

CAREC Institute Visiting Fellow Program

HUMAN CAPITAL DEVELOPMENT AND REGIONAL COOPERATION AND INTEGRATION IN THE CAREC REGION: POLICY LESSONS FROM ASEAN

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Decemeber 2021

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Visiting Fellow Program

Human Capital Development and Regional Cooperation and Integration in the CAREC Region: Policy Lessons from ASEAN

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December 2021

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ABBREVIATIONS

ADB	Asian Development Bank
AI	artificial intelligence
AMS	ASEAN Member States
АРНСР	Asia-Pacific Human Capital Project
ARCII	Asia-Pacific Regional Cooperation and Integration Index
AQRF	ASEAN Qualifications Reference Framework
ASEAN	Association of Southeast Asian Nations
CAREC	Central Asia Regional Economic Cooperation
СС	College Central
CE	College East
CEO	chief executive officer
CIS	Commonwealth of Independent States
CLMV	Cambodia Laos Myanmar Vietnam
СОС	certificate of competence
CRII	CAREC Regional Integration Index
CW	College West
EDB	Economic Development Board
ERC	employment review committee
FCAS	fragile and conflict-affected situations
FDI	foreign direct investment
FTA	free trade agreement
GDP	gross domestic product
GNI	gross national income
HCD	human capital development
HCI	Human Capital Index
НСР	Human Capital Project
HDI	Human Development Index
HDR	Human Development Report
IFI	international financial institution
l ³ G	Incentivising ICT-Use Innovations Grant
IT	information technology
ITE	Institute of Technical Education
ITEES	Institute of Technical Education Services
Lao PDR	Lao People's Democratic Republic
LDCs	least developed countries
МОМ	Ministry of Manpower
MTFASF	Muslim Trust Fund Association Founders' Scholarship
NCB	National Computer Board
NCD	noncommunicable disease
NIE	National Institute of Education
NITEC	national ITE certificate
NMC	National Manpower Council
NTU	Nanyang Technological University

NTUC	National Trades Union Congress
NWC	National Wages Council
OIAP	Overseas Industrial Attachment Program
OSDP	Overseas Service and Development Program
OSEP	Overseas Student Exchange Program
PHDI	Planetary pressures-adjusted HDI
РРР	purchasing power parity
PRC	People's Republic of China
RCI	regional cooperation and integration
RPGs	regional public goods
RVCs	regional value chains
SARS	severe acute respiratory syndrome
SEAMEO	Southeast Asian Ministers of Education Organization
TAD	transboundary animal disease
TTP	Train the Trainer Program
TVET	technical and vocational education and training
UNDP	United Nations Development Program
VITB	Vocational and Industrial Training Board
WTO	World Trade Organization

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Human Capital Development and Regional Cooperation and Integration in the CAREC Region: Policy Lessons from ASEAN

ABSTRACT

Human capital development (HCD) and regional cooperation and integration (RCI) are fairly obvious and necessary links. Investments in HCD have a positive impact on economic development, which in turn contributes to RCI. Also, RCI contributes further to HCD as positive benefits to member countries result in better HCD outcomes. Although not claiming causality, this relationship is symbiotic and strongly correlated. Yet few studies have empirically investigated this relationship, since the emphasis of regional integration studies has been on physical capital such as infrastructure and connectivity, rather than on human capital. Using four indices—namely, the Human Development Index (HDI), Human Capital Index (HCI), the CAREC Regional Integration Index (CRII), and the Asia-Pacific Regional Cooperation and Integration Index (ARCII)—this preliminary report aims to fill this gap by investigating the relationship between investments in health and education and RCI outcomes through a comparative study of the performance of countries in the CAREC and ASEAN subregions. The comparative study highlights the high level of HCD in ASEAN that can provide lessons to the CAREC countries. Singapore provides incontrovertible evidence of high performance in HCD and is also the most integrated economy in the region. Singapore's technical and vocational education system is the main focus of the case study and provides lessons to the CAREC countries. This report makes an important contribution to the policy discussion on RCI from the perspective of regional public goods (RPGs) and advances the argument that the creation and distribution of RPGs are vital to RCI.

EXECUTIVE SUMMARY

Human capital development (HCD) plays a crucial role in economic growth and poverty reduction. Investments in HCD make positive returns to labor productivity, technological innovation, and sustainable growth, all of which contribute to poverty reduction. A human capital-based strategy is vital for regional cooperation and integration (RCI) because of the human ability to create knowledge, and knowledge is considered a public good. Mathur (1999: 203) argues that the accumulation and promotion of human capital 'overcome the limitations imposed on growth by diminishing returns to other inputs like labor and capital.' As well, human capital results in spurring the growth of a pool of entrepreneurs who can implement and diffuse inventions and innovations, thus promoting economic dynamism within societies. In this regard, labor mobility is an important component for both HCD and RCI. There is strong evidence that free movement of labor encourages human capital formation through the exchange of skills, experiences, and ideas. At the same time, free movement is one of the criteria for economic integration. Investments in HCD that improve health and education outcomes have been strongly associated with regional integration.

Three indices have been utilized for this study to demonstrate this symbiotic relationship: the Asia-Pacific Regional Cooperation and Integration Index (ARCII), the CAREC Regional Integration Index (CRII), and the Human Development Index (HDI). Drawing data for 11 countries in the CAREC Region and ten countries in ASEAN, a comparative analysis of the ranking of these countries along the HDI provided demonstrable evidence of the contributions of health and education to RCI.

According to the ADB, the CAREC region is the least integrated subregion in the Asia-Pacific region. The most integrated is Southeast Asia followed by East Asia. However, specific countries in CAREC score positively on both indices. Kazakhstan is classified as a very high HDI country and is also the most integrated country in CAREC. Similarly, the PRC is classified as a high HDI country with a regional integration score also above the regional average. Both countries boast long lifespans and literacy rates are very high, as are female literacy rates. In contrast, the poorest countries—Pakistan and Afghanistan—score low on both indices and are the least integrated. Not coincidentally, the GNI per capita PPP of both countries is the highest in the region.

Comparatively, the ten countries that make up the ASEAN regional block in Southeast Asia portray a relatively high degree of integration and HCD compared to the CAREC region. Singapore is in lead position as the most integrated country and with the highest HDI score, followed by Brunei and Malaysia. Investments in HCD in Singapore are the highest not only in both regions but throughout the world. It is worthwhile noting that the poorest countries in ASEAN are Cambodia, Laos, and Myanmar, whose HDI scores are comparable with those of Pakistan, Tajikistan, and Afghanistan.

With a focus on Singapore as a mini case study, this report identifies the level of public spending that constitutes a crucial factor in HCD outcomes. Singapore's public spending on health is the highest in dollar value at US\$2,823.64 in 2018, in contrast to the Lao People's Democratic Republic (Lao PDR) whose allocation was US\$57.11. The health outcomes on spending are evident: Singapore's lifespan of 83.6 years far surpasses the lifespans of all countries in both regions. Singapore's lifespan is about 20 years longer than that of the poorest countries in CAREC and ASEAN.

Further, the educational initiatives of Singapore over the past five decades have proven vital in terms of Singapore's economic development and regional integration. Singapore's investments, particularly in technical and vocational education and training (TVET), have proven the indispensable link between HCD, economic development, and regional integration. Singapore's vision to become an industrialized country and a hub for world class services has been achieved on the back of a HCD strategy that is continuously upgraded, updated, and adapted to a changing socioeconomic environment. The roles

of polytechnic institutions and vocational/technical schools are noteworthy components of an education strategy that could perhaps be investigated more closely by CAREC member countries.

Because of high levels of government public spending, Singapore's overall literacy rates and female literacy rates are very high compared to the poorest countries in ASEAN and CAREC. It should be noted, however, that CAREC countries also have high literacy rates and high female literacy rates except for Pakistan and Afghanistan.

Given the major disparities within and among countries in both regions, this report proposes the following policy recommendations:

- Increase public spending for HCD, particularly for health and education. More pointedly, policy
 proposals should support targeted resources for the education of women and girls, especially
 in the poorer countries in CAREC and ASEAN; add technical vocation from Singapore
 experiences; facilitate educational exchanges among students and faculty especially in the
 area of TVET.
- 2. A regional education system should be established for CAREC that will harmonize education standards across all countries, following the example of the ASEAN Qualifications Reference Framework (AQRF). Comparison across countries will allow for quality assurance and will also promote the mobility of workers and learners, improve the quality of education and training, and create more equitable opportunities for gainful employment for CAREC citizens. Admittedly, harmonization is a very long process but should be undertaken anyway for reasons of standardization. Even while harmonization is taking place, education exchanges in the area of TVET can be initiated, premised on the assumption that certain marketplace skills are already following global standards of practice. This is particularly true for digital and IT skills.
- 3. Establish health surveillance and quick response systems also patterned after ASEAN, given the latter's long experience with managing outbreaks. The region's accumulated expertise has been one of the cornerstones of cooperation since the advent of severe acute respiratory syndrome (SARS) and avian and swine flus in the past decades. It is recommended that Kazakhstan and the PRC, given their advanced level of regional integration, become the institutional anchors for a central coordinating secretariat and a quick response emergency center.
- 4. Develop an overall regional strategy for human resource development (HRD) based on short term (three to five year) and long term (six to ten year) planning horizons. Conceived as a series of HRD plans, these should be continuously updated and adjusted to respond to changing signals in the regional labor market across CAREC. Specific inputs from sending and receiving countries on migrant labor should be a priority since mobility and free movement of people are very important components of RCI.
- 5. The role of international development organizations in HCD cannot be overlooked or underestimated. Investments in physical capital far outpaced those in HCD. Against the backdrop of an ongoing pandemic, it would constitute a tremendous service for international financial institutions (IFIs) to extend an equal focus on human capital rather than just on physical capital. A good starting point would be to undertake more extensive policy research on actionable items to create and disseminate knowledge regarding HCD formation and accumulation. It is recommended that the Asian Development Bank (ADB) undertake a Human Capital Project (HCP) similar to the World Bank, but with a focus on the Asia-Pacific region.

The proposed Asia-Pacific Human Capital Project (APHCP) would complement the Asia-Pacific Regional Cooperation and Integration Index (ARCII).

6. Undertake further research on new components to regional integration as proposed by the ongoing efforts to augment the ARCII—namely, environmental conservation, digitalization of the economy, and gender components for all dimensions of the index. It is strongly recommended that the CRII should follow suit in terms of updating the index to reflect these additional dimensions.

Chapter 1. Introduction. Human Capital Development and Regional Cooperation and Integration

1. Human capital development (HCD) has a crucial role in economic growth and poverty reduction. According to Hyun H Son of the Asian Development Bank (ADB), investments in human capital are, at a macro level, a key factor in the economy-wide production function. Investments in HCD make positive returns to labor productivity, technological innovation, and sustainable growth, all of which contribute to poverty reduction. At a micro level, higher levels of human development are achieved through education, which improves the individual's employability, earning capacity, and labor productivity. These benefits on an individual level accumulate the human capital stock which is important for development both for its 'intrinsic value as a development goal in its own right, (and also) because of its instrumental value.¹¹

2. Human capital, according to the World Bank, is the 'knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society. Investing in people through nutrition, healthcare, quality education, jobs, and skills helps develop human capital, and this is key to ending extreme poverty and creating more inclusive societies.'² The World Development Report 2019 states that without human capital, countries cannot achieve sustained, inclusive economic growth. The workforce will not be amply prepared for more highly skilled jobs of the future and will not be able to compete effectively in the global economy. Without HCD, sustainable development is not achievable. The Human Capital Project (HCP) launched by the World Bank in 2018 aims to 'persuade governments to prioritize investments in human capital above and beyond their usual focus on physical capital.'³

3. **Problem Statement.** Gaps in HCD were already evident globally but have been exacerbated by the pandemic. An estimated 1 billion children have been out of school owing to the pandemic which in turn has led to schools closing and interruptions in academic schedules. Health services have been significantly disrupted, and much of the developing world continue to suffer from the maldistribution of vaccines and other needed health services to combat the spread of the virus. Girls and women are at heightened risk of gender based violence, child marriages, and adolescent pregnancy.⁴ All these combined factors put at risk the significant progress that HCD has achieved in the past decade.

