PALGRAVE MACMILLAN ASIAN BUSINESS SERIES

China's Belt and Road Initiative in a Global Context

Volume II: The China Pakistan Economic Corridor and its Implications for Business

Edited by
Jawad Syed · Yung-Hsiang Ying

palgrave
macmillan

Palgrave Macmillan Asian Business Series

Series Editor
Yingqi Wei
Business School
University of Leeds
Leeds, UK

The Palgrave Macmillan Asian Business Series publishes theoretical and empirical studies that contribute forward-looking social perspectives on the study of management issues not just in Asia, but by implication elsewhere. The series specifically aims at the development of new frontiers in the scope, themes and methods of business and management studies in Asia, a region which is seen as key to studies of modern management, organization, strategies, human resources and technologies. The series invites practitioners, policy-makers and academic researchers to join us at the cutting edge of constructive perspectives on Asian management, seeking to contribute towards the development of civil societies in Asia and further a field.

More information about this series at
http://www.palgrave.com/gp/series/14420

Jawad Syed • Yung-Hsiang Ying
Editors

China's Belt and Road Initiative in a Global Context

Volume II: The China Pakistan Economic Corridor and its Implications for Business

palgrave
macmillan

Editors
Jawad Syed
Suleman Dawood School of Business
Lahore University of Management Sciences
Lahore, Pakistan

Yung-Hsiang Ying
National Taiwan Normal University
Taipei City, Taiwan

ISSN 2661-8435 ISSN 2661-8443 (electronic)
Palgrave Macmillan Asian Business Series
ISBN 978-3-030-18958-7 ISBN 978-3-030-18959-4 (eBook)
https://doi.org/10.1007/978-3-030-18959-4

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG.
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Acknowledgements

The editors thank the China Pakistan Management Initiative (Lahore University of Management Sciences) for its support of this project. The editors also thank the anonymous reviewers for providing critical and constructive comments on various chapters. The editors also wish to thank Palgrave Macmillan, the commissioning editor and her team for their support at various stages of this book—right from its conception to the end product in your hands.

Contents

Notes on Contributors

Farooq Abdullah is Lecturer of Sociology, presently working as Manager R&D, at Mirpur University of Science and Technology (MUST). He is doing his PhD in Sociology at International Islamic University, Islamabad. He has a Master's in Sociology from the University of Azad Jammu and Kashmir and an MPhil in Sociology from PMAS-Arid Agriculture University, Rawalpindi with distinction, securing gold medals in both degrees. His area of research is gender and education. He has been a trainer on peace building, disaster management, human rights and social entrepreneurship. He has seven years of experience of working at different management positions in the social sector across Pakistan and Azad Jammu and Kashmir. He has published research articles in HEC (Higher Education Commission, Pakistan) and JRC (Joint Research Centre) recognized journals. He has also participated in different national and international conferences.

Saud Khan Afridi is an MBA student at Lahore University of Management Sciences, Pakistan.

Bashir Ahmad is a Professor of Management Sciences at Bahria University, Karachi Campus. His educational qualifications include a Master's in Economics, an MBA in Marketing, an MSc in Strategic Studies and a PhD in Organizational Management. In addition to over

100 articles, conference and seminar papers, he is the author of four books. His fifth book is under review. His areas of special interest include economics, philosophies of organizational management, organizational performance excellence and quality management, human resource development and management, and qualitative research.

Mahmood Ahmad is an internationally renowned expert on agriculture and water policy, having received his PhD in Resource Economics from the University of Massachusetts in 1979. He is a visiting research fellow at the Center for Water, Informatics and Technology (WIT), Lahore School of Management Science (LUMS), Lahore, Pakistan, and advisor at the Shahid Javed Burki Institute of Public Policy (BIPP) at Netsol, Lahore, Pakistan. With experience of approximately 40 years, 24 of these being spent at the Food and Agriculture Organization (FAO), United Nations, in more than 15 countries, Mahmood was principally involved in the formulation of an agriculture and water policy for the Near East countries; supporting member countries in preparing agricultural strategies under water-scarce conditions; spearheading the World Bank-assisted Regional Initiative on Water Scarcity of the FAO Regional Office in Cairo; and formulation of the Economic Cooperation Organization national and regional food security policies and strategies. Apart from upstream work on agriculture and water, he has developed expertise regarding agri-business, value chain analysis and competitiveness. His recent work, sponsored by Asian Development Bank, Japan International Cooperation Agency, United States Agency for International Development, FAO, Shore Bank and Lahore University of Management Sciences, entailed analysing and developing agriculture value chains in Pakistan. In addition, he has also authored numerous technical and analytical papers on diverse topics relating to agriculture and sustainable development.

Hamza Ali is a graduate from the Lahore University of Management Sciences. He completed his undergraduate degree in Economics. He was a gold medallist for his batch. He currently works as a Consultant for McKinsey & Company. He has an interest in education and economic development with a focus on capital projects and infrastructure.

Yasir Arrfat has been Research Coordinator, Centre of Excellence-CPEC (CoE-CPEC), Ministry of Planning Development and Reforms, Pakistan Institute of Development Economics, Islamabad since 2016. Prior to joining CoE-CPEC, he had been working in industry, trade (fast-moving consumer goods) and the energy sector with different institutes and multinational companies, including Coca Cola Beverages Pakistan, Pak Arab Refinery-PARCO, Tuwairqi Steels Mills, Comstar-ISA-Shah Nawaz Group, Abudawood Trading Company, Procter & Gamble, Pakistan Navy, Port Qasim Authority and The Citizen Foundation. He completed a Bachelor of Engineering from the Pakistan Navy Engineering College-NUST and an MBA from Karachi School of Business and Leadership. His area of interest includes global value chains, regional connectivity, trade and industry cooperation under the umbrella of new economic geography, emerging market forces, modern industrialization and entrepreneurship. He was the winner of the All Pakistan Business Plan Competition 2015 and the Mobilink Discover—NUST Business Plan Competition, 2014–15 on energy auditing services.

Fatima Azmat is a graduate from the Lahore University of Management Sciences (LUMS). She completed her undergraduate degree with a high distinction and specialized in the field of Economics. She currently works as a research associate for the Pakistan At Hundred initiative at LUMS in collaboration with the World Bank. She has an interest in data-driven analytics and policy and is shortly going to pursue the field through graduate study at the University of Chicago.

Omair Haroon is working as an Assistant Professor in the Suleman Dawood School of Business. He is the director of the China–Pakistan Management Initiative at Lahore University of Management Sciences (LUMS). Omair obtained his PhD in Accounting from The Hong Kong Polytechnic University, Hong Kong in 2015, where his research inquired into financial reporting choices and their impact on capital markets' perception of firms, with a particular focus on earnings management. He qualified as a Chartered Accountant in 2005 from the Institute of Chartered Accountants of Pakistan. He is also an active member of the Association of Chartered Certified Accountants, UK and the American

Accounting Association. Omair teaches courses in accounting, financial reporting, governance and management accounting. He has conducted several executive trainings for different courses and programmes at LUMS. His research interests include capital market research in accounting, financial reporting choices, corporate governance and international financial markets.

Syed M. Hasan is Assistant Professor in the Department of Economics, Lahore University of Management Sciences. His primary research interest and teaching field is urban and regional economics and public economics. Hasan obtained his PhD in Economics from Ohio State University in 2014. His doctoral research focused on spatial policy instruments and firms' productivity. Under the broad theme of sustainable development, Syed also has an interest in research on resilient cities. In this context his research focuses on areas related to water conservation, the economic cost of traffic congestion and energy choices by households and related carbon emissions in large urban centres of Pakistan. Syed has several publications in international peer-reviewed journals. In 2007 he did a Master's in Public Finance from the National Graduate Institute for Policy Studies, Tokyo, Japan. Prior to joining academia, Syed worked in the civil service in Pakistan.

Khushbakht Hina holds a PhD and MPhil in Education. She completed an International Master's in Education Leadership and Policy (Professional) in 2014 from East China Normal University (ECNU) Shanghai, graduating with the roll of honour and best thesis award. She received an appreciation award for teaching from the language and interpretation department at ECNU. She has contributed more than 14 articles to national and international journals and presented a number of papers at international conferences. She has over 14 years of teaching and administration experience in universities. From 2014 to 2018, she was unit head of the Anti-Plagiarism Unit, QEC, at the National University of Modern Languages (NUML), Islamabad. She is also a member of the standing committee and focal person for anti-plagiarism at the Higher Education Commission. At present she is working as Deputy Director of Research and Regional Campuses and Administrator of NUML's online

research repository in the academic branch of NUML. She teaches MPhil and PhD courses at NUML and the National Defense University. She has international experience in teaching in China from 2013 to 2014 and received an appreciation certificate for teaching from the Language and Interpretation Department, ECNU Shanghai. She is the author of two international research studies and recently Cambridge Scholars Publishing published her research work. Qualitative research, management and intelligence, professional development and academic writing are her areas of research interest.

Uzair Ikram is an MBA student at Lahore University of Management Sciences, Pakistan.

Asifa Jahangir is a PhD scholar at the Centre for South Asian Studies, University of the Punjab. Her dissertation is entitled 'Afghanistan–India Geopolitical Interests: Implications for Pakistan (2002–2014)'. She has worked as a Research Associate at the China–Pakistan Management Initiative at Lahore University of Management Sciences for a joint project on the China-Pakistan Economic Corridor (CPEC) with the Association of Chartered Certified Accountants. Her research interests are CPEC and the Pakistan–China strategic relationship, Afghanistan and the geopolitics of the great game, India's foreign policy and its relations with Afghanistan, and Pakistan's foreign relations.

Muhammad Khalique is presently working as a Postdoctoral Fellow at Universiti Sains Malaysia and an Associate Professor/Director, MUST Business School (MBS), Mirpur University of Science and Technology (MUST). He is a Founder of MBS, MUST Entrepreneurial Incubation Center and MUST Business Research Center. He is a Chairman of the Azad Jammu and Kashmir Chapter, Association of Management Development Institutions of Pakistan. He received his PhD from Universiti Malaysia Sarawak, Malaysia in 2012. He has also worked as a Senior Lecturer in the Department of Business Management, Faculty of Economics and Business in Universiti Malaysia Sarawak. He has 13 years' teaching experience at national and international levels. He has published more than 55 articles in international refereed journals, in conference

proceedings and as book chapters. He has more than 600 citations. He is a reviewer of 12 international refereed and indexed journals. He is a member of various professional bodies. He has won five research grants from Malaysia and won second prize at the DICE Mega Innovation Event in 2017. He has conducted various workshops on SPSS, structural equation modelling (AMOS), partial least squares regression and research proposals in Malaysia and SPSS at the Higher Education Commission, Pakistan. He won best trainer award in SPSS in Malaysia in 2014. He has been invited as a keynote speaker at national and international conferences. He organized MUST's first International Conference on Business and Management Research (ICBMR-2015), which was the first in Azad Jammu and Kashmir's history.

Syed Khawaja Anser Mahmood is an MBA student at Lahore University of Management Sciences, Lahore.

Arif Masud Mirza has been the Regional Head of Policy for the Association of Chartered Certified Accountants (ACCA) Middle East, North Africa and South Asia (MENASA) since 2014. He has held senior positions at various organizations: he was the CEO/Head of ACCA Pakistan and finance manager and company secretary at International Investment Bank. He has rich experience as a technical advisor with the Global Reporting Initiative South Asia's Advisory, Group and Multi-stakeholder Steering Committee, looking at initiating the United Nations' Sustainable Development Goals in companies.

T. Ramayah is currently Professor of Technology Management, School of Management, Universiti Sains Malaysia; Visiting Professor at King Saud University (Kingdom of Saudi Arabia), Minjiang University (China), Universiti Malaysia Sarawak; and Adjunct Professor at Sunway University, Multimedia University and Universiti Tenaga Nasional, Malaysia. He has an h-index of 55 and 12,864 citations in Google Scholar and an i-10 index of 257. He has taught courses in Statistics, Operations Management, Research Methods, Forecasting and Computer Literacy at undergraduate level. He has supervised numerous PhD/MA/MBA students in the fields of Information Systems, Operations Management,

Marketing Management and Organizational Behaviour. He is also currently supervising numerous students at MA and PhD levels. His publications have appeared in *Information & Management*, *International Journal of Operations & Production Management*, *Tourism Management*, *Journal of Travel Research*, *International Journal of Contemporary Hospitality Management*, *Journal of Environmental Management*, *Technovation*, *Corporate Social Responsibility and Environmental Management*, *Journal of Service Theory and Practice*, *Journal of Business Ethics*, *Internet Research*, *Computers in Human Behavior*, *Information Systems*, *Resources, Conservation and Recycling*, *International Journal of Information Management*, *Safety Science*, *Industrial Management and Data Systems*, *Evaluation Review*, *Information Research*, *Social Indicators Research*, *Quantity & Quality*, *Service Business*, *Knowledge Management Research & Practice*, *Journal of Medical Systems*, *International Journal of Production Economics*, *Personnel Review* and *Telematics and Informatics*, among others. He also serves on the editorial boards and programme committees of several international journals and conferences of repute. His full profile can be accessed from http://www.ramayah.com.

Suniya Raza graduated with High Distinction with a BSc in Economics from Lahore University of Management Sciences in 2018. She is currently working as an Assistant Manager in Non-Financial Advisory Services at Bank Alfalah, with the aim of increasing financial inclusion in Pakistan. She has an interest in financial econometrics and aims to gain expertise in this field at graduate school in the near future.

Usama Imran Sethi is an MBA student at Lahore University of Management Sciences, Pakistan.

Majid Sharif is an MBA student at Lahore University of Management Sciences, Pakistan.

Jawad Syed is Professor of Organisational Behaviour at the Suleman Dawood School of Business, Lahore University of Management Sciences. His main research interests include international human resource management, diversity management, business ethics and organizational

knowledge. He obtained his PhD in Business from Macquarie University and completed a Postgraduate Certificate in Higher Education at the University of Kent. He also attended the Institute for Management and Leadership in Education at the Harvard University Graduate School of Education. He is a Fellow of the Chartered Institute of Personnel and Development. He has written more than 75 journal articles and book chapters, including articles in *British Journal of Management*, *Human Relations*, *Business Ethics Quarterly*, *Human Resource Management Journal* and *Gender, Work and Organization*, among others. He has written and edited several books, including *Employee Motivation in Saudi Arabia: An Investigation into the Higher Education Sector* (Palgrave Macmillan, 2018); *Human Resource Management: A Global and Critical Text* (Palgrave Macmillan, 2017); *Managing Diversity and Inclusion: An International Perspective* (Sage, 2015); *Faith-Based Violence and Deobandi Militancy in Pakistan* (Palgrave Macmillan, 2016); *Managing Cultural Diversity in Asia: A Research Companion* (Edward Elgar, 2010); and *Managing Gender Diversity in Asia: A Research Companion* (Edward Elgar, 2010).

Memoona Tariq is a Lecturer in Human Resource Management at the University of Huddersfield. Her research interests include gender and diversity in organizations and international human resource management.

Zehra Waheed is an Assistant Professor at the Suleman Dawood School of Business, Pakistan. She has cross-disciplinary research interests largely around urban sustainability, project management and responsible business practice. Recent research has covered renewable energy generation, the China Pakistan Economic Corridor, urban waste management systems, waste recycling networks and pro-environmental behaviours. Most of this work is undertaken in the context of value creation through projects, wherein she likes to study organizational networks, front-end planning and stakeholder interfaces. She is an empiricist and predominantly undertakes qualitative research. Zehra engages with industry and public-sector enterprises in the energy, construction and public sectors. She is an Associate of the Lahore University of Management Sciences' Centre of Water, Informatics and Technology, Faculty Member at Nottingham

Business School's Responsible and Sustainable Business Lab and Faculty Fellow at Punjab Government's Strategic Monitoring Unit. She sees her greatest forte to be her passion for integrating practice into her teaching. She regularly teaches modules covering IT, Project Management, New Product Development and Qualitative Research. She has designed and led various organization-focused executive programmes for large corporates from the oil and gas sector, electric supply companies, electricity transmission companies and various government departments in the areas of procurement and project management. Zehra sits on the boards of Lahore Waste Management Company and Quaid-e-Azam Thermal Power Company.

Yung-Hsiang Ying is Professor and Executive Vice President at the National Taiwan Normal University. He obtained his PhD in Economics from the University of Kentucky in 1998. His research interests include international finance, international economics, political economy, health economics and macroeconomics. He has published in various journals, including *Journal of Comparative Economics*, *Journal of International Money and Finance*, *China Economic Review*, *Accident Analysis Prevention*, *Health Economics* and *Drug and Alcohol Dependence*, among others. He was editor of *Modern China Studies* from 2013 to 2016. Yung-Hsiang has often been invited to give lectures and to be a visiting scholar at Akita International University (Japan), Institut d'Études Politiques, Sciences Po Lyon (France), Xiamen University (China), Kennedy School of Harvard University and Colgate University (USA). In recent years, he has been more focused on human resources in higher education crossing borders. He was a board member of the Asia-Pacific Association for International Education from 2009 to 2012. He also served as Vice President for International Affairs for National Sun Yat-sen University from 2009 to 2012, and Vice President for International Affairs for National Taiwan Normal University from 2013 to 2016.

Ahmed Zulfiqar is an MBA student at Lahore University of Management Sciences, Pakistan.

List of Figures

List of Tables

1

Introduction: Examining the Belt and Road Initiative in the China–Pakistan Context

Jawad Syed and Yung-Hsiang Ying

The China Pakistan Economic Corridor (CPEC) is arguably the most significant part of China's Belt and Road Initiative (BRI), not only in economic terms but also socially and politically. China is implementing BRI in South Asia and beyond by establishing connectivity with Pakistan's Seaport of Gwadar, providing access to the Arabian Sea and beyond. CPEC is claimed to offer promising prospects for Pakistan's progress and its successful development and execution may mean that Pakistan and China are closer and more meaningfully connected to other countries in the region.

Volume II of *China's Belt and Road Initiative in a Global Context* offers a comprehensive overview of CPEC from a business and management

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

Y.-H. Ying
College of Management, National Taiwan Normal University, Taipei City, Taiwan
e-mail: yying@ntnu.edu.tw

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_1

perspective, and provides theoretical and empirical analyses of the opportunities and challenges facing businesses in relation to CPEC. Key topics covered include economics, project management, industrial zones, agriculture, value chain, ethics, governance and security, creating a useful tool for academics as well as policymakers and practitioners in China, Pakistan and other countries along the new Silk Road.

Pakistan is a country of immense potential not only by virtue of the size of its population (more than 207 million, the world's sixth largest nation in 2019), but also due to economic and geopolitical reasons. The country is listed among the Next 11 countries that, along with the BRICS nations (Brazil, Russia, India, China and South Africa), have a high potential of becoming one of the world's largest economies in the twenty-first century. Nearly 50% of the country's population comprises youth under 25 years of age and the country is rich in agriculture and natural resources. With adequate development and utilization of human capital and industry, the country can expect to reap the full benefits of increased connectivity to China and other countries in the region under the auspices of the BRI.

In geopolitical terms, Pakistan is situated at the apex of the Arabian Sea and at the mouth of the Persian Gulf, and is connected to China, India, Iran and Afghanistan. There is a historical tension with India, particularly owing to the longstanding dispute on Kashmir, and relations with Afghanistan are not too congenial either due to reciprocating allegations of cross-border terrorism by both countries. While China and Iran are friendly allies, both of them face subtle and open economic and political hostility from the USA. Over the course of several decades, Pakistan's relations with the USA have been unsteady.

Although Pakistan has historically had very friendly relations with China, the latter's growing presence in Pakistan, in particular through the CPEC initiative and the associated window for trade and the advancement of geostrategic interests, has given Sino–Pakistan relations a new dimension. However, Pakistan also faces a host of internal and external challenges, which include but are not limited to effective and responsible governance, fiscal deficit, balance of payments, young people's needs and unemployment, low literacy and skill, gender and ethnic inequalities and changing external environments.

In this context, the development of road and railways infrastructure along with energy plants and the Gwadar seaport could catalyse the much-needed economic and human development in Pakistan. Moreover, the country may establish linkages with China to develop medium-sized and small enterprises as part of the massive supply chain that has shaped China's industrial base. The CPEC is likely to open China's western provinces to economic advances and the new trading route will link China to Central Asia, Africa and Eastern Europe, thus putting western China on the international economic map.

Scholars have also pointed towards issues of transparency and accountability in CPEC's execution. For a programme of this scale and importance, the status reporting available for implementation is very limited. The CPEC website of the Government of Pakistan provides limited basic information. Detailed information is not available on performance targets, percentage completion or disbursements. By late 2018, seven early harvest projects (US $4.6 billion) had been completed and 12 projects ($16.7 billion) were under construction. Most of these projects were in the energy sector. Only three infrastructure projects and two Gwadar projects were being implemented. Other projects, related to special economic zones (SEZs), agriculture or social development, were at the planning stages. According to reports, nearly 62% of the allocated CPEC funding is for the energy sector, 36% for road/railways infrastructure and 2% for Gwadar seaport. No funding allocation has been made yet for industry, agriculture or social sectors. Much of the investment in infrastructure in the CPEC programme supports the Eastern route, thus ignoring the Western and Central alignments.

Little direct investment has been made directly in the ongoing CPEC programme to alleviate poverty, reduce regional disparities and improve sustainability. Productive and socioeconomic sectors have not been given their due attention. The absence of budget and programmes to alleviate poverty, generate income and create jobs indicates that these sectors have been given a low priority.

There is, however, significant potential to increase the impact of CPEC through agriculture and commerce. The demand for food in China is enormous—$1 trillion per year, which is expected to rise to $1.5 trillion over the next ten years. Pakistan's market share in China's food imports is

minute and declining. There is a clear inconsistency in Pakistan's agricultural exports and China's import needs.

While the main thrust of CPEC seems to be on the development of an 'east–west' corridor between western China and the Indian Ocean seaport of Gwadar, there is also potential to expand the 'north–south' linkages with Iran, Afghanistan, Central Asian countries in the north and India in the south. This may boost China and Pakistan's regional network of commerce, trade and energy. Pakistan may further leverage land-based commerce in coordination with the Eurasian Economic Union and Economic Cooperation Organization. This in turn will need urgent attention to human capital development in Pakistan to improve quality and productivity in order to be able to access and compete in international markets.

In addition to human capital, local industry may be supported through the development of SEZs. Pakistan–China cooperation in industrial development and agriculture may improve Pakistan's potential in these sectors.

Early completion of CPEC projects may bring significant socioeconomic opportunities to the people. Pakistan could greatly benefit from China's experience of extricating its people from the poverty trap. Regardless of Pakistan's ability to realize economic benefits from projects undertaken under CPEC, experts argue that business as usual may not prevail in the years to come. We are expecting to see structural changes in how policy is devised, projects are implemented, negotiations are carried out and collaborations transpire in the national socioeconomic landscape in the coming years. Businesses and industries need to be aware of these expected changes and devise responses to the challenges they pose.

This book looks at such issues from a management perspective to inform practitioners and to assist them in rising to the challenge. It comprises inter-disciplinary chapters on China's BRI in South Asia. It focuses on topics as diverse as the economy, business environment, energy, agriculture, education, value chain, industrial zones, ethics and security. Written by regional experts and scholars, the book includes theoretical and empirical chapters exploring business- and management-related opportunities and challenges related to CPEC.

Overview of Book Chapters

In Chap. 2, Jawad Syed offers a critical overview of BRI as a Chinese development strategy that focuses on economic, cultural and political cooperation between China and the world through the land-based and maritime Silk Road. In particular, the chapter discusses the Pakistani section of the BRI, known as the CPEC. It discusses the financial and other aspects of CPEC, highlights its significance for China and Pakistan, and also outlines some key issues and challenges.

Chapter 3, by Syed M. Hasan, Hamza Ali, Fatima Azmat and Suniya Raza, applies social cost benefit analysis (SCBA)—an appraisal based on the economic costs and benefits faced by society—to the early harvest component of CPEC energy projects. The requisite steps of SCBA are explained in the context of important issues such as the social discount rate and social cost of carbon emissions. The authors use this approach on the Sahiwal Coal Power Project to gauge the extent to which the environmentally detrimental impact of the plant is offset by the potential benefits of overcoming the energy shortfall in Pakistan. The analysis includes not only the private costs and benefits of setting up the plant, but also the related economic, environmental and social implications, duly monetized and discounted over a 30-year period; the usual life of such plants. The results indicate that the power plant generates a net economic benefit if the lower bound of social cost of carbon is used and a net loss if the upper bound is considered. Findings from the case study indicate that carbon dioxide emissions from five imported coal-fuelled plants will increase by 18% from the base of the 2014 national carbon emissions inventory. The study raises important policy questions about the spatial location and environmental footprint of coal power and whether the national benefits warrant any local compensation.

In Chap. 4, Jawad Syed highlights the important role of ethics and governance norms in multi-country and cross-cultural contexts and illustrates this discussion by focusing on CPEC. The chapter contrasts Islamic and Chinese concepts in ethics and discusses their implications for CPEC and governance. This perspective is important to develop a contextual

approach to ethics and governance and make full use of the opportunities for economic and human development offered by CPEC.

In Chap. 5, Zehra Waheed notes that as the means towards regional political prowess and much-needed economic revival through developmental partnership with the emergent superpower that is China, CPEC-associated projects have become, as expressed through the dominant narrative of the country's lead planning body (the Planning Commission), the backbone of Pakistan's medium- to long-term developmental programme. Consequently, CPEC projects have been approved, swiftly funded and expedited in far greater numbers than ever before in the country's history. Employing classical contingency theory, Waheed attempts to identify key situational factors influencing the performance of CPEC projects. Her chapter identifies complexity, poor implementation capacity and level of change as specific operational situational factors (OSFs) that CPEC projects contend with in Pakistan. It also identifies institutional voids, poor transparency, project connectedness and political ambition as strategic situational factors (SSFs). The chapter contends that CPEC projects are not the usual 'run-of-the-mill developmental projects' undertaken in the country; hence the need to manage them differently. Another argument presented is that CPEC projects in Pakistan are representative of a much wider, global phenomenon: that of increasing South–South economic development (SSED) collaboration between China and other developing countries (the 'South'), especially in Africa and Asia. This too has impacts on how CPEC projects need to be managed in a way that is different from 'the usual'. Pakistan has traditionally been a recipient of Western-led financial and technical assistance for its infrastructure development. However, as a key regional partner in CPEC, Pakistan is undertaking several dozen infrastructure megaprojects, several valued at over a billion dollars each, most of which are either directly or indirectly supported through Chinese SSED. In order to understand the phenomenon, Waheed explains the emergence of Chinese South–South development cooperation in Africa and Asia over the last few decades. Differentiating characteristics of SSED-led projects and their implications for recipient countries are explored. The chapter then contends that in Pakistan, where Organisation for Economic Co-operation and Development support has been the norm, additional institutional safety

nets may be required since the undertaking of novel, complex megaprojects may propel systemic shocks that that the country may be inadequately prepared for, especially given the SSFs. Waheed argues that it is essential that both OSFs and SSFs accompanying the country's first major exposure to South–South development cooperation be clearly understood prior to operationalization of the emergent project portfolio.

In Chap. 6, Muhammad Khalique, T. Ramayah, Khushbakht Hina and Farooq Abdullah focus on the economic and strategic importance of CPEC and explore its impacts on the development of Azad Jammu and Kashmir. Their study highlights the potential contributions of CPEC to socioeconomic development, infrastructure, industry, tourism, energy, food, livestock and the social fabric in Azad Jammu and Kashmir. The authors also offer recommendations to policymakers for fully capitalizing on this megaproject.

In Chap. 7, Jawad Syed argues that CPEC is unfolding against the backdrop of looming security threats in Pakistan. Internally, these threats come from extremist Islamist and ethnocentric groups in Pakistan. Externally, some foreign powers are alleged to be involved in trying to sabotage CPEC. These threats are real in terms of incidents of violence against Chinese individuals and businesses, and, given the strategic and economic importance of CPEC for both China and Pakistan, deserve an urgent policy response in terms of the strategic security of CPEC. Such a response may address issues of physical security and ideological security. The current approach by the Pakistani government is, in the main, focused on physical security and protective intelligence, with limited or no attention to the ideological roots of violence. In this chapter, Syed offers a critical overview of security threats facing China's BRI in Pakistan. With a focus on CPEC, the chapter presents a comprehensive account of attacks on Chinese nationals and businesses from 2001 to 2017. This ongoing threat has increased the Chinese concerns about CPEC's security. The discussion identifies Takfiri Islamists or Khawarij (Taliban and affiliates) and ethnic Baloch separatists as two major groups posing threat to CPEC. The analysis demonstrates that the much-publicized socioeconomic benefits of CPEC may not be fully realized unless both forms of militancy are addressed through a multi-pronged security policy. The chapter may guide government and security officials and policymakers in

Pakistan and China to direct their attention to the two main sources of violence which pose threats to BRI in Pakistan. It may also help readers to understand the security aspects and requirements of engaging with or employing Chinese individuals and businesses in Pakistan.

In Chap. 8, Bashir Ahmad notes that the world population is growing, putting added pressure on the scarce life-supporting means of our planet. Sustainable economic growth for the better financial health of communities is possible through judicious employment of the factors of production. Means of communication provide a platform for mutual business and trade where all benefit from one another's expertise. Ahmad argues that BRI and CPEC provide connectivity to facilitate interaction among communities and countries. Resource-scarce states can benefit according to their capacities for improving economic growth and social developments compatible with international standards. Like every strategic initiative, there are misperceptions, misgivings and apprehensions about BRI as well; however, most pertain to what the other side is going to achieve. In the business world of competition and rivalry, customarily any achievement by the other side (the competitor) is taken at the cost of one's own, thereby finding a reason to oppose it. Since the start of this initiative, there has been an abundance of write-ups from different stakeholders about what China in BRI and Pakistan in CPEC are going to achieve. If the notion is reversed—instead of looking at all the benefits it provides to the other side, look at what it provides to you and the other on merit—the issue is resolved. Ahmad argues that despite all the straightforward answers to different questions pertaining to apprehensions and misgivings, there is definitely a need to put in place some tangible measures. This is particularly so in the case of Pakistan, which is facing a lack of response from a sizeable proportion of its population. The narratives of misgivings are well grounded at the moment in the absence of a tangible response from the state mechanism. The reversal of these narratives is possible with some visibility of CPEC projects materializing and sharing benefits with deprived segments of society. This is a matter of providing basic needs for social uplift through jobs on merit. The communication means that are appearing are sufficient to facilitate the movement of people for jobs, business and trade. The provision of seed money to kick-start smaller businesses would go a long way in reducing pressure on the job

market. In dealing with the Chinese, the friendship slogan should only be employed for mutual businesses on a level playing field. It should not be expected for favour giving or receiving; businesses should instead maintain professionalism. Pakistan, at the same time, would need to keep neutral on the religion side. Non-interference in one another's internal affairs would help develop professionalism in business and economic growth. Pakistan and China's rivals in geoeconomic and geostrategic dimensions would feel comfortable to create a disturbance through religious sensitivities; both would therefore require to exercise the utmost care in dealing with such matters. The economic corridor should be used objectively for business only without any discrimination, not even with India. This would build confidence in mutual trade and peace for mutual benefit and coexistence.

In Chap. 9, Yasir Arrfat argues that the traditional approaches to the integration of low-income countries have been the assembly of intermediate goods, which are generally produced in high-income countries, then re-exported to the final consumers. This strategy should be re-evaluated, especially for a low-income country such as Pakistan, to integrate more value-added activities and services. The main objective of Arrfat's study is first to identify the possible value chain for integration and ranking of a suitable value chain based on the criteria of potential volumes. Arrfat argues that Pakistan has been following the traditional integration cycle, as already discussed. BRI and CPEC projects provide ample opportunity to Pakistan to strategically align with the Chinese exporting industrialization regime, which will create a baseline for the much-needed industrial revolution in Pakistan. Therefore, the governments of both China and Pakistan have incorporated SEZs to kick-start the industrial revolution in Pakistan under the banner of CPEC keeping the success of Chinese SEZs in its consideration. Arrfat's chapter shows the rationale and decisional process for how Pakistan can efficiently utilize CPEC projects to integrate its industry and trade with the global value chains of China, coupled with its geostrategic economic advantages and a 'win–win' for both.

In Chap. 10, Mahmood Ahmad argues that CPEC is largely conceived as a transport and energy project and less as a possible engine of growth with better regional connectivity. It is critical to establish a clear narrative

regarding Pakistan's economy in the future—a trading or manufacturing nation, or following prior approaches of import substitution. Experts suggest that in the short to medium term it is more feasible to harvest the low-hanging fruit and for this reason the long-term CPEC plan 2017–2030 has cited agriculture as a priority sector. Pakistan's federal government is aggressively identifying procedures to provide a much-needed boost for the sector and to utilize CPEC as a vent for growth. Ahmad's chapter is primarily concerned with the development of competitive agriculture and agro-industry in priority regions. He looks at two aspects of CPEC through an agricultural lens: (1) how to unlock the agricultural potential of the country in some traditional crops, livestock and horticulture; and (2) the present and prospective agricultural trade regime and future potential, especially in the light of CPEC's better connectivity. Pakistani trade is dominated by agriculture and agro-based products and would continue to be so for some time to come. The chapter highlights that the identified clusters of agricultural value chains in four corridor zones, especially the central zone (Indus Basin) classified under the CPEC project, have a comparative advantage in producing a diversified crop mix that has not been fully exploited. In order to translate this comparative advantage into a competitive advantage, there is not only a need to develop clusters of commercially viable farming, processing and service firms located in specific geographical areas, but also to adopt good global production and trade practices. Ahmad evaluates the policies and investment priorities considered in developing CPEC in general and agriculture and agro-industry in particular.

In Chap. 11, Jawad Syed, Syed Khawaja, Anser Mahmood, Ahmed Zulfiqar, Majid Sharif, Usama Imran Sethi, Uzair Ikram and Saud Khan Afridi note that the construction industry in Pakistan received a major boost after 2013 following a series of investments as part of CPEC. They argue that the energy sector is strictly regulated by the Government of Pakistan and that the development of new projects requires tedious and cumbersome processes, including official approvals and reviews. Given the inefficiencies of government procedures and sub-par project management practices in Pakistan, delays in construction are a common sight, leading to massive cost over-runs. However, the Sahiwal Coal Power Project (SCPP), a 1320-megawatt coal-powered facility, was completed

in just 22 months, before its stipulated deadline. The authors use a project management framework to ascertain what learnings could be drawn from the construction of SCPP. Their study shows that factors such as proper project scheduling, efficient site management, a skilled labour force and governmental support played a key role in the timely completion of this project.

In Chap. 12, Asifa Jahangir, Omair Haroon and Arif Masud Mirza explain the concept and classifications for developing SEZs, and discuss the rationale for SEZs under CPEC and the potential of the SEZ idea within Pakistan. The authors also discuss the parameters for understanding SEZs' establishment and the challenges Pakistan is currently facing regarding their development.

The final chapter by Jawad Syed and Memoona Tariq discusses the important collaborative role that business schools in China and Pakistan may play in supporting CPEC. Given the vast scale of investment and infrastructure development related to this initiative, it is important to pay attention to the enormous need for technically and cross-culturally competent managers and business leaders to support this initiative. Syed and Tariq highlight the human resource needs in CPEC's wake and outline various fields within which business schools in both countries could support each other, as well as the public and private sectors, in the successful design and execution of CPEC projects. Their chapter offers some examples of cooperation already taking place among universities and business schools in China and Pakistan in support of CPEC. It also suggests some activities and deliverables of the proposed cooperation among business schools along the Belt and Road.

We believe that the breadth and depth of topics covered in this volume will not only spur further academic scholarship in this field, but also provide much-needed empirical and theoretical insights to policymakers, practitioners and businesspersons responsible for or interested in understanding or implementing CPEC and other similar international projects.

2

China's Belt and Road Initiative: A Pakistani Perspective

Jawad Syed

Introduction: The Belt and Road Initiative

The Belt and Road Initiative (BRI) is a Chinese development strategy that focuses on connectivity and cooperation between China and the world through the historical land-based and new maritime Silk Road. The initiative was introduced by Chinese President Xi Jinping in 2013 to boost economic and wider social links between China and the global regions, including South Asia, Southeast Asia, the Middle East, Europe, Oceania and Africa (Swaine 2015). The initiative is aimed at boosting the common prosperity of more than 65 countries along the Belt and Road.

This chapter offers an overview of the BRI with a specific focus on the financial and operational aspects of its Pakistani section, known as the China Pakistan Economic Corridor (CPEC). Given the enormous scale of investment and infrastructure development related to this initiative

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_2

(estimated to be more than US $60 billion for CPEC alone; Siddiqui 2017a), it is important to pay attention to the vast need for technically and cross-culturally competent managers and leaders for CPEC/BRI projects. Given the newness and paucity of research and information on this topic, this chapter reviews multiple sources including government documents, consultant reports and media articles related to BRI and CPEC.

China is one of the largest global economies with a gross domestic product (GDP) of over $11.2 trillion (World Bank 2017). The country is projected to become the world's largest economy in 2050, with a GDP of $58.5 trillion, up from $5.7 trillion in 2010 (PwC 2017a). The construction of the Belt and Road may be seen as the Chinese response to the new era of economic globalization, in expanding its economic, cultural and political outreach as well as meeting the demands of countries along the historical Silk Road. Chinese officials often emphasize connectivity, inclusiveness and the interest of participating countries in referring to the BRI (Lingliang 2016). The initiative provides an opportunity for cooperation and complementation in addition to other regional cooperation mechanisms. However, these countries differ in their ability to pursue transformative development, due to divergence in their economic, sociocultural and political landscapes.

Also known as One Belt One Road (OBOR), the initiative is geographically structured along seven economic corridors (PwC 2017b):

1. China Pakistan Economic Corridor, from western China to the Indian Ocean through Pakistan
2. Eurasian Land Bridge, from western China to western Russia
3. China–Mongolia–Russia Corridor, from northern China to eastern Russia
4. China–Central Asia–West Asia Corridor, from western China to Turkey
5. China–Indochina Peninsula Corridor, from southern China to Singapore
6. Bangladesh–China-India-Myanmar (BCIM) Corridor, from southern China to Myanmar
7. Maritime Silk Road, from the Chinese Coast through Singapore to the Mediterranean

The initiative focuses on the connectivity and integration of these regions to develop a cohesive economic area through building infrastructure, broadening trade and increasing cultural exchanges. Next, the chapter discusses the main aspects of CPEC, highlights its significance for China and Pakistan, and also outlines some key issues and challenges.

China Pakistan Economic Corridor

CPEC, in the main, comprises infrastructure projects which are under construction throughout Pakistan, connecting western China to the Indian Ocean. It shows three main alignments or routes (discussed next), which constitute the economic corridor around which special economic zones (SEZs) are being planned. Seen as the main plank of the BRI, the value of CPEC projects is estimated to be more than $60 billion. In November 2016, CPEC became partly operational when Chinese cargo of 250 containers was transported from Xinjiang to Gwadar Port and from there to the Middle East and Africa (*Dawn* 2016a).

CPEC is focused on modernizing the road infrastructure, energy production and SEZs. The Pakistani government has been establishing SEZs to support business-friendly policies and attract investment across a range of industry sectors. At the federal level, nine SEZs are being planned across the country (Table 2.1; SEZ 2017). An SEZ is an area dedicated to promoting industrial growth through lenient economic and tax policies.

Table 2.1 Federal special economic zones (SEZs) in Pakistan

Province	Location of SEZ
Khyber Pakhtunkhwa	Rashakai Economic Zone
Sindh	Dhabeji
Balochistan	Bostan Industrial Zone
Punjab	M-2 Sheikhupura
Gilgit Baltistan	Moqpondass
Federal Area	ICT Model Industrial Zone and PSM-Port Qasim
Federally Administered Tribal Areas	Mohmand Marble City
Azad Jammu and Kashmir	Bhimbar Industrial Zone

Incentives in Pakistan may include lower corporate income tax, tax reductions or exemptions, land-rent reduction and import-duty exemption for eligible projects.

The Planning Commission of Pakistan is in the process of setting up 27 SEZs under CPEC by introducing Gwadar SEZ as the first model, spreading over 3000 acres. These SEZs will include eight SEZs in Khyber Pakhtunkhwa, seven each in Punjab and Balochistan, three in Sindh and one each in Gilgit Baltistan and Islamabad. The 250-acre SEZ for Gilgit Baltistan would be located at Moqpondass for mining and food processing. The largest of all of these SEZs would be based in the Punjab's Pind Dadan Khan Industrial City, which would be spread over 10,000 acres and would have industrial units for agriculture, textiles, food processing, livestock, manufacturing and energy (*Dawn* 2016b).

Further industrial estates being built in Multan (Phase-II), Bahawalpur, Mianwali, Rahim Yar Khan, Dera Ghazi (DG) Khan and Rawalpindi to support CPEC projects are expected to create thousands of jobs. Another three SEZs were announced in 2016, which include Quaid-e-Azam Apparel Park at M2 near the Sheikhupura interchange, Industrial City located on M3 near the Sahiwal interchange and a 225-acre Value Addition City near Faisalabad on the Expressway (*The News* 2016).

The newly built and revamped roads will connect the seaports of Gwadar and Karachi in southern Pakistan with cities in central and northern Pakistan, and further north with western China and Central Asia. A 1100 km motorway will be built between Karachi and Lahore, as part of CPEC. Moreover, the Karakoram Highway (N-35) between Rawalpindi and China's Xinjiang province will be reconstructed and expanded. The railway network in Pakistan will be upgraded, including the Karachi–Peshawar section, and extended to China's Xinjiang Railway in Kashgar. The estimated $11 billion needed to modernize the road networks will be financed by low-interest loans (Deloitte n.d.).

Over $33 billion worth of energy infrastructure will be constructed by private consortia to address severe energy shortages in Pakistan. These shortages regularly amount to over 4500 MW (touching 7000 MW in peak season; Kiani 2017a), and are estimated to slash 2–2.5% off Pakistan's annual GDP. Based on higher estimates of energy shortfall, the Pakistani economy lost PKR 1439 billion (7% of GDP) in 2015 (Pakistan

Observer 2017). As a part of CPEC's fast-tracked 'Early Harvest' projects (Deloitte n.d.), over 10,400 MW of energy-generating capacity was expected to be produced by the end of 2018. In total, CPEC-related energy projects will eventually produce 16,400 MW of power. Moreover, a network of pipelines will transport liquefied natural gas and oil, including a $2.5 billion pipeline between Gwadar and Nawabshah, which will further extend westward to import gas from Iran. While fossil fuels will be the main source of electricity production through these projects, hydroelectric, wind power and solar projects are also being built and installed as part of CPEC.

Work is being done to reinforce and expand the communication infrastructure along the Belt and Road. In May 2016, construction began on the 820 km Pakistan–China Fiber Optic Project, costing $44 million to improve telecommunication in the Gilgit Baltistan region, while providing Pakistan with a fifth route for telecommunication traffic (*Economic Times* 2016).

CPEC has been divided into three phases: a short-term plan to be completed by 2020, a mid-term plan to be completed by 2025 and a long-term plan to be completed by 2030. The long-term plan has seven pillars, and it identifies the broader areas for cooperation between China and Pakistan.

Three Alignments or Routes

Pakistan's National Highway Authority has been authorized to plan and develop CPEC connecting Khunjerab in the north to Gwadar in the south along three routes or alignments, namely, Western, Eastern and Central.

The Western Alignment of the CPEC has a total length of 2463 km, starting from Khunjerab and passing through Burhan (Hakla), Dera Ismail (DI) Khan (Yarik), Zhob, Quetta, Surab and Hoshab and terminating at Gwadar. Its 615 km Khunjerab–Raikot section has been completed, Raikot Thakot is at the planning stage, the 188 km Thakot–Havelian section is ongoing, as are the 60 km Havelian–Burhan and 285 km Burhan (Hakla)–Yarik (DI Khan) sections, the 235 km Yarik (DI Khan)–Zhob section is at the procurement stage and the 331 km Zhob–Quetta

section is at the planning stage. Moreover, the 211 km Quetta–Surab existing alignment has been rehabilitated, while the 449 km Surab–Hoshab and 193 km Hoshab–Gwadar sections have been completed.

The Eastern Alignment of the CPEC has a total distance of 2686 km, starts from Khunjerab and passes through Thakot, Mansehra, Burhan, Pindi Bhatian, Faisalabad, Multan, Sukkur, Shikarpur, Ratto Dero, Khuzdar, Basima and Hoshab, terminating at Gwadar. About a 793 km section of the Eastern Alignment from Khunjerab to Burhan is common to the Western and Central Alignments. Further sections of the Eastern Alignment have a total length of 1908 km, including the 293 km Burhan–Pindi Bhattian and the 53 km Pindi Bhattian–Faisalabad sections at the planning stage, out of the 240 km Faisalabad–Multan section the 58 km Faisalabad–Gojra portion has been completed, while work on the 126 km Gojra–Khanewal section is ongoing, and the 56 km Khanewal–Multan section has been completed. Work on the 392 km Multan–Sukkur section is ongoing, the 37 km Sukkur–Shikarpur section has been completed, a feasibility study of the 49 km Shikarpur–Rato Dero has been undertaken and the 180 km Rato Dero–Khuzdar section is complete. Plans for the 110 km Khuzdar–Basima section have been approved, while the 361 km Basima–Hoshab and 193 km Hoshab–Gwadar sections have been completed (TOI 2017).

The Central Alignment of the project, which is 1633 km in length, begins from Burhan (Hakla), passes through PindiGheb, Kot Addu, DG Khan, Rajanpur, Wangu Hills, Khuzdar, Basima and Hoshab, terminating at Gwadar. The 115 km Burhan (Hakla)–PindiGheb, 355 km PindiGheb–Kot Addu, 55 km Kot Addu–DG Khan, 49 km DG Khan–Rajanpur and 336 km Rajanpur–Wangu Hills sections are at the planning stage and the 113 km Wangu Hills–Khuzdar and 110 km Khuzdar–Basima sections are under construction.

There is a heated political debate among various provinces of Pakistan, with Khyber Pakhtunkhwa and Balochistan provinces emphasizing the Western Alignment while Punjab is naturally interested in the Eastern Alignment. However, the most economic and shortest route—that is, the Central Alignment—seems to be given the lowest priority currently.

CPEC's Seven Pillars

The **seven pillars of CPEC's long-term plan** are connectivity, energy, industries and industrial parks, agricultural development and poverty alleviation, tourism, cooperation in the areas concerning people's livelihood, and financial cooperation (Yousafzai 2017).

The **connectivity** pillar includes the construction of an integrated transport system and information network infrastructure. It includes the construction and development of a road and railway infrastructure from Kashgar to Gwadar through the three alignments or routes discussed in the previous section. Capacity expansion and modernization of the existing railway lines are part of the integrated transport plan. The project also focuses on the construction of a new international airport at Gwadar.

For the information network infrastructure, China and Pakistan will boost information connectivity and cooperate through the construction and operation of local communication and broadcast networks.

In **energy**-related fields, China and Pakistan are working together in the electricity, power grid and oil and gas sectors. A major focus of CPEC is on establishing new power plants (thermal, wind, hydro, solar and hybrid) to address the current power shortages in Pakistan. There is also cooperation in the development of oil and gas resources and pipeline projects. Oil refineries and storage at Gwadar and along the CPEC route are part of the wider plan.

In the area of **industry development**, China will help Pakistan to promote the quality and efficiency of the textile and clothing industry and develop high value-added products. China is also developing the Kashgar Economic and Technological Development Zone and Caohu Industrial Park to facilitate regional trade. In Pakistan, there will be a focus on promoting industrial capacity in sectors such as chemicals, engineering, iron and steel, and construction materials.

In **agricultural development and poverty alleviation**, there is a focus on the development of agricultural infrastructure, training of agricultural personnel and technical exchanges. There will be a focus on areas such as biological breeding, production, processing, storage and transportation, disease prevention and control, water resources development, land

development and remediation, information and communications technology (ICT)-enabled agriculture and marketing of agricultural products for the systematic and large-scale development of the agricultural industry. These measures will enable a transition from traditional agriculture to modern agriculture in the regions along CPEC to boost the local agricultural economy and eradicate poverty.

As regards **tourism**, tourism resources and opportunities will be developed in the regions along CPEC, especially the China–Pakistan border areas. There will also be a focus on coastal tourism (from Kaiti Bandar to Jewani), northern Pakistan tourism in Gilgit Baltistan and cross-border tourism. In 2015–2016, there was a 25% growth in tourism to Gilgit Baltistan, the northern areas of Pakistan, bordering China. Around one million people visited that area in 2016, a number not witnessed before (*The Express Tribune* 2016). Accordingly, the hospitality industry too is likely to flourish.

As regards **people's livelihood** and non-governmental exchanges, CPEC will focus on comprehensive service capability of the cities along CPEC. For this purpose, experiences of urbanization from China and other countries will be used for the municipal construction of the node cities along CPEC so as to upgrade the public transport system and water supply and drainage systems.

In **financial cooperation**, the two countries have established multi-level cooperation mechanisms and policy coordination. There will be a focus on financial reforms, innovation in financial products and services, and reduction in risks to create a conducive financial environment. There is increased cooperation between the central banks and financial regulatory agencies of the two countries and a settlement platform for renminbi (RMB) cross-border trade. Moreover, the two countries will promote the opening and development of the securities markets and the multi-currency direct financing of Pakistan's central and local governments, enterprises and financial institutions in China. The two countries will strengthen cooperation between the stock exchanges and support enterprises and financial institutions in carrying out direct financing for projects along CPEC in each other's capital markets.

CPEC's Significance

Significance for China

CPEC's significance for China is reflected by its inclusion in China's 13th five-year development plan (PwC 2017b). CPEC projects are expected to provide several benefits to China: (1) a shorter and cheaper route by which China can conduct trade with South and West Asia, the Middle East, Africa and Europe; (2) the development of western China to bring it to a par with developed regions in eastern and southern parts of China; (3) utilization of surplus capacity including human resources and technology from Chinese public- and private-sector companies—owing to massive stimulus, the construction and engineering sectors in China have boomed since 2008, and there is surplus capacity in steel, cement, chemicals and so on which China intends to consume; and (4) the development of stronger economic, cultural and political linkages with countries across the world. For example, the actual sea route from Beijing to the Persian Gulf is about 12,900 km long. In contrast, Gwadar Port in Pakistan is only 2000 km from China's Kashgar city, while Kasghar is around 4400 km from Beijing (Ebrahim 2015; Google 2018).

From a macro BRI perspective, trade between China and Belt and Road countries exceeded $916 billion in 2016, which is 25.9% of China's total foreign trade volume. Chinese companies have since established over 70 overseas economic and trade cooperation zones. Moreover, China has also been able to expand circulation of the RMB and internationalization of its currencies. It has conducted RMB bilateral swap agreements with nations that stretch along new Silk Routes (PwC 2017b).

BRI will also enable China to utilize its surplus industrial output. According to an estimate, 580 million tons of cement is needed yearly for infrastructure projects in Asia alone, which is a quarter of China's output. Similarly, the construction of railways, pipelines and other projects along the Belt and Road trade route may create demand for 272 million tons of steel.

According to official figures, China's direct investment in Belt and Road countries totalled $14.5 billion in 2016; total overseas newly signed

contracted projects in Belt and Road countries reached $126 billion, making up about half (51.6%) of China's total overseas contracted project value in 2016 (PwC 2017b).

In 2017, Forbes noted that CPEC would shape the next era of globalization and greatly boost Chinese exports and international business (Mourdoukoutas 2017). According to Hua Chunying, Chinese Foreign Ministry spokesperson, the corridor will 'serve as a driver for connectivity between South Asia and East Asia'. The corridor is expected to play a crucial role in the regional integration of 'Greater South Asia', including China, Iran, Afghanistan and stretching all the way to Myanmar (Tiezzi 2014).

Significance for Pakistan

The benefits that Pakistan is likely to gain from CPEC include upgrading of the road and deep-water port infrastructure, an enhanced capacity for energy production and a boost in manufacturing activity due to the SEZs. Moreover, there are opportunities for technology transfer in the manufacturing sector of Pakistan through foreign direct investment (FDI) or through collaborative arrangements. Also, the initiative provides an opportunity to position Pakistan as a major transit point connecting the Eurasian region with South Asia and Southeast Asia, which is much needed for the country's economic growth (Javaid and Javaid 2016). In 2017, the Pakistan Credit Rating Agency (PACRA) suggested that the establishment of energy projects under CPEC would help overcome shortages and play a positive role in achieving the required economic growth of 7% in the next two to three years (Siddiqui 2017a).

CPEC is the largest financial investment in Pakistan since the country's independence in 1947. In April 2016, Zhang Baozhong, chairman of China Overseas Ports Holding Company (COPH), illustrated that his company planned to spend an additional $4.5 billion on roads, power, hotels and other infrastructure (Johnson 2016), which would be one of the largest ever FDIs into Pakistan.

Currently, Pakistan is facing energy shortfalls on a regular basis. These shortages are a major interference with production and foreign investment.

For example, Pakistan's textile industry has been adversely affected by long power cuts, with almost 20% of textile factories in the city of Faisalabad shut down due to a lack of electricity. CPEC's 'Early Harvest' projects are expected to resolve shortages in power generation by 2018, increasing Pakistan's power generation capacity by over 10,000 MW. With an improvement in energy supplies, the Pakistani government expects economic growth rates to improve too.

Furthermore, once fully built, the corridor is expected to generate significant revenue from transit fees levied on Chinese and other foreign goods—to the tune of several billion dollars per annum. According to an estimate, CPEC-related transportation would earn $400–500 million per annum for Pakistan and may improve Pakistani exports by 4.5% annually till fiscal year 2025.

CPEC is expected to renovate Pakistan's economy by modernizing its road, rail, air and energy transportation systems, and connect the Pakistani ports of Gwadar and Karachi with China's Xinjiang province (Ahmed 2017). This would help reduce the cost and time of transporting goods and services between the two countries (Sawas and Anwar 2017) and beyond. Consequently, Pakistan's GDP is expected to grow more than 5% by 2020. PricewaterhouseCoopers predicts that Pakistan's GDP may reach $4.2 trillion by 2050 (PwC 2017b). Currently the country's GDP is about $318 billion (2017 estimate). Part of the future projected growth may be attributed to CPEC.

According to a study by the Asian Development Bank (ADB), 'CPEC will connect economic agents along a defined geography. It will provide connections between economic nodes or hubs, centered on urban landscapes, in which large amounts of economic resources and actors are concentrated. They link the supply and demand sides of markets' (Brunner 2013). The initiative is likely to enhance private investment because of a positive environment, economic opportunities and improved infrastructure, which may lead to stabilizing the economy of Pakistan (Irshad et al. 2016). For example, in November 2016, Hyatt Hotels Corporation announced its intention to open four properties in Pakistan, in partnership with Bahria Town Group, citing CPEC as one of the key reasons behind the $600 million investment.

Thousands of jobs are being generated and thousands more are expected to be generated through CPEC-related projects. While up to 10,000 Chinese workers are currently working in Pakistan on work visas, tens of thousands of Pakistanis too are employed on these projects. It may be noted that labour costs in Pakistan are very competitive, four to five times lower than in China (BR 2016). Thus, labour-intensive firms will naturally look at the Pakistani workforce in order to be competitive and cost-effective.

According to an estimate by the International Labour Organization, CPEC will create around 400,000 jobs (APP 2017). The Applied Economics Research Centre estimates that CPEC could create over 700,000 direct jobs between 2015 and 2030. This may increase annual economic growth by 2.5% (APP 2016). Yousafzai (2017) suggests that by June 2017, CPEC had created 30,000 jobs for Pakistani workers and engineers (including 16,000 working in the energy sector). A further 8000 jobs were being carried out by Chinese nationals. Work on the transport infrastructure had created around 13,000 jobs by June 2017 (PCN 2017).

Employment and development opportunities associated with CPEC projects are also expected to help with social and political issues. According to China's Prime Minister, Li Keqiang, Pakistan's development through the project might 'wean the populace from fundamentalism'.

Financial Aspects of CPEC

While much of the financing for CPEC is being provided by the Chinese government and state-owned banks, there is also significant investment by private consortia. Moody's Investors Service has described CPEC projects as 'credit positive' for Pakistan. In June 2017, Morgan Stanley Capital International upgraded the status of the Pakistan Stock Exchange (PSX) from 'frontier market' to 'emerging market' status (MSCI 2017). This section provides an overview of different types of loans and other forms of financial assistance being provided to build various CPEC projects.

Concessionary Loans

Approximately $11 billion worth of infrastructure projects being developed by the Pakistani government will be financed by concessionary loans, with composite interest rates of 1.6%. Concessionary loans will be dispersed by the Exim Bank of China, China Development Bank and Industrial and Commercial Bank of China. Previously, loans for Pakistani infrastructure projects financed by the World Bank carried a much higher interest rate of 5–8.5%, while interest rates on market loans were as high as 12%.

The Karachi–Lahore Motorway (costing more than $6.6 billion) is currently under expansion and construction. For its $2.9 billion section that will connect Multan with Sukkur over a distance of 392 km, 90% of the costs will be financed by the Chinese government at concessionary interest rates (2%), while the Pakistani government will finance the remaining 10%.

The China Development Bank will finance $920 million towards the reconstruction cost of 487 km of the Karakoram Highway between Burhan and Raikot. An additional $1.26 billion will be provided at concessionary rates by the China Exim Bank for the construction of the Havelian–Thakot portion of this highway.

There is similar low-interest financing for other projects. Concessionary loans through China's state-owned banks will finance approximately $7 billion of the planned $8.2 billion overhaul of the Main Line 1 Railway (Rana 2016). However, the 27.1 km, $1.6 billion Orange Line of the Lahore Metro is regarded as a commercial project and is financed ($1.3 billion) by the Government of China at an interest rate of 2.4%. The $44 million Pakistan–China Fiber Optic Project will be completed using concessionary loans at an interest rate of 2%.

Interest-Free Loans

China is currently financing several projects in Gwadar costing $757 million with 0% interest loans. The projects include the construction of a $140 million East Bay Expressway (connecting Gwadar to the Makran

Coastal Highway), the installation of $130 million breakwaters, a $360 million coal power plant, a $27 million project to dredge berths in Gwadar harbour and a $100 million 300-bed hospital.

In September 2015, the Chinese government announced that it would provide a $230 million grant to build an international airport in Gwadar, which Pakistan's government will not be required to repay.

Private Consortia

Joint Chinese–Pakistani firms will construct energy projects worth $15.5 billion. The Exim Bank of China will provide investments at 5–6% interest rates, while the Pakistani government will be contractually obliged to purchase electricity from those firms at pre-negotiated rates. For example, the construction of the 1223 MW Balloki Power Plant will be initiated by a consortium of Harbin Electric of China and Habib Rafiq of Pakistan (Kiani 2015). Chinese state-owned banks will offer loans to the consortium, subsidized by the Chinese government, at an interest rate of 5%, while the Pakistani government will buy electricity at 7.973 cents per unit.

In December 2016, a consortium of mostly Chinese companies bought a 40% stake in PSX. The consortium comprises Chinese Financial Futures Exchange Company, Shanghai Stock Exchange, Shenzhen Stock Exchange, Pak-China Investment Company and Habib Bank (Siddiqui 2017b).

ADB and Other Assistance

The E-35 expressway, a 180 km road linking the Islamabad–Peshawar Motorway (M1) in Punjab province with the Hazara division in Khyber Pakhtunkhwa province, will be financed by the Asian Development Bank (ADB).

The N70 National Highway upgrade project, which will connect CPEC's Western Alignment in Balochistan province to the Karachi–Lahore Motorway at Multan, will be financed as part of a $195 million package by ADB. ADB will also finance the upgrade of the 531 km N50

National Highway connecting DI Khan in Khyber Pakhtunkhwa province with the Western Alignment in Balochistan. In January 2016, the UK's Department for International Development announced a $72.4 million grant to Pakistan for improving the road infrastructure in Balochistan, thereby reducing the total ADB loan from $195 million to $122.6 million.

The Faisalabad–Multan Road (M4) will be partially financed ($100 million) by the Asian Infrastructure Investment Bank (AIIB), and co-financed with ADB for $275 million. AIIB has also provided a $300 million loan for a hydropower project in Pakistan (Hsu 2017). Also, the UK government will provide $90.7 million for the Gojra–Shorkot section of the M4 Motorway project.

Examples of Success and Challenges

The BRI including CPEC provides an opportunity to international investors to partner with Chinese companies by providing capital and investments. These projects are usually backed by the Chinese state and therefore there is an improved risk–return ratio in many situations. Furthermore, given that Pakistan and other host governments have received significant financing from China and multi-lateral banks, these governments will take more care to minimize disruptions. While not all Belt and Road projects may offer sound investments, since some of these projects are deemed strategically important even if they may not be profitable, there are others which may offer a lucrative opportunity for investment. China and host countries usually welcome investment support to bridge the funding gaps on some infrastructure projects.

For example, owing to the attractive returns, Qatar's Al-Mirqab Capital (AMC) partnered with China's state-owned enterprise Sinohydro Resources, with a 49% share in the construction of a 1320 MW thermal power plant in Port Qasim (Karachi) under CPEC. As a result of this partnership, AMC significantly mitigated its risks because of backing of Sinosure (China Export & Credit Insurance Corporation) to cover a wide scope of risks. As a result, the 'multilateral public–private partnership (PPP)' project built on a Build-Own-Operate (BOO) basis offered attractive returns with significantly mitigated risks, thereby attracting

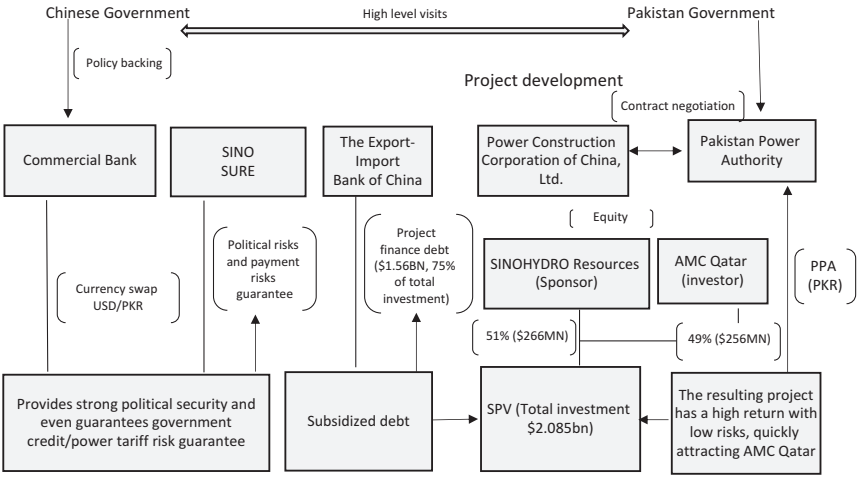


Fig. 2.1 Multilateral PPP model of Sinohydro Pakistan Qasim thermal power project

further investments from AMC (see Fig. 2.1; PwC 2017b). Figure 2.1 shows the mechanism of policy backing and insurance by the Chinese government as well as the high level involvement of the Pakistani government, which encouraged the investor (AMC) to invest $256 million equity along with Sinohydro Resources.

Another similar example is a coal-fired power plant in Sahiwal with a capacity of 1320 MW. With an estimated cost of $1600 million, the plant was executed and commissioned by the Huaneng Shandong Rui Group of China with the coordination of the Ministry of Water and Power and supervised by the Punjab Power Development Board. The project was completed in 2017 and has been connected to the national grid.

