy adopted by 14 countries in the region. PEMSEA has forged partnerships with three internationally recognized research institutions to support the implementation of the Sustainable Development Strategy for the Seas of East Asia: the Marine Science Institute at the University of the Philippines, the Coastal and Ocean Management Institute (COMI) at Xiamen University (China), and the Institute for Global Environmental Strategies in Japan. The regional centers provide expert advice on themes in their areas of competence, coordinate and undertake studies and projects, train researchers from countries of the region, and organize regional training courses.[7]

- Inaugurated in Jordan in 2017 after almost two decades of planning and preparation, the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME) is the first particle accelerator in the Middle East, and the first international research center in the region.[8] Sponsored by governments as diverse as Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, the Palestinian Authority, and Turkey, the new facility is testimony to the fact that regional collaboration can happen even when the scientific partners come from a range of countries that have limited political relations, are not getting along, have no diplomatic relations, or are engaged in proxy conflicts. SESAME, which is modelled after the European Organization for Nuclear Research (CERN) center in Europe and is powered by a solar farm, was set up with support from the International Atomic Energy Authority (IAEA).

- In April 2021, the European Commission and the Government of Slovenia inaugurated the first European petascale supercomputer, built in cooperation with the European High-Performance Computing Joint Undertaking. The Vega supercomputer, which will have a sustained performance of 6.9 petaflops (6.9 million billion calculations per second), will underpin open science, research, and innovations in Slovenia and Europe. It will enable European scientists to cooperate in large international projects and support the development of applications in science, the public sector, and industry, especially in the fields of machine learning, artificial intelligence, and high-performance data analytics.[9]

Successful regional centers of excellence are likely to enjoy a snowball effect. The establishment and operation of world-class scientific facilities on a regional basis attracts scientists — both research stars and junior researchers (PhD students, postdocs) — from all over the planet.

6. https://seed-net.org/.
7. http://pemsea.org/about-pemsea/our-network/regional-centers-of-excellence.
8. https://www.world-nuclear-news.org/Articles/Jordan-inaugurates-region-s-first-synchrotron.
9. https://eurohpc-ju.europa.eu/news/vega-online-eu-first-eurohpc-supercomputer-operational.

Furthermore, scientific collaboration is often more relevant when undertaken on a regional basis than joint research carried out with international partners in countries with totally different environments. Partnering with academics working in a relatively similar culture may be more useful than with researchers whose reality is totally different. In the context of a recent World Bank-supported higher education reform and development project in Bangladesh, capacity building activities to modernize the governance and management of public universities benefited from a partnership with Malaysian universities, deemed to represent a more adequate model for Bangladeshi institutions than universities in OECD countries.

3

Southern Asia Regional Cooperation Experiences

Policy Framework for Regional Integration

Established in 1985, the South Asian Association for Regional Cooperation (SAARC) is an intergovernmental forum for the promotion of economic and social development in member states through regional cooperation. In 2006, SAARC launched the South Asian Free Trade Area (SAFTA) with the mission of facilitating regional trade among SAARC members. Afghanistan joined SAARC in 2007.

Many SAARC activities are channeled through four specialized bodies (the SAARC Arbitration Council, the SAARC Development Fund, the South Asian Regional Standards Organization, and the South Asian University) and 12 regional centers. However, half of these centers were terminated in 2015 for lack of activity and funding.

Because of political tensions and lack of trust among some of the SAARC members and significant geographic and demographic inequalities in the region, the consensus seems to be that the Association has had limited impact, with mixed success and few tangible results (Delinic 2011; Siali 2012; Muzaffar 2017; Shah 2020). The last SAARC Summit took place in 2014 in Kathmandu. The 2020 emergency meeting of SAARC leaders sought to coordinate responses to address the Covid-19 pandemic, but it led to few concrete coordinated actions on the ground.

Regional Collaboration Efforts in Higher Education

In the past decades, South Asian countries have considered ways of promoting regional collaborations in higher education through ad-hoc mechanisms, usually on the sidelines of SAARC meetings. These are opportunities for the heads of the University Grants Commissions or Higher Education Commissions to exchange views about regional issues in higher education. The last meeting of that group took place in 2019 in Kathmandu, leading to a general agreement on the future establishment of a Higher Education Network of South Asia (HENSA) and the development of a South Asia Quality Assurance Network. The

meeting also proposed to boost student mobility on the basis of Credit Transfer Mechanisms across SAARC member states. The pandemic has put these initiatives on the back burner.

The SAARC Forum of Vice Chancellors of Open Universities, set up in 1998, is another initiative worth mentioning. Bringing together the Open Universities of Bangladesh, India, Pakistan, and Sri Lanka, the Forum has not been very active in recent years and does not have its own website.

When they have international linkages, South Asian higher education institutions generally tend to privilege collaborations with universities in Europe and North America. Unlike what can be observed in other parts of the world, South Asia does not have many formal regional higher education undertakings. However, two initiatives stand out as worth mentioning in this context: (i) the South Asian University in Delhi; and (ii) the Asian University of Women in Bangladesh.

South Asia University

The South Asian University (SAU) was set up in 2010 as a specialized body of SAARC. SAU's mandate is to:

- Enhance learning in the South Asian community that promotes an understanding of each other's perspectives and strengthens regional consciousness
- Provide liberal and humane education to the brightest and most dedicated students of South Asia so that a new class of quality leadership is nurtured
- Enhance capacity building of the South Asian nations in science, technology, and other areas of higher learning vital for improving their quality of life such as information technology, biotechnology, and management sciences.[10]

The main campus is located in Delhi. SAU is primarily a postgraduate institution offering programs in economics, computer science, biotechnology, mathematics, sociology, international relations, and law. The University is planning to establish an undergraduate college. SAU degrees are recognized by all eight member states. In 2017, the last year for which an annual report is available, SAU graduated 194 master's and MPhil students (110 from India and 84 from the other SAARC countries). SAU is ranked 241st by Webometrics among all Indian higher education institutions.

Asian University for Women

The Asian University for Women (AUW), located in Chittagong, was chartered by the Parliament of Bangladesh in 2006 as an independent international university. Its mission is to graduate "skilled and innovative professionals, service-oriented leaders in the businesses and communities in which they will work and live, and promoters of intercultural

10. http://www.sau.int/.

understanding and sustainable human and economic development in Asia and throughout the world."[11] Besides receiving a generous land donation from the Government of Bangladesh, AUW benefited from starting grants from the Open Society Institute, the Goldman Sachs Foundation, and the Bill & Melinda Gates Foundation, as well as well as from individual philanthropists. AUW's main academic offering is a liberal arts undergraduate curriculum focusing on the development of skills in critical thinking, problem-solving, and ethical leadership. The first cohort of students was admitted in 2008, comprising 130 young women from Bangladesh, Cambodia, India, Nepal, Pakistan, and Sri Lanka. To date, UAW has graduated more than 1,000 women from 17 countries in the Middle East, South Asia, and Southeast Asia. AUW has not been internationally accredited yet. Its Webometrics ranking is 52nd among all universities operating in Bangladesh.[12]

Other Initiatives

Besides the three projects described above, universities across South Asia have engaged in a number of bilateral collaboration activities on an ad-hoc basis, from institution to institution, or directly from academic to academic. For example, Nepalese universities have relied on academic exchange with Indian universities to strengthen the quality of their programs. Before the pandemic, the Sri Lankan Quality Assurance Council used to invite external examiners from India to participate in the accreditation process.

Bilateral relations with higher education institutions in East Asia have also increased. A recent higher education development project in Bangladesh, financed by the World Bank, supported joint activities with Malaysian universities for capacity building in innovative teaching methods and modern management.

Collaborative activities have been carried out among South Asian universities in a more systematic way in the context of global networks or associations, such as the International University Association, the International Association of University Presidents, and the Association of Commonwealth University, at least for Bangladesh, India, Pakistan, and Sri Lanka. The quality assurance agencies and higher education institutions from all eight South Asian countries participate enthusiastically in the activities of the Asia-Pacific Quality Assurance Network (APQN), which was established almost 20 years ago with financial support from the World Bank's Development Grant Facility. India and Sri Lanka are members of the Association of Southeast Asian Institutions of Higher Learning.

Notwithstanding these positive cases, regional collaboration is much less advanced in South Asia than in many other parts of the world. To illustrate this situation, table 3.1 compares collaborative activities within South Asia, activities involving South Asian universities within the wider Southeast Asian context, and collaborations among Southeast Asian and Pacific countries. This comparison reveals two important findings. First, the range and intensity

11. https://asian-university.org/who-we-are/mission-vision/.

12. The Webometrics ranking, prepared by the Cybermetrics Lab, a unit of the Spanish National Research Council, combines both webometric (all education missions) and bibliometric (research mission) indicators. The Webometrics database includes about 31,000 higher education institutions from 200 countries (https://www.webometrics.info/en/Methodology).

of regional collaboration endeavors are much larger in Southeast Asia than in South Asia. Second, higher education institutions in South Asia are willing to work with each other in the context of wider networks or associations. This suggests lots of opportunities and good will to scale up higher education collaborations outside official channels.