4. To achieve and sustain the gains for regional development, a human capital based strategy is valuable because humans create knowledge, and knowledge is considered a public good. Mathur (1999: 203) argues that the accumulation and promotion of human capital 'overcome the limitations imposed on growth by diminishing returns to other inputs like labor and capital.' Human capital produces knowledge and ideas, and more human beings produce more knowledge and more ideas. In brief, an increase in human capital stock not only increases the productivity of labor and capital but also produces positive spillover effects provided that knowledge is nonrival and nonexcludable.⁵ Also,

¹ Hyun H Son, *Human Capital Development*. ADB Economics Working Paper Series No 225. October 2010. <u>https://www.adb.org/publications/human-capital-development</u> (accessed 27 August 2021)

² The Human Capital Project: Frequently Asked Questions. The World Bank.

https://www.worldbank.org/en/publication/human-capital/brief/the-human-capital-project-frequently-askedquestions#1 (accessed 5 September 2021)

³ Closing the Gap: A Research Agenda to Drive Human Capital Investment. The World Bank 2018. <u>https://www.worldbank.org/en/events/2018/12/03/closing-the-gap</u> (accessed 5 September 2021)

⁴ The Human Capital Project, *Ibid*

⁵ According to Mathur, nonrival good is a good whose use by a firm does not preclude or diminish its use by others. A nonexcludable good is when a firm or an economic agent cannot prevent its use by others without incurring substantial cost relative to the value of the good. Thus, patent laws and the preventive action of firms makes some knowledge partially excludable and nonrival. See Vijay Mathur, 'Human Capital-based Strategy for Regional Development,' *Economic Development Quarterly* **13**: 3 (August 1999), p205

human capital results in spurring the growth of a pool of entrepreneurs who can implement and diffuse inventions and innovations, thus promoting economic dynamism within societies.

5. Policy and decision makers are rightfully concerned with promoting human development as it correlates with regional cooperation and integration (RCI). In terms of RCI, the role of HCD is vital. Their relationship is symbiotic: regional economic integration positively affects HCD depending on correct policy choices that will enhance both. High levels of human development deepen and enhance RCI through developing human capabilities that foster innovation, facilitate technological use, and create better business environments. In turn, RCI results in a positive impact on HCD through equal emphasis on the creation of regional public goods (RPGs), particularly education, health, technological development, and the environment. Also, the role of knowledge and ideas, their creation, transmission, and utilization, should not be underestimated.

6. The CRII—patterned after the Asia-Pacific Regional Cooperation and Integration Index (ARCII)—is a methodological tool to measure the status and level of regional cooperation along with six major components that comprise the index (see Annexes 1 and 2).⁶ Cross border trade, investment, and monetary and financial integration have been considered the primary drivers of regional integration. Analysts, policy makers, and decision makers have utilized these two components as indicative of the progress of regional integration among member countries. However, to reflect on the role of HCD, equal importance should be given to components V (Free Movement of People) and VI (Institutional and Social Integration).

7. The case for free movement of people rests on the benefits of increased migration. According to a UNESCAP study, increased migration has the potential to deliver win-win-win benefits to migrant workers, developing countries of origin, and host country economies. One clear benefit is financial. The report states that the World Bank estimates a 3 percent increase in migration could deliver benefits of over US\$350 billion. These benefits, according to the report, is in 'excess of the benefits from further trade liberalization.'⁷ An additional benefit is an augmentation of labor supply in countries with a labor shortage. In rapidly developing economies, migrant workers shore up the labor force of host countries.

8. Further, higher wages received by migrants are substantial, even after offsetting the cost of moving. Migrants' remittances to their home countries are a steady source of government revenue. In addition, these remittances are almost always used for consumption and investment.

9. In terms of HCD, migrants are a source of new knowledge and ideas, at the same time they acquire new skills and ideas that benefit recipient economies. Upon their return, migrants are a repository of knowledge, experience, and expertise that can benefit their home countries. Among them are burgeoning entrepreneurs who undertake new projects that augment and expand economic activity as well as foster new economic environments for business creation.

10. Labor market integration is thus one necessary feature of regional integration that has yet to be realized in the CAREC region as well as in other subregions. Regional cooperation plays a vital role in developing model agreements, constructing regional consultative processes, and creating mechanisms to facilitate and regulate labor exchanges.

CAREC Institute. Visiting Fellow Program 2021. Human Capital Development.

⁶ According to the updated CRII, some indicators were changed owing to data limitations in the CAREC region. See CAREC Regional Integration Index: Some Progress, but New Push Required. CAREC Institute. February 2021

⁷ Enhancing Regional Economic Cooperation and Integration in Asia and the Pacific. United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Published Report. November 2017

https://www.unescap.org/publications/enhancing-regional-economic-cooperation-and-integration-asia-and-pacific (accessed 28 August 2021)

11. **Purpose of the Study.** This study focuses on the necessary link between HCD and regional cooperation and integration (RCI) in the CAREC region. Using the Human Development Index (HDI), the Human Capital Index (HCI), and the CRII, the paper analyzes trends and patterns of CAREC countries along with both indices, plots their progress over time, indicates issues and challenges, and formulates policy recommendations that will enhance both HCD and RCI. The study argues that HCD is a vital component of RCI and cannot be achieved through investments in physical capital alone.

12. **Value Addition of the Study.** Thus far, the link between HCD and RCI has not been systematically investigated. The HCI and the HDI are standalone knowledge outputs. Past and present studies such as those undertaken by the World Bank's HCP and the UNDP's Human Development Report (HDR) focus largely on the economic consequences of improved performances along with the HCI and the HDI. Rarely has RCI been associated with HCD. This study hopes to fill in this intellectual gap.

13. While not suggesting a causality between HCI/HDI and RCI, this study provides evidence that countries with high rankings on the HCI/HDI also perform positively along RCI. At the very least, these relationships, though not causal, can be construed as correlated. Singapore's strong performance on both the HCI/HDI and RCI provides empirical evidence of this correlation. This outcome is not coincidental, but rather it is the function of a deliberate strategy by Singapore to invest in human capital as one of the pillars of its economic growth strategy in the past several decades.

14. **Scope and Objectives of the Study.** In the context of the above, the objectives of this study are as follows:

- 14.1 To present highlights of global trends in human development since the inaugural edition of the HDR in 1990
- 14.2 To analyze regional trends in HCD through HDI and HCI rankings
- 14.3 To examine the state of human development in the CAREC region
- 14.4 To provide a comparative analysis of human development in the ASEAN subregion to draw policy lessons and choices
- 14.5 To present Singapore as a specific case study that exemplifies high levels of human development and high levels of regional integration; and
- 14.6 To offer policy proposals to improve human development in the CAREC region through comparative analysis with the ASEAN subregion, specifically Singapore.

15. The study excludes Afghanistan owing to the fluid situation in the country and pending new operational guidelines from development partners, particularly the ADB. Where Afghanistan is mentioned in the report, it is owing to previous inclusions in studies such as the ADB *Asian Economic Integration Report 2021*, the updated CRII (2021), and the ARCII (2018).

16. It should also be noted that the PRC is both a member of the CAREC subregion (Xinjiang Autonomous Region with Inner Mongolia) and the Greater Mekong Subregion (Yunnan and Guanxi provinces in the PRC). The GMS is in Southeast Asia, and all are member countries of ASEAN. Further, the asymmetric size of China's economy makes comparison with countries such as Laos in the ASEAN subregion and Kyrgyzstan in the CAREC region somewhat awkward. The figures in the CRII are presented with and without the PRC (ex-PRC) to reflect its significant impact, especially on the CAREC region. There is as yet no regional integration index for ASEAN or the GMS along the six dimensions of the ARCII and the CRII.

17. Structure of the Report. This report is organized into five chapters. Chapter 1 is an introductory chapter that lays down the argument for HCD as a necessary ingredient for RCI. Chapter 2 highlights global trends in human development and regional integration. Items included are lifespan, literacy, GDP per capita based on HDI, and regional integration based on the six dimensions of the ARCII and CRII. Chapter 3 describes and analyses the HDI and HCI for the CAREC region and Southeast Asia. It presents the HDI and HCI of Southeast Asia with comparative indicators: lifespan, literacy, GDP per capita, and public expenditure on health and spending as a percentage of GDP and government spending. Chapter 4 is a mini case study on Singapore that highlights the performance of Singapore along the dimensions of the HDI and HCD, and its ranking in regional and global integration. The case study also elaborates on investments in technical and vocational education and training (TVET) over time. The different strategies on TVET are plotted against the changing needs and demands for economic development to transform Singapore into a high technology manufacturing hub, and finally, the evolution of Singapore into a service economy necessitated a readjustment to the TVET system. Innovations became necessary to ensure that Singapore maintains its world class status in TVET. Finally, Chapter 5 concludes with policy implications for the CAREC governments and multilateral development partners to enhance HCD in support of RCI.

Chapter 2. Taking Stock: HCD and RCI in the Asia-Pacific Region

18. HCD is broadly defined as the expansion of opportunities for people to make choices and create an environment in which they can develop their potential and lead productive and creative lives. The notion of HCD is rooted in the work of the noted economist and Nobel Laureate Amartya Sen who termed it a 'capabilities approach' to development. A capabilities approach puts people rather than economies at the center of the development process. It regards development as a matter of creating, expanding, and enhancing people's capabilities rather than increasing economic growth rates. Poverty, according to Amartya Sen, is the 'deprivation of capabilities' rather than inadequacy of income as narrowly defined in conventional literature on economic development.

19. When the UNDP HDR was first launched in 1990, development was redefined as 'a process of enlarging people's choices' and viewed incomes as a 'means, not an end' of human development.⁸ The central message of the inaugural report was that economic growth alone does not translate into human development. Certain societies may have achieved comparatively high-income levels yet fail to achieve commensurate levels of human development.

20. This landmark report constituted a paradigm shift in the thinking about development. The core idea in the UNDP HDR echoed much of Amartya Sen's capabilities approach. In the foreword of the inaugural report, the shift towards the wider social, political, and economic dimensions of development was clearly articulated. Development is 'more than GNP growth, more than income and wealth and more than producing commodities and accumulating capital. A person's access to income may be one of the choices, but it is not the sum total of human endeavor.¹⁹ In this regard, the HDR considers itself a 'comprehensive' measure that captures 'many dimensions of human choices other than income.¹⁰

21. The HDR provides several measures of human development that focus on three essential components: i) longevity (life span); ii) knowledge (literacy), and iii) living standard (purchasing power parity or PPP). These three major components constitute the HDI and became the standardized measure against which all countries in the world were measured and ranked. Countries were classified according to high HDI (0.800 and above), medium HDI (0.500 to 0.799), and low HDI (below 0.500).

22. Each year, the HDR categorizes and classifies all countries in the world and provides their rankings *vis* à *vis* the HDI. Of interest to the wider development community and the general public is the comparative value among countries and regions. High HDI provides policy lessons for countries with medium and low HDI. More importantly, the comparison also provides direct policy implications for countries and regions whose scores on the index indicate aspirations for policy choices among governments to improve their rankings and increase their levels of human development.

23. For the past three decades, the HDR has been a continuing source of information on the performance of countries along the social dimensions of development and provided regional and national trends along specific themes. The Asia-Pacific HDR of 2016 focused on demographic changes in the subregion while the HDR 2019 tackled issues of inequality in human development.

24. Whereas the HDR 2011 focused on the Commonwealth of Independent States (CIS) and their transition challenges in the aftermath of the demise of the Soviet Union. Foremost of these challenges

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⁸ UNDP Human Development Report 1990, p10

⁹ *Ibid,* p1

¹⁰ Ibid

was social exclusion as a defining feature of newly independent countries that were liberalizing their economies and undertaking privatization and deregulation processes.

25. The latest report (HDR 2020) also marks the 30th anniversary of the HDR. It emphasizes the role of 'human agency' as the central feature of human development alongside that of values. Human agency refers to the 'ability of individuals to take the driver's seat in addressing challenges and seizing opportunities' while values refer to 'choices that are most desired.'¹¹ At the same time, the report provides a framework for understanding and analyzing the new challenges of development—the unprecedented planetary pressures owing to the action of humans, what scientists refer to as the Anthropocene.¹²

26. The report likewise expands on the HDI—the Planetary pressures-adjusted Human Development Index (PHDI), which includes metrics on per capita carbon dioxide emissions and material footprint for all countries. The incorporation of these metrics identifies the policy decisions that are urgently needed to reverse the accelerating trend in environmental destruction. At the core of this agenda is the continuing need to put people at the center of the development process even while the report emphasizes the twin imbalances in today's world—planetary and social imbalances.

27. Finally, the latest HDR discusses the policy choices for social development against the background of the COVID-19 pandemic. Because the report unequivocally states that COVID-19 is but the 'tip of the spear,' it stresses the importance of addressing both the planetary and social imbalances through a combination of finance and regulation, pricing through incentives, and global collective action. By 'reconfiguring the material and energy flows (and the) transformational changes that need to be brought from the periphery to the center of the human development journey,¹³ the report states that there is ample opportunity for humans to flourish through equity, innovation, and stewardship, thereby enhancing human development while at the same time easing planetary pressures.