Similarly, a wind farm in Gharo, Thatta (Sindh) with a capacity of 50 MW was commissioned by Hydrochina Dawood Power (HDP) using wind turbine technology. With an estimated cost of $125 million, the project was commissioned and executed by HDP with the coordination of the Ministry of Water and Power and the supervision of the Alternative Energy Development Board. The project has been operational since April 2017.

While these examples offer a story of success, there are also examples of challenges and gaps. For example, in terms of commercial viability assessment, the BRI experience in Sri Lanka illustrates that insufficient market demand is contributing to a loss of $18 million a year at the Mattala Rajapaksa International Airport. The airport opened in 2013 at a cost of $209 million, of which more than 90% came through a loan from China. It was designed to cater to a million passengers a year to ease Sri Lanka's air traffic congestion. However, it is located in Hambantota, a developing city in the south of the country, without the commercial activities or large resident population to support the need for an international airport. Furthermore, usage of the airport was restricted by the need to develop the supporting infrastructure ecosystem of highways and commercial real estate, at a time when the government and president were thoroughly reviewing all infrastructure projects that had been approved by the previous government.

In 2014, only 69 tons of freight and 21,000 passengers passed through this airport, which is very low when compared with the 200,000 tons of freight and 800,000 passengers per year that pass through Bandaranaike International Airport in Colombo. Consequently, instead of strengthening and reigniting the Sri Lankan economy, the Mattala airport added to a massive debt of over $8 billion to China and contributed to an International Monetary Fund bailout. Sri Lankan Airlines subsequently shut down its operations in January 2015, citing that 'Mattala Rajapaksa International is not needed and is a distraction in Sri Lanka's efforts to turn itself around'. In October 2016, China agreed to run the debt-riddled, revenue-draining airport, in an attempt to turn it around (PwC 2017b). In the light of the Sri Lankan experience, policymakers and investors in Pakistan may carefully analyse the issues of excess capacity, business mode and benefits to local people and the economy in the context of CPEC projects.

Concerns

Security Concerns

A key issue that Pakistan continues to face is security, especially in certain areas of the Khyber Pakhtunkhwa province and Balochistan province, where Baloch nationalist militants (such as the Balochistan Liberation

Army) as well as Takfiri (hardcore radical or exclusivist) Islamist militants (such as the Taliban, Lashkar-e-Jhangvi and other militant outfits with overlapping membership, mostly representing an extremist section within the Deobandi offshoot of Sunni Islam) target security forces, government officials, ethnic/religious minority groups, power pylons and gas pipelines, causing significant human and economic damage (Shah 2016; Syed et al. 2016). In some instances, Chinese engineers and workers have become victims of such attacks.

Pakistan faces Taliban insurgent violence, which largely began in 2008. The outlawed Takfiri militant groups such as Tehrik-i-Taliban Pakistan and Lashkar-e-Jhangvi and more recently Islamic State, are known for their involvement in attacks on Chinese nationals, and Chinese commentators have raised concerns about the safety of Chinese engineers and construction workers. China reportedly has expressed concern that Uyghur Islamist militants in Xinjiang are in collaboration with the Taliban, Jaish-e-Muhammad and other militants in Pakistan. A related concern is that Chinese workers could become increasingly vulnerable to Taliban militants and Baloch insurgents. In recent years, there have been several attacks and kidnappings of Chinese workers in Pakistan (Arifeen 2017).

The government of Pakistan is currently making efforts to ensure that security measures are in place in areas where CPEC projects are being built. In 2014, the Pakistan Army launched Operation Zarb-e-Azb (and the subsequent Operation Radd-ul-Fasad) to eradicate Taliban and affiliated Takfiri militants from Pakistani territory. The Pakistan Army has established a Special Security Division to safeguard personnel and properties related to CPEC (Khan 2016).

Pakistan Navy and Chinese Navy ships will jointly guard the maritime corridor. Since December 2016, the Pakistan Navy has established a special task force, TF-88, to ensure maritime security for trade. China plans to provide four ships to the Maritime Security Agency for this purpose.

While the Pakistan Army will deploy 12,000 troops to safeguard the CPEC route, police officers will also be deployed. As of August 2015, 8000 Pakistani security officials were deployed for the protection of over 8100 Chinese workers in Pakistan (Gishkori 2015). Currently, to protect Chinese and Pakistani individuals and companies that are working on CPEC, a spe-

cial force comprising 15,000 individuals is deployed. Following the launch of the military operations, violence in Pakistan has significantly declined.

It may be noted that the public will share the burden of this additional security borne by the Pakistani government. In August 2017, the National Electric Power Regulatory Authority (NEPRA), the power sector regulator in Pakistan, allowed power producers to charge (consumers through a tariff) 1% of the capital cost of 19 power projects worth $15.56 billion under CPEC for 20–30 years on account of the security cost. NEPRA worked out the annual cost at about $2.92 million (Rs 315 million). In its order, NEPRA referred to Article 10 of the CPEC Agreement, which provides that 'the Pakistani party shall take the necessary measures to ensure the safety of Chinese personnel and projects', and noted that the country had established a special security force/division of the armed forces to ensure the security of CPEC projects (Kiani 2017b).

Concerns have been voiced by the Chinese about the security, speed of completion and costs of BRI-related projects. In 2013, Lin Dajian, from the Department of International Cooperation in the National Development and Reform Commission, highlighted the security issues and other challenges that could impede the progress of the project (SOP 2013). In 2016, a nationalist Chinese paper, the *Global Times*, remarked that the increasing cost of security may be a big problem in efficiently pushing projects forward (Weijia 2016).

The Chinese media notes that much of the security risks over BRI are concentrated in CPEC, with Beijing aware of the threats Chinese workers face in Pakistan (*China Daily* 2016). Chinese requirements for security call for more complex solutions, requiring a set of integrated services in which armed personnel are just one of many components. For example, there is an associated cost related to security and insurance. The Chinese insurance sector is beginning to realize the importance of this business niche. Traditional security, counter terrorism, as well as kidnapping for ransom are going to be important considerations for Chinese businesses operating in Pakistan. Special insurance is a lesser-known niche market, but due to the expansion of Chinese FDI, it may prove to be a thriving sector. Leading Chinese insurance companies such as Ping An and China Taiping are already exploring these opportunities in consultation with British insurance experts (Arduino 2017).

There is also an issue of criticism and suspicion by India and the USA about CPEC and the increasing cooperation between Pakistan and China. While India criticizes Pakistan for cross-border militancy in Kashmir, Pakistan alleges that Indian agencies are responsible for violence in Balochistan and intend to disrupt CPEC. There are also questions about Takfiri and sectarian ideologies and fatwas emanating from Darul Uloom Deoband, the large madrassa based in India where the Deobandi Islamist movement began.

Political Concerns

Within Pakistan, CPEC faces some political challenges in the context of competing claims and demands by different provinces, with allegations that the federal government is ignoring the Western Alignment (route) through Balochistan and Khyber Pakhtunkhwa. While the Pakistani government claims impartiality, budgetary allocations suggest that the government is, at least initially, focusing more on the Eastern Alignment (Ramay 2016). According to Zhaoli (2013), 'security concerns are critical which helps to determine the path of this corridor', implying that security concerns, rather than political bias, may be responsible for any route changes within Pakistan. The Chinese government in 2015 issued a statement urging Pakistan's political parties to resolve their differences over the project.

The dominant role of the Pakistan Army in CPEC is a subject of political debate within Pakistan (Pantucci and Lain 2016). Victor Gao, a former Chinese Ministry of Foreign Affairs official, notes that 'on the Pakistan side there is uncertainty about which entity wants to take leadership or ownership of the corridor projects … there is a big debate internally over whether the government should take ownership or the military should take ownership' (Bokhari 2016).

Moreover, there are also concerns about rampant corruption in Pakistan. In particular, the way in which the civilian government handles the CPEC project, especially in light of the accusations of corruption in the Pakistani government (led by now-disqualified Prime Minister Nawaz Sharif and his younger broth Shahbaz Sharif, the former Chief Minister of

Punjab), raises questions about the timely and efficient delivery of CPEC projects. This then strengthens public perception and the military's ability to intervene in politics, not only regarding internal and external security matters but also regarding social and economic progress in general and the implementation of CPEC in particular (Wolf 2016). Thus, to carry out the essential tasks related to the economic corridor, the military resorts to its traditional 'help-yourself' attitude. In a similar fashion, it has created a foreign policy independent and separate from the rest of the government. The military's sovereignty is evident in large enterprises like the semi-military Frontier Works Organization (FWO, a key contractor for CPEC) or the increasingly independent diplomacy with China and engagement in CPEC projects (Wolf 2016).

There are also concerns about the rights and participation of indigenous Baloch people in Gwadar and other parts of Balochistan. In 2016, Pakistan's Minister of Planning, National Reforms and Development, Ahsan Iqbal, assured the people of Balochistan that Gwadar residents, including fishermen, would be regarded as 'main stakeholders' in the city's master plan (Syed 2016). Moreover, the developer of the Gwadar Port announced that it would assist fishermen to help boost the region's seafood industry by developing and offering programmes to improve the quality of local seafood. To address this issue, government officials and private organizations may focus on greater engagement with local communities and organizations to understand and accommodate local sensitivities and interests, so that all people could benefit from CPEC projects. This may also help China and Pakistan in improving their people-to-people and cultural ties.

Financial Concerns

Some aspects of CPEC's finances seem to be shrouded in secrecy. There are questions about the transparency of the process through which contracts are being awarded to construction, energy and other projects. There also seems to be a lack of independent financial and performance evaluation by a third party. The Private Power and Infrastructure Board has been accused of misdeeds in the approval process for coal power plants

and tariffs. Pakistan is contractually obliged to purchase electricity from those plants. There are questions about potential irregularities on the tariff approved for the 300 MW coal power plant to be built in Pind Dadan Khan by China Machinery Engineering Corporation (Khan 2015).

Inconsistency in regulatory regimes in China and Pakistan may affect CPEC projects, and some of these projects may be involved in monopolizing or operating assets of national security interest (e.g. oil refinery and storage tanks, power plants), which may require close regulation to avoid abuse of power or compromise of national interest. The investor returns may also be closely tied to public subsidies for projects such as public transportation, therefore having a direct impact on the firm's ability to make revenues and service loans (PwC 2017b).

Much of the development of the infrastructure, especially the corridor roads, has been assigned to FWO, a military engineering company (Ashraf 2017). However, some of these contracts are not being awarded through an open and transparent process. The process of selection of eligible firms and grant of contracts may be made more robust and transparent.

There are also concerns about the trade imbalance, which is dominantly in China's favour. In 2016–2017, Pakistani exports to China were only 15% of imports from the same country. Exports to China shrank to $1.62 billion in 2016–2017, from $2.69 billion in 2013–2014. Imports from China, in contrast, grew to $10.53 billion in 2016–2017 from $4.73 billion in 2012–2013, an increase of 123%. In 2012–2013, Pakistan's exports to China were 45% of imports from China. According to reports, Chinese products are replacing local goods and becoming a dominant force in the domestic market (Iqbal 2017). Between 2012 and 2017, Pakistan's trade deficit with China tripled, going from $4 billion to $12.7 billion (Dawn 2018). It may be noted that Pakistan's major imports from China include electrical equipment, machinery (including nuclear reactors), iron and steel, organic chemicals and manmade filaments, while major exports to China include cotton, rice, ores and fish.

Chinese exports through the Karakoram Highway have entered the Pakistani domestic market, and are usually cheaper due to the relatively higher cost of production in Pakistan. There are also concerns that CPEC may replace Pakistani exports by Chinese in external markets.

There are questions about Pakistan's increasing burden of external debt and the country's ability to pay it back. In 2017, a report estimated that Pakistan might end up paying $90 billion to China over a span of 30 years, with average annual repayments of $3–4 billion per year post fiscal year 2020 (Siddiqui 2017c). However, a boost in domestic production and exports (due to improved energy, infrastructure and the economic corridor) may also add an extra $8 billion per year to the country's exports, which may be sufficient to service the debt.

CPEC is a debt-financed infrastructure development project. China's lending plans place greater ownership of the financial risk on the recipient of the investment. The host country's ability to repay could also potentially lead to a network of inter-dependence guided by the exchange of resources and asset ownership. Some African countries are already approaching China to reschedule, freeze debt repayments or to pay debt back with resources for previous infrastructure projects (PwC 2017b).

Conclusion

CPEC is a flagship component of the BRI and has enormous significance for both Pakistan and China. Many of the future development and economic activities in Pakistan depend on successful execution of CPEC and its affiliated projects. For China, CPEC is important because it can be showcased as a success story for all other routes and components of the BRI. Indeed, the utilization of Chinese surplus capacity in engineering, construction, chemicals and other industries and the development of the western part of China is high on Beijing's agenda. CPEC thus provides an opportunity for stepped-up research to examine, design and execute optimal trade and investment policies, socioeconomic linkages and management practices to bolster development in China, Pakistan and other countries along the Belt and Road.

Overall, CPEC offers immense opportunity and responsibility to diverse stakeholders in Pakistan and China, including policymakers, entrepreneurs, government officials, industrialists and academicians. All of these stakeholders will need to work together in order to fully capitalize on the opportunities offered by CPEC, and the BRI in general, and

critically address empirical questions such as the volume of economic activity likely to be generated, income from tolls, impact on infrastructure and energy supply and consumption, impact on the local economy including domestic production, imports and exports, and Pakistan's capacity to pay debts. Future scholars may address these questions and myths by collecting, analysing and presenting empirical evidence.

References

Ahmed, M. (2017, September 12). CPEC Opens Door to Golden Circle of Trade for Pakistan. *The News*. Retrieved from https://www.thenews.com.pk/print/228827-CPEC-opens-door-to-golden-circle-of-trade-for-Pakistan.

APP (Associated Press of Pakistan). (2016, December 25). CPEC to Create over 700,000 Direct Jobs. Retrieved from https://www.app.com.pk/cpec-to-create-over-700000-direct-jobs/.

APP (Associated Press of Pakistan). (2017, June 6). CPEC Projects Create over 30,000 Jobs: Officials. Retrieved from https://www.app.com.pk/cpec-projects-create-over-30000-jobs-officials/.

Arduino, A. (2017). *China's Belt and Road Initiative Security Needs: The Evolution of Chinese Private Security Companies.* RSIS Working Paper No. 306. Singapore: Nanyang Technological University.

Arifeen, M. (2017, March 20). Possible Benefits and Risks in CPEC Projects. *Pakistan & Gulf Economist*. Retrieved from http://www.pakistaneconomist.com/2017/03/20/possible-benefits-and-risks-in-cpec-projects.

Ashraf, M. (2017, August 25). The Tale of CPEC and Balochistan. *Pakistan Today*. Retrieved from https://www.pakistantoday.com.pk/2017/08/25/the-tale-of-cpec-and-balochistan.

Bokhari, F. (2016, July 21). China Urges Pakistan to Give Army Lead Role in Silk Road Project. *Financial Times*.

BR. (2016, December 23). 'Pakistan's Labour Costs Lower than India's and China's,' Says Lead Economist, World Bank, South Asia Region. *Business Recorder*. Retrieved from http://fp.brecorder.com/2016/12/20161223116449/.

Brunner, H. (2013). *What Is Economic Corridor Development and What Can It Achieve in Asia's Subregions?* ADB Working Paper Series on Regional Economic Integration. Retrieved from https://www.adb.org/sites/default/files/publication/100110/reiwp-117-economic-corridor-development.pdf.

China Daily. (2016, November 15). Key Part of Pakistan Economic Corridor Opens Up.

Dawn. (2016a, November 13). 'Today Marks Dawn of New Era': CPEC Dreams Come True as Gwadar Port Goes Operational. *Dawn*. Retrieved from https://www.dawn.com/news/1296098.

Dawn. (2016b, January 28). Gwadar to Get First SEZ under CPEC. Retrieved from https://www.dawn.com/news/1235803.

Dawn. (2018, February 9). China Agrees to Accommodate Pakistan's Concerns on FTA. Retrieved from https://www.dawn.com/news/1388207.

Deloitte. (n.d.). How Will CPEC Boost Pakistan Economy? Retrieved from https://www2.deloitte.com/content/dam/Deloitte/pk/Documents/risk/pak-china-eco-corridor-deloittepk-noexp.pdf.

Ebrahim, Z. (2015, April 20). China's New Silk Road: What's in it for Pakistan? *Dawn*. Retrieved from https://www.dawn.com/news/1177116.

Economic Times. (2016, May 19). Pakistan-China 820-Kilometre-Long Optical-Fibre Cable Project Launched. Retrieved from http://telecom.economictimes.indiatimes.com/news/pakistan-china-820-kilometre-long-optical-fibre-cable-project-launched/52349319.

Gishkori, Z. (2015, April 22). Army Assigned Security of Chinese Engineers. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/873889/army-assigned-security-of-chinese-engineers/.

Google. (2018). Google Map Data. Beijing to Kashgar. Retrieved from https://www.google.com/maps/.

Hsu, T. (2017, January 14). How China's Asian Infrastructure Investment Bank Fared Its First Year. *Forbes*. Retrieved from https://www.forbes.com/sites/sarahsu/2017/01/14/how-chinas-asian-infrastructure-investment-bank-fared-its-first-year/.

Iqbal, S. (2017, August 6). Trade Balance Tilts Further in Beijing's Favour. *Dawn*. Retrieved from https://www.dawn.com/news/1349800.

Irshad, M., Xin, Q., Xuan, L., & Arshad, H. (2016). Deltoid Analysis of Pakistan-Asean-China Free Trade Agreements and Opportunities for Pakistan. *Asian Economic and Financial Review, 6*(5), 228–237.

Javaid, U., & Javaid, R. (2016). Strengthening Geo-Strategic Bond of Pakistan and China through Geo-Economic Configuration. *Pakistan Economic and Social Review, 54*(1), 123–142.

Johnson, K. (2016, April 12). Expanded Chinese-Operated Pakistani Port on $46 Billion Economic Corridor 'Almost Ready'. *Reuters*. Retrieved from http://in.reuters.com/article/pakistan-china-ports/expanded-chinese-operated-pakistani-port-on-46-billion-economic-corridor-almost-ready-idINKCN0X91PT.

Khan, A. (2015, May 1). Nepra Accepts Tariff Petition of Chinese Firm for Power Plant. *The Nation*. Retrieved from http://nation.com.pk/business/01-May-2015/nepra-accepts-tariff-petition-of-chinese-firm-for-power-plant.

Khan, S. (2016). Impact of Monetary Policy on Investment, Growth and Balance of Payments in Pakistan. *Journal of Business Strategies, 10*(1), 41–75.

Kiani, K. (2015, October 5). Chinese-Led Consortium Termed Lowest Bidder for Power Project. *Dawn*. Retrieved from https://www.dawn.com/news/1210939.

Kiani, K. (2017a, May 8). Power Cuts Return as Shortfall Touches 7,000MW. *Dawn*. Retrieved from https://www.dawn.com/news/1331738.

Kiani, K. (2017b, August 4). Power Consumers to Pay Security Cost of CPEC Projects. *Dawn*. Retrieved from https://www.dawn.com/news/1349492.

Lingliang, Z. (2016). Conceptual Analysis of China's Belt and Road Initiative: A Road Towards a Regional Community of Common Destiny. *Chinese Journal of International Law, 15*(3), 517–541.

Mourdoukoutas, P. (2017, January 8). China Wants Russia to Calm India and Save CPEC. *Forbes*. Retrieved from https://www.forbes.com/sites/panosmourdoukoutas/2017/01/08/china-wants-russia-to-calm-india-and-save-cpec/.

MSCI. (2017). Market Classification. *Modern Index Strategy Indexes*. Retrieved from https://www.msci.com/market-classification.

Pakistan Observer. (2017, June 20). CPEC One of Best Performing Projects of Belt and Road Initiative: Lijian. Retrieved from http://pakobserver.net/cpec-one-best-performing-projects-belt-road-initiative- lijian/.

Pantucci, R., & Lain, S. (2016). VI. Silk Road Security. *Whitehall Papers, 88*(1), 69–94.

PCN (Pak China News). (2017, June 8). CPEC Projects Create over 30,000 Jobs: Officials. Retrieved from http://pakchinanews.pk/cpec-projects-create-over-30000-jobs-officials/.

PwC. (2017a, February). The World in 2050 – Summary Report. PricewaterhouseCooopers. Retrieved from http://www.pwc.com/gx/en/world-2050/assets/pwc-world-in-2050-summary-report-feb-2017.pdf.

PwC. (2017b, June). Repaving the Ancient Silk Routes. PricewaterhouseCooopers. Retrieved from https://www.pwc.com/sg/en/publications/assets/gmc-repaving-the-ancient-silk-routes-2017.pdf.

Ramay, S. (2016). Policy Brief China Pakistan Economic Corridor: A Chinese Dream Being Materialised through Pakistan. *Sustainable Development Policy*

Institute (SDPI). Retrieved from https://sdpi.org/publications/files/China-Pakistan-Economic-Corridor-(Shakeel-Ahmad-Ramay).pdf.

Rana, S. (2016, June 9). $8.2b Railtrack Upgrade Project Wins Go-Ahead. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1119229/8-2b-railtrack-upgrade-project-wins-go-ahead/.

Sawas, A., & Anwar, N. (2017, July 20). CPEC: The Growing Resentment and Resistance Among Poor Pakistanis Can Cost China Dearly. *Quartz India*. Retrieved from https://qz.com/1061524/why-are-indian-banks-harassing-their-customers-over-aadhaar/.

SEZ. (2017). Special Economic Zones. Web Site of the Planning Commission of Pakistan. Retrieved from http://cpec.gov.pk/special-economic-zones-projects.

Shah, S. (2016, November 13). Chronology of Major Terror Incidents in Balochistan. *The News*. Retrieved from https://www.thenews.com.pk/print/164567-Chronology-of-major-terror-incidents-in-Balochistan.

Siddiqui, S. (2017a, April 12). CPEC Investment Pushed from $55b to $62b. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1381733/cpec-investment-pushed-55b-62b/.

Siddiqui, S. (2017b. January 20). PSX Becomes Regional Capital Market; May Launch CPEC Bonds. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1301852/psx-becomes-regional-capital-market-may-launch-cpec-bonds/.

Siddiqui, S. (2017c, March 12). Pakistan Will Be Paying China $90b Against CPEC-Related Projects. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1352995/pakistan-will-paying-china-90b-cpec-related-projects/.

SOP. (2013, August 6). Scholars from China and Pakistan Discuss Opportunities and Challenges of China Pakistan Economic Corridor. Senate of Pakistan.

Swaine, M. D. (2015). Chinese Views and Commentary on the 'One Belt, One Road' Initiative. *China Leadership Monitor, 47*(2), 1–24.

Syed, S. T. H. (2016, July 24). Energy Security: Development in CPEC vis-a-vis Western Angst. *Foreign Policy News*. Retrieved from http://foreignpolicynews.org/2016/07/24/energy-security-development-cpec-vis-vis-western-angst/.

Syed, J., Pio, E., Kamran, T., & Zaidi, A. (Eds.). (2016). *Faith-Based Violence and Deobandi Militancy in Pakistan*. Basingstoke: Palgrave Macmillan.

The Express Tribune. (2016, August 5). More than One Million Tourists Visited Northern Areas of Pakistan This Season. Retrieved from https://tribune.com.pk/story/1156578/1-million-tourists-visited-northern-areas-ptdc/.

The News. (2016, April 4). Special Economic Zones Approved. Retrieved from https://www.thenews.com.pk/print/110085-Special-economic-zones-approved.

Tiezzi, S. (2014, February 20). China, Pakistan Flesh Out New 'Economic Corridor'. *The Diplomat*. Retrieved from https://thediplomat.com/2014/02/china-pakistan-flesh-out-new-economic-corridor/.

TOI. (2017, May 25). CPEC Western, Central and Eastern Routes Construction Status Overview. *Times of Islamabad*. Retrieved from https://timesofislamabad.com/25-May-2017/cpec-western-central-and-eastern-routes-construction-status-overview.

Weijia, H. (2016, September 13). Increased Ties with Southeast Asia Don't Detract from China's Goals in the CPEC. *Global Times*.

Wolf, S. O. (2016). *China-Pakistan Economic Corridor: Civil-Military Relations and Democracy in Pakistan*. SADF Working Paper, No. 2.

World Bank. (2017). China: Country Data. Retrieved from https://data.worldbank.org/country/china.

Yousafzai, F. (2017, May 25). Long-Term CPEC to Bring $300bn Investment. *The Nation*. Retrieved from http://nation.com.pk/national/25-May-2017/long-term-cpec-to-cost-a-whopping-300b.

Zhaoli, L. (2013, July 30). Economic Corridor Will Be Lever for All of South Asia. *Global Times*. Retrieved from http://www.globaltimes.cn/content/800223.shtml.

3

Economic Assessment of CPEC: The Case of a Power Project

Syed M. Hasan, Hamza Ali, Fatima Azmat, and Suniya Raza

Introduction

The Chinese dream to revive the ancient silk route through the Belt and Road Initiative (BRI) is declared as a bid to enhance regional connectivity between three continents—Asia, Europe and Africa. The plan, which is global in scope, covers the Earth's surface through both overland and maritime routes, all to be achieved through massive investment on

S. M. Hasan (✉)
Department of Economics, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: syed.hasan@lums.edu.pk

H. Ali
McKinsey & Company, Karachi, Pakistan

F. Azmat
Pakistan@100 Initiative, Lahore University of Management Sciences, Lahore, Pakistan

S. Raza
Bank Alfalah Limited, Lahore, Pakistan

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_3

infrastructure. In numerical terms, BRI covers 65% of the world's population, three-quarters of global energy resources and 30% of world gross domestic product (GDP; Campbell 2017).

According to popular media reports, the ambitious geoeconomic vision is backed by Chinese investments approaching US $4 trillion. The scope of BRI is comprehensive, as it not only envisages hard connectivity through built-up infrastructure such as road and railway networks, but also includes soft integration using trade, transportation and transit agreements, and building social integration through people-to-people exchanges. To achieve its objectives, BRI depends on huge investment in mega public-sector projects jointly agreed between China and the relevant country and somewhat catering to local needs. Such projects include roads, railroads, power plants, dams and telecommunications networks.

One of the flagship projects under BRI is the China Pakistan Economic Corridor (CPEC). The CPEC portfolio has four main publicly stated components: energy generation, infrastructure building, development of the Gwadar Port and enhanced industrial cooperation. During the last decade, the economic growth of Pakistan was severely constrained due to persistent energy shortfalls and falling exports due to low competitiveness in global markets. As a result, a national priority for Pakistan is to focus on projects aimed at energy generation and industrial growth. On the other hand, the development of the transportation network and operationalization of the Gwadar Port were necessary to provide trade route access to China. Together, these form the main components of CPEC and hence it is hailed as a fusion of Pakistan's vision 2025 and China's BRI—a win–win situation for the two countries (Planning Commission).

In order to address the acute energy shortages, around 56% of the CPEC portfolio is based on energy projects. These projects are diverse in terms of input fuel of power plants: four renewable energy projects (one solar and three wind), three hydro projects and twelve coal-based projects (see Fig. 3.1).

The coal projects have been justified on the grounds that due to the gravity of the electricity shortage crisis, it became imperative to opt for power plants that can be installed and operationalized in the shortest possible time (Planning Commission FAQs). As such, these projects are also

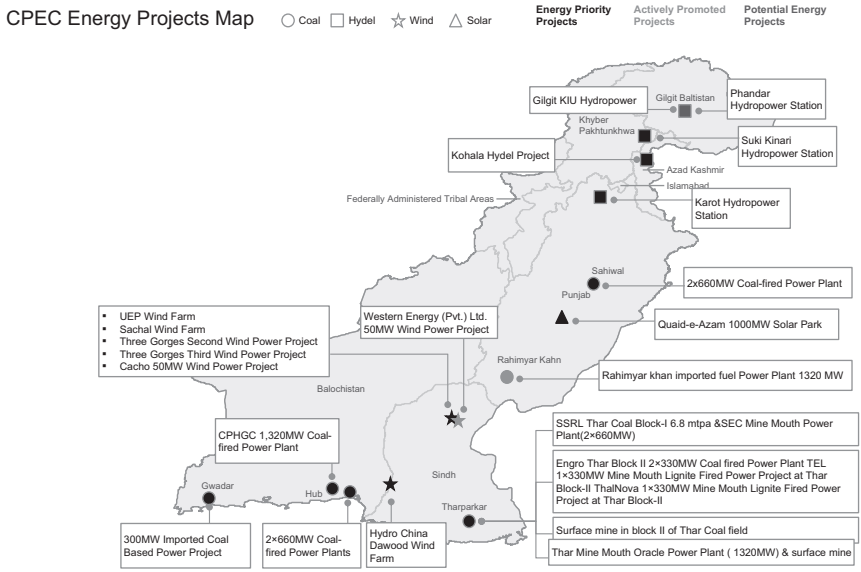


Fig. 3.1 CPEC energy projects map

referred to as 'early harvest' projects—a term coined for ventures that are likely to be completed in the short run as opposed to the long run.

Against the state projection of a win–win deal for the two countries, private perceptions differ and not everything linked with CPEC glitter is unquestionably considered gold. At the national level, an often-asked question is: who benefits more from the CPEC projects and who bears the greater financial burden, China or Pakistan? The impression that CPEC benefits China's commerce more than Pakistan's economy remains dominant among public analysts. Economists have been questioning the wisdom of seeking heavy loans and thereby raising Pakistan's debt to unsustainable levels. The issue has also added to the already strained inter-provincial relations in Pakistan. Specifically, in the case of transportation corridors, project maps and write-ups did not match and hence no one was sure if only the politically dominant province of the Punjab is the beneficiary, or if the less developed and poorly represented Balochistan will get its promised share as well. To a certain extent, the absence of objective analysis and accurate data was the cause of many of these misgivings.

It is therefore imperative to adopt a robust approach and produce irrefutable arguments for an unbiased analysis. This chapter will examine in detail one such measure: social cost benefit analysis (SCBA), which is a policy instrument that offers a net valuation of benefits by translating all implications of a project into monetary terms. Alongside explicitly identified costs, SCBA incorporates even implicit benefits and costs, such as possible changes in consumer welfare and potential environmental implications under various scenarios. Further, it can be effectively used for both positive and normative analyses (Hammitt 2013). The positive analysis identifies the beneficiaries and by how much they should, at least hypothetically, compensate the victims. The normative analysis based on SCBA identifies possible improvements from the proposed use of scarce resources.

This chapter highlights the significance of applying SCBA to evaluate the net benefits of investments made under CPEC and to arrive at an objective analysis of their social worth. In terms of methodology, SCBA of any component of CPEC entails estimation of the present discounted value of the entire stream of costs and benefits spread over the life of the project, using a social discount factor. Focusing on CPEC energy projects is important as, despite increasing global stress on switching to cleaner energy options, Pakistan has opted for five imported and three indigenous coal-fuelled power plants due to their potential for early harvest. The analysis presented here is aimed at gauging the extent to which the environmentally detrimental impact of coal plants is offset by the potential benefits of overcoming the energy shortfall and hence at making data readily available to policymakers and analysts.

The broad purpose of SCBA is optimal allocation of scarce resources for efficient social decision-making. The need for this arises in two main instances of market failures. One occurs when the good under focus, for example clean air, is not sold in the market and hence there is no market price for it. In this case economists have developed systematic procedures for inference of the requisite measures. The second is when the market prices do not reflect the true marginal social costs and benefits, as commonly observed in the case of externalities. In this instance, for example in the case of a negative externality, the idea of marginal damage is

employed to account for the true social cost or benefit; the socially correct price is also known as the shadow price.

Steps of SCBA

The task of estimating SCBA appears daunting in the face of challenges such as market failures and use of an appropriate social discount rate (SDR). In this chapter, in order to make the calculations more understandable, we follow Boardman et al. (2017) and break the process down into clearly identified steps. Imagine a situation whereby an energy planner is tasked with recommending a project for generating electricity that can bridge the gap in demand and supply and is in the process of assessing various options to come up with necessary recommendations. Using this example, the following list explains the actual steps involved in performing SCBA:

1. Define the analytical framework.

   Specify the impact to be caused by the programme or policy against a counterfactual situation. The counterfactual could be the status quo—that is, the state without any project—or another project based on alternate use of resources. SCBA compares the net social benefits of allocating resources for a particular choice, which hypothetically implies diverting resources from some other usage by the private or public sector. If there is no such hypothetically displaced project, the status quo can be considered as the counterfactual.
2. List the set of alternative projects.

   In the case of electricity generation, the possible alternatives could be on the basis of energy type (renewable or non-renewable), fuel (wind, solar or coal, diesel, natural gas), size of the plant (just enough to meet the current shortfall or projected demand over the medium term) or urgency of the project.
3. Determine the stakeholders.

   The list of stakeholders is very likely to cut across geographical and sectoral domains. The geographical scope of the analysis needs to be clearly specified in order to include all the relevant stakeholders. For

each project there may be at least one global, national or local perspective involved. Similarly, the concerns of stakeholders across the generation, distribution and consumption of electricity need to be incorporated in the analysis.

4. Comprehensive identification of associated costs and benefits.

   It is important to categorize costs and benefits as direct (explicit/intended) and indirect (implicit/unintended); tangible (easy to measure and quantify) and intangible (hard to identify and measure); and real (anything that contributes to the bottom line net benefits) and transfer (money changing hands), in order to ensure that you understand the effects of each cost and benefit.

5. Future projection of costs and benefits over the life of the programme.

   This covers the analysis based on how costs and benefits will change periodically over time due to inflation, depreciation and so on.

6. Monetize costs and benefits.

   Transform all costs and benefits (social and private) to monetary values, while using the same unit to ensure homogeneity in the analysis.

7. Discount costs and benefits to obtain present values.

   This step involves converting the stream of costs and benefits spread over time into the present value by using the SDR, which may differ for different agencies.

8. Compute net present values.

   Subtracting discounted costs from discounted benefits yields the net present value of the project. The policy is considered efficient if a positive result is produced.

9. Perform sensitivity analysis.

   This step allows the analyst to check the accuracy of estimates and assumptions. This is normally done by altering the SDR used. If the resultant number is positive, then the policy should be accepted. If instead this step returns a negative number, then it is important to find the balancing point.

10. Policy recommendation.

    Assess all results and recommend a socially optimal policy.

Issues in SCBA

Two major issues in the implementation of SCBA are monetization of carbon emissions and choice of the appropriate social discount. The first pertains to the conversion of carbon emissions into a dollar value so that it can be used as a number in the SCBA. The second attains significance when consequences of public-sector projects span a long period of time and the application of the interest rate to determine is no longer appropriate.

Monetization of Carbon Emissions

The Environmental Protection Agency in the USA uses monetary estimates of the social cost of carbon (Greenstone et al. 2013) to accurately value climatic impacts. The social cost of carbon emissions is a measure, in dollars, of the long-term damage done by a ton of carbon dioxide emissions over a year. This monetary amount can also be used to value whether similar damages are avoided due to the abatement of carbon emissions. The social cost is a comprehensive estimate of climate change damages and includes adverse impacts on farm productivity and human health. Although it does not currently include all important damages due to lack of exact information on the nature of those damages, it is still a useful measure to assess the climatic impacts of carbon emission changes. Irrespective of the timing of the emission, the key to estimation is based on a present value calculation. The estimates are based on integrated assessment models (IAM) that combine a global economic model with a model of the physical climate system and the carbon cycle (Anthoff 2009). The objective of these models (Weyant 2014) is to project alternative future scenarios under various types of climate change policies to provide policymakers and industry with an idea of the likely outcomes to decide whether or not to implement them. The models estimate carbon emissions in the future and the damages therefrom, and then discount the value of those damages over the entire time span back to the present value to arrive at the social cost. Although the IAM approach has been criticized by Pindyck (2013), according to Nordhaus (2014) to brand

IAMs as useless is fundamentally incorrect. According to Nordhaus, IAMs and the social cost of carbon are conceptual frameworks for dealing with highly complex, nonlinear, dynamic and uncertain systems and the models have provided important insights into many aspects of climate change policy.

Social Discount Rate

As in the case of the private appraisal of projects, while evaluating public-sector projects public finance analysts need to assign weights to costs and benefits based on their placement in the time spectrum. These weights, when appropriately picked, make the costs incurred and benefits realized in future time periods comparable to present-day values. Once transformed, we can aggregate these weighted net benefits to obtain a single figure signifying the net worth of the project. This single measure is referred to as the net present value and these weights are referred to as social discount factors, which are derived using SDRs.

Practitioners may use pre-assigned SDRs to evaluate public projects without worrying much about the basis of their calculation. However, since the debate over the choice of SDR is still inconclusive, it is important to understand the theoretical foundation of SDR determination to use the appropriate rate. First, it needs to be remembered that future net benefits are discounted to accommodate the accepted notion that future resources of equal value are worth less than if the same were available today. The reasoning is based on the notion of opportunity cost: if we invest a given value today, we will end up with a higher value at a future date and hence for comparison, values spread over time need to account for the returns accrued over time.

The three issues as discussed in Boardman et al. (2017) that are of prime concern in SDR determination are (1) if the market interest rate can be used to describe how individuals in a society are willing to trade off current consumption with future consumption; (2) whether the net benefits of future generation be discounted similar to that of present generation; and (3) if the society values consumption similar to savings and investment. The divergence of views on these issues leads to differences in

the choice of SDR. However, to a certain extent, these differences in choice of SDR emerge from the expected lifetime of the project and its likely impact on environment or ecology. As to why it really matters what choice of SDR is made while estimating the present equivalents of future values, different SDRs may lead to different policy recommendations, as they affect the rankings of alternatives.

Against this theoretical background, we now explore whether the SDR can be derived from various interest, savings or returns rates observed in the market. The first possibility is to use the marginal rate of return on private-sector investments as the SDR. The underlying argument as advocated by Harberger (1978) is that whenever the government undertakes a project, it diverts available resources out of private use and therefore it should justify its intervention in pecuniary terms. Such a justification can be done by demonstrating to society that a public project can offer a higher return than can possibly be achieved by the private sector. This choice of SDR is criticized, however, for several reasons: private rates are based on market prices that do not incorporate social costs, are higher as they include risk premiums, and may not be appropriate if the economy is not fully employing its resources.

A second approach recommends the use of the marginal rate of time preference: the rate at which individuals are willing to forgo current consumption in exchange for future consumption. From the market rates, this is given by the after-tax return on savings. This approach is criticized on account of the fact that individuals in society may either save or borrow or save by paying back their debt. In such situations, it is not clearly specified which rate may be applied. Apart from these two objections, some economists argue that the government should discount its projects using long-term borrowing rates, as this reflects the actual cost of financing these projects. Again, this approach is considered appropriate only if the actual beneficiaries are taxed to generate finances needed to retire the government loan.

All these market-based approaches for picking up the SDR are rejected on the basis that markets are not perfect and individual consumers do not behave as predicted by inter-temporal choice models. An alternative, based on the idea of Ramsey (1928), is the optimal growth rate model, which suggests that the SDR may be based on a well-behaved social

welfare function that indicates values assigned by society on the consumption of public and private goods over time. Such an SDR is considered to comprise two elements—pure preference of welfare for present versus future generation and consumption discounting with economic growth over time. Such an SDR can therefore be estimated from per capita real consumption data for long time periods and with suggested values of social marginal utility.

Case Study: Economic Analysis of Sahiwal Coal Power Plant

The Sahiwal Coal Power Project, registered as Huaneng Shandong Ruyi (Pakistan) Energy Private (Limited), is located in Punjab and became operational on 3 July 2017. A joint investment of approximately $1.8 billion was put into this project by a consortium of two Chinese companies: Huaneng Shandong Power Generation Co. and Shandong Ruyi Science & Technology Group. The plant is expected to produce electricity for 30 years on a build, operate and transfer (BOT) basis. The plant uses imported coal from Indonesia and South Africa, as the indigenous coal cannot be used now due to excavation technology and quality issues. The company CEO in a media talk claimed that electricity from coal is cheaper than that from a solar power plant.

The study of this project and the findings thereof can be considered representative of all the imported coal projects under the CPEC energy component. The importance of using social cost instead of private cost is also emphasized in order to have reasonable comparisons across various fuel and technology choices for electricity generation. The Sahiwal Coal Power Plant is one of the coal-based power projects under the CPEC energy component designed to expeditiously meet the energy requirements of Pakistan. The plant uses imported sub-bituminous coal as fuel, has super-critical technology, is financed in the independent power producer (IPP) mode and has a total installed capacity of 1320 MW. The project was commissioned in 2017 and connected to the national grid.

In this section we will apply the steps of SCBA to determine the social feasibility of the project.

1. Define the framework. In 2015, Pakistan was facing a shortfall of 5000 MW of electricity. This gap between supply and demand was persistently hampering national economic growth and productivity. And as power generation needs large investment, private suppliers were not able to bridge it through their initiative. Hence, the counterfactual in this situation is the status quo; that is, to continue with the electricity shortfall.
2. List the alternatives. The possible alternatives for power generation could be other renewable sources such as wind or solar, hydroelectricity or the use of some non-renewable fossil fuel other than coal. Since this is an ex post cost benefit analysis (CBA), we will skip this step.
3. Identify stakeholders. As electricity distribution in Pakistan is managed through centralized control, the first stakeholder is the national consumer being served by the national grid. However, for environmental concerns or water usage footprint, based on the location of the plant, the local community has equally important stakes.
4. Costs (identification and monetization). This sub-section identifies all costs (direct as well as indirect) associated with the Sahiwal Coal Power Plant.

Direct Costs

Here we provide details of the direct costs associated with the Sahiwal Coal Power Plant. The project has been executed on the BOT principle. The initial expenditures on setting up the plant have been borne by the private firms that successfully bid for the project. In case of Sahiwal, this was a Chinese consortium, Huaneng Shandong Ruyi. All direct costs required for setting up the plant—which include land cost, machinery and equipment—was borne by the Chinese consortium. The yearly calculations for the upfront tariff are present in Appendix 1.

Based on this model, the primary cost that has to be borne by the Pakistani government is reflected in the upfront tariff charged by the Chinese consortium. For the calculation of the yearly tariff, the format provided by the National Electric Power Regulatory Authority (NEPRA) regulation of 2012 has been taken as the base. The two main parts of the tariff relate to the energy cost component and the capacity component. Through the energy cost component, the company recovers its operational expenses, and through the capacity component its invested capital.

Energy Cost Component

This component comprises four main elements according to the format provided by NEPRA. The first major element is fuel cost. The Sahiwal plant operates on sub-bituminous coal imported from South Africa and Indonesia. Coal prices in the international market are subject to fluctuations. For instance, due to coal price variations, fuel cost varied from PKR 4.9732 per kWh to PKR 5.1156 per kWh between August and November 2017.

To accurately project the fuel cost, we consider the latest fuel cost, which is PKR 5.1156 per kWh. In order to estimate the fuel cost for future years, we need an inflation factor. Using historical prices for the last ten years, we find the percentage mean and standard deviation of the monthly variation in prices. The historical mean was found to be 0.63% and the standard deviation 6.9%. These two parameters were then used in the Black–Scholes equation to make future predictions about the prices of coal. The equation is as follows:

$$P_{t+1} = P_t + \text{mean} * P_t * dt + dt^{0.5} * \text{sigma} * P_t * phi$$

where P_{t+1} is the price in the next period, P_t is the price in this period, mean is the average of the historical growth rate and dt is the change in time period. Since we use monthly data, we come up with monthly predictions. The plant is operational for 30 years, which equals 360 months. Hence, our total time T is 360 and dt is 1/360. Sigma refers to the standard deviation of the historical growth rates and phi is the randomly

generated normal variable, with mean 0 and variance 1. In order to minimize randomization errors, the estimates were obtained after 100 iterations. A yearly growth rate of 0.08% in the coal price was calculated on average for future years and this is then used as the inflation factor for the fuel cost component.

The second element is the variable operating and maintenance expenses, which include human resource costs and general administrative expenses. Due to the lack of availability of actual data, we use the reference figure provided in the NEPRA upfront tariff, which assumes that for a 660 MW plant, the variable operating and maintenance expenses will be PKR 0.114 per kWh. The Sahiwal project has two plants of these specifications and these are operating separately. As a result, for every plant we will take this cost separately. Moreover, according to the NEPRA framework, 40% of this cost is indexed with US consumer price inflation (CPI) and 60% with Pakistan's CPI. The reference CPI used here is 1.6% for the USA and 5% for Pakistan, the average values for the last few years; their weighted average is used for inflating these expenses over the life of the plant.

The third element relates to the ash disposal component. A major drawback of coal-fired power plants is the generation of huge amounts of ash. The plant design has allocated a separate site for the disposal of solid ash. For fly ash, it has to be sprayed with water so that it settles and then is stored in the ash pond. Additionally, there is a 10 m wide tree boundary around the ash pond to keep the wind velocity at a minimum and provide environmental protection. The NEPRA upfront tariff has allocated PKR 0.22 per kWh cost for this component and that value has been used in our CBA as well. We can reasonably assume that this cost has the same inflation factor as that for the variable operating and manufacturing expenses.

Another cost element relates to limestone usage. To meet the National/Provincial Environmental Quality Standards for Industrial Gaseous Emissions, the plants are equipped with a flue gas desulphurization unit. The coal used as fuel contains not only carbon but also many other elements. The oxidation process of coal results in the emission of sulphur dioxide, nitrogen oxide and so on, besides carbon dioxide. A key component of flue gas desulphurization is limestone, which captures most of the

acidic gases. The plants' annual consumption of limestone is estimated to be 79,800 tons. Using the cost of limestone, which includes the transportation cost of PKR 1250 per ton, the total cost is equal to PKR 99.8 million. Dividing the total cost of PKR 99.8 million by the energy produced (8.976 GWh) annually results in an amount of PKR 0.011 per kWh, which will be charged in the tariff component. Using historical data of the world prices of limestone for the last 30 years, the compound annual growth rate (CAGR) was found to be about 3%. This CAGR was then used as the inflation factor to find the prices for the coming years.

Capacity Component

The capacity component of the upfront tariff covers the charges against the investment made by the Chinese consortium. It has six major components, with the pivotal ones being the interest charges, principal amount repayment and return on equity.

The three major components relate to the financing of the project. The project was executed in the IPP mode, where a small part of the financing was done through equity and the rest of it through debt. In the case of Sahiwal, the total set-up cost is equal to approximately $1.78 billion. Of this amount, $0.36 billion was invested by the Chinese consortium. The rest of the money, which totals around $1.425 billion, was borrowed from the Industrial and Commercial Bank of China.

The debt amount has to be paid back in 10 years. The half-yearly interest rate to be charged equals the 6-month USD London Inter-Bank Offered Rate (LIBOR) plus 370 basis points during the construction period of three years, and the 6-month USD LIBOR plus 350 basis points during the operational period. For the purpose of this study, we have assumed the loan repayment to be done in the mode of an annuity, where there are fixed loan repayments every year for the first three years at the initial interest rate, and then for the next seven years at the new lower interest rate.

By adding the semi-annual interest payments, we obtain total annual payments of $148 million. Dividing this total figure by the total electricity generated of 8976 GWh yields PKR 1.74 per kWh, against an exchange rate of PKR 105.4. Similarly, by adding the two principal pay-

ments and dividing by the electrical energy produced, we get PKR 1.01 per kWh for the principal repayment. Hence, a total of PKR 2.74 per kWh will be charged against the debt in the capacity component for the first year. Following similar calculations, we can find the components for the subsequent years. Since the entire amount has to be paid back within ten years, this part gets eliminated once that has been done.

Another major contributor to this component is the return on equity. As informed by the Chief Economist of the Government of the Punjab, the consortium is promised an equity return of 27.18% annually. As the invested capital by the company is $0.36 billion, which equals PKR 37.9 billion, the company is promised PKR 10.31 billion per year. Dividing this by the electricity generated gives us PKR 1.14 per kWh, which is going to be charged to the capacity component.

The other factors include insurance, cost of working capital and fixed operating and manufacturing expenses. For all of these factors, the NEPRA regulation rates have been used due to lack of availability of data. The general insurance premium for one 660 MW plant is equal to PKR 542.65 million approximately, and for two of these plants the amount will total PKR 1085.3 million. This turns out to be PKR 0.121 per kWh charged in the capacity component in the CBA. The cost of working capital is taken as given in the base case: PKR 0.2276 per kWh. Lastly, the fixed operating and maintenance expenses are taken to be equal to PKR 0.29 per kWh, which will be subject to an inflation factor that is indexed by 50% US CPI and 50% Pakistani CPI, a method indicated in the NEPRA regulation. The cost of working capital will be subject to similar fluctuations and is inflated accordingly, whereas, assuming that no extraordinary circumstance takes place, the insurance premium is going to remain constant over the years.

The total tariff consisting of the energy cost and capacity component is used as the direct cost in the CBA.

Indirect Costs

There are various other costs related to energy generation which are not taken into account by the private investors in the power plants. This chapter aims to quantify these costs to give a more realistic view of all the

economic and social costs associated with the Sahiwal Coal Power Plant. We categorize these indirect costs into two main categories: (1) social costs of greenhouse gas emissions; and (2) social costs of non-greenhouse gas emissions.

It is important to acknowledge the limitations of quantifying and monetizing the effects of pollution because of these costs. Unlike private costs, there are no markets from which their 'prices' can be extracted. However, as explained earlier, there is extensive literature available on different methods employed to monetize these impacts. This section elaborates on the chosen method as well as on the quantification of the social costs of the Sahiwal Coal Power Plant.

Social Costs of Greenhouse Gas Emissions

The combustion of fossil fuels results in the emission of greenhouse gases, which contribute to global warming and water acidification and hence lead to damages and costs. To get a collated figure of the costs of these emissions for the Sahiwal Coal Power Plant, we first quantify the related carbon emissions and then monetize them accordingly.

To calculate carbon dioxide emissions, the methodology adopted by Mittal et al. (2012) for coal-fired thermal power plants in India has been adopted. The calculation is a two-stage process. First, we use the elemental analysis of the coal that is being used, and second, we calculate the emissions generated by the complete burning of this coal. The coal that this plant will use is sub-bituminous coal imported from South Africa and Indonesia. The complete elemental analysis is given in Appendix 2. South African coal contains around 60.42% carbon and Indonesian coal contains 58.96% carbon. When the coal is burned, carbon is the main component that generates the required heat energy. The plant at Sahiwal uses super-critical technology for oxidation and combustion. Therefore, the oxidation factor of the carbon is around 0.88. This means that 88% of the solid carbon is going to be completely burned and converted to carbon dioxide, whereas the rest of it will be converted to ash, of which 2% will be fly ash and 10% will be solid ash.

The plant is estimated to use 4.48 million tons of coal every year. Half of this is going to be imported from South Africa and the other half is going to come from Indonesia. Mittal et al. (2012) explain the methodology for calculation of carbon dioxide. The calculation is done based on the molar equation:

$$C + O_2 \rightarrow CO_2$$

The mass number of carbon (C) is 12 and that of carbon dioxide (CO_2) is 44. By dividing the total amount of carbon burned, using the elemental analysis and the oxidation factor, by 12 one gets the number of moles of carbon used. Multiplying this with the mass number of carbon dioxide gives the total amount of carbon dioxide produced. The complete table is given in Appendix 3. The total amount of carbon dioxide that is going to be generated is 8.63 million tons and is equivalent to 0.961 kg of carbon dioxide emissions per kWh.

Monetization of Greenhouse Emissions

For the calculation of social carbon cost, we make use of the estimates available from the IAM. Specifically, we use the estimates from a 2015 US government-commissioned study by the Interagency Working Group on Social Cost of Carbon. When plotting the different simulation values for different years, the 3% discount rate is the central value, so we have used that value to make our calculations of carbon emissions. However, over the years the rate per metric ton increases because future emissions are likely to produce greater marginal social costs, as physical and economic systems will become more stressed in response to greater climatic change, and because GDP is growing over time and many damage categories are modelled as proportional to gross GDP. Table 3.1 shows the social cost of carbon emissions in USD per ton of carbon emissions, according to the US study.

Table 3.1 Social cost of carbon at various discount rates (USD/ton of emissions)

Year	5%	3%	2.5%	3% (95th percentile)
2015	11	36	56	105
2020	12	42	62	123
2025	14	46	68	138
2030	16	50	73	152
2035	18	55	78	168
2040	21	60	84	183
2045	23	64	89	197
2050	26	69	95	212

Social Costs of Non-greenhouse Gas Emissions

Coal combustion results in the emission of non-greenhouse gases such as nitrogen oxide and sulphur dioxide. We take into account how these pollutants affect air, water and soil quality as well as how they negatively affect human health, crops, building materials and the natural environment.

Another major pollutant associated with the burning of coal is ash. The two sources of ash are from the coal itself and from the combustion process. The elemental analysis in Appendix 2 shows that Indonesian coal contains around 13.99% of ash, whereas South African coal has around 17%. Hence, 0.69 million ton of ash will be generated every year through the annual consumption of coal. Moreover, the burning of solid carbon would lead to a further increase in solid ash production of 0.99 million ton and fly ash production of 0.03 million ton. All these non-greenhouse gas emissions will lead to various adverse impacts and should be part of the SCBA. For the calculation of these costs, we use the estimates mentioned in Hirschberg et al. (2007).

The use of imported coal in the Sahiwal Power Plant, as well as the super-critical technology used, justifies the use of standards used by similar coal power plants in the European Union. Table 3.2 gives monetized estimates for health impacts, crop yield losses and material damages per kWh.

Table 3.2 Social cost of non-greenhouse gas emissions

Impact type	€$_{cent}$/kWh	PKR/kWh
Health impacts	1.31	1.7295
Crop yield losses	0.02	0.0264
Material damage	0.02	0.0264
Total	1.36	1.7823

Total Benefits (Identification and Monetization)

This section will highlight the methodology adopted in the calculation of direct and indirect benefits associated with the Sahiwal Coal Power Plant.

Direct Benefits

This section details the direct benefit accrued to the government of Pakistan from the distribution of electricity to the various sectors of Pakistan. The electrical energy generated from the Sahiwal plant totals 8976 GWh. However, during transmission, only 80% of this will reach the end users and 20% is wasted as transmission losses. Using the countrywide consumption percentages of every sector for 2015–2016, provided by NEPRA's State of Industry Report 2016, and accounting for the transmission losses, the distribution of the Sahiwal plant's electricity is assumed for the major sectors and is shown in Table 3.3.

These figures are then multiplied by the respective tariff rates (NEPRA: State of Industry Report 2016). As the tariff rates differ depending on peak and off-peak hours, we have assumed that half of the hours in the day are categorized as peak hours and the other half as off-peak. In case of differentiation between peak hours and off-peak hours within the same sector, a simple average has been calculated. The tariff rates used and the revenue generated are in Table 3.4.

Table 3.3 Sectoral share of electricity generated from Sahiwal Coal Power Plant

Sector	Consumption (kWh)
Domestic	3,313,221,120
Commercial	539,996,160
Industrial	1,900,757,760
Agricultural	649,144,320
Bulk supply	269,998,080

Table 3.4 Sectoral tariffs and revenue

Sector	Tariff (PKR/kWh)	Revenue (PKR)
Domestic	15.25	50,526,622,080
Commercial	15.25	8,234,941,440
Industrial	29.28	55,654,187,213
Agricultural	13.50	8,763,448,320
Bulk supply	30.33	8,189,041,766

Indirect Benefits

This section deals with the analysis of the potential indirect benefits generated by the Sahiwal Coal Power Project. There are various spillover effects from the increase in electricity generation in Pakistan, a country currently dealing with an acute energy shortage.

One of the key benefits that we consider is the increased provision of electricity to the industrial sector, which will lead to economic growth. Currently, Pakistan faces an energy shortage equal to 5000 MW, as reported in the media. For this reason, Pakistan faces a 4% loss in GDP growth every year (Vats 2016). To obtain a quantifiable measure of economic impact of additional electricity, we refer to Siddiqui (2004). Using a time-distributive lag model with other control variables like labour and capital, within the regression model, they conclude a 0.18% increase in GDP if there is a 1% increase in electricity generation. The effective production by the Sahiwal plant is 1026 MW, which is around 4.1% of the current installed capacity of 25,000 MW. This means that the plant will lead to a total increase of 0.74% in the GDP of Pakistan over its lifetime. Using a simple straight-line amortization of these benefits, a total of PKR 7.36 billion will be added to Pakistan's GDP every year, keeping the 2016 GDP figure as the base.

Another major benefit of this continuous stream of electricity is going to be the fuel savings from other alternative sources. Because of the electricity shortage, consumers are switching to other, inefficient ways of meeting their energy needs. Using the expenditure questionnaire of the Pakistan Standard of Living Measurement dataset for the year 2015–2016, we find the weighted value of the total number of people who use these alternative means of energy. The questionnaire mentions the total fuel cost paid to generate electricity. Using the questionnaire, we find out that 685,152 households in the population-weighted sample pay these fuel costs. On average, the monthly expenditure is PKR 2581, which yields an annual total of PKR 21.2 billion. Sahiwal plant electricity production will bridge 23.4% of the energy shortage, which means that, on average, 23.4% of this fuel cost will be saved, which equals PKR 4.961 billion annually, for the next 30 years. The discount rate that we will use for this study, other than the social cost component, is 10.32%, which is equal to the average borrowing rate per annum of these projects (Appendix 1).

Net Present Value and Sensitivity Analysis

Accounting for all the costs and benefits duly discounted, we report two SCBAs in Appendix 4. We use the mean value of a 3% discount rate for the lower-bound CBA and the 95th percentile of 3% for the upper-bound CBA. We use the exchange rate of PKR 105.4 per dollar to come up with the costs based on the quantified carbon emissions.

The first column refers to the year number. The second column refers to the direct costs. The numbers are calculated by multiplying by the tariff (Appendix 1) the total electricity of 8.9 GWh. The third column refers to the indirect costs. The numbers are calculated by adding the social cost of greenhouse gas and non-greenhouse gas emissions. The fourth column refers to the direct benefits, and the fifth to the indirect benefits due to economic growth and the fuel cost-saving aspect.

The lower-bound SCBA shows a net benefit of approximately PKR 71 billion, whereas the upper-bound SCBA shows a net loss of approximately PKR 647 billion. The projections and the values are just an indication of what the actual costs would look like.

Policy Recommendations

According to World Energy Outlook (IEA, 2016), 27% of the population of Pakistan—that is, around 51 million people—have no access to grid electricity. However, an even larger problem is reliable access to electricity, where it is estimated that more than 75% of the population in Pakistan face daily blackouts of varying durations (Grealish 2015). According to Samad and Zhang (2018), the lack of connectivity and poor reliability may be costing the country at least $4.5 billion (1.7% of GDP) a year. This figure is staggering and warrants immediate action, as is also claimed in the case of CPEC's early harvest coal projects.

However, despite the potential benefits of CPEC early harvest energy projects, it is still important for policy planners to keep the long-run consequences of electricity generation choices in focus and seek reliable answers to a very fundamental question: are the energy generation investments under CPEC the best option for meeting Pakistan's long-term energy needs, or are alternative environmentally friendly options more feasible socially and economically?

To answer these important and technical questions, it is imperative that practitioners are able to provide essential support to policymakers using academically established and impartial approaches. The tools employed in this chapter provide a complete methodology to use the SCBA method for an objective analysis of the CPEC coal-based electricity generation plants and hence might be helpful to answer the first question raised.

Conclusion

Mega-projects undertaken by the public sector have massive impacts. As such, expectations and apprehensions are large. In the absence of objective tools to analyse the potential impact of such projects, misgivings and mistrust increase, which hampers economic growth. In this chapter, we emphasize the use of SCBA, an objective policy analysis tool, to determine the social feasibility of CPEC projects. We provide a step-by-step

guide for practitioners and a comprehensive SCBA for the Sahiwal coal project executed under CPEC energy projects.

We also want to highlight that, despite the increasing global emphasis on switching to cleaner ways of electricity generation, Pakistan has opted for eight coal-based power plants. Although the project will yield the much-needed electricity quickly, there are other costs involved that need the attention of policymakers. According to the World Bank Development Indicators database, the total carbon dioxide emissions for Pakistan for the year 2014 equalled 166.3 million tons. Sahiwal Coal Power Plant alone is going to add an additional 5.2% to the total. This is a huge increase in total emissions. Considering that there are seven more plants, the overall amount that they are going to add to the total carbon pool is going to be considerable. In terms of future research, use of the levelized cost of electricity, utilizing the cost of producing one unit of electricity, may be carried out to evaluate the economic and social feasibility of all alternate sources of electricity generation.

Research Limitations

It is important to specify the data limitations under which this analysis was conducted. In particular, we recognize the weaknesses associated with the use of IAM and within some of the assumptions that we are making. First of all, the IAM model underestimates the social cost of carbon, as this is a probabilistic scenario analysis and has many inherent assumptions. To tackle those, a frequency distribution is made for various scenarios, time preferences and discount rates and then the mean discount rate is used. It is therefore very important that social cost of emissions be estimated specifically for the Pakistani context, keeping in consideration the economic growth trajectory and sources of energy. Another limitation in SCBA here is that it does not take into account the inflation factor of electricity tariff rates. These tariff rates are subject to government policies and even if the cost of purchasing electricity goes up, the government tries to subsidize its consumers. Hence, to avoid confusion, we do not consider this here.