TABLE 2.1 **Modalities and Purpose of Regional Collaboration and Integration**

Modality	South Asia	South Asia within Southeast Asia	Southeast Asia & the Pacific
International universities	++	–	+++
Branch campuses	–	–	++
Academic mobility	+	++	+++
Joint delivery of instruction	–	+	+++
Joint research projects	+	++	+++
Professional networks for academics and higher education institutions	+	++	+++
Quality assurance and accreditation associations/ networks	–	++	+++
Recognition of qualifications associations/ networks	+	++	+++
Strategic partnerships and alliances (CP)	–	+	++

Note: - = nonexistent; + = low level of activity; ++ = medium level of activity; +++ = high level of activity.

In the area of scientific research, a recent Elsevier and World Bank study found that "South Asia lacks a unified collaboration framework, with each country using different, independent systems to establish academic and scientific partnerships":

> "Within South Asia, India and Pakistan have the strongest collaborative ties, and these two countries form the nexus of intraregional collaboration. Bangladesh, Nepal, and Sri Lanka also regularly engage with India and/or Pakistan, while Afghanistan, Bhutan, and the Maldives are on the fringe of the regional network. Examining intraregional collaboration as a share of each country pair's collaborative research reveals that Pakistan has especially strong research collaboration ties with Bangladesh and Sri Lanka; Nepal has strong ties with Bangladesh and Sri Lanka; and Bhutan has strong ties with the Maldives"
>
> (Elsevier and the World Bank 2019, 5).

4 The Way Forward

To outline a roadmap for scaling up regional collaboration in higher education in South Asia, this section (i) reviews the range of regional collaboration modalities that could be considered based on international experience, (ii) identifies a few enablers that can be relied upon in the South Asia region, (iii) examines the facilitating roles that international agencies like the World Bank can play, and (iv) proposes several principles of good collaboration.

Modalities of Regional Collaboration and Integration

Growing internationalization has been one of the most striking trends characterizing the global higher education landscape in the past two decades.[13] Several models of cross-border collaboration have emerged as a result. Many of them could be of great benefit to the South Asia region, as the following list indicates:

- Multi-campus universities
- Branch campuses
- Academic mobility
- Joint delivery of instruction
- Virtual and mirror classes/dual degrees
- Joint research projects
- Professional networks for academics and higher education institutions
- Quality assurance and accreditation associations/networks
- Recognition of qualifications associations/networks
- Strategic partnerships and alliances.

Multi-Campus Universities

Few universities in the world are organized and operate as international multi-campus institutions. Two of them are intergovernmental universities serving several countries in a given region. The most ancient one is the University of the West Indies (UWI), functioning under the authority of 17 Caribbean Island nations. Besides the main campus in Jamaica,

13. Internationalization of higher education is an "intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society" (Brandenburg, de Wit, and Leask 2019).

UWI operates four university centers, three of them in Barbados, and Trinidad, and Antigua, plus a virtual campus for distance education. The second one is the University of South Pacific (USP), belonging to 12 island nations of the Pacific region. Its main campus is in Fiji, but it also has 11 regional centers on the various member islands and relies extensively on distance education programs.

The European Institute for Business Administration (INSEAD), which was founded in 1957 with seed money from the French Chamber of Commerce, is the only private university in the world operating as an international multi-campus institution across Europe, East Asia, and the Middle East. INSEAD students can choose to enroll at any of the school's three campuses, in Fontainebleau (France), Singapore, or Abu Dhabi (United Arab Emirates). Students can move seamlessly from one campus to the other during the course of the one-year MBA program, and they are taught by faculty members who teach on both the Europe and Asia campuses, as well as by permanent faculty on each of the three campuses. With its three campuses and students from over 80 countries, INSEAD is considered to be the most multicultural business school in the world and is ranked consistently among the top business schools (currently number four in the Financial Times MBA ranking). Over the years, INSEAD has amassed a US$2 billion endowment.

The last institution in that category is the University of Central Asia (UCA), sponsored by the Aga Khan Foundation. It is the first and only private intergovernmental multi-campus institution in the world. Legally established in 2000, it operates two campuses, one in Kyrgyzstan (Naryn), and one in Tajikistan (Khorog). A third campus, in Kazakhstan (Tekeli), is under planning. UCA focuses on teaching the skills and competencies necessary to tackle the specific issues of mountain areas in Central Asia. The first campus opened in September 2016 in Naryn, with a class of 60 students coming primarily from UCA host countries. To ensure that the brightest students across the region can attend, the University offers financial aid in the form of scholarships, grants, loans, and work-study programs. UCA has recruited top-notch faculty from around the world and the region. As His Highness the Aga Khan stated at the Foundation Stone Ceremony in Khorog,

> "By creating intellectual space and resources, the University will bring the power of education and human ingenuity to the economic and social challenges of mountain societies in Central Asia and elsewhere."

UCA's mission is to build human capacity in remote parts of the countries and train graduates who will be job creators rather than job seekers, thereby contributing directly to the economic and social development of the immediate regions served by UCA and reducing the isolation of mountain societies. By building a world-class university whose campuses are located in secondary towns, UCA wants to set an example to other towns keen on reinventing themselves.

Table 4.1 presents an overview of existing international multi-campus institutions.

TABLE 4.1 **International Multi-Campus Institutions**

Institution (Year of Establishment)	Number of Countries Served	Number of Campuses	Number of Students
University of the West Indies(1948)	17	4	40,360 undergraduates and 10,080 graduate students
University of the South Pacific (1968)	12	14	30,000 students
INSEAD (1957)	3	3	1,300 graduate students + 12,000 EMBA and executive education
University of Central Asia (2000)	3	3	350 undergraduate students from 9 countries

Sources: http://www.uwi.edu/index.asp; https://www.usp.ac.fj/index.php?id=about_usp; http://www.insead.edu/home/; http://www.ucentralasia.org/.

International Universities

Even though internationalization experts do not agree on the definition of international universities because of the difficulty in accurately measuring the degree of internationalization of a higher education institution, this Policy Note uses this category to describe universities that were set up from the outset with the deliberate aim of attracting and serving a high proportion of students from other countries in the immediate geographic region or beyond.[14] The Asian University for Women based in Bangladesh and South Asia University in India have already been mentioned in that context. Two other private universities operating in India, Amity University in Noida and Symbiosis International University in Pune, also belong to this category. The main advantage of these types of universities is that they offer a truly international learning experience with a high proportion of foreign and/or foreign-trained academics and a highly diverse student population.

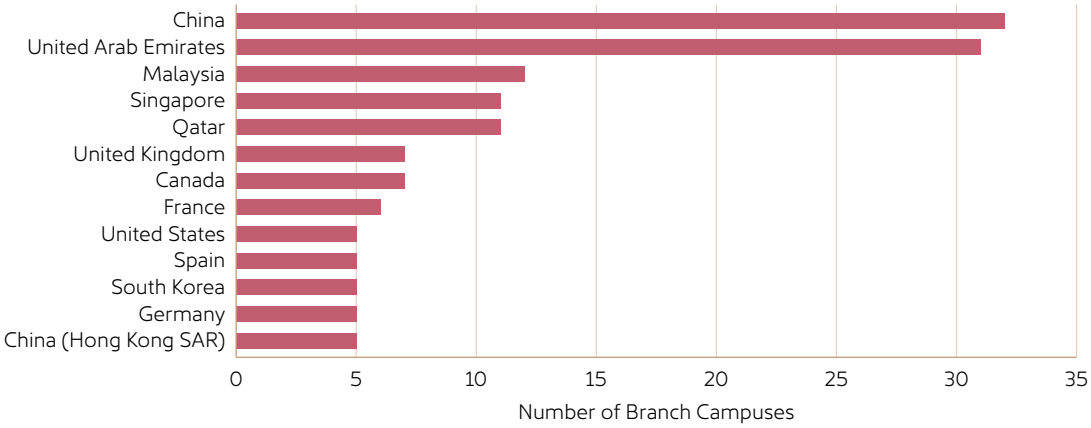
Branch Campuses

As part of their internationalization and resource diversification strategy, a growing number of universities in industrial countries have opened branch campuses in developing and emerging economies. The Observatory on Borderless Higher Education defines a branch campus as "an entity that is owned, at least in part, by a foreign higher education provider; operated in the name of the foreign education provider; and provides an entire academic program, substantially on site, leading to a degree awarded by the foreign education provider."[15] These branch campuses are usually brick-and-mortar facilities delivering the same degree(s) as the mother institution to students coming predominantly from the host country. The most recent estimate puts the number of branch campuses at about 285 in 75 countries (Mackie 2019). Half of the branch campuses are affiliated to U.S. universities; the others belong mainly to Australian, British, and French universities, in declining order. In recent years, universities from emerging economies, such as India and Malaysia, have also opened branch campuses in other countries. The large majority of branch campuses

14. https://www.universityworldnews.com/post.php?story=20150319101801 16.
15. https://wenr.wes.org/2019/05/the-complex-environment-of-international-branch-campuses.

have been established in the Middle East and in Southeast Asia. Until recently, India and Indonesia prohibited branch campuses, even though Indian universities have set up a few branch campuses in the Middle East and East Africa. However, the National Education Policy of India, launched in 2020, makes provision for the opening of branch campuses in India. Figure 4.1 shows the countries that host the most branch campuses.