28. In a similar vein, the World Bank undertook the Human Capital Development Index (HCDI) which, like the HDI, sought to accelerate progress through investments in health and education. Launched in 2018 as part of the HCP, the HCDI is an international metric that measures progress on the attainment of human capital for children at birth and tracks their progress until their 18th birthday. The achievement in potential among children identifies the policies that governments need to formulate and implement that will enhance the productivity of the next generation of workers.¹⁴

29. The HCl consists of three components: i) survival, measured as the probability of the child surviving beyond the age of five; ii) school, which combines a measure of the number of years of school a child born today can expect to attain given prevailing enrolment rates; and (iii) health, which uses childhood stunting rates and adult survival rates.¹⁵ The HCl reports scores ranging from 0 to 1.0, with 1.0 being the highest score.

¹¹ UNDP Report 2020, p27 <u>https://www.google.com/search?q=undp+report+2020&rlz=1C1CHBF_enSG914SG914&oq=UNDP+Report+2020&aqs=ch</u> rome.0.0i512l9j0i22i30.4808j0j7&sourceid=chrome&ie=UTF-8 (accessed 27 August 2021)

¹² For an extended discussion of the term Anthropocene and its origins, see Yadvinder Malhi, 'The Concept of the Anthropocene,' Annual Review of Environment and Resources 42: 77-104 (2017)

¹³ Ibid, p21 (accessed 29 August 2021)

 ¹⁴ The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19. The World Bank. September 2020. <u>https://openknowledge.worldbank.org/handle/10986/34432</u> License: CC BY 3.0 IGO (accessed 6 September 2021)
 ¹⁵ Aart Kraay, 'The World Bank Human Capital Index: A Guide,' *The World Bank Research Observer*. 2019.

https://openknowledge.worldbank.org/handle/10986/34343 (accessed 6 September 2021)

30. For HDI, all countries are classified according to: very high human development (0.8 to 1.0); high human development (0.7 to 0.79); medium human development (0.55 to 0.70); and low human development (0 to 0.55). Countries that score in the very high human development category are typically those in the industrialized world. They have stable governments, widespread education, high quality health, long life expectancies, and very high per capita incomes. The least developed countries (LDCs), on the other hand, would have HDI scores in the low development category with scores below 0.55. These countries are characterized as having unstable governments, widespread poverty, lack of access to healthcare, poor education, and very low GDP per capita incomes.¹⁶ In some countries, the society is riven with conflicts and has fragile, sometimes failing states. These countries would suffer heavily in human development. The ADB along with other international development organizations refer to them as fragile and conflict-affected situations (FCAS).¹⁷

31. In 1990 when the first HDR was launched, there was considerable human deprivation despite advances in human development. The Global South countries, for example, had lifespans still 12 years fewer than their northern counterparts, and about 100 million children of primary school age were not attending school. Literacy rates were extremely low in South Asia (41 percent) and Sub-Saharan Africa (48 percent) although literacy rates increased from 43 percent in 1970 to 60 percent in 1985. Despite improvements in children's health, halving the under-five mortality rates between 1960 and 1988, there were still 14 million children who die each year before reaching their fifth birthday.

32. Within a period of 30 years, human development progressed steadily so that by 2019, life spans increased, adult illiteracy rates were reduced, and household incomes rose. Further, gender empowerment rates are encouraging in many countries as women took to the workforce in increasing numbers. In the Asia-Pacific region, the 2019 report was enthusiastic about the 'steepest rise globally in human development'¹⁸ even if these achievements were coupled with rising inequality in the fields of technology, gender equality, and higher education. Before the pandemic struck in 2020, HCD was on a steady forward march. Between 2010 and 2020, the HCI registered an increase of 2.6 percentage points.¹⁹

33. In other subregions, however, much remains to be done in terms of policies that will continue to support improvements in HCD. Enrollment rates continue to lag in South Asia compared to their Southeast and East Asian counterparts. Disaggregated by gender, females tend to suffer deprivation in educational opportunities compared to their male counterparts. Table 1 presents the average years of schooling between males and females. Gender disparity, expressed as a ratio of male and female average years of schooling, is most pronounced in South Asia and Sub-Saharan Africa. Of interest are countries in Central Asia where females have a slightly higher average number of years of schooling than their male counterparts.²⁰

¹⁶ <u>https://worldpopulationreview.com/country-rankings/hdi-by-country</u> (accessed 14 September 2021)

¹⁷ <u>https://www.adb.org/documents/working-differently-fragile-and-conflict-affected-situations-adb-experience</u> (accessed 14 September 2021)

¹⁸ Human Development Report 2019. Beyond Income, Beyond Averages, Beyond Today: Inequalities in human development in the 21st century. <u>https://www.asiapacific.undp.org/content/rbap/en/home/presscenter/pressreleases/2019/human-development-in-asia-pacific-regionadvances-dramatically--.html (accessed 30 August 2021)</u>

¹⁹ Pandemic Threatens Human Capital Gains of the Past Decade <u>https://www.worldbank.org/en/news/press-release/2020/09/16/human-capital-index-update-2020-indonesia</u> (accessed 18 November 2021)

²⁰ Hyun H Son, *Ibid*, p4

Region	Male	Female	Total	Gender Disparity
Central Asia	9.35	9.99	9.69	1.07
East Asia and the Pacific	8.47	8.01	8.24	0.95
Eastern Europe	10.24	9.95	10.09	0.97
Industrialized Countries	10.92	10.71	10.81	0.98
Latin America and the Caribbean	8.63	8.33	8.48	0.97
Middle East and North Africa	8.05	7.28	7.65	0.90
South Asia	6.41	4.79	5.62	0.75
Sub-Saharan Africa	5.98	4.89	5.43	0.82
World	8.41	7.84	8.12	0.93

Table 1. Average Years of Schooling and Gender Disparity, 2010

Source: Hyun H Son, Human Capital Development. ADB Economics Working Paper Series No 225. October 2010

34. **The Pandemic Effects on HCD and RCI.** The current pandemic is a critical contextual feature for all countries, none of which have escaped the disruptions caused by the virus. COVID-19 continues to have a deleterious impact on HCD and its repercussions will be felt for many years to come. Those most affected are children in disadvantaged families who were born during the pandemic or are currently under the age of five. Because of disruptions to health systems, reduced access to care, and income losses, there have already been observable consequences to increased child mortality, malnutrition, and stunting especially in low-income countries.

35. In 2020, close to 1.6 billion children worldwide were out of school. The shift to online teaching deprived children of face-to-face interaction with their peers and their teachers. Considerable losses are already anticipated with these new formats especially with differences in the abilities of countries to shift to technology-based learning. Also, income losses reduced global learning by half a year or a drop of almost 4.5 percent in the HCl of the current cohort of children.²¹

36. Regional integration worldwide followed a similar pattern to HCD. Before the pandemic, regional integration proceeded apace. For the past several decades, there has been a growing trend towards regional economic cooperation as evidenced by numerous bilateral and multilateral trade and investment treaties between and among countries all over the world.²² According to the World Bank, regional trade agreements have been increasing in number and changing their nature. Since the first regional trade agreement in 1958 called the Treaty of Rome, some 50 trade agreements mushroomed in 1990, and the number increased exponentially so that by 2018, there were 285 active FTAs.²³ Beyond the sheer volume of trade agreements are 'negotiations that go beyond tariffs to cover multiple policy areas that affect trade and investment in goods and services, including behind-theborder regulations such as competition policy, government procurement rules, and intellectual property rights.¹²⁴ More complex regional trade agreements cover multiple policy areas which can range anywhere between 10 to more than 20 policy areas.

²¹ The Human Capital Index: 2020 Update, *Ibid*, p8

 ²² Rajiv Ranjan, et al, 'Regional Cooperation in Asia: Status and Issues,' *Reserve Bank of India Occasional Papers* Vol 28, No
 2. Monsoon 2007, p79

²³ Dyfed Loesche, 'Worldwide Trade Agreements,' Statista. 21 March 2018.

 <u>https://www.statista.com/chart/13297/number-of-worldwide-regional-trade-agreements/</u> (accessed 9 September 2021)
 ²⁴ Regional Trade Agreements. The World Bank. April 2018. <u>https://www.worldbank.org/en/topic/regional-integration/brief/regional-trade-agreements</u> (accessed 9 September 2021)

37. Trade and investments drove the global and regional integration processes particularly in East and Southeast Asia where significant increases in intraregional cross border trade, investment, and financial flows resulted in the emergence of an independent economic zone.²⁵

38. In the Asia-Pacific Region, RCI progressed for most subregions in 2018 owing to infrastructure, connectivity, and movement of people. However, the progress was uneven. Both East and Southeast Asian subregions scored above the regional average of 0.55, whereas South and Central Asia scored below (see Figure 1).





39. The ongoing pandemic has caused disruptions in RCI particularly in the areas of trade and supply chains, investment, and movement of people. Air transport suffered the worst setback as population movements across the globe ground to a halt in 2020 with almost all countries undertaking lockdown measures. Trade plummeted globally, and intraregional trade within Asia declined in the first half of 2020, with South and Central Asia reporting the largest contractions in the region. The tourism sector is still struggling to recover and economies with high dependence on tourism receipts were particularly hard hit.²⁶

40. Despite the bleak news and dismal scenarios, the pandemic provides a fresh opportunity to redesign social and economic processes afforded by current and new technologies, to promote digitalization in the exchange of goods and services, and to reconfigure supply chains that will be more efficient, reduce duplication, and minimize risks. ADB has emphasized the need to reconfigure regional and global supply chains by rebuilding trade and economic resilience. Further, investment climates will have to improve to restore the downturns in foreign direct investment (FDI) in 2020. Digitalization

CAREC Institute. Visiting Fellow Program 2021. Human Capital Development.

Source: Asian Economic Integration Report 2021. Asian Development Bank. <u>https://www.adb.org/sites/default/files/publication/674421/asian-</u> economic-integration-report-2021.pdf (accessed 9 September 2021)

²⁵ Rajiv Ranjan, et al, 'Regional Economic Cooperation in Asia: A Feasibility Study,' *Foreign Trade Review*. April 2009, p3 DOI: 10.1177/0015732515090101 (accessed 30 August 2021)

²⁶ Yasuyuki Sawada. Asian Economic Integration Report 2021. Asian Development Bank, p3 <u>https://www.adb.org/sites/default/files/publication/674421/asian-economic-integration-report-2021.pdf</u> (accessed 9 September 2021

is a key component in the post-pandemic recovery period. Thus, policy interventions will be needed to address the digital divide and to prepare the Asian region's e-readiness.²⁷

41. In addition to the aforementioned measures, policy interventions are required to rebuild, strengthen, and expand HCD. The HCP of the World Bank 'underscores the urgency of protecting and sustaining the recovering of human capital, which will be the cornerstone of countries' post-crisis recovery and future economic growth.²⁸ Without HCD, the prospects for a post-pandemic recovery as well as continuing progress on RCI remain elusive.

²⁷ Yasuyuki Sawada. *Ibid,* p184

²⁸ The Human Capital Index: 2020 Update, Ibid, p129

Chapter 3 The CAREC Region: Comparative Analysis and Lessons from ASEAN

42. According to the ADB, the CAREC region is the least integrated subregion in the Asia-Pacific region. The most integrated is Southeast Asia followed by East Asia. Among the different regions, the European Union (EU) is the most integrated followed by Southeast Asia.²⁹ Two countries in Southeast Asia—Malaysia and Singapore—exhibit very high degrees of regional as well as global integration.³⁰ The regional average score for Asia-Pacific is 0.473. Singapore's score is 0.630, which far exceeds the regional average. In contrast, the regional average for CAREC is 0.373, which is significantly lower than the Asia-Pacific (see Figures 2 and 3).³¹



Figure 2. Levels of Regional Integration in Asia (Selected Countries)

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

²⁹ Hyeon-Seung Huh and Cyn-Young Park, 'Asia-Pacific Regional Integration Index: Construction, interpretation, and comparison.' ADB Economics Working Paper Series No 511 <u>http://dx.doi.org/10.22617/WPS178772-2</u> (accessed 27 August 2021), p15

³⁰ *Ibid.,* p36

³¹ The Asia-Pacific Cooperation and Regional Integration Index (ARCII) is a composite measure comprised of multiple subindices to measure the level and degree of integration along six socioeconomic dimensions. The six subindices are as follows: i) trade and investments; ii) money and finance; iii) regional value chains; iv) infrastructure and connectivity v) free movement of people; and vi) institutional and social integration. Subregions within the Asia-Pacific region are measured and ranked according to these different subindices. Overall scores indicate high (close to 1.00) or low (close to 0) levels of integration. Policy prescriptions emanate from the performance of the different subregions along the different dimensions of the overall index. See also Annexes 1 and 2 for the complete listing of dimensions, indicators, and subindicators that comprise the ARCII, and the performance of CAREC on the CRII.