Appendix 1[1]

6-month USD London Inter-Bank Offered Rate (LIBOR)	1.56%					
370 basis points	3.70%					
Semi-annual	5.26%	During construction				
6-month USD LIBOR	1.56%					
350 basis points	3.50%					
Semi-annual	5.06%	During operation				
Note: The current 6-month USD LIBOR is used for the calculations						
Average semi-annual interest rate	5.16%					
Total amount	$1,425,000,000					
Periods	20					
PMT/year (construction)	$116,926,718					
PMT/year (operation)	$115,448,841					
Payment number	**Payment**	**Beginning balance**	**Interest**	**Principal**	**Ending balance**	
1	$116,926,718	$1,425,000,000	$75,022,973	$41,903,745	$1,383,096,255	Year 1
2	$116,926,718	$1,383,096,255	$72,816,837	$44,109,881	$1,338,986,374	payments
3	$116,926,718	$1,338,986,374	$70,494,553	$46,432,165	$1,292,554,209	Year 2
4	$116,926,718	$1,292,554,209	$68,050,006	$48,876,712	$1,243,677,497	payments
5	$116,926,718	$1,243,677,497	$65,476,760	$51,449,958	$1,192,227,539	Year 3
6	$116,926,718	$1,192,227,539	$62,768,038	$54,158,680	$1,138,068,859	payments
7	$115,448,841	$1,138,068,859	$57,640,570	$57,808,271	$0.1,080,260,588	Year 4
8	$115,448,841	$1,080,260,588	$54,712,714	$60,736,127	$1,019,524,461	payments

9	$115,448,841	$1,019,524,461	$51,636,569	$63,812,272	$955,712,189	Year 5
10	$115,448,841	$955,712,189	$48,404,624	$67,044,217	$0.888,667,972	payments
11	$115,448,841	$888,667,972	$45,008,989	$70,439,852	$0.818,228,120	Year 6
12	$115,448,841	$818,228,120	$41,441,372	$74,007,469	$744,220,651	payments
13	$115,448,841	$744,220,651	$37,693,064	$77,755,777	$666,464,874	Year 7
14	$115,448,841	$666,464,874	$33,754,913	$81,693,928	$584,770,946	payments
15	$115,448,841	$584,770,946	$29,617,303	$85,831,538	$498,939,408	Year 8
16	$115,448,841	$498,939,408	$25,270,133	$90,178,708	$408,760,701	payments
17	$115,448,841	$408,760,701	$20,702,789	$94,746,052	$314,014,649	Year 9
18	$115,448,841	$314,014,649	$15,904,120	$99,544,721	$214,469,927	payments
19	$115,448,841	$214,469,927	$10,862,409	$104,586,433	$109,883,495	Year 10
20	$115,448,841	$109,883,495	$5,565,346	$109,883,495	$0	payments

Fuel component					
Year	FCC	Ash disposal	Limestone	Variable O&M	Total EPP
1	5.116	0.22	0.0110	0.11	5.46
2	5.157	0.236	0.0113	0.12	5.52
3	5.198	0.252	0.0117	0.12	5.58
4	5.239	0.270	0.0120	0.12	5.65
5	5.281	0.289	0.0124	0.13	5.71
6	5.324	0.309	0.0128	0.13	5.78
7	5.366	0.331	0.0131	0.14	5.85
8	5.409	0.355	0.0135	0.14	5.92
9	5.452	0.380	0.0139	0.14	5.99
10	5.496	0.407	0.0144	0.15	6.07
11	5.540	0.435	0.0148	0.15	6.14
12	5.584	0.466	0.0152	0.16	6.22
13	5.629	0.499	0.0157	0.16	6.31
14	5.674	0.534	0.0162	0.17	6.39
15	5.719	0.572	0.0166	0.17	6.48
16	5.765	0.612	0.0171	0.18	6.57
17	5.811	0.656	0.0177	0.18	6.67
18	5.858	0.702	0.0182	0.19	6.77
19	5.905	0.752	0.0187	0.19	6.87
20	5.952	0.805	0.0193	0.20	6.97
21	5.999	0.862	0.0199	0.20	7.09
22	6.047	0.922	0.0205	0.21	7.20
23	6.096	0.988	0.0211	0.22	7.32
24	6.145	1.057	0.0217	0.22	7.45
25	6.194	1.132	0.0224	0.23	7.58
26	6.243	1.212	0.0230	0.24	7.71
27	6.293	1.298	0.0237	0.24	7.86
28	6.344	1.389	0.0244	0.25	8.01
29	6.394	1.487	0.0252	0.26	8.16
30	6.445	1.593	0.0259	0.27	8.33

Capacity component							
Fixed O&M	WCC	Insurance	ROE	Principal repayment	Interest	Total CPP	CPP at 85%
0.29	0.228	0.121	1.14	1.01	1.74	4.41	5.18
0.30	0.232	0.121	1.14	1.12	1.63	4.42	5.20
0.31	0.237	0.121	1.14	1.24	1.51	4.44	5.22
0.32	0.242	0.121	1.14	1.39	1.32	4.42	5.19
0.33	0.247	0.121	1.14	1.54	1.17	4.43	5.21
0.34	0.252	0.121	1.14	1.70	1.01	4.45	5.23
0.35	0.257	0.121	1.14	1.87	1.74	5.36	6.31
0.36	0.263	0.121	1.14	2.07	0.64	4.48	5.27

Capacity component							
Fixed O&M	WCC	Insurance	ROE	Principal repayment	Interest	Total CPP	CPP at 85%
0.37	0.268	0.121	1.14	2.28	0.43	4.50	5.29
0.38	0.274	0.121	1.14	2.52	0.19	4.52	5.31
0.40	0.279	0.121	1.14	0	0	1.82	2.1452
0.41	0.285	0.121	1.14	0	0	1.84	2.1674
0.42	0.291	0.121	1.14	0	0	1.86	2.1903
0.44	0.297	0.121	1.14	0	0	1.88	2.2138
0.45	0.303	0.121	1.14	0	0	1.90	2.2381
0.47	0.309	0.121	1.14	0	0	1.92	2.2630
0.48	0.316	0.121	1.14	0	0	1.95	2.2887
0.50	0.322	0.121	1.14	0	0	1.97	2.3151
0.51	0.329	0.121	1.14	0	0	1.99	2.3423
0.53	0.336	0.121	1.14	0	0	2.01	2.3703
0.55	0.343	0.121	1.14	0	0	2.04	2.3991
0.57	0.350	0.121	1.14	0	0	2.06	2.4288
0.59	0.357	0.121	1.14	0	0	2.09	2.4594
0.61	0.365	0.121	1.14	0	0	2.12	2.4908
0.63	0.372	0.121	1.14	0	0	2.14	2.5232
0.65	0.380	0.121	1.14	0	0	2.17	2.5566
0.67	0.388	0.121	1.14	0	0	2.20	2.5909
0.69	0.396	0.121	1.14	0	0	2.23	2.6263
0.71	0.404	0.121	1.14	0	0	2.26	2.6627
0.74	0.412	0.121	1.14	0	0	2.30	2.7002

Year	Total EPP	Total CPP	Total tariff
1	5.46	5.32	10.78
2	5.52	5.33	10.86
3	5.58	5.35	10.93
4	5.65	5.33	10.97
5	5.71	5.35	11.06
6	5.78	5.37	11.14
7	5.85	6.44	12.29
8	5.92	5.40	11.32
9	5.99	5.43	11.42
10	6.07	5.45	11.51
11	6.14	2.28	8.42
12	6.22	2.30	8.52
13	6.31	2.32	8.63
14	6.39	2.35	8.74
15	6.48	2.37	8.85
16	6.57	2.40	8.97
17	6.67	2.42	9.09

Year	Total EPP	Total CPP	Total tariff
18	6.77	2.45	9.21
19	6.87	2.48	9.34
20	6.97	2.50	9.48
21	7.09	2.53	9.62
22	7.20	2.56	9.76
23	7.32	2.59	9.91
24	7.45	2.62	10.07
25	7.58	2.66	10.24
26	7.71	2.69	10.41
27	7.86	2.73	10.58
28	8.01	2.76	10.77
29	8.16	2.80	10.96
30	8.33	2.83	11.16

CPP, capacity purchase price; EPP, energy purchase price; FCC, fuel consumption cost; O&M, operations and maintenance; PMT, payment; ROE, return on equity; WCC, weighted cost of capital

Appendix 2

	Elemental analysis	
Proximate analysis	Indonesian	South African
Moisture	9.43	8.5
Ash	13.99	17
Volatile matter	29.79	23.28
Fixed carbon	46.79	51.22
Note: The volatile matter contains all other elements, like sulphur, nitrogen, hydrogen and some other elements		
Fixed carbon determines the heating value, so a typical high-quality coal will have a higher fixed carbon proportion		
Ultimate analysis		
Moisture	9.43	8.5
Mineral matter	13.99	17
Carbon	58.96	60.4119
Hydrogen	4.16	3.49
Nitrogen	1.22	1.63
Sulphur	0.56	0.41
Oxygen	11.88	8.56

Appendix 3

Sahiwal		
Coal used	4.48	Million tons
South African	2.24	Million tons
Indonesian	2.24	Million tons
Carbon dioxide (CO_2) emissions for South African coal	4.37	Million tons
CO_2 emissions for Indonesian coal	4.26	Million tons
Total CO_2 emissions	8.63	Million tons
Total CO_2 emissions per kWh	0.961	Kg/kWh

	Social cost of carbon (integrated assessment model)			
Year	5%	3%	2.5%	95th percentile (3%)
2015	11	36	56	105
2016	11	38	57	108
2017	11	39	59	112
2018	12	40	60	116
2019	12	41	61	120
2020	12	42	62	123
2021	12	42	63	126
2022	13	43	64	129
2023	13	44	65	132
2024	13	45	66	135
2025	14	46	68	138
2026	14	47	69	141
2027	15	48	70	143
2028	15	49	71	146
2029	15	49	72	149
2030	16	50	73	152
2031	16	51	74	155
2032	17	52	75	158
2033	17	53	76	161
2034	18	54	77	164
2035	18	55	78	168
2036	19	56	79	171
2037	19	57	81	174
2038	20	58	82	177
2039	20	59	83	180
2040	21	60	84	183
2041	21	61	85	186
2042	22	61	86	189
2043	22	62	87	192

	Social cost of carbon (integrated assessment model)			
Year	5%	3%	2.5%	95th percentile (3%)
2044	23	63	88	194
2045	23	64	89	197

Note: All of these values are in USD/metric ton

Appendix 4

Lower-bound cost benefit analysis

Year	Direct costs	Indirect costs	Direct benefits	Indirect benefits
1	87,698,288,189	31,125,306,167	119,079,261,076	11,167,512,690
2	80,061,282,227	29,708,054,959	107,939,866,820	10,122,836,014
3	73,099,151,003	27,606,285,392	97,842,518,873	9,175,884,712
4	66,504,468,675	25,637,769,177	88,689,737,919	8,317,516,961
5	60,740,297,497	23,795,967,963	80,393,163,451	7,539,446,121
6	55,484,185,895	22,074,400,591	72,872,700,735	6,834,160,734
7	55,451,796,723	20,009,427,657	66,055,747,585	6,194,852,007
8	46,319,505,909	18,552,111,683	59,876,493,460	5,615,348,084
9	42,332,350,381	17,192,348,248	54,275,284,137	5,090,054,464
10	38,695,388,239	15,924,638,814	49,198,045,809	4,613,899,985
11	25,662,652,338	14,743,659,910	44,595,763,061	4,182,287,876
12	23,544,443,033	13,644,278,490	40,424,005,676	3,791,051,374
13	21,606,284,865	12,621,562,895	36,642,499,706	3,436,413,501
14	19,832,658,751	11,670,790,091	33,214,738,675	3,114,950,599
15	18,209,393,618	10,579,033,803	30,107,631,141	2,823,559,281
16	16,723,548,709	9,778,326,500	27,291,181,237	2,559,426,470
17	15,363,306,211	9,034,849,529	24,738,199,091	2,320,002,239
18	14,117,873,283	8,344,902,426	22,424,038,335	2,102,975,198
19	12,977,392,673	7,704,976,241	20,326,358,172	1,906,250,180
20	11,932,861,155	7,111,750,089	18,424,907,697	1,727,928,009
21	10,976,055,114	6,562,086,669	16,701,330,400	1,566,287,173
22	10,099,462,635	6,053,026,979	15,138,986,947	1,419,767,198
23	9,296,221,538	5,581,784,411	13,722,794,549	1,286,953,588
24	8,560,062,832	5,145,738,393	12,439,081,354	1,166,564,166
25	7,885,259,106	4,742,427,707	11,275,454,454	1,057,436,699
26	7,266,577,440	4,369,543,610	10,220,680,252	958,517,675
27	6,699,236,421	4,024,922,845	9,264,576,008	868,852,134
28	6,178,866,920	3,648,407,220	8,397,911,537	787,574,451
29	5,701,476,284	3,359,808,397	7,612,320,103	713,899,974

Year	Direct costs	Indirect costs	Direct benefits	Indirect benefits
30	5,263,415,666	3,093,277,420	6,900,217,642	647,117,453
Total PDV	864,283,763,331	383,441,464,276	1,206,085,495,902	113,109,327,010
		Net benefit	71,469,595,305	

Upper-bound cost benefit analysis

Year	Direct costs	Indirect costs	Direct benefits	Indirect benefits
1	87,698,288,189	87,386,812,052	119,079,261,076	11,167,512,690
2	80,061,282,227	81,437,767,762	107,939,866,820	10,122,836,014
3	73,099,151,003	76,509,514,666	97,842,518,873	9,175,884,712
4	66,504,468,675	71,790,648,015	88,689,737,919	8,317,516,961
5	60,740,297,497	67,285,119,729	80,393,163,451	7,539,446,121
6	55,484,185,895	62,493,448,206	72,872,700,735	6,834,160,734
7	55,451,796,723	58,009,457,681	66,055,747,585	6,194,852,007
8	46,319,505,909	53,817,514,732	59,876,493,460	5,615,348,084
9	42,332,350,381	49,902,218,354	54,275,284,137	5,090,054,464
10	38,695,388,239	46,248,493,279	49,198,045,809	4,613,899,985
11	25,662,652,338	42,841,663,805	44,595,763,061	4,182,287,876
12	23,544,443,033	39,667,510,965	40,424,005,676	3,791,051,374
13	21,606,284,865	36,460,467,694	36,642,499,706	3,436,413,501
14	19,832,658,751	33,734,600,351	33,214,738,675	3,114,950,599
15	18,209,393,618	31,199,660,681	30,107,631,141	2,823,559,281
16	16,723,548,709	28,843,781,319	27,291,181,237	2,559,426,470
17	15,363,306,211	26,655,644,405	24,738,199,091	2,320,002,239
18	14,117,873,283	24,624,482,631	22,424,038,335	2,102,975,198
19	12,977,392,673	22,740,075,276	20,326,358,172	1,906,250,180
20	11,932,861,155	20,992,740,166	18,424,907,697	1,727,928,009
21	10,976,055,114	19,488,112,383	16,701,330,400	1,566,287,173
22	10,099,462,635	17,977,232,099	15,138,986,947	1,419,767,198
23	9,296,221,538	16,578,487,772	13,722,794,549	1,286,953,588
24	8,560,062,832	15,284,121,155	12,439,081,354	1,166,564,166
25	7,885,259,106	14,086,844,225	11,275,454,454	1,057,436,699
26	7,266,577,440	12,979,819,094	10,220,680,252	958,517,675
27	6,699,236,421	11,956,637,570	9,264,576,008	868,852,134
28	6,178,866,920	11,011,300,601	8,397,911,537	787,574,451
29	5,701,476,284	10,138,197,810	7,612,320,103	713,899,974
30	5,263,415,666	9,284,661,334	6,900,217,642	647,117,453
Total PDV	864,283,763,331	1,101,427,035,814	1,206,085,495,902	113,109,327,010
		Net loss	(646,515,976,233)	

Note

1. The calculations presented in the Appendices are based on a senior-year project by three undergraduate Lahore University of Management Sciences students: Hamza Ali, Suniya Raza and Fatima Azmat.

References

Anthoff, D. (2009). *Report on Marginal External Damage Costs of Greenhouse Gas Emissions*. NEEDS Project Report, Stream 1b, WP6.

Boardman, A. E., Greenberg, D. H., Vining, A. R., & Weimer, D. L. (2017). *Cost-Benefit Analysis: Concepts and Practice*. Cambridge: Cambridge University Press.

Campbell, C. (2017, May). China Says It's Building the New Silk Road. Here Are Five Things to Know Ahead of a Key Summit. *Time*.

Grealish, L. (2015). *Pakistan Off-Grid Lighting Consumer Perceptions Study Overview*. IFC Consumer Perceptions Study Field Research.

Greenstone, M., Kopits, E., & Wolverton, A. (2013). Developing a Social Cost of Carbon for US Regulatory Analysis: A Methodology and Interpretation. *Review of Environmental Economics and Policy, 7*(1), 23–46.

Hammitt, J. K. (2013). Positive versus Normative Justifications for Benefit-Cost Analysis: Implications for Interpretation and Policy. *Review of Environmental Economics and Policy, 7*(2), 199–218.

Harberger, A. C. (1978). On the Use of Distributional Weights in Social Cost-Benefit Analysis. *Journal of Political Economy, 86*(2, Part 2), S87–S120.

Hirschberg, S., Bauer, C., Burgherr, P., Dones, R., Schenler, W., Bachmann, T., et al. (2007). New Energy Externalities Developments for Sustainability Deliverable D3. 1—RS2b—Environmental, Economic and Social Criteria and Indicators for Sustainability Assessment of Energy Technologies.

IEA. (2016). *World Energy Outlook 2016.* Paris: IEA.

Mittal, M. L., Sharma, C., & Singh, R. (2012, August). *Estimates of Emissions from Coal Fired Thermal Power Plants in India*. In 2012 International Emission Inventory Conference (pp. 13–16). Tampa, Florida.

NEPRA. (2016). *State of Industry Report 2016*. National Electric Power Regulatory Authority.

Nordhaus, W. (2014). Estimates of the Social Cost of Carbon: Concepts and Results from the DICE-2013R Model and Alternative Approaches. *Journal of the Association of Environmental and Resource Economists, 1*(1/2), 273–312.

Pindyck, R. S. (2013). Climate Change Policy: What Do the Models Tell Us? *Journal of Economic Literature, 51*(3), 860–872.

Ramsey, F. P. (1928). A Mathematical Theory of Saving. *The Economic Journal, 38*(152), 543–559.

Samad, H., & Zhang, F. (2018). *Electrification and Household Welfare: Evidence from Pakistan*. Policy Research Working Paper No. 8582. Washington, DC: World Bank Group.

Siddiqui, R. (2004). Energy and Economic Growth in Pakistan. *The Pakistan Development Review, 43*(2), 175–200.

Vats, R. (2016, November). *China-Pakistan Economic Corridor: Energy and Power Play*. Institute of Chinese Studies, No. 43.

Weyant, J. (2014). Integrated Assessment of Climate Change: State of the Literature. *Journal of Benefit-Cost Analysis, 5*(3), 377–409.

4

Ethics and Governance Norms in Cross-Cultural Projects: Implications for CPEC and Other China–Pakistan Projects

Jawad Syed

Introduction

Shared ethics and governance are crucial in managing multi-country and cross-cultural projects. Lack of shared principles and norms may result in misunderstandings, conflicts, inefficiencies and project failures. Godiwalla (2012) argues that business ethics and social responsibility in multinational corporations are rather challenging because these firms operate in culturally varied environments. A host country's ethical norms and cultural factors, combined with economic conditions and business practices, play a major role in determining the preferred approach to ethics and social responsibility in foreign subsidiaries. The stakeholder approach is generally accepted as a relevant concept for developing ethics and social responsibility objectives and activities (Jenkins 2010; Kapp and Anderson 2010). In cross-cultural contexts, there is a multiplicity of stakeholders and associated ethical norms and expectations. For example, in their

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_4

study that compares Russian and American subjects on their reactions to ethics scenarios, Beekun et al. (2003) report that Americans view scenarios such as an auditing company sharing information regarding one client with another client as more unethical compared to how Russian subjects view the same scenarios. This chapter examines this topic in the context of the China Pakistan Economic Corridor (CPEC).

CPEC is a collection of infrastructure projects that have been under construction in Pakistan since 2013. Originally valued at US $46 billion, and subsequently estimated to be worth $62 billion, CPEC projects are intended to strengthen Pakistan's economy and infrastructure by the construction of modern transportation networks, numerous energy projects and special economic zones.

According to Guntur Sugiyarto, Chief Economist at Asian Development Bank, while CPEC is a great opportunity, to obtain its maximum benefits Pakistan will have to make meaningful changes in its governance. According to Dr Ishrat Hussain, the former Governor of the State Bank of Pakistan, while infrastructure is the hardware, the software that needs to run on this hardware is very weak. Hussain refers to software weaknesses such as the failure of the government and identifies incompetence, corruption and inefficiencies as its hallmarks (Ahmad 2017). A similar view is offered by Dr Salman Shah, former Finance Minister of Pakistan, who suggests that the country would need to improve governance and eliminate corruption to make CPEC a success that could increase Pakistan's gross domestic product (GDP) to $1000 billion by 2025 (Kundi 2018).

CPEC has strategic significance from both the Chinese perspective (with its potential to utilize the surplus capacity of Chinese industry and develop economic and strategic linkages with Pakistan and other parts of the world) and the Pakistani perspective (in terms of its projected impact on the country's infrastructure and GDP). It involves substantial investment in physical infrastructure plus ancillary projects with expected economic benefits. While the broad magnitude of CPEC is known, its details thus far remain unclear. Presumably, much of this has yet to be worked out, and this is the crux of the challenge. This is where governance, including its ethical dimension, becomes crucial, particularly in a country like Pakistan where corruption is rampant and has seriously jeopardized

many otherwise viable projects. It is, therefore, important to pay attention to the issue of ethics as significant to the realization of the economic benefits CPEC is envisaged to usher in.

Within Pakistan and China, there is much media and some scholarly attention to CPEC, which is arguably a flagship component of China's Belt and Road Initiative (BRI). Given the dominant Islamic orientation of Pakistan (owing to its constitutional identity as an Islamic republic and the faith identity of 97% of the population), it may be useful to develop an Islamic ethics perspective and contrast it with Chinese concepts in ethics. In view of the perpetual issues of corruption and mismanagement in Pakistan, it is important to develop and utilize a contextual ethical perspective. An improved understanding of ethics can help in developing a clearer view of issues in governance and transparency, the possible course of action and the principles underlying appropriate action (Dahnke and Dreher 2006) in CPEC and other BRI projects.

Islamic Approach to Ethics and Governance

It is possible to refer to the principal Islamic texts to develop an Islamic ethics perspective on governance. There is a special emphasis in the Quran on justice and good conduct: 'Indeed, Allah orders justice and good conduct' (16:90). The Quran also emphasizes professional integrity and fulfilment of contracts:

> And fulfil promise, for the promise shall be questioned about. And give full measure when you measure out, and weigh with a true balance. (17:34–35)

According to a tradition (Hadith), Prophet Muhammad said: 'Every one of you is a guardian and accountable for his charge' (Bukhari, Book 89). In his legendary letter to the Governor of Egypt, Malik Al-Ashtar, Caliph Ali Ibn Abi Talib describes the following qualities of a good administrator (Al-Islam n.d.): 'He should develop in his heart the feeling of love for his people and let it be the source of kindliness to them. He should not appropriate to himself that which belongs to the people. He should be a role model for his fellow citizens and choose the most

qualified, honest, truthful and pious persons for his administrative structure. He should dispense justice with impartiality and stay away from the back biters, sycophants, corrupt and scandal mongers. He should frequently consult his staff and should not issue authoritative and arbitrary orders. He should strike against corruption, injustice and abuse of authority against citizens and take responsibility for any deficiencies in his team members.'

In addition to the individual traits of a good governor, there is also an element of collective responsibility for governance within Islamic teachings. For example, in chapter 106 of the Quran, namely Al-Quraish, the following message is offered:

> For the protection of the Quraish [the dominant tribe of Mecca in the Prophet's time]. (We maintain for them) their trading caravans by winter and summer. So let them worship the Lord of this House (Kaba), Who fed them against hunger and secured them from fear. (Quran 106:1–4)

The last line of the Al-Quraish indicates two main needs of humankind; that is, food (protection from hunger) and security (protection from fear). In the current era, these two needs may be seen as a responsibility of all states, governments and leaders, to provide for the food and protection of their people.

Situation in Pakistan

Islamic injunctions enshrined in Al-Quraish may be utilized to analyse the situation of governance in Pakistan. With a population exceeding 207 million and GDP less than $284 billion, Pakistan today is at 106th position out of 119 countries ranked in terms of the Global Hunger Index (2016 data). This ranking towards the bottom of the index shows that Pakistan is among the hungriest nations on the planet. Moreover, more than 39% of people in Pakistan live below the multi-dimensional poverty line, which further complicates the issue of malnutrition and starvation.

In terms of security, the Global Peace Index shows that Pakistan is one of the most insecure countries, ranked 152nd out of a total of 164 countries assessed on this index (2017 data). Much of this insecurity may be attributed to incidents of faith-based violence and terrorism by the Taliban, Lashkar-e-Jhangvi and their affiliates, which may be broadly classified as Takfiri or Khawarij militants.

It is possible to link and explain this poor national performance in terms of ethics and governance.

Pakistan ranks very low on the global Corruption Perceptions Index and faces the menace of financial misconduct. In 2017, this composite index, prepared by Transparency International, ranked Pakistan 117th out of a total of 180 nations worldwide based on the level of perceived public-sector corruption. Pakistan's poor ranking is well below its two regional neighbours, India (81) and China (77).

Situation in China

Corruption, unethical conduct in government departments and infringement of intellectual property are known to be major issues in China. Transparency International, the anti-sleaze watchdog, showed that China is significantly behind the more developed market economies of the West in improving business ethics. In recent years, the Chinese government has initiated an anti-corruption drive. In 2015, Zhou Yongkang, China's former chief of security and member of the all-powerful Politburo Standing Committee, was placed under investigation on corruption charges. About $14.5 billion in assets were seized from Zhou's family members and close associates, along with the arrest and questioning of more than 300 of them (Bastin 2015).

Historically, the country has been facing issues of lack of transparency and poor governance.

Chow reported in 2005 that China lacks the necessary formal and informal institutions, or the financial infrastructure, to make corporate governance structures work effectively. Corruption, stock market manipulation, tax cheating, fraudulent dealing, plundering of state assets

and the lack of protection for shareholders' rights were some of the key ethical issues that Kam identified.

Ethics in the Chinese Context and Comparison with Islamic Teachings

China has a sizeable Muslim population, particularly in Xinjiang Uyghur Autonomous Region (XUAR). Moreover, China is an immediate neighbour of several Muslim-majority countries, including Pakistan, Kazakhstan, Kyrgyzstan and several other states in Central Asia. Since 2001, in response to the development of China's western regions including Xinjiang, there has been increasing interest in Islamic history and literature in China, and Chinese scholars are linking it with the development of that region. In this respect, the proposed Islamic business ethics perspective may be contrasted with Chinese concepts in ethics and linked with the Belt and Road projects underway in XUAR. For example, the concurrent Islamic emphasis on human and economic development may be of particular relevance in that region.

In addition to Muslim traditions in XUAR, spiritual traditions in mainstream Chinese society are generally derived from Buddhism, Taoism and Confucianism. Buddhism has shaped Chinese culture in a wide variety of areas, including art, politics, literature, philosophy, medicine and material culture. Buddhism focuses on personal spiritual development and strives for a deep insight into the true nature of life. Its common beliefs include reincarnation or rebirth and karmic retribution; that is, ethical cause and effect.

Taoism is a religious or philosophical tradition of Chinese origin which emphasizes living in harmony with the Tao, the source, pattern and substance of everything that exists. Taoist ethics tend to emphasize effortless action (wu wei), naturalness, simplicity, spontaneity and the Three Treasures: compassion, frugality and humility.

Confucianism is described as a humanistic or rationalistic philosophy or tradition, a way of governing or simply a way of life. It developed from

what was later called the Hundred Schools of Thought from the teachings of the Chinese philosopher Confucius (551–479 BCE).

The impact of these ideologies is evident in notions of ethics and values in everyday life within and outside the workplace.

Islamic principles of ethics and leadership may be compared with Chinese concepts and practices in ethics. The literature suggests that Chinese business ethics practices are generally influenced by Confucianism (Ardichvili et al. 2010). For example, Chinese Chief Executive Officers (CEOs) use such values as Ren, I, Li and Chi (compassion, appropriateness, norms and wisdom) to develop a corporate culture (Ip 2003). Similarly, CEOs in Hong Kong display leadership approaches based on Confucian principles of benevolence, harmony, learning, loyalty, righteousness and humility (Cheung and Chan 2005, p. 47). Koehn (2001) highlights the central importance of the Confucian principle of trustworthiness and suggests that Chinese businesspersons prefer to rely on individual informal agreements and personal assessment of the trustworthiness of business partners.

The Confucian principle of trustworthiness (xin) may be compared with the Islamic notion of amanah (fulfilling or upholding trust), which is an integral part of ethical leadership in Islam. For example, the Quran says: 'And do not devour your wealth among yourselves through falsehood, and offer it not as a bribe to the authorities that you may knowingly devour a part of the wealth of other people with injustice' (2:189). Similarly, the Confucian values of benevolence, compassion and humility are consistent with Islamic teachings which promote an emphasis on collective well-being and servant leadership. In particular, the notions of ihsan (benevolence) and isar (self-sacrifice) have been emphasized in Islamic teachings. In the Pakistani context, the term hamdardi is also used for isar. According to tradition, the Prophet Muhammad said: 'None of you is a true believer until he wishes for his brother what he wishes for himself' (An Nawawi, Hadith No. 13).

Furthermore, two Chinese concepts and practices, guanxi (personal networks or connections) and mianzi (face), are often perceived as interrelated and grounded in the Confucian value system (Ang and Leong 2000). Guanxi refers to social harmony and an informal network of support, and is rooted in Confucian concepts of fulfilment of role-base

duties, filial piety and the cultivation of reciprocal support relationships. It may be noted that not unlike Pakistan and several other Muslim-majority countries, family in China is the most basic functional unit and the individual's willingness is generally second to the family's will. Furthermore, people acquire a set of strong family-oriented experiences and habits and may gradually apply them in social and non-family affairs (Yang 1994). The notion of mianzi literally means granting of face or giving (someone) a chance to regain lost honour. It refers to the sensitive issue of maintaining each other's dignity and cultivating durable relationships (Ardichvili et al. 2010). The concept of mianzi may be compared with the Islamic notion of human dignity or sharaf (Donnelly 1982). According to the Quran, human beings have been inspired by the divine spirit ('God proportioned human being and breathed into human being his [created] soul', 38:72), therefore they have a special status in the entire universe. A similar reference is made to human dignity in another verse: 'We have honoured the sons of Adam … and conferred on them special favours above a great part of Our Creation' (17:70). Similarly, the notion of guanxi may be loosely translated to the notion of talluqaat (relations) in Pakistan, which may refer to one's networks and social capital of colleagues, fraternity and class fellows. Table 4.1 offers an overview of ethical values that are comparable and broadly similar in Pakistan and China.

While there are several similarities in Chinese and Islamic ethics, in order to tackle issues of governance in Pakistan and XUAR the narrative and emphasis may rest on Islamic teachings to develop a contextual and

Table 4.1 Ethical values in Pakistan and China

Context/Values	Pakistan	China
Ideology	Islam	Buddhism, Taoism, Confucianism
Culture	South Asian	Chinese
	Human dignity (sharaf)	Save face (mianzi)
Honesty	Trustworthiness (amanah)	Honesty (xin)
Compassion	Sympathetic concern and self-sacrifice (hamdardi and isar)	Compassion (ren)
Social capital	Networks and relations (talluqaat)	Networks and connections (guanxi)

empathetic approach. However, it may be noted that the notion of Islamic ethics presented in this study is based on an egalitarian, progressive and well-being-oriented interpretation of Islam, which must be distinguished from the puritanical, intolerant and radical version of Islam presented by certain extremist groups. This distinction will be particularly useful to address potential Chinese anxieties that 'Islamic extremism' might take root in western China, and clarify that a pluralistic and ethical approach to Islam may be needed to address issues of governance and ethics in the context of CPEC.

Implications for CPEC and Governance

Islamic principles in Pakistan and traditional views on ethics in China may be used to develop a shared understanding of ethical leadership, transparency and economic and human development. Accordingly, an ethics perspective on CPEC and governance may be understood as a cyclical process, in which ethical leadership enables transparency and efficiency and discourages corruption and financial misconduct, which is in turn a means towards economic prosperity and consequently human development (Fig. 4.1). From a research perspective, ethical leadership may be seen as an individual-level construct which is an integral part of good governance. In contrast, transparency and efficiency, and economic and human development, may be seen as system-level constructs.

The four circles provide a useful mechanism to develop an ethics perspective of governance and a picture of cooperation between two major cultures. The application and utility of this framework may be further explicated by focusing on the inter-connection between ethics, transparency, economic development and human development. For example, Milner and Mukherjee (2009) provide evidence and point towards the connection between democracy and economic development.

According to Liu Jianchao, Chinese Deputy Minister of the National Bureau of Corruption Prevention, China and Pakistan need to work together to ensure transparency in the implementation of CPEC and to make it a symbol of good governance and transparency (The Nation 2015). Pakistan is a resource-constrained country which faces the

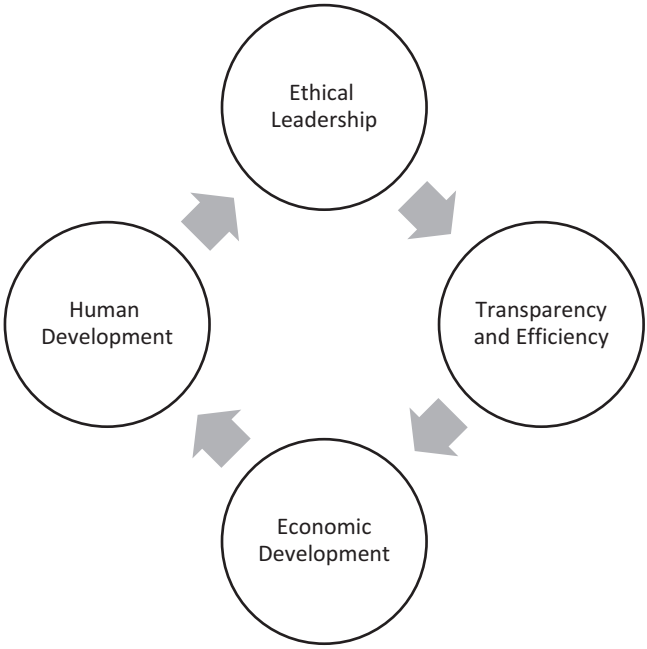


Fig. 4.1 An ethics perspective on CPEC and governance

challenges of lack of foreign investment, energy crisis, high rates of unemployment, low human and economic development and debilitated infrastructure. CPEC with its anticipated investment of $62 billion offers an immense opportunity not only to address the energy crisis (and the revival of energy-hungry local industry) and food security (through better agricultural technologies and practices), but also to provide employment for thousands of skilled and semi-skilled workers in various projects. If Pakistani organizations, in both public and private sectors, could overcome the challenges of mismanagement, inefficiency and corruption, there is indeed a tangible opportunity for them to expand their production and markets along the modern Silk Road. However, to achieve that goal, they will need to adopt and practise Islamic ethics and develop a broader view of stakeholders.

From an Islamic business ethics perspective, it has been argued (Syed & Ali, 2010), profit maximization is not considered a virtue per se. Rather, the

emphasis should be on social responsibility for the greater good of the organization, its stakeholders and the wider society. This is in line with the long-term orientation of Chinese society as noted by Hofstede, where the focus is not on short-term individual interests but on long-term collective well-being. Similarly, according to Yusuf Sidani, minimum compliance with legal regulations, whether within secular and/or sharia law, is not an ideal approach. Thus, organizations and leaders are expected to fulfil their social responsibilities in a manner much wider than mandatory legal compliance.

In other words, governments, business leaders and other stakeholders in Pakistan, China and elsewhere will need to ensure not only that CPEC and other similar cross-national projects are efficiently planned and governed, but that they also result in the well-being of the wider society. Thus, the performance, governance and efficacy of CPEC will need to be gauged not only in terms of profit maximization, but also social responsibility; and not only in terms of economic development (including foreign investment, energy production, road infrastructure, special economic zones), but also in terms of human development (including food, security, health, education) and the well-being of all communities across different regions and provinces in an inclusive manner. Undoubtedly, ethical and responsible leadership in light of Islamic principles may play a key role in achieving that goal.

With regard to CPEC's governance, a joint committee of Pakistani and Chinese officials may be formulated to monitor ethics in CPEC projects. The joint team may look into various infrastructure and energy projects and ensure that common themes of ethics from both countries are adhered to in the conception and execution of such projects. A similar collaboration may be considered at the academic level to focus on this topic and examine its operationalization. Scholars in both countries may investigate the relevance and utility of Islamic and Chinese ethics in the administration of CPEC projects, with a specific focus on improving transparency and efficiency. Similarly, government policymakers and business leaders in China and Pakistan may benefit from understanding the commonalities of ethical concepts within Islamic and Confucian teachings, with a view to incorporating these concepts in actual organizational practice.

Acknowledgement The author is thankful to Khalid Mirza, Omair Haroon, Arif Rana, Frank Ying and two anonymous reviewers for their most helpful comments on an earlier version of this chapter.

References

Ahmad, M. (2017, December 15). Good Governance, Reforms Must to Make Most of CPEC: ADB. *The News*. Retrieved from https://www.thenews.com.pk/print/256129-good-governance-reforms-must-to-make-most-of-cpec-adb.

Al-Islam. (n.d.). Letter 53: An Order to Malik Al-Ashtar. *Nahjul Balagha*. Retrieved from https://www.al-islam.org/nahjul-balagha-part-2-letters-and-sayings/letter-53-order-malik-al-ashtar.

Ang, S., & Leong, S. (2000). Out of the Mouths of Babes: Business Ethics and Youths in Asia. *Journal of Business Ethics, 28*(2), 129–144.

Ardichvili, A., Jondle, D., & Kowske, B. (2010). Dimensions of Ethical Business Cultures: Comparing Data from 13 Countries of Europe, Asia, and the Americas. *Human Resource Development International, 13*(3), 299–315.

Bastin, M. (2015, January 14). Courses on Ethics Needed in China. *Financial Times*. Retrieved from https://www.ft.com/content/43b3df2a-9a74-11e4-8426-00144feabdc0.

Beekun, R. I., Stedham, Y., Yamamura, J. H., & Barghouti, J. A. (2003). Comparing Business Ethics in Russia and the U.S. *International Journal of Human Resource Management, 14*, 1333–1349.

Cheung, C. K., & Chan, A. C. F. (2005). Philosophical Foundations of Eminent Hong Kong Chinese CEOs' Leadership. *Journal of Business Ethics, 60*(1), 47–62.

Chow, G. C. (2005). *Corruption and China's Economic Reform in the Early 21st Century*. Princeton University, Center for Economic Policy Studies.

Dahnke, M., & Dreher, H. M. (2006). Defining Ethic and Applying the Theories. In V. D. Lachman (Ed.), *Applied Ethics in Nursing* (pp. 3–15). New York: Springer Publishing Company.

Donnelly, J. (1982). Human Rights and Human Dignity: An Analytic Critique of Non-Western Conceptions of Human Rights. *American Political Science Review, 76*(2), 303–316.

Godiwalla, Y. H. (2012). Business Ethics and Social Responsibility for the Multinational Corporation (MNC). *Journal of Modern Accounting and Auditing, 8*(9), 1381.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks, CA: SAGE Publications.

Ip, P.-K. (2003). Business Ethics and a State-Owned Enterprise in China. *Business Ethics: A European Review, 12*(1), 64–77.

Jenkins, W. (2010). *Berkshire Encyclopedia of Sustainability*. Great Barrington Berkshire Publishing. Retrieved from http://www.WISC.eblib.com/patron/FullRecord.aspx?p=500756.

Kapp, S. A., & Anderson, G. R. (2010). *Agency-Based Program Evaluation: Lessons from Practice*. Los Angeles, CA: Sage Publications.

Koehn, D. (2001). Confucian Trustworthiness and the Practice of Business in China. *Business Ethics Quarterly, 11*(3), 415.

Kundi, I. A. (2018, April 18). Govt Needs to Improve Governance to Make CPEC a Success: Salman. *The Nation*. Retrieved from https://nation.com.pk/18-Apr-2018/govt-needs-to-improve-governance-to-make-cpec-a-success-salman?show=756.

Milner, H. V., & Mukherjee, B. (2009). Democratization and Economic Globalization. *Annual Review of Political Science, 12*, 163–181.

Sidani, Y. (2018). *Keynote Speech*. Asian Management Research and Case Conference 2018, LUMS, Bhurban, Lahore.

Syed, J., & Ali, A. J. (2010). Principles of Employment Relations in Islam: A Normative View. *Employee Relations, 32*(5), 454–469.

The Nation. (2015, November 25). CPEC Will Be a Symbol of Good Governance, Transparency: Chinese Minister. Retrieved from https://nation.com.pk/25-Nov-2015/cpec-will-be-a-symbol-of-good-governance-transparency-chinese-minister.

Yang, M. M. H. (1994). *Gifts, Favors, and Banquets: The Art of Social Relationships in China*. Ithaca, NY: Cornell University Press.

5

Linking Ambitions, Transparency and Institutional Voids to South–South Funded CPEC Project Performance

Zehra Waheed

Introduction: CPEC Projects and Pakistan

There is continuing interest in the development of the China Pakistan Economic Corridor (CPEC) as a phenomenon affecting Pakistan specifically (Abid and Ashfaq 2015; Rizvi 2015; Hali et al. 2015; Markey and West 2016) and the South Asian region generally (Yu 2017; Ferdinand 2016; Swaine 2015). A composite of infrastructure projects including power projects, the largest deep-sea port in the world at Gwadar, modern transportation networks, motorways and special economic zones, CPEC offers physical and political connectivity with China and Central Asia in the north to countries in the Gulf and beyond in the south.

A 'development project' usually refers to an externally funded initiative undertaken by the public sector, generally resulting in the creation of physical assets (Cusworth and Franks 2013). As the means for infrastructure

Z. Waheed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: Zehra.waheed@lums.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_5

development, industrial growth and accompanying skill development and employment in Pakistan, development projects initially took the same form. However, over time, they increasingly tend to be internally conceived initiatives, but employ both public- and private-sector players, involving external (donor-led) as well as internal (publicly sourced) funding. The policy and processes governing development projects in Pakistan come from the Planning Commission[1] of Pakistan, the highest-level governmental body headed by the Prime Minister, that operates under the Ministry of Planning and Development (Waheed 2016). Project identification, planning, execution, monitoring and impact assessment are then led by federal and provincial Planning and Development Departments (P&DDs) in tandem with relevant executing government departments, depending on whether the funding is coming from the federal government or through provincial monies. While being the means to bring about infrastructure development, industrial growth and institutional capacity building in the country, development projects have also been the long-held vehicles for channelling political ambition, responding to election mandates as well as operationalizing sectoral policies. Public projects, in general, have remained important tactical development tools in Pakistan. However, they have also constantly been marred by poor project identification, execution and impact assessment (Khan and Sheikh 2005) that essentially emanate out of poor project implementation capacity within the P&DDs and associated departments, and the exercising of political influence by political figures during the decision-making process. The poor success rate of development projects in Pakistan, like in much of the developing world, has been at two distinct levels—that leading from the failure to identify, plan and implement projects effectively (delivering projects according to the triple constraint of time, cost and quality) and, far more important, that stemming from the failure to create assets that eventually help the country achieve the intended outcomes. Much of the 'industrial' concept of development projects that have a streamlined input–output mechanistic process (generally conceived in Western literature) is therefore less appropriate in the context of developing countries (Cusworth and Franks 2013). This is essentially because contextual factors particular to each developing country pose some unique difficulties and limitations on development projects in the 'Global South' (the new terminology denoting developing countries).

CPEC has been the largest ever development project portfolio[2] undertaken in the history of the country.[3] As part of China's wider One Belt One Road or Belt and Road Initiative (BRI), covering six major routes across several continents, CPEC is a large composite of development projects spread across three huge 'corridors' weaving across the country. Immediately for Pakistan, this infrastructure development initiative establishes economic and strategic connectivity between Pakistan and China to provide trade access to China through the Pakistani seaports of Karachi and Gwadar. Its strategic purpose, however, is much wider than covering the Pakistani landscape alone, as CPEC integrates other regional partners (Rafi 2016) through trade connectivity.

Apart from being the largest, most complex project portfolio ever undertaken in the country, CPEC also represents a new type of developmental cooperation for Pakistan, traditionally a recipient of Western-led financial and technical assistance for its infrastructure development. CPEC presents a huge shift from a North–South development-cooperative regime (meaning flow from the developed to the developing world) to South–South economic development (SSED, denoting technological and financial assistance from one developing country to another) for Pakistan. The subtleties of this new South–South development cooperation model between Pakistan and China are considerably different from the kind of financial and technical assistance Pakistan has been accustomed to through its Western partners and their affiliated global financial intermediaries. While the new model opens new opportunities in terms of regional cooperation, local capacity building and market development, it is also accompanied by a steep learning curve in terms of adapting regulation, governance structures and supporting local market development in Pakistan.

This chapter therefore contends that given the institutional voids present in the country, coupled with poor implementation capacity and a history of political interference with project selection, design and outcomes, the positive possibilities presented by CPEC must be tempered with the existing propensity for malpractice, fuelled by poor transparency and political ambitions. These project externalities or situational factors (for example, as discussed by Shenhar 2001) greatly affect project success, in terms of both effective execution, meeting cost, time and quality requisites, and the long-term achievement of the intended effects.

The goal of this chapter is to contribute to theory building on project management in two ways: first, to identify project externalities (or situational factors) specific to Pakistan that influence the success of CPEC projects; and second, to reposition CPEC as an SSED-led developmental phenomenon new to the region, therefore requiring it to respond to the identified operational situational factors (OSFs) and strategic situational factors (SSFs) to ensure the successful achievement of project outcomes.

Theoretical Background: Contingency Theory and Project Situational Factors

Classical contingency theory, originally introduced by Burns and Stalker (1961) in the context of innovation, has been applied to leadership, accounting and strategy, among other areas of organizational studies. The theory holds that different organizational characteristics (for example, leadership styles) are required due to the existence of unique external conditions (Peters et al. 1985). This means that the effectiveness with which an organization operates is, to a large extent, dependent upon the appropriateness of its 'fit' with the contextual factors or variables present structurally in its environment (Lawrence and Lorsch 1967; Drazin and Van de Ven 1985; Pennings 1992).

While widely applied to strategy and operational studies, contingency theory has until recently remained outside the domain of project management. Shenhar (2001) was the first to point out that the 'one size fits all' approach to projects (assuming all projects require identical best practice) was inappropriate, suggesting the need to investigate project contexts as the sources of emergent best practice within those projects. While Shenhar's work extended only to the creation of a project topography reflecting various types of project externalities, it more essentially refuted the traditional project management narrative assuming that all projects shared a universal set of managerial characteristics (for example, as reflected in the works of Pinto and Covin 1989; Yap and Souder 1994).

Shenhar's approach of taking stock of the project's external environment has been adopted by studies undertaken around project risk management (Loch et al. 2011) and project leadership (for example, Müller

and Turner 2010). However, the development of an understanding of how project externalities within very specific political and geographical boundaries (such as countries and regions) necessitate the development of appropriate responses from project managers is something that the existing literature has largely ignored. By extending the work of Shenhar (2001), the discussion here argues that the identification of key OSFs and SSFs is important if projects embedded within certain political and geographical boundaries are to succeed. The author identifies *operational situational factors* as external, contextual factors within the project's environment that set limitations and offer possibilities for the way projects can be operationalized, while *strategic situational factors* are wider structural factors not directly related to but affecting the project, which have impacts on the strategic intent and effective achievement of project goals within a certain geographical and political environment. The purpose is to provide a framework for practitioners and not to suggest that OSFs and SSFs identified for CPEC projects may be the only ones found in the Pakistani context, but only that these seemed to be relevant dimensions according to the author's observations. Given the urgent need to provide infrastructure, public service and capacity enhancement in the country, practitioners and policymakers ought to be able to use the given framework to identify the structural and environmental factors that they deem significant and respond with appropriate practice accordingly.

In Dire Straits: Public Service Provision, Political Ambitions and Institutional Voids in Pakistan

A dire need for public service provision in terms of infrastructure, energy and healthcare, alongside capacity building and institutional development, exists in the Global South. Pakistan is no exception. The amount of energy a country (produces and) consumes, for example, is directly linked to its level of economic development, general quality of life and potential for economic growth. Pakistan has traditionally been an acutely energy-deficient country (Fig. 5.1), with per capita energy consumption standing at 470 kWh in 2014 (484 kg of oil equivalent).

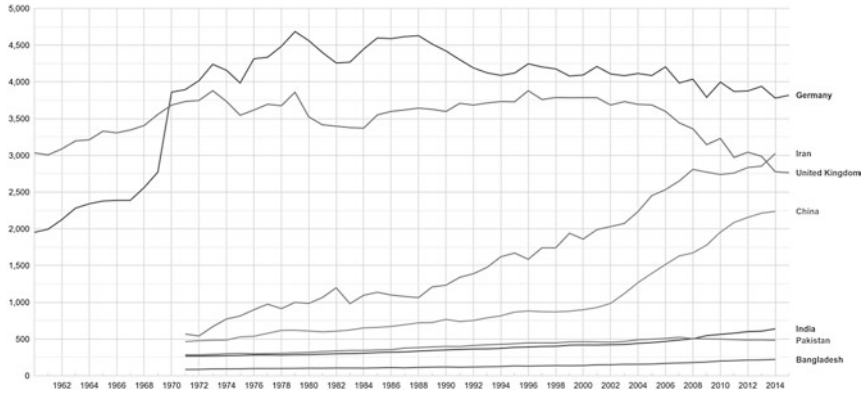


Fig. 5.1 Per capita energy consumption in Pakistan compared to its neighbours and selected developed and developing countries. Source: Adapted from World Bank 2014 data

Compare this meagre amount to the 3025 kg of oil equivalent per capita energy consumption (roughly six times more than that of Pakistan) in Iran, a neighbour in the region, and the 2250 kg of oil equivalent per capita for China. This comparison alone paints a vivid picture of the state of the energy sector and thereby the urgent need for the provision of energy and related public services in Pakistan.

Pakistan's growth rate ranged between 4.5 and 5.7% during the two and a half decades spanning 1990–2017, while the population increased from 107.7 million to 197.0 million in the same period. This trend was followed by an increase in per capita gross national income (GNI) from 420 to 1580 in the same period. In 2017, primary school enrolment stood at 97%. However, the country has also been reliant on debt, with external debt stock rising from US$ 20,663 in 1990 to US$ 84,523 in 2017. Investment in direly needed physical infrastructure has been, in the most, through external debt and development support, since the tax: gross domestic product ratio has remained within the 10–13% range in the same time frame (World Bank 2018), denoting no increase in the tax base to fund development activity.

However, the country took an aggressive infrastructure growth stance in 2007, when the government planned to more than triple the infrastructure Public Sector Development Program (PSDP) spending in the

country (World Bank 2007). PSDP for financial year 2007–2008 had stood at a mere PKR 485 billion, roughly equivalent to about $6.9 billion at the time. Just to allow an understanding of how far the development budget has come since the 2007 change in development strategy, the size of federal PSDP for 2018–2019 stands at PKR 1030 billion, including foreign assistance of PKR 171 billion.[4] However, even as far back as 2007, with such a limited amount of spending to be managed, international agencies including the World Bank remained apprehensive of the public sector's infrastructure implementation capacity (World Bank 2007). Comparing the 2007 overall spending of PKR 485 billion to the PKR 198 billion allocation to ongoing CPEC projects alone (pre-2018), and a further PKR 835 billion to new CPEC projects costed in Public Sector Development Program (PSDP) 2018–2019 (see Table 5.1 for a selection), institutional implementation capacity is clearly an area of concern.

Institutional Voids and Poor Transparency

'Institutional voids' is terminology used to reflect instructional conditions or business support infrastructure that hampers the functioning of markets and the effective execution of projects (Khanna and Palepu 2005; George et al. 2012). Weak institutional capacity to implement projects or support the private sector in setting up infrastructure projects is a form of institutional void that is more commonly witnessed in the Global South. When institutional voids such as those mentioned exist, the result is not

Table 5.1 PSDF 2018–2019 selected allocations to CPEC projects

Project name	PSDF 2018–2019 allocation (PKR)
Construction of western route from Burhan–Hakla on Motorway-1 to Dera Ismail Khan	PKR 25 billion
31 different projects for development of Gwadar	PKR 137 billion
Modernizing Mailine-1 (ML-1) phase-1 of Pakistan Railways and establishment of dry port at Havelian	PKR 5 billion
Construction of Karakorum Highway (KKH) phase-II	PKR 25 billion
Upgradation of hospital in Gwadar	PKR 9.9 billion
Construction of East-Bay Expressway	PKR 6.035 billion

Source: PSDF 2018–2019, Government of Pakistan

only poor capacity to attract private-sector and service providers, but also a growth in the propensity for firms to evade public institutions (Regnér and Edman 2014) and, worse, to exploit the institutional voids (Meyer et al. 2009).

Pakistan's indices related to corruption are not encouraging either. According to the World Bank (World Bank 2018), the country's Corruption Perception Index was 117/180 (rank relative to other countries), while the perceived corruption score was 32/100 (0 being highly corrupt, 100 very clean). A direct result of instructional immaturity, corruption leads to the poor response from the private sector to operate in the country, thereby limiting value maximization through the procurement of public-sector works.

There also appears to be evidence of poor transparency in terms of decision-making related to CPEC projects, with representative voices from the World Bank, the International Monetary Fund and individual countries such as France calling for less opaqueness in the process through which CPEC projects are selected, financed, procured and subsequently developed and handed over (see The Nation 2018; Dawn 2018; The News International 2018). Transparency can be interpreted in various ways. Nelson (2003), for example, states that transparency entails (among other things) fullness of disclosure of information, accessibility of documents, timely availability of information and mechanisms for recourse and influence. On the other hand, Greve and Hodge (2011) identify good public-sector governance, citizens as consumers and corporate governance as the three key perspectives for understanding transparency. These two descriptions of transparency explain that freedom of information for citizens, openness in dealings with citizens by public office-holders, predictability in decision-making processes and fighting corruption remain the key components of transparency. This means that transparency manifests in openness, citizen participation in decision-making and intentional sharing of vital and quality information on activities and projects. While both federal and provincial Public Procurement Regulatory Authority laws in Pakistan stand firm on transparency during public procurement, the narrative around transparency elsewhere appears to be generally missing. Given the scarcity of public good provision in Pakistan, institutional voids accompanied by poor

transparency in dealing with projects have direct impacts on the efficiency and effectiveness with which development projects can achieve the intended economic and social results.

A Different Set of Skills

Here it is important to fully understand the ramifications of dealing with a single project portfolio (CPEC) that is greater that the entire developmental budget of the whole country only a few years ago. As project portfolio size increases, learning can no longer be assumed to be incremental. As larger projects are operationalized, they not only take longer to develop, but they involve a multiplicity of stakeholders (with varying short- and long-term interests) that smaller projects tend not to have. Designed to be technically ambitious, larger projects are not merely 'magnified versions of smaller projects' (Flyvbjerg 2014). This accelerating level of scale subsequently *increases complexity*, both in terms of technology, financing and stakeholder management, but also in managing the social impact that these projects must deliver. Community engagement and environmental impact assessment and response, for example, reach an altogether different level. Managers of larger projects require skills that dwarf the skills that managers of conventional projects need to possess. As noted by Flyvbjerg (2014), larger projects may be led by managers without deep technical experience, or by managers who change frequently during the long project cycles that megaprojects require, thereby permitting leadership to become weak (not strong) over time.

As Table 5.2 shows, a clear majority of CPEC projects exceed the $1 billion mark. This fact also magnifies the extent to which institutional voids in Pakistan's exiting project governance structures can be enormously risky for the success of the entire portfolio. If project managers of megaprojects require a more advanced set of skills than those of conventional projects, the same argument holds true for those providing oversight and execution of large public-sector projects under CPEC. The amount of technical and managerial knowledge along with knowledge management systems that these must possess is not merely a scaled-up version of 'as usual' public-sector project management, as practised under the realms of the Planning Commission.

Table 5.2 List of major CPEC projects

#	CPEC project name	MW	Estimated cost (US$ million)	Type
1	2 × 660 MW coal-fired power plants at Port Qasim, Karachi	1320	1980	Energy
2	Suki Kinari Hydropower Station, Naran, Khyber Pakhtunkhwa	870	1802	Energy
3	Sahiwal 2 × 660 MW coal-fired power plants, Punjab	1320	1600	Energy
4	Engro Thar Block II 2 × 330 MW coal-fired power plants, Sindh TEL 330 MW Mine Mouth Lignite-Fired Power Project at Thar Block II, Sindh Thal Nova 330 MW Mine Mouth Lignite-Fired Power Project at Thar Block II, Sindh	1320	2000	Energy
5	Surface mine in Block II of Thar coal field, Sindh, 3.8 million tons/year		1470	Energy
6	Hydro China Dawood 50 MW wind farm, Gharo, Thatta	49.5	112.65	Energy
7	300 MW imported coal-based power project at Gwadar, Balochistan	300	600	Energy
8	Quaid-e-Azam 1000 MW solar park, Bahawalpur, Punjab	300 600 100	1302	Energy
9	UEP 100 MW wind farm, Jhimpir, Thatta	100	250	Energy
10	Sachal 50 MW wind farm, Jhimpir, Thatta	50	134	Energy
11	SSRL Thar coal field Block I 6.8 mtpa and SEC mine mouth power plant (2 × 660 MW), Sindh	1320	3300.00	Energy
12	Karot Hydropower Station, Punjab	720	1420	Energy
13	Three Gorges Second Wind Power Project, Jhimpir, Thatta Three Gorges Third Wind Power Project, Jhimpir, Thatta	50 50	150	Energy
14	CPHGC 1320 MW coal-fired power plant, Hub, Balochistan	1320	1940	Energy
15	Matiari to Lahore ±660 kV HVDC Transmission Line Project		1500	Energy

(*continued*)

Table 5.2 (continued)

#	CPEC project name	MW	Estimated cost (US$ million)	Type
16	Matiari (Port Qasim) to Faisalabad Transmission Line Project		1500	Energy
17	Thar Mine Mouth Oracle Power Plant (1320 MW) and surface mine, Sindh	1320	1300	Energy
18	Phandar Hydropower Station, Gilgit Baltistan	80		Energy
19	Gilgit KIU Hydropower, Gilgit Baltistan	100		Energy
20	Kohala Hydel Project, Azad Jammu and Kashmir	1100	2397.00	Energy
21	Rahimyar Khan 1320 MW imported fuel power plant, Punjab	1320	1600.00	Energy
22	Cacho 50 MW Wind Power Project, Sindh	50		Energy
23	Western Energy (Pvt) Ltd, 50 MW Wind Power Project, Jhampir, Thatta	50		Energy
24	KKH Phase II (Thakot–Havelian Section)	118	1366	Infrastructure road
25	Peshawar–Karachi Motorway (Multan–Sukkur Section)	392	2980	Infrastructure road
26	Khuzdar–Basima Road N-30 (110 km)	110	80	Infrastructure road
27	Upgradation of Dera Ismail Khan (Yarik)–Zhob, N-50 Phase I (210 km)	210	195	Infrastructure road
28	KKH Thakot–Raikot N-35 remaining portion (136 km)	136	719.8	Infrastructure road
29	Expansion and reconstruction of existing Line ML-1	1830	8172	Infrastructure rail
30	Havelian dry port (450 M twenty-foot equivalent units)		65	Infrastructure rail
31	Capacity development of Pakistan Railways			Infrastructure rail
32	Gwadar East-Bay Expressway		140.60	Gwadar
33	New Gwadar International Airport		230.00	Gwadar
34	Construction of breakwaters		123.00	Gwadar
35	Dredging of berthing areas and channels		27.00	Gwadar
36	Development of Free Zone		32.00	Gwadar

(*continued*)

Table 5.2 (continued)

#	CPEC project name	MW	Estimated cost (US$ million)	Type
37	Necessary facilities of fresh water treatment, water supply and distribution		130.00	Gwadar
38	Pak-China Friendship Hospital		100.00	Gwadar
39	Pak-China Technical and Vocational Institute		10.00	Gwadar
40	Gwadar Smart Port City Master Plan		4.00	Gwadar
41	Bao Steel Park, petrochemicals, stainless steel and other industries			Gwadar
42	Development of Gwadar University (social-sector development)			Gwadar
43	Gwadar Livelihood Project			Gwadar
44	Cross-Border Optical Fibre Cable		44.00	Other
45	Pilot Project of Digital Terrestrial Multimedia Broadcast (DTMB)			Other
46	Early Warning System (EWS), Pakistan Meteorological Department			Other

Source: Planning Commission, Government of Pakistan

Accompanying system-level complexity is operational complexity—in terms of technological upshift and longer-term (and usually more flexible) contractual agreements. All these not only require long-term project (and in fact portfolio) leadership, but also some mechanism for knowledge capture and dissemination beyond institutional memory (which itself remains weak due to changing faces over time).

Political Ambition: One of the Four 'Sublimes'

The increased focus on developmental spending by the government from 2007 onwards has largely been a result of the political ambitions of those in power. Larger projects tend to allow political figures to 'showcase' their electoral promises of employment and public service provision, but also feed into their self-perceptions as initiators of grand public works. In an analysis of why larger developmental projects are attractive to public decision-makers, Flyvbjerg (2014) has identified the 'four sublimes' that have traditionally pushed for more and bigger projects. Of these (technological, political, economic and aesthetic sublime), the *political sublime* has been most relevant in the case of Pakistan's undertaking of large infrastructure projects. The political sublime has been described as the rapture politicians get from building monuments to themselves, giving them visibility and better prospects of getting re-elected. The political ambitions attached to megaprojects have been a major reason for undertaking them in the country, and the desire appears not to have been satiated. However, as projects increase in size and number, so do they increase in complexity and interdependencies. For countries with historically poor implementation capacity, this, again, may be a recipe for disaster.

Understanding South–South Development Cooperation

Global South–South cooperation (development-cooperative funding and technical support for developing countries—the 'South'—from other developing countries—the 'South') is a unique twenty-first-century phe-

nomenon whereby aid has expanded beyond the previous century's narrow parameters of lending and support from leading Western governments and Western-led institutions (the Global 'North'). This has required a new narrative to be developed around the phenomenon (Quadir 2013; Nogueira and Ollinaho 2013). With a move towards funding from other developing countries, the Western-led North dominates governmental priorities and agendas in recipient countries to a far lesser degree than before. A review of South–South development cooperation (SSDC) undertaken by the Department of Economic and Social Affairs of the United Nations (UNDESA 2006) reveals that development assistance from the Organisation for Economic Co-operation and Development (OECD) countries[5] in the 1990s accounted for about 95% of all international flows of assistance to the South. While OECD donors continued to provide the bulk of development cooperation flows to the South, the report saw an increase in disbursements by non-OECD contributors. The report estimated South–South development support in the range of $9.5 billion and $12.1 billion in 2006, representing 7.8–9.8% of total flows. Four major contributors from the South at the time were China, India, Republic of Korea and Venezuela (Table 5.3). This amount of estimated South–South cooperation for development exceeded $20 billion in 2013. China and India remained the highest contributors, but this time followed by Saudi Arabia (UN 2018).

SSDC is nothing new. Regional cooperation agreements including the Arab League (1945) and the Colombo Plan (1950) were dedicated to the social and economic progress of their member states (Cabana 2014). However, modern-day SSDC started with the rise of large emerging economies—the likes of China, Brazil and India—with their own agendas of economic and political influence. China–Pakistan cooperation over CPEC, while being a regional cooperation mechanism leading to connectivity and trade ease, is also a prime example of an SSDC partnership, one of many that China has had since the turn of the twenty-first century (Li and Wu 2013), with its own set of 'liberating' advantages and not so liberating constraints for the recipient nations (Brautigam 2009). Herein lies the catch: without fully grasping the nature of 'liberation' and what it entails for recipient countries, it would be a mistake to view Chinese SSDC as a direct replacement for OECD and Western-led technical and economic assistance.