FIGURE 4.1 Top Host Countries of Branch Campuses, 2015



Source: Mackie 2019.

The main advantage, for the host country, is that its students can get access to a quality education from a foreign university without needing to live overseas and pay the full cost associated with a foreign degree, as a recent global survey of transnational education revealed (Knight and McNamara 2015). For this reason, a number of governments have offered financial and fiscal incentives to encourage foreign universities to set up branches locally. Dubai, for instance, constructed Knowledge Village in 2003 as a free trade zone for foreign institutions interested in operating there without needing to build facilities or pay taxes. Abu Dhabi has generously funded a campus of New York University since 2010. Qatar's Education City has nine branch campuses from the United States (6), the United Kingdom (2), and France (1). Box 4.1 presents the experience of the Royal Melbourne Institute of Technology, one of the most internationalized universities in the world.

Branch campuses can also be found in Central Asia. Uzbekistan has branch campuses from Russia (3), the Republic of Korea (2), and one each from India, Latvia, and the United States. Eight Russian universities operate in Almaty, Kazakhstan. In addition, the cities of Almaty and Bishkek in Kyrgystan host universities that, while not branch campuses in the strict meaning of the concept, do represent partnerships between Central Asian universities and foreign institutions. In Almaty, the Kazakh-British Technical University, the German-Kazakh University, and the American-Kazakh University are good illustrations of this kind of cross-border partnership. In Bishkek, the Kyrgyz-Russian Slavic University, the Kyrgyz-Turkish Manas University, and the American University of Central Asia American University represent similar joint ventures.

BOX 4.1 RMIT and its Branch Campuses

The Royal Melbourne Institute of Technology (RMIT) is one of Australia's leading science, technology, engineering, and mathematics (STEM) universities, specializing in technology and design. RMIT has been a pioneer in relying on internationalization as a vehicle of transformation to improve the relevance of teaching and research. In addition to receiving a high proportion of foreign students on the Australian campus (30 percent), it has two branch campuses in Vietnam, a research site in Europe, and strategic partnerships with universities in China; Hong Kong SAR, China; Indonesia; Singapore; and Sri Lanka. RMIT is today considered one of the most internationalized universities in the world. It has a Global Management Hub to ensure cohesiveness of the various geographic entities.

RMIT Vietnam, established in 2000, was the first foreign university authorized in the country. It has grown into a leading university in the region, with two well-equipped campuses in Ho Chi Minh City and Hanoi. RMIT Vietnam offers the same programs and courses as the main campus in Melbourne and delivers the same internationally recognized degrees. With about 6,000 students in Ho Chi Minh City and 1,400 students in Hanoi, RMIT Vietnam is the world's largest offshore university. Program offerings in Ho Chi Minh City include information technology (IT), business, fashion merchandising, and economics; the Hanoi campus focuses on IT, commerce, accountancy, and communications.

RMIT Europe, based in Barcelona, was set up in 2013 to strengthen the university's relationship with education, research, and industry partners in Europe and to explore new ways of growing its research profile. It has forged links with more than 160 universities or companies in Europe. In Barcelona, it was a founding member of the KEY Economic and Knowledge cluster with the Government of Catalonia and the Barcelona City Council.

Through its research institutes, branch campuses, and partnerships, RMIT has built a global international research community. Its research is particularly focused on solving the critical global problems affecting communities and the environment in five key areas: designing the future, smart technology solutions, improving health and lifestyle, sustainability and climate change challenges, and the future of cities.

Source: https://www.rmit.edu.au/.

Academic Mobility

Academic exchanges are the most common form of cross-border collaboration in higher education. The mobility of academics and students constitutes an effective mechanism for improving the educational experience of students and stimulating the professional growth of professors. This is why it has been a priority program on the European agenda since the launch of the Bologna Process. At the 2009 Leuven Bologna meeting, the Ministers of Education set a target of 20 percent as the proportion of the entire student population who should participate in an exchange program by 2020. During the 2018–19 academic year, 3.3 million European students participated in academic mobility programs. Among them, 530,000 sought a degree in another country.

However, the funding of academic exchanges is still a major constraint in most countries outside Europe. To overcome this challenge, cost-sharing arrangements can be the most effective approach, combining contributions from the state as part of the official internationalization policy, financing from the participating universities, and small contributions from the students themselves. In many parts of the world, including South Asia, students encounter logistics barriers, such as visa and lodging, that constrain mobility opportunities.

Joint Delivery of Instruction

Early in the Bologna Process, the European Ministers of Education saw the development of joint programs and degrees as a powerful mechanism to help create the European higher education space, as reflected in the 2001 Prague Declaration. The Erasmus Mundus program, launched in 2004, gave it a strong impetus, especially at the master's degree level. This has required a move toward competency-based curriculums, the establishment of the European Credit Transfer System (ECTS), the adoption of the diploma supplement to facilitate recognition by foreign universities, and national qualifications frameworks.

Following this example, a growing number of universities across the world have used the construction of dual degrees as a vehicle for improving the quality and relevance of their programs. In Russia, for example, the young Higher School of Economics built high-quality programs on the basis of joint degrees through a two-decade partnership with the London School of Economics. In India, the Australian University of Melbourne has recently partnered with three Indian institutions (University of Madras, Savitribai Phule Pune University, and Gandhi Institute of Technology and Management in Hyderabad) to offer a dual degree Bachelor of Science.[16] In Sri Lanka, the University of Sri Jayewardenepura and Monash University in Australia are offering a joint business administration degree.[17]

Moving in this direction in the South Asia region would involve working jointly on program and curriculum design and making coordinated decisions on program accreditation and mutual recognition of degrees. The participating universities could rely on the same instruments as those used in the context of the Bologna Process, such as curriculums based on learning outcomes and competencies acquired.

The worldwide switch to online learning because of the Covid-19 pandemic has brought about many innovations in course design and delivery, which should make joint delivery of instruction much more common and acceptable. For example, the growing practice of mirror classes, involving one or two instructors teaching students from several universities at the same time, provides a good platform for co-constructing programs and courses regardless of physical distance.

Collaborative Research Projects

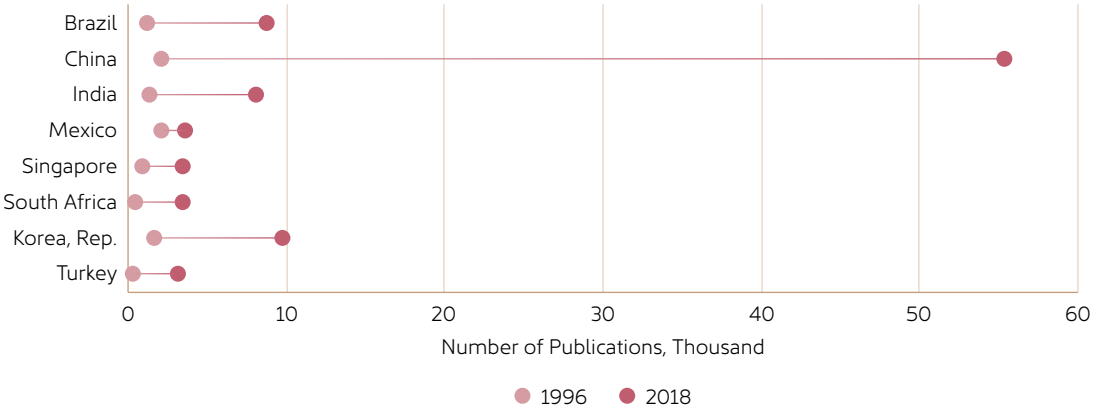
Research production has increased exponentially in the past decades, and collaborative research activities have followed the same pattern. In fact, Scopus data reveal a faster growth of multiple-author articles than single-author ones. While the number of articles published over the decade 2003 to 2013 went from 1.3 million in 2003 to 2.4 million, the number of authorships increased at a far greater rate, from 4.6 million in 2003 to 10 million in 2013 (Plume and van Weijin 2014). In 2018, 39 percent of all U.S. scientific articles were published with

16. https://www.ndtv.com/education/university-of-melbourne-3-indian-universities-to-offer-this-dual-degree-3847608.