Source for both figures above: Hyeong-Seung Huh and Cyn-Young Park, 2017

43. **Trade and Investment Profiles in CAREC and ASEAN.**³² Regional integration scores for the CAREC member countries show a clear pattern of progressive achievement over the last several years since the program's inception in 1997. For the period 2006 to 2018, the CAREC score on the ARCII increased steadily from 0.423 to 0.471. Compared to other subregional initiatives, however, the CAREC region posted the lowest score and maintained this position throughout the period 2006 to 2018 (see Table 2).

³² For the purposes of this report, the term ASEAN will be used throughout, in recognition of ASEAN as a regional trading bloc with an approved charter. The member countries do not include Timor-Leste whose membership is still pending. Southeast Asia denotes a geographic region that includes Timor-Leste

	Central	East	Southeast	South	Oceania	ASEAN	CAREC	GMS	SASEC
2006	0.382	0.584	0.589	0.448	0.568	0.589	0.423	0.575	0.462
2007	0.366	0.555	0.597	0.463	0.543	0.597	0.433	0.583	0.466
2008	0.370	0.560	0.584	0.461	0.546	0.584	0.427	0.574	0.473
2009	0.381	0.558	0.587	0.454	0.549	0.587	0.430	0.573	0.465
2010	0.356	0.566	0.588	0.478	0.567	0.588	0.439	0.578	0.487
2011	0.384	0.562	0.596	0.482	0.550	0.596	0.437	0.581	0.498
2012	0.375	0.567	0.589	0.462	0.547	0.589	0.447	0.578	0.464
2013	0.387	0.572	0.589	0.452	0.551	0.589	0.452	0.582	0.457
2014	0.399	0.582	0.594	0.458	0.550	0.594	0.468	0.588	0.457
2015	0.396	0.564	0.595	0.470	0.531	0.595	0.457	0.586	0.476
2016	0.379	0.594	0.591	0.492	0.544	0.591	0.460	0.587	0.508
2017	0.398	0.569	0.574	0.465	0.530	0.574	0.463	0.561	0.469
2018	0.432	0.559	0.605	0.492	0.518	0.605	0.471	0.593	0.501

Table 2. Asia-Pacific Regional Cooperation and Integration Index

ASEAN = Association of Southeast Asian Nations, CAREC = Central Asia Regional Economic Cooperation, GMS = Greater Mekong Subregion, SASEC = South Asia Subregional Economic Cooperation.

Notes:

(1) The Asia-Pacific Regional Cooperation and Integration Index (ARCII) for each subregion (subregional initiative) for each year is calculated by averaging the ARCII scores for all the economies in each subregion (member economies in each subregional initiative).

(ii) The economy coverage for subregions and subregional initiatives includes: Central Asia (Georgia, Kazakhstan, and the Kyrgyz Republic); East Asia (the People's Republic of China [PRC]; Hong Kong, China; Japan; the Republic of Korea; and Mongolia); Southeast Asia (Cambodia, Indonesia, the Lao People's Democratic Republic [Lao PDR], Malaysia, the Philippines, Singapore, Thailand, and Viet Nam); South Asia (Bangladesh India, Nepal, Pakistan, and Sri Lanka); Oceania (Australia and New Zealand); ASEAN (Cambodia, Indonesia, the Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam); South Asia (Sangapore, Thailand, and Viet Nam); South Asia (Kazakhstan, the Kyrgyz Republic, Mongolia, Indonesia, the Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam); CAREC (the PRC, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, and Pakistan); GMS (Cambodia, the PRC, the Lao PDR, Thailand, and Viet Nam); SASEC (Bangladesh, India, Nepal, and Sri Lanka).

Source: Asian Economic Integration Report 2021. Asian Development Bank

https://www.adb.org/sites/default/files/publication/674421/asian-economic-integration-report-2021.pdf (accessed 12 September 2021)

44. These findings have been corroborated by the latest study of the CRII, which stated that 'progress in integration in the region over the past 15 years was a very moderate one.'³³ There have been increases in all six dimensions of the index with a marginal decrease in Dimension VI— Institutional and Social Integration. Also, the PRC remains a significant factor in CAREC regional integration. With the removal of the PRC in the analysis, results show that CRII scores are 'significantly lower than those including the PRC, underlining the fact that the PRC is an important factor for the CAREC's regional integration.'³⁴

45. In contrast, Southeast Asia is the most highly integrated region in the Asia-Pacific region, followed by East Asia. ASEAN³⁵ was established in 1967 primarily as a security community against the Communist threat that threatened to engulf Southeast Asia during the Cold War. It was only in 1977 that the ASEAN member states (AMS) achieved their first preferential trade agreement. At the end of the Cold War, ASEAN refocused its emphasis on regional cooperation through the signing of the Asian

³³ CAREC Regional Integration Index. CAREC Institute, Urumqi, Xinjiang Autonomous Region, PRC. February 2021, p7 <u>CAREC</u> <u>Regional Integration Index (CRII) – CAREC Institute</u> (accessed 11 September 2021)

³⁴ *Ibid,* p8

³⁵ The original founders were Malaysia, the Philippines, Thailand and Singapore. Today there are officially 11 members. Apart from the original four countries, the following joined ASEAN in the last 20 years: Brunei Darussalam, Cambodia, Indonesia, Laos, Myanmar, and Vietnam. Timor-Leste is classified as belonging to Southeast Asia. It applied for membership in 2011 and is still pending. Also, the Greater Mekong Subregion (GMS) is a regional economic integration program whose members include Cambodia, Laos, Myanmar, Thailand, Vietnam and two southwestern provinces in the PRC, namely, Yunnan and Guanxi. The GMS is patently and exclusively an economic cooperation program among these countries whose main focus is infrastructure, connectivity, energy exchange, agriculture, and tourism.

Free Trade Agreement (AFTA) in 1992. Under the Common Effective Preferential Tariff Scheme, member states agreed to reduce tariffs to 5 percent or less within a period of 15 years starting January 1993. In addition, all countries moved away from import substitution and protectionism, and instead pursued deregulation, privatization, and export promotion in a bid to develop their respective economies, and at the same time improve the region's standing in the global market.³⁶ In 2007, all ten member countries signed the ASEAN Charter, and by 2008, all member countries had ratified the ASEAN Charter that 'confers a legal personality to ASEAN and determines the functions, and develops areas of competence of key ASEAN bodies and their relationship with one another in the overall ASEAN structure.'

46. CAREC's comparatively low rates of integration are evident in Dimensions I (Trade and Investment) and II (Money and Finance). Marginal increases in trade for the period 2006 to 2019 are largely accounted for by the PRC's substantial increases in trade with the CAREC region rather than intraregional trade among the CAREC member countries themselves. Excluding the PRC, intra-CAREC trade among member countries has largely remained stagnant for the last two decades.

47. Comparatively, Southeast Asia's share of intraregional trade over 20 years increased from about 60 percent to 68.4 percent. The Pacific and Oceania also grew from 68.9 percent to 71.8 percent in 2019. The intraregional trade share of Central and South Asia remained below 40 percent for the same period (see Figure 4).



Figure 4. Intraregional Trade Shares by Asian Subregions (Percent) 2000-2019

Source: Asian Economic Integration Report 2021 <u>https://www.adb.org/sites/default/files/publication/674421/asian-economic-integration-report-</u>2021.pdf (accessed 16 September 2021)

³⁶ Sebastian Krahpohl (ed), 'Extra Regional Cooperation Triggers Regional Integration,' in his Regional Integration in the Global South: External Influence on Economic Cooperation in ASEAN, MERCOSUR and SADC. 2017. UK and London: Palgrave Macmillan, p118

48. Despite Southeast Asia's high share of intraregional trade, the significant trading partners are between and among Cambodia, Laos, Myanmar and Vietnam (the so called CLMV countries), and Thailand. Also, there is significant trade between Singapore and Malaysia. Indonesia's top three trading partners are China, Japan, and the United States,³⁷ whereas, for the Philippines, Japan is the top trading partner followed by the United States and China.³⁸ For both countries, Singapore, Malaysia, Thailand, and Vietnam rank in the top 15 trading partners.

49. Concerning FDI in CAREC, the picture is the same as that of trade. In 2018, the PRC remained the largest investor in the region accounting for US\$19.3 billion out of a total of US\$24.5 billion, comprising 79 percent of total investments. Except for Azerbaijan's investment in Georgia (US\$4 billion via the oil and gas conglomerate SOCAR), direct investment within and among CAREC member countries is tiny.³⁹

50. The highest score in the index is regional value chains (RVCs) (0.204). The subindicator proportion of intraregional intermediate goods imports to total intraregional goods imports scored the highest (0.295). Because imports are intermediate goods, RVCs are mostly forward links and there are no backward links. This means that intermediate imported goods are sent to third economies for further processing and export through value chains.⁴⁰ Further, the PRC remains a significant factor especially for countries such as Mongolia, Pakistan, and Turkmenistan. Excluding the PRC in the analysis, the scores of these countries drop significantly.

51. The CAREC region scores relatively high (0.162) in Dimension V (Free Movement of People). Since 2013, Kazakhstan, Tajikistan, and Uzbekistan have been posting the biggest increases. However, as the CRII updated report notes, movement of people constitutes mainly the migration of laborers and shuttle traders rather than leisure tourism.⁴¹

52. Finally, the CAREC countries score very low in Institutional and Social Integration (Dimension VI), with Mongolia and Pakistan as the least integrated. Further findings of the updated CRII indicate that the 'cultural proximity' indicator, defined as trade in cultural goods such as books, newspapers, paintings, and music is problematic. Many Central Asian countries would be buying books from Russia but not from each other. Also, despite the substantial differences among CAREC countries, there is significant exchange among students, and a common Soviet past still has an impact,⁴² but this is difficult to measure. The need for sociocultural exchanges in the realms of education, business development, and the formation of a regional identity is one of the cornerstones of the sociocultural aspects of regionalism.

53. Scores on the HDI among CAREC countries follow a close pattern to the CRII. Kazakhstan, Georgia, and the PRC have the highest HDI scores, while Afghanistan, Pakistan, and Tajikistan are the lowest. Of interest is Mongolia whose score is moderately high both in CRII and HDI. However, with the removal of the PRC, Mongolia's CRII score drops significantly, indicating that Mongolia is more integrated with the PRC than with other CAREC countries (see Figures 5, 6, and 7).

³⁷ Top Ten Trading Partners of Indonesia, SEAIR Exim Solutions. <u>https://www.seair.co.in/blog/top-ten-trading-partners-of-indonesia.aspx</u> (accessed 15 September 2021)

 $^{^{\}rm 38}$ Daniel Workman, 'Philippines Top Trading Partners,' World's Top Exports.

https://www.worldstopexports.com/philippines-top-import-partners/ (accessed 15 September 2021)

³⁹ CAREC Regional Integration Index Updated, *Ibid*, p14

⁴⁰ *Ibid,* p16

⁴¹ *Ibid,* p21

⁴² Ibid

Figure 5. Regional Integration CAREC with CAREC





Figure 7. HDI Scores—CAREC



Sources: CRII Updated, Feb 2021, and UNDP HDR Report 2020. Note that data from both reports are for 2019 although the CRII Report was released in February 2021 and the HDR Report was released in December 2020. Data for countries cover the same period and are therefore directly comparable. For consistency, Afghanistan was included in the presentation of both charts.

54. **Comparative Human Development between CAREC and ASEAN**. HDI rankings for CAREC and ASEAN countries are an interesting study in similarities and contrasts. In the CAREC region, two countries—Kazakhstan and Georgia—are classified as having very high human development (0.800 to 1.000), and two countries—Pakistan and Afghanistan—are classified as having low human development (0.55 and below). The remaining seven countries are in the high and medium human development category. For ASEAN, three countries—Singapore, Brunei Darussalam, and Malaysia—are classified as having very high human development and no country is in the low human development category. It should be noted, however, that Cambodia and Myanmar's HDI values are borderline low (0.594 and 0.583, respectively.) The performance of countries on the HCI is consistent

with their performance on the HDI (except for Turkmenistan for which there is no available data on the HCI). See Tables 3 and 4.