Table 5.3 Net disbursements of Southern development cooperation, 2006

	US$ million		As % of GNI		% of aid to multi-laterals	Future quantity intent
	Lowerbound	Upperbound	Lowerbound	Upperbound		
Bilaterals						
Africa						
South Africa (0)	194		0.07%		77%	• Policy proposal to increase aid to 0.2–0.5% in the foreseeable future.
Asia						
China (1)	1500	2000	0.06%	0.08%	N/A	• Doubling aid to Africa to $1 billion by 2009 • Debt relief for 31 HIPCs ($1.3–1.4 billion)
India (2)	504	1000	0.06%	0.11%	7%	• Increase envisaged, but not detailed.
Korea, Republic of (incl. aid to N. Korea) (3)	579	885	0.07%	0.10%	17%	• $1 billion by 2010 (excl. aid to N. Korea) • 0.25% of GNI by 2015 (=$2.8 billion)
Malaysia (4)	16		0.01%		36%	• 25% increase in technical cooperation over 2006–2010 (approx. $2.5 million extra)
Thailand (3)	74		0.04%		12%	• Increase envisaged, but not detailed
Middle East and North Africa						
Israel (3)	90		0.06%		17%	• No information available
Kuwait (3)	158		0.19%		3%	• No information available
Saudi Arabia (3)	2095		0.70%		2%	• No information available
Turkey (3)	714		0.18%		10%	• Aims for 0.2% of GNI, no time path announced

(*continued*)

Table 5.3 (continued)

	US$ million		As % of GNI		% of aid to multi-laterals	Future quantity intent
	Lowerbound	Upperbound	Lowerbound	Upperbound		
United Arab Emirates (3)	249		0.24%		0%	• No information available
Latin America and Caribbean						
Argentina (5)	5	10	0.0025%	0.0050%	N/A	• Increase envisaged, but not detailed
Brazil (6)	356		0.04%		N/A	• No information available
Chile (7)	3	3.3	0.0026%	0.0029%	N/A	• $3.8 million by 2008
Venezuela (8)	1166	>2500	0.71%	1.52%	N/A	• Amount of oil aid dependent on future oil price
Multi-lateral development institutions (non-OECD)						
Arab Agencies (AFESD, OPEC Fund, IsDB and BADEA) (3)	833		–	–	–	• BADEA's 2005–2009 five-year plan budgeted at $675 million. Planned total commitment of $200 million by 2009. • IsDB aims for a total (concessional + non-concessional) of $4 billion in disbursements over the next five years. It has also mobilized $2 billion for a newly established poverty fund.
Total	9504	12,145	0.16%	0.22%	18.2%	(average for % of GNI)

Source: UNDESA (2006)

Note: AFESD, Arab Fund for Economic and Social Development; BADEA, Arab Bank for Economic Development in Africa; GNI, gross national income; HIPCs, heavily indebted poor countries; IsDB, Islamic Development Bank; OPEC, Organization of the Petroleum Exporting Countries

Understanding SSDC: The Chinese Way

China is not new to SSDC, as its foreign assistance began in the 1950s. However, the country has increased its foreign assistance many times over in terms of both scope and scale over the last decade, so that it is now the foremost SSDC provider in Africa, Latin America and Asia (Zhou 2016). Due to the changing nature of China's international and domestic growth plans, scholars such as Li and Wu (2013) and Zhang (2007) have divided the Chinese SSDC trajectory into three eras. The initial era is from the 1950s to the 1970s, when assistance was a form of reward intended to create goodwill for the socialist ideology. From late 1970s to end of the 1990s, the scale, structure and sectoral allocation of assistance changed, as its primary goal was China's domestic economic development. The twenty-first century saw the third era, where the scale grew again. Merely between 2004 and 2009, for example, foreign Chinese assistance increased by 29%, reaching $5 billion by 2012 (SCIO 2011, 2014), as did allocation across sectors. By now, China had turned into the world's *tenth* largest donor (SCIO 2011, 2014; Zhou 2014), despite being classed as a member of the 'South'.

Chinese development assistance is offered through eight different arrangements: debt relief, volunteer programmes, emergency humanitarian aid, medical team support, human resource development, technical cooperation, goods and materials and complete projects[6] (SCIO 2011). Most assistance has traditionally gone to Africa (52% between 2010 and 2012), with Asia trailing behind with 30% in the same time frame. Preferred sectors include agriculture, industry, economic infrastructure, education, public facilities and clean energy.

The principles underlying China's foreign assistance, however, differ greatly from those of the OECD and traditional, Western country and institution–led assistance. Chinese SSDC, according to its own State Council Information Office (SCIO), adheres to the principles of equality and mutual benefit, self-reliance and an emphasis on substantial results, with no political conditions on recipient countries (SCIO 2014). Emerging from the original eight principles, these four in a way reflect China's view of foreign assistance as form of mutually beneficial partnership; hence the 'meaningful cooperation' rhetoric by scholars such as Ahmar (2015) mentioned earlier.

This 'partnering' narrative is vastly different to the 'donor–recipient' narrative of traditional, Western-led assistance that developing countries such as Pakistan have been used to. The *self-reliance principle*, for example, means that many fewer checks and balances (in comparison to Western-led assistance) are utilized by the donors. The assumption behind the principle is that the no one knows the developmental needs of the country better than the recipient country itself. Therefore, the monitoring and evaluation mechanisms usually associated with Western donors, be they institutional or government led, have reduced relevance.

The OECD is an international, inter-governmental economic organization with 36 predominantly Western countries as members, with the purpose of bringing about development through assistance. The OECD, for example, has a very different methodology in comparison to the Chinese. As a representative body of the world's major donor countries, the OECD deems *evaluation and monitoring* as fundamental to the good governance of donor programmes. As an opportunity to learn, providing credibility to the programme (OECD 2010) and *accountability* for those running it, impact assessment is a necessary component of the final evaluation, feeding into the allocation of further funds to the country or the sector. Not only do donors designate a required institutional structure for providing evidence-based decision-making on projects, they also assist in setting it up or procuring it. The underlying criteria for the OECD's donor-driven programmes, for example, are *relevance* (the appropriateness of the project's objectives to real problems of the target beneficiaries given the project's physical and policy environment), *effectiveness* (the extent to which a programme achieves the intended targets—this requires monitoring and control), *efficiency* (assessment of whether results were achieved within the means), *sustainability* (long-term viability of continued benefits from the programme) and *impact* (wider long-term organizational and societal change brought about by the donor-funded programme; OECD 2010).

Monitoring and evaluation, therefore, remains a formalized and essential practice during planning and execution of OECD-funded development projects, helping keep tabs on donors with limited capacity for both, and hence the propensity for misallocation or misconduct. While the funds are less liberally available than Chinese assistance and perhaps

on far tougher financial terms, these requirements posed by traditional donors may be a blessing in disguise for the bulk of developing countries, with governance structures characterized by poorly structured markets, corruption and immature institutions, the phenomenon referred to earlier as institutional voids (Khanna and Palepu 2005).

The development of CPEC has increasingly been depicted as a 'saviour' and a 'game changer' which would take Pakistan out of its current economic woes (see Esteban 2016; Bhattacharjee 2015; Ramachandran 2015). While most commentators have acknowledged CPEC as a major development initiative (Wolf 2016), a wider view has been that of exploring wider possibilities with an eye to the inherent challenges for regional integration (Ali 2016). CPEC, however, is also viewed sceptically as a large portfolio of projects reflecting China's own geopolitical ambitions, as a manifestation of China's growing regional prowess (Boyce 2017) and as a programme with huge ambiguities (Ramay 2016). Nonetheless, there are several views, with some scholars taking a balanced viewpoint, seeing CPEC as a large development initiative aimed at advancing regional connectivity and cooperation (Wolf 2016) rather than the interests of a few.

So, while the benefits and constraints of this 'meaningful cooperation' (Ahmar 2015) have been widely discussed in terms of regional integration and in economic terms (see Ali 2016; Ferdinand 2016; Irshad 2015), the institutional capacity of Pakistan to handle SSDC funding of this magnitude, among other contextual factors discussed, has yet to be debated.

Discussion

In this chapter we have presented the argument that projects within the realm of CPEC are bigger, more numerous and far more complex that any undertaken historically in Pakistan. We present a framework built upon classical contingency theory applied to project environments, whereby project contexts cannot be assumed to be identical, hence requiring unique responses. A framework comprising operational situational factors and strategic situational factors within project environments (see Fig. 5.2)

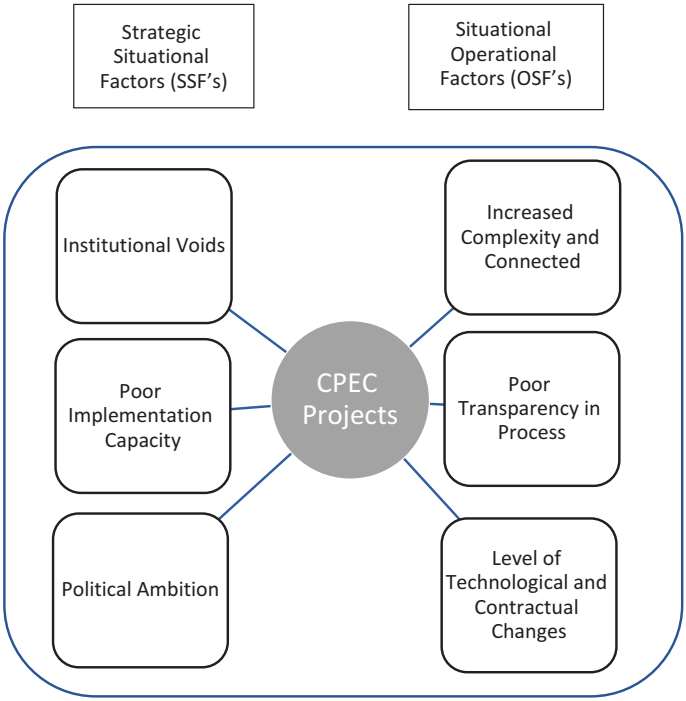


Fig. 5.2 Operational situational factors and strategic situational factors surrounding CPEC projects

is proposed for CPEC projects within the current Pakistani context. Through an analysis of existing norms and practices, this CPEC contingency framework identifies three major OSFs: complexity, poor implementation capacity and level of change; while identifying three SSFs: institutional voids, lack of transparency and political ambition. The purpose is to allow policymakers, planners and practitioners involved in CPEC projects to identify opportunities, constraints and threats emerging out of the CPEC project environments.

While the benefits from Chinese financial assistance (based on the key principles of non-political interference in the recipient country and investing only in projects that promote local economic growth) cannot be negated, we contend that Pakistan's level of readiness as a recipient nation in terms of its own institutional and political make-up is largely

questionable. We argue that the government's political ambitions fuelling ultra-expeditious decision-making and fast-tracking the project delivery process (for projects under CPEC), coupled with the deeply entrenched institutional voids that exist in Pakistan, constitute an issue that requires much investigation and thereby resolution.

Also, the issue of economic 'aid' through Chinese SSED can be viewed as far more wide-ranging and strategic than has hitherto been considered. Most funding, for example, is not in the form of aid but long-term, repayable debt (albeit on softer terms than those usually proposed by Western international financial institutions), misuse or misallocation of which could prove hugely disastrous for the recipient country. A recent example is handing over of the strategically located southern Sri Lankan port of Hambantota (Schultz 2018), developed at a cost of $501 million (SLPA 2018), to the Chinese on a 99-year lease in 2018, because of the recipient country's inability to repay the requisite debt payments. Others that appear to be following the Sri Lankan example include Djibouti (Cheng 2018) and the Maldives (Gopalaswamy and Bharath 2018). We assert that while the current narrative around CPEC almost exclusively oscillates between the positivity and negativity of its effects, these are both *external* views of the phenomenon (outsiders looking in). It is, however, far more important that the less-explored, internal take on the CPEC phenomenon be adopted (insiders looking at the long-term ramifications of all options being offered and being accepted as part of the wider CPEC narrative). This would require evaluation and understanding of the implications of the country's current political and institutional context for the execution of CPEC as an SSDC programme. An understanding of the nature of Chinese-originated SSDC, coupled with an appreciation of the political and institutional readiness of the recipient country having a direct impact on the long-term success of CPEC projects in the region, needs to be explored.

Conclusions and Recommendations

Grounded in classical contingency theory, in this chapter we introduced the project contingency framework for CPEC projects, that includes the strategic and operational situational factors within which they operate.

We present the argument that projects are embedded in very specific contexts and that unless and until these are clearly articulated and their effects on project selection, execution and impact are understood, CPEC projects will remain less likely to deliver the socioeconomic affects they are intended to achieve. This is based on the argument that since projects are unique endeavours, they cannot have a set of standalone best practices for every situation. This is very true for CPEC projects, which cannot be viewed as the usual run-of-the-mill development projects in Pakistan. Also, we assert that as a project's size increases, its operationalization requires a very different modus operandi. CPEC, the largest infrastructure development portfolio ever to be undertaken in Pakistan and under Chinese SSED (a phenomenon new to Pakistan, a country that has traditionally been accustomed to Western-led development assistance), essentially requires a different approach from 'the usual'.

This work initiates a different narrative around CPEC, one that is more embedded within CPEC's system-level players, dynamics and, thereby, responses. Given the OSFs and SSFs around CPEC projects, a case is made for developing a CPEC project governance structure with the purpose of system-wide knowledge management, perhaps managed through the auspices of the Planning Commission (as the primary body providing governance and oversight to projects in Pakistan). Such a system would not only set formal procedures for capturing and sharing insights and decisions, but also enable far greater transparency by allowing appropriate decisions to be shared with stakeholders, including the communities being served. A knowledge management system focusing on OSF and SSF impacts could facilitate the creation of a long-term knowledge base for project management that extends beyond institutional memory, making changes of project managers less disruptive, while increasing the trust of the international community in the robustness and clarity of the decision-making process within CPEC. The point is not to blindly create another hierarchy within the existing project governance system in the country, but to raise an awareness of the unique situational factors faced by CPEC projects, and to propose a way to enable better governance through the existing mechanisms, while enhancing capability through improved knowledge management.

Notes

1. The Planning Commission https://www.pc.gov.pk/.
2. Project portfolios are a strategic selection of projects selected and managed to advance the project owner's goals; see Turner (2014).
3. Unprecedented in the country's history, the magnitude of the project portfolio can be seen from the fact that CPEC investments to end 2016 were estimated to be around $51.5 billion (Kiani 2016). The figure has recently been capped at $50 billion (Rana 2018) owing largely to concerns, among others, over the country's debt capacity. Projects (including several megaprojects exceeding $1 billion each) range from modern transportation networks, energy projects, special economic zones and the development of the world's largest deep-sea port at Gwadar, to thousands of kilometres of road networks, including motorways, highways and upgrading of railway lines. The corridor covers China's Xinjiang Uygur Autonomous Region and impacts all provinces in Pakistan. Divided into five functional zones covering node cities (node cities range from the strategic, such as Quetta, Gilgit and Gwadar, to the economically important, including Peshawar, Islamabad, Lahore, Multan, Quetta and Karachi), transportation corridors and industrial clusters, CPEC is bound to have a huge impact on Pakistan's future, as the country has not seen investment of this magnitude in its infrastructure before.
4. PSDP 2018–2019, available at the planning commission website, https://pc.gov.pk/uploads/archives/PSDP_2018-19_Final.pdf.
5. OECD generally refers to the Organisation for Economic Co-operation and Development member countries, but customarily denotes the development assistance from the Global North.
6. This refers to production or civil works projects completed with the help of China-supported resources.

References

Abid, M., & Ashfaq, A. (2015). CPEC: Challenges and Opportunities for Pakistan. *Journal of Pakistan Vision, 16*(2), 142–169.

Ahmar, M. (2015). *Strategic Meaning of the China-Pakistan Economic Corridor*. Institute of Strategic Studies Islamabad. Retrieved from http://issi.org.pk/wp-content/uploads/2015/12/Moonis-Ahmar_3435_SS_41_20142015.pdf.

Ali, A. (2016). China-Pakistan Economic Corridor: Prospects and Challenges for Regional Integration. *Arts and Social Sciences Journal, 7*(4), 3–7.

Bhattacharjee, D. (2015). *China Pakistan Economic Corridor*. ICWA Issue Brief.

Boyce, T. (2017). *China-Pakistan Economic Corridor* (No. SAND-2017-0207). Sandia National Lab. (SNL-NM), Albuquerque, NM (United States).

Brautigam, D. (2009). *The Dragon's Gift: The Real Story of China in Africa*. Oxford: Oxford University Press.

Burns, T., & Stalker, G. (1961). *The Management of Innovation*. London, UK: Tavistock.

Cabana, S. L. (2014). *Chronology and History of South-South Cooperation*. Working Document Number 5. Madrid: Secretaría General Ibero-Americana. Retrieved from http://segib.org/wp-content/uploads/Chrono-South-South2014.pdf.

Cheng, A. (2018). Will Djibouti Become Latest Country to Fall into China's Debt Trap? *Foreign Policy*. Retrieved October 23, 2018, from https://foreignpolicy.com/2018/07/31/will-djibouti-become-latest-country-to-fall-into-chinas-debt-trap/.

Cusworth, J. W., & Franks, T. R. (2013). *Managing Projects in Developing Countries*. London: Routledge.

Dawn. (2018, October 20). *France Lends Support to Belt and Road Initiative*. Retrieved from https://www.dawn.com/news/1440159.

Drazin, R., & Van de Ven, A. H. (1985). Alternative Forms of Fit in Contingency Theory. *Administrative Science Quarterly, 30*(4), 514–539.

Esteban, M. (2016). The China-Pakistan Corridor: A Transit, Economic or Development Corridor. *Strategic Studies, 36*(2), 63–74.

Ferdinand, P. (2016). Westward Ho – The China Dream and 'One Belt, One Road': Chinese Foreign Policy under Xi Jinping. *International Affairs, 92*(4), 941–957.

Flyvbjerg, B. (2014). What You Should Know About Megaprojects and Why: An Overview. *Project Management Journal, 45*(2), 6–19.

George, G., McGahan, A. M., & Prabhu, J. (2012). Innovation for Inclusive Growth: Towards a Theoretical Framework and a Research Agenda. *Journal of Management Studies, 49*(4), 661–683.

Gopalaswamy, R., & Bharath, A. M. (2018). Is Abdulla Yameen Handing Over the Maldives to China? *Foreign Policy*. Retrieved October 23, 2018, from https://foreignpolicy.com/2018/03/21/is-abdulla-yameen-handing-over-the-maldives-to-china/.

Greve, C., & Hodge, G. (2011, May 19–20). *Transparency in Public-Private Partnerships: Some Lessons from Scandinavia and Australia*. 1st Global Conference on Transparency Research Rutgers University, Newark.

Hali, S. M., Shukui, T., & Iqbal, S. (2015). One Belt and One Road: Impact on China-Pakistan Economic Corridor. *Strategic Studies, 34*(4), 147–164.

Irshad, M. S. (2015). One Belt and One Road: Does China-Pakistan Economic Corridor Benefit for Pakistan's Economy? *Journal of Economics and Sustainable Development, 6*(24), 54.

Khan, A. K., & Sheikh, R. A. (2005, February). *Project Management in Pakistan Government*. Proceedings of the PMI Asia-Pacific Global Congress, Singapore.

Khanna, T., & Palepu, K. G. (2005) *Spotting Institutional Voids in Emerging Markets*. Harvard Business School Background Note 106-014.

Kiani, K. (2016). With a New Chinese Loan, CPEC is Now Worth $51.5bn. *Dawn*. Retrieved October 23, 2018, from https://www.dawn.com/news/1287040.

Lawrence, P. R., & Lorsch, J. W. (1967). *Organization and Environment: Managing Differentiation and Integration*. Boston, MA: Harvard University.

Li, X., & Wu, J. (2013). China's Foreign Aid: Historical Evolution, Architecture and Challenges. In *Emerging Asian Approaches to Development Cooperation*. Conference Version (pp. 27–37). Seoul: Korea Development Institute and The Asia Foundation. Retrieved from http://asiafoundation.org/resources/pdfs/EmergingAsianApproachestoDevelopmentCooperationConferencePapers.pdf.

Loch, C. H., DeMeyer, A., & Pich, M. (2011). *Managing the Unknown: A New Approach to Managing High Uncertainty and Risk in Projects*. Hoboken, NJ: John Wiley & Sons.

Markey, D. S., & West, J. (2016). Behind China's Gambit in Pakistan. *Council on Foreign Relations, 5*(1), 31.

Meyer, K. E., Estrin, S., Bhaumik, S. K., & Peng, M. W. (2009). Institutions, Resources, and Entry Strategies in Emerging Economies. *Strategic Management Journal, 30*(1), 61–80.

Müller, R., & Turner, R. (2010). Leadership Competency Profiles of Successful Project Managers. *International Journal of Project Management, 28*(5), 437–448.

Nelson, P. J. (2003). Multilateral Development Banks, Transparency, and Corporate Clients: Public-Private Partnerships and Access to Information. *Public Administration and Development, 23*(3), 249–257.

Nogueira, I., & Ollinaho, O. (2013). *From Rhetoric to Practice in South-South Development Cooperation: A Case Study of Brazilian Interventions in the Nacala Corridor Development Program*. Institute of Socioeconomics, University of Geneva, Geneva, Switzerland.

Organization for Economic Co-operation and Development (OECD). (2010). *Evaluating Development Cooperation: Summary of Key Norms and Standards*

(2nd ed.). Paris: The Development Assistance Committee Network on Development Evaluation.
Pennings, J. M. (1992). Structural Contingency Theory: A Reappraisal. *Research in Organizational Behavior, 14*, 267–309.
Peters, L. H., Hartke, D. D., & Pohlmann, J. T. (1985). Fiedler's Contingency Theory of Leadership: An Application of the Meta-Analysis Procedures of Schmidt and Hunter. *Psychological Bulletin, 97*(2), 274.
Pinto, J. K., & Covin, J. G. (1989). Critical Factors in Project Implementation: A Comparison of Construction and R&D Projects. *Technovation, 9*(1), 49–62.
Quadir, F. (2013). Rising Donors and the New Narrative of 'South–South' Cooperation: What Prospects for Changing the Landscape of Development Assistance Programs? *Third World Quarterly, 34*(2), 321–338.
Rafi, A. E. (2016, July 11). Completion of CPEC: Impact on Pakistan's Strategic Position and Economy. Islamabad Policy Research Institute.
Ramachandran, S. (2015). China-Pakistan Economic Corridor: Road to Riches? *China Brief, 15*(15), 1–4.
Ramay, S. A. (2016). *China Pakistan Economic Corridor: A Chinese Dream Being Materialized through Pakistan*. © Sustainable Development Policy Institute. Retrieved from http://hdl.handle.net/11540/6694.
Rana, S. (2018). PEC Size to Stay at $50 Billion for Now. Retrieved December 8, 2018, from https://tribune.com.pk/story/1862485/2-cpec-size-stay-50-billion-now/.
Regnér, P., & Edman, J. (2014). MNE Institutional Advantage: How Subunits Shape, Transpose and Evade Host Country Institutions. *Journal of International Business Studies, 45*(3), 275–302.
Rizvi, H. A. (2015). The China-Pakistan Economic Corridor: Regional Cooperation and Socio-Economic Development. *Strategic Studies, 34*(4), 1–17.
Schultz, K. (2018). Sri Lanka, Struggling with Debt, Hands a Major Port to China. *The New York Times*. Retrieved October 23, 2018, from https://www.nytimes.com/2017/12/12/world/asia/sri-lanka-china-port.html.
Shenhar, A. (2001). One Size Does Not Fit All Projects: Exploring Classical Contingency Domains. *Management Science, 47*(3), 394–414
SLPA-Sri Lanka Port Authority. (2018). *Development of Port in Hambantota*. Retrieved October 23, 2018, from http://portcom.slpa.lk/port_hambantota.asp?chk=4.
State Council Information Office (SCIO). (2011). *China's Foreign Aid, 2011*. Beijing: Foreign Languages Press Co. Ltd.

State Council Information Office (SCIO). (2014). *China's Foreign Aid, 2014*. Beijing: Foreign Languages Press Co. Ltd.

Swaine, M. D. (2015). Chinese Views and Commentary on the 'One Belt, One Road' Initiative. *China Leadership Monitor, 47*(2), 3.

The Nation. (2018, December 12). *Shockers in CPEC*. Retrieved from https://nation.com.pk/12-Dec-2018/shockers-in-cpec.

The News International. (2018, December 24). *WB Official Lauds BRI, CPEC Role in Promoting Intra-Regional Trade*. Retrieved from https://www.thenews.com.pk/print/402112-wb-official-lauds-bri-cpec-role-in-promoting-intra-regional-trade.

Turner, J. R. (2014). *Handbook of Project-Based Management*. New York, NY: McGraw-Hill.

UN. (2018). *Report of the Secretary-General on the State of South-South Cooperation – UNOSSC*. Retrieved December 8, 2018, from https://www.unsouthsouth.org/2018/08/13/2018-report-of-the-secretary-general-on-the-state-of-south-south-cooperation/.

UNDESA. (2006). *Background Study for the Development Cooperation Forum: Trends in South-South and Triangular Development Cooperation*. United Nations Department of Economic and Social Affairs. Retrieved from www.un.org/en/ecosoc/docs/pdfs/south-south_cooperation.pdf.

Waheed, Z. (2016). *Public Sector Project Management in Pakistan: Governance, Process and Issues*. Technical Note. LUMS No. 03-844-2016-2.

Wolf, S. (2016). *The China-Pakistan Economic Corridor: An Assessment of Its Feasibility and Impact on Regional Cooperation*. SADF Comment, South Asia Democratic Forum (SADF), Brussels, Belgium, p. 15.

World Bank. (2007). *Pakistan: Infrastructure Implementation Capacity Assessment*. Retrieved from https://openknowledge.worldbank.org/handle/10986/7671.

World Bank. (2018). *World Bank Country Data – Pakistan*. Retrieved December 8, 2018, from http://databank.worldbank.org/data/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=PAK.

Yap, C. M., & Souder, W. E. (1994). Factors Influencing New Product Success and Failure in Small Entrepreneurial High-Technology Electronics Firms. *Journal of Product Innovation Management, 8*, 4–17.

Yu, H. (2017). Motivation Behind China's 'One Belt, One Road' Initiative and Establishment of the Asian Infrastructure Investment Bank. *Journal of Contemporary China, 26*(105), 353–368.

Zhang, H. (2007). *Analysis of China's Energy-Oriented Aid to Africa*. Century Economic Research, No. 10.

Zhou, T. (2014, 23 July). China's Second White Paper on Foreign Aid Signals Key Shift in Aid Delivery Strategy. *Asia Blog*. San Francisco: The Asia Foundation. Retrieved from http://asiafoundation.org/2014/07/23/chinas-second-white-paper-on-foreign-aid-signals-key-shift-in-aid-delivery-strategy.

Zhou, T. (2016). Evaluating South-South Development Cooperation: China's Approach and Trends. In A. Mulakala (Ed.), *Contemporary Asian Perspectives on South-South Cooperation*. Mongolia: The Asia Foundation.

6

CPEC and Its Potential Benefits to the Economy of Azad Jammu and Kashmir, Pakistan

Muhammad Khalique, T. Ramayah, Khushbakht Hina, and Farooq Abdullah

Introduction

In the past, the relationship between China and Pakistan was more strategic and arms oriented because of the significance of Pakistan in this region. Although the relationship in the economic sector was developed at a smaller scale, now this cooperation has been extended to a larger scale to focus on trade investment and energy cooperation (Kumar 2007). The China Pakistan Economic Corridor (CPEC) project will strengthen the relationship between these countries through economic cooperation the world over (Small 2015), and the project will change the

M. Khalique (✉) • T. Ramayah
School of Management, Universiti Sains Malaysia, Penang, Malaysia
e-mail: ramayah@usm.my

K. Hina
National University of Modern Languages (NUML), Islamabad, Pakistan

F. Abdullah
MUST Business School, Mirpur University of Science and Technology (MUST), Mirpur, Azad Jammu & Kashmir, Pakistan

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_6

fate of the South Asian region (Barber 2014) by connecting China to the Indian Ocean and the rest of the world. It is not only the economic cooperation of both countries but the access of China from Gwadar port to the region that has serious concerns for India, whereas Pakistan has more access and advantages via the Pakistani-Chinese strings. This project will also trigger a concern for India because large-scale economic development is being carried out through a large-scale network of roads. China will deploy naval forces in the Indian Ocean to contain India by what many have termed a 'String of Pearls' strategy (Holmes 2013). Nonetheless, according to analysts, China faces problems in the Indian Ocean that affect the security relations of other countries (Brewster 2015).

CPEC is strategically and financially vital for both China and Pakistan. It will enable China to get to the Middle East and Africa from Gwadar port, empowering China with access to the Indian Ocean, and consequently China will bolster the advancement and balancing out of Pakistan's floundering economy. Furthermore, CPEC could fill in as the driver for exchange and financial coordination between China, Pakistan, Iran, India and Afghanistan, and to some degree Iran will be enhanced sooner rather than later. Under the CPEC structure, around US $10 billion will be spent on a framework of improvements and $30 billion has been allotted to different vitality ventures, including dams to produce power, which is a desperate requirement for Pakistan's monetary and industrial advancement. This considerable amount of $46 billion could revive Pakistan's incapacitated economy and foster its development. It might likewise be vital for Pakistan's local exchange activity between China, the Middle East and South and Central Asia (Massod 2015). At this stage CPEC is by all accounts a reciprocal activity between China and Pakistan, however over the long run it has the prospect of being a multi-lateral undertaking.

Gwadar Port and Regional Trade Potential

The location of Pakistan is very significant among South and Central Asian countries. This joint venture between Pakistan and China will boost the economy of these countries while connecting them with the rest of the world through a string theory mechanism. Moreover, the development of the Gwadar port is important for the integration of

both countries in the region (Anwar 2008). Gwadar is vital because it connects the international trade of China and the Central Asian states with the Gulf countries through transport routes. This route will be the most reliable and feasible for the expansion of trade in Asia and other countries. The Asian Development Bank (n.d.) has already stated that this port will be significant for the development of economic cooperation. This port will connect countries through road networks and railways to the Central Asian states, Afghanistan and neighbouring countries. So far one phase of the port has been developed and is functional for carriage and fuel transport. The second phase is under construction, which has the capacity of absorbing the heaviest and longest containers, up to 20 m. As a part of CPEC, the port will contribute to regional stability and inter- and intra- trade networks will be strengthened with neighbouring countries as well.

Central Asian Republics

Due to its closeness and nearness, Gwadar is a vital opportunity for Central Asian countries to export the world's largest oil and gas resources smoothly (Haider 2013). This route will reduce the distance between the Central Asian republics by nearly 500 km. Subsequently, Pakistan will be the only suitable choice for Central Asia and the Gulf world to transport their oil and gas reserves. In case of blockage of the Persian Gulf, this route will be an alternative. That is why it is known as an all-times access point. There are enormous resources in the Asian region and Gwadar in particular. The flow of these resources will be marketed through Gwadar port. Hussain and Khan (2017) argue that the supply of Turkmenistan's oil and gas to world markets will be through Gwadar port.

Role in Economic Development of Pakistan

The significance of CPEC is pretty obvious, because it will open the doors for the economic development of the two countries, as it will not only connect China to Pakistan but with the rest of the countries in Asia

and Europe through the string theory mechanism. Presently, most (80%) of China's fuel/oil is transported from Malacca to Shanghai, and it takes more than 16,000 km and more than two to three days to reach China. Through CPEC and Gwadar port, this will be reduced to 5000 km. According to the 21 agreements signed for development through CPEC, the energy projects, whether gas, coal or solar energy, will be able to provide more than 10,000 MW of energy by 2018 and, when all of these projects are coupled together, the capacity will be more than 17,000 MW.

As far as the development of infrastructure projects is concerned, more than $11 billion will be spent on the development of road networks, including a 1100 km motorway that will be constructed between the two cities of Karachi and Lahore (Dawn 2014, pp. 10, 14), whereas the Karakoram Highway will be completely reconstructed and renovated along the border of China and Pakistan. The railway line will also be developed and upgraded for a speed of 160 km/hr between Peshawar and Karachi (Salman 2015). Pakistan's railway network will also be extended to eventually connect to China's Southern Xinjiang Railway in Kashgar (Zhen 2015). A pipeline carrying liquefied natural gas will be included as part of the project, as well as a $2.5 billion pipeline between Gwadar and Nawabshah to transport gas from Iran (Shah 2015).

Through this corridor oil will be transported from the Middle East to Gwadar and to China, reducing the distance from 12,000 km to 2400 km. It will play a vital role in bridging the new maritime Silk Route that will connect more than 3 billion people across continents and countries, becoming an important part of the trans-Eurasian project as long as it is fully developed and operational. It will promote the economic development of not only Pakistan and China but Central Asian countries, including Afghanistan and Uzbekistan, linking Sri Lanka, Iran and Xinjiang to undertake marine transport (The Jakarta Post 2015).

Over $33 billion worth of energy infrastructure will be constructed by private consortia to help alleviate Pakistan's chronic energy shortages. The energy infrastructure will be developed by different internationally recognized companies, which will elevate the energy projects, and Pakistan will be self-sufficient in power generation (Malik 2015), which

regularly amounts to over 4500 MW (Dunya News 2015) and has shed an estimated 2–2.5% off Pakistan's annual gross domestic product (Kugelman 2015). As $33 billion will be consumed in the power projects, that will enhance the power capacity of the region through CPEC: 'Over 10,400 MW of energy generating capacity is to be developed between 2018 and 2020 as part of the corridor's fast-tracked' (Daily Times 2015).

Role of Gilgit Baltistan

The region of Gilgit Baltistan is of great significance and the Silk Route is constructed through this territory. This land is rich in resources, producing products at a small scale. It is best known for fruit exports like cherries, apricots and apples. CPEC will be advantageous for local traders to bring their products to market and earn increased revenues. The benefits are to be derived from transportation. Presently, fruits are being exported by air cargo via Dubai, and it would be faster and cheaper if they could be sent by road to China via Xinjiang.

Tourism in Gilgit Baltistan is very important because it elevates the significance of the region and has become a substantial part of the economy. It will further grow through the CPEC project, which, some commentators believe, will boost tourism in the 73,000 sq km region. The region is considered to be a mountaineer's paradise, since it is home to five of the 'eight thousands' (peaks above 8000 m), as well as more than 50 mountains over 7000 m. It is also home to the world's second highest peak, K2, and the Nanga Parbat.

Role of CPEC in Azad Jammu and Kashmir

CPEC will positively contribute in various fields in Azad Jammu and Kashmir. There is no doubt that the state has tremendous potential to capitalize on this opportunity. CPEC will bring blessings to Azad Jammu and Kashmir in ten main areas.

Connectivity

It is a pertinent fact that the CPEC project will be a great source of inter- and intra- connectivity in Pakistan with the rest of the world through road networks. The region of Azad Jammu and Kashmir is connected by roads, but it is a pathetic network of roads, especially when connecting intra-district trade. However, the region is in a parallel way advantageous to CPEC in terms of connectivity to Asia and the rest of the world. CPEC will connect Azad Jammu and Kashmir from the Hazara division and will pass through the capital, Muzaffarabad. It will adopt the route of the Kashmir Highway, extending from Muzaffarabad along the Jehlam River, linking almost all the districts of Azad Jammu and Kashmir and finally including a route from Mirpur to the other Pakistani territories. Owing to this connectivity, CPEC will be the main route to travel across Azad Jammu and Kashmir and it will be adopted for local intra-district transport as well. It will enhance business among local traders, who have problems connecting from Azad Jammu and Kashmir using the roads. The CPEC project will not only provide an intra-district network, but also external trade and connectivity will be enhanced in the region, which has been demanded for so long. Azad Jammu and Kashmir will be equally linked to international trade and the local market will also be brought into the mainstream. This connectivity through CPEC will further reduce the distances among nations through trade cooperation by developing links in other unexplored fields.

Roads and Infrastructure

Regional connectivity is only possible through standardized networks of roads. CPEC makes it possible not only to connect for inter- and intra-district trade, but will be a great source of building infrastructure along the axes of the route. As the road infrastructure in Azad Jammu and Kashmir is in very poor condition, especially the inter- and intra-district infrastructure, the project will either enhance the restructuring of already existing networks or will produce new infrastructure in the region. Along the route, people who are nearby will have an opportunity to utilize the

optimal resources they possess to develop their business and develop the infrastructure. Besides this, local investors will be proactive in investing in the region, because they have previously been fearful of investment in the area and have usually shifted to Pakistan for trade and business opportunities. Consequently, this project will lessen the distance between people who have invested anywhere else in Pakistan and focus trade on Azad Jammu and Kashmir. It is relevant that the government in the area has not been found resilient enough to build a sophisticated infrastructure. In spite of the significance of the region, development has not been found at a large enough scale to cover the road network, including the necessary infrastructure.

Local Mining and Coal Industry

The state of Azad Jammu and Kashmir is rich in a variety of natural resources, which have either been explored or remain less explored because of the low intent of the government or the local people. It is evident that this region has a larger proportion of natural resources than other parts of Pakistan. This potential has not been focused on by the authorities, however. These resources can be utilized only when there is investment and the permission of the state for companies and individuals to undertake the exploration. The state possesses rich resources for mining, in gold, potassium, coal and rubies. Through CPEC, the mining industry can prevail because there would be an external market to establish a relationship with the local market. The local market will develop through the government because the Azad Kashmir Mineral & Industrial Development Corporation is working for the extraction of minerals in the region. So investors will be attracted from across the world to establish industry in the region. This would contribute to the national income and hence employment will be produced. However, this region can be the best recognized for minerals in the world, a status that will be further strengthened, and ultimately the government will earn revenue at a large scale. The mineral and coal industry will flourish by contributing to the infrastructure as well as new horizons that will be explored by local people. It will also develop the international market and include this region

in mainstream development. Moreover, water resources are found at a large scale. Three main rivers flow through the state and can contribute to the energy sector as well.

Local Fruit Industry

As far as the fruit industry is concerned, Azad Jammu and Kashmir is a rich state in different varieties of fruit which are found in landlocked areas. Although the fruit is rich in quality and produced in reasonable quantities, the local market is not established to meet the demands of local fruit growers. Most of the fruit produced in Azad Jammu and Kashmir is varieties of apples, pears, grapes, walnuts and cherries. In spite of local people having their own fruit orchards, due to the negligence of the agriculture department they are unable to dedicate themselves to the flourishing of this industry. However, the CPEC project will provide an opportunity for local people to establish a local fruit market in such a way that with the passage of time it will be able to be converted into a national and international market. Thus, fruit that is not being used by locals will get the impetus to be exported to the international market. Fruit can be exported to Asia as well as countries in Europe by linking through the string mechanism. The fruit industry will be able to flourish in Azad Jammu and Kashmir when producers are given a considerable place in the market, and CPEC will be a push factor to motivate local producers to bring their products to market and develop them nationally and internationally.

Local Food Industry

The food industry of Azad Jammu and Kashmir is very popular and rich in taste. However, it has not been focused on by the authorities since the inception of the state. Some food items are very popular, such as goshtaba (meatballs in yoghurt), rista (meatballs in a red spicy gravy), nata, mithmaz, garrmaz, yakhni (a yoghurt curry), roghan aab and so on. These are mostly mutton items which are produced through a specific procedure. Another uniqueness of the food pattern is wazwan, which contains

36 dishes at the same time. It is popular throughout the world and is considered a high-cost food. The food industry will flourish through CPEC intervention, as it will connect with other Asian and European countries. The region can be an epicentre for the food market in the future. This may convert into chains and can be exported to the rest of the world. Consequently, the local food industry will prevail and flourish. It will also enhance the local capacity of people to enhance their livelihood, which will be further utilized in the food industry.

Local Cottage Industry

The cottage industry of Azad Jammu and Kashmir is significant for its uniqueness in producing different types of local products, either through the manual work of embroidery or small-scale boutiques. It also covers Gabba Sazi (carpet weaving) and Namda Sazi (felt making), which are popular across the globe. Kashmiri embroidered stoles and shawls are very popular among European countries and the rest of the world, but are only exported on a small scale and at a high cost. In the cotton industry, decorative pieces are produced and painted. Locally produced wooden furniture is very popular, and a wide variety is produced in woods like walnut as well as deodar in its purified form. All of these products are locally produced and nationally distributed. A very small number of products is exported, because there is not a huge network of trade in the area. Conversely, CPEC will generate a network while connecting the area to the rest of the world. It will be helpful in producing a local market and turning it into an international market by exporting local products to earn revenue.

Tourism

The state of Azad Jammu and Kashmir is popular for its tourism potential all over the world. Across the globe, tourists visit the valleys and plains of the region that are full of natural beauty. Most of its places are at high altitude with fairy meadows and natural scenes, lakes and enriched nature. Every year millions of people visit Azad Jammu and Kashmir throughout the year, and

especially the summer season is busy with tourism. In fact, it is more like a tourist state, but due to underdevelopment in the region tourists do not have the required facilities in most areas. Due to its meagre resources, the government is unable to develop the state as far as the tourism potential is concerned. On the one hand, local people have generated networks to promote tourism by establishing small-scale businesses in the valleys and plains, and on the other hand, the road network and security reasons are a great threat to the tourism industry. The CPEC project will boost tourism in the region first by connecting it to different parts of the world and it could be developed into a busy tourism spot by developing that which already exists. Besides this, local people will be the motivating factors in developing tourism alongside government support to maximize the expansion of the industry, and it has great potential to flourish and last for many years.

Livelihood

The state of Azad Jammu and Kashmir is rich in potential for generating livelihoods for people, which the CPEC intervention will help to improve and develop, in order to provide opportunities to every citizen to take part and produce for themselves and the nation. People's living standards can be raised through active participation in the development process by utilizing their skills and resources to earn revenue. This will make them able to generate something for the state and also take part in mainstream development.

Energy

The energy sector will be boosted in Azad Jammu and Kashmir because of the potential of producing mini-, medium- and large-scale hydro-power projects. CPEC will be helpful to power generation in Pakistan by reducing the maximum shortfall and producing the maximum number of power projects. The state is rich in energy resources and hydro-power projects could be initiated in the region to generate electricity. Local potential is also available to be used to generate energy on a small scale. Besides this, the water resources of three rivers can be used for power generation at an

excessive scale where large-scale investment is needed. The Neelam Jehlam hydro-power project is evident along the Mangla reservoir, which will generate energy in thousands of megawatts. So CPEC will prove to be a milestone in power generation in Azad Jammu and Kashmir.

Industrial Expansion

The state of Azad Jammu and Kashmir has been economically dependent on federal reserves because there is no industrial development and particularly because it is a non-industrial state. The state is mostly landlocked and hilly, where subsistence agriculture has been found. Industries are scarce due to different reasons in most of districts except Mirpur, because it is a plains area. CPEC will flood the area with industrial development, because it has the potential, but the motivation is needed to convert local/cottage industry into a national and hence international market. It will bridge the ability of local investors to utilize their potential for the widespread economic developmental invasion in the region which is needed at a large scale.

The resources for the establishment of industries are neither explored nor supported by the local authorities. By and large, industries are limited to one city only, while cottage industry prevails at a small scale. Another thing that is very significant to industrial development is the unavailability of road networks in the region. Scarce resources are a further hurdle in the expansion of industry. Now, CPEC will open new horizons for the expansion of industry. It will connect Azad Jammu and Kashmir through one road to the rest of the world, where industrial development can take place. Large-scale equipment can be transported to every district in the region, which will attract investors and foster interest among local people to develop the industrial zones. The government will also take measures to provide small- and large-scale microcredit programmes to help people develop industry.

Conclusion

CPEC is a very important and unique project for both Pakistan and China. China needs to secure a safe route for the transfer of energy, being the largest consumer of the fuel in the world, and would seek refuge

through CPEC and Gwadar port. On the other hand, for Pakistan the project has many advantages in terms of the economy. The CPEC project will transform Azad Jammu and Kashmir's geographical location into an asset. It will be a milestone in the growth and development of industry in the state, and will prove a motivational factor towards the development of the region. Road networks are necessary for development. Through the development of road networks in Azad Jammu and Kashmir, infrastructure will be developed and inter- and intra-district trade enhanced, as the region has potential in almost every dimension from being included in the project. CPEC will develop the energy sector by producing electricity at a larger scale. Local fruit, food, mining and coal and cottage industries will be developed through the expansions of industries in the region. By the connection with the rest of the world, tourism will flourish to a great extent and locals and expats will be able to explore different horizons. CPEC will also improve people's socioeconomic status by motivating them to participate in the process and develop and contribute towards the region's development. It will help in developing the industrial sector and connect it with the rest of the world. The business community and private sector need to come forward and play their role in making CPEC a success. The role of think tanks, media and educational exchanges will also be useful in mitigating the negative perceptions and apprehensions over the CPEC project.

Finally, there is a great need to prepare the workforce and human capital to absorb this megaproject in favour of the state of Azad Jammu and Kashmir. In this connection, both the governments of China and Pakistan need to allocate research grants to find the best possible ways to work smoothly on this project, because Chinese and Pakistani cultures have significant differences, for example in language, food and business practices. More specifically, the government of Azad Jammu and Kashmir needs to take a courageous step to promote the Chinese language at college and university level and secondly to arrange training programmes, workshops and seminars to create awareness of the pros and cons of the megaproject to society.

References

Anwar, Z. (2008). Gwadar Deep Sea Port's Emergence as Regional Trade and Transportation Hub: Prospects and Problems. *Journal of Political Studies, 2*(1), 97–112.

Asian Development Bank. (n.d.). Central Asia Regional Economic Cooperation (CAREC). Retrieved December 19, 2015, from http://www.adb.org/CAREC/default.asp.

Barber, C. E. (2014). The Pakistan China Corridor. *The Diplomat*. Retrieved February 10, 2016, from http://thediplomat.com/2014/02/the-pakistan-china-corridor/.

Brewster, D. (2015). An Indian Ocean Dilemma: Sino-Indian Rivalry and China's Strategic Vulnerability in the Indian Ocean. *Journal of the Indian Ocean Region, 11*(1), 48–49.

Electricity Shortfall Increases to 4,500 MW. (2015, June 29). *Dunya News*. Retrieved December 11, 2015.

Haider, S. F. (2013, June 24). China Has to Keep the Peace in Pakistan's Gwadar Port. Retrieved from http://www.thenational.ae/business/industry-insights/economics/china-has-to-keepthe-peace-in-pakistans-gwadar-port.

Holmes, R. J. (2013). Gwadar and the 'String of Pearls'. *The Diplomat*. Retrieved February 12, 2016, from http://thediplomat.com/2013/02/gwadar-and-the-string-of-pearls/.

Hussain, S., & Khan, M. A. (2017). CPEC; A Roadmap of Region's Development. *FWU Journal of Social Sciences, 2*(11), 51–59.

Karachi to Lahore Motorway Project Approved. (2014). *Dawn*. The Dawn Media Group. Retrieved September 5, 2014, from https://www.dawn.com/news/1116948.

Kugelman, M. (2015, July 9). Pakistan's Other National Struggle: Its Energy Crisis. *The Wall Street Journal*. Retrieved December 11, 2015, from http://blogs.wsj.com/washwire/2015/07/09/pakistans-other-national-struggle-its-energy-crisis/.

Kumar, S. (2007). The China–Pakistan Strategic Relationship: Trade, Investment, Energy and Infrastructure. *Strategic Analysis, 31*(5), 57–790.

Malik, A. R. (2015, December 7). A Miracle on the Indus River. *The Diplomat*. Retrieved December 11, 2015, from https://thediplomat.com/2015/12/a-miracle-on-the-indus-river/.

Massod, T. (2015, March 23). The State of Play in Pakistan-India Relations. *The Express Tribune*, p. 7. 'Mengal Wants All CPEC Accords Made Public'. *Dawn*. Retrieved October 15, 2016, from http://www.dawn.com/news/1290143.

Parliamentary Body on CPEC Expresses Concern Over Coal Import. (2015, November 19). *Daily Times*. Retrieved December 11, 2015, from https://web.archive.org/web/20151222105640/, http://www.dailytimes.com.pk/national/19-Nov-2015/parliamentary-body-on-cpec-expresses-concern-overcoal-import.

Salman, A. (2015, May). Pak-China Economic Corridor: A Cost-Benefit Analysis. *The Express Tribune*. Retrieved, from http://tribune.com.pk/story/880259/pakistan-china-economic-corridor-a-cost-benefit-analysis/.

Shah, S. (2015, April 9). China to Build Pipeline from Iran to Pakistan. *The Wall Street Journal*. Retrieved December 6, 2015, from https://www.wsj.com/articles/china-to-build-pipeline-from-iran-to-pakistan-1428515277.

Small, A. (2015). *The China-Pakistan Axis: Asia's New Geopolitics*. New York, NY: Oxford University Press.

The Jakarta Post. (2015). Retrieved from http://www.thejakartapost.com/news/2015.

Zhen, S. (2015, November 11). Chinese Firm Takes Control of Gwadar Port Free-Trade Zone in Pakistan. *South China Morning Post*. Retrieved December 11, 2015, from https://www.scmp.com/business/companies/article/1877882/chinese-firm-takes-control-gwadar-port-free-trade-zone-pakistan.

7

Security and the Belt and Road: A Critical Analysis of Threats to Chinese Nationals and Businesses in Pakistan

Jawad Syed

Introduction and Background

The China Pakistan Economic Corridor (CPEC) comprises multiple infrastructure projects that are presently being implemented in various parts of Pakistan. With a total value exceeding US $60 billion, CPEC is a leading component of China's Belt and Road Initiative (BRI) that seeks to integrate countries and regions with China to enhance international trade, socioeconomic connectivity and development (Siddiqui 2017).

Chinese President Xi Jinping unveiled the idea of a 'Silk Road Economic Belt' in a 2013 speech at Kazakhstan's Nazarbayev University. Designed to stimulate economic development by enhancing regional and global inter-connectivity, BRI aims to integrate the world's largest landmass—from Gwadar to Shanghai, from Vladivostok to Lisbon, and from Moscow to Singapore—through a network of hard and soft infrastructure linked to China—from transportation, telecommunication and

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_7

energy infrastructure to financial integration and sociopolitical coordination (Rolland 2017).

CPEC is expected to strengthen Pakistan's economy by the construction of road networks, implementation of energy projects and creation of special economic zones. CPEC became partly operational on 13 November 2016 when Chinese cargo of 250 containers was transported overland from Xinjiang in China to Gwadar port in Pakistan for onward maritime shipment to the Middle East, West Asia and Africa (2016).

According to a media report, about 71,000 Chinese nationals visited Pakistan in 2016, while more than 27,500 visa extensions were granted in the same year, a 41% increase on 2015, suggesting more Chinese are staying in Pakistan for longer (*VOA* 2017). According to a 2017 estimate, up to 10,000 Chinese individuals are currently working on CPEC-related projects in Pakistan, while another 20,000 are involved as entrepreneurs, traders and in other jobs. While thousands of Chinese nationals are working on Belt and Road projects in Pakistan, this second wave of Chinese arrivals, numbering in the thousands, comprises entrepreneurs, traders and tourists. Some of them are opening restaurants, shopping stores and language schools, while others are exploring what products they could sell in Pakistan (a market of 207 million people) or what products they could make in a cost-effective manner in Pakistan. In Islamabad, Karachi and Lahore, Chinese visitors now outnumber other foreigners, and the country's first-ever Chinese-language newspaper, *Huashang*, has been launched. In hotels, shops and roadmaps, instructions in the Chinese language are increasingly common (Hashim 2017).

Given that CPEC runs from Kashgar in western China to the ports of Karachi and Gwadar in southern Pakistan, it is a cross-country initiative for Pakistan. In recent decades, Pakistan has seen violence and instability, and the country's security situation has particular relevance to China (Pantucci and Lain 2016). Chinese nationals and projects face violence at the hands of militants who oppose CPEC due to a variety of reasons, including Takfiri Islamists and Baloch ethnic/regional nationalists or separatists. Takfir means excommunication and a Takfiri is an extremist Muslim who denounces other Muslims as kafir (disbeliever or infidel) owing to political, ideological or sect-based differences, and condones acts of violence, including suicide bombings against Muslims and

non-Muslims as legitimate methods of enforcing a Takfiri supremacist agenda. The Takfiris are also known as Khawarij (i.e. those extremists who excommunicate and condemn the mainstream community and resort to violence to enforce their ultra-orthodox beliefs; Syed et al. 2016). Islamist extremist groups in the Middle East and South Asia, such as Islamic State (IS or ISIS, the international Takfiri terrorist group), Al-Qaeda, Taliban, Lashkar-e-Jhangvi (LeJ) and Jundallah, may be described as Takfiri or Khawarij militants, and are often influenced by radical or extremist ideologies in some sections of the Salafi (or 'Wahhabi') and Deobandi communities (Bennet-Jones 2016). In addition to the Pakistan-origin Takfiris or Khawarij, some of the roots of anti-Chinese violence may be sourced to Chinese Islamist militants, some of whom are present in Pakistan's tribal areas along with the Taliban and Al-Qaeda and their local handlers such as LeJ (Mehboob 2011; Smith 2009).

Moreover, CPEC also faces violence at the hands of extremist sections within Baloch ethnic or nationalist groups, whose agenda is to separate Balochistan from Pakistan. Such violence is part of a larger cross-national guerrilla war waged by Baloch regional nationalists against the governments of Pakistan and Iran, mostly culminating in acts of violence in the Balochistan province in southwestern Pakistan and the Sistan-Baluchestan province in southeastern Iran. In Pakistan, these separatist militants are currently engaged in a low-intensity insurgency against the state, and have systematically attacked government and security institutions, energy installations, Baloch and non-Baloch civilians as well as foreign nationals. Baloch militant outfits are opposed to CPEC and consider it an exploitative project by the governments of Pakistan and China.

According to an estimate, militants trying to disrupt CPEC's projects in Pakistan killed 44 workers and wounded more than 100 during 2014–2016 (Hassan 2016). This ongoing threat has increased Chinese worries about CPEC's security. The issue deserves an urgent policy response given the strategic and economic importance of CPEC for both China and Pakistan. The current approach by the Pakistani government is, in the main, focused on physical security and protective intelligence, with limited or no attention to the ideological roots of violence.

This chapter offers a critical overview and analysis of security threats to Chinese nationals and businesses in Pakistan. For this purpose, it compiles

and analyses all such attacks carried out from 1 January 2001 to 31 December 2017. While the analyses in the mainstream media usually point towards the Baloch separatist threat to CPEC, this study adds value to our knowledge by highlighting the Takfiri Islamist or Khawarij dimension of the threat. The chapter may guide government and security officials and policymakers in Pakistan and China to direct their attention to the two main sources of violence which pose physical and ideological threats to BRI in Pakistan. While these groups are a source of physical threat to human life, logistics and installations, they are also an ideological threat to the nation states of China and Pakistan due to their separatist, secessionist and/or Islamist supremacist agendas. The chapter may help readers to understand and address the security aspects and requirements of engaging with or employing Chinese individuals and businesses in Pakistan.

Threats to Chinese Nationals and Businesses in Pakistan

Chinese nationals and projects or businesses in Pakistan have faced fairly regular attacks since the 2001 terrorist attacks on the USA known as 9/11. Pakistanis working on Chinese projects have also been targeted. Since the 2001 attack in Sibi that injured one Chinese engineer and the 2004 attack in Gwadar that killed three Chinese engineers, there has been a pattern of unrelenting violence against Chinese nationals and other personnel working on Chinese projects. This has resulted in official condemnation by the Chinese government demanding that the Pakistani government ensure the full security of Chinese citizens in Pakistan. For example, when three Chinese engineers were killed in February 2006 in Hub, Balochistan (PDO 2006), the Vice Governor of Anhui Province, Wen Haiying, stated 'that the death of the Chinese engineers in the terrorist attack in Pakistan had [stirred] a wave of deep shock and grief among 64 million people of the Province' (BT 2006; Smith 2009).

In 2006, a group of Chinese nationals were kidnapped by Takfiri Islamists from a Deobandi madrassa in Islamabad, who accused them of prostitution. In February 2012, Hua Jing, a Chinese female travelling in

Peshawar, was shot and killed in the street in an attack claimed by the Pakistani Taliban (TTP) as revenge for the Chinese government killing Muslims in Xinjiang province (Reuters 2012; Small 2015). In May 2014, a Chinese cyclist, Hong Xudong, was kidnapped by a Takfiri Islamist group which claimed to have targeted him for being Chinese. He was eventually released in August 2015 in what was described as 'an intelligence operation' (BBC 2015). In March 2015, militants set five oil tankers on fire and abducted four local workers reportedly carrying fuel for a Chinese company working on the Saindak Copper Gold Project in Balochistan's Chaghi district. Police sources believed that the tankers were targeted specifically because they were supplying oil to a Chinese company (Pantucci and Lain 2016). In a statement, the Baloch militant group Balochistan Liberation Army (BLA) criticized CPEC, describing it as an exploitative project on Baloch soil (Singh 2016).

Concerns have been voiced by the Chinese about the security, speed of completion and costs of BRI-related projects. In August 2013, Lin Dajian, of the Department of International Cooperation in the National Development and Reform Commission, highlighted at the China–Afghanistan–Pakistan Track Two Dialogue the security issues and other challenges that could impede the progress of the project (SOP 2013). In 2016, a nationalist Chinese newspaper, the *Global Times*, remarked that the increasing cost of security could be a big problem in efficiently pushing forward the project (Weijia 2016, cited in Pantucci and Lain 2016).

The Chinese media notes that much of the security risks over the BRI are concentrated in CPEC, with Beijing aware of the threats Chinese workers face in Pakistan (*China Daily* 2016). Chinese requirements for security call for a more complex set of solutions, requiring a group of integrated services in which armed personnel are just one of many components. For example, there is an associated cost related to security and insurance. The Chinese insurance sector is beginning to realize the importance of this business niche. Traditional security, counter-terrorism, as well as kidnapping for ransom are going to be important considerations for Chinese businesses operating in Pakistan. Special insurance is a lesser-known niche market, but due to the expansion of Chinese foreign direct investment, it may prove to be a thriving sector. Leading Chinese insurance companies such as Ping An and China Taiping are already

exploring these opportunities in consultation with British insurance experts (Arduino 2017).

The issue of increased business cost due to increased security is also noted in Pakistan. For example, in August 2017, the National Electric Power Regulatory Authority (NEPRA), the power sector regulator in Pakistan, allowed power producers to charge (consumers through a tariff) 1% of the capital cost of 19 power projects worth $15.56 billion under CPEC for 20–30 years on account of the security cost. NEPRA worked out the annual cost at about $2.92 million. In its order, NEPRA referred to Article 10 of the CPEC Agreement, which provides that 'the Pakistani party shall take the necessary measures to ensure the safety of Chinese personnel and projects' and noted that the country had established a special security force/division of the armed forces to ensure the security of CPEC projects (Kiani 2017).

There is also an issue of criticism and suspicion by India and the USA about CPEC and the increasing cooperation between Pakistan and China. While India alleges that Pakistan is responsible for cross-border militancy in Kashmir, Pakistan alleges that Indian agencies are responsible for violence in Balochistan and intend to disrupt CPEC. A Pakistani intelligence official told a Karachi-based publication: 'We are now quite certain that foreign militants living in Pakistan and their Pakistani hosts, infuriated with Islamabad's cooperation with Beijing, are carrying out these attacks' (Ansari 2007; Smith 2009).

There are also questions about the Takfiri ideologies and fatwas emanating from the Darul Uloom Deoband, an ultra-orthodox madrassa based in India where the Deobandi Islamist movement began and whose ideology is adhered to by the likes of the Taliban and LeJ (Bennet-Jones 2016; Syed et al. 2016).

Pattern of Violence

Based on an extensive review of media reports and research studies published in English and Urdu languages within and outside Pakistan, Table 7.1 offers an overview of almost all notable attacks on Chinese nationals and China- or CPEC-related workers in Pakistan from 1

Table 7.1 An overview of attacks on Chinese nationals and projects in Pakistan (2001–2017)

Location	Date	Description
Kharan, Balochistan	12 August 2017	Armed militants hurled grenades at the buildings of the National Highway Authority, the residence of engineers working on CPEC projects. Baloch separatist group Balochistan Liberation Army (BLA) accepted responsibility (*TBP* 2017).
Karachi, Sindh	10 July 2017	A roadside improvised explosive device (IED) went off minutes after a motorcade of Chinese engineers passed through Steel Town, one of Karachi's industrial quarters. The engineers were working on CPEC-related projects in Thatta. Two were injured. An obscure Sindhi separatist group, Sindh Revolutionary Army, claimed responsibility (*Dawn* 2017a).
Islamabad	6 June 2017	Two Chinese nationals were assaulted in Islamabad after a business deal turned sour. Their cash and travel documents were looted (*Nawaiwaqt* 2017).
Quetta, Balochistan	24 May 2017	Two Chinese citizens were kidnapped from the Jinnah Town area of Quetta (Shah 2017). The abductees were later killed by Islamic State (IS) (Patranobis 2017). A few days before, the Pakistan Army's media arm (ISPR) had claimed a major success against a Lashkar-e-Jhangvi (LeJ) and IS nexus of militancy in a remote warren of caves in Mastung district (*Dawn* 2017b).
Turbat, Balochistan	19 May 2017	Militants gunned down three workers building a Chinese-funded highway, linking Gwadar to Quetta. They were making a trip to a marketplace in the small town of Hoshab. They had been working on the road under the Frontier Works Organisation (*The Nation* 2017a).
Gwadar, Balochistan	13 May 2017	Two gunmen on a motorbike killed ten construction workers in Peshukan Ganz who were working on CPEC-related road projects. Another two workers sustained injuries. BLA claimed responsibility for the attack (*Anadolu Agency* 2017; *Press TV* 2017).
Rohri, Sindh	14 December 2016	A targeted attack (near the Patni area) on a convoy of Chinese engineers working on CPEC projects. The blast occurred along a road leading to three campsites set up for Chinese staffers. No injury was reported (Zee News 2016). A student of Shah Abdul Latif University was later arrested for alleged involvement (Memon 2017).

(*continued*)

Table 7.1 (continued)

Location	Date	Description
Pasni, Balochistan	26 November 2016	Two persons working on a CPEC project were killed on their way to work (RFE/RL 2016).
Ormara, Balochistan	16 October 2016	An attack on a Chinese convoy through an IED. Four workers were killed. Baloch militants claimed responsibility (Kumar 2016).
Hub, Balochistan	28 September 2016	Two Chinese engineers were killed and another two injured in the Windar Kinraag area of Hub district. They were working on the Dudher Zinc Project, part of CPEC. BLA claimed responsibility for the attack (Singh 2016).
Karachi, Sindh	30 May 2016	A Chinese engineer and his driver and private guard were injured when a roadside bomb exploded, as their vehicle passed through Steel Town. A Sindhi separatist group claimed responsibility for the attack (Boone 2016; *The Economic Times* 2017).
Mastung, Balochistan	23 March 2015	Five oil tankers were set on fire and four drivers abducted, carrying fuel for a Chinese company working on the Saindak project (Baloch 2015a; Shah 2015). Takfiri groups have attacked Shia Muslims and travellers to Iran in this area on several occasions (*The Nation* 2016).
Dera Ismail Khan, Khyber Pakhtunkhwa	19 May 2014	Pakistani Taliban (TTP) kidnapped a Chinese tourist on a bicycle near Dera Ismail Khan. TTP said: 'We want our detained militants to be released and we kidnapped him for this purpose' (Craig and Khan 2014). He was later recovered in August 2015.
Chaghi, Balochistan	14 July 2013	An attack on a convoy of fuel tankers linked to Chinese operations in Chaghi district. Four trucks were destroyed (Baloch 2015a). On more than one previous occasion, Takfiri militant groups affiliated with Taliban had claimed responsibility for attacks on fuel tankers (*NBC* 2011).
Gilgit Baltistan, Pakistan	22 June 2013	11 tourists were killed by Takfiri militants affiliated with Taliban and LeJ in Nanga Parbat mountainous area. Three Chinese were among the slain tourists (*AFP* 2014). TTP claimed responsibility for the attack. The perpetrators were reportedly from Diamer, Mansehra and Chilas (Kohistan) (Burke 2013).