17. https://www.sjp.ac.lk/usjp-to-light-up-the-way-openings-for-joint-splitdouble-undergraduate-and-postgraduate-degrees-in-australia/.

international collaborators, an increase from 19 percent as of 2000.[18] Figure 4.2 shows the impressive growth of science and engineering co-publications between U.S. authors and scientists in selected countries.

FIGURE 4.2 Coauthored Publications, 1996–2018



Source: Scopus database.

Drawing from a pioneering analysis of publications over the past three decades, Jonathan Adams announced the "fourth age of research," the age of collaborative research and international research networks, following the age of individual researchers, the age of the research institution, and the age of the national research enterprise (Adams 2013). Collaborative research yields faster results and facilitates a quicker transfer of these results, thereby serving the needs of both producers and users of knowledge in a more effective and efficient manner. According to the American Academy of Arts and Sciences (2022):

> "In the increasingly digital landscape, scientists seek new remote collaborators after seeing newly published scientific work. Some collaborations are formed from expansive networks or derive from established priorities designated by higher bodies, such as the International Science Council (ISC), agencies of the United Nations (UN), or regional intergovernmental or scientific groups. Some collaborations originate from development and capacity-building aid, and some develop from relationships created from a history of colonization and immigration, with scientists in diasporas partaking in collaborations that bridge across nations and regions. From these grass roots, long-term scientific partnerships can bloom for decades and have the potential to grow into lasting institutional or national relationships (p. 48)."

This trend represents a great opportunity for research universities in South Asia, which can work together within international research networks and develop joint research projects of a multidisciplinary nature to address big challenges that are common to the eight countries. As mentioned, they can also collaborate through the development and use of shared facilities and capabilities, perhaps best exemplified by CERN, in operation since 1953, which brings together more than 600 institutions from all over the world (box 4.2).

18. https://ncses.nsf.gov/pubs/nsb20201/global-science-and-technology-capabilities.

BOX 4.2 The European Organization for Nuclear Research

at the Vanguard of Open Science

Founded in 1954 and established at a location that symbolically bestrides the French and Swiss border near Geneva, the European Organization for Nuclear Research (CERN) is the result of a collective effort of European countries to build the world's leading particle physics research center to address fundamental scientific questions about the structure of the universe. CERN hosts the world's largest particle accelerator, the 27-kilometer-long Hadron Collider, which collides protons or lead ions at energies approaching the speed of light.

CERN is one of Europe's first joint ventures, comprising 21 member states and over 600 institutes and universities around the world, which are currently using its facilities. Around 10,000 visiting scientists from over 113 countries, which represent half of the world's particle physicists, come to CERN for their research. They represent 580 universities and over 85 nationalities. The construction and operation budget contributions are proportional to the GDP of each member state.

When it comes to CERN's contribution to open research, it is important to remember that the new era of online sharing information started there in 1991, when a CERN team led by the British scientist Tim Berners-Lee created the world's first website.

Several major collaborative projects were born at CERN, the best known being the ATLAS collaboration, which brings together 3,000 physicists from more than 174 institutes in 38 countries on five continents. Being the largest and most complex of six particle detector experiments developed at CERN, the ATLAS experiment is an archetypical example of collaboration in "big science." The project raised numerous challenges in many specialized disciplines and required unusual efforts at cross-disciplinary understanding and collaboration. One of the key success factors of this collaboration has been efficient means of communicating information. ATLAS has adopted TWiki since 2004 and today it has over 14,000 web pages containing world-readable technical information about the project and also protected data for scientists. New pages of this kind are created at a rate of 150 per month, averaging over 10,000 updates a month. ATLAS creates different working environments and applications through TWiki, thus allowing users to contribute to the development, maintenance, and sharing of the documents.

Source: http://home.web.cern.ch/.

Sharing scientific facilities for collaborative research is not restricted to large projects. Modern labs can be linked at a distance through fast broadband connections, allowing for the sharing of expensive equipment and facilities within countries or across nations. At Wageningen University in the Netherlands, the BioScience Center makes five shared labs available to startups and spinoffs.[19] In Frankfurt, Germany, two Max Planck Institutes, the Brain Research and Biophysics Institutes, share a proteomics lab with state-of-the-art equipment for mass spectrometry analysis.[20] In the U.S. State of Oregon, the Oregon BEST program supports a network of nine cutting-edge shared-user research facilities at Oregon State University, Portland State University, and the University of Oregon. Through these multi-million-dollar labs, industry partners have access to research tools, faculty expertise, and workforce development opportunities.[21] Shared labs could be of great benefit for universities and research centers in South Asia, which could link up with advanced labs in other countries in the region or in industrial countries and benefit from the use of expensive equipment for performing long-distance experiments that are scientifically valid at a much lower cost.

19. http://www.wageningenur.nl/en/Expertise-Services/Facilities/BioScience-Center/Expertise-areas/Shared-Labs.htm.

20. http://brain.mpg.de/services/scientific-services/proteomics.html.

21. http://oregonbest.org/what-we-offer/expertise/labs/#sthash.gjDJVTxF.dpuf.

Professional Networks

The numerous professional networks that exist in the higher education sphere have traditionally been effective platforms for capacity building on many aspects, from academic discipline-focused networks to networks of pedagogical innovators or networks of university administrators. They usually promote a nonthreatening environment that offers information, resources, and opportunities for experience sharing and training. By working together in networks and learning from their peers in other countries and institutions, members of the academic community (leaders, administrators, professors, students) can find solutions to issues of shared concern, thereby enhancing institutional capacity.

The pandemic has shown the great value of professional networks as never before. In many countries, colleges and universities have been innovative in imagining new ways of conducting internationalization activities and continuing their partnerships with foreign universities and colleagues in a virtual mode. For example, the Association of Pacific Rim Universities (APRU), a network of 55 universities in the Americas, Asia, and Australasia, launched the Virtual Student Exchange Program to connect students with peers from around the world to learn new knowledge and skills and exchange ideas. Led by the Chinese University of Hong Kong, the program allows students to take academic courses and participate in co-curricular programs without the need to leave home. It makes international education accessible to all students by "providing an immersive virtual student exchange experience through digital technologies and platforms."[22]

Quality Assurance Associations

Until the 1980s, higher education institutions in the United States, the United Kingdom, and the Commonwealth countries were the only ones in the world with a strong tradition of external quality assurance. By contrast, most higher education systems elsewhere evolved without any formal quality assurance mechanism at the national level. In many countries, higher education institutions operated under a widely accepted notion of academic autonomy that applied not only to the relationship between universities and the state but went all the way down to the lecture hall and classroom.

This all started to change in the 1980s and the 1990s, as most OECD countries moved to establish some form of government-sanctioned quality assurance. Europe, in particular, witnessed a considerable drive as a direct result of the Bologna Process, officially launched in 1999. One of the most important dimensions of the Bologna Process activities has indeed been the development and/or strengthening of quality assurance in all participating countries, based on the principles issued through the Berlin Communiqué in 2003, and the standards and guidelines prepared by the European Association for Quality Assurance in Higher Education (ENQA), in partnership with the European University Association (EUA), the European Association of Institutions in Higher Education (EURASHE), and the European Students' Union (ESU). By 2008, most countries had a functioning evaluation or accreditation

22. https://vse.apru.org/?utm_source=APRU&utm_campaign=cfa07c9700-EMAIL_CAMPAIGN_2020_05_05_02_00_COPY_01&utm_medium=email&utm_term=0_2fbec0f-d6e-cfa07c9700-60809213.

agency. The European Quality Assurance Register (EQAR) has been a strong factor in influencing quality assurance (QA) agencies wishing to integrate the community of national systems recognized as complying with the Standards and Guidelines. The successful convergence of QA regulations has been one of Bologna's most noticeable outcomes.

Whereas only a minority of developing countries had a formal quality assurance system by the turn of the century, the QA movement has gained tremendous momentum in the past 20 years, undergoing what could be described as the quiet revolution in higher education (Salmi 2015a).[23] In Southeast Asia, Indonesia took the lead in establishing a national quality assurance agency in 1994, followed over the next two decades by almost all the countries in the region. Today, Myanmar has the only higher education system in the region without a formal external quality assurance department or agency.

One of the accelerating factors behind the successful expansion of a strong quality assurance culture in Southeast Asia has been the relentless capacity building work of the Asia Pacific Quality Network (APQN). From an initial 11 member agencies in 2004, the network has grown to a 143-member organization, representing 31 nations of the Asia-Pacific region. As mentioned, APQN benefited from prolonged financial support from the World Bank through two successive Development Grants.

Recognition of Qualifications

Many international cooperation activities, especially academic exchange programs and joint degrees, cannot operate adequately unless all the countries involved have a harmonized system to recognize qualifications seamlessly. A cornerstone of the Bologna Process in Europe has been ensuring the mutual recognition of qualifications and learning periods abroad completed at other universities. In other parts of the world, however, progress toward regional recognition of qualifications has been a slow process, especially in Latin America and South Asia. The adoption in November 2019 of the Global Convention on the Recognition of Higher Education Qualifications facilitated by UNESCO, almost 20 years in the making, has given a new momentum to similar efforts at the regional level.