CAREC	HCI Value	HDI Value	HDI	HDI Classification
	2020	2019	RANK	
Kazakhstan	0.629	0.825	53	Very high
Georgia	0.569	0.812	63	Very high
PRC	0.653	0.761	87	High
Azerbaijan	0.578	0.756	88	High
Mongolia	0.614	0.737	97	High
Uzbekistan	0.623	0.720	107	High
Turkmenistan	No data	0.715	112	High
Kyrgyzstan	0.597	0.697	120	Medium
Tajikistan	0.504	0.668	126	Medium
Pakistan	0.406	0.557	154	Low
Afghanistan	0.400	0.511	169	Low

Table 3. CAREC HCI and HDI Rank and Classification

Table 4. ASEAN HCI and HDI Rank and Classification

ASEAN	HCI Value	HDI Value	HDI	HDI Classification
	2020	2019	Rank	
Singapore	0.879	0.938	12	Very high
Brunei	0.626	0.838	47	Very high
Malaysia	0.611	0.810	63	Very high
Thailand	0.609	0.777	80	High
Philippines	0.516	0.718	111	High
Indonesia	0.540	0.718	110	High
Vietnam	0.690	0.704	118	High
Laos	0.457	0.613	137	Medium
Cambodia	0.492	0.594	144	Medium
Myanmar	0.478	0.583	148	Medium

NOTE: Data for Tables 3 and 4 above was derived from the UNDP HDR 2020 and the World Bank HCI <u>https://data.worldbank.org/indicator/HD.HCI.OVRL?locations</u> (accessed 10 October 2021)

54.1 **Per Capita Incomes.** The disparities among CAREC countries are very evident by comparing several indicators. The regional average for per capita incomes in the region is US\$10,552. Kazakhstan's per capita GNI is US\$22,857 while that of Pakistan is US\$5,005—a case of extreme economic divergence between these two countries. Five countries fall below the average. These are: Uzbekistan, Kyrgyzstan, Tajikistan, Pakistan, and Afghanistan. The per capita incomes of the poorest countries—Kyrgyzstan, Tajikistan, and Afghanistan—are less than half the regional average.

54.1.1 In contrast, HDI indicators in ASEAN are among the best in the Asia-Pacific region. Per capita incomes are among the highest. The regional average for per capita incomes in ASEAN is US\$24,717. Singapore, Brunei, and Malaysia are all classified as very high human development

countries. Their per capita incomes are US\$88,155; US\$63,965; and US\$27,534 respectively and are above the regional average. However, there are wide divergences among countries that portray regional economic inequalities, which does not bode well for overall regional economic development. Cambodia's GNI per capita of US\$4,246 comes nowhere near the top-ranking countries. Further, Cambodia's GNI per capita is even lower than Pakistan. The GNI per capita incomes of six countries— Indonesia, the Philippines, Vietnam, Laos, Cambodia, and Myanmar—are less than half the regional average. Per capita incomes of Cambodia and Myanmar are comparable to Kyrgyzstan, Tajikistan, and Afghanistan. Regional responses to inequalities among and within countries and regions will continue to challenge both CAREC and ASEAN who should make poverty reduction and social equity the centerpiece of all regional efforts. See Figures 8 and 9.





Figure 9. GNI Per Capita—ASEAN 2019 (US\$ PPP)

NOTES: The UNDP HDR 303 defines **GNI per capita** as the aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for the use of factors of production owned by the rest of the world, converted to international dollars using PPP rates, divided by midyear population. Further, the UNDP uses PPP (\$) instead of GDP per capita. The HDI attempts to assess 189 diverse countries and territories, with very different price levels. To compare economic statistics across countries, the data must first be converted into a common currency. Unlike market exchange rates, PPP rates of exchange allow this conversion to take account of price differences between countries. In that way, GNI per capita (PPP \$) reflects people's living standards comparably across countries. In theory, 1 PPP dollar (or international dollar) has the same purchasing power in the domestic economy of a country as \$1 (US\$1) has in the US economy. The current PPP conversion rates were introduced in May 2020. They were based on the 2017 International Comparison Program (ICP) Surveys, which covered more than 176 economies from all geographic regions and the OECD. http://hdr.undp.org/en/content/why-it-important-express-gni-capita-purchasing-power-parity-ppp-international-dollars (accessed 17 September 2021)

55. Life Expectancies. The life expectancies for the PRC, Kazakhstan, Georgia, and Azerbaijan are in the range of 73 to 77 years, while those of Turkmenistan, Pakistan, and Mongolia fall in the range of 67 to 69 years—about half a decade's difference among countries within the same region. Mean years of schooling in Kazakhstan, Georgia, Uzbekistan, and Krygyzstan are between 11 to 13 years, while in the PRC, Azerbaijan, Mongolia, Turkmenistan, Tajikistan, and Pakistan, the numbers are between five to 11 years. It should be noted that Uzbekistan's HDI score is high despite its low per capita income. Indicators on life expectancy and mean years of schooling are relatively better than other countries with higher per capita incomes (such as, the PRC and Turkmenistan).

Source: Derived from UNDP HDR 2020

55.1 Overall, life expectancies in ASEAN are higher than in CAREC except for the low HDI countries. Mongolia, Turkmenistan, Pakistan, Afghanistan, Laos, Cambodia, and Myanmar have lifespans below 70 years. For high HDI countries in both regions, lifespans range from 68 years to 77 years.

56. **Education.** The same trends are evident in education. Mean years of schooling are in the range of 10 to 12 years for very high HDI countries and four to five mean years of schooling for low HDI countries. It is interesting to note that mean years of schooling may not necessarily reflect levels of GNI per capita incomes. Uzbekistan and Kyrgyzstan have higher mean years of schooling (11.8 years and 11.1 years respectively) than the PRC (8.1 years) despite the latter's higher GNI per capita (US\$16,057) as compared to Uzbekistan (US\$7,142) and Kyrgyzstan (US\$4,864). The same profile can be seen in ASEAN: the Philippines has about the same mean years of schooling as Brunei (9.10 years and 9.40 years, respectively) despite Brunei's much higher GNI per capita income (US\$63,965) as compared to the Philippines (US9,778). The implications of these comparative regional profiles for human capital formation, social equity, and poverty reduction as well as for RCI, are obvious, especially for the low HDI countries.

56.1. For the ASEAN region whose GNI per capita incomes are higher than those of CAREC countries, more efforts need to be exerted to increase mean years of schooling especially for Laos, Cambodia, and Myanmar. See Tables 5 and 6.

CAREC	HDI	Life	Mean	GNI	HDI	Classification
	Value	Expectancy	Years of	Per	Rank	
		at Birth	Schooling	Capita		
Kazakhstan	0.825	73.6	11.9	22,857	53	Very high
Georgia	0.812	73.8	13.1	14,429	63	Very high
PRC (China)	0.761	76.9	8.1	16,057	87	High
Azerbaijan	0.756	73.0	10.6	13,784	88	High
Mongolia	0.737	69.9	10.3	10,839	97	High
Uzbekistan	0.720	71.7	11.8	7,142	107	High
Turkmenistan	0.715	68.2	10.3	14,909	112	High
Kyrgyzstan	0.697	71.5	11.1	4,864	120	Medium
Tajikistan	0.668	71.1	10.7	3,954	126	Medium
Pakistan	0.557	67.3	5.2	5,005	154	Low
Afghanistan	0.511	64.8	3.9	2,229	169	Low

Table 5. HDI Indicators—CAREC 2019

Table 6. HDI Indicators—ASEAN 2019

ASEAN	HDI Value	Life Expectancy	Mean Years of	GNI Per Capita	HDI Rank	Classification
	Value	at Birth	Schooling	Capita		
Singapore	0.938	83.60	11.60	88,155	12	Very high
Brunei	0.838	75.90	9.10	63,965	47	Very high
Malaysia	0.810	76.20	10.40	27,534	63	Very high
Thailand	0.777	77.10	7.90	17,781	80	High
Philippines	0.718	71.20	9.40	9,778	111	High
Indonesia	0.718	71.70	8.20	11,459	110	High
Vietnam	0.704	75.40	8.30	7,433	118	High
Laos	0.613	67.90	5.30	7,413	137	Medium
Cambodia	0.594	69.80	5.00	4,246	144	Medium
Myanmar	0.583	67.10	5.00	4,961	148	Medium

NOTE: Data for Tables 5 and 6 has been derived from the UNDP HDR 2020

57. **Cross Border Challenges in Health and Education**. The prevalence of livestock production that poses a serious risk to CAREC member countries is a matter of concern for public health. Poor biosafety standards and substandard food hygiene coupled with rising demand for meat production contribute to health risks across the region. Transboundary animal diseases (TADs) can seriously disrupt trade among countries that result in income losses among livestock producing countries (such as Mongolia), and also threatens food security on top of public health concerns.⁴³

58. Because several CAREC countries have predominantly animal production systems with an active cross border trade in food, the ongoing pandemic is a regional and not just a national concern. The need for a regional health surveillance system is immediate and urgent, alongside a regional health security system. Moreover, the need to upgrade healthcare systems across the region will have a significant impact on HCD and regional integration.

59. Cross border health in the ASEAN region is of similar concern. The severe acute respiratory syndrome (SARS) epidemic that hit the region in 2003 emphasized the need to strengthen regional health collaboration. ASEAN leaders identified healthcare as a priority sector for regionwide integration through the opening of healthcare markets that simultaneously provide public goods as well as substantial economic gains. Liberalization of trade in healthcare services has benefited more advanced countries whose substantial investments in healthcare are paying off economically through medical tourism services. Advances in healthcare have spurred a growth industry for wealthy foreigners with recreational packages to boost the consumption of health services, particularly for Malaysia, Thailand, and Singapore.⁴⁴

60. Transboundary diseases have prompted governments to undertake health surveillance systems with the prevalence of animal borne diseases that have resulted in regional epidemics in the

⁴³ *Ibid,* p11

 ⁴⁴ Jamal Hashim, et al, Health and Health Care Systems in Southeast Asia. United Nations University. 2012.
 <u>https://unu.edu/publications/articles/health-and-healthcare-systems-in-southeast-asia.html</u> (accessed 19 September 2021)

past. There have been recurring outbreaks of avian flu, particularly in the GMS. These occurrences have prompted governments in the subregion to construct health surveillance systems. At the same time, health projects have been linked to economic goals and poverty reduction through improved livestock health, value chain development, import substitutions, and market export access. A regional technical assistance project of the ADB aimed to undertake poverty and social analysis among livestock raising households in Cambodia, Lao PDR, and Myanmar.⁴⁵ Other cross border health initiatives in ASEAN include the following select projects funded by international development organizations, which are worthy of further investigation:⁴⁶

- 60.1. Digital Health Infrastructure Project for Malaria Prevention in the GMS: The Backbone of Surveillance for Malaria Elimination
- 60.2. Strong Regulation of Medical Products: Cornerstones of Public Health and Regional Health Security
- 60.3 Regional Public Goods for Health: Combating Dengue in ASEAN
- 60.4 Mekong Basin Disease Surveillance (MBDS)

61. In terms of healthcare, the CAREC region is likewise confronted with substantial risks despite overall progress in lifespans which have increased in the past several decades. The region benefits from a positive demographic profile that translates into a 'population dividend' owing to the young and growing populations in the region. This dividend, if harnessed properly, could contribute substantively to economic growth. However, aging populations are also increasing, particularly in the PRC and Georgia, which will add to the burden of healthcare systems already strained by an increase in noncommunicable diseases (NCDs) and lack of resources.⁴⁷

62. One of the latest initiatives in cross border health is the introduction of an 'integrated climate sensitive disease surveillance system' which has recently been piloted in selected countries in South and Southeast Asia. Climate change has a direct impact on health outcomes through the emergence and re-emergence of infectious diseases. A recent joint study by the Center for Development Research in Germany and the Institute of Public Health in India identified five major impacts on health owing to climate change: namely, i) malnutrition; ii) mortality; iii) injuries caused by flood and storm; iv) heatwaves; and v) vector borne diseases such as malaria and dengue, and water scarcity and contamination.⁴⁸

63. Despite relatively high levels of education in the region (except for Pakistan and Tajikistan), one of the challenging issues in HCD in the CAREC region is its current state of education. These challenges pose impediments to regional human capital formation that, in turn, restrict the kind of sociocultural exchange vital for RCI. An ADB scoping study carried out in October 2019 identified four major challenges: i) lack of quality control, harmonized standards, and accepted accreditation systems across countries hamper comparability and transferability of skills; ii) in the absence of harmonized standards, labor mobility across the region is severely restricted; iii) the lack of an organized labor market information system that could otherwise facilitate the exchange of skills for countries both sending labor and receiving it; and iv) pressures to respond to new educational approaches particularly on the use of artificial intelligence (AI) and other technology based learning methods and

⁴⁵ Greater Mekong Subregion Cross-border Livestock Health and Value Chains Improvement Project: Initial Poverty and Social Analysis. Project Number 53240-003. August 2020. <u>https://www.adb.org/projects/documents/cam-53240-003-ipsa</u> (accessed 17 September 2021)

⁴⁶ A complete listing of ADB supported health projects can be found on its website <u>https://www.adb.org/search?keywords=health%20ASEAN&page=1</u> (accessed 17 September 2021)

⁴⁷ Enhancing Regional Cooperation Under CAREC 2030: A Scoping Study. Asian Development Bank, July 2021, p8. <u>https://www.adb.org/publications/carec-2030-regional-health-cooperation-study</u> (accessed 14 September 2021)

⁴⁸ Sandul Yasobant, et al, 'Towards the Development of an Integrated Climate-Sensitive Disease Surveillance in Southeast Asian Countries: A Situational Analysis,' 2020. *Indian Journal of Community Medicine* 45: 270-273

techniques that are vital for remaining competitive in a globalized world.⁴⁹ Substantial readjustment of current educational systems is required to tackle these aforementioned challenges.