(*continued*)

Table 7.1 (continued)

Location	Date	Description
Karachi, Sindh	21 May 2013	A targeted bomb blast in Clifton seafront in Karachi was aimed at a van full of 11 Chinese port workers and engineers, ahead of Chinese Premier Li Keqiang's visit to Pakistan (*Reuters* 2013). One engineer was injured during the attack (Malik 2016).
Karachi, Sindh	23 July 2012	A bomb attack outside the Chinese consulate in Karachi. Three people were injured. One car and three motorbikes were destroyed. Another bomb planted in a motorcycle near the Chinese consulate in Karachi was defused (Mirza 2012). Similar attacks in Central Asia have been carried out by Takfiri Islamist groups.
Peshawar, Khyber Pakhtunkhwa	28 February 2012	A Chinese female student and her local companion were killed in Peshawar (Mehsud 2012; *The Telegraph* 2012). Takfiri extremists from TTP and LeJ are known to operate in this area. TTP claimed that she was killed in revenge for 'Chinese atrocities' on Muslims in Xinjinag.
Swat, Khyber Pakhtunkhwa	1 September 2008	TTP kidnapped two Chinese telecommunications engineers.
Hub, Balochistan	19 July 2007	A suicide car bomber, apparently targeting a convoy of Chinese mining technicians and engineers, killed at least 29 people, including 7 police officers, and injured 30 others in Hub. The bomber rammed into a police van that was escorting the Chinese. The dead were Pakistani nationals while the Chinese workers were unhurt (BBC 2007; Shah 2016). Suicide bombing in Pakistan is usually a characteristic of Takfiri Islamist groups.
Peshawar, Khyber Pakhtunkhwa	8 July 2007	Three Chinese workers were killed and another Chinese wounded. The attackers were shouting religious slogans when they opened fire on the four Chinese nationals in a three-wheel auto-rickshaw factory at Khazana, near Peshawar (Xinhua 2007a). The police inquiry revealed that Takfiri militants with long hair, beards and caps were involved in this pre-meditated murder. At least one madrassa student was also involved (*The News* 2007).

(*continued*)

Table 7.1 (continued)

Location	Date	Description
Islamabad	22 June 2007	Seven Chinese citizens along with two Pakistanis were kidnapped by armed militants (Anthony 2007) from an acupuncture clinic and massage centre in Islamabad, by a radical Deobandi madrassa's female and male students belonging to Lal-Masjid/Jamia Hafsa (*Xinhua* 2007b; Hussain 2011).
Hub, Balochistan	15 February 2006	Three Chinese engineers and their Pakistani driver were ambushed in their vehicle by gunmen on motorcycles. They were involved in the construction of the Attock cement factory. The attackers struck as the workers were leaving the factory. All were killed (BBC 2006; Shah 2016; *Xinhua* 2006). Unconfirmed reports say BLA claimed the attack.
South Waziristan, Federally Administered Tribal Areas	9 October 2004	Taliban militants kidnapped two Chinese engineers working on Gomal Zam dam in South Waziristan. One Chinese engineer was killed (*China Daily* 2004; *Dawn* 2007). Taliban from South Waziristan and their Uzbek affiliates were found to be involved in this attack.
Gwadar, Balochistan	3 May 2004	A car bomb killed three Chinese engineers and injured another ten. The engineers were developing a Beijing-funded deep-sea port in Gwadar (Shah 2016). The blast occurred at around 9 a.m. as 12 Chinese engineers were being taken to work in a van. Islamist militants had attacked foreigners in the past, including the 2002 attack in Karachi when a suicide bomber killed 11 French naval engineers, and the attack on the US consulate in the same year (BBC 2004).
Sibi, Balochistan	7 May 2001	One person was killed and three others, including a Chinese engineer, seriously injured when the survey team of a Chinese company was attacked in the Sunny area of Sibi district (Raman n.d.).

January 2001 to 31 December 2017.[1] It shows that most of these attacks have been carried out by two distinct groups: Takfiri Islamists and Baloch separatists.

A deeper analysis of Table 7.1 reveals that attacks by Takfiri Islamist militant groups or suspects are the most serious, not only in terms of number of attacks but also in terms of deaths, injuries and abductions.

Figure 7.1 shows that 54% of all attacks on Chinese or CPEC-related projects have been carried out by Takfiri Islamist or Khawarij groups, 31% by Baloch separatists and 15% by others or those unknown. While a few of these attacks remain unclaimed by any group ('not known'), there is a known strategy and pattern of silence or denial on some occasions by Takfiri Islamist groups as a face-saving exercise, by simply disowning the bloodbath and creating confusion about the actual masterminds of their attacks (Mir 2013).

Figures 7.2 and 7.3 show that 67% of all fatalities may be attributed to Takfiri Islamists, while Baloch separatists are responsible for 29%. Moreover, 76% of all injuries may be attributed to Takfiri Islamists and 14% to Baloch separatists. Table 7.1 shows that all abductions thus far (18 Chinese nationals kidnapped) have been carried out by Takfiri Islamist groups, who usually try to swap hostages in exchange for free-

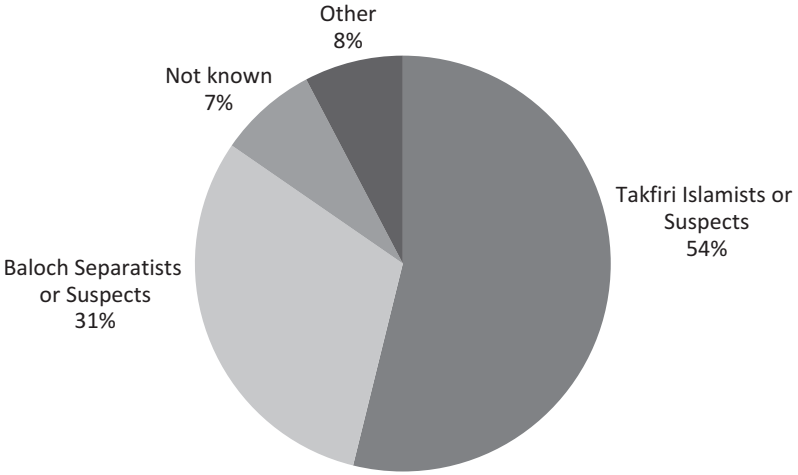


Fig. 7.1 Attacks on Chinese in Pakistan: incident count by type of attacker

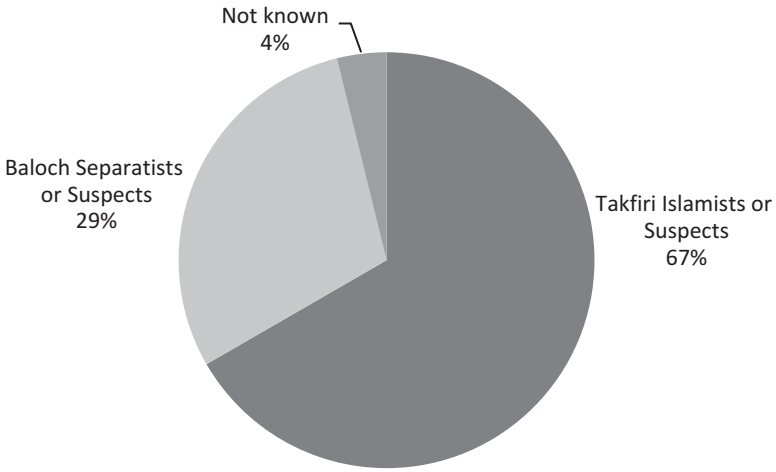


Fig. 7.2 Fatalities by type of attacker

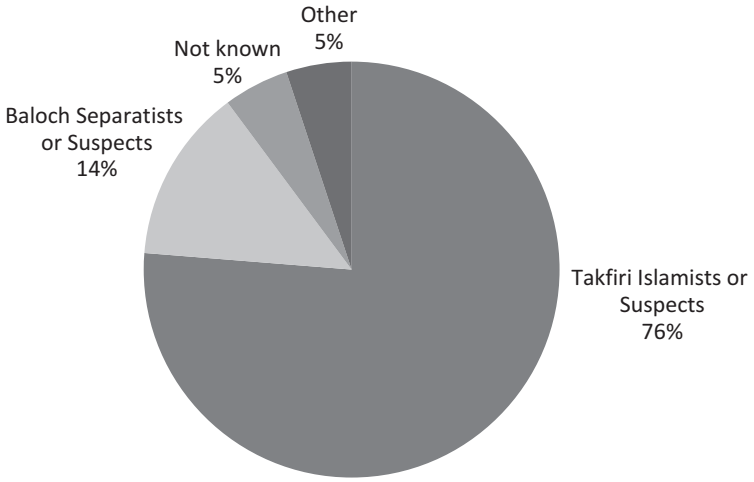


Fig. 7.3 Injuries by type of attacker

dom of the arrested terrorists of TTP, LeJ, Al-Qaeda and other affiliated militant groups. It may be noted that TTP, an umbrella organization of Islamist militant factions and an affiliate of Al-Qaeda, is battling the Pakistani government to enforce a hegemonic Islamist agenda. It has also attacked foreign individuals and organizations (Mehsud 2012).

Figures 7.4 and 7.5 indicate the scale of fatalities and injuries sustained by Chinese nationals in Pakistan, showing that 72% of all such killings are carried out by Takfiri Islamist groups, while Baloch separatists are responsible for 28%. In terms of injuries of Chinese nationals, responsibility lies with Takfiri Islamists (67%), Baloch separatists (17%) and others (16%).

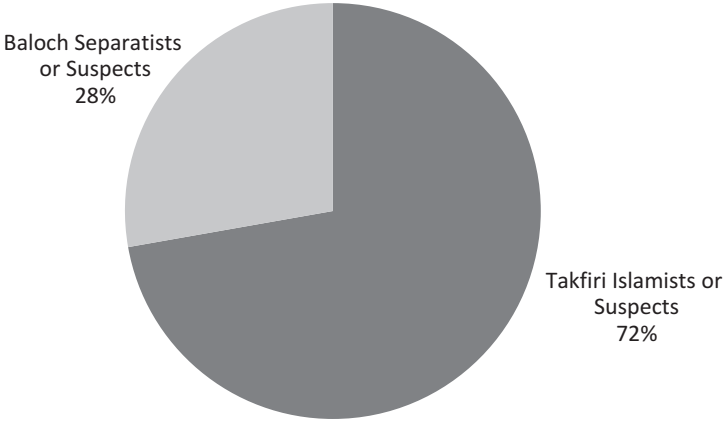


Fig. 7.4 Chinese fatalities

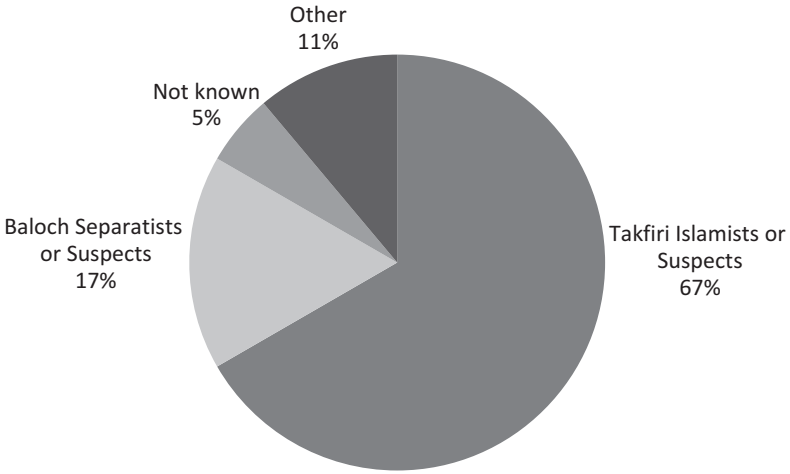


Fig. 7.5 Chinese injuries

In terms of the geographical spread of these attacks, the statistics suggest that while the Baloch separatist attacks are limited to certain specific areas in Balochistan, the Takfiri Islamist attacks are more widespread throughout the country, from Khyber Pakhtunkhwa province and the Federally Administered Tribal Areas (FATA) in northwestern Pakistan to various parts of the Sindh and Balochistan provinces in the south.

Intelligence reports in Pakistan have identified Takfiri militant groups including TTP, Al-Qaeda and LeJ as key threats to CPEC projects in Pakistan. In particular, Al-Qaeda (Ilyas Kashmiri Group), TTP (Tariq Geedar Group) and LeJ have been identified as the main terrorist outfits which can launch attacks on those working on the CPEC project (Awan 2016). According to a retired senior Pakistan Army officer, General Saad Khattak, recent terrorist attacks by LeJ and the re-emergence of TTP and Jamaat-ul-Ahrar are a clear signal that much needs to be done to eliminate threats to CPEC and Chinese nationals in Pakistan (Khattak 2017).

These threats to CPEC are also noted in Chinese state media. According to Wenwen (2017), it is 'worth noting that Islamic militants have often carried out abductions of foreigners on Pakistani soil, either for ransom or to get publicity for their cause. Chinese people have also been targeted occasionally, despite the friendly relations between the two countries.' Wenwen notes that 'the restive region has seen frequent violence committed by Islamic terrorists and separatists and the Belt and Road program is often exposed to potential threats'. The Deobandi connection is also noted by Small (2015) in his analysis of the Islamist terrorist threat to China. Referring to Pakistan's Deobandi religio-political group JUI, Small (2015, p. 67) notes that the 'JUI is part of the Sunni fundamentalist Deobandi movement. It was in JUI madrassas that many of the Taliban leadership received their education, JUI intermediaries helped facilitate the Taliban's military and financial relationships in the Gulf, and JUI-linked militant groups helped provide logistical support to Osama Bin Laden while he was in Pakistan.' In 2010, the Chinese government invited JUI's leader Maulana Fazl-ur-Rehman to Beijing in an attempt to secure his cooperation on security issues. Small (2015) argues that the Chinese invitations to Deobandi clerics could only mean one thing: 'Beijing had a problem and didn't believe its existing channels in Pakistan were doing enough to solve it' (p. 68).

In 2014, an affiliate group of TTP, Jamaat-ul-Ahrar, warned that it would hit Chinese interests in Pakistan. The ninth issue of the Ahrar's official magazine, *Ihya-i-Khilafat*, carried an article by Ehsanullah Ehsan, a key commander and official spokesperson, under the title of 'Hidden Motives Behind the Chinese Investment in Pakistan'. The militant group asked Beijing to stop persecuting Xinjiang Muslims or face action (*The Nation* 2014).

It may be noted that in addition to the data already provided, there was another kidnapping of a Chinese engineer in December 2017. The incident took place in December, but a formal police report was lodged only in January 2018. The Chinese engineer, Pingzhi Liu, 36, went missing on 20 December 2017 while working on a tunnel linked to a river for the Karot power project Kahuta (Dawn 2018). Given that the incident took place in the Punjab province where banned Takfiri or Khawarij groups are known to operate, their role in this kidnapping may not be ruled out.

Takfiri Islamist Militancy in Pakistan

With a total population exceeding 207 million (PT 2017), Pakistan faces significant challenges in terms of law and order and security. While law and order is an ongoing challenge in large cities such as Karachi and Lahore, there are specific security-related challenges in the aftermath of 9/11, when Pakistan-based Islamist militants (including jihadist and Takfiri militants) aligned with the Taliban and Al-Qaeda started targeted Pakistani government and security institutions in reprisal for the US attacks on Afghanistan. According to an estimate, the annual death toll from terrorist attacks rose from 164 in 2003 to 3318 in 2009, with a total of 35,000 Pakistanis killed between September 2001 and May 2011 (Hamid 2011). While the situation has improved in recent years after the government launched the military Operation Zarb-e-Azab in the FATA region of the country in April 2014, Islamist militants are still responsible for the majority of violence and killings in Pakistan, and also pose a threat to CPEC.

In 2014, in a social media video that was to have far-reaching consequences for Takfiri Islamist militancy in Pakistan, the Lal-Masjid-run Jamia Hafsa madrassa for girls extended its support to IS. Jamia Hafsa is a Deobandi madrassa in Islamabad, affiliated with the Lal-Masjid (Red Mosque), which was raided by Pakistan's military forces in July 2007 to eliminate its terror-related activities. The madrassa is known for instigating violence and propagating Takfiri ideology (*The News* 2014). In one such incident, the owners of a Chinese massage centre, two Chinese citizens, were kidnapped along with five female and two male employees. Two vehicles full of armed Lal-Masjid seminary students or vigilantes raided the massage centre and abducted the owners and their employees, as Jamia Hafsa management alleged that the owners were running a brothel under the garb of a massage centre (Hussain 2011). Chinese Ambassador Luo Zhaohui demanded that the Pakistan government take all measures to secure urgent release of the hostages (*Xinhua* 2007b).

In a similar Takfiri attack, two Chinese citizens were abducted in Quetta on 24 May 2017. Following this incident, Pakistan's military conducted an operation on 1–3 June in Mastung, a town north of Quetta, that has a large Deobandi madrassa and is a hub of numerous attacks against Shia Muslims as well as traders and pilgrims going to or returning from Iran (Reuters 2014a). Dorsey (2017) argues that such attacks aim at disrupting the new Silk Road and may be attributed to some external forces that want to destabilize both Pakistan and Iran.

In fact, there is some evidence of foreign intelligence agencies trying to recruit and use Takfiri terrorist groups in Pakistan to promote cross-border terrorism. For example, quoting US intelligence memos, Perry (2012) reports that Israeli Mossad agents posed as US Central Intelligence Agency (CIA) officers to recruit members of Jundallah, a Pakistan-based Sunni (Takfiri) extremist organization that has carried out a series of attacks in Iran and assassinations of government officials for attacks against the Iranian government. The covert Mossad operation was carried out in 2007–2008. The Mossad agents used US passports and currency to pose as CIA spies to try to recruit members of Jundallah. 'The report sparked White House concerns that Israel's program was putting Americans at risk', the intelligence officer told Perry (2012), who notes that Israel's operation jeopardized the US

administration's fragile relationship with Pakistan, which was under immense pressure from Iran to crack down on Jundallah.

In June 2017, *Amaq*, IS's newsletter, announced the killing of the two Chinese citizens who had been kidnapped from Quetta a few days before. Previously IS had killed a Chinese hostage in Syria in 2015 after Beijing refused to pay a ransom for his release (Stacey 2017). The killings in Quetta were carried out by the Al-Alami branch of LeJ, which has developed links with IS in recent years (Gul 2017). Banned in Pakistan and several other countries, LeJ is a Takfiri Islamist terror group (emanating from the Deobandi offshoot of Sunni Islam) that has carried out numerous terrorist activities targeting Sufi Sunnis, Shias, Barelvi Sunnis, moderate Deobandis, Christians, Ahmadis and other vulnerable communities, as well as state institutions of Pakistan. In November 2016, LeJ carried out a terrorist attack on a police training centre in Quetta in which 61 police recruits were killed. LeJ was also involved in past attacks on Chinese workers in Pakistan (Al Jazeera 2016).

According to official sources, the June 2017 operation in Mastung to recover the abducted Chinese citizens killed 12 terrorists, including two suicide bombers belonging to LeJ, who were attempting to set up a foothold for IS in the Balochistan province (Gul 2017; Xenakis 2017). In that operation, security forces destroyed an explosives facility and recovered a cache of arms and ammunition as well as the vehicle used in the kidnapping of the Chinese. The Chinese citizens themselves, however, were not found on site. Soon after the military operation, IS announced that the two Chinese hostages had been murdered (Rasmussen and Baloch 2017).

A former senior government administrator of Pakistan's tribal regions, Mahmood Shah, notes that LeJ is the actual arm and operating wing for IS in Pakistan. He notes that LeJ Al-Alami has a history of attacks in Balochistan and its militants have been trained by Al-Qaeda for urban fighting. He urged the government to chalk out a comprehensive security plan for Balochistan, since militants keep coming and attacking (Haider and Dilawar 2016).

There are other similar incidents of attacks on Chinese workers by Takfiri groups. In October 2004, a group of kidnappers including two militants from South Waziristan's Mehsud tribe and three Uzbeks

abducted and killed a Chinese engineer near Jandala in Pakistan's South Waziristan tribal area. The two kidnapped Chinese engineers, Wang Ende and Wang Peng, were working on a dam project in Pakistan for Chinese firm Sino Hydro Corp (*China Daily* 2004).

In a similar attack, TTP claimed responsibility for the February 2012 killing of a Chinese woman in a market in Peshawar, saying it was in revenge for China's killing of Muslims in its northwestern region of Xinjiang (Mehsud 2012).

It may be noted that despite LeJ's primary target being the Shia, Barelvi Sunni and Sufi Sunni communities, it has been responsible for attacks against multiple targets, including Christians, Ahmadis, Pakistani military and government officials as well as foreign nationals. LeJ was also involved in the killing of four US oil company workers in 1997, Daniel Pearl's abduction and beheading in 2002, the Marriott hotel bombing in Islamabad in 2008, the attack on the Sri Lankan cricket team in Lahore in 2009, and the attack on the Pakistan Army General Headquarters in Rawalpindi in 2009 (Shahid 2016). Shahid notes that LeJ works in tandem with the Taliban, Al-Qaeda and other militant outfits for many of these attacks. In particular, its international or Al-Alami faction actively collaborates with IS and Al-Qaeda, such as in the attack that targeted a Shia procession in Kabul in 2011. In 2015, 43 Ismaili Shias were massacred in Karachi by Jundallah, an affiliate group of TTP and LeJ, that carried out this attack on behalf of IS. After this attack, Jundallah's spokesperson Marwat said in a media statement that 'these people were Ismaili, and we consider them *kafir* [infidels]. In the coming days, we will attack Ismailis, Shias and Christians.' He asserted that IS is like a brother to Jundallah and that 'whatever plan they [Islamic State] have, we will support them' (*The Express Tribune* 2014).

Similarly, members of Jamaat-ul-Ahrar (an affiliate of LeJ and TTP) acted as the foot-soldiers for IS in the Quetta hospital bombing in August 2016. Ideologically, the 'Islamic purification' that IS seeks through Sufi Sunni and Shia killings brings it closer to TTP, LeJ and other Deobandi militant groups. While TTP has more influence in certain Islamist sections of the Pashtun population, LeJ is more useful for IS owing to its deeper infiltration into the Punjab and other provinces, as well as into mainstream Pakistani politics through Ahle Sunnat Wal Jamat (ASWJ, a banned Takfiri

outfit which was previously known as Sipah-e-Sahaba Pakistan, SSP). LeJ started operating in 1996 as an offshoot of SSP. When the government banned LeJ and SSP in 2002, SSP formed ASWJ, which continues to operate publicly despite being banned itself. With Gwadar port formally launching trade through CPEC, the entrance to the economic 'lifeline' is in Balochistan. Evidently, Pakistan cannot afford any remnants or sleeper cells of Takfiri militant groups in any shape and form (Shahid 2016).

On 13 November 2016, even as the CPEC convoys of trucks converged in Quetta en route to Gwadar port, a Sufi Sunni shrine in Balochistan's Khuzdar district was targeted by a powerful bomb, killing at least 52 people and injuring more than 100. The explosion at the Shah Noorani shrine was a known hallmark of Takfiri militants (Ramachandran 2016), who allege that Sufi Sunni practices are tantamount to polytheism and idol worship. While this attack did not target the CPEC project directly and was a sectarian attack by Takfiris on Sufi Sunnis, it raised apprehensions about Balochistan's vulnerability to terrorism and violence. In another similar attack, on 5 October 2017, a suicide bomber targeted the shrine of Pir Rakhel Shah situated in Fatehpur, in the Jhal Magsi district of Balochistan. At least 22 people, including Sufi Sunni and Shia Muslims and two police officers, were killed and more than 30 others injured in this attack (*The News* 2017).

However, the Takfiri Islamist violence facing Chinese nationals in Pakistan may not be seen in isolation from Islamist militancy within China. The next section offers an overview of militancy facing Beijing in its restive Xinjiang region.

Islamist Militancy in China

The Xinjiang Uyghur Autonomous Region (XUAR), home to roughly nine million non-Han Uyghurs and other minorities, has been associated with rising political violence in China (Dreyer 2005; Hopper and Webber 2009; Small 2015; Smith 2009). Uyghurs (or Uighurs) in general are of Turkish ethnic origin and follow the Islamic faith.

Historically, China's control over Xinjiang has been fragile. The region came under full Chinese control during the Qing Dynasty in the eighteenth century. The region was briefly autonomous as the 'East Turkistan

Republic' during the Chinese civil war. Han–Uyghur relations have been tense since the establishment of the People's Republic of China in 1949. Many Uyghurs viewed the Chinese central government's criticism and restrictions on religious practice during the Cultural Revolution (1966–1976) as major affronts to their religious and cultural identity (Millward 2007; Tanner and Bellacqua 2016). After Mao Zedong's death in 1976, a wave of political reforms was initiated by his successor, Deng Xiaoping. These reforms included some easing of religious suppression (Kindropp and Hamrin 2014). Further reforms in 1980s included relaxing some past assimilation policies, undertaking repairs to damaged mosques and other religious facilities, and inclusion of minority representatives in key party and government positions in Xinjiang (Tanner and Bellacqua 2016). The decade of the 1980s was particularly notable for a reopening of contacts between China's Uyghur population and Muslims in Central Asia and the Middle East. However, this period of liberalization also provided an opportunity for a rising tide of social protest and violence in Xinjiang during the 1990s. Some Chinese analysts emphasize incitement and support from foreign-based radical organizations and Islamist ideologies as a cause of Uyghur social violence (Millward 2007). Xinjiang was also affected by major geopolitical events in the 1980s and early 1990s. These include the Soviet invasion of Afghanistan and the era of the Afghan jihad, which culminated in the withdrawal of the Soviet Army from Afghanistan in 1988 and, later, the formation of five newly independent Muslim-majority Central Asian states on Xinjiang's western frontier. Some Chinese Uyghurs fought in the Islamist resistance against the Soviet Union in Afghanistan, and later returned to Xinjiang with a radicalized mindset. Chinese scholars point to these as examples of destabilizing events in the region (Tanner and Bellacqua 2016).

In the US military prison at Guantanamo Bay, there were 22 Chinese Uyghur detainees caught fighting with Al-Qaeda and Taliban, so China considers Xinjiang as its frontier against Islamist terrorism and violence (Wayne 2007). In recent years (2012–2016), many Chinese Uyghurs travelled to Syria to wage jihad along with IS and Al-Qaeda militants against the Assad regime (Lin 2016). According to an estimate, there are about 2000 Chinese Uyghurs in IS and other jihadist groups in Syria. In December 2015, China expanded its anti-terrorism law to conduct

operations abroad with the consent of host governments. In August 2016, it signed a military agreement with Syria and also formed an anti-terror alliance with Pakistan, Afghanistan and Tajikistan (Lin 2016).

Beijing is concerned that Uyghurs are using Pakistani territory to create unrest in western China. It suspects the East Turkestan Islamic Movement (ETIM) of carrying out attacks in Xinjiang (DW 2015). ETIM, which was formed over 30 years ago, is considered to be among the most dangerous 'separatist' groups in China. The Chinese government as well as the United Nations have declared ETIM a terrorist organization.

The bulk of the Uyghur community in Pakistan, numbering a couple of thousand, is in Rawalpindi, and operates under the close watch of the Chinese government. Particularly since 9/11, the Chinese Embassy in Islamabad has maintained a strong interest in Uyghurs in Pakistan, extending benefits such as funding for scholarships to collect precise information about their numbers and locations (Wright and Page 2011). Indeed, the dominant majority of them are peaceful and moderate. Chinese officials have talked about estimates of between 40 and 80 Uyghur militants in Pakistan.

As ETIM is based in areas adjacent to Pakistan and Central Asia, its collaboration with TTP, LeJ and other Takfiri Islamist militants may not be ignored. When the Karakoram Highway between China and Pakistan was opened, thousands of young Uyghurs crossed the Chinese border to attend religious schools or madrassas in Pakistan, Saudi Arabia, Turkey, Egypt and Qatar, and this practice continued until the late 1990s. Many of those who returned to Xinjiang were influenced by Salafi/Wahhabi and Deobandi ideologies. Some of these Uyghurs also opened Hizb-ut Tahrir cells in Xinjiang to cultivate and spread radical ideology, and became extremely critical of Beijing's policies.

Owing to this gradual radicalization, nearly 200 people died in Urumqi riots in July 2009 (BBC 2009; Escobar 2011; Small 2015). The first day's rioting, which involved at least 1000 Uyghurs, began as a protest but escalated into violent attacks that mainly targeted Han people. Two days later, hundreds of Han people clashed with both police and Uyghurs. Chinese officials said that most of those killed were Hans. The government's official line was that the violence was not only initiated by the protesters, but was also pre-meditated and coordinated by Uyghur separatists abroad. Eligen

Imibakhi, chairman of the Standing Committee of the Xinjiang Regional People's Congress, blamed these riots on 'extremism, separatism and terrorism' (*Xinhua* 2009).

In March 2008, a flight from Urumqi to Beijing had to make an emergency landing in Lanzhou after a failed terrorist attempt. Reports citing Chinese sources claim that a 19-year-old Uyghur woman, along with a Central Asian and a Pakistani national (all three of them carrying Pakistani passports), were involved in a 'meticulously planned, tightly coordinated, terror attack activity'. Subsequent accounts suggest that the woman, Guazlinur Turdi, had 'spent a significant amount of time in Pakistan' and that the third suspect, a Pakistani man who was detained a week later, had 'masterminded' and 'instigated' the attack (Small 2015).

In July 2011, Islamist militants waged systematic attacks in Kashgar, stabbing random people and setting fire to a restaurant. In total, 23 people were killed including 8 attackers. Subsequent investigation found the involvement of ETIM. Chinese state media confirmed that all the suspected attackers were Uyghur, and an initial investigation by the Kashgar government concluded that the perpetrators were recruited in Pakistan and gained explosives and firearms training at training camps in Pakistan along with Taliban and Al-Qaeda (Wivell 2011). The Kashgar city government reported that one of the men involved had confessed to receiving explosives and firearms training in ETIM camps in Pakistan (CCTV 2009).

Attacks in Neighbouring Countries

There is evidence of unrelenting violence facing Chinese nationals in neighbouring countries. Once example is the killing of 11 Chinese road workers near Kunduz, Afghanistan, in June 2004. Afghan government reports indicated Taliban involvement. The slain workers belonged to the China Railway Shisiju Group Corporation, based in Jinan (Gall 2004), and were among more than 100 Chinese workers and engineers who had arrived in Afghanistan to carry out a World Bank project to rebuild the Kabul to Tajikistan Road. Liu Jianchao, a spokesperson for the Chinese Foreign Ministry, condemned the attack and asserted that the construction project would not be stopped.

In June 2010, Dubai's State Security Court found two ethnic Uyghurs guilty of a terrorist plot to attack the Dragon Mart, a shopping mall on the outskirts of Dubai known as the largest Chinese trading hub outside mainland China (Small 2015). According to court documents, Shalmo, the main plotter, had been recruited by ETIM during a pilgrimage to Mecca in 2006. He travelled with the recruiter from Saudi Arabia to Pakistan, where he spent a year in an ETIM camp in Waziristan receiving weapons and explosives training. After being assigned to attack the Dragon Mart, Shalmo flew from Islamabad to Dubai, where he conducted scouting missions at the mall (Small 2015).

In another incident in 2013, a bus carrying Chinese businessmen was attacked by armed militants on the way from Bishkek (Kyrgyzstan) to China, killing 19 passengers (BBC 2003). Before that, in June 2002, a Chinese diplomat, Wang Jianping, was gunned down in the Kyrgyz capital. Beijing blamed the attacks outside of China on Islamist ETIM militants (Smith 2009).

On 30 August 2016, a car rammed through the gates of the Chinese Embassy in Bishkek and exploded. The driver of the car, a suicide bomber, was killed, while three embassy employees were injured. According to media reports, Uyghur Islamist militants working with Takfiri jihadists in Syria (Al Nusra Front, the Syrian branch of Al-Qaeda) were involved in this attack (Dzyubenko 2016).

According to Chinese sources, ETIM sent scores of terrorists into China, establishing bases in Xinjiang and setting up training stations to produce weapons, ammunition and explosives (Reed and Raschke 2010). ETIM itself claims to have trained its members in camps in Khost, Bagram, Herat and Kabul (Garver 2006). In 2003 ETIM's leader, Hasan Mahsum, was killed by the Pakistani army during a raid in south Waziristan (Small 2015).

China continued with its Strike Hard campaign against these militants and also pressed governments in Central Asia to clamp down on the 'three evils': terrorism, separatism and religious extremism (Haider 2005). The founding in 1996 of the Shanghai Five, which later evolved into the Shanghai Cooperation Organization, was in large part a product of Beijing's concerns about Uyghur militants and their foreign backers (Small 2015).

While Takfiri Islamist militancy is the most potent threat to Chinese nationals and CPEC or BRI projects in South and Central Asia, there is also an aspect of regional nationalist or separatist militancy in Pakistan which needs to be considered. Gwadar port, through which most of the western route of CPEC runs, is located in Balochistan province. Given Balochistan's vital role, instability and violence in the province bring concerns about the safe operationalization of CPEC (Ramachandran 2016). The next section discusses this issue.

Baloch Separatist Militancy

In addition to Takfiri Islamist militancy, which is a major threat to Pakistani and foreign interests including Chinese interests across all regions in Pakistan, another significant threat is posed by Baloch ethnic separatist militancy in Balochistan. Relations between Baloch nationalists and Pakistan's federal government have seen ups and downs since the emergence of Pakistan in 1947, intermittently bursting out into violence.

The current wave of Baloch insurgency, which started in 2004, has various demands, ranging from greater control of the province's natural resources and political autonomy to full freedom and separation from Pakistan. Extremist sections within Baloch nationalist and separatist groups are not only attacking Pakistani government officials, security institutions and non-Baloch ethnic groups, they are also targeting CPEC projects, alleging that their resources are being exploited while the beneficiaries of CPEC and its consequent economic development are not the Baloch people but 'outsiders' (i.e. Punjabis, Chinese, etc.; TOI 2016; Ramachandran 2016).

Balochistan, Pakistan's largest province in terms of area (347,190 sq km) and the smallest in terms of population (12.3 million, representing less than 6% of Pakistan's total population), is largely under-developed (PBS 2017). In terms of ethnic composition, 55% of people in Balochistan speak Balochi as their first language, while 30% speak Pashto and 5.6% speak Sindhi. Some 70% of the population of Balochistan lives below the poverty line (PBS 2017). There is an acute shortage of water in parts of the province and living conditions and health indicators are worrisome.

The maternal death rate in Balochistan is 785 out of every 100,000, which is much higher than the overall maternal death rate in Pakistan, which stands at 278 out of 100,000 (Baloch 2015b).

The beginning of CPEC projects via Gwadar has further inflamed the insurgency in Balochistan that has been present since 2004. The arrival of 'outsiders' in the Gwadar port area, the increased presence of the army and the alleged dislocation of locals have seemed to aggravate an already tense security environment (Jane 2007). The alleged kidnapping and unlawful detention of dissidents have polarized Baloch moderates against the government. A report by the Pakistan Security Research Unit notes that Islamabad's militarized approach in Balochistan has led to violence, widespread human rights abuses, mass internal displacement and the deaths of hundreds of civilian and armed personnel (Baloch 2007). Baloch separatist groups have resorted to violence and terrorism, often attacking and killing non-Baloch settlers and workers, particularly Pashtuns, Saraikis and Punjabis. Between 2008 and 2010 alone, at least 22 Punjabi teachers were killed by Baloch militants, resulting in many teachers having fled or being moved outside the province and thus weakening the already fragile education system (Sheppard 2010; Alam 2015).

The Balochistan section of CPEC originates from Gwadar, connecting it to Karachi and the northern part of Pakistan through the eastern and western routes. Security threats to CPEC in Balochistan also appear from neighbouring districts of Gwadar and the Makran Coastal Belt, for example Kech, Awaran and Lasbela. However, the militant landscape of these districts is largely linked to Panjgur and Khuzdar districts. A review of reported terrorist attacks between 2007 and 2014 suggests that Kech and Khuzdar are the most volatile districts in this region (see Fig. 7.6; Sial 2014). It may be noted that most of these attacks are not targeted against CPEC projects or Chinese nationals. Overall, 1040 terrorist attacks took place in these six districts (Gwadar, Kech, Awaran, Panjgur, Lasbela and Khuzdar) between 1 January 2007 and 31 July 2014, representing 23% of total attacks reported from Balochistan during that period. Targets hit in most of these attacks included security forces, civilians, political leaders, non-Baloch settlers and workers, gas pipelines and power pylons, railways tracks and government installations and property.

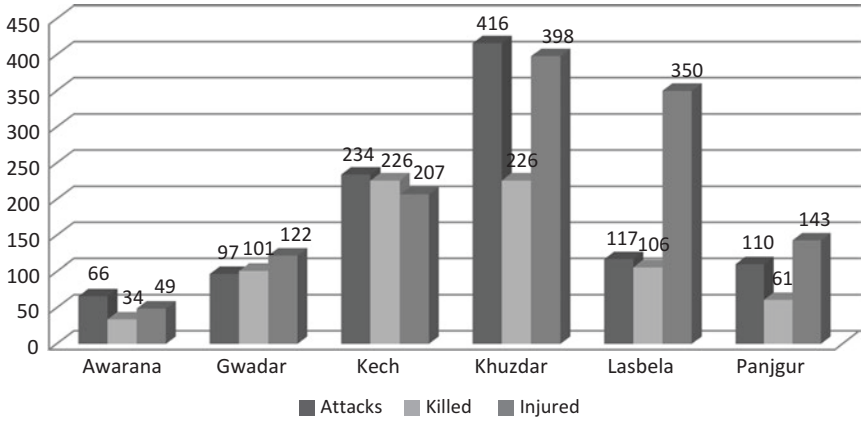


Fig. 7.6 Terrorist attacks in Gwadar and neighbouring districts (1 January 2007–31 July 2014). Source: Adapted from Sial (2014)

It may be noted that religious extremist and Takfiri sectarian groups such as ASWJ and LeJ have enhanced their presence and activities in Khuzdar district, which is adjacent to Lasbela and Awaran districts. This means that in addition to Baloch separatists, there is now a further threat of Takfiri Islamists in areas adjoining Gwadar. Regionally speaking, much of the violence in terms of terrorist attacks in Gwadar, the Makran Coastal Belt and neighbouring districts emanates from Baloch insurgent groups—mainly Balochistan Liberation Front, Lashkar-e-Balochistan, Balochistan Liberation Army and Baloch Republican Army. From 2011 to 2014, Baloch insurgents hit different targets in Gwadar at an average of nine attacks per year. These targets range from security forces including Gwadar coast guards, non-Baloch settlers, state installations, public and private property, and political leaders and workers. Also, the growing nexus of Baloch insurgents with the Takfiri militant groups (such as TTP, ASWJ, LeJ) and also criminals (drug peddlers, human traffickers) has complicated the overall security threat for Gwadar and its neighbourhood. Sial (2014) refers to TTP's support structure in LeJ and Deobandi madrassas, and argues that to curtail the security threat it is necessary to counter the Taliban and extremist sectarian groups from across Balochistan, so that they are not able to expand their outreach to Gwadar region (Sial 2014).

Cooperation Between Baloch Separatists and Takfiri Islamists

There is evidence of some collaboration between a certain section of Baloch separatists and Takfiri Islamist outfits. In June 2014, Pakistani media reported that the funeral prayer of secular Baloch nationalist leader Khair Bakhsh Marri was led by Ramzan Mengal, chief of banned Takfiri terror outfit ASWJ (*Dawn* 2014). Senior Pakistani journalist Rahimullah Yusufzai (2014) notes:

> Ironically, Maulana Ramzan Mengal, the Balochistan head of the Jamaat Ahle Sunnat wal Jamaat which is a divisive Sunni [Deobandi] organisation, led his funeral prayers at the spacious Railway Hockey Stadium in Quetta. It is unlikely that the secular Khair Bakhsh Marri, who espoused leftist political views wrapped up in Baloch nationalism, would have approved this.

Interestingly, while Ramzan Mengal led the prayer, 'the emotionally charged members of the Baloch Students Organisation (Azad) raised slogans in support of Balochistan's independence and some fired in the air to pay tributes to Khair Bakhsh Marri' (Yusufzai 2014). Media reports did not indicate any protest or refusal by the separatists to participate in a funeral prayer led by a Takfiri cleric. Ramzan Mengal is known to enjoy the official patronage of some sections within the security establishment, despite his Takfiri views against Shia Muslims and other communities and despite the fact that LeJ, the militant offshoot of his party, is involved in numerous attacks on multiple targets including the Sufi or Barelvi Sunnis, Shias, army, police, government officials and Chinese and other foreigners in Pakistan.

Ironically, some of these Islamists have been used by certain sections within the Pakistani establishment for proxy-jihadist purposes in Afghanistan and elsewhere, as well as to counter separatist militancy in Balochistan (Sellin 2017). However, in certain Baloch sections, there seems to be a confluence of Deobandi and nationalist ideologies. Some secular Baloch leaders and parties have warned against the increasing influence of Takfiri ideology and blame the state and its security agencies for injecting Islamist (mostly Deobandi and Salafi/Wahhabi) ideologies

and madrassas into Balochistan (Baloch 2016). Such a convergence between Takfiri ideology and Baloch separatism is particularly evident in terror attacks by Islamists within Iranian Balochistan, where dozens of Iranian security personnel and ordinary civilians have been killed by Baloch separatists while also using the Sunni–Shia sectarian discourse.

A similar convergence or cooperation between Baloch separatists and Takfiri Islamists has been reported by Reuters (2014b), which suggests that Islamists have joined hands with separatists in Balochistan in their joint fight against the government. Mir Sarfaraz Ahmed Bugti, Home Minister of Balochistan, insists there are signs of coordination between the two groups due to their joint discord with the Pakistan government. It may be noted that the separatists focus on a political objective; that is, independence from the state. However, religious militant groups like LeJ are considerably more hard-line as they specialize in attacks against Shia Muslims, Sufi Sunni or Barelvi Muslims, Christians and other vulnerable communities. A senior security official in Balochistan told Reuters that the two groups have coordinated on a tactical level to carry out attacks. He further stated that LeJ was recruiting ethnic Balochs as its fighters. The common territory of separatists and religious militants has helped create natural allies out of them. The separatists have learned from and adopted LeJ tactics. They also employ children in the infiltration of tough targets for the deployment of bombs. The attacks on 10 January 2014 can be considered as an example of this coordination, when a bomb struck a security vehicle which acted as a diversion for a blast in the Shia enclave in Quetta, resulting in the deaths of more than 100 people. According to security sources, even though the ideologies of the two groups may be divergent, their common goal of fighting against the security forces leads them into an informal, tactical cooperation, which extends to logistical cooperation as well as coordinated attacks. They also feed on the poverty and exploitation rampant in the province to further their agendas (Reuters 2014b).

Ayesha Siddiqa points towards the increasing Deobandi influence in certain Baloch communities: ‘Another explanation pertains to Sunni Baloch killing the Shias. In a recent report from Quetta, journalist Wajahat S Khan, who has good military contacts, highlighted the fact that people in Quetta blame the Deobandi LeJ. However, he added that

most of the LeJ members in Balochistan, known as the Jhangavis, are Baruhis [Brahuis], which is a sub-clan of the Baloch' (Siddiqa 2013).

Further media reports illustrate how some sections of Baloch militant groups in Iran's Sistan-Baluchestan province and Pakistan's Balochistan province are intertwined with Takfiri Islamist outfits based in Pakistan (IPD 2014). This is not unlike the transnational Takfiri influence in China's Xinjiang region: 'Extremist groups who made headlines in the past months include Harkat ul-Ansar (HAI) and Jaish al-Adl. The latter merged with Abdolmalek Rigi's Sunni Baloch group, Jundallah, in 2010, after their leader's execution by the Iranian government. The group now operates under the name Jaish al-Adl … According to an announcement by Harkat ul-Ansar in December 2012, HAI also has ties with Sipah-e-Sahaba Iran (SSI), a Sunni [Deobandi] group with links to a Pakistani group, Sipah-e-Sahaba Pakistan' (IPD 2014).

This increasing radicalization of an otherwise secular Baloch population has adverse implications not only for Pakistan but also for China, Iran and wider South and Central Asia. Not unlike their attacks on security institutions and ordinary civilians in Pakistan, Takfiri militants have attacked security personnel and ordinary people in Iran. For example, on 21 October 2012, a suicide bomber detonated his explosives near a mosque, which resulted in the death of two people and injured another five. The terrorist, suspected to be a member of Jundallah, attempted to enter the Imam Hossein mosque in the port city of Chabahar while people were gathering for Friday congregational prayers. A similar attack was carried out in 2010 by two Jundallah suicide bombers who targeted a religious ceremony at the same mosque, which resulted in the death of 39 people. The casualties included women and children (*Fars News* 2012).

According to Akbar (2012), the top-most hierarchy of LeJ belongs to the lower-middle class in Balochistan. The historical stance of Balochs has been secular, which makes the recent connections with religiously motivated violence a rare occurrence in their history. Akbar proposes that this recent surge of religiously motivated violence can be traced back to the surge in religious schools or madrassas throughout the province, sponsored by the covert funding of Saudi Arabia and facilitated by certain sections within the Pakistani establishment. This increase in madrassas is said to provide religious militancy with an intended aim to counter

the separatist movement. The secular Baloch separatists claim that these madrassas are the key reason for the rise of religious or sectarian militants. However, there are no armed conflicts taking place between the two groups (separatists and Islamists) currently. The Baloch separatists claim that this is because they are engaged in a war against the Pakistani government, so they cannot oppose the rise of extremist Islamic groups.

In June 2010, Abdolmalek Rigi, the now executed leader of Jundallah, was arrested in an anti-terrorism operation by Iranian forces and subsequently faced a court trial and was hanged for his role in acts of terrorism. However, some of the Pakistan-based Baloch nationalist and separatist groups protested, along with Jundallah and ASWJ, and condemned Rigi's execution. They expressed solidarity with him and called for three days of mourning (Jang 2010). This news was also reported in Pakistan's English-language newspapers. Dawn (2010) reports that 'Baloch National Front announced a three-day mourning on the death of Rigi and condemned his hanging in Iran. A statement issued by the front said a "black day" would be observed in Balochistan … [Moreover] Lawyers boycotted courts in several district headquarters of Balochistan in protest against the hanging of Jundullah leader Abdolmalek Rigi by Iranian government … The call for boycott was given by the Baloch Bar Association.'

In a similar incident in September 2012, Sanaullah Siddiqi Baloch, the slain leader of a banned Baloch militant group, Baloch Republican Party (BRP), was discovered to have also held office in ASWJ. While BRP is a party with a secular nationalist agenda, ASWJ is a banned Takfiri outfit. Sanaullah Siddiqi Baloch's killing in Khuzdar was mourned as a BRP activist 'killed by Pakistani state'. ASWJ activists also mourned this person on social media as their leader (SK 2012). Such instances indicate at least some kind of overlap between some sections of Baloch nationalist and Takfiri Islamist groups.

Concerns in India and the USA

CPEC passes through Pakistan-administered Kashmir, and India has repeatedly raised concerns over it. India is most anxious about the construction of CPEC through Gilgit Baltistan and the opening and operation of

Gwadar port by China (Patranobis 2017). The Indian leadership is perturbed about CPEC and Indian Prime Minister Narendra Modi termed it 'unacceptable' during his visit to China in May 2015 (*The Express Tribune* 2015).

The US administration under President Trump has shown similar anxieties about CPEC. In October 2017, the Trump administration informed Congress that it believes CPEC passes through a disputed territory, referring to Pakistan's northern areas (Gilgit Baltistan), which India claims are part of the disputed Jammu and Kashmir territory. Secretary James Mattis said that the USA opposed the One Belt One Road (OBOR) policy in principle because there were many belts and roads in a globalized world, and a singular nation should not take up a dictatorial position for the OBOR proposition. It also opposed the one going through Pakistan because it passed through a disputed territory. The US position on CPEC may further worsen the already tense relations between the USA and Pakistan. Prior to the USA announcing its discontent over the CPEC route, Pakistan had opposed the greater role that the USA has assigned to India in Afghanistan. Mattis said, 'There are areas where, also, strategically, we need to confront China where we think it's unproductive—the direction they're going in' (Iqbal 2017).

The Chinese Foreign Ministry dismissed Mattis's statement, saying that the OBOR initiative was backed by the United Nations and that CPEC was an economic cooperation initiative. 'We have repeatedly reiterated that CPEC … is not directed against third parties and has nothing to do with territorial sovereignty disputes and does not affect China's principled stance on the Kashmir issue', the statement said. It added that a number of international organizations and nation states, which have attested and agreed to cooperate with China on OBOR, have also incorporated it into their important resolutions. 'Over 130 countries and more than 70 international organisations sent representatives to attend the international cooperation summit—"Belt and Road Forum"—organised by China in May 2017 and spoke highly of the initiative', it maintained. 'This fully explains that the OBOR initiative is in line with the trend of the times and conforms to the rules of development and is in line with the interests of the people of all countries and has broad and bright prospects for development' (*The Express Tribune* 2017).

This US and Indian hostility is discomfiting to Pakistan, which places great emphasis on CPEC for its socioeconomic development. Moreover, the willingness of the USA to accommodate India's narrative regarding Pakistan-administered Kashmir (Azad Kashmir), while entirely disregarding the legal and human rights situation in Indian-administered Kashmir, is a matter of concern for the Pakistani government. A leading Pakistani newspaper, *The Nation* (2017b), notes that the USA seems to be opposing CPEC/BRI as part of a grand strategic plan of power politics, even though the USA has neither territory nor stake in the region.

China and India have long-standing border disputes over two territories. The first dispute is about Aksai Chin, located between the Indian-administered state of Jammu and Kashmir and the Chinese region of Xinjiang. The other disputed territory lies south of the McMahon Line in Arunachal Pradesh. The 1962 Sino-Indian War was fought in both of these areas. More recently, a military standoff occurred between India and China in June 2017 in the disputed territory of Doklam. In contrast, China has a long history of economic and military cooperation with Pakistan. For example, Pakistan spent $735 million on arms imports in 2015, of which $565 million were spent on arms imports from China. Indeed, the scale of economic activity between the two countries has grown tremendously due to CPEC. This also means that China has greater economic and political influence in Pakistan and the region in order to better monitor and control Uyghur separatists and extremists outside China. China can not only work closely with Pakistan and other regional countries to ensure the safety of western China, it can also use its regional alliances as a deterrent to India to reduce its security pressure from the southwest. While China is not a coastal state of the Indian Ocean, it can use its access to the Indian Ocean through Pakistan to ensure the safety of the maritime Silk Route and energy security in the Gulf region (Haiquan 2017).

Notwithstanding these misgivings, India may consider the positive aspects of CPEC and more fully engage with BRI for reciprocal benefits. As suggested by Jeganaathan (2017), Pakistan and India may consider opening the Kargil–Skardu road so that India could access Pakistani, Central Asian and Russian energy resources and vice versa. Similarly, the Bay of Bengal Initiative for Multi-sectoral Technical and Economic

Cooperation, which is a regional organization comprising seven countries (Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand), may be expanded to include Pakistan and Afghanistan, as it would enhance road connectivity from Kolkata to Lahore and Kabul.

Security Measures

According to one estimate, there are close to 8000 Chinese nationals working in Pakistan, and China has raised a 15,000-strong armed force specifically to safeguard Chinese nationals working in the country (Neelakantan 2017; Raza 2017). These measures are in addition to close collaboration between China and Pakistan against terrorism. Joint China–Pakistan efforts target the activities of ETIM, and its affiliates and trainers are being suppressed through joint efforts. While terrorism continues to be a menace, the leaders of both countries have expressed great commitment towards fighting against terrorists (Malik 2016).

The mitigation of the threat of terrorist violence in Central Asia is one of the objectives of the Shanghai Cooperation Organisation (SCO). SCO members attested to the Shanghai Convention on Combating Terrorism, Separatism and Extremism at the inaugural meeting in June 2001 in Shanghai. The six signatory nations are 'firmly convinced that terrorism, separatism and extremism … cannot be justified under any circumstances, and that the perpetrators of such acts should be prosecuted under the law', according to the Convention (SECTSCO 2008). The SCO's Regional Antiterrorist Structure, based in Tashkent, was strongly backed by Beijing as a new centre for counter-terrorism operations (Smith 2009).

In September 2017, leaders of the BRICS nations (Brazil, Russia, India, China, South Africa) in their joint declaration expressed grave concern about the intensity of terrorist activity from Taliban and other groups in Afghanistan. BRICS leaders, who met in China's Xiamen city, said the activities of insurgent groups was unacceptable. In a strongly worded declaration, the BRICS nations named Pakistan-based Deobandi and Salafi/Wahhabi militant groups. 'We strongly condemn terrorist attacks resulting in death to innocent Afghan nationals. We, in this regard, express concern on the security situation in the region and vio-

lence caused by the Taliban, ISIL/Daesh, al-Qaeda and its affiliates including Eastern Turkistan Islamic Movement, Islamic Movement of Uzbekistan, the Haqqani network, Lashkar-e-Taiba, Jaish-e-Mohammed, TTP and Hizb ut-Tahrir', read the declaration issued by the BRICS countries. The BRICS declaration further states, 'We reaffirm that those responsible for committing, organising, or supporting terrorist acts must be held accountable' (Popalzai 2017).

Despite these concerns, China remains committed to CPEC projects in Pakistan. China's deputy ambassador to Pakistan, Lijian Zhao, stated that 'The ultimate goal is to help Pakistan to develop the economy … to help to accelerate the industrialisation process' (Hashim 2017). The number of Chinese nationals residing in Pakistan has almost tripled to more than 30,000 due to the 43 projects directly under the CPEC banner. In addition to this, short-term visas to Pakistan were issued to more than 71,000 Chinese nationals in 2016 alone, as reported by Reuters (Hashim 2017).

In 2007, the Government of Pakistan created a Joint Task Force comprising Chinese Embassy officials and Ministry of Interior officials to ensure the security of Chinese citizens in Pakistan (Rahman 2007). Today, there are 3044 Chinese nationals working on CPEC projects in Sindh. It has been reported that seven security headquarters have been established for each project, with a total of 3044 well-trained police officers deployed for the security of Chinese nationals only. The eighth project is for the National Transmission & Despatch Company (NTDC) Transmission line, which stretches from Matirai to Lahore; 15 Chinese are involved in this project who have been provided with 65 security personnel. Moreover, 137 non-CPEC projects in Sindh province have employed 1971 Chinese, and 1373 security personnel have been deployed for them. It was reported that the total sanctioned strength of the Special Protection Unit was 2662, of which 1349 are currently deployed. A force of 563 personnel guards the coal-based power Plant at Port Qasim. Similar security arrangements have been made for the Thar project, Blocks I and II, where a total of 46 and 413 security personnel, respectively, have been deployed. A force of 555 personnel is providing security to the four wind power projects in Thatta district and 1197 personnel guard the 126 km NDTC transmission line from Sukkur to Ghotki.

Another force of 76 personnel guards the transmission line from Matirai to Lahore/Faisalabad, while 75 personnel guard the Sindh section of the 548 km railway line being laid from Karachi to Peshawar (SATP 2017). Moreover, an 8000-strong Special Protection Unit was set up by Punjab province in 2014 to guard foreigners, mostly Chinese (*VOA* 2017). According to an official report generated in July 2015, there were 2954 Chinese working in 131 projects in Punjab, living in 31 residences. About 6983 security personnel were appointed for their security (Elahi 2015).

In terms of the policy response to terrorism, the law in force in Pakistan is the 1997 Anti-Terrorism Act (subsequently amended to expand its scope). This Act created Special Anti-Terrorism Courts as well as an Anti-Terrorism Appellate tribunal (Ahmad 2006; Malhotra 2001). It offers a comprehensive framework for dealing with terrorism at large. This includes preventive detention of terrorists, redefines the required evidence for conviction, lays down simplified trial procedures for the speedy disposal of terrorism-related cases, and provisions witness protection programmes (Shigri 2016). From this law emanated all actions to confront terrorism in Pakistan, including the National Action Plan. However, despite such a comprehensive law, the conviction rate of terrorists continues to be very low and, upon acquittal, quite a few of them return to militancy. This legal deficiency is attributed to poor investigations and prosecutions, as well as poor arrangements for the protection of witnesses, lawyers and judges (Shigri 2016).

In the aftermath of the Peshawar school massacre in 2014 and subsequent domestic public pressure, Islamabad formulated the National Action Plan, drafted jointly by the government, parliament and army in 2015, a 20-point package of measures to combat terrorism in the country. In particular, Pakistan Army chief General Raheel Sharif took a bold stance against terrorism and emphasized that the country had no other option than to eliminate all manifestations of extremism and terrorism at the grass-roots level. He further reiterated that Pakistan's security forces will not stop unless they achieve the end objective of a terror-free Pakistan. While the subsequent military operation (Zarb-e-Azb) was largely successful in reducing incidents of terrorism in Pakistan, the operation had a strict domestic focus, meaning that only anti-Pakistan militant groups were identified as targets (Wolf 2016). Thus, those militant groups which

are operating in Afghanistan or Indian-administered Kashmir were largely spared. Similar leniency was shown to certain Takfiri Islamist sections in Balochistan in order to use them to confront Baloch separatist groups. Heinkel and deVillafranca (2016) note that Islamabad sometimes links the Baloch groups to anti-Shia (anti-Hazara) massacres in Quetta, but Takfiri groups such as SSP and LeJ, some of them with known links with elements of the Pakistani establishment and led by local ethnic Baloch, likely conducted these attacks.

While the Pakistani military undertook operations against groups that attacked government official and security forces within Pakistan such as TTP, it did not take action against other groups such as Lashkar-e-Taiba. Similarly, Afghan Taliban, SSP a.k.a. ASWJ and the Haqqani Network leadership allegedly enjoy safe haven in Balochistan and tribal areas. Although the Pakistan military operation disrupted the actions of these groups, it did not directly target them. Wolf (2016) suggests that the Pakistani establishment has to realize that terrorist organizations are not reliable allies for states. While some of these militants had an informal but deeply rooted alliance with some sections of the security agencies for many years, in the end they turned against the state and the society.

There are thus some contradictions in the Pakistani state's response to terrorism. While the government through the use of its security agencies has made some gains in disrupting foreign networks, it needs to take a clear stance against home-grown Takfiri groups which serve as a recruiting ground for the Taliban, Al-Qaeda and IS. This is evident in the half-hearted manner in which the home-grown Takfiri, jihadi and sectarian groups banned in January 2002 re-emerged under different names. Banned again in November 2003, most operate as freely as they did in the past, once again changing their names. Another related issue is the control of Takfiri extremist, sectarian and violent ideologies through religious schools (madrassas), mosques and social media. In particular, without effective state control over the functioning, funding and curriculum of the madrassas, these violent ideologies will continue to threaten Pakistani and foreign citizens as much as they will continue to undermine regional and global stability.

Conclusion and Policy Recommendations

This study has highlighted the multi-pronged threats to CPEC which emanate from Takfiri Islamist (or Khawarij) militants and Baloch separatist militants. Both of these groups pose a threat not only to the physical security of Chinese nationals and projects in Pakistan, but also to the very ideology of the nation states of Pakistan and China, and the idea of the Belt and Road.

Given the increasing scale of work on CPEC and the growing involvement of Chinese engineers and other employees in these projects in the future, the governments of Pakistan, China and other regional countries need to develop a robust and integrated plan to eliminate all Takfiri Islamist groups, including those madrassas, clerics, literature and social media which propagate Takfiri or Khawarij ideology, as well as their foot-soldiers. At the same time, there is a need to address all legitimate concerns of the indigenous Baloch population to ensure their socioeconomic uplift, while taking a tough lawful stance against those who resort to violence to implement their ethnocentric or separatist agenda. Indeed, human security can be guaranteed by a rule of law that depends on and preserves legitimate institutions that have the trust of the population and have some enforcement capacity (Alam 2015).

While the Pakistani government has established a special security force for the protection of Chinese individuals and CPEC-related projects, the issue of physical security and protective intelligence is closely linked with ideological security. In other words, the ideological roots of both forms of violence need to be understood and addressed. In particular, policymakers and government officials need to focus on Takfiri Islamist violence and its roots in certain type of madrassas, mosques and groups. Most importantly, the Pakistani state may wish to re-consider its unstated policy of using Islamist or jihadist groups to combat Baloch separatist militancy or conduct jihadist operations in Kashmir or Afghanistan. Small (2015, p. 91) argues that a 'Pakistani military that grows ever more closely enmeshed with an Islamist and militant agenda undermines China's basic strategic goals in South Asia. A Pakistani military that can no longer keep China off the terrorist target list, that has even become a target in its own

right, undermines China's security at home and the safety of its projects and personnel abroad.'

While in recent years there has been military action against Takfiri Islamists or Khawarij terrorist groups in other parts of the country, the state needs to adopt a clear anti-Takfiri strategy in Balochistan. Related to that, the state will need to take a tough and clear stance to break all sorts of cooperation between violent Baloch separatist groups and the 'out-of-control' Islamist groups who tactically join hands to target security forces, the non-Baloch population, vulnerable Sufi Sunni and Shia communities and foreign nationals. While one of the parties (Baloch separatists) wants to destabilize the CPEC projects and the other has a Takfiri agenda (TTP and LeJ), they still, opportunistically, club together to carry out joint activities. The statistics presented in this study show that a Takfiri agenda can be achieved as a by-product of violence aiming for different causes, and thus Takfiri Islamist groups qualify as good foot-soldiers for different sorts of militancy and varying agendas. The Takfiri Islamist groups pose a transnational threat to China because of their links with ETIM in Xinjiang and also due to their anti-China activities in Afghanistan and Central Asia. For example, in October 2017, the Chinese Embassy in Islamabad wrote a letter to Pakistan's interior ministry, informing it that a terrorist tasked to attack Chinese Ambassador Yao Jing had entered Pakistan. The Embassy requested the Pakistani government to take immediate action on the intelligence information and enhance the security of Ambassador Yao. The letter written by the focal person for CPEC, Ping Ying Fi, identified the terrorist as Abdul Wali, who belongs to ETIM (PTI 2017).

In terms of its limitations, this study has focused on attacks against Chinese nationals or CPEC- or China-related projects only. It has thus not focused on attacks on Pakistani army and police, Sufi Sunni and Shia Muslims, non-Muslim communities, or the targeted killings of Pakistani businesspersons, lawyers, judges, activists and media persons. While such attacks may not be directly related to CPEC, in the context of terrorizing the Belt and Road they may be seen as incidents that have indirect implications for the overall situation of law and order and the business environment. Indeed, as a method of terrorizing, if large-scale attacks have

implications for group or social behaviours, then targeted killings, as a method, affect individual behaviours.

Moreover, while the evidence presented in this study was collected through news in mainstream media, future scholars may wish to triangulate this information through other means of evidence, for example by contacting the victims of such violence in China and Pakistan or by analysing the terror-related archives of the security agencies in Pakistan. However, it is acknowledged that access to such data may be difficult due to issues of confidentiality and sensitivity.

As a rising global power, China is discovering that its ascendancy to economic and political power is paved with great risks. This trend is reflected in recent attacks against Chinese citizens and commercial projects in South and Central Asia. While some of these attacks have roots in the Islamist and separatist insurgency in XUAR (Smith 2009), others have roots in transnational Takfiri Islamist and regional nationalist or separatist ideologies. Beijing's onward march for energy security, international trade and associated commercial ventures in Asia and Africa seem to suggest that terrorism risks might increase for China in the future.