Strategic Partnerships

Universities and colleges know that they can accelerate institutional capacity building through mutually beneficial partnerships. Research on emerging universities has revealed that international collaborations and partnerships are an effective way of fast-tracking capacity building efforts in order to improve teaching and learning, deepen research activities for higher output and impact, and achieve more effective engagement with the community, public agencies, and private firms (Salmi 2009; Altbach and Salmi 2011; Altbach et al. 2017). A good way of strengthening higher education institutions in an accelerated manner, therefore, is to establish links or even forge strategic partnerships with universities in neighboring countries.

23. By contrast to reforms in the areas of governance and financing, which more often than not have generated heated debate and encountered strong resistance in the academic community, the development of quality assurance has been widely accepted in most countries across all regions of the world.

The idea is not to emulate the practice of many universities in the world, which tend to sign dozens — sometimes hundreds — of memorandums of understanding (MOUs) with institutions in other countries, usually focusing on academic and student mobility. In practice, few of these MOUs are active or effective. Strategic partnerships are of a different nature. They are deep relationships with a small number of carefully chosen institutions that are not necessarily at the same level of development but do share a common vision and similar values. The principal objective of these partnerships is to undertake mutually beneficial projects spanning the entire range of academic and administrative activities, including the development of joint academic programs and/or double degrees, collaborative applied research projects, joint services to the community, and possibly joint benchmarking exercises that help with the identification of gaps and the definition of stretch goals. For example, the University of Auckland (New Zealand), the University of Melbourne (Autralia), and the University of Liverpool (UK) have worked together for years as benchmarking partners to identify gaps and share good practices.[24] Bangladesh Agricultural University and Cornell University recently established a partnership to improve agricultural research and education in Bangladesh. This partnership includes joint research projects, student and faculty exchanges, and curriculum development.[25]

Summary Assessment

Table 4.2 summarizes, for each modality of regional collaboration, the main purpose and the scope of the collaboration in relation to the areas of improvement that these collaborations are expected to bring about at participating colleges and universities. The various purposes of these initiatives include the following aspects: internationalization of the curriculum, capacity building, search for complementarities and synergies, professional development, and harmonization.

TABLE 4.2 **Modalities and Purpose of Regional Collaboration and Integration**

Modality \ Purpose	Teaching and Learning	Research	Knowledge and Technology Transfer	Institutional Development
Multi-campus universities (S)	✓	✓	✓	
International universities (I)	✓	✓		
Branch campuses (I)	✓			
Academic mobility (I)	✓	✓		✓
Joint delivery of instruction (I) (virtual and mirror classes/dual degrees)	✓			
Joint research projects (S)		✓	✓	
Professional networks for academics and higher education institutions (PD)	✓	✓	✓	✓

24. Author's interview with the vice-chancellor of the University of Auckland in November 2011.
25. https://news.cornell.edu/stories/2011/08/international-programs-ground-bangladesh.

Modality \ Purpose	Teaching and Learning	Research	Knowledge and Technology Transfer	Institutional Development
Quality assurance and accreditation associations/ networks (H)				✓
Recognition of qualifications associations/networks (H)	✓			✓
Strategic partnerships and alliances (CP)	✓	✓	✓	✓

Note: CP = capacity building; H = harmonization; I = internationalization; PD = professional development; S = search for synergies.

While the various collaboration modalities presented above are not mutually exclusive, quite the opposite, some are easier to implement than others, or carry a smaller price tag. To guide policy makers and university leaders in South Asia — the main stakeholders responsible for driving the regional integration process — table 4.3 offers a summary evaluation of the relative benefits and costs of each modality. It looks, in particular, at their financial cost, the political difficulty involved in their implementation, and their technical complexity.

TABLE 4.3 **Benefits and Costs of Cross-Border Collaboration Options**

Modality \ Benefits & Costs	Potential Impact	Financial Cost	Political Difficulty	Technical Complexity
Multi-campus universities	+++	+++	++	+++
International universities	++	++	+	+
Branch campuses	++	+	+	+
Academic mobility	+++	+	+	+
Joint/dual degrees	++	+	+	+
Research networks	++	+	+	++
Professional networks	+++	+	+	+
Quality assurance networks	+++	+	+	+
Recognition of qualifications				
Strategic partnerships and alliances	+++	+	+	++

Note: The number of + signs reflects the magnitude of benefits and costs.

Enablers for the South Asia Region

It is important to emphasize the role of three enabling factors that could help facilitate the creation of a higher education regional space in South Asia: (i) the widespread use of English; (ii) advanced information and communications technology; and (iii) the open science and open education resources movement.

Language

In many parts of the world, low levels of English mastery, the international language of science, make international contacts more difficult than in countries where young people

and academics have a good command of the language. This is the case, for example, in most Central and South American countries, which are constrained in their capacity to develop fruitful exchanges with universities in North America, Asia, or Europe (besides Spain and Portugal). Similarly, in Cyprus and Greece, the legal obligation to use only Greek as the language of instruction has set the local universities outside the main destination of European students taking advantage of Erasmus mobility opportunities.

English language use and mastery is uneven across South Asia, as illustrated by table 4.4, which shows estimates of the proportion of the general population who speak English, and the country ranking, prepared by the international testing company Education First (with 100 participating countries).

In any case, the relatively widespread use of English in the education systems of all eight South Asian countries, especially in higher education, is a big advantage to establish and nurture close links throughout the region among students, academics, and higher education institutions, notwithstanding the legitimate efforts of certain countries (and certain states within India) to encourage the use of national languages, as well.

TABLE 4.4 **Proportion of the Population Who Speak English**

Country	Share of English Speakers	World Rank by English Skills
Afghanistan	6%	79
Bangladesh	18%	63
Bhutan	80%	Not ranked
India	12%	50
Maldives	80%	Not ranked
Nepal	36%	60
Pakistan	57%	61
Sri Lanka	62%	68

Sources: https://www.ef.com/wwen/epi/; https://en.wikipedia.org/wiki/List_of_countries_by_English-speaking_population.

Information and Communications Technology

Even though the Covid-19 pandemic has laid bare acute disparities in economic resources and connectivity throughout the planet, universities and colleges have been able to take advantage of the infinite opportunities offered by modern information and communications technology (ICT). Many of them have introduced innovative practices through online teaching and learning, remote research arrangements, new forms of assessment, and virtual internationalization practices (Salmi 2020).

In many countries, the pandemic has also provided the opportunity for increased collaboration among colleges and universities that would otherwise be competing with each other, facilitated by the proliferation of software and digital platforms that facilitate collective work. Sometimes at the instigation of the Ministry of Higher Education, sometimes led by national university associations, and sometimes arising spontaneously, higher education institutions with good online education capacity have reached out to help less-prepared institutions in their region or country, and/or have created collaborative platforms for sharing good practices for teaching online. In Mexico, for instance, nine universities joined forces to set up a website that will host free digital resources for the entire educational community in the country and beyond.

Since the beginning of the health crisis in March 2020, South Asian governments have worked hard to bridge the digital gap in support of their higher education system. The Indian Ministry of Human Resources Development has set up the National Programme on

Technology Enhanced Learning (NPTEL), a platform that offers digital resources for STEM programs. It also launched the National Educational Alliance for Technology (NETA) as a public-private partnership aiming to put educational software and products on a single platform. Authorities in the southern state of Kerala announced that they would provide extra bandwidth across the state to support online learning for all students during the Covid-19 outbreak. In Pakistan, the Virtual University has provided support to all the universities that switched to online education. In Bangladesh, the University Grants Commission and BDREN, the national education research network, teamed up to support universities during the transition to online education through capacity building activities and a hotline to help students facing connection difficulties. Similarly, in Sri Lanka, the University Grants Commission worked with the Telecommunications Regulatory Commission to seek support from the country's internet providers.

Moving ahead, higher education institutions in South Asia can take advantage of ICT to facilitate communication, information sharing, and joint activities without necessarily having to meet physically. ICT can be a powerful accelerator toward greater regional collaboration and integration. Many of the collaborative activities reviewed in the previous section can take place in a virtual mode, without having to worry about government authoritization, visas, and cost of travel. Even for research in many fields, a number of universities have given their students the opportunity to participate in online simulations, accessing remote labs or using virtual reality rooms to continue the experiential part of the learning process.

All this is, of course, conditional on the existence and further development of a strong and financially sustainable National Research and Education Network (NREN) that supports all higher education institutions in each of the South Asian countries. NRENs in South Asia could emulate the generosity of India's NREN (ERNET), which during the pandemic has granted any interested African country free access to digital platforms, peer-to-peer services to support research collaboration between African and Indian scientists, and technical support to help strengthen NRENs in Sub-Saharan Africa and develop campus networks.