64. Comparatively, education in the ASEAN region is by and large a success story. The ASEAN Qualifications Reference Framework (AQRF) was developed and agreed upon by the AMS in August 2016. The AQRF is a regional device to enable comparisons of (educational) qualifications across the AMS.⁵⁰ As an information tool, the AQRF facilitates the recognition of educational qualifications among member states and offers a transparent mechanism for higher quality qualifications systems. Member countries that subscribe to the framework are assured of quality assurance principles and standards by requiring members to describe their education and training quality assurance systems. In sum, the AQRF is the mechanism for harmonizing educational systems across the ASEAN that will promote the mobility of workers and learners, improve the quality of education and training, and create more equitable opportunities for gainful employment for ASEAN citizens.

65. Undoubtedly, health and education are RPGs that are necessary for economic development, poverty reduction, and RCI. Without these, the prospects for deepening regional integration remain elusive.

66. **Public Expenditure for Human Development.** A key indicator for HCD is the level of public expenditure allocated for human development expressed as per capita spending or as a percentage of government spending on health and education.⁵¹

67. Not coincidentally, very high and high HDI countries spend considerably more on health than low HDI countries. In ASEAN, Singapore leads in terms of the highest dollar value at US\$2,823.64 per capita in 2018. The lowest was Lao PDR whose GDP per capita allocation was US\$57.11. Not coincidentally, Singapore scores very high on human development while Laos is classified as very low. Cambodia and Myanmar are likewise very low on per capita spending on health. The impact on lifespans of low HDI countries reflects the priorities of government spending on health services: 67.10 years (Myanmar) and 69.80 years (Cambodia). These figures fall way below that of Singapore (83.6 years), Thailand (77.10 years), and Malaysia (76.20 years). See Table 6.

68. In the CAREC region, China leads the rest of the other countries in terms of health spending per capita at US\$501.06 followed by Turkmenistan (US\$460.18) and Georgia (US\$312.75). At the bottom are Tajikistan (US\$59.84), Afghanistan (US\$49.84), and Pakistan (US\$42.87).

69. Comparatively, the ASEAN countries spend far more than the CAREC countries on health, except for the low HDI countries—Cambodia, Laos, and Myanmar—whose spending patterns approximate those of the low HDI countries in CAREC—Tajikistan, Afghanistan, and Pakistan. It should be noted that the extreme figures in the ASEAN and the CAREC regions—owing to very high scores of Singapore and China and very low scores for Myanmar, Laos, Afghanistan, and Pakistan—would obscure the portrayal of the region as a whole, thus regional averages have been dispensed with. See Figure 10.

⁴⁹ Education and Skills under the CAREC Program. Scoping Study. Asian Development Bank. September 2019, pp7-10 <u>https://www.adb.org/publications/regional-cooperation-education-skills-carec</u> (accessed 14 September 2021)

⁵⁰ <u>https://aanzfta.asean.org/media-releases/asean-qualifications-reference-framework-aqrf</u> (accessed 16 September 2021)

⁵¹ The definition of health spending per capita is current expenditure in current US dollars consisting of estimates of current health expenditure including healthcare goods and services consumed during each year. The definition of general government expenditure on education (current, capital, and transfers) is expressed as a percentage of total general government expenditure on all sectors (including health, education, and social services). It includes expenditures funded by transfers from international sources to government. General government usually refers to local, regional, and central governments. https://www.theglobaleconomy.com/rankings/Health spending as percent of GDP/Asia/ (accessed 17 September 2021)

Figure 10. Health Spending Per Capita in ASEAN and CAREC Regions (US\$, 2018)





70. The profile of government spending for education expressed as a percentage of government spending and as a percentage of GDP⁵² follows the same pattern as health spending. In the CAREC region, relatively high government spending for education has resulted in positive outcomes. The exceptions are Pakistan and Afghanistan, both of which have the lowest government expenditures and the lowest adult literacy rates (59 percent and 43 percent respectively). Also, both countries post the lowest female literacy rates throughout the region (68 percent and 56 percent respectively). Interestingly, the lowest percentage of government spending is in Azerbaijan (7.44 percent), but with high literacy rates (99.71 percent) and very high female literacy rates (99.91 percent). This phenomenon deserves further investigation.

71. In ASEAN, Singapore leads the region (31.4 percent) followed by Thailand (21.4 percent) and Malaysia (19.9 percent). Laos, Cambodia, and Myanmar's spending on education is very low (7.37 percent, 7.2 percent, and 5.93 percent respectively). Not surprisingly, literacy rates for very high/high HDI countries are one of the highest. Singapore's literacy rate is 97.34 percent, while that of Malaysia is 94.85 percent. Their female literacy rates are also one of the highest in the region along with the Philippines, Indonesia, and Vietnam. The countries with comparatively low spending on education are reflected in their literacy rates. Cambodia, Laos, and Myanmar have literacy rates below 90 percent. However, these three countries still post relatively high literacy rates as compared to their counterparts in the CAREC countries (Pakistan and Afghanistan). See Tables 7 and 8.

⁵² Definition of general government expenditure on education (current, capital, and transfers) is expressed as a percentage of total general government expenditure on all sectors (including health, education, and social services). It includes expenditure funded by transfers from international sources to government. General government usually refers to local, regional, and central governments <u>Education spending</u>, <u>percent of government spending in Asia | TheGlobalEconomy.com</u> (accessed 20 September 2021)

Table 7. Selected Education Indicators for the CAREC Countries(2019 or most recent year with data)

CAREC	HDI Value	Expenditure on Education, as percent of public spending	Education Spending, as percent of GDP	Literacy Rates (percent)	Female Literacy Rate (percent)	Classification
Kazakhstan	0.825	13.88 (2018)	2.62 (2018)	99.78	99.85	Very high
Georgia	0.812	12.95 (2018)	3.51 (2018)	99.36	99.49	Very high
PRC	0.761	14.57	3.51	96.84	99.78	High
Azerbaijan	0.756	7.44 (2018)	2.46 (2018)	99.79	99.91	High
Mongolia	0.737	12.65 (2017)	4.09 (2017)	98.42	99.08	High
Uzbekistan	0.720	23.03 (2017)	5.28 (2017)	99.99	100.00	High
Turkmenistan	0.715	22.84	3.05 (2012)	99.70	99.90	High
Kyrgyzstan	0.697	15.73 (2017)	6.03 (2017)	99.59	99.81	Medium
Tajikistan	0.668	16.39 (2015)	5.23 (2015)	99.80	99.90	Medium
Pakistan	0.557	11.04 (2017)	2.90 (2017)	59.13	67.54	Low
Afghanistan	0.511	10.36 (2018)	4.06 (2017)	43.02	56.25	Low

Table 8. Selected Education Indicators for the ASEAN countries(2019 or more recent year with data)

ASEAN	HDI Value	Expenditure on Education, as percent of public spending	Education Spending, as percent of GDP	Literacy Rates (percent)	Female Literacy Rates (percent)	Classification
Singapore	0.938	31.4 (2012)	2.85 (2013)	97.34	99.94	Very high
Brunei	0.838	11.44 (2016)	4.43 (2016)	97.21	99.79	Very high
Malaysia	0.810	19.85 (2012)	4.16 (2019)	94.85	97.02	High
Thailand	0.777	21.4 (2012)	4.12 (2013)	93.77	98.59	High
Philippines	0.718	13.29 (2009)	2.54 (2009)	98.18	99.27	High
Indonesia	0.718	20.50 (2015)	3.58 (2015)	95.66	99.70	High
Vietnam	0.704	14.47 (2018)	4.17 (2018)	95.00	98.35	High
Laos	0.613	7.37 (2014)	2.94 (2014)	84.66	90.50	Medium
Cambodia	0.594	7.20 (2018)	2.16 (2018)	80.53	92.57	Medium
Myanmar	0.583	5.93 (2011)	1.93 (2019)	75.55	84.41	Low

NOTE: Source of data for both tables above was derived from

https://www.theglobaleconomy.com/rankings/Education_spending_percent_of_government_spending/Asia/ (accessed 19 Sept 2021)

Table 9. Government Expenditure Per Student, Primary and Secondary Levels (Percent) CAREC and ASEAN (Year as indicated)

CAREC	HCI Value (2020)	Expenditure per student, primary level (percent)	Expenditure per student, secondary level (percent)	ASEAN	HCI Value	Expenditure per student, primary level (percent)	Expenditure per student, secondary level (percent)
Kazakhstan	0.825	0.27 (2017)	21.2 (2016)	Singapore	0.938	17.5 (2017)	21.6 (2017)
Georgia	0.812	8.8 (2012)	13.6 (2008)	Brunei	0.838	8.87 (2016)	23.6 (2016)
PRC	0.761	No data	11.4 (1999)	Malaysia	0.810	16.13 (2017)	22.6 (2017)
Azerbaijan	0.756	No data	No data	Thailand	0.777	23.3 (2013)	18.0 (2013)
Mongolia	0.737	14.10 (2017)	15.4 (2010)	Philippines	0.718	9.1 (2008)	9.2 (2008)
Uzbekistan	0.720	No data	No data	Indonesia	0.718	13.3 (2015)	10.5 (2015)
Turkmenistan	0.715	No data	No data	Vietnam	0.704	21.1 (2013)	No data
Kyrgyzstan	0.697	No data	No data	Laos	0.613	9.1 (2014)	12.5 (2014)
Tajikistan	0.668	No data	No data	Cambodia	0.594	6.6 (2014)	6.1 (2001)
Pakistan	0.557	8.09 (2015)	16.0 (2016)	Myanmar	0.583	7.8 (2018)	10.3 (2018)
Afghanistan	0.511	10.25 (2017)	11.3 (2017)				

Source: Government expenditure per student, secondary (% of GDP per capita) - Afghanistan, Azerbaijan, Brunei Darussalam, Cambodia, Georgia, Indonesia, Kazakhstan, Kyrgyzstan, Lao PDR, Malaysia, Mongolia, Pakistan, Philippines | Data (worldbank.org) (accessed 11 October 2021)

72. According to the World Bank report on HCD, the amount of human capital that a child can expect to attain at 18 years of age will be dependent, among other factors, on investments in education at primary and secondary levels. Except for Laos, Cambodia, Myanmar, and the Philippines, the ASEAN countries have high expenditure rates at primary and secondary levels. Countries such as Singapore, Brunei, Malaysia, Thailand, and Vietnam have invested over 20 percent in education at primary and/or secondary levels, and the outcomes are reflected in high HCI. Where data was available, CAREC countries tend to spend less on education at both primary and secondary levels. Kazakhstan's very low spending at primary level (0.27 percent in 2017) and high expenditure rates at secondary levels (21.2 percent) are quite interesting and merit further investigation. See Table 9.

Chapter 4 Singapore's Human Capital Development Strategy: A Mini Case Study

73. From swamp to skyscrapers best describes Singapore's rapid ascent to developed country status within a short period of 50 years. The city state has one of the highest incomes in the world. In 2020, its GDP per capita in PPP was US\$88,397 (US\$56,349 GDP per capita, constant US dollars). In the second quarter of 2021, Singapore's economy grew by 14.3 percent. This figure represents an increase of 1.3 percent in the previous quarter and an increase compared to the growth rate of -13.3 percent in the same quarter last year. Against the background of the pandemic, the economic performance of this city state is certainly impressive.

74. Further, Singapore ranks second in the World Economic Forum's 2018 Global Competitiveness Ranking and ranks fifth most innovative economy in the world according to the 2018 Global Innovation Index. The World Bank's HCI ranks Singapore as number one.

75. Singapore's success story is one of deliberate and purposeful planning. Among a host of factors is a long tradition of investments in human capital as the core of its strategic economic plans. Since its independence from the Malayan Federation in 1965, Singapore embarked on developing its manpower through general education, technical/vocational education, and training as a necessary component of its vision for industrialization.