In Pakistan, the attacks highlight several important aspects of Sino–Pakistani relations. The first is the employment of thousands of Chinese technicians, engineers and other workers by Chinese companies or state entities in Pakistan. The second is the threat to these workers by Takfiri Islamist and Baloch separatist militants. The third is the increased alarm with which these attacks are viewed given the historically close Pakistan–China relationship (Smith 2009).

With varying intensity and frequency, incidents of violence against Chinese as well as Pakistani workers on CPEC-related projects continue to take place in Pakistan. Needless to say, CPEC's success will be determined by investors' confidence and their ability to successful conduct their operations. If these attacks continue, the very scheme that is hoped to revolutionize Pakistan's industrial and socioeconomic development may be at great risk (*Daily Times* 2017). Since India and the USA are not too happy with the increasing cooperation between China and Pakistan, they are likely to use these incidents as an excuse to criticize the very idea of the Belt and Road and try to hurt CPEC.

For CPEC to move forward, militant activities by LeJ, BLA and other violent groups cannot continue unchecked (Hasan 2016). Indeed, the much anticipated socioeconomic and strategic advantages inherent therein for trade across China, Pakistan and Central Asia cannot be reaped unless both forms of militancy are comprehensively addressed and eliminated.

Note

1. These statistics do not include attacks where no Chinese national was targeted or where the attacked workers were not employed in a Chinese project.

References

AFP. (2014, June 29). Chinese-American Was Target of Nanga Parbat Massacre. *Dawn*. Retrieved from https://www.dawn.com/news/1115891.

Ahmad, S. (2006). Responding to Terrorism: The Pakistani Response. In S. D. Muni (Ed.), *Responding to Terrorism in South Asia*. Colombo: Regional Centre for Strategic Studies.

Akbar, M. S. (2012). Pakistan's Other Taliban. *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/malik-siraj-akbar/pakistans-other-taliban_b_1898848.html.

Al Jazeera. (2016, October 25). Quetta Attack: LeJ Kills 60 in Pakistan Police Academy. Retrieved from http://www.aljazeera.com/news/2016/10/hurt-gunmen-storm-police-centre-quetta-161024192252388.html.

Alam, O. (2015). *Fighting Fire with Water: Evaluating a CPEC-Based Human Security Approach to Fostering Stability in Balochistan*. Proceedings of International Conference on CPEC. Held at GC University, Lahore on December 9–10.

Anadolu Agency. (2017, May 13). 10 Workers Linked to Chinese Project Killed in Pakistan. *Tolo News*. Retrieved from http://www.tolonews.com/world/10-workers-linked-chinese-project-killed-pakistan.

Ansari, M. (2007, August 22). The New Face of Jihad. *Newsline*.

Anthony, A. (2007, June 23). Hard-Line Pakistani Students Release Chinese Women. *Reuters*.

Arduino, A. (2017). *China's Belt and Road Initiative Security Needs: The Evolution of Chinese Private Security Companies*. RSIS Working Paper No. 306. Singapore: Nanyang Technological University.

Awan, J. R. (2016, September 25). Agencies Warn of Attacks on CPEC Projects in Punjab. *The Nation*. Retrieved from http://nation.com.pk/national/25-Sep-2016/agencies-warn-of-attacks-on-cpec-projects-in-punjab.

Baloch, K. (2015a, March 27). Chinese Operations in Balochistan Again Targeted by Militants. *The Diplomat*. Retrieved from http://thediplomat.com/2015/03/chinese-operations-in-balochistan-again-targeted-by-militants/.

Baloch, S. (2007). *The Balochistan Conflict: Towards a Lasting Peace*. Brief No 7. Pakistan Security Research Unit.

Baloch, S. (2015b, January 11). Quetta Women's Convention: Maternal Mortality Rate Is Embarrassing, Says Dr Malik. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/819976/quetta-womens-convention-maternal-mortality-rate-is-embarrassing-says-dr-malik/.

Baloch, G. M. (2016, October 9). ISIS in Balochistan and Role of Pakistani State in Fostering Extremism. *Baloch National Movement*. Retrieved from https://www.thebnm.org/single-post/2016/10/09/ISIS-in-Balochistan-and-role-of-Pakistani-state-in-fostering-extremism.

BBC. (2003, July 3). Murderers of 19 Chinese Citizens Identified – Kyrgyz Interior Ministry. AKIpress News Agency, Bishkek (in Russian). *BBC Monitoring Central Asia Unit*.

BBC. (2004, May 3). Pakistan Car Bomb Kills Chinese. Retrieved from http://news.bbc.co.uk/2/hi/south_asia/3679533.stm.

BBC. (2006, February 15). China Workers Killed in Pakistan. Retrieved from http://news.bbc.co.uk/2/hi/south_asia/4716820.stm.

BBC. (2007, July 19). Scores Killed in Pakistan Attacks. Retrieved from http://news.bbc.co.uk/2/hi/south_asia/6905808.stm.

BBC. (2009, September 3). New Protests in Western China. Retrieved from http://news.bbc.co.uk/2/hi/asia-pacific/8235305.stm.

BBC. (2015, August 23). Abducted Chinese Cyclist Hong Xudong Released in Pakistan. Retrieved from https://www.bbc.com/news/world-asia-34034681.

Bennet-Jones, O. (2016). The Overlooked. *London Review of Books, 38*(17), 21–24.

Boone, J. (2016, May 30). Chinese Engineer and Driver Injured in Karachi Separatist Bombing. *The Guardian*.

BT. (2006, February 18). Shehzad Waseem Hands over Bodies of Chinese Engineers. *Balochistan Times*.

Burke, J. (2013, July 23). How Taliban Brought New Terror to Pakistan's Killer Mountain. *The Guardian*. Retrieved from https://www.theguardian.com/world/2013/jul/23/taliban-pakistan-killer-mountain.

CCTV. (2009, October 27). Chinese Embassy in Pakistan Raises Vigilance to Protect Local Chinese. Retrieved from http://english.cctv.com/program/worldwide-watch/20091027/101719.shtml.

China Daily. (2004, October 1). One Chinese Hostage Killed, Another Freed. Retrieved from http://www.chinadaily.com.cn/english/doc/2004-10/14/content_382469.htm.

China Daily. (2016, November 15). Key Part of Pakistan Economic Corridor Opens Up.

Craig, T., & Khan, H. N. (2014, May 20). Bicyclist from China Kidnapped in Pakistan. *The Washington Post*.

Daily Times. (2017, July 12). CPEC Security Woes and a Separatist Agenda. Retrieved from http://dailytimes.com.pk/editorial/13-Jul-17/cpec-security-woes-and-a-separatist-agenda.

Dawn. (2007, July 20). Chinese Come under Attack Again. Retrieved from https://www.dawn.com/news/257197.

Dawn. (2010, June 23). Balochistan Lawyers Assail Rigi's Hanging. Retrieved from https://www.dawn.com/news/952029.

Dawn. (2014, June 13). Thousands Attend Marri's Funeral. Retrieved from https://www.dawn.com/news/1112413/thousands-attend-marris-funeral.

Dawn. (2017a, July 11). Chinese Engineers Escape IED Blast in Steel Town. Retrieved from https://www.dawn.com/news/1344466.

Dawn. (2017b, June 11). Editorial: Chinese Victims. Retrieved from https://www.dawn.com/news/1338772/chinese-victims.

Dawn. (2018, January 10). FIR Registered in Missing Chinese Engineer Case. Retrieved from https://www.dawn.com/news/1381873.

Dorsey, J. M. (2017, May 27). The US-Saudi Plot for Iran That Spells Trouble for China's New Silk Road. *South China Morning Post*. Retrieved from http://www.scmp.com/week-asia/geopolitics/article/2095734/us-saudi-plot-iran-spells-trouble-chinas-new-silk-road.

Dreyer, J. T. (2005). China's Vulnerability to Minority Separatism. *Asian Affairs: An American Review, 32*(2), 69–86.

DW. (2015, July 24). Why China's Uighurs are Joining Jihadists in Afghanistan. Retrieved from http://www.dw.com/en/why-chinas-uighurs-are-joining-jihadists-in-afghanistan/a-18605630.

Dzyubenko, O. (2016, September 7). Kyrgyzstan Says Uighur Militant Groups Behind Attack on China's Embassy. *Reuters*.

Elahi, N. (2015). *China-Pakistan Economic Corridor: Security Threats & Solutions: A Strategy*. Islamabad: Pak-China Institute.

Escobar, P. (2011, August 10). Problems in China's Far West. *Al Jazeera*. Retrieved from http://www.aljazeera.com/indepth/opinion/2011/08/20118782637916112.html.

Fars News. (2012). Mosque Attacked in Chahbahar. Retrieved from http://english.farsnews.com/newstext.php?nn=9107113840.

Gall, C. (2004, June 11). Taliban Suspected in Killing of 11 Chinese Workers. *The New York Times*.

Garver, J. (2006, March). Development of China's Overland Transportation Links with Central, South-west and South Asia. *China Quarterly*, No. 185, pp. 1–22.

Gul, A. (2017, June 8). IS Says It Killed 2 Captive Chinese Nationals in Pakistan. *VOA*. Retrieved from https://www.voanews.com/a/islamic-state-says-it-killed-two-captive-chinese-nationals-pakistan/3892553.html.

Haider, Z. (2005). Baluchis, Beijing, and Pakistan's Gwadar Port. *Georgetown Journal of International Affairs, 6*(1), 95–103.

Haider, K., & Dilawar, I. (2016, October 25). Militants Strike Pakistan, Hitting China's Economic Corridor. *Bloomberg*.

Haiquan, L. (2017). The Security Challenges of the 'One Belt, One Road' Initiative and China's Choices. *CIRR, XXIII*(78), 129–147.

Hamid, M. (2011, September 29). Why They Get Pakistan Wrong. *The New York Review of Books*. Retrieved from http://www.nybooks.com/articles/2011/09/29/why-they-get-pakistan-wrong.

Hasan, A. D. (2016, June 27). *Balochistan: Caught in the Fragility Trap*. United States Institute of Peace. Retrieved from https://www.usip.org/publications/2016/06/balochistan-caught-fragility-trap.

Hashim, A. (2017, September 3). Pakistan: A Slice of China in Islamabad. *Al Jazeera*. Retrieved from http://www.aljazeera.com/indepth/features/2017/08/pakistan-slice-china-islamabad-170830081303813.html.

Hassan, S. R. (2016, September 8). Attacks Have Killed 44 Pakistanis Working on China Corridor Since 2014. *Reuters*. Retrieved from https://www.reuters.com/article/us-pakistan-china/attacks-have-killed-44-pakistanis-working-on-china-corridor-since-2014-idUSKCN11E1EP.

Heinkel, J. C., & de Villafranca, R. (2016, Summer). Could Pakistan Lose Balochistan? Balochistan's Insurgency and Its Implications for Pakistan and the Region. *Journal of Strategic Intelligence, 2*, 62–72.

Hopper, B., & Webber, M. (2009). Migration, Modernisation and Ethnic Estrangement: Uyghur Migration to Urumqi, Xinjiang Uyghur Autonomous Region, PRC. *Inner Asia, 11*, 173–203.

Hussain, S. D. (2011, December 17). Jamia Hafza to Be Reconstructed Soon. *The Nation*. Retrieved from http://nation.com.pk/national/17-Dec-2011/jamia-hafza-to-be-reconstructed-soon.

IPD. (2014). Iranian Balochi Extremist Groups. *International Policy Digest*. Retrieved from http://www.internationalpolicydigest.org/2014/03/05/iranian-balochi-extremist-groups-silent-lack-unity/.

Iqbal, A. (2017, October 7). CEC Passes through Disputed Territory: US. *Dawn*. Retrieved from https://www.dawn.com/news/1362283/cpec-passes-through-disputed-territory-us.

Jane. (2007, March 26). *Sino-Pakistan Port Ripples Surface Tension*. Jane's Foreign Report. Retrieved from http://frp.janes.com.

Jang. (2010, June 22). Abdul Malik Rigi Ki Shahdat: BN Ki Janib Se Seh Roza Sog Ka Ailan.

Jeganaathan, J. (2017). 'OBOR' and South Asia: Can India and China Cope with the Emerging 'New Normal' in the Region? *Fudan Journal of the Humanities and Social Sciences, 10*(2), 161–178.

Khattak, S. (2017). Challenges for CPEC and Chinese Nationals. *Pakistan Observer*. Retrieved from http://pakobserver.net/challenges-cpec-chinese-nationals/.

Kiani, K. (2017, August 4). Power Consumers to Pay Security Cost of CPEC Projects. *Dawn*. Retrieved from https://www.dawn.com/news/1349492.

Kindropp, J., & Hamrin, C. L. (2014). *God and Caesar in China: Policy Implications of Church-State Tensions*. Washington, DC: Brookings Institution.

Kumar, A. (2016, October 16). Baloch Republican Army Fighters Attack Chinese Exploitive Company. *India Today*.

Lin, C. (2016). The ISIS Challenge to China's Silk Road and Prospect for Counter-Terrorism Cooperation. *Liberty University Law Review, 11*(2), Article 7. Retrieved from https://digitalcommons.liberty.edu/lu_law_review/vol11/iss2/7.

Malhotra, V. P. (2001). *Terrorism and Counter-Terrorism in South Asia and India*. New Delhi: Vij Books India Pvt Ltd.

Malik, A. (2016, June 11). Terrifying CPEC. *Pakistan Today*. Retrieved from https://www.pakistantoday.com.pk/2016/06/11/terrifying-cpec/.

Mehboob, S. R. (2011). *Governance and Militancy in Pakistan's Khyber Pakhtunkhwa Province*. Washington, DC: Center for Strategic & International Studies.

Mehsud, S. (2012, March 1). Pakistani Militants Say Chinese Woman Killed for Revenge. *Reuters*. Retrieved from http://in.reuters.com/article/pakistan-militants-china/pakistani-militants-say-chinese-woman-killed-for-revenge-idINDEE8200GZ20120301.

Memon, S. (2017, March 2). Khairpur Student Held for 'Attacking' Chinese Engineers in Sukkur. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1344122/khairpur-student-held-attacking-chinese-engineers-sukkur/.

Millward, J. A. (2007). *Eurasian Crossroads: A History of Xinjiang*. New York: Columbia University Press.

Mir, A. (2013, September 25). 'Denial Is Face Saving Exercise' Says Security Official. *The News*.

Mirza, S. (2012, July 23). Police Discover, Defuse Second Bomb Outside Chinese Consulate. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/412013/blast-heard-near-chinese-consulate-in-karachi/.

Nawaiwaqt. (2017, June 6). Sector F 7 Mein Cheeni Bashidon Per Humla. Retrieved from http://www.nawaiwaqt.com.pk/national/06-Jun-2017/614418.

NBC News. (2011, June 6). NATO Fuel Truck Blast Kills 15 in Pakistan. Retrieved from http://www.nbcnews.com/id/43118901/ns/world_news-south_and_central_asia/t/nato-fuel-truck-blast-kills-least-pakistan/.

Neelakantan, S. (2017, May 26). China Warns Pakistan Against Any Possible Attack on Chinese Nationals Working in Pak Cities. *India Times*.

Pantucci, R., & Lain, S. (2016). VI. Silk Road Security. *Whitehall Papers, 88*(1), 69–94.

Patranobis, S. (2017, June 11). China Stands by Ally Pakistan after Its Citizens Killed in Balochistan by IS. *Hindustan Times*. Retrieved from http://www.hindustantimes.com/world-news/beijing-gravely-concerned-as-reports-say-chinese-couple-abducted-in-pakistan-killed/story-EaiBAfgbtJrAxi23O-wSz8J.html.

PBS. (2017). 6th Population and Housing Census. Pakistan Bureau of Statistics. Retrieved from http://www.pbscensus.gov.pk/.

PDO. (2006, February 18). Remains of Chinese Engineers Killed in Pakistan Back Home. *People's Daily Online*. Retrieved from http://english.peopledaily.com.cn/200602/18/eng20060218_243901.html.

Perry, M. (2012, January 13). False Flag. *Foreign Policy*. Retrieved from http://foreignpolicy.com/2012/01/13/false-flag/.

Popalzai, M. A. (2017, September 4). BRICS Nations Condemn Pakistan-Based Terror Groups. *Tolo News*. Retrieved from http://www.tolonews.com/afghanistan/brics-nations-condemn-pakistan-based-terror-groups.

Press TV. (2017, May 13). Gunmen Kill 10 Workers in Pakistan's Balochistan. Retrieved from http://www.presstv.ir/Detail/2017/05/13/521721/Pakistan-Baluchistan-unrest.

PT. (2017, September 3). About the Census 2017. *Pakistan Today*. Retrieved from https://www.pakistantoday.com.pk/2017/09/03/about-the-census-2017/.

PTI. (2017, October 22). China Asks Pakistan to Provide Additional Security for Its Envoy. Press Trust of India. *The Indian Express*.

Rahman, F. (2007, July 21). Targeted Attacks on Chinese: Myths and Reality. Pakistan Council on China. Retrieved from http://pcc.org.pk/downloads/targeted-attacks-on-chinese.pdf.

Ramachandran, S. (2016, November 16). CPEC Takes a Step Forward as Violence Surges in Balochistan. *Asia Times*. Retrieved from http://www.atimes.com/cpec-takes-step-forward-violence-surges-balochistan/.

Raman, A. (n.d.). Chinese Activities in Baluchistan. *SATP*. Retrieved from http://www.satp.org/satporgtp/publication/idr/vol_16(2)/Raman.htm.

Rasmussen, S. E., & Baloch, K. (2017, June 8). Isis Claims to Kill Chinese Couple Studying and Teaching in Pakistan. *The Guardian*.

Raza, S. H. (2017, February 21). 15,000 Military Personnel Protecting CPEC. *Dawn*. Retrieved from https://www.dawn.com/news/1316040.

Reed, J. T., & Raschke, D. (2010). *The ETIM: China's Islamic Militants and the Global Terrorist Threat*. Praeger: ABC-CLIO.

Reuters. (2012). Tehreek-e-Taliban Pakistan Claims Responsibility for Killing Chinese Tourist. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/344297/tehreek-e-taliban-pakistan-claims-responsibility-for-killing-chinese-tourist/.

Reuters. (2013, May 21). Chinese Engineers Escape Karachi Bomb Ahead of Premier Li's Arrival in Pakistan. Retrieved from https://tribune.com.pk/story/552378/chinese-engineers-escape-karachi-bomb-ahead-of-premier-lis-arrival-in-pakistan/.

Reuters. (2014a, January 25). Govt Suspends Pilgrimage Route through Mastung. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/663145/govt-suspends-pilgrimage-route-to-iran-through-mastung/.

Reuters. (2014b, March 14). Rebels, Islamists Form Dangerous Alliance in Pakistan's Unruly Southwest. *Voice of America*. Retrieved from https://www.voanews.com/a/reu-rebels-islamists-form-dangerous-alliance-in-pakistans-unruly-southwest/1870963.html.

RFE/RL. (2016, November 26). Chinese Engineers Killed in Pakistan's Balochistan Province. *Radio Free Europe/Radio Liberty*. Retrieved from https://www.rferl.org/a/pakistan-chinese-engineers-killed-balochistan/28140991.html.

Rolland, N. (2017). China's 'Belt and Road Initiative': Underwhelming or Game-Changer? *The Washington Quarterly, 40*(1), 127–142.

SATP. (2017, July 12). *Sindh Timeline*. Retrieved from http://www.satp.org/satporgtp/countries/pakistan/sindh/timeline/index.html.

SECTSCO. (2008). Full Text of Shanghai Convention on Combating Terrorism, Separatism and Extremism. Retrieved from http://www.sectsco.org/html/00093.html.

Sellin, L. (2017). ISIS Is Growing in Pakistan. *Sonoran News*. Retrieved from http://sonorannews.com/2017/09/29/isis-growing-pakistan/.

Shah, S. A. (2015, March 23). Miscreants Set Ablaze 5 Tankers in Balochistan, Abduct Four Drivers. *Dawn*. Retrieved from https://www.dawn.com/news/1171388.

Shah, S. A. (2016, November 13). Chronology of Major Terror Incidents in Balochistan. *Dawn*. Retrieved from https://www.thenews.com.pk/print/164567-Chronology-of-major-terror-incidents-in-Balochistan.

Shah, S. A. (2017, May 24). Quetta Se Do Cheeni Bashinde Aghwa. *Dawn News*. Retrieved from https://www.dawnnews.tv/news/1058370.

Shahid, K. K. (2016, November 15). An Alliance Between Islamic State and Lashkar-e-Jhangvi in Pakistan Was Inevitable. *The Diplomat*. Retrieved from https://thediplomat.com/2016/11/an-alliance-between-islamic-state-and-lashkar-e-jhangvi-in-pakistan-was-inevitable/.

Sheppard, B. (2010, December 13). Their Future Is at Stake. *Human Rights Watch*.

Shigri, A. A. (2016, December 23). A Flawed Anti-Terrorism Law. *Dawn*. Retrieved from https://www.dawn.com/news/1303938.

Sial, S. (2014). China-Pakistan Economic Corridor: A Security Analysis. *Conflict and Peace Studies, 6*(2), 11–40.

Siddiqa, A. (2013, February). The Hazard of Being a Hazara in Balochistan. *Tehelka*. Retrieved from http://tehelka.com/the-hazard-of-being-a-hazara-in-balochistan.

Siddiqui, S. (2017, April 12). CPEC Investment Pushed from $55b to $62b. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1381733/cpec-investment-pushed-55b-62b/.

Singh, M. (2016, September 28). Baloch Rebels Attack Dudher Project Site, 2 Chinese Engineers Killed, Many Hurt. *India Today*. Retrieved from http://

indiatoday.intoday.in/story/baloch-rebels-attack-kills-two-engineers/1/775273.html.

SK. (2012). Baloch Nationalists and Takfiri Deobandis Jointly Mourn the Death of a Baloch LeJ-ASWJ Terrorist. Retrieved from https://lubpak.com/archives/226505.

Small, A. (2015). *The China-Pakistan Axis*. New York: Oxford University Press.

Smith, P. J. (2009). China's Economic and Political Rise: Implications for Global Terrorism and US–China Cooperation. *Studies in Conflict & Terrorism, 32*(7), 627–645.

SOP. (2013, August 6). Scholars from China and Pakistan Discuss Opportunities and Challenges of China Pakistan Economic Corridor. *Senate of Pakistan*.

Stacey, K. (2017, June 9). Isis Says It Killed 2 Chinese Nationals in Pakistan. *Financial Times*. Retrieved from https://www.ft.com/content/fa207068-4cd1-11e7-919a-1e14ce4af89b?mhq5j=e7.

Syed, J., Pio, E., Kamran, T., & Zaidi, A. (Eds.). (2016). *Faith-Based Violence and Deobandi Militancy in Pakistan*. London: Palgrave Macmillan.

Tanner, M. S., & Bellacqua, J. (2016). China's Response to Terrorism. *CNA*. Report Sponsored by the U.S.-China Economic and Security Review Commission.

TBP. (2017, August 12). Residences of CPEC Engineers Attacked in Kharan. *The Balochistan Post*. Retrieved from http://thebalochistanpost.com/2017/08/residences-cpec-engineers-attacked-kharan/.

The Economic Times. (2017, May 26). Chinese Couple's Kidnapping in Pak Highlights CPEC Risks. Retrieved from http://economictimes.indiatimes.com/news/international/world-news/chinese-couples-kidnapping-in-pak-highlights-cpec-risks/articleshow/58853588.cms.

The Express Tribune. (2014, November 18). Unusual Trend: Jundullah Pledges Support to IS. Retrieved from https://tribune.com.pk/story/792894/unusual-trend-jundullah-pledges-support-to-is/.

The Express Tribune. (2015, June 1). China-Pakistan Economic Corridor 'Unacceptable'. Modi Tells China. Retrieved from https://tribune.com.pk/story/895611/china-pakistan-economic-corridor-unacceptable-modi-tells-china/.

The Express Tribune. (2017, October 7). Belt and Road Initiative: Pakistan, China Snub US Objection over CPEC Project. Retrieved from https://tribune.com.pk/story/1525336/china-rejects-us-objections-cpec/.

The Nation. (2014, November 17). Taliban Group Threatens to Attack Chinese Interests. Retrieved from http://nation.com.pk/national/17-Nov-2014/taliban-group-threatens-to-attack-chinese-interests.

The Nation. (2016, March 31). Chinese Citizen Targeted in Karachi. Retrieved from http://nation.com.pk/national/31-May-2016/chinese-citizen-targeted-in-karachi.

The Nation. (2017a, October 8). US Wary of CPEC. Retrieved from http://nation.com.pk/editorials/08-Oct-2017/us-wary-of-cpec.

The Nation. (2017b, May 20). Another 3 Labourers Shot Dead in Balochistan. Retrieved from http://nation.com.pk/national/20-May-2017/another-3-labourers-shot-dead-in-balochistan.

The News. (2007, October 9). Man Confesses to Killing Three Chinese Nationals. Retrieved from https://www.thenews.com.pk/archive/print/74675-man-confesses-to-killing-three-chinese-nationals.

The News. (2014, December 8). Capital's Jamia Hafsa Declares Support for Islamic State. Retrieved from https://www.thenews.com.pk/archive/print/541350-capitals-jamia-hafsa-declares-support-for-islamic-state.

The News. (2017, October 6). Cops Among 22 Martyred in Suicide Attack at Jhal Magsi Shrine. Retrieved from https://www.thenews.com.pk/print/234973-Cops-among-22-martyred-in-suicide-attack-at-Jhal-Magsi-shrine.

The Telegraph. (2012, February 28). Chinese Woman among Two Shot Dead in Peshawar. Retrieved from http://www.telegraph.co.uk/news/worldnews/asia/pakistan/9111034/Chinese-woman-among-two-shot-dead-in-Peshawar.html.

The Tribune. (2016, November 13). CPEC Opens as Chinese Cargo Leaves Gwadar Port. Retrieved from http://www.tribuneindia.com/news/nation/cpec-opens-as-chinese-cargo-leaves-gwadar-port/322834.html.

TOI. (2016, September 25). Baloch Activists to Stage Week-Long Protest in London against China-Pakistan 'Nexus'. *The Times of India*. Retrieved from https://timesofindia.indiatimes.com/india/Baloch-activists-to-stage-week-long-protest-in-London-against-China-Pakistan-nexus/articleshow/54505369.cms.

VOA. (2017, September 11). Braving Security Fears, Chinese Seek 'Silk Road' Riches in Pakistan. *Reuters*. Retrieved from https://www.voanews.com/a/braving-security-fears-chinese-seek-silk-road-riches-in-pakistan/4023436.html.

Wayne, M. I. (2007). *China's War on Terrorism: Counter-Insurgency, Politics and Internal Security*. London: Routledge.

Weijia, H. (2016, September 13). Increased Ties with Southeast Asia Don't Detract from China's Goals in the CPEC. *Global Times*.

Wenwen. (2017, May 25). Kidnapping Highlights Risks Along China-Pakistan Economic Corridor. *The Global Times*. Retrieved from http://www.global-times.cn/content/1048723.shtml.

Wivell, D. (2011, August 2). Security Heavy in West China City Hit by Attacks. *Associated Press*.

Wolf, S. O. (2016, May 11). Pakistan and Terrorism: China-Pakistan Economic Corridor as Critical Juncture? *E-International Relations*. Retrieved from http://www.e-ir.info/2016/05/11/pakistan-and-terrorism-china-pakistan-economic-corridor-as-critical-juncture/.

Wright, T., & Page, J. (2011, September 30). China Pullout Deals Blow to Pakistan. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/SB10001424052970203405504576600671644602028.

Xenakis, J. J. (2017, June 10). World View: Execution of Two of China's Citizens in Pakistan Raises Concerns About CPEC. *Breitbart*. Retrieved from http://www.breitbart.com/national-security/2017/06/10/10-jun-17-world-view-execution-of-two-of-chinas-citizens-in-pakistan-raises-concerns-about-cpec/.

Xinhua. (2006, February 18). Remains of Killed Engineers Back Home. Retrieved from http://english.sina.com/p/1/2006/0218/66032.html.

Xinhua. (2007a, July 9). Three Chinese Killed in Pakistan. China Daily. Retrieved from http://www.chinadaily.com.cn/china/2007-07/09/content_5421741.htm.

Xinhua. (2007b, June 23). 7 Chinese Kidnapped in Pakistan. Retrieved from http://lt.china.com.cn/english/international/214939.htm.

Xinhua. (2009, July 20). Xinjiang to Speed Up Legislation Against Separatism, Regional Top Lawmaker. Retrieved from http://news.xinhuanet.com/english/2009-07/20/content_11734279.htm.

Yusufzai, R. (2014, July 13). What Marri Stood for. *The News on Sunday*. Retrieved from http://tns.thenews.com.pk/what-khair-bakhsh-marri-stood-for.

Zee News. (2016, December 14). Chinese Engineer Working on CPEC Survives Roadside Bombing in Pakistan. Retrieved from http://zeenews.india.com/news/world/chinese-engineer-working-on-cpec-survives-roadside-bombing-in-pakistan_1958481.html.

8

Belt and Road Initiative: Misgivings and Resolve

Bashir Ahmad

Geography and Geostrategic Relevance of the Belt and Road Initiative

The geography of any strategic initiative is central to its development and sustainability. The Belt and Road Initiative (BRI) occupies critical spaces of land mass for connecting businesses and trade in much greater dimensions. These spaces either provide a direct connecting mechanism to the developed and developing centres of population or indirectly take the entire globe into their fold for cost-supportive and sustainable businesses. Geographical networking of population centres manifests the central theme of BRI. The initiative with two strategic prongs spreads out and converges like the arms of a giant or monster. The two arms of the structural giant include the Silk Road Economic Belt and the maritime Silk Road, covering land and sea voyages, respectively. The two prongs originate from comparatively better developed population nodes from the northwest (predomi-

B. Ahmad (✉)
Bahria University, Karachi, Pakistan
e-mail: bashirahmad.bukc@bahria.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_8

nantly Eastern Europe), then spread out to embrace most parts of developing societies (African, Central Asian and South Asian regions) and finally converge to complete the loop on the eastern side of China and East Asia. It makes a connecting loop of business nodes like Rotterdam, Moscow, Istanbul, Tehran, Dushanbe, Samarkand, Bishkek, Almaty, Huoerguosi, Urumqi, Lanzhou, Xi'an, Duisburg, Venice, Athens, Nairobi, Colombo, Kolkata, Kuala Lumpur, Jakarta and Hanoi. Looking at the convergence of the geographical and geostrategic relevance of this great initiative, one finds it connecting the strategic business centres of Europe, Africa, Eurasia, the Middle East, Southeast Asia, South Asia and East Asia. The rest of the globe is then connected and covered indirectly. This is how it becomes regional in perspective and global by implication. The two strategic prongs of BRI are mutually connected through six horizontal bars (Shanghai Institute of International Studies, March 2018). The six horizontal bars (economic corridors) include the China Pakistan Economic Corridor (CPEC), New Eurasia Land Bridge, China–Mongolia–Russia Economic Corridor, China–Central Western Asia Economic Corridor, China–Indochina Peninsular Economic Corridor and Bangladesh, China, India, Myanmar Economic Corridor.

Pakistan finds geographical harmony and geostrategic relevance with BRI through CPEC and geopolitical coherence with China. Geographically, Pakistan is an elongated country from northeast to southwest with a thin waist of only 450 km from east to west. From northeast to southwest, it is 1500 km. CPEC extends from a southwesterly to a northeasterly direction; in this way, the entire country becomes a corridor with a diversity of communication networks, including road and rail links. The network of roads and tracks as planned has the potential to provide multiple connecting points with Afghanistan, Central Asian Republics, Russia and India in times to come. Geographically, CPEC is almost in the middle of the two belts already mentioned. This is how it becomes pivotal to the entire strategic venture of the Chinese government. The nodal point on the southwestern land tip of CPEC is Gwadar port, which enjoys a commanding position to all seaborne activities in the Indian Ocean, Persian Gulf and Arabian Sea. In most parts of Pakistan, roads and tracks as part of CPEC pass through barren land and

predominantly the least-developed population centres. Similarly, the northeastern tip of CPEC also hosts comparatively less-developed and least-developed parts of China.

Geoeconomic Philosophy and Scope of BRI

Looking at the geographical and physical dimensions of BRI, it appears appealing to accept that its central theme is connectivity. It connects business communities in regional and ultra-regional perspectives, which ought to provide a win–win situation to all the stakeholders. In the contemporary business world of competition in quality and price, connectivity provides a comparative advantage to developing societies. It underpins how people are reached; market access, communication for sharing expertise and improving the cost and quality of products are central themes of contemporary business management.

In order to comprehend the intensity of the envisaged business and trade, let us have a look at the volume of economies being connected along BRI and related corridors. There are 65 countries which are immediately connected along BRI (Global Sourcing, Fung Business Intelligence Centre, 2016). In the light of a summary report on BRI by Helen Chin and Winnie He, from Global Sourcing at the Fung Business Intelligence Centre, these countries cover 38.5% of the planet. They share 62.3% of the world's population, 30.0% of its gross domestic product (GDP) and 24% of the world's household consumption. Looking at the list of these 65 countries, one finds 2 from East Asia, 11 from Southeast Asia, 5 from Central Asia, 15 from the Middle East and North Africa, 8 from South Asia and 24 from Europe (Chin and He 2016). In addition to that, there are 48 countries not directly connected along BRI, but since they are contiguous to BRI, they are likely to become part of it in one form or another in times to come. These countries include 1 from East Asia, 5 from the Middle East and North Africa, 26 from Europe, 11 from Sub-Saharan Africa, 2 from Oceania and 3 from Latin America (Chin and He 2016). Putting the two categories of states together, the total numbers become 113 out of the total of 195 countries on Earth, which means about 58% of overall global numbers.

Similarly, if we go by their population estimates, it is over 74%. Their GDP and household consumption get closer to 50% and 35%, respectively. Over 91% of these countries fall either in the category of developing states or are struggling to be a part of it. Out of this 91%, approximately 20% of these countries are in the bottom group of those struggling for compatible development. This means there is ample space for development, subject to the availability of communication networks and resources. BRI provides the kind of infrastructure required for transporting commodities to multiple markets and the employment of human resources on the creation of new service avenues. In physical terms, the region will become criss-crossed with roads and railways, lowering the relevance of national geographical boundaries for facilitating business and trade.

The surplus or only partially utilized commodity in countries contiguous to BRI is the human resources, which according to an estimate is over 70%. The under-utilization of human resources is due to their low quality in the development of skills and employability. The main factors in the low development of human resources in these countries include incompatible education and purchasing power, which has three fundamental reasons. The first is insufficient infrastructure via which they could optimally employ their potential and make ends meet for basic needs and education. The second is deficient leadership, incompatible governance and societal malpractice, which prohibit the growth of the economically lower-middle and lower classes of society. The third is attitudinal slackness on the part of the population under the self-erected umbrella of ignorance, because they do not see the outside world in the absence of competitive and comparative environments. According to a study by the World Economic Forum (2017), Sub-Saharan Africa, South Asia and the Middle East regions have higher numbers of low developing countries and a high gap in human capital development. Against 38% as the global average human capital development gap, these regions have 47%, 46% and 44%, respectively, which requires corrective measures to improve human resource skills and development.

BRI and other economic corridors provide a resolve to over 70% of the world population directly, not necessarily the governments of these countries. When they have infrastructure, the people can develop themselves

into small to medium enterprises with little support from their governments for self-employment and creating jobs instead of seeking jobs. At the same time and consequent on better opportunities, new leadership would emerge from the middle and lower-middle tiers of corporate sectors, who would be more practical in their approach to segmented management and governance. The philosophy of distributive leadership would come into play for the horizontality and multiplicity of effects in economic and social development. Similarly, in the face of competition, job markets would demand efficient and competitive working people for a fast return of benefits. This would exert pressure on educational and skill development institutions for the quality and compatibility of standards. The quality of education and skill a market needs should exert a demand pull on universities and skill development institutes for better facilities. The circle will ultimately improve the standards of education and quality of life through comprehensive social developments. BRI and its economic corridors are envisaged to initiate human resource development, prosperity and societal peaceful coexistence in times to come.

Technology, as a change-impulsive mechanism, has impacts on human development in all dimensions. From the economic and financial perspective, it accelerates manufacturing, business and trade, thereby enhancing purchasing power. With more purchasing power, individuals improve their life-supporting facilities and standards of living. Consequently, it brings more peace, harmony and energy spend for further developments. We understand that technology is nothing but knowledge imbedded in hardware. In the contemporary business world, it is the combination of information and technology that accelerates knowledge building and human development in economic and social spheres. The application of technology and the purposive use of information are directly related to human capital development. The necessity of information and knowledge sharing in near to real-time environments has brought the business world under the dominance of technology.

Undoubtedly, BRI focuses on bringing societies and states together. The fact remains that geopolitics has always moved parallel to the economic aspirations of states as well as societies. At times geopolitics overtakes geoeconomics and undermines the collective well-being of humanity. This is the point at which the division starts among countries,

obliging them to form different groups and forces. The issue is, in such a scenario of egos and images, which strategy should be the leading one or dominate the other, geopolitics or geoeconomics? Accordingly, the question arises as to which one should precede the other; then states have their choices. BRI presupposes geoeconomics dominating geopolitics through a favourable tilt of geostrategic pursuits. It is envisaged that geoeconomics would ultimately decide the fate of states against a growing population, especially in developing countries and those struggling to catch up with growing economies.

It needs to be understood in its entirety that connectivity has always been, is still today and will continue to be fundamental to all business activities and consequently societal developments. Within the framework of BRI, the road, rail and sea links connect societies to boost business ventures and bring diversity together with a new culture of coexistence. The central point in this connectivity strategy is obviously China; Pakistan happens to be the linchpin and focal point due to its strategic location and geostrategic relevance to world politics. Purely from a Pakistani perspective, the CPEC route begins from Kashgar, situated on the historical Silk Route and considered as a gateway to Central Asia, and ends on the seashore of Gwadar city, projected to be the future trading and business hub of the world (Muhammad Sadiq Sanjrani, Chairman Senate, Pakistan, October 15, 2018). In this way, the project appears to be a leading development initiative from an international connectivity point of view for Pakistan and a symbol of prosperity for both collaborating countries.

CPEC covers the impassable mountains of Pakistan's Balochistan province, a rugged terrain devoid of water and other life-supporting commodities. Without social developments, Pakistan would carry no meaning for the people of this area under these difficult living conditions. Even Balochistan bears no fruit for them; their whole struggle is to survive under the lack of a communication network and the scarcity of water and food. The Gwadar to Kashgar link provides them with a communication network which includes road as well as rail, abundant avenues for entrepreneurship, access to educational facilities even in far-off areas and a mind-opening look at modern life. The location of Gwadar port has a strategically commanding and politically driving position in addition to

its economic dimensions. The present infrastructure and literature reflect that it should basically serve the purpose of improving the economic and social dimensions of the people of the respective areas. Its geographical position should not tempt any stakeholder to use it for geopolitical purposes; in that case it will undermine its economic capacity and may become controversial.

Misgivings: Geopolitical, Sociocultural and Economic Dimensions

Looking at the available global economic data and growth of the last 25 years or so, one finds that China, comprising almost 20% of the world population, is one of the fastest-growing and largest economies in the world. China becoming a leading economy does not appear to be far away from materializing when we look at its resilient leadership and national priorities and pursuits in discovering and developing new technologies for business and trade. The state system retains the potential to make decisions in the shortest possible time and to implement them with speed, accuracy and flexibility. The country did not take much time to realize that fast-paced developments are possible only through connectivity with the economic nodes of the world. The concept of BRI is a strategic shift by China to connect with Asia, Europe and Africa and, in the process, develop infrastructure to boost the economic growth of the region's countries through mutual cooperation for all stakeholders. In pursuit of attaining the status of a leading economy, as an emerging global economy and pivotal to the BRI project, China finds its future in connecting east and west and retaining the central place of steering global businesses.

Within the domains of geopolitical and geostrategic orientations, ideologically imperialistic powers obviously feel disturbed because of this collaborative regional growth led by China through indigenous initiatives. So what should they do about undoing the initiatives or gaining some political advantage within the whole game of economic benefits? Avoiding direct confrontation with China, one approach is to create doubts about this initiative in the minds of host countries, which becomes rather simple in developing countries with rampant corruption,

mismanagement and the high ignorance of the people. For this purpose, a comparatively more convincing narrative for retarding the process of BRI is (and will continue to be in the future as well) 'colonization of the smaller countries of the region by China'. This injected perception, which was initiated a few years back in Gwadar, Balochistan and spread across Pakistan, entailed the view that 'China, while sitting in a dominating position on our seashore, would control the world geostrategically and in the process colonize Pakistan'. The idea is equated with 'British colonization' of South Asia about 200 years back through the East India Company. This narrative, woven around apprehensions, has made the entire initiative debatable and the subject of scepticism. However, rationality demands some comparison of the two scenarios be conducted in the economic and political domains.

Equating a scenario that is 200 years old—that is, Pakistan with Mughal India and China with the East India Company backed by the British government of the time—needs objective analysis. Two basic questions may suffice to develop arguments for a further course of discussion. First, a question: is Pakistan at this point in time the same with respect to its state system in terms of economics, societal composition, management, governance, state of education and knowhow on technology as Mughal India was about 200 years ago when the East India Company arrived on Indian shores? Secondly, has China now become like the Britain of 200 years ago in terms of ideology, economics, geopolitical inclinations and strategic orientation? Obviously, there is no comparison between the two situations; that is, neither is Pakistan comparable with Mughal India nor China with the British empire of old. China has no historical record of geopolitical expansion similar to British imperialism. At the same time, Pakistan also does not have historical evidence of accepting undue geostrategic dominance of any state, whether it be America, Russia or India. As shown in Table 8.1, let us have a look at the population and economic data of two countries in different areas of concern to get an idea of the two scenarios.

If we look at the state of development of both countries, Pakistan is far behind China especially in social development, industrial infrastructure and living standards of its people. One can also get an idea of today's China against the Britain of 200 years ago in terms of GDP, per capita

Table 8.1 China and Pakistan comparison in some areas of relevance

Broad area of concern	China	Pakistan	Ratio
Gross domestic product (GDP), 2017, US $ million	12,240,000	305,000	40:1
GDP per capita, 2017, US $	8827	15,247	5.7:1
Human capital ranking (2016)	34	125	–
Human development score	67.72	46.34	–
Agricultural land, %	54.7	35.2	–
Population below poverty line, 2015, %	3.3	29.5	–
Industrial production growth rate, 2016, %	6.2	5	–

Source: https://www.indexmundi.com/factbook/compare/pakistan.china/economy reference taken on 25 November 2018. World Economic Forum, the Global Human Capital Report 2017, http://www3.weforum.org/docs/WEF_Global_Human_Capital_Report_2017.pdf

income, human development index, availability of agricultural land, living standards of the people and industrial growth. Similarly, one can look at the present Pakistan in relation to the Mughal India of old in terms of GDP and other factors already mentioned. Mughal India was much better than Britain in terms of employment, GDP and skills of the people (Joshi 2009). Pakistan, at this point in time, maintains the 13th largest armed forces in the world in terms of quality and quantity, much stronger than that of Mughal India 200 years ago to withstand any external pressure (Usman Kabir, Express Tribunal, 2018). Additionally, the state system is getting stronger and better (though at a slow pace) in targeting corruption and improving management and governance. Under such an environment, the question is that would China like to physically capture Pakistan for colonization as the British did, and if yes then to gain what? Is Pakistan a big market, not comparable to others? Does it possess an abundance of natural resources like oil, gas and so on that China would like to capture and take away? And so on and so forth. Having said all this, the advantage China enjoys in such a remote eventuality is superior strategic orientation while sitting in the dominating position of Gwadar. However, its focus is economic and social development and the country is not likely to get entangled in misadventures. At the same time, looking at Pakistan's historical and inherent capacity to resist, the narrative of colonization does not appear to be a possibility. The resilient role of Pakistan against the Russian invasion of Afghanistan and recent US campaigns in the same country are a catalyst to comprehension of the future scenario.

Historically, this part of the world, which includes the Middle Eastern countries, Iran, Afghanistan, Pakistan, India in partial terms and the wider East Asian region, has always been driven by the policies of the USA and European power blocs in one way or another. In pursuance of a superior strategic orientation, geopolitics has been the main tool of imposing imperialism through dividing within and outside, especially neighbouring countries. Their ultimate objectives have been to create market spaces for their products and expand their businesses through political power playing and orchestrating the influence of indigenous minds. China's role in regional self-sustaining and developments on socioeconomic dimensions does not go well with the historical mindset and power dynamics. Additionally, individual and national egos also come into play to oppose the initiative for development. Over 100 regional and ultra-regional economies becoming part of BRI when put together are a stumbling block in the way of the self-centred policies of the present global Western allies, so there has to be opposition to that. The narrative of 'colonization by China' has created a marginal impact; however, it appears that an awakening would emerge through the visibility of economic and social developments.

In order to prevent BRI and CPEC coming to reality, another leading narrative for the common people in Pakistan and other countries of the Asian region is that 'China would come and capture the job market'. This narrative has a strong base because the human resources of most developing countries like Pakistan are deficient in skill and proficiency. Therefore, no foreign firm wants to employ inefficient human resources, which is considered a drag on the financial viability and growth of the business entity. Since the narrative is based on a half-truth, it has been more appealing and convincing even among the business community and intellectuals in Pakistan. The half-truth is that Chinese firms investing in Pakistan or for that matter any firm, national or international, undertaking investment has the basic objective common to all, which is earning profit. Keeping land and capital constant, the only variable for profit maximization is human resources. Therefore, no Chinese or even Pakistani firm investing in CPEC business projects could afford to employ deficient or low-skilled human resources.

The issue is of skill deficiency, not preference in employment based on nationality or anything else. So how can we comprehend the narrative and deal with it for societal developments and become part of the strategic business initiative? One option is that Pakistan does not let Chinese firms invest and create businesses in Pakistan; that is, a complete ban. The second is to develop the country's human resources to the level of international competitiveness, so that Pakistan is in a position to take its due share of the pie in the global employment markets. In recent times, the business world has grown fast into the domains of global competitiveness. So if a skill-deficient country does not improve in a given domain and prefers rather to go for blocking efficient human resources coming in, it is basically pushing itself further into ignorance and stagnation. There is no escape from global competitiveness in skill and proficiency. So instead of resisting proficiency and superior skills, developing countries like Pakistan would rather be required to accept the better practices and learning of modern knowledge and technology.

Another narrative linked with that previously explained for creating despondency and scepticism is 'Debt trapping by the Chinese'. Logically, loans (when what is due to be paid back becomes a debt) have numerous sources of generation and fundamentally two main sensible avenues of expense. The first is that a country obtains loans to pay back a liability to a third party; there may be many reasons for that, whether waiting to harvest its own investment or something similar. The second is to utilize money obtained under favourable conditions to undertake fast-paced developments which will indirectly or directly generate wealth. In both cases, the loan is a development initiator and retains the capacity for generating growth, provided it is professionally managed and governed. Pakistan does not have a good history of professional loan employment or debt management. Through the realization developed in the recent past and accordingly the professional capacity, it is reasonably safe to assume that Pakistan would be able to put the loan and debt philosophy into practical use through accountability and visibility. Therefore, understanding this 'debt trap' narrative in its real perspective is rather essential to turn a threat into an opportunity. Loans and debts become evils only when these are mismanaged and the former is utilized for a purpose other

than wealth generation. Here, it is appropriate to quote Mahatma Gandhi when he said: 'nobody can hurt me without my permission'. In fact, China will not put any country—indeed, no country would put another country—into a 'debt trap' without the consent or willingness of the latter. Pakistan has been dependent upon loans and debts for many decades, and this narrative may caution it to employ its resources for generating wealth instead of utilizing them unproductively. Therefore, in the foreseeable future developing countries will continue to be dependent on loans for demand-driven developments; only those who utilize the money for wealth generation and pay the loans back on time have a chance of success and collective prosperity.

As already discussed, BRI is going to have a direct impact on more than 100 economies in the region and ultra-regional countries, representing close to 75% of the world's population. The central point to early harvesting is the speed with which the projects of economic corridors need to be made functional. In the case of Pakistan, projects connected with CPEC would bring economic returns and confidence for people in a quicker time frame. In order to complete these projects within an earlier time frame, there is a need for financial resources. The options for Pakistan include to undertake the projects with national savings according to the availability of means. It may take decades to complete the envisaged projects and consequently they may become irrelevant to time and needs. Another option is to undertake the projects after getting loans and then paying those back from the earnings, the harvested money. China resolves the issue vigorously through the lion's share of investment in the development and early operationalization of the main BRI and CPEC projects from its own means. Utilization of funds taken as loans for completing CPEC projects would save Pakistan from the apprehension of 'debt trapping'. In order to comprehend the volume of socioeconomic development projects linked with CPEC, a summary is provided in Table 8.2.

An analysis of these projects entails the requirement for an abundance of financial means, which are obviously beyond the capacity of Pakistan. The projects have substantial support from the Chinese business community. The point to understand is that the Chinese have come to Pakistan to earn profit on a win–win situation, whether it be the employment of human resources or financial means. If Pakistan is to benefit from the opportunity,

Table 8.2 CPEC projects in broad categories

Project category	No. of projects	Project cost (US $ million)	No. of jobs created
Energy (17,000 MW)	21	33,000	71,959
Roads	5	5341	31,474
Rail	3	8237	14,400
Optical fibre	1	44	1294
Gwadar port city	12	14,000	77,700
Total	42	58,622	196,827

Source: Dr Ishrat Hussain, CPEC and Pakistan Economy: An Appraisal, Center of Excellence, CPEC, Islamabad, Edited by Dr Shahid Rashid, Executive Director CEO-CPEC and Yasir Arrfat, Research Coordinator, CoE-CPEC, Publication of Centre of Excellence for CPEC, Islamabad available https://cpec-centre.pk/cpec-pakistans-economy-a-way-forward/?lang=en reference taken on 25 November 2018

it needs a professional loan management strategy and skill development initiatives. With these two things, neither would there be a debit trap nor an over-whelming influx of external human resources.

Apprehending China's influence in the geoeconomic dimensions of BRI, there is a natural resistance since it is happening in competitive global businesses. In the case of Pakistan, the prominent collaboration against CPEC in particular is naturally the USA and India. For the USA, the reason is that Pakistan remained compulsively obedient for decades, with oscillating embraces and repulsions; its parting of ways is intolerable on the grounds of ego in addition to the geopolitical imperatives. India is a traditional rival to Pakistan's existence, prosperity and its stance on issues like Kashmir. The accumulated outcome is discouraging scrutiny on regional as well as global levels in terms of public scepticism, physical attacks and psychological barriers to the progress of CPEC projects. The reason is that without CPEC, China's BRI remains incomplete. So without getting into a direct confrontation with a regional economic power, they would prefer to do it in Pakistan through sponsoring terrorism and aiding separatist adventures.

From a regional perspective, western China and Central Asia are confronting challenges related to diverse regional politics, security issues and deficient socioeconomic development. Ideally, societies gain, maintain and sustain peace and stability among themselves and outside through

social harmony, political integration and a mutually beneficial distribution of economic resources. People attain and maintain their living standards in comparisons with others. Pakistan's Gwadar to Kashgar initiative is based on areas which are deprived of the basic necessities of life in this era of modern development. It has therefore become one of the most volatile regions at this point in time. Despite slogans, especially since 2000, its very slow pace of development has rather discouraged people from trusting the system of national resolve. Over the years, economic incapacity has been projected as the sole reason of the slow progress of development projects in Balochistan, but the government's expenses on other schemes negate the claim. As a result, the perception of their being no benefit to the people of deprived areas is rather strengthened. This is the sole reason for the common distrust that China will take the major share, and the rest will fall into the hands of the bureaucracy and other provinces as planned; consequently, the local population of these areas will remain deprived.

With respect to transitory trade, the leading beneficiary is China, as CPEC provides a cost-effective energy transportation route. After the completion of CPEC, China's voyage of 13,000 km through the Strait of Malacca will shrink to a mere 2500 km (Gilani, The Nation, 2016). The western side of CPEC is conjugated with Afghanistan, Tajikistan, Kyrgyzstan, Kazakhstan and the northern side of Russia–Mongolia, whereas on the southwestern side it links with India, which may become operational in times to come. The perception that the entire game is for China cannot be undone without fast-paced social development, imparting skills to the youth of deprived areas and giving them jobs on a preferential basis.

Views on Resolving the Misgivings

We need to understand that narratives like 'colonization of Pakistan by China', 'debt trap', 'overwhelming occupation of the job market' and 'turning the Baloch majority into a minority in their native lands' become very appealing in the absence of practical corrective measures. There is a very thin line between perception and reality; it tilts towards misperception or

misgiving quickly owing to historical adverse happenings. Let us take, for example, the perception of converting the Baloch majority in Gwadar into a minority. It is perceived that the Chinese would arrive along with Pakistan's elite businesspeople from other parts, especially the Punjab, and undermine the Baloch people and culture, which are financially weak. The people of Gwadar will become a minority in their own native land and remain deprived even of water as they are today, so what is the use of this port and the development of infrastructure? This perception cannot be removed with word of mouth only. It needs to have visible marks on the ground, like resolving the people's water supply problem, followed by a strong awareness campaign through media on the societal evolution through integration as a natural phenomenon. The fact remains that the central point of CPEC and its connectivity with BRI happens to be the port city of Gwadar. The trade-facilitating activities of CPEC are bound to increase the demand for consumer goods, tourism, hotels, resorts, health, education, construction, housing, consultancy and other tertiary industries. In this case, the main beneficiary should definitely be the people of Gwadar and other parts of Balochistan in particular. The people of the area, whether job seekers or entrepreneurs, need to have some visibility in the planning and publicity for awareness and execution. Gwadar port currently has capacity to handle around 1 million tons of cargo, whereas the planned cargo capacity for the future is 300–400 million tons annually (Pakistan Observer, September 21, 2016). This is much more than contemporary Indian and Iranian seaports. Reaching out to the people is essential for creating awareness, which is possible through young local political figures, academia and media persons who shape perceptions.

CPEC is not limited to the energy transportation needs of China; it also links other issues that need to be settled for regional stability. According to Chou and Ding (2015), the Chinese western region of Xinjiang is suffering from violence and regional disturbance. Central and South Asian regions have strategic value for China, as the roots of violence in its territory belong to its politically and economically weak neighbours. The collapse of the USSR in the late 1980s left behind the impoverished and politically unrepresented Central Asian Republics, which subsequently became the nurturing grounds for regional terrorism. Xinjiang ranks 21st in terms of GDP per capita (Administrative

Division of Chinese Provinces by GDP, 2017). The Chinese government envisioned the development of its western region with its inclusion in CPEC through the development of a special economic zone (SEZ) in Kashgar for infrastructural development, social welfare and environmental protection projects. In this way, CPEC is going to play a vital role in a sustainable peace process for the region through cross-border economic cooperation. The development of these areas means value for Pakistan because of its proximity with the Central Asian Republics and western Chinese provinces. It will substantially reduce terrorism and extremism in Pakistan. Therefore, the misgiving that the development of western China is wholly China centric and averse to developing areas in Pakistan is out of context. The notion of Chinese investment in CPEC only for its benefit of developing deprived regions is illogical and displays short-sightedness.

With respect to Pakistan, CPEC is a hope for its economic revival. GDP growth targeted for the year 2025 is 8% by various estimates. Despite slower economic activities in the past ten years, the growth prospects of Pakistan are estimated to be very high in the future because of the number of projects initiated. The target of increasing exports from the present $25 billion to $150 billion in 2025 shows the growing trend in the country's trade and economic activities (Pakistan Observer, August 22, 2017). The development of SEZs as part of CPEC will play a crucial role in the economic development of the country through the generation of millions of jobs and business opportunities in Pakistan (Pakistan Statistics, CPEC, SEZs, 2013). SEZs offer special fiscal incentives which will enhance the growth and quality of business. These zones will meet the future requirements of producing goods and services, thereby creating jobs and competitive firms. CPEC and SEZs as avenues for jobs suffer from insufficient awareness among the population, which creates scepticism. Instead of looking at how the projects can benefit a particular community or country, the economic rivals and business competitors focus on advantages to others. International businesses benefit all partners. However, local small to medium businesses and industries feel insecure about their future existence in the presence of technologically advanced and cost-efficient international companies. The development of special economic and export processing zones would enable local

industries to grow further with the provision of special fiscal benefits and collaboration with international companies, whereas firms operating outside the SEZs might feel ignored in terms of fiscal support. Language and cultural barriers will incur additional expenses for local businesses in terms of employees' training and bi-lingual translation service charges. This needs a collective wisdom where all have win–win businesses and a spread of benefits.

The perception of Chinese domination leading to colonization ought to be resolved through superior management of loans and financial transparency. Given weak financial governance, it may not be a physical occupation but only control of the economy of the country. On this account, the Pakistani government pleading Chinese friendship and intellectuals apprehending Chinese designs on colonization both have extreme views. The government's stance that the colonization concept will not materialize despite the enormous Chinese investment which the Pakistani financial system is ill nourished to sustain appears deficient of displayed conviction. When our expenditures are much beyond even the maximum limit of economic capacity, the possibility cannot be ruled out when there are examples of similar kinds. Say, for example, that China, being an old friend, would not like to undertake colonization, what choices are available to Pakistan? When you do not have the capacity to pay back your debts, the choices are either to borrow from other countries and pay China or to sell your assets to China. Thus Chinese investments have price tags; for that matter, even those in Pakistan have their own price tags when confronted with a similar situation. Therefore, China cannot be blamed for Pakistan's own shortfalls. The misnomer of friendship with China 'deeper than the sea and higher than the Himalayas' is only a political slogan for positional gains in world politics. It has nothing to do with the business world; China would prefer to be a business partner than to have this kind of emotional attachment. On the other hand, some intellectuals and media personalities again have extreme views about China, which is projected as all out to subjugate Pakistan to slavery. Why would the Chinese do that when it does not serve much purpose to their interests? If they could meet their economic interests by transit and transport facilities through Pakistan, why they should go for deeper trouble?

Similarly, the mere presence of Chinese in Gwadar is an indicator to the global powers of its dominance of the Arabian Sea, Persian Gulf and Indian Ocean. In the same way that Pakistan lost out on maintaining good relations with Muslim countries on the basis of a brotherhood thesis resting on religion, it may do the same in the case of China. The merely emotional religious feelings forming the base of relations with Muslim countries did not work because they were devoid of any matter worth serving them when Pakistan was full of dichotomies. With a weak economy, sluggish political system and ineffective governance, it moved forward to be the leader of the Muslim world based on the emotions of religious brotherhood. It interfered in the affairs of others when its own house was not in order, expecting a soft response, and it consequently lost their confidence. Pakistan has always been blurred with undue expectations from Muslim countries on just emotional affiliations. Similar to China, they want to do business with Pakistan; all businesses are understandably objective in nature. So Pakistan needs to be realistic about doing business with China without expectations of friendship; no friend would like to bear losses in business due to the professional incompetence of a trade partner.

In order to make its human resources competitive, Pakistan needs to take major steps, starting from a curriculum review of teaching methodologies. Its maritime domains are totally neglected, for which it needs to establish a maritime university within two or three years. Chinese and Pakistani human resources are far apart in expertise, stamina for work, skill levels and discipline. This is because of the state system of education, skill development and governance mechanisms. In China, the government plans and people execute those plans; this is how it keeps its commitments to the planned timings. In Pakistan, the state system is different: it takes more time and people are used to working under different conditions. Chinese companies working in Pakistan would prefer to have their own human resources due to a number of reasons; broadly these include language, culture, discipline, expertise and mechanism of reward and punishment. It will take time for Pakistani human resources to become more competent and for other barriers to be minimized. Therefore, it is up to Pakistan when to train human resources for the envisaged jobs in collaboration with Chinese companies; the sooner the better.

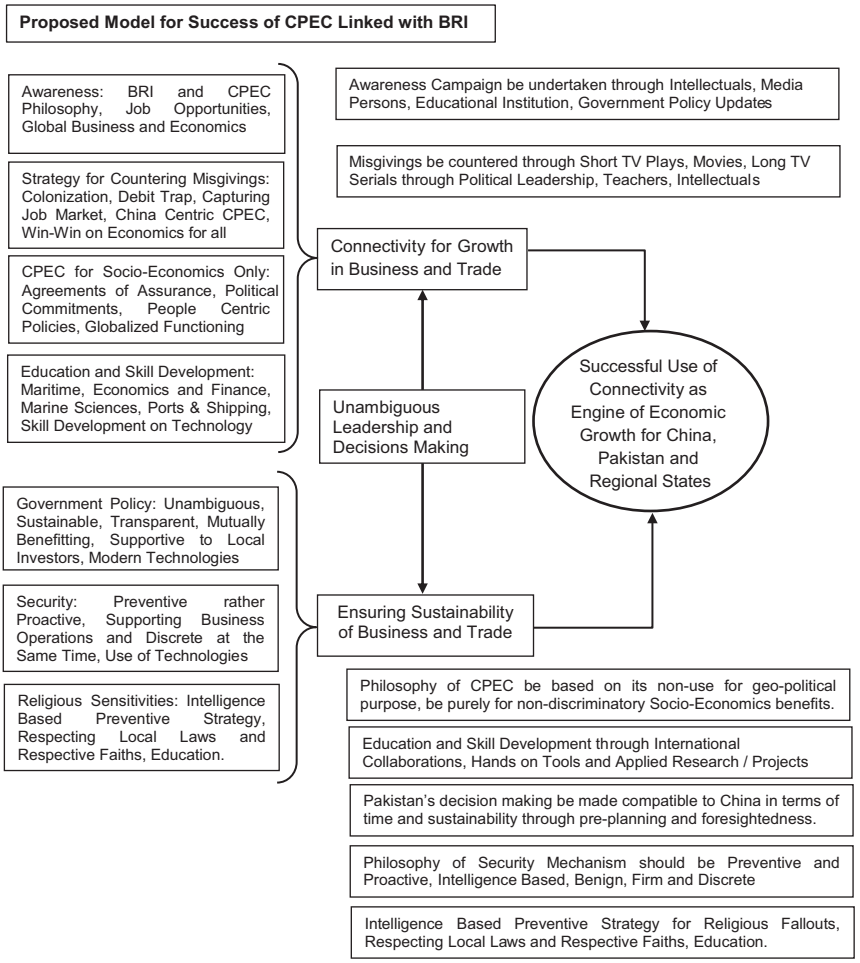
Other apparent barriers to the development of joint projects include security apprehensions, the misnomer of a power balance in Pakistan and the personal egos of leaders for gaining domestic political mileage. In this area, Pakistan is moving towards a better future of consensus building and collective decision-making, although at a slow pace. The most crucial and delicate scenario is religious sensitivities and the fragility of belief situations. The mobilization of simple masses for their violent reactions based on religious sentiments becomes a tool for spontaneously and forcefully disrupting the functioning of the state machinery. The people in Pakistan have debatable (controversial at times) perceived obligations to protect the rights of their Muslim brethren living in other parts of the world. They are even ready to take extreme actions against the Muslim population in the country. If one starts counting the numbers of fatwas of one school of thought against the other, it may become difficult to find even one Muslim in Pakistan. In recent years, fanatics within Islamist parties have called the judiciary, defence forces and even the government machinery anti-Islam. China also has a sizeable Muslim population living there, especially in Xinjian province. The Chinese government has different rules of governance and management and Muslims in China are no exception to the law of the land. Under such an environment, if someone has to sell the narrative to the people of Pakistan that China is not treating their Muslim brothers and sisters well in their own country, it is very simple to convince a few mullahs by any means to start provocations leading to violence. Then Pakistan may have to live with it for decades: Muslims killing Muslims through mullahs. Similarly, if those in Pakistan are more concerned about Indian Muslims than their brothers and sisters in Pakistan, under the adverse scenario, the people may rise against China's presence in the country. It may turn into a revolt led by religious feelings through the madrassa-led school of thought, and that is not difficult to find in Pakistan with the least motivation. Chinese and Pakistani governments both have to be mindful of such a situation. The viable solution lies in mass education and keeping religion out of business dealings with the Chinese.