Table 4.5 shows the different ways in which advanced technologies can be harnessed to support higher education instutions and enhance their collaborative activities with other universities in other South Asian nations.

TABLE 4.5 **ICTs for Higher Education**

Types of Technology		Teaching and Learning	Research	Academic Management
Connectivity Technology	Computers/Internet/NREN	✓	✓	✓
	Remote connection to digital labs		✓	
Individual Digital Technologies	First generation ICT-based management information systems for education			✓
	Cellular phones and mobile applications	✓		
	Drones for remote sensing	✓	✓	
	Satellite imaging		✓	
	Blockchain for secure microcredit and degrees		✓	✓

Types of Technology		Teaching and Learning	Research	Academic Management
Individual Digital Technologies (cont.)	3-D printing	✓	✓	
	Augmented reality (AR)/virtual reality (VR)	✓	✓	
	Online Educational Content	✓	✓	
Digital Platforms	Online Educational Portals with Learning Resources (including MOOCs)	✓		
	Labor market observatory platforms	✓		
Converging Technologies[a]	AI-driven personalized and adaptive learning	✓		
	Big data for formative assessment feedback	✓		
	Predictive analytics for identification of at-risk students			✓
	Big data analysis and remote sensing		✓	

Source: Adapted from World Bank (2021b).

Note: a. Converging technologies are defined as the synergistic combination of four groups of technologies: information technology, biotechnology, nanotechnology, and cognitive technologies (World Bank 2021b).

Open Science and Education

In the wake of the Covid-19 pandemic, it might be worth revisiting the traditional competitive and restrictive approach to research funding and research production that privileges publications in prestigious scientific journals over research impact and social relevance may. As part of efforts to make higher education and research systems more resilient and more relevant to the needs of society, South Asian nations could seriously consider the promotion of Open Science as a policy priority in the post-pandemic era. The paradigm shift embodied by Open Science, which has been on the agenda of the European Commission and a number of European countries for several years, refers to the rapid development of open, interactive, and collaborative modes of knowledge acquisition, generation, and dissemination, facilitated by networks that rely on modern information and communication tools. As a matter of fact, Covid-19 has pushed the scientific community to work together in unprecedented ways, an approach with potentially many benefits to instructors, researchers, and students working at higher educations institutions in South Asia. As Apuzzo and Kirkpatrick (2020) explain,

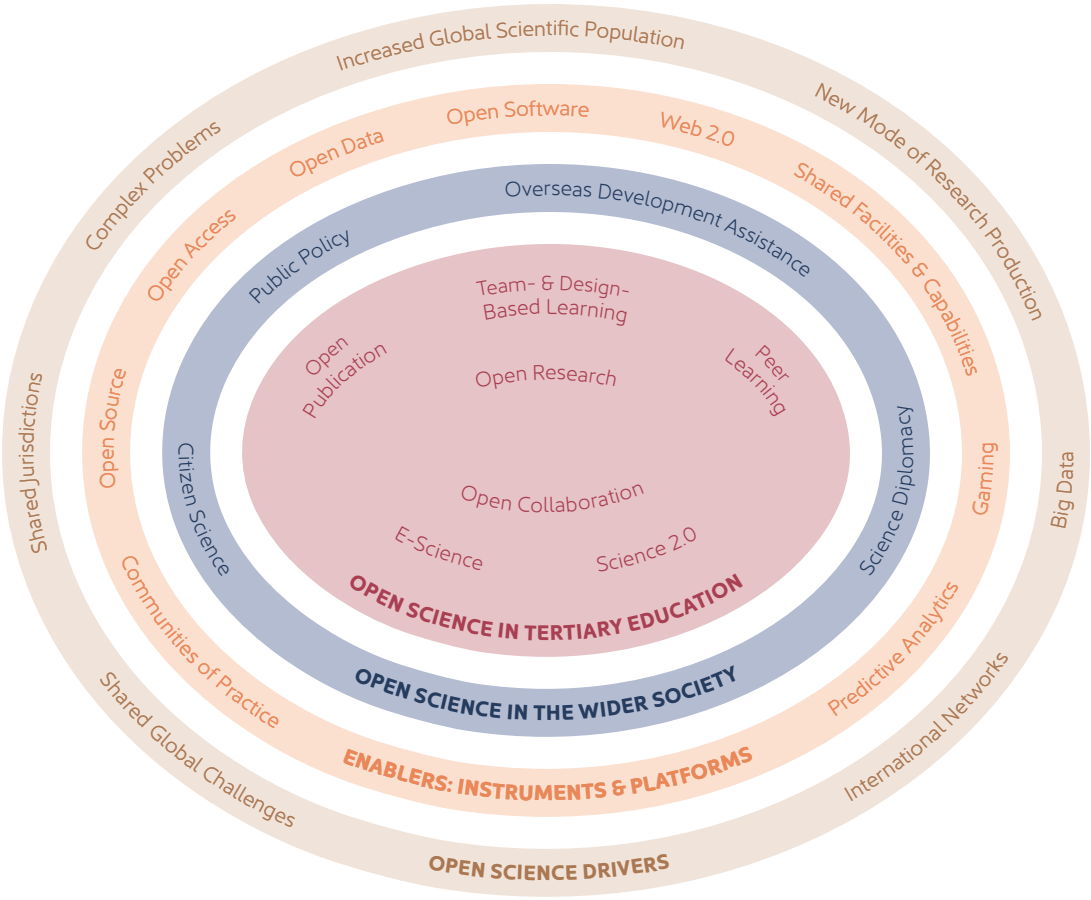
> "While political leaders have locked their borders, scientists have been shattering theirs, creating a global collaboration unlike any in history. Never before, researchers say, have so many experts in so many countries focused simultaneously on a single topic and with such urgency. Nearly all other research has ground to a halt. … Normal imperatives like academic credit have been set aside. Online repositories make studies available months ahead of journals. Researchers have identified and shared hundreds of viral genome sequences. More than 200 clinical trials have been launched, bringing together hospitals and laboratories around the globe. … The University of Oxford–Astra Zeneca vaccine, developed using data published on the genome of the coronavirus by a Chinese virologist at Fudan University, is the centrepiece of COVAX, the global vaccine initiative which aims at providing equitable access to COVID-19 vaccines for low- to middle-income countries.

> "The pandemic is also eroding the secrecy that pervades academic medical research, said Dr. Ryan Carroll, a Harvard Medical professor who is involved in the coronavirus trial there. Big, exclusive research can lead to grants, promotions, and tenure, so scientists often work in secret, suspiciously hoarding data from potential competitors, he said. 'The ability to work collaboratively, setting aside your personal academic progress, is occurring right now because it's a matter of survival.'

> "One small measure of openness can be found on the servers of medRxiv and bioRxiv, two online archives that share academic research before it has been reviewed and published in journals. The archives have been deluged with coronavirus research from across the globe."

Figure 4.3 proposes a representation of how the various dimensions of Open Science are connected and interact, and how many of them are directly relevant to the work of universities and colleges.

FIGURE 4.3 **Open Science and Related Dimensions**



Source: Salmi 2015b.

Moving toward an Open Science mode, which would allow for more collaborative forms of research, can only happen on a large scale if research funding agencies agree to modify their allocation methods and encourage grant applications reflecting partnerships across institutions and countries. Research funding agencies should encourage Open Science and collaborative projects across institutions and countries that could pool talent and resources to foster cooperation and multidisciplinarity in the resolution of societal challenges.

Another, equally important change would be the transition to Open Access publishing of scholarly articles and books, defined at the 2003 Berlin Conference on Open Access to Learning as the "free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself." The main advantage of Open Access is to reduce the time between scientific discoveries and advances and their dissemination in the public space. By removing the price and geographic obstacles preventing the free and fast circulation of knowledge, this has the potential of improving the efficiency and effectiveness of research and amplifying scientific collaborations across institutions and countries. A recent study sponsored by the European University Association identified two possible models to achieve this objective — one based on publisher-owned platforms, and one relying on community-owned platforms (Technopolis 2020).

One of the world's leading publishers, Elsevier, has provided the example by making extensive collections of relevant scientific publications and material available free of charge for the duration of the pandemic through its Novel Coronavirus Information Center (Schoombee 2020). This new posture departs from previous episodes that have pitted Elsevier against the academic world. In 2014, for example, Dutch universities clashed with the international publishing house with a demand to have their scientific production become open access by 2024 (Jump 2015). In 2015, South African universities joined an international movement of thousands of universities around the world that signed the Confederation of Open Access Repositories petition against the new rules imposed back then by Elsevier (Wild 2015). Cambridge University Press has provided free access to a wide range of books, journals, and learning materials for students, teachers, and researchers impacted by Covid-19.

A recent World Bank report stressed the potential offered by Open Science for the South Asia region.