76. Like many other countries with a colonial past, Singapore's socioeconomic development began with low cost, low skilled labor for its export strategy. Its educational thrust was to reduce illiteracy rates through increased primary school attendance, construction of schools, and subsequent expansion to secondary education. Vocational education began during this phase, with all students being required to obtain two years of vocational education, after which they were streamed into academic, commercial, or technical upper secondary industrial training centers and vocational institutes.⁵³

77. From the lowest rung, Singapore steadily moved up the value chain. By the 1980s into the 1990s, having achieved high rates of literacy and steadily rising incomes, Singapore embarked on a 'second industrial revolution' premised on the upgrading of technical skills to achieve a high technology base for the economy. A new education system was introduced. Compulsory education was the mandate for schools to provide higher academic standards for English, maths, and science. Upgrading of teaching through intensive teacher training was also institutionalized to accompany improvements in educational outcomes for students. The Economic Development Board (EDB) created the French-Singapore Institute and German-Singapore Institute to create world class models of vocational education. As a result, engineers and scientists grew by a factor of five during this decade.⁵⁴

78. From the 1990s onward to the present, the education system evolved further to reach the top of the global value chain through high value, R&D driven products and services. Singapore transformed itself into a hub for regional and global companies and an educational hub, especially for Southeast Asia. The National Institute of Education (NIE) was established in 1991 as the premier and exclusive institution to provide a high quality education for teachers who would embark on a technical and vocational teaching career.⁵⁵

CAREC Institute. Visiting Fellow Program 2021. Human Capital Development.

⁵³ Mark S Tucker, 'The Phoenix: Vocational Education and Training in Singapore.' Washington DC: National Center of Education and the Economy, 2012, p4

⁵⁴ Ibid

⁵⁵ *Ibid*, p10

79. The overall policy infrastructure for HCD was put in place to ensure that investments produced the desired returns in terms of improved economic performance for the economy as well as upgraded skills for both students and teachers. The HCD policy infrastructure has two key components: i) the tripartite relationship between government, employers, and unions; and ii) a multidepartmental approach to national HCD policies.

80. **The Tripartite System.** To ensure cooperation and acceptance from the unions and the private sector, the Ministry of Manpower (MOM) launched the *Manpower 21 Plan* which was a blueprint that envisioned Singapore as a 'talent capital.' To implement this plan, six strategies were formulated: i) manpower planning; ii) lifelong learning; iii) importation of foreign talent; iv) productivity enhancement and optimal resource use; v) enhancement of manpower development; and vi) strong partnerships between the public and private sectors.⁵⁶ The Skills Development Fund (SDF) provided financial resources to employers for the training of their workforce. All employees contributed 1 percent of the total wages of employees for training against which employers can claim 90 percent of the National Trades Union Congress (NTUC). Finally, the National Wages Council (NWC) conducted annual audits to monitor levels of employment and unemployment, international competitiveness, equity to workers and employers, inflation rates, and productivity enhancement.

81. **The Multidepartmental Approach.** Through the National Manpower Council (NMC) headed by the minister of the MOM, Singapore maps out its manpower needs in the medium term (three to five years) and long term (five to ten years). An employment review committee (ERC) supports the council and is multistakeholder in its composition. The committee would include, among others, high ranking government officials, CEOs/directors, principals and/or presidents from learning institutions, and selected representatives from public and private training agencies.

82. **The Institutional Mechanisms.** To implement the policy framework for HCD, Singapore established several institutions. One of these was the National Computer Board (NCB) established in 1981, the period during which Singapore moved up the value chain through the upgrading of its workforce through extensive use of technology. NCB's principal mission was to create an internet savvy workshop and to develop a culture of information technology (IT) throughout Singapore. The plan called for the provision of high speed links within the country and with links to the industrialized world. High tech industrial parks dot the landscape of Singapore.

82.1 One of the important drivers of creativity and innovation is through the saturation of Singapore's educational and training institutions with IT. In the new millennium, Singapore launched eStudent and eTutor systems so that educational courses could be accessed anytime and anywhere from within Singapore. Long before the pandemic struck that spawned the proliferation of teaching platforms like Zoom and Webex, Singapore was at least two decades ahead in digital interconnections and collaborative learning environments through Web based course delivery.

82.2 Alliances between Singapore's universities and polytechnics⁵⁷ were formed, so were industrial parks and partnerships with overseas institutions. Among the notable partners are the French Institute Paul Bocuse for the Culinary Arts and the German Baden-Wurttemburg for Machine Technology and Automotive Engineering. By upgrading Singaporean vocational institutes locally and

CAREC Institute. Visiting Fellow Program 2021. Human Capital Development.

⁵⁶ Manpower 21 Plan is Launched. 31 August 1999. <u>Manpower 21 plan is launched - Singapore History (nlb.gov.sg)</u> (accessed 18 November 2021)

⁵⁷ Polytechnics are tertiary institutions in Singapore that provide three year courses over six semesters. An elaborate discussion of the polytechnics and their role in vocational/technical education is found in a later section. See Rum Tan, 'Polytechnics in Singapore: Overview, Courses, Admissions.' 20 October 2020. <u>https://smiletutor.sg/polytechnics-in-singapore-overview-courses-admissions/</u> (accessed 12 October 2021)

establishing overseas partnerships which afforded opportunities for students to study abroad, the vocational education path was effectively 'rebranded' as a lucrative and promising career direction.⁵⁸

82.3 To carry out the vision of a well developed human resource strategy, the Singapore vocational and technical education system relies on several institutional mechanisms: i) the NIE, which provides teacher training; ii) the Institute of Technical Education (ITE), which is the main provider for all vocational and technical training in Singapore; and iii) the polytechnics. These programs provided to Singaporeans are supported for continuous learning so that Singapore avoided becoming a haven for low technology investments requiring cheap labor.

82.4 **The National Institute of Education.** In 1991, the government of Singapore abolished the Institute of Education and established instead the NIE. The Nanyang Technological University (NTU) absorbed the NIE, which became an integral part of one of the most prestigious universities in Singapore and Asia. This also meant that teacher education would be subject to the same academic standards as all other schools and departments within the NTU. Also, the recruitment of teachers into the NIE would come from the top echelons of high school graduates who would be paid at levels comparable to the compensation of beginning engineers, thus providing a strong incentive to enter the teacher training program.⁵⁹

82.5 The NIE offers a plethora of degree and diploma programs for students who want to train as teachers. The diploma programs constitute the first level qualifications towards a teaching career. There are also modular graduate courses that are standalone but can be used towards a master's degree through a transfer of credits. To ensure that teaching methods are always at the forefront, the Pedagogical Development and Innovations (PDI) Department at NIE is always exploring and implementing innovative methods of teaching and learning. The faculty can use financial incentives such as the Incentivising ICT-Use Innovations Grant (I³G) to learn technology mediated teaching and learning innovations.

82.6 To ensure that the NIE maintains global standards and keeps abreast of current developments in education, the Innovation for School Leaders Program provides regular dialogs with international teacher training institutions—among them, the National College for Training and Leadership in the United Kingdom and the Danish School of Education at Aarhus University in Denmark.⁶⁰ Both students and faculty have had the opportunity to spend study time overseas as part of their learning and can avail of numerous study grants and scholarships provided by the university and external agencies. For example, the Muslim Trust Fund Association Founders' Scholarship (MTFASF) is awarded to deserving Singaporean Muslims who can study in Singapore or abroad.

82.7 **The Institute of Technical Education.** Formally established in 1992, the ITE succeeded the Vocational and Industrial Training Board (VITB) which consolidated all the small vocational institutes and consolidated these into a system of 'megaregional campuses' referred to as the 'One ITE, Three Colleges system.' These colleges are the ITE College Central (CC), ITE College East (CE), and ITE College West (CW). This structure provides a single framework of training for both youth and adults. All colleges use a common occupational skills standards framework and matching course structure. This streamlined approach to TVET facilitated the tighter linkage with business and industry. It also allowed for the matching of skills with societal needs. Hence, graduates of the ITE were highly employable at 90 percent in 2014.⁶¹

⁵⁸ Ibid, p36

⁵⁹ *Ibid*, p10

⁶⁰ The NIE website contains a full description of their programs <u>https://www.nie.edu.sg/</u> (accessed 13 October 2021)

⁶¹ Song Seng Law, 'A Breakthrough in Vocational and Technical Education: The Singapore Story.' Singapore and Hackensack, New Jersey: World Scientific Publishing. 2015, p187

82.8 The ITE's structure of governance allows it to function effectively through the three colleges system. Each college is empowered with flexibility and autonomy while operating within the One ITE, Three Colleges framework.

82.9 Apart from an effective governance structure, all campuses are equipped with extensive workshops, 'real life' laboratories and an IT rich, web based learning environment apart from student support services and facilities for music, sports, and the arts. The physical environment on all of the three ITE colleges is one that easily emulates that of a modern university. It was funded with an initial capital of US\$300 million to construct campuses that would house all the disparate technical institutes and whose architectural excellence would be equal to the best universities in Asia and the rest of the world, with equipment and staff to match. This built environment was a critical factor in reshaping public perception and has helped 'rebrand' technical and vocational education in Singapore.⁶² Also, course offerings may differ among campuses. For example, courses in accounting and cyber/network security are offered on all three campuses, whereas the artificial intelligence applications course is offered only in the College West campus.

82.10 The ITE offers a wide range of programs with courses that are part time, full time, traineeships, or work study diplomas. Students earn a national ITE certificate (NITEC) or an ITE skills certificate (ISC), the SkillsFuture Series certificate of competence (COC), or the Train the Trainer Program (TTP). All these study programs respond to the differentiated needs of students. However, the ITE certification system ensures that its graduates are adequately equipped with skills, knowledge, and values for employability and lifelong learning.⁶³

82.11 To ensure that ITE courses subscribe to global standards, the institute sends over 3,000 students to 25 countries for exposure. The Overseas Industrial Attachment Program (OIAP) provides students with working exposure to companies abroad to enrich their experience of different work cultures. The Overseas Student Exchange Program (OSEP) allows students to spend time studying abroad and earn credits. The Overseas Service and Development Program (OSDP) joins community service projects overseas and takes part in competitions, seminars, conferences, and leadership programs. In turn, the ITE hosts international visitors and provides consultancy and training services under the banner of ITE Education Services (ITEES). The ITE is a member of several overseas networks—among them, the Global Education Network, the Southeast Asian Ministers of Education Organization (SEAMEO), and WorldSkills International.⁶⁴

82.12 **The Polytechnics.** As tertiary level institutions, the polytechnics have played a vital role in technical and vocational education along with the NIE and the ITE. Polytechnics have been described as the 'backbone of Singapore's industrial development system that sits between the vocational education system just described and the university system.⁶⁵ The polytechnics train those who provide much of the technical knowhow and leadership.

82.13 There are currently five polytechnics in Singapore, the earliest of which was founded in 1954. The other four polytechnics were established in the 1980s and 1990s, coinciding with the period of capital intensive, high technology development strategy. The quick expansion of the polytechnics during this period is attributed to the high demand for students who preferred a 'job ready' education. In 1980, the intake rate of students was only 5 percent. By 2006, the intake increased

⁶² *Ibid*, p184

⁶³ A full description of certificate programs at the different ITE campuses can be found at <u>https://www.ite.edu.sg/courses/course-finder</u> (accessed 23 October 2021)

⁶⁴ <u>https://www.ite.edu.sg/who-we-are/global-partnerships</u> (accessed 13 October 2021

⁶⁵ Mark S Tucker, Ibid, p17

to 40 percent.⁶⁶ The five polytechnics to date are: Singapore Polytechnic, Ngee Ann Polytechnic, Nanyang Polytechnic, Temasek Polytechnic, and Republic Polytechnic. Students take three year courses and receive a certificate of diploma at the end of their period of study. Whereas students who opt for Junior College engage in a two year study period after which they apply for admission into a university.