Conclusion

CPEC provides enormous opportunities, but it also suffers from shortfalls which need to be addressed. The shortfalls predominantly pertain to people's perceptions and the dichotomies in commitment and execution. These dichotomies give rise to discouragement of investment. This discouragement is socialized through different narratives, as explained in this chapter. In order to understand and find solutions to the dichotomies, a schematic model has been provided in the Appendix. According to the proposed model, business facilitation and sustainability would lead to the geopolitical advancement of both societies. The governments of both countries need to exercise caution over people's sensitivities with respect to their culture, traditions and belief system. At the same time, CPEC study material should be introduced at higher education institutions and made a compulsory part of entrepreneurial studies to explore new business opportunities in the changing regional trade scenario. Entrepreneurial projects at university level must be linked with financing facilities to turn ideas into earnings reality.

BRI as an initiative of connectivity should be utilized to promote tolerance, peace and harmony among regional countries and eradicate regional destabilizing elements through sustainable economic development. The extension of the CPEC trade transportation network to other countries of the region will give a sense of cohesion and help establish a new trading bloc. As a result, business and trade in Pakistan will have more opportunities for collaborations and joint ventures with international companies. Local industries will become more efficient to compete in the global market. Lastly, Pakistan should not let this corridor and Gwadar port be used for any other purpose than business and trade; the focus should remain on an economic win–win scenario for all. Political and geostrategic aspirations should never be allowed to find a space in it; even the worst rivals like India be allowed to get all the business and trade benefits without any discrimination. The survival of our future generations depends on the success of this project.

Appendix


Proposed Model for Success of CPEC Linked with BRI
Awareness: BRI and CPEC Philosophy, Job Opportunities, Global Business and Economics
Strategy for Countering Misgivings: Colonization, Debit Trap, Capturing Job Market, China Centric CPEC, Win-Win on Economics for all
CPEC for Socio-Economics Only: Agreements of Assurance, Political Commitments, People Centric Policies, Globalized Functioning
Education and Skill Development: Maritime, Economics and Finance, Marine Sciences, Ports & Shipping, Skill Development on Technology
Government Policy: Unambiguous, Sustainable, Transparent, Mutually Benefitting, Supportive to Local Investors, Modern Technologies
Security: Preventive rather Proactive, Supporting Business Operations and Discrete at the Same Time, Use of Technologies
Religious Sensitivities: Intelligence Based Preventive Strategy, Respecting Local Laws and Respective Faiths, Education.
Awareness Campaign be undertaken through Intellectuals, Media Persons, Educational Institution, Government Policy Updates
Misgivings be countered through Short TV Plays, Movies, Long TV Serials through Political Leadership, Teachers, Intellectuals
Connectivity for Growth in Business and Trade
Unambiguous Leadership and Decisions Making
Ensuring Sustainability of Business and Trade
Successful Use of Connectivity as Engine of Economic Growth for China, Pakistan and Regional States
Philosophy of CPEC be based on its non-use for geo-political purpose, be purely for non-discriminatory Socio-Economics benefits.
Education and Skill Development through International Collaborations, Hands on Tools and Applied Research / Projects
Pakistan's decision making be made compatible to China in terms of time and sustainability through pre-planning and foresightedness.
Philosophy of Security Mechanism should be Preventive and Proactive, Intelligence Based, Benign, Firm and Discrete
Intelligence Based Preventive Strategy for Religious Fallouts, Respecting Local Laws and Respective Faiths, Education.

References

Chin, H., & He, W. (2016). *Belt and Road Initiative: 65 Countries and Beyond*. Global Sourcing, Fung Business Intelligence Centre, World Bank Database compiled by Fund Business Intelligence Centre under Economic Significance of Belt and Road Countries, reference taken October 22, 2018.

Chinese Administrative Divisions by Gross Domestic Product per Province. (2017). Retrieved from https://en.wikipedia.org/./List_of_Chinese_administrative_divisions_by_GDP.

Chou, B., & Ding, X. (2015). A Comparative Analysis of Shenzhen and Kashgar in Development as Special Economic Zones. *East Asia, 32*(2), 117–136. https://doi.org/10.1007/s12140-015-9235-5.

Gilani, S. H. A. (2016, 12 July). *The Nation*, Islamabad, Pakistan. Retrieved from December 9, 2018, from http://www.cpecinfo.com/news/cpec-the-game-changer/MzEw.

Hussain, I.. (2018). *CPEC and Pakistan Economy: An Appraisal*. Center of Excellence, CPEC, Edited by Dr Shahid Rashid and Yasir Arrfat, Islamabad.

Joshi, R. K. (2009). *International Business*. New Delhi: Oxford University Press.

Maps of BRI. Available at various websites to explain its passing through different states, like http://www.silkroutes.net/OBOR/9MapWallStreetJounal.jpg and studies of Shanghai Institute of International, March 2018, Xinhua 2013 and Leyman Brown International Accountants, consulted on October 20, 2018.

Pakistan Observer. (2016, September 21). https://pakobserver.net/gwadar-port-to-handle-300-400m-ton-load-of-goods-annually-chinese-report/. Hellenic Shipping News. (2016). *Gwadar Port to Handle 300-400m-ton Load of Goods Annually: Chinese Report* | Hellenic Shipping News Worldwide. Retrieved August 8, 2017, from http://www.hellenicshippingnews.com/gwadar-port-to-handle-300-400m-ton-load-of-goods-annually-chinese-report.

Pakistan Observer. (2017, August 22). *Pakistan Entrepreneurs Support Vision 2025 Target $150b in Exports*.

Usman Kabir. *Pakistan Armed Forces Ranked 13th Most Powerful on Global Firepower Military Strength Index*. Retrieved March 2, 2018., from https://tribune.com.pk/.

World Economic Forum. (2017). *Insight Report, Global Human Capital Index, 2017*. ISBN 978-1-944835-10-1.

9

Aligning the Global Value Chains of China and Pakistan in the Context of the Belt and Road Initiative, and China Pakistan Economic Corridor

Yasir Arrfat

Introduction

To reduce the gap in exclusiveness between developed and emerging economies through sustainable trade development initiatives, the world has been practising different models of regional integration for the last five decades, including the Association of Southeast Asian Nations (ASEAN), BRICS (Brazil, Russia, India, China and South Africa), Economic Cooperation Organization (ECO), Central Asian Republics (CAR), G7 (Canada, France, Germany, Italy, Japan, UK and USA), European Union (EU) and so on. However, currently most of these models are facing serious challenges, for example Brexit. Based on these cases and experiences, President Xi Jinping of China initiated a new model of regional integration, namely the Belt and Road Initiative (BRI), in 2013 to address the prevailing issues of exclusiveness through effective and

Y. Arrfat (✉)
China Pakistan Economic Corridor Secretariat (CPECS), Ministry of Planning Development and Reform (MoPDR), Pakistan Institute of Development Economics (PIDE), Islamabad, Pakistan
e-mail: yasir.arrfat@pide.org.pk, yasir.arrfat@cpec-centre.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_9

efficient global value chain (GVC) integration among all 69 countries of BRI (see later Appendix 2) (Jinping 2018).

The purpose of BRI is to initiate a new model of regional integration. China has always believed in sustainable and inclusive development plans, and this vision can be achieved only with sustainable trade development among developed and developing countries. With the help of BRI programmes, 35% of global gross domestic product (GDP) and 31% of global trade will become sustainable in the long run (Bruce-Lockhart 2017).

In the next phase, China will be developing all emerging regional economies of BRI under the exporting industrialization regime, in which hundreds of special economic zones (SEZs) will be established in Africa, South Asia, Central Asia, Europe and the Middle East. These SEZs are intended to develop regional integration through forward and backward linkages among domestic and global markets.

To attain sustainable industrial development, this study suggests relocation of saturated industry from eastern/central China to Pakistan under BRI and CPEC SEZs on the basis of certain rationales. It is an opportune time for Pakistan to get advantages from the huge amount of Chinese industry which is relocating to other parts of the world because of its labour costs. In this study, some key sectors are identified regarding in what factors Chinese industrial relocation can benefit both countries. Moreover, key strategic takeaways have also been calculated through a descriptive analysis, together with some directions for possible joint ventures among Chinese and Pakistani firms.

The chapter will start with a brief explanation of CPEC's industrial cooperation, along with the Chinese industrial development plans to highlight effective and efficient practices, followed by Chinese GVCs and their growth potential to identify the key saturated industrial sectors under the Chinese exporting industrial relocation regime. Next it demonstrates Pakistan's trade profile and the products it exports according to the indications of revealed comparative advantages, in order to avail the country of the maximum benefits from the Chinese industrial relocation regime and optimal integration with its GVCs. The study also unfolds a critical analysis for the decisional process of Chinese industries relocating to Pakistan, while improving the strategic and tactical benefits to both economies. On the basis of these findings, more avenues are suggested for possible joint venture directions for vibrant investors while aligning the GVCs of both Pakistan and China.

China Pakistan Economic Corridor and Special Economic Zones

CPEC was initiated in practice in 2015 by the leadership of both countries based on four major windows: (1) energy, (2) infrastructure, (3) Gwadar port and (4) industrial cooperation. The details of its major projects are in Table 9.1.

Three of CPEC's windows (energy, infrastructure and Gwadar) are almost in the completion stages and the next phase is sustainable regional industrial integration. For this, China is adopting the same model for industrial development that was successfully practised in 1978.

According to the economic history of Chinese growth, in 1978 the Chinese government announced five SEZs along with hundreds of industrial and economic zones under the 'Reform and Open Up Policy'. Geographically, most of these were in the eastern coastal areas of China. However, the latest one, the sixth SEZ, was declared in landlocked western China in 2010, as shown in Fig. 9.1.

This sixth SEZ is geographically located in the autonomous region named Kashgar in Xinjiang. The success of these industrial zones is based on light engineering sectors, industries that are based on two parameters:

Table 9.1 China Pakistan Economic Corridor, major projects

Major categories	No. of projects	Estimated cost (US $ million)	Projected cost (US $ million)	No. of direct job opportunities
Energy	21	26,370 for 13,810 MW	33,000 for 17,045 MW	71,959
Infrastructure (road)	5	5341	5341	31,474
Infrastructure (rail)	3	8237	8237	14,400
Infrastructure (optical fibre)	1	44	44	1294
Gwadar	12	793	10,000–14,000	77,700
Special economic zones	9	In progress	In progress	
Total	42	$40,784	$58,622	196,827

Source: Ministry of Planning, Development and Reforms, Islamabad database (Husain, Arrfat 2018).

Fig. 9.1 Chinese special economic zones. (Reproduced with permission from the Centre of Excellence for CPEC, Islamabad). Source: National Development and Reforms Commission (NDRC), China database

assembly and labour intensity. The Chinese SEZs at national level accounted for 22% of national GDP, 46% of foreign direct investment and 60% of exports, and generated over 30 million jobs (Zeng 2010). Details of these zones are shown in Table 9.2.

However, now these industrial zones are at the level of the highest saturation in the light engineering sectors and these industries are willing to relocate to other areas of the world where they can enjoy comparative advantages in terms of low operational expenditure (OPEX).

In order to boost and capture this saturated light engineering industry, nine SEZs have been included in CPEC and are under discussion, as shown in Table 9.3. Moreover, three of them are in the final stages of ground breaking, namely Dhabeji in Sindh, M-3, Faisalabad in the Punjab and Rashakai in Khyber Pakhtunkhwa. The detailed endowments and potential industries are in Appendix 1.

Table 9.2 China's six special economic zones (SEZs)

		SEZs	Location	Inauguration	Average gross domestic product (GDP), US $ billion
Closed economy 1948–1978	Open economy: Chinese central government announced 'Reform and Open Up Policy' in 1978	Shenzhen	Guangdong (coastal)	1978	>152
		Zhuhai	Guangdong (coastal)	1978	>19.2
		Shantou	Guangdong (coastal)	1978	>19.25
		Xiamen	Fujian (coastal)	1978	>32
		Hainan	Hainan (coastal)	1978	>32.8
		Kashgar	Xinjiang (landlocked)	2010	123

Source: National Development and Reforms Commission (NDRC), China database

Table 9.3 CPEC special economic zones (SEZs)

No.	Name of SEZ	Location
1	Rashakai Economic Zone on M-1	Khyber Pakhtunkhwa
2	Special Economic Zone Dhabeji	Sindh
3	Bostan Industrial Zone	Balochistan
4	M-3, Faisalabad	Punjab
5	ICT Model Industrial Zone	Islamabad
6	Industrial Park on Pakistan Steel Mills Land	Port Qasim, Karachi
7	Mir Pur Industrial Zone	Azad Jammu and Kashmir
8	Mohmand Marble City	Federally Administered Tribal Areas
9	Moqpondass Special Economic Zone	Gilgit Baltistan

Source: Ministry of Planning, Development and Reforms, Islamabad database

China's Global Value Chains

According to the latest data from the International Trade Centre (ITC), in 2016 $32 trillion worth of global trade was recorded, including exports and imports. China was the largest exporter, at $2.09 trillion, and the second largest importer, at $1.58 trillion. With a worth of $1 trillion, 27% of Chinese trade is with Europe, Africa, Central Asia, the Middle

East and Pakistan. Strategically, CPEC will be the most optimal route for transit of this $1 trillion in trade in the long term.

The best way to integrate Pakistani industry with China's GVCs is to align its industrial development plan with the macro vision of Chinese industry. The Chinese economy is significantly based on labour-intensive light engineering sectors. Geographically, these light engineering sectors have mostly been located in eastern coastal areas of China since 1978. Oceans cover 71% of the globe and 90% of the world's trade is delivered by sea. To this day, based on the World Bank database, 80% of global GDP comes from areas within 100 km from coastal areas (Wang Yiwei 2016). This leads economies towards exclusive growth and an imbalance of power. According to the World Economic Forum (WEF), the annual per capita income of eastern China is $8113 and the annual per capita income of western China is almost half of that at $5490 (GCI 2018). There are certain factors behind this gap. In 1978, China announced the 'Open Up' policy and inaugurated five SEZs coupled with hundreds of other industrial zones in eastern coastal China. Then in 1990, China announced at 'Go West' policy and developed central China. Moreover, in 2010, China declared its sixth SEZ in western China (Xinjiang region) and finally started a new model of regional integration (BRI) to address this exclusive growth issue at large. The six corridors of BRI will enable these deprived and landlocked regions to access GVCs in a short time span.

China's trade with BRI countries in 2015 exceeded $1 trillion, accounting for one-fourth of its total foreign trade. In the past ten years, the volume of trade between China and these countries grew at an average annual rate of 19%, four percentage points higher than the average growth rate of China's overall foreign trade in the same period. According to the 13th Five-Year Plan, in the next five years China will import $10 trillion worth of goods, its foreign investment will exceed $500 billion, the number of outbound tourists will reach about 500 million, and China's neighbouring countries and Belt and Road countries will be the first to benefit (Wang Yiwei 2016).

There are two major rationales behind the development of SEZs in BRI countries. The first is the exclusive growth issues among western, central and eastern China, because the light engineering sectors have been saturated due to the exponential rise in wages. Therefore, a sug-

gested approach for China is to analyse the GDP per capita of BRI countries and select a country of interest accordingly. The complete list of BRI countries is in Appendix 2. Pettinger (2017) has suggested that GDP per capita is directly correlated with the wages of the economy in an ideal environment. Similarly, some regionally competitive destinations for Chinese industrial relocation are in Table 9.4.

The highest GDP per capita reported in Table 9.4 is for Singapore ($57,713), followed by Brunei ($29,711), Malaysia ($9813), China ($8643) and Thailand ($6591), while GDP per capita for the rest of the BRI countries hovers between $1000 and $5000. The lowest categorized countries in terms of GDP per capita include Myanmar ($1299), Cambodia ($1389) and Pakistan ($1541).

Moreover, Pakistan has improved its rank in the Global Peace Index 2018 by one point; on the other hand, Cambodia and Myanmar reduced their rank by 18 and 15 points, respectively, due to political instability and the violent criminal activities of ethnic groups. In the meantime, Pakistan has significantly improved its security situation over the last five years. Its rank in 'quality of infrastructure' has improved from 105th to

Table 9.4 Per capita GDP of Pakistan's regionally competitive Belt and Road Initiative countries

Annual per capita GDP, US $		
	2013	2017/2018
Bangladesh	904	1601
Brunei	39,678	29,711
Cambodia	1047	1389
China	6747	8643
India	1505	1982
Indonesia	3467	3875
Lao PDR	1505	2543
Malaysia	10,407	9813
Myanmar	916	1299
Pakistan	1308	1541
Philippines	2707	2976
Singapore	55,183	57,713
Thailand	5678	6591
Vietnam	1909	2353

Source: ASEAN Macroeconomic Database, World Bank Database, World Economic Forum Database

82nd in the last five years (Global Competitiveness Index, GCI 2018). Pakistan is going to become a trade transit hub with the effective utilization of the CPEC route coupled with the emerging deep-sea port of Gwadar, endorsed by the Asian Development Bank (Rana 2017). Gwadar also started its commercial operations with international shipper China Overseas Shipping Company in March 2018. Gwadar Free Trade Zone began commercial activities at Gwadar port in January 2018 after the first international expo. Similarly, Bloomberg recently endorsed Pakistan as a clear winner among the most under-rated economies (Cowen 2017). Pakistan will be the third fastest-growing economy by 2024 (Economic Complexity Index, ECI 2018). It has also been blessed with trillions of dollars' worth of natural endowments (Appendix 1), including being the fifth largest milk producer in the world, having the seventh largest coal reserves in the world (186 billion tons, according to the National Electric Power Regulatory Authority), having more than 800 km of untapped coastal area, and being the world's top tourist-preferred destination.

These are all fantastic opportunities for national and international investors to boost regional economies. The economic progress of the entire region is impressive, and the prospects for sustained economic growth are bright.

Last but not least, major markets for Chinese exports are still to the west, including Europe, Central Asia, the Middle East and Africa. For that market access, Pakistan remains an efficient destination in the way of the supply chain value proposition. In the light of these narratives and endorsements, Pakistan is one the best destinations for relocation of these light engineering saturated industries from eastern/central China under BRI and CPEC.

Similarly, as reported by Professor Justin Yifu Lin, Economic Advisor to President Xi Jinping, $85 million worth of work has been saturated in the light engineering sector in eastern and central China, and these industries and industrial clusters are willing to relocate to the SEZs of the BRI countries, where these investors can enjoy relatively lower capital expenditure (CAPEX) and OPEX to maximize their bottom lines based on route and labour cost advantages (Lin 2017).

Around 56% of Chinese exports amounting to $1168 billion are held in light engineering products, as outlined in Table 9.5.

Table 9.5 Chinese exports of light engineering products, 2016

Light engineering products	US $ billion
Textiles	300.00
Metals	195.00
Chemical products	116.00
Transportation	106.00
Plastics and rubber	96.20
Footwear and hardware	73.70
Stone and glass	52.20
Animal hides	41.70
Foodstuffs	30.70
Mineral products	32.50
Precious metals	28.90
Paper goods	28.80
Vegetable products	27.40
Wood products	19.30
Animal products	18.20
Animal and vegetable by-products	0.78
Arts and antiques	0.67
Total	1168.05

Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

Based on the 17 light engineering sectors mentioned in Table 9.5, 31% of these export goods amounting to $643 billion are going towards Europe, the Middle East, Central Asia, Africa and Pakistan. The highest export value reported is for textiles ($300 billion), followed by metals ($195 billion) and chemical products ($116 billion). These top three export products represent 52% of all exports of the light engineering sectors, which shows the huge potential for Pakistan to integrate its industrial regime with the light engineering labour-intensive relocation industries of China. Pakistan also has in-depth endowments in these three sectors as well, whose details can be seen in Appendix 1. However, Fig. 9.2 segregates the possible destinations of Chinese light engineering exports through the CPEC route.

Currently, CPEC could be the most feasible route for this trade with Europe, the Middle East, Central Asia and Africa, and the relocation destination for these light engineering industries. Strategically, Pakistan could improve its export bill and reduce its import bill after effective and

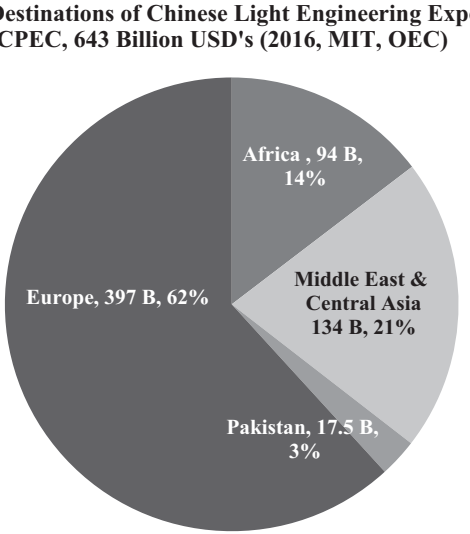


Fig. 9.2 Possible destinations of light engineering exports via CPEC. Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

efficient relocation of these saturated light engineering industries from China under the sustainable integration of its exports and imports with Chinese GVCs.

The second rationale is Chinese imports of high-tech products. As shown in Fig. 9.3, in 2016 China imported $627 billion worth of high-tech products from South Korea, Japan, the USA and Germany.

Figure 9.3 shows that 40% of Chinese imports out of $1588 billion are based on high-tech products from only four countries. The highest imports of high-tech products reported are from South Korea ($191 billion), followed by Japan ($175 billion), the USA ($151 billion) and Germany ($103 billion). Currently, China is again repeating its industrial 'Open Up' policy of 1978, in which it will be substituting its high-tech imported products with the help of upgrading its existing light engineering industry towards high-tech manufacturing under its industrialization regime (Shunli Yao 2018).

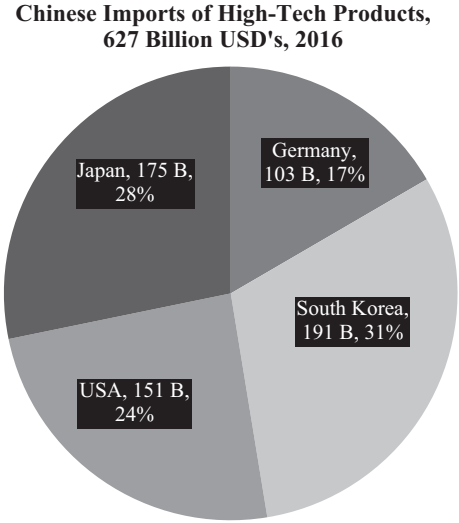


Fig. 9.3 Chinese imports of high-tech products. Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

Pakistan Trade Profile

According to the latest data from the International Trade Centre shown in Fig. 9.4, in 2017 Pakistan's total average trade was $71 billion over the last half decade, including average exports of $23 billion and average imports of $48 billion.

Out of the total of traded goods, 75.7% is based on three sectors, textiles, chemicals/plastic/rubber and metals (iron/steel), amounting to $53 billion.

Revealed Comparative Advantages

Revealed comparative advantage (RCA) is an important indicator, which calculates whether a country has an advantage in exports of a specified good, as compared to other countries. An RCA of greater than 1 shows that the country has a comparative advantage for a particular product,

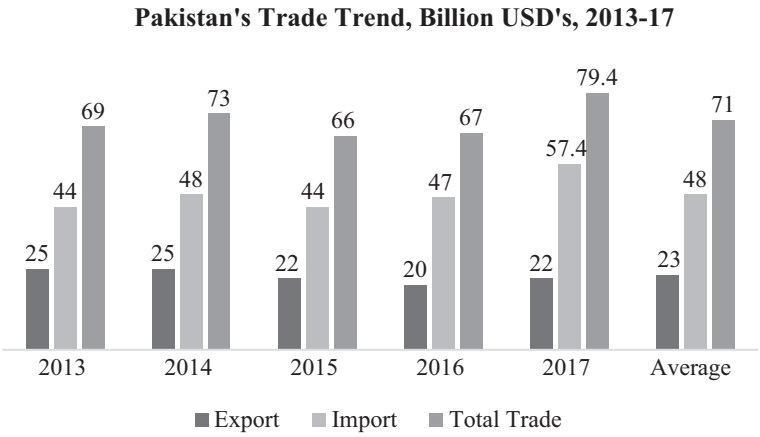


Fig. 9.4 Pakistan's trade trend. Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

while an RCA less than 1 shows that the country is at a comparative disadvantage for a particular commodity.

According to the latest RCA list from World Integrated Trade Solutions, the top 20 export product groups from Pakistan are shown in Table 9.6 together with Pakistan's advantages and disadvantages accordingly.

Based on the latest RCAs (2016), Pakistan possesses a unique comparative advantage in five product groups, namely textiles and clothing (15.1), followed by hides and skins (7.8), vegetables (2.87), minerals (1.68) and intermediate goods (1.13). Their average RCAs (2009–2016) are shown in Fig. 9.5.

According to Fig. 9.5, Pakistan has the highest average RCA in textiles and clothing (14.45), followed by hides and skins (8.34), vegetables (3.49), minerals (1.49) and intermediate goods (1.45) in exporting products to the world. These five sectors are usually combined into three broader sectors, textiles and clothing, metals and chemical products, by the ITC.

Table 9.6 Revealed comparative advantages of Pakistan's products

Product group	2009	2010	2011	2012	2013	2014	2015	2016
Capital goods	0.09	0.07	0.09	0.07	0.07	0.07	0.08	0.08
Consumer goods	1.64	1.72	1.58	1.49	1.68	1.83	1.83	2.02
Intermediate goods	1.5	1.4	1.44	1.9	1.66	1.33	1.25	1.13
Raw materials	0.45	0.51	0.66	0.6	0.63	0.66	0.87	0.68
Animals	0.9	1.03	1.12	1	1.22	1.2	1.34	0.9
Chemicals	0.13	0.13	0.14	0.13	0.18	0.15	0.12	0.1
Food products	0.78	0.65	0.8	0.94	1.32	1.08	0.91	0.77
Footwear	0.68	0.58	0.61	0.74	0.77	0.86	0.78	0.83
Fuels	0.12	0.17	0.18	0.16	0.16	0.25	0.25	0.22
Hides and skins	9.2	8.88	8.08	7.99	8.64	8.6	7.51	7.85
Machinery and electrical	0.05	0.04	0.05	0.03	0.03	0.03	0.03	0.03
Metals	0.34	0.37	0.38	0.48	0.38	0.32	0.29	0.29
Minerals	1.9	1.35	1.13	1.19	1.54	1.6	1.53	1.68
Miscellaneous	0.44	0.44	0.45	0.43	0.46	0.51	0.48	0.51
Plastic and rubber	0.33	0.37	0.36	0.43	0.37	0.33	0.29	0.29
Stone and glass	2	1.78	1.4	2.4	0.68	0.34	0.2	0.29
Textiles and clothing	13.8	13.8	14.4	14.4	15.1	14.7	14.4	15.1
Transportation	0.04	0.03	0.03	0.03	0.03	0.02	0.05	0.02
Vegetables	2.96	4.43	3.92	3.15	3.89	3.52	3.23	2.87
Wood	0.06	0.13	0.1	0.08	0.1	0.1	0.09	0.17

Source: World Integrated Trade Solutions database

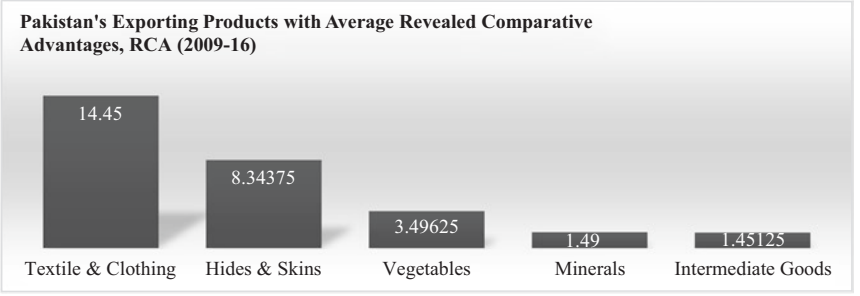


Fig. 9.5 Pakistan's products with average revealed comparative advantages, 2009–2016. Source: World Integrated Trade Solutions database

Pakistan's Revealed Comparative Advantages in Exports to China

Figure 9.6 shows the sectors where Pakistan has a clear advantage against China over the last five years; that is, Pakistan has an RCA >1. Textiles and clothing remains, unsurprisingly, Pakistan's strongest product group, with an overwhelming RCA of 33.3. Other sectors where Pakistan appears to have had an export advantage from 2011–2015 include animals, food, hides and skins and metal products.

Similarly, Pakistan is consuming a significant amount of its foreign exchange reserve (FOREX) on importing these light engineering products from China and the rest of the world, as shown in Fig. 9.7.

Based on Fig. 9.7, Pakistan is currently liquidating around $20 billion annually to import three light engineering products, textiles/clothing ($6 billion), chemicals/rubber/plastics ($10 billion) and metals (iron and steel; $4 billion) from China and the rest of the world. Conclusively, Pakistan could save up to $20 billion of FOREX annually with proper import substitution industrialization in appropriate collaboration with the Chinese light engineering industrial relocation regime under BRI and CPEC.

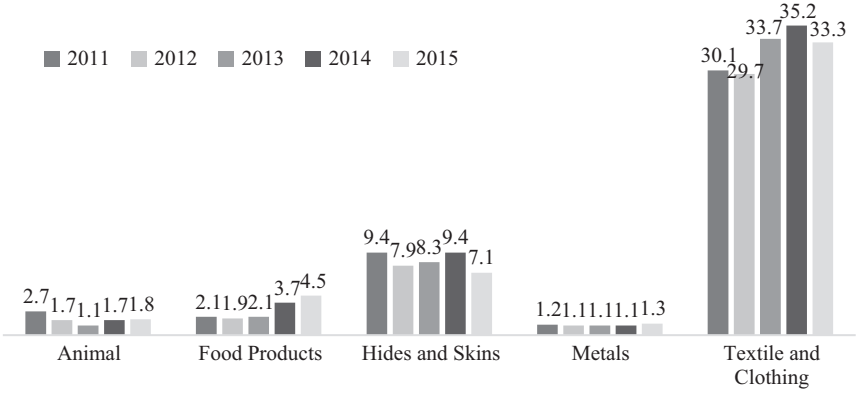


Fig. 9.6 Pakistan's revealed comparative advantages in exports to China (2011–2015). Source: Pakistan Business Council database (PBC 2016)

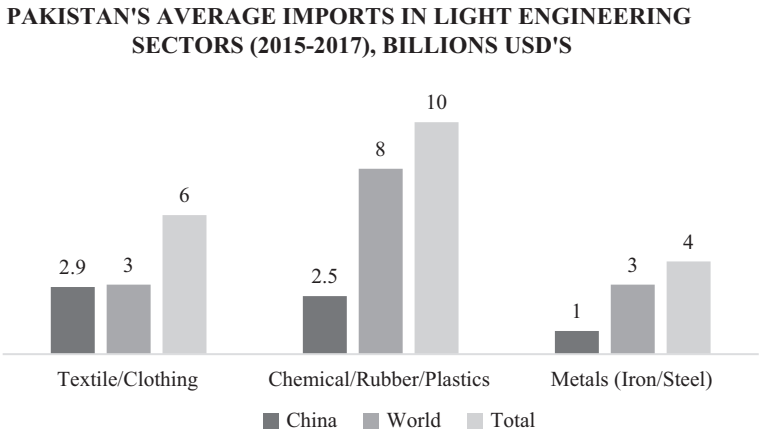


Fig. 9.7 Pakistan's average imports in light engineering sectors (2015–2017). Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

Based on this discussion, textiles and clothing, chemicals and metals (iron and steel) are the most mature sectors in Pakistan in which a huge chunk of foreign direct investment (including Chinese) could be incurred to gauge the labour and route costs advantages.

Decisional Processes

Based on this descriptive information, narrative and trails, a decisional process has been developed in the following sections.

Chinese Industrial Upgrading

As shown in Fig. 9.8, the suggested way of Chinese industrial upgrading has been explained in six steps under the BRI industrial upgrading regime. The question that arises is what will be done with the existing Chinese light engineering sector? The detailed answer can be viewed in Fig. 9.9.

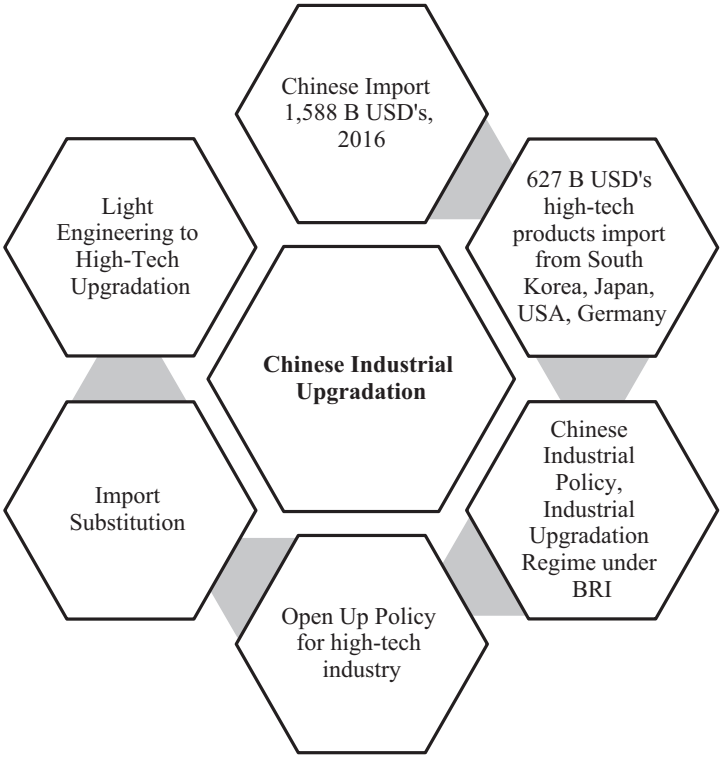


Fig. 9.8 Chinese light engineering upgrading towards high-tech

Chinese Saturated Industry

In Fig. 9.9, the Chinese light engineering industrial relocation plan is explained in six brief steps. These six steps clearly converge on the Chinese light engineering industry being relocated to BRI countries where these industries may enjoy lower CAPEX and OPEX, particularly in terms of lower wages and lower logistics costs.

Convergence of Chinese Global Value Chains with Pakistani Global Value Chains

According to the latest discussion with the National Development and Reforms Commission, Beijing and the Board of Investment, Islamabad,

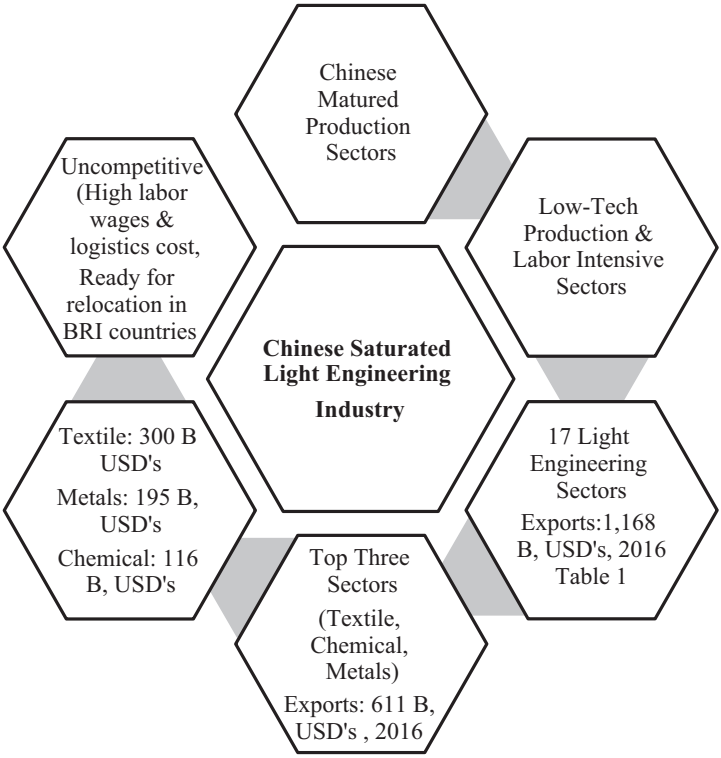


Fig. 9.9 Chinese saturated light engineering industry

three types of industrial sectors, namely textile, chemicals and metals (iron/steel), will be relocating from Chinese SEZs to western China and CPEC's SEZs. Based on a descriptive analysis, the potential of exports for these three sectors is shown in Fig. 9.10.

Based on the latest data shown in Fig. 9.10, Chinese exports have almost doubled since 2008, amounting to $500 billion in 2017 in the sectors under consideration: textiles ($178–257 billion), chemicals/rubber/plastics ($90–200 billion) and iron/steel ($21–43 billion). Therefore, conclusively, BRI countries have a fair opportunity to avail themselves the maximum share from these sectors in the relocation process.

Similarly, Pakistan has already unique RCAs in these three sectors, combined with lower labour costs, a geostrategic location (closer to major consumption markets) and natural endowments (Appendix 1). In this

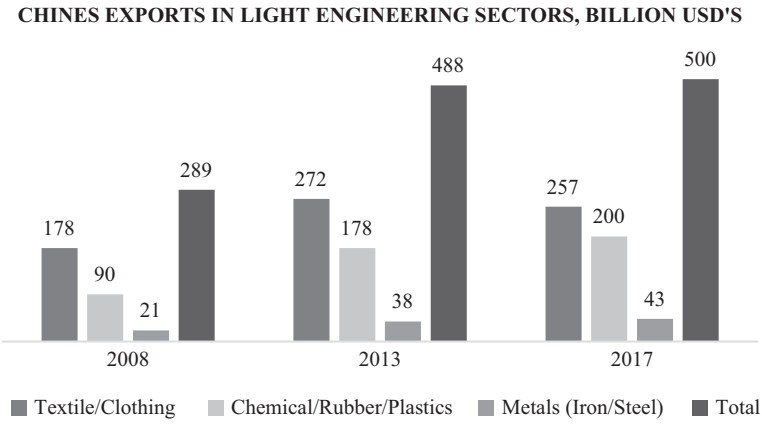


Fig. 9.10 Chinese exports in light engineering sectors. Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

way, Pakistan and China may integrate their GVCs sustainably for mutual and regional benefits.

Benefits to Both Economies

Based on the suggested model of GVC integration, both economies may avail themselves of win–win incentives. Chinese low-tech industry is currently suffering high wages and high logistics costs due to the distance from the major consumer markets of Europe, Central Asia, the Middle East and Africa. However, these industries may enjoy lower OPEX if properly relocated to CPEC SEZs. On the other hand, Pakistan is currently developing its industrial base and exporting regimes. In that way, both economies may get mutual benefits along with emerging regional economies. Conclusively, these major benefits can be viewed in Figs. 9.11 and 9.12.

As reported in Fig. 9.12, Pakistan may avail itself of strategical benefits from the relocation of these three saturated light engineering industries—that is, textiles/clothing, chemicals/rubber/plastics, metals (iron/steel)—from China in terms of a reduction in its import bill of up to $20 billion

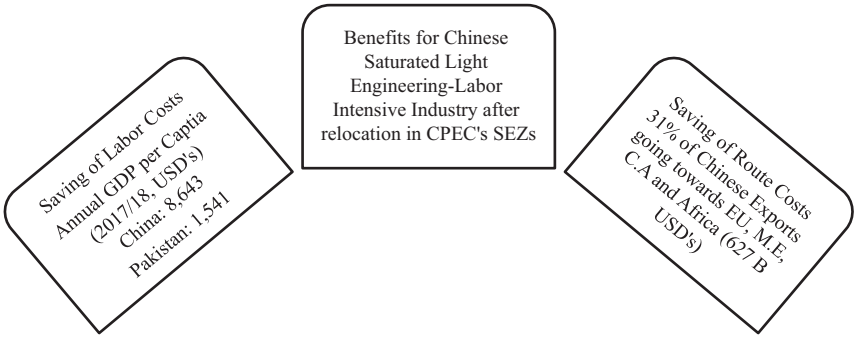


Fig. 9.11 Advantages to Chinese industries

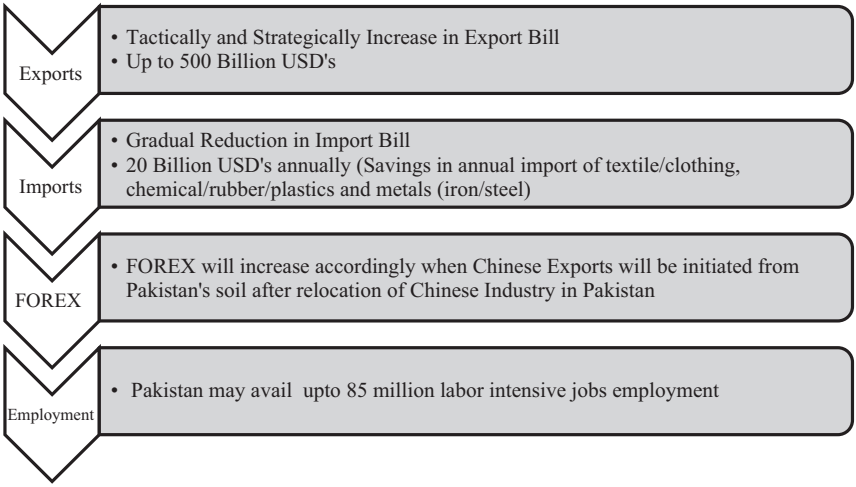


Fig. 9.12 Advantages to Pakistan

annually, in addition to an increase in its export bill of up to $500 billion accordingly and employment of up to 85 million labour-intensive jobs.

Possible Joint Ventures

Moreover, the top five light engineering production industries are mentioned in Table 9.7 to showcase and project the export potential of these three sectors. Possible joint ventures could be made among

Table 9.7 Possible industries for joint ventures between China and Pakistan

Name of products	HS 6-digit code	US $ billion
Top five Chinese exported products in textile sector, 2016		
Pullovers, cardigans etc. of manmade fibre knit	611,030	10.65
Women's, girls' trousers and shorts, of cotton, not knit	620,462	8.1
Pullovers, cardigans etc. of cotton knit	611,020	7.26
Men's, boys' trousers and shorts, of cotton, not knit	620,342	6.25
Made-up articles (textile) nes, textile dress patterns	630,790	6.19
Top five Chinese exported products in chemicals sector, 2016		
Chemical industry products, preparations, mixtures nes	382,390	3.26
Medicaments nes, in dosage	300,490	2.47
Diammonium phosphate, in packs >10 kg	310,530	2.36
Herbicides, sprouting and growth regulators	380,830	2.29
Chemical element/compound wafers doped for electronic	381,800	2.1
Top five Chinese exported products in iron/steel sector, 2016		
Bar/rod, alloy steel nes, nfw hot rolled/drawn/extrude	722,830	9.15
Structures and parts of structures, iron or steel, nes	730,890	8.79
Articles of iron/steel, nes	732,690	8.55
Hot rolled alloy steel, coils width >600 mm, nes	722,530	4.82
Flat rolled iron or non-alloy steel, coated with zinc, width >600 mm, nes	721,047	4.63

Note: HS, World Customs Organization's Harmonized System; nes, not elsewhere specified; nfw, not further worked. Source: Massachusetts Institute of Technology, International Trade Centre, World Trade Organization, World Integrated Trade Solutions databases

Pakistani and Chinese industries in these sectors as well with proper industrial relocation policies.

Conclusion

Based on Chinese industrial relocation and upgrading regimes, in-depth descriptive analysis and a specific narrative from Chinese economic and industrial experts, a labour-intensive sector such as light engineering is saturating and conclusively becoming uncompetitive, mostly due to the exponential rise in wages in eastern/central China. On the other hand,

China desires to upgrade its industrial base towards high-tech according to its 13th five-year development plan to save its import bill for high-tech product imports amounting to $627 billion annually from South Korea, Japan, the USA and Germany. In this regard, China is planning to relocate its saturated low-tech, labour-intensive industry towards the underdeveloped and developing countries of BRI, where these industries may enjoy low operational costs in terms of low wages and low transportation costs. This study suggests that among the other countries associated with BRI, Pakistan is one of the most suitable destinations considering its low operational costs and geostrategic/locational advantages.

In a nutshell, Pakistan may avail itself of the strategic benefits from the relocation of three saturated light engineering industries—that is, textiles/clothing, chemicals/rubber/plastics, metals (iron/steel)—from China in terms of a reduction in its import bill of up to $20 billion annually, in addition to an increase in its export bill of up to $500 billion accordingly, and employment up to 85 million labour-intensive jobs.

Similarly, Chinese industries may get strategic benefits in terms of labour and route costs after the proper relocation of $500 billion worth of light engineering industries to Pakistan, because the labour cost in Pakistan is almost five times cheaper than in eastern China. Moreover, 31% of Chinese light engineering products amounting to $643 billion are going to the Middle East, Central Asia, Europe, Africa and Pakistan through a route which possesses enough potential to facilitate logistics cost advantages to these industries after their proper relocation to CPEC's SEZ.

Apart from all the direct benefits, Pakistani local investors may also avail themselves of these emerging business opportunities with the help of possible joint ventures with Chinese investors, as in the recent case of Chinese giant Alibaba acquiring Pakistan's biggest e-commerce company, Daraz.pk. In this way, Pakistan may integrate its trade and businesses with China's GVCs via CPEC and BRI.

While concentrating on its geostrategic location, Pakistan may also receive transit revenue, as 27% of Chinese trade is with Europe, Africa, Central Asia and the Middle East, worth $1 trillion. Technically, CPEC will be the most optimal route for this $1 trillion transit trade in the long term.

Appendix 1: CPEC's Special Economic Zones, Endowments and Potential Industry

No.	Special economic zones	Location	Endowments and potential industries
1	Rashakai Economic Zone on M-1	Khyber Pakhtunkhwa	Gem and soap stones, metal ores, marble/granite, magnesium, phosphate, sugarcane, tobacco, wheat, maize, rice, mustard, water melon, musk melon, apricot, guava, pear, peach, plum, citrus and mulberry
2	Special Economic Zone Dhabeji	Sindh	Manufacturing and automobile industries
3	Bostan Industrial Zone	Balochistan	Mines, minerals, agriculture and livestock (reserves: copper, gold, coal, iron and silver)
4	M-3, Faisalabad	Punjab	Suitable for major fruits and vegetables (rice, wheat, berseam, sugarcane, etc.), textiles and livestock
5	ICT Model Industrial Zone, Islamabad	Islamabad	Information technology and innovation driven
6	Industrial Park on Pakistan Steel Mills Land	Port Qasim, Karachi	Manufacturing and automobile industries
7	Mir Pur Industrial Zone	Azad Jammu and Kashmir	Maize, wheat and rice, vegetables, grams, pulses (red lobia) and oil seeds, apple, pear, apricot and walnut
8	Mohmand Marble City	Federally Administered Tribal Areas	Minerals, agriculture, marble (reserves: uranium, dimensional stones, granite, coal, manganese ore and limestone)
9	Moqpondass Special Economic Zone	Gilgit Baltistan	Precious stones, fruits, marble/ granite, iron

Source: Author's findings

Appendix 2

List of Belt and Road Initiative countries			
Serial Number	Name	Serial Number	Name
1	China	36	Malaysia
2	Afghanistan	37	Maldives
3	Albania	38	Moldova
4	Armenia	39	Magnolia
5	Azerbaijan	40	Montenegro
6	Bahrain	41	Myanmar
7	Bangladesh	42	Nepal
8	Belarus	43	New Zealand
9	Bhutan	44	Oman
10	Bosnia and Herzegovina	45	Pakistan
11	Brunei	46	Palestine
12	Bulgari	47	Philippines
13	Cambodia	48	Poland
14	Croatia	49	Qatar
15	Czech Republic	50	Romania
16	Egypt	51	Russia
17	Estonia	52	Saudi Arabia
18	Ethiopia	53	Serbia
19	Georgia	54	Singapore
20	Hungry	55	Slovakia
21	India	56	Slovenia
22	Indonesia	57	South Africa
23	Iran	58	Sri Lanka
24	Iraq	59	Syrian Arab Republic
25	Israel	60	Tajikistan
26	Jordan	61	Thailand
27	Kazakhstan	62	Timor-Leste
28	Korea	63	Turkey
29	Kuwait	64	Turkmenistan
30	Kyrgyzstan	65	Ukraine
31	Laos	66	United Arab Emirates
32	Latvia	67	Uzbekistan
33	Lebanon	68	Vietnam
34	Lithuania	69	Yemen
35	Macedonia		

Source: Author's findings

References

Bruce-Lockhart, A. (2017). *China's $900 Billion New Silk Road. What You Need to Know*. WEF.

Cowen, T. (2017). *Pakistan's Economy Is a Pleasant Surprise*. Bloomberg.

ECI. (2018). *Economic Complexity Index 2018*. OEC World.

GCI. (2018). *Global Competitiveness Index 2017–2018*. WEF.

Ishrat Husain, Yasir Arrfat. (2018). *CPEC & Pakistani Economy: An Appraisal.* Centre of Excellence for CPEC, Islamabad.

Jinping, X. (2018). Xi Jinping Defends BRI; says China Has No Geo-political Calculations. *The Times of India*, World.

Lin, J. Y. (2017). *CPEC Creates Opportunity to Relocate China's Labour Intensive Industry, Pakistan Can Attain 8-10pc Growth Rate Over Next 30 Years*. Planning Commission of Pakistan.

PBC. (2016). *Third Review of the Pakistan-China FTA and Recommendations for Phase 2 Negotiations*. Pakistan Business Council.

Pettinger, T. (2017). *The Relationship Between Economic Growth and Average Pay*. Blog Article, Economics Help.

Rana, S. (2017). ADB Sees Chance for Pakistan to Emerge as Trade Hub. *The Express Tribune*.

Yao, S. (2018). *South-South Cooperation in the Era of Global Value Chains: What Can China Offer?* ARTNeT Working Paper Series, No. 177, January 2018, Bangkok, ESCAP.

Yiwei, W. (2016). *China Connects the World, What Behind the Belt and Road Initiative*. RDCY Think Tank Series, China Inter Continental Press.

Zeng, D. Z. (2010). *Building Engines for Growth and Competitiveness in China, Experience with Special Economic Zones and Industrial Clusters*. Washington, DC: The World Bank.

10

Developing a Competitive Agriculture and Agro-based Industry under CPEC

Mahmood Ahmad

Introduction and Issues

The China Pakistan Economic Corridor (CPEC), running from south-western China to Pakistan, is a key part and the 'front runner' of a mega project. It is considered to be a 'game changer' for Pakistan, ushering in a new era of economic development. Unlike the old Silk Road, the Belt and Road Initiative (BRI) is a framework of regional connectivity, not only benefiting China and Pakistan, but rather, in due course, having positive impacts on Iran, Afghanistan, India and the Central Asian Republics. CPEC is an evolving package of competitive economic initiatives to enhance trade and economic development. This ambitious programme has two main components: (1) a new trade and transport route from Kashgar in China to Gwadar port in Baluchistan; and (2) special

M. Ahmad (✉)
Center for Water, Informatics and Technology (WIT), Lahore School of Management Science (LUMS), Lahore, Pakistan

Shahid Javed Burki Institute of Public Policy (BIPP) at NETSOL, Lahore, Pakistan

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_10

economic zones (SEZs) along the route, including power projects and other auxiliary facilities. The first phase of the project is expected to receive around US $46 billion in concessionary and commercial loans, for which financial facilitation with Chinese companies is being arranged. The CPEC projects can broadly be listed in four categories: infrastructure, energy, industry/trade and others.

The first phase of CPEC promised $46 billion of Chinese investment, with a breakdown of roughly $14.82 billion for transport infrastructure—$4.65 billion for five roads and $8.57 billion for railways. Another $0.79 billion is allocated to 12 Gwadar port developmental projects. The infrastructure projects, particularly roads labelled as 'early harvest projects', have either been completed or are under construction to be completed by 2020, although already three- to five-year completion delays are anticipated. The second phase provides new opportunities by transforming the transport corridor to a trade and economic corridor, but progress at best is less than satisfactory. According to the BIPP Report (2017), few, if any, investments have been provided in the ongoing CPEC programme directly for poverty alleviation, regional disparity reduction and sustainable development. Sectors such as agriculture, industry and so on do find an expression of interest in the CPEC long-term plan, but no funds are allocated at the moment. Substantial homework will be required to develop a meaningful programme for obtaining the full benefits from sectors like agriculture and agro-industry. To support export-led growth nine SEZs were planned, a large number given the limited capacity of the country, although now this has been scaled down to three, which are all at the feasibility stage.

There is an ongoing debate as to which sectors provide greater opportunities for export-led growth, as the country's economy is faltering on many accounts and poverty is on the rise. Within the first three years of CPEC planning, agriculture was barely mentioned as a possible sector of development; however, under the new political regime of Pakistan Tehreek-e-Insafe (PTI) this landscape is changing. Among new revisions, emerging priorities are industrial cooperation, and socioeconomic and agriculture sector development. As mentioned, three out of nine planned SEZs have been prioritized and were expected to be finalized within the first half of 2019. The PTI government recently created a joint working group (JWG)[1] for agriculture, concerned with preparing a roadmap to

promote a competitive and sustainable agriculture sector for upcoming meetings in China, consequently paving the way to invite Chinese companies to explore investment opportunities in Pakistan and leverage the most promising agriculture value chains.

This chapter makes a case that in the short to medium term, agriculture and agro-industry provide a significant opportunity to spur export-led growth. The development of the corridor should not be looked at as a passage provided to those economies that are already well developed and better equipped to trade competitively and, ultimately, take a larger share of the expected benefits. Rather, it must be seen as an opportunity to provide supporting infrastructure to Pakistan's potential agriculture and ago-processing industry. Promoting the rural economy in high-potential areas could result in fast-track rural economic growth as it carries forward and backward linkages, having high multiplier effects in terms of job creation and value addition. Due to the generally perishable and bulky characteristics of agricultural products, many agro-industrial plants and smaller-scale agro-processing enterprises tend to be located close to their major sources of raw materials. As a result, the immediate socioeconomic impacts tend to be exerted in rural areas. Further, it is suggested that these efforts should be equally spread to all provincial rural economies, especially in Baluchistan and Khyber Pakhtunkhwa, for equitable prosperity.

Significance of Agriculture among the Priorities

Pakistan has missed the industrial train called the 'South Asian Miracle'—at present Pakistan does not have the necessary base for knowledge and human skills, nor conducive macro and sectoral policies to develop a modern industrial economy. Malaysia and Bangladesh provide a good example for transforming predominantly agricultural economies to agro-based and value-added industry: garments for Bangladesh and electronics goods and value-added agricultural goods (edible oil and halal meat) in Malaysia. This was achieved via investment in human capital, moving towards a diversified economic base, developing institutions that provide consistent policy environments and developing a society with cultural

and religious balance. Meanwhile, during the same period Pakistan let its comparative advantage in cotton and a few value-added products slip, misusing valuable resources (water and good ecological zones) largely due to poor management and misguided policies. CPEC provides new opportunities for export-led growth, not based on high-tech industry but on developing agriculture and agro-based industry. Secondly, tough competition among Southeast Asian countries with established brands in electronics and other industrial goods leaves little or no chance for Pakistan to penetrate these well-established markets, other than being a part of global value chains as China considers relocating its industries for number of reasons. However, Pakistan does have a comparative advantage in producing high-value agriculture, which would be in high demand in China and other growing economies in the region.

CPEC and Agriculture: A Framework

Pakistan is primarily an agrarian economy. The agriculture sector has significant potential to contribute towards economic growth and development, which has not yet been fully realized. According to the Economic Survey of Pakistan (2016), this sector remains the largest employer, absorbing 42.3% of Pakistan's total labour force. Traditionally, agricultural development has been focused around major cereal and cash crops, as they constitute a larger share of total value, enjoying added importance due to their higher relevance in regard to food security. Taking into account the robust performance of this sector five decades after the country's independence, the trends during the past 15 years indicate a constant decline in growth rates, suggesting that this sector is under-performing. Following two years of back-to-back slide in the economy, it showed recovery in 2016–2017, with rice exports leading the revival. A record-breaking increase in growth from negative to 3.5% in the agriculture sector and 4.2% growth in major crops against the target of 2.5% was witnessed in 2017. Throughout 2016, 20.47 million tons of wheat were grown, which is considered the highest yield in the history of Punjab as well as that of Pakistan since 1947. Moreover, the Agricultural Department's annual progress report (2017) highlights Punjab's target of

cotton sowing as an achievement, which will aid in reviving textiles, given that agriculture supplies 70% of raw materials to the textiles industry. However, an unsustainable growth pattern marks the 2018 performance, as production was projected at only 10.87 million bales compared to the target of 14.37 million bales, largely due to water shortages (Amin 2018).

Since agriculture is one of the key drivers for Pakistan's economy, future strategies, policies and actions must be based on a framework that holds promise and has been well tested in other countries. Figure 10.1 provides a broad framework for developing sustainable and competitive agriculture to position it for meeting the challenges and opportunities that CPEC provides.

This framework is based on international best practices, which hold the potential to steer the country's agriculture sector towards export-led growth. Nevertheless, at the very least Pakistan's policy environment requires sound management of information systems, flexible rural factor markets, a competitive agribusiness sector, adequate infrastructure, robust technology and, most importantly, trained and developed human capital. Holistically, the proposed policy actions and underlying strategies would

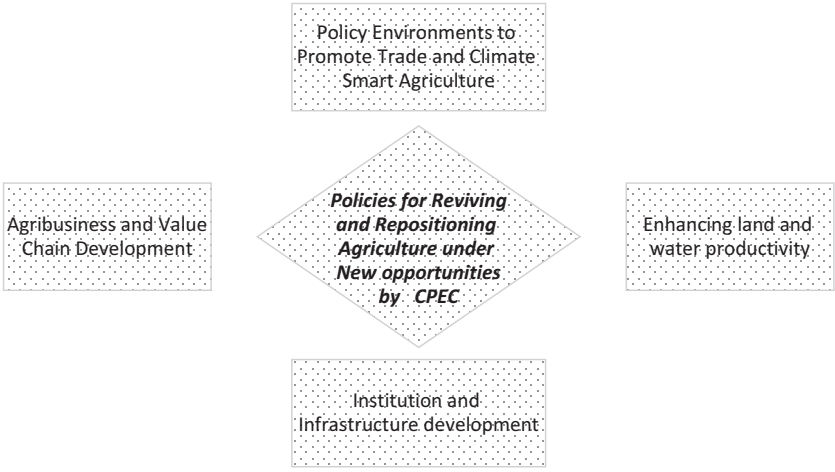


Fig. 10.1 Framework for sustainable and competitive growth in the agriculture sector

foster agricultural growth, largely through adjustments in the output mix towards higher-value products, which should result in higher total factor productivity. CPEC offers tremendous opportunities that will allow Pakistan to tap into a larger domestic market and several emerging international export destinations, especially China. Subsequently, this will also contribute to government and donor objectives for providing greater support to rural livelihoods and accelerate economic growth.

Existing Problems and Challenges

The most common problems and challenges facing agriculture, agribusiness and promoting agro-industry include (1) energy shortages; (2) lack of skilled labour and managerial capacity; (3) unreliable supplies of raw materials in terms of quality and quantity; (4) obsolete and inefficient equipment and technologies; (5) poor marketing facilities and sales networking; (6) lack of good infrastructure, such as roads, telecommunications and market information networks; (7) an ad hoc policy regime and high interest rates; (8) high product losses due to inadequate post-harvesting facilities; (9) high transportation and distribution costs; (10) difficulty in accessing financial support due to bureaucracy and bias against small-scale entrepreneurs, who are usually considered to be high-risk borrowers; (11) lack of sufficient data and statistics on the industry; and (12) stagnation in the dairy industry, particularly for small livestock holders, because of policy capture by a few large milk processors. Further, no efforts have been made to link small farmers and small to medium enterprises (SMEs) to technology/innovation, markets and credit, an important triangle in developing a profitable and competitive economy across the board. These gaps have trapped Pakistani agriculture into a low-technology equilibrium. The key actions would be to leverage CPEC to develop a competitive agriculture and agro-industry by identifying clusters of agriculture value chains in the corridor zones classified under the CPEC project; and to develop the policies needed to promote their integration into the local and global value chain—a subject taken up in greater detail in later sections.

Unlocking Agricultural and Agribusiness Potential: The Opportunity Provided by CPEC

For agricultural development, China has expressed interest in enhancing cotton productivity, developing efficient irrigation and promoting post-harvest infrastructure along the CPEC route. The plan also aims to facilitate market entry for firms in sectors such as textiles, construction and agricultural technology. This section highlights areas where major reforms are needed to harness the full benefits from this enormous opportunity.

Enhancing Land and Water Productivity

Stagnant or declining yields are largely attributed to slow progress in releasing new high-yielding crop varieties, lack of conservation agriculture and low technology adoption. Overall, agricultural yields in China are twice those of Pakistan and Pakistani productivity is even below the world average, as shown in Fig. 10.2. For example, for a critical food security crop, the wheat yield stands at under 3 tons per ha, even using largely expensive irrigation water; it is more than 8 tons perhaps in France

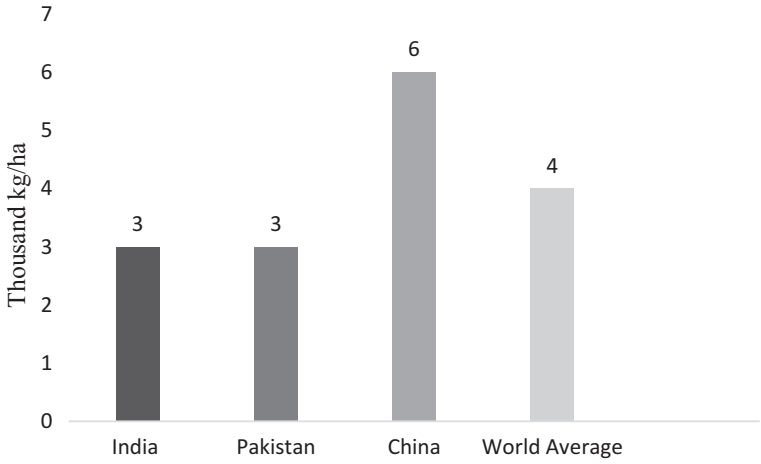


Fig. 10.2 Agricultural yield comparison (2016)

under rain-fed condition. This significant yield gap offers an opportunity for Pakistan to increase its crop yields, which in turn can be instrumental in transforming its subsistence agriculture to a commercial footing and improve its competitiveness.

Furthermore, water productivity is low in Pakistan in comparison to other countries in this region. In view of growing water scarcity, agriculture has to produce more with less water, so enhancing water productivity is key to the agricultural policy paradigm shift. A study conducted in the command area of the Lower Bari Doab Canal evaluated water productivity in relation to potential yields for wheat, cotton, sugarcane and spring maize, estimated at 0.73, 0.08, 2.01 and 0.54 kg/m^3, respectively. In contrast, water productivity for the average yield was 0.65, 0.33, 1.08 and 0.80 kg/m^3, respectively. Except for spring maize, a gap exists between the average and potential yield of more than 50%, whereas the gap between the average and potential water productivity was more than 70%. It may be noted that lifting productivity constraints in Pakistan would not be fully beneficial to farmers if marketing and trade infrastructure are not improved. For perishable commodities like fruit and vegetables, market gluts are common, with prices falling to levels that do not even cover their transportation costs to market.