> "Open science is an approach to enable all countries to benefit from the digital revolution in science and the ongoing converging technology revolution. … Open science complements the open data movement and enables countries to join the frontiers of scientific and technological innovation, be it by building local innovation capacity, resilience, and adaptation or by co-creating technology and data governance frameworks as scientists, researchers and policy makers learn about these technologies. … Open science can create efficiencies of scale in the planning, procurement and provision of data, computing power, and advanced data science skills through collaboration and shared capacities. This approach will be of benefit especially for the smaller SAR countries"
>
> (World Bank 2021b).

External Facilitation as a Game Changer

Considering the political difficulties that have prevented regional collaboration initiatives for higher education to thrive through official channels, external facilitation provided by multilateral agencies such as the World Bank, the Asian Development Bank, and UNESCO can be a game changer. This facilitation role can take three complementary forms: (i) a convening function for policy and professional dialogue, (ii) financial and technical support for regional activities, and (iii) support for regulatory harmonization.

Convening Function

In the first instance, international organizations can organize various types of meetings that provide a safe space where higher education representatives from South Asia can meet on neutral grounds to exchange information and ideas about recent developments, identify common challenges, and learn from each other's experience. In the early 2000s, for example, the World Bank conducted a series of workshops about higher education reforms in South Asia, following the publication of two seminar reports, Peril and Promise and Construction Knowledge Societies. These meetings provided a platform for hearty and frank debate about the main issues faced by each participating country. The stimulating effect that the testimony of delegates from each nation had on the others was noteworthy, as they reported what they were doing, or planning to undertake, or not able to achieve for political economy reasons. Interestingly, this multicountry policy dialogue resulted, over the following years, in the preparation and launch of higher education development and reform projects financed by the World Bank in almost all South Asian countries.

Another, more recent example, is the series of regional conferences bringing together undergraduate economics students from all over South Asia (all SAARC members except the Maldives). South Asian Economics Students' Meet (SAESM), initially launched by two professors at Delhi University, is an independently organized annual academic event that has been supported by the World Bank and the United Nations Institute for Peace as a platform for dialogue among young people from the region who are future agents of change. Each SAESM has a particular theme related to the contemporary economic issues of South Asia. The first SAESM was hosted in New Delhi in 2004. The latest gathering took place in Kathmandu in January 2020. As observed by Kaushik Basu, World Bank Chief Economist, "SAESM is an excellent opportunity for young people in South Asia to engage with one another and come up with creative solutions to shared challenges."[26]

The testimony of Nishant Khanal, an economics student and 13th SAESM participant, is also informative:

> "Last November, when the SAARC summit that was supposed to be held in Pakistan was canceled, I thought regional cooperation in South Asia would lose its momentum. Tensions between members not only postponed the SAARC Summit, but also hampered the South Asian Economics Students' (SAESM) meet [sic]. SAESM was scheduled to be held in India in December. I started believing in news, media and opinion pieces that said there is no future for South Asian integration as there is so much mistrust in the region.

26. https://www.worldbank.org/en/news/press-release/2014/12/31/south-asia-economic-students-meet-saesm-integration.

> "After a concerted effort from the economics professors from across South Asia with the support of the World Bank, the 13th SAESM of economics students was successfully held in Kathmandu last week. Despite regional dynamics, SAESM has never missed any year since its inception in 2004, and it may well be unique in that respect in South Asia.
>
> "Besides talking about economic theories and making policy recommendations for better regional integration in our research papers, we shared our common dreams for One South Asia. Traveling to Nepal for SAESM was the first abroad travel experience for many counterparts and it made them love South Asia more.
>
> "How will SAESM help South Asia prosper? Joining the alumni of more than 1,000 participants who have attended this wonderful event; we, the future leaders of South Asia will hopefully make the One South Asia dream true. We know the beauty of cross-country friendships, our research has taught us the importance of trade within the region, and importantly, we want to savor and build on this momentum in the years to come."[27]

In fullfilling this role of convenor, international organizations can try to identify champions and enlist their help in steering the informal dialogue on regional collaboration. These would be distinguished individuals with a recognized trajectory in public office, academia, the private sector, or civil society who no longer hold official positions but are keen to engage in informal conversations and exchange of views with like-minded people in other South Asian countries. These champions can participate in the regional collaboration dialogue in their personal capacity, without the burden of having to represent an official national or institutional position. They can act as sounding boards and local influencers to explore possible options and solutions to resolve issues of common interest, thereby helping create coalitions of the willing among people committed to the regional integration agenda.

Financial and Technical Support

The second main modality of support from development organizations is to provide financial and technical assistance in the context of regional grants or projects. Regional projects are the perfect platform to stimulate joint programs and courses, partnerships for capacity building activities, collaborative research, academic mobility, and development of networks. Another important contribution that projects of this kind can make is to help set up or strengthen regional centers of excellence for advanced training and applied research, as illustrated by the ACE project in Sub-Saharan Africa (box 4.3).

BOX 4.3 African Centres of Excellence (ACEs)

The realization that shortages in advanced human capital and low research capacity constrained the ability of Sub-Saharan African nations to address development challenges through innovation and productivity increases led to the launch of the African Centres of Excellence regional project by the World Bank in 2014. The first phase supported 19 Centres selected across seven Western and Central African countries. The second phase, launched in 2016, financed 24 Centres of excellence in Eastern and Southern Africa. The projects operate in five clusters of regional priorities: industry, agriculture, health, education, and applied statistics.

27. https://blogs.worldbank.org/endpovertyinsouthasia/voices-youth-restoring-my-belief-one-south-asia.

The mission of the new Centres, which are specialized in select multidisciplinary areas, is to tackle development challenges facing the region through graduate training in master's, PhD, and short-term courses, and applied research in the form of partnerships and collaborations with other institutions and the private sector. The ACEs will help to build the capacity of their host universities to provide quality postgraduate education with relevance to the labor market, and to conduct high-quality applied research that seeks innovative solutions to key development priorities. To generate greater impact, they will develop partnerships with other academic institutions, nationally as well as regionally and internationally, and with industry and the private sector. The Centres are meant to become role models for other tertiary education institutions by delivering excellent teaching and research.

A recent evaluation of the first wave of ACEs found that this initiative has created synergies in higher education across the SSA region by optimizing limited resources and deepening cooperation among countries, while equipping young people with highly relevant skills and strengthening the research capacity and output of the host universities. Some of the Centres have led major health initiatives during the Ebola epidemic and the Covid-19 pandemic. For example, the Africa Centre of Excellence for Genomics of Infectious Diseases (ACEGID), hosted by Redeemer University in Nigeria, and the West African Centre for Cell Biology of Infectious Pathogens (WACCBIP) at the University of Ghana illustrate how regional higher education integration can help generate solutions to common problems.

Source: World Bank 2021a.

Regulatory Harmonization

The third and last function that international organizations can fulfill is to work toward regulatory harmonization through their bilateral relations with individual governments in South Asia. These negotiations would seek to ensure that the legal and regulatory framework of each country facilitates regional collaboration with respect to alignment of quality assurance standards; criteria and processes; and recognition of qualifications, credits, and microcredentials. The frameworks should encompass both on-campus and online education.

Principles of Effective Collaboration

Based on the review of international experience and the interviews conducted for this study, a few principles can be pondered to guide interventions of international donor agencies in support of increased regional collaboration and coordination in South Asia: (i) reliance on professional channels, (ii) gradualism in membership, (iii) seeds planting, (iv) capacity building focus, (v) sustainability, and (vi) need for monitoring and evaluation.

Reliance on Professional Channels

In recognition of the existing political difficulties and tensions among South Asian governments, the construction of a regional higher education space has a greater chance of success if collaboration activities take place in the context of professional associations and networks. Rather than waiting for political decisions or seeking official commitment from national authorities, university leaders and members of university communities are more likely to be successful in building trust and working together toward common goals in the context of professional networks. These can be either restricted to the South Asia region or have a wider geographic reach. The experience of the Asia Pacific Quality Network and the

Association of Commonwealth Universities shows that the latter approach provides a non-threatening environment that, for the time being, is perhaps more propitious to building effective partnerships among South Asian higher education institutions.

Gradualism in Membership

To be considered as a fruitful regional cooperation action, collaborative undertakings do not need to involve all eight countries of South Asia. The best way to proceed may be to start with small projects on a bilateral or trilateral basis. If successful, these modest initiatives are more likely to attract associations or academics from other South Asian countries. This approach worked well with the African Centres of Excellence.

Seeds Planting

Supporting a national higher education reform and development program or project in one of the South Asian countries provides a platform for planting the seeds of regional collaboration around issues of common interest. The program/project can explicitly include knowledge-sharing activities that bring higher education stakeholders together. Study tours to learn about relevant experiences in other parts of the world are also an opportunity to combine delegations from several South Asian countries. Training partnerships with universities in Southeast Asia or OECD countries can also be leveraged to serve higher education institutions in several South Asian nations at the same time.