82.14 The learning method in polytechnics is that of the 'factory school,' an idea that came from Singapore. This pedagogical approach required the close intertwining between the work of the most advanced firms in the world with the work of the polytechnics, thus providing students with a curriculum for the training of top level technicians that would reflect the most advanced technologies, forms of work organization, and training systems on the planet.⁶⁷ Faculty members are required to work in a company in the same field in which they teach to emphasize the practitioner orientation of education. The high technology graduates from the polytechnics consist of biotech laboratory technicians, digital animators, games software engineers, and the like. Students undergo internships for two to six months during their third year of study. Some students go on overseas assignments for six weeks to six months. For example, 1,000 students go to China for six weeks. While students pay for these internships, the Ngee Ann Polytechnic provides the students with some subsidies. During these internships, the receiving company assigns someone to the student who will be responsible for grading the student. The firm is also responsible for coming up with a clear plan for the internship that includes a project and a deliverable for the student.⁶⁸

83. **Technical and Vocational Education and Training for the Service Industry.** With lower value added manufacturing work moving offshore, and as manufacturing becomes more automated, Singapore's economy has evolved and shifted towards services. Manufacturing jobs have shrunk while Singapore transformed into a major tourist destination as well as an educational hub. Skills in the hospitality industry are in high demand. The technical and vocational education system therefore designed its programs to follow suit. The Temasek Polytechnic, for example, is offering a course on customer service management and awards a diploma in business practice. Among the courses offered are customer communication skills and daily service excellence.⁶⁹ Other polytechnics such as Ngee Ann Polytechnic offer courses in creative arts using digital technologies. For example, there is a diploma course in digital branding and social media strategies.⁷⁰

84. This mini case study illustrates the vital role of technical and vocational education as exemplified by Singapore. Its efforts over the last five decades to establish an educational system that actively and directly supports its economic development have been realized through an excellent TVET system that continuously evolves as the economy changes. Also, the TVET system continues to be at the forefront of innovations in both content and pedagogical methods to reflect the best of global standards. The success of Singapore as a highly integrated economy both in the region and throughout the globe illustrates the central role of HCD in promoting, enhancing, and deepening RCI.

⁶⁶ *Ibid*, p18

⁶⁷ *Ibid,* p23

⁶⁸ *Ibid,* p31

 ⁶⁹ <u>https://www.tp.edu.sg/schools-and-courses/adult-learners/all-courses/industry-specific-courses/skills-based-modular-courses/stackable-modular-courses/customer-service-management.html#what-you-learn) (accessed 14 October 2021)
 ⁷⁰ <u>https://www.cet.np.edu.sg/course-calendar/2</u> (accessed 14 October 2021)
</u>

¹⁰ <u>https://www.cet.np.edu.sg/course-calendar/2</u> (accessed 14 October 2021)

Chapter 5. Policy Proposals and Recommendations

Utilizing the comparative analysis with ASEAN, policy lessons can be derived for the CAREC region. These recommendations, however, need to be contextualized and custom fitted for the CAREC countries to adapt to their particular situations. The following are the proposed policy recommendations to promote human capacity development for RCI:

85. **Increase Public Expenditure for Health and Education**. The evidence from ASEAN, especially from Singapore, demonstrates the impact of investments on health and education. Not only are health and education outcomes improved, but regional integration is best achieved with the creation of RPGs. Because higher expenditure in HCD does not directly translate to RCI, more study is proposed to improve the investment climate specifically for health and education. Focus on tax incentives, health, and education visas, and the exchange of faculty and students could constitute the focus of the study.

86. In terms of healthcare, CAREC countries are well advised to provide universal healthcare that is affordable and also of high quality. Special attention should be given to migrant workers in the region whose healthcare needs should also be a priority, given the high level of movement of labor across CAREC countries.

87. Also, increases in literacy rates across the region demonstrate the positive impact of high literacy rates on women. The highest scores in female literacy rates for both CAREC and ASEAN regions imply that the active participation of women in the workforce is a positive outcome for regional integration. Gender dimensions of the HCI/HDI and RCI should be included in RCI policy and program initiatives as well as further policy research.

88. **Harmonization of Educational Systems Across CAREC Countries.** Investments at a national level are not sufficient to boost RCI. Neither are nationally based literacy rates, which, in the CAREC region, are among the highest in the world. However, the harmonization of educational standards and quality assurance mechanisms across countries is required for RCI. These standards and mechanisms that are regionally applicable make it possible for countries to undertake knowledge exchange, facilitate the transfer of skills and technologies, and respond to labor demands through a systematic analysis of the regional labor market. Although still not a fully functioning mechanism, the AQRF is an exemplary regional device to facilitate the recognition of educational qualifications among member states and offers a transparent mechanism for higher quality qualifications systems. Support for the development and institutionalization of a similar harmonized educational system across CAREC countries is a positive step towards RCI. In addition, quality assurance mechanisms need to be prioritized and strengthened so that Pakistan's educational system leverages its educated population who can respond to regional and global labor markets.

89. Because harmonization is a very long process, as the experience of ASEAN demonstrates, the CAREC region does not need to wait for the harmonization process to be completed. Countries can already undertake academic exchanges between faculty and students even among several countries, and provide guidelines on the terms of exchange between and among countries.

90. **Development of Health Surveillance and Quick Response Systems.** As with the extensive practice of information sharing among ASEAN member countries, a health surveillance system is proposed for the CAREC region, especially against the background of the pandemic. Following ASEAN's experience with the avian and swine flus and SARS, the CAREC region would be well advised to develop quick response systems for recurring outbreaks. The elements of health surveillance and quick response systems include the following:

90.1 Immediate development of protocols in the areas of i) international travel; ii) information sharing and public education on a national and regional basis; and iii) logistics management across borders, including items such as protective gear, vaccine supply and distribution, transport, and exchange of medical expertise especially for countries with shortages of medical supplies and personnel;

90.2 A regional operations centre based in a CAREC country that provides daily updates and tracks the movement of disease across the region. A CAREC country should host the operational center permanently to assure consistency;

90.3 Create a pool of funds specifically devoted to health crises, both current and potential. The fund will be eligible for member countries to use during outbreaks and have specific guidelines on eligibility requirements. These funds should be lodged in a CAREC country with state of the art financial technologies for ease of financial transactions, financial reporting, and accounting;

91. **Coordinated HCD Strategies on a Regional Basis,** especially in the area of capacity building (training and research) across countries where the demand and supply of labor skills vary. Similar to Singapore's manpower development strategies, the CAREC region should likewise develop strategies for developing human resources across countries that feature, among others, the kind of skills required for the development of regional labor markets. These strategies should be continuously updated and have short term (three to five year) and long term (six to ten year) planning horizons. Further, a well developed migration strategy for both sending countries and receiving countries within the CAREC region should be devised so that the demand for migrant workers is better managed and regulated. Following the example of several countries which have well regulated migrant labor regimes,⁷¹ CAREC countries should provide several measures to ease the flow of movement—for example, visa requirements, social protection for migrant workers, and entrepreneurship incentives. An in-depth separate study on the regulation of migration and mobility is proposed, drawing from best practices among migration regimes, and both sending countries and receiving countries.

92. **Support from International Donors for HCD** should receive equal attention and priority, especially against the background of the pandemic. Investments in RPGs, especially in health and education, should receive equal priority to investments in physical infrastructure. As the pandemic continues to demonstrate, countries like Singapore with high human capital have more resilience and can plan better for economic strategies that are favorable for national development as well as regional and global integration.

93. A concrete proposal for the ADB is to establish an Asia-Pacific Human Capital Project (APHCP) akin to the World Bank HCP. The APHCP would serve as a nice complement to the ARCII. Innovations in the ARCII are currently under way. Accordingly, the CRII should follow suit and incorporate the dimensions on environmental sustainability, digitalization, and gender dimensions in the CRII.

94. **Conclusion**. In terms of human development, the evidence is incontrovertible: high levels of regional integration correspond to high human development. As this report argues, investments in HCD are an important ingredient for RCI. These investments are functional and instrumental: they result in positive outcomes. But human capital investments are also normative: the development of human potential to the fullest is a desirable end goal in and of itself.

⁷¹For example, sending countries like Pakistan, Philippines, and Sri Lanka have good regulatory frameworks for sending out migrant labor. Australia, Kuwait, Qatar, Saudi Arabia, Hong Kong, Taiwan, and Singapore, among others, are receiving countries and have very well-developed migration policies and procedures.

95. With the current pandemic situation, investments in RPGs are even more vital especially for countries that have limited resources. Health and education investments are undoubtedly necessary to combat and manage the pandemic (hopefully), to bring down the transmission rates, provide healthcare services to those who have been afflicted, and prevent future outbreaks. One lesson from this pandemic has been established: RCI can proceed apace even in a pandemic situation provided there is sufficient human capital to buttress its deleterious effects.

Dimensions and Subdimensions			ghts
I. Trac	e and investment integration		0.187
l-a	Proportion of intraregional goods exports to total goods exports	0.180	
l-b	Proportion of intraregional goods imports to total goods imports	0.188	
l-c	Intraregional trade intensity index	0.219	
l-d	Proportion of intraregional foreign direct investment (FDI) inflows to total FDI inflows	0.208	
l-e	Proportion of intraregional FDI inflows plus outflows to total FDI inflows plus outflows	0.206	
II. Mo	ney and finance integration		0.116
ll-a	Proportion of intraregional cross-border equity liabilities to total cross-border equity liabilities	0.237	
ll-b	Proportion of intraregional cross-border bond liabilities to total cross-border bond liabilities	0.258	
ll-c	Pair-wise dispersion of deposit rates averaged regionally relative to that averaged globally	0.245	
ll-d	Pair-wise correlation of equity returns averaged regionally minus that averaged globally	0.260	
III. Re	gional value chain		0.156
III-a	Ratio between the averaged trade complementarity index over regional trading partners and the averaged trade complementarity index		
	over all trading partners	0.243	
III-b	Ratio between the averaged trade concentration index over regional trading partners and the averaged trade concentration index over all		
	trading partners	0.226	
III-c	Proportion of intraregional intermediate goods exports to total intraregional goods exports	0.316	
III-d	Proportion of intraregional intermediate goods imports to total intraregional goods imports	0.215	
IV. Inf	rastructure and connectivity		0.172
IV-a	Ratio between the averaged trade cost over regional trading partners and the averaged trade cost over all trading partners	0.225	
	Ratio between the averaged liner shipping connectivity index over regional trading partners and the averaged liner shipping connectivity		
IV-b	index over all trading partners	0.216	
IV-c	Logistics performance index (overall)	0.286	
V-d	Doing business index (overall)	0.273	
V. Fre	e movement of people		0.186
V-a	Proportion of intraregional outbound migration to total outbound migration	0.248	
V-b	Proportion of intraregional tourists to total tourists (inbound plus outbound)	0.244	
V-c	Proportion of intraregional remittances to total remittances	0.209	
V-d	Proportion of other Asian countries that do not require an entry visa	0.299	
VI. Ins	stitutional and social integration		0.182
VI-a	Proportion of other Asian countries that have signed free trade agreements	0.173	
VI-b	Proportion of other Asian countries that have an embassy	0.199	
VI-c	Proportion of other Asian countries that have signed business investment treaties	0.199	
VI-d	Proportion of other Asian countries that have signed double taxation treaties	0.213	
VI-e	Cultural proximity with other Asian countries relative to that with all other countries	0.216	

The Asia-Pacific Regional Cooperation and Integration Index (ARCII)

Annex 2

Dimensions and Indicators of the CAREC Regional Integration Index (CRII)

Dimensions/Indicators	Wei	ghts
Trade and Investments		0.158
Proportion of intra-regional goods exports to total goods exports	0.196	
Proportion of intra-regional goods imports to total goods imports	0.177	
Intra-regional trade intensity index	0.204	
Proportion of intra-regional FDI inward stocks to total FDI inward stocks s	0.211	
Proportion of intra-regional FDI inward stocks plus outward stocks to total FDI inward stocks plus outward		
stocks	0.212	
Money and Finance Integration		0.193
Financial Institutions Depth Index	0.306	
Financial Markets Access Index	0.147	
Financial Markets Depth Index	0.306	
Financial Markets Efficiency Index	0.241	
Regional Value Chain		0.204
Ratio between the averaged trade complementarity index over regional trading partners and the averaged		
trade complementarity index over all trading partners	0.251	
Ratio between the averaged trade concentration index over regional trading partners and the averaged trade		
concentration index over all trading partners	0.287	
Proportion of intra-regional intermediate goods exports to total intra-regional goods exports	0.166	
Proportion of intra-regional intermediate goods imports to total intra-regional goods imports	0.295	
Infrastructure and Connectivity		0.174
Ratio between the averaged trade cost over regional trading partners and the averaged trade cost over all trading partners	0.125	
Ratio between the averaged liner shipping connectivity index over regional trading partners and the averaged		
liner shipping connectivity index over all trading partners	0.320	
Logistics Performance Index (overall)	0.333	
Doing Business Index (overall)	0.222	
Free Movement of People		0.162
Proportion of intra-regional outbound migration to total outbound migration	0.255	
Proportion of intra-regional tourists to total tourists (inbound plus outbound)	0.278	
Proportion of intra-regional remittances to total remittances	0.195	
Proportion of other CAREC countries that do not require an entry visa/omitted owing to data inconsistency	-	
Institutional and Social Integration		0.110
Proportion of other CAREC countries that have signed FTAs with	0.212	
Proportion of other CAREC countries that have an embassy in	0.165	
Proportion of other CAREC countries that have signed business investment treaties with	0.253	
Proportion of other CAREC countries that have signed double taxation treaties with	0.269	
Cultural proximity with other CAREC countries relative to that with all other countries	0.100	

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