Capacity Building Focus

Under the influence of the global university rankings (Shanghai, Leiden, Times Higher Education, QS), the world of higher education has become increasingly hierarchical. There is a risk, therefore, that universities in South Asia may be more interested in partnerships with top institutions in Southeast Asia or OECD countries, or that within South Asia networking links would thrive only among the most prestigious higher education institutions from each country.

To avoid the peripheralization of many institutions, regional collaboration initiatives in South Asia should have a capacity building focus driven by solidarity motives. Some of the regional projects could be organized in a "cascade" manner, whereby the most advanced South Asian universities that are involved in partnerships with top universities from OECD countries would at the same time provide technical support to higher education institutions in the region that have less capacity. The collaborative ventures may not always be partnerships between or among equals from an institutional capacity viewpoint, but all partners could work together in a mutually beneficial way. The more developed institutions could play a "big sister" role, sharing their experience and know-how with their partners as a way of helping them accelerate their institutional building efforts. In this context, capacity building should aim at both raising performance and strengthening the resilience of higher education institutions.

Drawing on the experience and challenges faced by higher education institutions in South Asia during the Covid-19 pandemic, a priority focus of regional collaboration initiatives should be strengthening the resilience of universities and other tertiary level institutions. This involves at least two complementary dimensions. First, higher education systems and institutions need to incorporate risk monitoring and assessment in their strategic planning and put in place measures and mechanisms that can make them more resistant to shocks and more agile to be able to make necessary adjustments rapidly. Second, higher education institutions must revisit their business model to build up their financial sustainability. In the case of public universities, this means becoming less dependent on public funding while, for private institutions, it implies relying less on tuitions fees. Never has the resource diversification agenda been as imperative — for all types of tertiary education institutions — as today.

Sustainability

If the regional collaboration activities are sponsored by donor projects, it is important to factor in sustainability concerns. More effective results can be achieved if the impact of donor intervention is not limited to the project period but continues beyond the availability of donor-supported technical and financial assistance. Several design features can contribute to increased sustainability of donor investment. First, the likelihood of smooth project implementation and increased longer-term sustainability is much greater if the beneficiary higher education institutions can contribute at least part of the funding. Using a sliding scale — diminishing the donor contribution and increasing the counterpart contribution every year — can be a practical approach for ensuring sustainability beyond the project life (Salmi 2017). To finance their part, higher education institutions in South Asian countries might try to compete for internationalization funds and research grants when provided by the national or subnational authorities.

Second, implementation can be easier if the project is developed in partnership with the beneficiary institutions, rather than for them. Ideally, the higher education institutions themselves should determine the specific objectives and targets they want to achieve on the basis of the proposed collaborations, as they must have primary implementation responsibilities. Project design should therefore provide for an appropriate balance between decentralization of responsibilities to universities and central coordination by the project implementation unit at the national level.

Monitoring and Evaluating

Finally, as signaled in a study prepared by the Asian Development Bank (ADB2012), adequate metrics and indicators are needed to properly monitor and evaluate progress in developing regional collaboration, cooperation, and integration. Several initiatives exist, such as the ADB's Asia-Pacific Regional Cooperation Integration Index (ARCII), the Africa Regional Integration Index, the Latin America and Caribbean Integration Index, and the EU Index of Integration Effort. All these approaches use a composite index that attempts to measure relevant dimensions for regional integration, among which are infrastructure and connectivity, trade and investment flows, regional value chains, movement of people, and institutional and social integration.

Rather than develop a similar composite index to measure the degree of regional integration in higher education in South Asia or elsewhere, it might be more useful to adopt a benchmarking approach looking at good practices with respect to each of the modalities of regional collaboration and cooperation reviewed in this Policy Note and assess progress within the South Asia region on that basis. In any event, it is important to monitor developments in this area and learn from successes and failures, taking into consideration the multiple opportunities that ICT offers to find alternative ways of engaging across borders and to scale up collaborative efforts through virtual platforms.

5 Conclusion

Despite shared languages, history, culture, and borders, South Asia remains one of the least integrated regions in the world. One of the big challenges of the region is that its countries are becoming at once more connected and more divided. The low level of regional cooperation translates into a loss of opportunities for each nation in the region.

In South Asia as everywhere else, human development is at the heart of any strategy seeking to promote innovation and raise productivity. In a visit to the United States prior to the pandemic, the Prime Minister of the Canadian province of Ontario observed that, in today's knowledge-driven economies, the main source of comparative advantage that countries can rely on is not capital, technology, or raw materials anymore, but the talent of their educated population. The priority given in past decades by the East Asian "dragons" and the Nordic countries in Europe to the development of their education system at all levels clearly reflects a similar conviction.

Notwithstanding existing tensions and the lack of mutual trust at the political level, South Asian universities are in a unique position, through their cross-border collaborations, to help transform the dynamics of fragmentation and isolation into one of synergy and symbiosis. This report has sought to identify a few promising initiatives to develop joint activities in the higher education sphere that could accelerate progress toward a more integrated region where universities, colleges, and research institutes work effectively together across national borders. Successful initiatives at the institutional level might help trigger the process at the political level at a later stage to put in place a supporting regulatory framework and financial incentives.

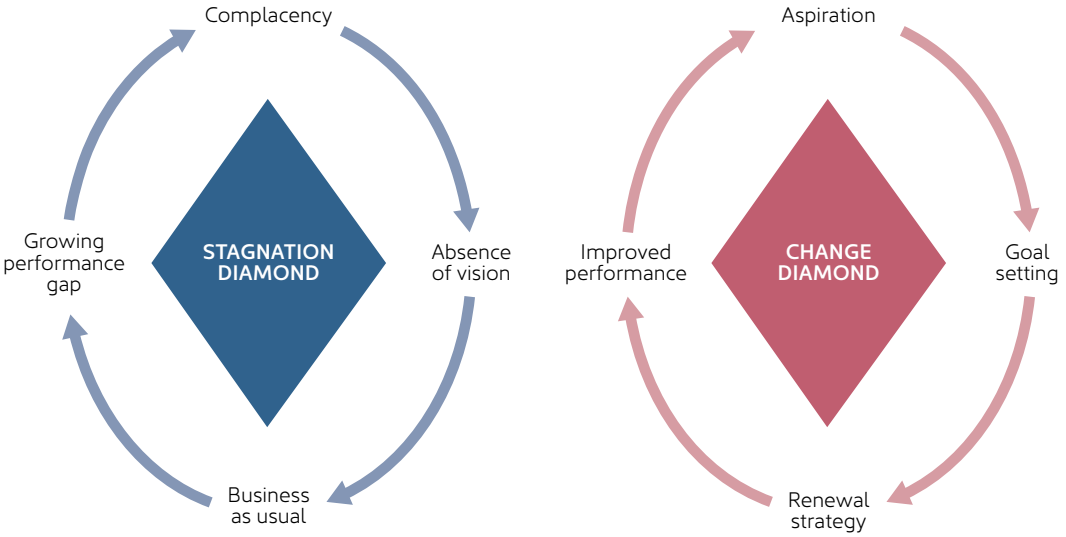
The former rector of the Danish University of Aarhus, the second-most-recognized university in that country, used the concept of "change without a burning platform" to describe the difficulty faced by academic leaders seeking to drive transformative projects in their university when things are going reasonably well, making it arduous to sensitize the university community to the need for further change. In the same spirit, the main challenge for the leaders of South Asian colleges and universities is to create a sense of urgency that would help persuade all stakeholders in the respective higher education sectors to embrace the opportunity of regional collaboration and integration as a factor of acceleration to attain higher levels of performance and serve the local and regional economies more effectively.

With that sense of urgency should also come the full realization that doing things "together," instead of pursuing the separate development of their respective higher education systems and institutions, makes eminent sense for every country in the region. As argued

in this report, collaborative ventures are likely to have a much stronger impact than dispersed efforts.

In a highly competitive global higher education landscape, the cost of "doing nothing" is high. The South Asian higher education systems and institutions, just like any other sectors, must seek to improve their performance and responsiveness to the needs of their countries. Efforts to increase regional collaboration and integration could be a game changer. As illustrated in figure 5.1, elaborating, adopting, and implementing a common framework would place higher education systems and institutions in the region in an aspirational spiral that would allow them to play a more active role in support of their nations' development.

FIGURE 5.1 **Changing the Dynamics of Development**



Source: Salmi 2009.

The political realities, rivalries, and tensions in the South Asia region make it more difficult to implement a regional integration agenda than in other parts of the planet. But higher education institutions everywhere in the world, including in South Asia, share a long history of fruitful collaboration and cooperation, which the Covid-19 pandemic has not only perpetuated but strengthened. This is one of the most promising avenues to prosperity which, hopefully, universities and colleges in the region will be keen to embrace to create a common South Asian Higher Education Space. The World Bank and other international agencies can facilitate this process through their policy dialogue, convening influence, and financial resources.

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