Providing Supporting Infrastructure

Establishing post-harvest handling and marketing infrastructure continues to be a major impediment to developing a competitive business. The livestock and horticulture sectors are good cases to highlight the issues. The livestock sector produces surplus milk yet remains the least commercialized enterprise due to lack of proper planning, collection, transportation and distribution facilities; a significant portion of production is wasted in far-flung areas. As a result, Pakistan turns to importing 25,000 tons of powdered milk annually to meet the demand of urban areas, at a cost of $300 million per annum. Improving the quality of meat and other livestock products to meet international standards provides a large potential for exporting halal meat to the Middle East and creating a niche for meeting livestock demand during the Haj period. Pakistan is in a good position to be a part of planned trading hub for the Western Alignment

under the CPEC and One Belt One Road initiative (see the section on trade with China); further, India, Afghanistan and Central Asian states would be markets which the Pakistani agriculture and livestock sector could tap into on a larger scale.

However, this sector is constrained by unhygienic conditions of slaughter houses and processing units, as well as the presence of contagious diseases (prevalence of foot and mouth disease, to mention one) and poor sanitary conditions all along the value chain.

Pakistan has under-invested in developing feeder roads, as it is an important link for both farm and non-farm sectors to market. To improve domestic markets, it is necessary to restore road links, as farmers face a long and arduous journey to market. Further, transporting their harvest to nearby markets in the cities is expensive and often results in a 35–50% spoilage rate, so they tend to grow low-value, subsistence crops. Using the roads—which villagers themselves can help to rebuild—farmers can bring their crops to market more quickly, at lower cost and at less risk than before. Similarly, in the absence of storage facilities, farmers have to dispose of their produce immediately, resulting in low bargaining power, lower prices received and market gluts, which depresses prices further. Providing market facilities such as storage areas, cold chains and warehouses is an idea that has not been picked up as part of the process of better market access and reducing price risk. China's help in developing low-cost supporting infrastructure could be an area where Pakistan should seek assistance.

It needs to be noted that sizeable investment has been made in mega-projects for developing backbone infrastructure (ports, motorways, mega-power plants), but investment in last mile infrastructure (storage, feeder roads, irrigation management) has to be given the priority it deserves. It has been reported by experts that one of the main bottlenecks in developing economic zones is the lack of access to water.

Water and CPEC: Provincial Perspectives

Although infrastructure is given much significance under CPEC, water remains a completely overlooked sector. Each province has its own set of

problems which were not captured in the water policy that is being approved and is ready for implementation. The province of Balochistan represents a case of severe water scarcity, where CPEC projects are facing serious constraints in meeting water requirements. The port of Gwadar is considered a flagship project—the price of a tanker (water market) around Gwadar port is around Rs 22,000–24,000, compared to Rs 4000–8000 in Karachi and about Rs 3000 in rural Punjab. Water is required for numerous competing demands and policy actions should have been put in place for rationalizing its use. A combination of price and non-price instruments are available—appropriate water pricing is needed not only in the province of Balochistan, but also in other provinces, with policy objectives incrementally moving towards full-cost pricing, including regulating groundwater use on a sustainable basis. Like energy, sooner or later we have to give value to water to rationalize its use, so it is better we opt for policy shift sooner rather than later. Non-price solutions carry both traditional approaches (waste water use and groundwater recharging) but also innovations:

- Small solar-driven plants for the coastal belt for economic growth and tourism.
- Small hybrid plants for desalination, blending solar, oil and wind energy.
- Canals for transferring the Indus Basin's share of water through feasible options.
- Water transfer through innovative means (solar plus wind energy).

Sindh's water woes have different dimensions: the issues are commonly to do with a lower riparian zone, with water flow below Kori being a major issue and seawater intrusion destroying the ecology of the coastal regions. Sindh is not blessed with as much fresh groundwater as Punjab and this highlights the importance of groundwater exploitation wherever fresh water is available. Water shortages in urban towns like Karachi represents a case of policy (low price of water), institutional (lack of regulatory framework) and market failure (treated as an environmental good having no value). In our view, water markets will continue to make money as long as public-sector service delivery does not improve.

Touted as a game changer for Pakistan's energy sector, the $2 billion 660 MW Thar Coal project is part of CPEC. Thar Block-II has been progressing ahead of its timelines at both mining and power plant construction levels. The Thar coal project being developed under CPEC will not only bring development to the area via infrastructural improvements and increased job opportunities, but also resolve the ongoing energy crisis. According to Baloch (2018), there appear to be environmental and social issues in relation to the utilization of Thar coal. The local population is protesting about contamination of the groundwater which is employed for the water supply for domestic use, and also against the construction of the Gorano pond/dam to collect mine effluent, which they perceive as an environmental disaster in the making. On the other hand, Sindh Engro Coal Mining Company has clarified that the Thar Coal Block-II project will pump only 0.02% of underground water, which will have no impact on drinking water sources. The water being extracted comes from the second and third aquifers, which are at 120 m and 180 m below the surface, respectively, and are not connected to the top aquifer at 55 m which is used by locals for their drinking water purposes. In our view, these facts are not based on scientific studies and do not look at the possible long-term impact on low-level aquifers with mining in the same areas as relatively deep aquifers. In the long run this explanation might not hold and two aquifers could be connected, incurring a serious problem of water quality deterioration.

Building Agriculture Value Chains

There are three reasons why value chain analysis is important in the CPEC context. At regional and global levels, with the growing division of labour and the global dispersion of the production of components, systemic competitiveness has become increasingly important (Kaplinsky and Morris 2001):

- Efficiency in production is a necessary condition for successfully penetrating global markets. Bangladesh does not produce a single bale of cotton, yet is considered a major exporter of value-added textiles.

- Entry into global markets allows for sustained income growth, although this requires an understanding of dynamic factors within the whole value chain.
- Businesses have been using value chain analysis and implementation principles for years to formulate and implement competitive strategies. Pakistan has started late and has not implemented some necessary changes, such as sanitary and phyto-sanitary practices in value chain development.

For the agriculture sector specifically, the benefits of the value chain approach are attributed to the fact that despite the success of a number of exporters in selling high-value crops (rice, fruit and vegetables) to new markets, without further improvements to their business environments and better post-harvest handling and process of their export commodities, there is the risk of being trapped into producing low-skill, low-value products and services, and struggling to obtain a significant value-added share in global trade—this is quite evident, as our export profile continues to be exporting raw materials. It follows that raising the productivity and increasing the efficiency of the agriculture value chain acts as a foundation for developing competitive agriculture and the growth of incomes for the rural population.

Developing these points further, the past reliance on a few commodities such as wheat, rice, maize, cotton and sugarcane has very limited potential for farmers to attain higher incomes and capture a greater market share in domestic and export markets. The horticulture and livestock sectors offer even greater potential. However, there is no comprehensive study establishing the relative comparative advantage between traditional, high-value and potential new crops. It is proposed to undertake a detailed study of strategic crops based on new ecological zones being created in all four provinces and estimate the comparative advantage of each crop (domestic resource cost and other indicators). That will help in the identification of crops that are technically sound, economically viable, socially acceptable and environmentally benign and, most importantly, in ranking the commodities for possible investment, as conceived by the Board of Investment (BOI) in prioritizing candidate value chains for Chinese investors. A logical process will help in setting the initial priorities for

crops/livestock in each ecological zone. The second stage of the development process should be to undertake a detailed market analysis including value chains, identifying crops that have competitive advantage, in both domestic and export markets. In the context of CPEC, the starting point would be to study market demand in western China, then the whole of China and beyond and, based on this groundwork, create clusters and support actual implementation activities in selected areas and commodities. The selected commodity would need to be promoted with private–public partnerships, but with a larger role for private investors.

Identification of Value Chains for Investment under CPEC

On the basis of significant work by national and international organizations such as the United States Agency for International Development (USAID), Asian Development Bank (ADB), World Bank, Japan International Cooperation Agency, Australian Technical Assistance and many non-governmental organizations (NGOs) regarding agriculture value chains, an attempt is made to assess these value chains for possible contributions in four CPEC functional zones, thus identifying clusters of agriculture value chains in the northern, central, western and southern regions of CPEC, as shown in Table 10.1. These four regions offer the possibility of raising a diversified mix for an integrated crop/livestock agriculture system, as discussed in this section.

Gilgit Baltistan and Balochistan are important provinces in the context of CPEC, as they provide entries and exits for the corridor. However, unfortunately, both are previously neglected provinces and carry the same attention even now in this development discourse. Political and economic stability in this region is vital for the overall success of CPEC, since the expected benefits from huge investments cannot be realized optimally unless these two provinces are made inclusive of CPEC development.

The northern zone holds great potential for conversion and declaring the entire region as organic, which can offer good opportunities to Gilgit Baltistan's farmers and enterprises to enhance income generation. Furthermore, apricot offers huge potential, as the demand for this is

Table 10.1 Priority value chains under China Pakistan Economic Corridor (CPEC) zones

	Past vetting	Proposed under CPEC	Supporting policy
Northern Zone Hunza Nagar, Diamer–Gilgit, Diamer, Astore, Ghizer–Gilgit, Diamer, Astore, Ghizer–Gilgit, Hunza Nagar–Hunza Nagar, Astore, Ghizer	Apple Grape Cherry Potato	Apricot Trout Organic farming Agro-tourism	New agriculture, horticulture and livestock policy Water policy and Act in the making, enabling farmers, entrepreneurs and other value chain actors also to benefit from the existing tourist flow in the region Supportive policies of the government of Pakistan, provincial governments and CPEC
Central Zone (Punjab) Lahore, Sheikhupura, Nankana Sahib, Kasur, Okara, Pakpattan, Sahiwal Gujranwala, Hafizabad, Narowal, Sialkot, Gujrat–Faisalabad, Toba Tek Singh, Sargodha and Jhang–Multan, Rahim Yar Khan, Muzafarghar, Khanewal, Bhawalpur	Potato Guava Citrus Mango	Manufacturing of pesticides Olive processing, value addition and extraction plants Establishment of fruit and vegetable preservation/processing centre under public–private partnership Mango and kinnow (orange) juice/pulp extraction plant Manufacture of fertilizers Establishment of rice bran oil, potato powder and flake manufacturing, and wheat powder plants Installation of modern para-boiling plant in rice zone Hybrid seed production of vegetables Introduction of e-beam technology for export of fruit and vegetables	Agriculture policy being developed Growth strategy for Punjab Growth strategy for agricultural development White paper under preparation for assessing programmes, projects and policies to modernize agricultural development under new opportunities

(*continued*)

Table 10.1 (continued)

	Past vetting	Proposed under CPEC	Supporting policy
Central Zone (Sindh) Sukkur, Haripur–Khairpur, Ghotki, Naushahro Froze	Rice Date Banana	Promote hybrid rice production Hybrid rice research centre at International Center for Chemical and Biological Sciences Meat processing plants with annual output of 200,000 tons per year Two demonstration plants processing 200,000 tons of milk per year	
Western Zone (Khyber Pakhtunkhwa, Federally Administered Tribal Areas) South Waziristan Agency (SWA), Khurram Agency—Kech, Panjgur Dera Ismail (DI) Khan, Bannu, Lakki Marwat–Swat, Malakand Charsadda and Mohmand Agency Kalat–Kohat, Bannu and DI Khan–Swat and Dir Charsadda and Peshawar, SWA and Khurram Agency–SWA and North Waziristan Agency (NWA) Khurram Agency–Lakki Marwat and DI Khan Bhakkar	Apple Date Tomato Guava Peach Apricot Melon	Economic zones and special economic zones (SEZs) located in ideal alignment Khyber Pakhtunkhwa (K-P) incentives: economic zones and SEZs Creating park-like environment Identifying early opportunities for investment and growth Shortlist of sectors for road show	Agricultural policy in place Trade crossroads: Commonwealth of Independent States (CIS), China with geographical, cultural and commercial advantage Economic heartlands: natural resources, agriculture, growing engineering hub and tourism Comment: need greater role for agro-industry

(*continued*)

Table 10.1 (continued)

	Past vetting	Proposed under CPEC	Supporting policy
Western Zone (Balochistan) Kalat, Mastung, Killa Abdullah, Ziarat, Killa Saifullah–Pishin, Quetta, Mastung, Killa Abdullah, Killa Saifullah–Mastung, Killa Abdullah, Chagai	Apple Grape Tomato	Processing industry for fruit and vegetables (apple and date processing plants, tomato paste manufacturing, fried/dried onion plants) and promoting cut flower business and floriculturePotential to explore semi-refined form of palm oil to local market through oil expeller unit	Agricultural policy and strategy being developed
Southern	Livestock Fishery Agro-tourism	Gwadar port, a trade hub in the making	Long-term CPEC Plan

growing due to its seasonal and elevation advantages; a good-quality fruit produced in Gilgit Baltistan can be exported in large volumes to China.

The central region should make the most of water resources under the Indus Basin, adding value per unit of water, which is presently quite low. Key steps needed to deliver the CPEC potential would require the region to place greater emphasis on horticulture and livestock sectors, as well as promotion of high-value commodities like meat targeting halal markets, mango, citrus and date. Mango, guava, potato and onion in Punjab, date and banana in Sindh and peach and tomato in Khyber Pakhtunkhwa (KP) are the priority value chains for the central region that offer huge export potential to be captured under CPEC. Chinese experience, technology and financing may be positioned under CPEC for this region, where Pakistan's comparative advantage of favourable land and water resources, cheap labour and market opportunities can create a win–win situation for both countries.

The development of agriculture in Balochistan depends critically on sustainable and efficient use of its valuable resource base. This refers to developing competitive horticulture and livestock (sheep and goats), as rangelands stretch across much of the upland areas and in the lowlands. KP and the Federally Administered Tribal Areas (FATA) provide a similar and more diversified commodity mix. FATA, with new roads built and old ones rehabilitated, provides an opportunity to develop its agriculture and mineral resources, which have long been deprived of the value they offer. Pine nut production in FATA and KP is a value chain with a huge market in China that needs to be modernized to provide value to its producers.

The southern zone could become a hub for fisheries and the fish processing industry. Thailand is a good case to learn from in developing a modern fishing industry. The advanced processing of fish canning is done in Karachi, Sindh. Modern fish processing facilities could be developed as part of CPEC with the help of Chinese counterparts. Developing a modern fishing industry is a test case for CPEC that it is largely for the benefit of the local population and would make a visible change to their livelihoods.

Value-Added Food Chains

The federal government has formed a Committee on Agriculture Trade, Agribusiness and Investment to lead in addressing policy and development issues on agriculture and push for agreements with Chinese companies for investment in value-added agro-industry. A conducive policy environment and feasible investment modality are expected to provide value addition prior to exportation via canning, pureeing or pickling. Further, such value addition will ensure the accommodation of Pakistani labour on Chinese-owned or -operated farms and infrastructural projects such as post-harvest storage, which is likely to generate employment opportunities for Pakistani farmers and labourers. A blueprint for such an investment policy is outlined as follows.

Seek joint ventures (JVs) in various sectors and sub-sectors based upon (1) value addition from local raw material and export markets; (2) value addition from imported raw materials for export to China; and (3) value addition from imported raw materials for export to the region. Based upon a review of the literature and wide consultation, the potential sectors are:

- Beef and mutton (meat)
- Live camels and donkeys
- Dairy
- Horticulture (fruit and vegetables)
- Feed, pasture products
- Rice
- Soya bean
- Oil seed
- Olive
- Pine nut

The next step would be to identify potential JV partners from China and Pakistan in the area of genetics, which includes plants and nurseries, and dairy and poultry development. In the areas of technology transfer and adopting good agricultural practices, the prime action areas could be

adopting modern irrigation using low-cost Chinese technology, precision technology[2] and creating a service provider for farm machinery. This could be complemented by credible advisory services that include extension, soluble fertilizers and pesticide formulation.

Creating private–public partnerships (PPPs) that support the building of warehouses, with treatment facilities in selected districts on a pilot basis, for grain crops such as rice or wheat and potato depending on the crop cycle, is a viable option. A feasible private–public modality needs to be worked out as an appropriate way forward. The government would, initially, help in infrastructure development through land and subsidized credit. A private or community-owned storage facility could be linked to a bank which can pledge stocks and advance loans to the farmers, treating the assets as collateral.

Based on the author's vast and intensive work with a number of national and international organizations in more than a dozen value chains over a span of 12 years (2007–2018), working in almost all provinces and agro-ecological zones, the following value chains are prioritized as those (1) needing upgrading; (2) needing further development; (3) carrying huge potential but still needing to be considered; and (4) having the potential to be developed as global value chains.

Value Chains Needing Upgrading

- Meat, based on a series of value chain studies done by Shore Bank and supported by the State Bank of Pakistan.
- Dairy, based on recent work completed for the Department of Agriculture, Government of Punjab and USAID.
- Horticulture, based on a large number of studies completed by ADB, Australian Technical Assistance, USAID and a host of NGOs.
- Rice, based on a series of value chain studies done by Shore Bank and supported by the State Bank of Pakistan and ADB studies.
- Sugar, based on ongoing policy work on sugarcane being completed at Water Informatics and Technology Centre (WIT), Lahore University of Management Sciences (LUMS).

Value Chains Needing Development

The selection of these value chains is based on a meeting with officials of BOI and members of the JWG on CPEC:

- Oil seed
- Olive

Potential Value Chains

These value chains were identified based on meetings with official of BOI and members of the JWG on CPEC:

- Oil seed
- Soya bean
- Peanut

To Promote as Part of Global Value Chains

These value chains were identified based on meetings with officials of BOI and members of the JWG on CPEC:

- Oil seed
- Food processing
- Value-added textiles
- Leather products
- Low-cost agricultural machinery

Some spade work has been done at the provincial level. The projects detailed in Table 10.2 by agriculture departments are identified according to CPEC zones and fall in line with the value chains already listed.

Table 10.2 Identified agriculture zones with potential projects

	Value-added activity	CPEC zone
1	Fruit processing industry	Gilgit Baltistan—Northern Zone
2	Meat production and processing facilities	Kyber Puktuwala—Western Zone
3	China Sustainable Donkey Development Program	Kyber Puktuwala—Western Zone
4	Sino-Pakistan Hybrid Rice Research Center, Karachi University	Sindh—Central Zone
5	Pulping units for fruit and vegetables, Multan	Punjab—Central Zone
6	Olive oil extraction units, Pothwar	Punjab—Central Zone
7	Potato powder and frozen manufacturing units, Okara	Punjab—Central Zone
8	Vegetables and fruit using individual quick-freeze technology, Lahore	Punjab—Central Zone
9	Dehydrated vegetables using solar dehydrators, Khanewal	Punjab—Central Zone
10	Dehydrated vegetables using fuel-based dehydration technology, Multan	Punjab—Central Zone

Source: State Bank of Pakistan Annual Report 2017–2018 and BIPP Annual Report 2017

Delivering the Potential

In delivering the potential of CPEC, it is important to develop a competitive, sustainable and inclusive agriculture. Than we need to create enabling environments for the sector for adopting export-led growth. The goal of a rural and agricultural growth strategy/policy may not necessarily be to maximize the growth of production in any particular subsector or commodity, but to create the necessary, and sufficient, conditions for the rural economy to adjust to a more competitive environment. This section highlights key aspects that can contribute to attaining the potential of CPEC.

Develop a Greater Role for Public–Private Partnerships

Initiatives need to be pursued to create a working partnership between the government of Pakistan, the private sector, local farmers and possible Chinese investors. The aim is to stimulate major increases in agricultural

productivity and the incomes of smallholder farmers by catalysing responsible private investment in the region. CPEC needs investors in agribusiness and project developers operating exclusively in the agriculture and agro-industrial sector along the corridors, with a mission to provide optimal investment options in developing agriculture and agribusiness within the three planned routes, with priority for the Western Alignment of the national corridor.

A feasible public–private modality needs to be worked out, which can be an appropriate and feasible way forward. Initially, the government would help in infrastructure development through land and subsidized credit. A privately or community-owned storage facility could be linked to a bank, which could pledge stocks and advance loans to farmers, treating them as collateral (see also "Making Agricultural Growth Inclusive: Linking Small Farmers to Markets").

Making Agriculture Profitable, Competitive, Sustainable and Inclusive

Support in developing a profitable agriculture sector with strong linkages to markets is the best route to developing a competitive and sustainable agriculture on the one hand, and bringing inclusive growth for the rural community on the other. Extensive work in the field shows that with proper farm budgeting (financial and economic), the present agriculture without prudent management is not profitable. The expected investment in the sector will not be made if farmers are not making money. Making agriculture profitable would follow the flow chain elaborated in Fig. 10.3. The important aspect would be to make agricultural growth and sustainability as inclusive as possible.

Making Agriculture Competitive

It is even more important to enhance the competitiveness of agriculture, both in domestic and export markets, as highlighted in Fig. 10.4. The

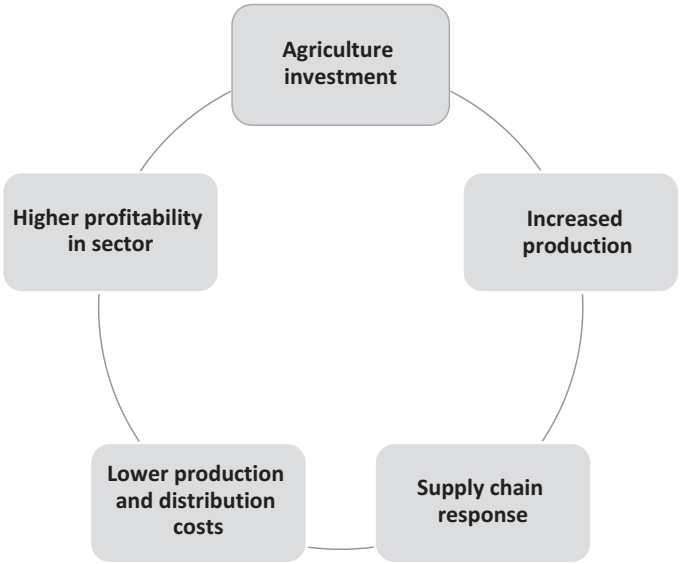


Fig. 10.3 Making agriculture profitable

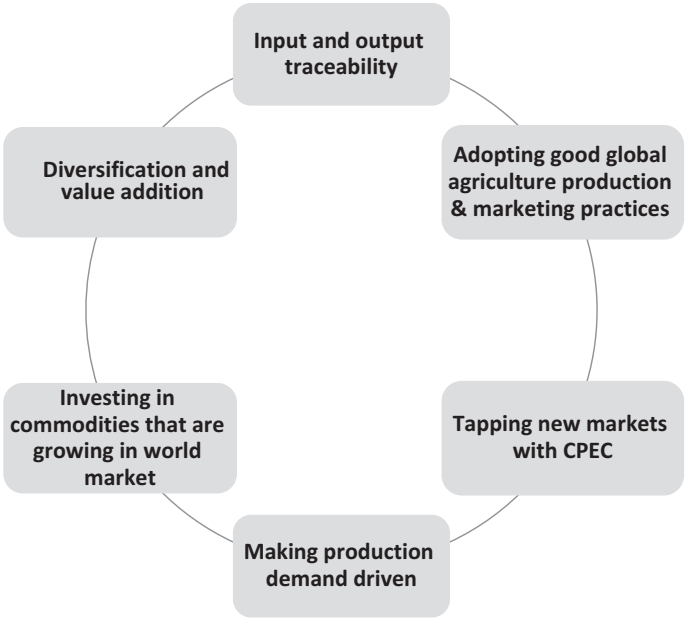


Fig. 10.4 Making agriculture competitive

important question is: do we have comparative advantage and the required competitiveness for export commodities and are these commodities growing in high-potential markets? Currently, most exports have a declining market share. According to Iqbal (2018), even among low-end markets such as Afghanistan, it is indicated that Pakistan has lost half its market share. Among other factors, the high cost of production and doing business is a binding constraint.

Harnessing Diversified Trading Opportunities

China's key interest in CPEC is largely the development taking place in western China. This being a case, it is extremely important for Pakistan to understand the agriculture and trade dynamics of this region, identifying the agricultural imports of western China and their price points and, equally importantly, mapping exports from western China and how over time they are being diversified. Then it is also important to understand seasonal production and the market windows that the region provides for Pakistan to adjust the cropping mix in meeting that unmet demand. There is also a need to study the re-export possibilities from western China to Central Asia, eastern China and Europe, which would provide further trade opportunities for Pakistan.

Looking at the bigger picture, demand for food in China stands at $1 trillion annually and is projected to increase by another $500 billion in the next ten years. The sheer size of China's population (1.3 billion), along with recent dynamic changes in its social and economic structure, has resulted in greater consumer demand for higher-value products. As such, China presents a significant opportunity for Pakistan regarding agricultural exports. Table 10.3 provides China's top 20 imports and Pakistan's top 20 exports in the years 2006 and 2016. Analysis suggests a significant mismatch between Chinese import commodities and Pakistani agricultural and food exports, wherein the majority of Pakistan's exports are not considered as top imports by China. Therefore, it is recommended that Pakistan match its exports to China's consumption requirements. Pakistan's current share in Chinese imports is negligible. Furthermore, it has been declining over the past few years. Pakistan's market share in

Table 10.3 Trade profile: Pakistan's exports and China's imports (US $'000s)

China's imports				Pakistan's exports			
2016		2006		2016		2006	
Items	Value	Items	Value	Items	Value	Items	Value
Soybeans	35,023,564	Soybeans	8,136,606	Rice—total (rice milled equivalent)	1,703,048	Rice—total (rice milled equivalent)	1,150,103
Meat, cattle, boneless (beef and veal)	4,535,143	Cotton lint	5,307,414	Flour, wheat	172,887	Flour, wheat	97,216
Food prep nes	4,469,199	Rubber natural dry	2,929,235	Tangerine, mandarin, clementine, satsuma	157,970	Cotton lint	67,683
Wine	4,232,133	Oil, palm	2,403,044	Meat, cattle	155,170	Crude materials	52,355
Infant food	3,436,932	Hides, cattle, wet	1,628,547	Sugar, refined	123,078	Cotton waste	43,491
Offal, pig, edible	3,316,277	Food prep nes	1,422,001	Date	102,596	Molasses	43,339
Meat, pig	3,091,754	Wool, greasy	1,212,659	Potato	78,187	Tangerine, mandarin, clementine, satsuma	39,233
Rubber natural dry	3,061,458	Crude materials	1,196,481	Sugar confectionery	76,918	Mango, mangosteen, guava	32,299
Oil, palm	3,023,679	Cigarettes	1,100,307	Crude materials	67,279	Date	32,201

(*continued*)

Table 10.3 (continued)

China's imports				Pakistan's exports			
2016		2006		2016		2006	
Items	Value	Items	Value	Items	Value	Items	Value
Meat, chicken	2,597,465	Meat, chicken	1,069,125	Mango, mangosteen, guava	65,835	Sugar confectionery	28,167
Milk, whole dried	2,540,529	Beverages, distilled	972,706	Spices, nes	64,230	Sugar, refined	26,866
Crude materials	2,452,895	Oil, soybean	841,554	Fruit, dried nes	59,283	Chick peas	25,057
Beverages, distilled alcoholic	2,177,237	Maize	783,928	Cake, linseed	58,530	Beverages, non-alcoholic	14,788
Rice—total (rice milled equivalent)	1,936,428	Sugar, raw centrifuge	634,786	Cotton waste	46,599	Milk, whole fresh cow	14,082
Hides, cattle, wet salted	1,885,791	Cassava, dried	620,458	Cotton lint	40,882	Spices, nes	13,335
Cigarettes	1,868,886	Tobacco, unmanufactured	507,412	Glucose and dextrose	39,114	Beans, dry	10,979
Cotton lint	1,777,015	Rice—total (rice milled equivalent)	497,977	Vegetables, fresh nes	37,515	Fruit, fresh nes	10,702
Rapeseed	1,490,499	Meat, cattle, boneless	489,672	Sesame seed	32,539	Cotton, carded, combed	10,269
Sorghum	1,449,921	Barley	427,970	Milk, whole fresh cow	28,117	Vegetables, fresh nes	9844
Maize	1,428,104	Milk, whole dried	390,048	Meat, sheep	27,198	Food prep nes	8776

Source: FAO Stat, 2018
nes: not elsewhere specified

exports to China was 0.12%, 0.10% and 0.08% in 2015, 2016 and 2017, respectively.

Regarding agriculture, Pakistan's share is only around 0.37% (roughly $0.4 billion) out of $99.6 billion Chinese food imports. Among these commodities, rice, meat and cotton indicate the potential which provides room for exporting larger quantities from Pakistan. There are a number of factors that could be instrumental to obtaining a larger share of China's imports:

- China's ever-increasing population requires high-quality goods which presents a unique opportunity. Taking advantage of Pakistan's unique geographical location and predominantly agrarian economy could allow for a significant increase in exports. However, there is a need to produce goods that are high in quality and carry added value to fetch a larger value per unit of export.
- Due to a shortage of arable land and freshwater resources in China, there is a need to import land-extensive crops (such as wheat, rice, livestock) to feed its population. Along with the rising standard of living in China, the demand for agricultural imports is growing as well.

The competitive matrix analysis (Fig. 10.5) for five selected agricultural commodities (rice, cotton, wheat, veal beef and cattle) depicts the growth in exports from Pakistan as well as the growth of imports by China over the past 10 years, insofar as rice has the largest volume among exports to China. Pakistan's export growth is modest at 2.73%; it is far removed from China's import growth of 15.75% per annum. The performance of cotton is less impressive: Pakistan's exports of cotton to China are growing (5.11%) in a declining import market for China. There is considerable room to absorb imports from Pakistan considering the large volume required by China. It should be noted that veal beef and cattle represent a case of high growth on exports from Pakistan and high import demand in China, which points to the export potential these two commodities offer.

The main issue with China is that the trade balance is in its favour and continues to mount. The China–Pakistan Free Trade Agreement (CPFTA) was expected to provide an important strategic link between the two

Fig. 10.5 Pakistan: growth in key agricultural products from each CPEC zone—competitive trade matrix. Source: UN Comtrade, 2018

countries as an opportunity to exploit the Chinese markets, since it addresses tariff/non-tariff barriers and augments the comparative value of exports (State Bank of Pakistan 2017). In our view, Pakistan has not benefited as much, as is reflected in the low volume of trade being undertaken with China compared to other countries of the region. On a positive note, this indicates the existence of huge untapped trade potential for both countries, which can be enhanced through three key policy actions: (1) get a better deal from China in the second phase of CPFTA, with further lowering of tariffs and normalizing of trade procedures; (2) compete better, seek the same level of tariff concessions on exports to China as are enjoyed by Pakistan's competitors from East Asian countries on their products; and (3) seek safeguard measures (as allowed under World Trade Organization rules) in favour of Pakistan's non-competitive industry (e.g. ceramics, footwear, leather goods, sports goods, fans, plastics and tyres, etc.) with mutually agreed timelines. This could help the local industry to build up enough capability over time to compete with Chinese products.

On the other hand, Pakistan is still a long way from improving its competitiveness to compete and fully exploit the market potential that China and other countries offer in the region. Too much time has been taken to incentivize in setting up SEZs under CPEC that are expected to provide tremendous opportunities to develop and upgrade Pakistan's SME sectors, which have high export potential, such as agriculture, food processing, marble and mining, light engineering, textiles, garments and made-up garments, and the logistics sector (SB 2017). Pakistan's exports to China still centre on raw materials and intermediate products, such as cotton yarn, woven fabric, grey fabric and so on. Value-added products still need to find a greater market share despite the fact that some of these products, like garments, were included in the concessionary regime.

Pakistan could also reduce its overall trade deficit by diverting its exports from traditional destinations to China, which could be done by encouraging Pakistan's private sector to modernize its business processes, invest in research and development, improve human capital, seek international certification and meet quality standards, as expected by consumers. Moreover, Pakistan's private sector also needs to get the benefit of the recent easing in supply-side bottlenecks, improved macroeconomic outlook, setting up of planned SEZs under the CPEC arrangements, and the expected relocation of labour-intensive industries against the backdrop of continued restructuring in the Chinese economy.

Then the biggest opportunity which Pakistan can pursue with China is to relocate some of the global value chains to Pakistan. As the Chinese economy is restructuring due to the high cost of Chinese labour, and Pakistan has CPEC connectivity taking place, it makes economic sense to relocate Chinese low value-added industries to Pakistan to seek a comparative and competitive edge. In this context, continuity and consistency in investment and industrial polices can play an important role in attracting foreign direct investment in export-oriented sectors. As reported in the BIPP report of 2017, there are two possibilities. First, Pakistan could be part of existing Chinese global value chains with greater intensity. Efforts are needed to aggressively pursue this under current negotiations. The focus should be seeking concessions in areas where the strengths of the two countries complement each other, thereby encouraging intra-industry trade.

Second, Pakistan should make a case to China to consider the relocation of export-oriented Chinese industries to Pakistan, like garments, solar panels, mobile phones, electrical equipment, electronics and food processing. CPEC cells created at provincial level can undertake studies to benchmark cost comparisons for commodities that are feasible from China's perspective to re- locate in Pakistan. The selling point may be the low cost of Pakistani labour, which would provide Chinese companies with an opportunity to expand their operation, though that labour has to develop the matching skills the Chinese require for each industry to be set up in Pakistan. It is known that concessions are being requested in Chinese 'sunset' industrial sectors, which would incentivize Chinese investors to relocate their production facilities to Pakistan.

Relocating Chinese industries to Pakistan would not only lead to much-needed diversification, but also to enhancement of the efficiency of low-skilled, labour-intensive industries, as well as being instrumental in transferring technology, channelling economies of scale and adding value to production chains in sectors like agriculture, industry and information technology. Above all, it would provide a window to enhance Pakistani exports.

Developing Climate-Smart Agriculture

Pakistan is increasingly vulnerable to a number of disasters and climate events, such as floods, earthquakes, droughts, pest attacks, diseases and conflict. Within just a decade more than 80% of Pakistan's 124 districts and 33 million people have been hit by natural disasters of one form or another, causing $17.1 billion worth of losses to the economy (FAO 2018). Global climate change is expected to influence the predictability of climate variability and increase the severity and frequency of extreme weather events, thus creating a precarious climate situation. All these events not only heavily affect individual lives, property and livelihoods, but also greatly impact development outcomes and divert development funds, and put fragile agricultural ecosystems at risk. Figure 10.6 provides the identified risks, their possible impact and coping strategies in developing resilient and climate-smart agriculture. There are substantial

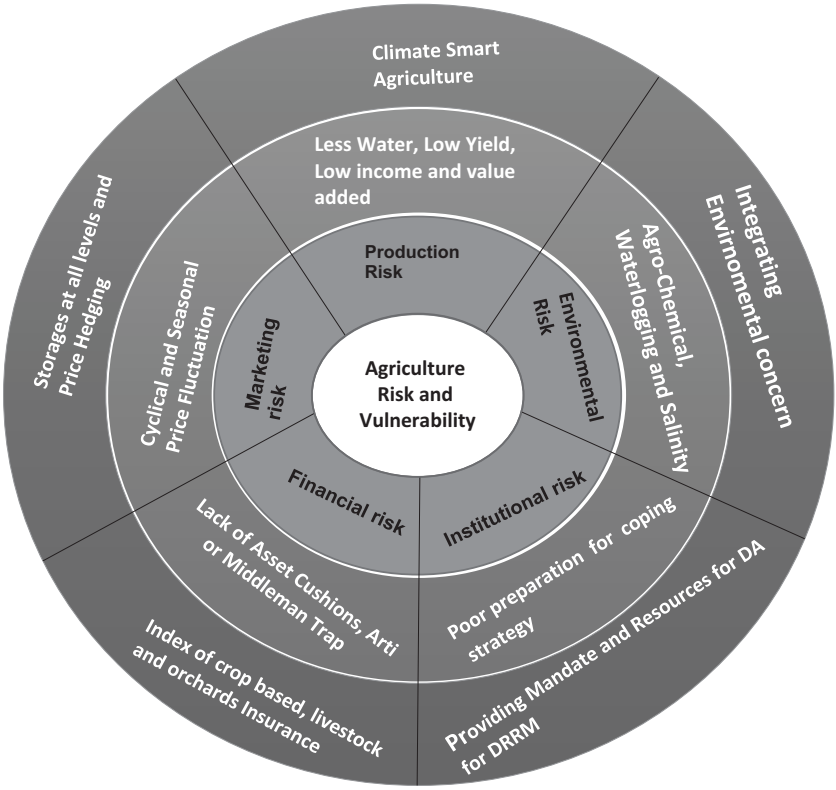


Fig. 10.6 Developing resilient and climate-smart agriculture. Source: Author's work in preparing the FAO/LUMS Report on Agriculture Disaster Risk Reduction Operational Plan for Sindh and Punjab, 2019

data and evidence to support the fact that due to repeated disasters in Pakistan, the agriculture sector faces serious challenges in maintaining vertical growth and expansion. At the community level, due to these increasing problems, traditional coping mechanisms and knowledge are no longer very effective.

Despite technological and economic advancements, the condition of farmers continues to be unstable due to natural calamities and price fluctuations. Climate change and growing water scarcity are adding to the problems. Of all these problems, seasonal changes and groundwater depletion are the most serious; agriculture in the future will increasingly

depend on groundwater availability, which is fast reducing. Given all these factors, there is a need to develop resilient and smart agriculture based on good agriculture practices.

Making Agricultural Growth Inclusive: Linking Small Farmers to Markets

The issues related to improving farming, especially small farmers' access to credit, technology and markets, are well documented. What are not clear are the actions needed to address these issues. At the heart of the problem is that small farmers are forced to pledge their produce to moneylenders, traders or millers, compelling them to dispose of their produce immediately. In order to meet immediate cash needs, small-scale farmers must often sell their produce shortly after harvest, when market prices are at their lowest. The farmers suffer sale stress and, as a result, up to 40% of post-harvest losses can be attributed to this lack of holding capacity and access to loan funds for small farmers. In summary, farmers have to dispose of their produce as early as possible due to (1) lack of adequate storage; (2) needing funds to meet financial obligations for the next crop and to address social obligations; and more importantly (3) the requirement to clear debts. As much as 80% of produce can be pledged to the arthi or local middleman.

There are a number of models that are being tested to make small farmer development more inclusive, which include:

- Traditional model, trader extending the loan.
- In the Choupal model village organizations provide computer-based information on good agriculture and marketing practices to farmers and also inform on when best to sell produce and to provide financial support to small farmers.
- Kisan Khushhal (KK) by Tameer Bank now taken over by Telenor Pakistan has been instrumental to initiate the Connected Agriculture Punjab Package (CAPP) for small farmers.
- Warehouse receipt programme, which has been researched for some time, although a final form adopted to local conditions is yet to be developed.
- Value chain financing, which was launched in 2016 with great expectations but disappeared, and no one talks about it.

- Trading platform preserving quality from farm to factory, the latest pilot that is being tested.

The problem with these models is that none of them could be scaled to the point where its impact on small farmers could be realized. There is a need to recognize how to develop collective actions when dealing with small farmers. A typical model, successful in Africa, is using the nucleus farm hub and outgrower models linked to the bank, as depicted in Figs. 10.7 and 10.8. Here, the local communities are provided with access to infrastructure services at low cost (e.g. water and electricity) or free of charge (e.g. feeder roads). The analysis-based experience gained over time indicates that the outgrower model is preferred for access to financing and smallholder farmers, and also benefits from the market access and economies of scale in input purchasing created by the demand and the volumes generated by the commercial farmer.

The latest efforts involve the Pakistan Agricultural Coalition in partnership with Pakistan Mercantile Exchange (PMEX), Zaria Taraqiati Bank

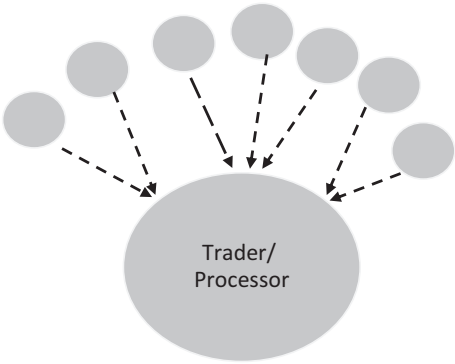


Fig. 10.7 Pure trader/processor model. Source: Adapted from Keith Palmer, 2010, Agricultural growth and poverty reduction in Africa, AgDevCO Development

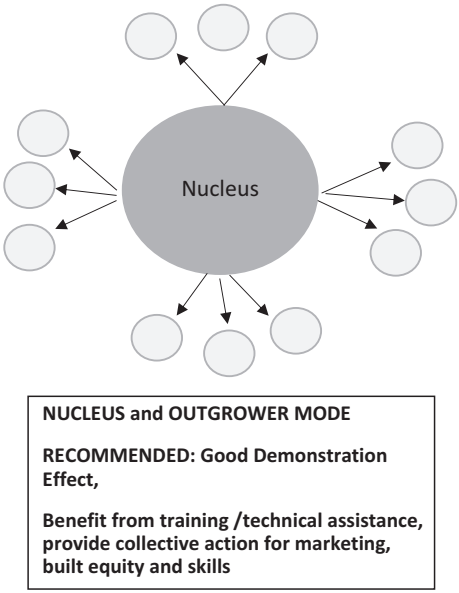


Fig. 10.8 Nucleus and outgrower mode. Source: Adapted from Keith Palmer, 2010, Agricultural growth and poverty reduction in Africa, AgDevCO Development

Ltd (ZTBL), Agility and Societe Generale De Surveille (SGS), which has started a pilot on financing with the objective of unlocking credit to transform Pakistan's agriculture, which is largely constrained by lack of access to credit, technology and markets. An agri-collateral company has a key role in this. A typical collateral management company (CMC) manages a number of credited warehouse units; at the same time the warehouse operator gets their warehouses accredited by CMC and would be electronically connected with CMC, and in turn CMC would be linked with PMEX. Figure 10.8 provides details on the flow of goods, services and funds within this model. The two risks which are very common in existing value chain trading, storage and price risk, are covered. Warehouse performance risks such as theft, fire and so on are covered by the CMC, whereas risks such as no buyer at loan maturity is covered by PMEX, and the price risk, which entails a fall in prices during loan tenure, is covered by the bank.

It is too early to assess the performance of this model. Previous attempts have not succeeded mainly because the formal allocation of relevant roles

and responsibilities had not been worked out among banks, warehouse operators, borrowers, and so on. The question again arises: does the new business model have the potential to be scaled up when most previous attempts have been implemented at best at pilot stage? As such, the pilot project is loaded with a subsidy, so the fear is that once the subsidy is taken off, the programme loses the incentive that drives it.

Correct Policy Environments

In order to encourage sustainable growth, creating the right policy environments is equally important. At present a distorted incentive structure is facing the farming sector: the fact that farmers are facing rising costs of inputs or doing business in the face of uncertain output prices and revenues. Further, the post-harvest commodity crisis (in wheat, rice, cotton, sugarcane and vegetables) has become a regular feature due to government policies, the dubious role of food procurement agencies, less than desirable performance of support services and lack of integration of modern information technology in the farming system, to mention only a few examples. Section "Sugarcane versus Cotton: A Case of Misguided Policies" highlights how policy support to wheat and sugarcane is first not letting high-value and competing crops obtain a level playing field. Second, farmers, being risk averse, continue to adopt traditional cropping patterns. On the input side, the low price of water is a major constraint for adopting modern technology, such as drip irrigation and its take-off.

According to Hitchcock (2008), new agriculture and water policies have been developed at provincial levels that promote a sustainable and competitive sector as well as PPPs. However, Pakistan is lacking in launching a programme to support the development of specific agro-industries and value chains. Emphasis has not been placed on strengthening business linkages, reducing transaction costs, fostering a better alignment of the capacities of farms and firms to collaborate on meeting requirements, ensuring fair governance within chains, improving market intelligence, improving management practices, strengthening producer organizations and upgrading technologies. Here, Webber and Martin (2007) place emphasis on the development of value chains, especially in the private sector.

In short, under CPEC the government needs to focus on commodities which (1) have a comparative advantage with respect to Pakistan's varied ecological zones; (2) are competitive; and (3) have a growth trajectory in an expanding Chinese market. China and Pakistan have agreed to strengthen comparative and competitive advantage by bolstering agricultural infrastructure and agro-based industry. The extent of their cooperation includes such key areas as biological breeding, production, processing, storage and transportation; infrastructure construction; disease prevention and control; water resource utilization, conservation and production; land development and remediation; information and communication technology (ICT)-enabled agriculture; and marketing of agricultural products to promote the systematic, large-scale, standardized and intensified construction of the agricultural industry. A PPP modality could go a long way to developing competitive agriculture.

Sugarcane versus Cotton: A Case of Misguided Policies

The two crops that are being debated are sugarcane, which is supported by huge direct and indirect subsidies, and cotton, a crop which is not subsidized but has been a major source of exports, but is on the decline in terms of acreage devoted and production. From the 1960s to the early 1990s there was a rapid expansion of cotton cultivation, as indicated by Fig. 10.10. This trend is on the decline and the area under cotton in 2016 was as low as in 1985. The relative profitability of sugarcane as provided in Table 10.3 could be one of the factors for why farmers are switching to more profitable crops.

Table 10.4 along with Figs. 10.9 and 10.10 show the private profitability of growing sugarcane and cotton, largely in the south. Clearly, sugarcane is a winner, with profitability three times higher than cotton, though cotton is grown for a shorter duration. It is also interesting to find that Rajanpur, Rahim Yar Khan and Bahawalpur are the leading districts for obtaining the highest profitability for both sugarcane and cotton.

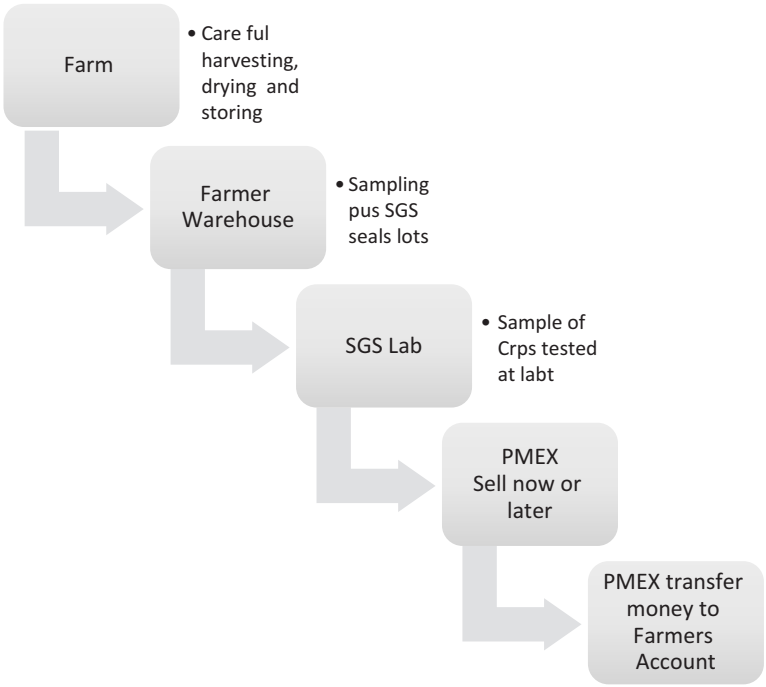


Fig. 10.9 WareHouse model for agricultural commodities. Source: Adopted from presentation made at Islamic Chamber of Commerce, Industry and Agriculture/Food and Agriculture Organization workshop by staff of Pakistan Agricultural Coalition on 'Pakistan Agricultural Coalition Transforming Pakistan's agriculture' in Turkey (2017)

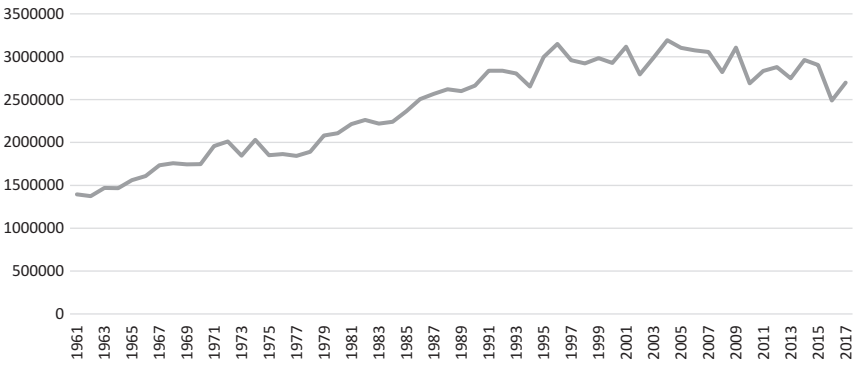


Fig. 10.10 Cotton: Cultivated area in hectares (1961–2017). Sources: UN FAOStat, 2019

Table 10.4 Lead districts in sugarcane and cotton profitability

Districts	Sugarcane Rs per acre	Districts	Cotton Rs per acre
Rajanpur	46,669.5	Rajanpur	13,487.25
Rahim Yar Khan	39,383	Rahim Yar Khan	13,089.13
Bahawalpur	34,126	Bahawalpur	12,905.38
Muzaffargarh	33,434	Vehari	12,121.38
Khanewal	33,249	Bahawalnagar	12,017.25

Source: Agro-Ecological Zones in Punjab, Department of Agriculture. 2018

Table 10.5 Key policy indicators for sugarcane vs cotton

	Sugarcane	Cotton	Comments
Nominal protection coefficient	0.88	0.89	Farmers are being taxed
Effective protection coefficient	0.77	0.83	Farmers are taxed even when input costs are considered
Domestic resource cost	1.14	0.57	Cotton has comparative advantage but sugarcane does not
Value added per acre	10,222	19,709	Cotton adds almost twice the value added
Water productivity (inches of water)	724	1383	Cotton water productivity is much higher

Chaudhry et al.'s (2009) analytical work using the policy analysis matrix (PAM) in the Multan and Bahawalpur regions provides important policy insight regarding the comparative advantage of growing these two competing crops in the south. The PAM model uses both financial and economic prices and envisages that:

- Net private profitability would determine the competitive advantage.
- Net social profitability would determine the comparative advantage.
- Export and import parity prices would be calculated to establish the comparative advantage of producing for domestic markets or export.

The results are summarized in Table 10.5.

On the basis of Chaudhry et al.'s (2009) analysis, it is clear that sugarcane does not have a comparative advantage in the South Punjab. According to the analysis presented in Table 10.4, it costs Rs 114 by

investing in domestic resources such as land, water and labour to add Rs 100 to the economy, clearly a losing proposition. On the other hand, for cotton by investing Rs 57 we get a return of Rs 100, a much higher value per acre than for sugarcane. Water productivity is the key policy indicator, showing that the water productivity of sugarcane is almost half compared to cotton. This type of analysis on a larger scale is needed to bring greater value to this ongoing Food and Agriculture Organization-supported work. The policy conclusion in the context of developing new ecological zones highlights that promoting sugarcane in the south, where cotton carries a huge comparative advantage, would be very costly in terms of value addition, but also in wasting scarce resources like water.

The Way Forward

This chapter concludes with the recommendation that more refined groundwork is required to meet the challenges and make the most of the opportunities provided by CPEC. In the short to medium term, developing agriculture and agro-based industry has the best chance of success, learning from the Chinese since they provide a successful model to feed a large population and reduce their poverty level. The Chinese are doing their homework and are quite clear on what benefits they can obtain from CPEC, unlike in the case of Pakistan. This section outlines some of the key planning and policy formulation actions that are needed.

CPEC has the potential to significantly contribute to ensuring inclusive development, especially targeting the socioeconomic development of the less-developed areas of the country. The government has identified nine SEZs, including Dhabeji, Faisalabad and Hattar, as key areas of development. Yet it remains to be assessed whether all nine are to be included in China's plan, requiring a push from the government.

A case is being made for developing agriculture and agro-based industry through the identification of potential areas and adopting a cluster approach. If we look at successful agricultural and rural development growth models, four common features are apparent: a good natural resource base; a good supporting infrastructure (feeder roads, water on demand and post-harvest handling); making small farmers inclusive and

competitive; and finally the right policy environment. Unfortunately, in the CPEC context none of these is happening other than the first.

The chapter also notes that water is the main constraint, not only in developing the backbone infrastructure but also in developing the supporting infrastructure. The case of Gwadar is highlighted, where access to drinking water for increasing growth has become a costly option. A tanker is selling water at a price of Rs 22,000; in comparison the price in Karachi ranges from Rs 4000 to Rs 8000 and in rural markets in Punjab it is Rs 3000.

The expected investment from Chinese companies should be made in a modality that not only creates value addition but, more importantly, leads to the creation of job opportunities for Pakistani farmers. There is significant policy work supported by donors in developing agriculture value chains. This work should be further analysed to prioritize developing a profitable value chain with strong linkages to markets as the best route to developing competitive and sustainable agriculture on the one hand, and adding value to a sector that largely sells raw materials to export markets on the other. The paper prioritized value chains based on (1) needing upgrading, such as meat; (2) needing further development, like olive; (3) carrying huge potential but still needing to be considered, like soya bean; and (4) having potential to be developed as a global value chain, such as value-added textiles.

At the centre of CPEC from the Chinese perspective is the development of western China. It is extremely important for Pakistan to understand the agriculture and trade dynamics of this region, identifying the agricultural imports of western China and their price points, and equally importantly mapping exports from western China and how over time they are being diversified. In China, due to a shortage of arable land and freshwater resources, there is a need to import land-extensive crops (such as wheat, rice, livestock) to feed its population. Along with the rising standard of living in China, the demand for agricultural imports is growing as well.

Pakistan has not benefited as much, as represented by the low volume of trade being undertaken with China compared to other countries of the region. On a positive note, this indicates the existence of huge untapped trade potential for both countries, which can be enhanced

through three key policy actions: (1) getting a better deal from China in the second phase of CPFTA, which further lowers tariffs and normalizes trade procedures; (2) competing better, seeking the same level of tariff concessions on Pakistan's exports to China as enjoyed by its competitors from East Asian countries on their products; and (3) seeking safeguarding measures (as allowed under World Trade Organization rules) in favour of Pakistan's non-competitive industry (e.g. ceramics, footwear, leather goods, sports goods, fan industry, plastics, tyres etc.) with mutually agreed timelines.

China's ever-increasing population requires high-quality goods, which presents a unique opportunity. Taking advantage of Pakistan's unique geographical location and predominantly agrarian economy could allow for a significant increase in exports. However, Pakistan needs to produce goods that are high in quality and carry added value to fetch a larger value per unit of export.

The government must prudently manage the agriculture sector to leverage the full benefits under CPEC to ensure that it not only creates income and rural growth, but also is fully harnessed to make development inclusive, generate income for the poor and marginalized and offer opportunities for the economically most vulnerable groups like small farmers, landless labourers and, more importantly, rural woman, a significant contributor to the agricultural livestock sector but the least rewarded.

Acknowledgement Mahira Khan, Research Assistant, WIT/LUMS provided analytical and editorial support in preparing this chapter, and her dedication is highly appreciated.

Notes

1. The JWG for agriculture is tasked with engaging with experts and policymakers in China. There are two points: first, this shows how serious the country has been in preparing for the important and critical tasks—to prepare such an important document within a span of less than one month, a task should have been conceived and prepared in the past based

on professional work covering the technical, economic, social and environmental aspect for sound policy deliberations and negotiations, so it seems that again we will go to China without clear preparation or directions. Second, the composition of the task force largely includes those who have been policymakers or have had a great say in the decision space in the past two decades—policies which to us have largely failed in both the agriculture and water sectors. We need new and innovative ideas coming from public, private and academia with a reasonable mix of economists and technical experts and small farmers, who have been largely left out of the past development paradigm.

2. The Water Informatics Center (WIT) at Lahore University of Management Sciences has been awarded a contract by the Higher Education Commission of Pakistan to find ways to attract the private sector to further develop and market precision agricultural technology developed at WIT to farmers at low cost.

References

Agriculture Department. (2017). Annual Progress Report FY 2016–17. *Government of Punjab.*

Amin, T. (2018). Cotton Production Target Revised Downward. *Business Recorder.*

Baloch, F. (2018, May 10). Thar Coal to Add First Megawatt to the National Grid: CM Rs 11.5 bn Solar Energy Projects Planned for Next Year. *Pakistan Today*.

BIPP. (2017). *The State of the Economy China Pakistan Economic Corridor Review and Analysis - Chapter 5 The China-Pakistan Economic Corridor: Review and Analysis*. The Shahid Javed Burki Institute of Public Policy at NetSol, Lahore, Pakistan.

Chaudhry, I. S., Khan, M. B., & Hanif, M. (2009). Economic Analysis of Competing Crops with Special Reference to Cotton Production in Pakistan: The Case of Multan and Bahawalpur Regions. *Pakistan Journal of Social Sciences (PJSS), 29*(1), 51–63. https://doi.org/10.1596/978-0-8213-7952-3.

FAO. (2018). *Sindh, Preparation of Provincial Agriculture Disaster Risk Management Operational Plan and Implementation Guidelines*. Water Informatics and Technology Centre (WIT), Lahore University of Management Sciences (LUMS).

Government of Pakistan. (2016). *Economic Survey of Pakistan FY 2015–2016*.
Hitchcock, D. K. (2008). *Agribusiness and Competitive Agro-Industries in The Asia and Pacific Region, Session 1: A the Market Situation and the Challenges for Small Farmers (Emerging Markets, Market Drivers)*. LSFM Regional Forum Workshop, 1–10.
Iqbal, S. (2018). Pakistan Loses 50pc to Market Share in Kabul. *Dawn News*.
Kaplinsky, R., & Morris, M. (2001). *A Handbook for Value Chain Research* (pp. 1–105). IDRC.
Webber, M., & Martin, C. (2007). *Building Competitiveness in Africa's Agriculture: A Guide to Value Chain Concepts and Applications*. World Bank.

11

The Construction Sector Value Chain in Pakistan and the Sahiwal Coal Power Project

Jawad Syed, Syed Khawaja Anser Mahmood, Ahmed Zulfiqar, Majid Sharif, Usama Imran Sethi, Uzair Ikram, and Saud Khan Afridi

Introduction: China Pakistan Economic Corridor and the Construction Sector in Pakistan

In September 2013, Xi Jinping, President of China, unveiled plans for a series of investments and infrastructure projects that would enhance trade, mutual cooperation and territorial congruence in Asia (MOFA 2013). This was the genesis of the Belt and Road Initiative (BRI), which

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

S. K. A. Mahmood • A. Zulfiqar • M. Sharif • U. I. Sethi • U. Ikram • S. K. Afridi
Lahore University of Management Sciences, Lahore, Pakistan
e-mail: 20010014@lums.edu.pk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_11

the Chinese government would later undertake for economic development based on connectivity and industry and infrastructure development in various countries and regions in Asia, Africa and Europe. BRI includes 71 countries, with half the planet's population and a quarter of global gross domestic product (GDP; Kuo and Kommenda 2018). Through enhanced trade and cooperation, the initiative may not only improve the economy of developing countries, but also help China to strengthen its own economy.

Construction begins with planning, design and financing until the project is built and completed for use. Within this industry, there are generally three main sectors: buildings (e.g. residential, commercial and institutional), infrastructure (e.g. heavy civil or heavy engineering, such as dams, bridges, roads) and industrial construction (e.g. power generation, chemical processes, refineries, manufacturing plants and mills; Halpin et al. 2017).

The construction industry has a crucial role in a country's economic development and infrastructure. It generally accounts for 6–9% of developed countries' GDP. In its allied sectors, such as cement, steel, paints and furniture, sanitary and marble, the industry generates significant employment and growth.

According to statistics by Pakistan Economic Survey (2016–2017), the construction sector represents 13.13% of the country's industrial sector, 2.74%, of GDP and 7.31% of the labour force (MoF 2018). GDP from construction in the country increased from PKR 294,154 million in 2016 to PKR 320,769 million in 2017, registering 9.1% growth. From 2006 to 2017, GDP from construction averaged PKR 239,361.33 million, reaching an all-time high in 2017 from a record low of PKR 186,380 million in 2006 (TE 2018). Overall, the country's GDP steadily increased during 2008–2017 (TE 2018). Marked within this increase, a growth in construction was also witnessed.

The construction industry is an important beneficiary of foreign direct investment. The State Bank of Pakistan suggests that in August 2017, the construction industry received a net inflow of US $35.7 million. The industry received $55.7 million in July–August 2018, compared to $1.6 million in the same period in 2017 (Hussain 2017).

The Pakistani government's focus on infrastructure development projects has led to heightened importance for the construction sector. The sector has been able to achieve some major milestones in the past few years, though some of these have experienced delays and cost over-runs:

- Lahore Metrobus Project: A 27 km rapid transit system of buses in Lahore, which connects various suburbs and industrial zones of the city. Its first phase was completed in two years and made available to the public in 2013.
- Lahore Ring Road: An 85 km, six-lane, orbital highway in Lahore. The project was led by the National Logistics Company and was, after completion, opened to traffic on December 2017.
- Hazara Motorway M-15: Financed by the Asian Development Bank, this 180 km highway connects Hasan Abdal to Abbottabad. Initiated in 2014, the project was completed in 2017.
- Orange Line Metro: An elevated as well underground rapid train system that is expected to span 25 km elevated and 2 km underground. The train system is expected to handle a capacity of 250,000 passengers daily. The project was initiated in May 2015 and is expected to be completed in 2019.

In terms of the China Pakistan Economic Corridor (CPEC), out of a total investment of $ 46 billion, 26% of this money is dedicated for the construction of power plants, roads and railways, Gwadar seaport and special economic zones (SEZs). Several of these projects are financed and led by Chinese companies, including China Communication Construction Company and China State Construction Engineering Corporation. About 30% of the projects can be subcontracted locally. Notable Pakistani organizations that are partially involved in such projects include National Logistic Cell and Frontier Works Organization. Both of these organizations are in the public sector, which indicates that private-sector players are relatively weak or may have fewer opportunities in terms of CPEC projects.

More than $34 billion within CPEC has been dedicated to the energy sector, including coal-fired power plants, hydropower power plants and wind power projects. In 2018, there were 21 active (in development)

energy projects (BOI 2018). The Sahiwal Coal Power Project (SCPP) is one such project, with a capacity of 1320 MW and costing $1.80 billion. Other flagship projects include the 1000 MW Quaid-e-Azam Solar Park and Kohala Hydel project in Azad Jammu and Kashmir (CPEC 2018).

The projects under the infrastructure include railways, roads, mass transit systems and SEZs. The two largest projects are the Peshawar–Karachi motorway, with an estimated cost of $2889 million, and the expansion of the existing ML-1 (Karachi–Lahore–Peshawar) railway track, with an estimated cost of $8172 million (Ahmed 2018).

In the mass transit system, the Orange Line train project is expected to be completed in 2019. In terms of SEZs, feasibility reports have been completed and as of January 2019 were awaiting further action (Ministry of Planning, Development and Reform n.d.).

For Gwadar, nine projects are currently in development, which include Gwadar airport, with an estimated cost of $230 million, and a fresh water treatment plant, with an estimated cost of $130 million (CPEC 2018).

Pakistan's Construction Sector Value Chain

Pakistan's construction sector value chain is complex and has multiple players in the forward and backward linkages. The value chain broadly constitutes the cement industry, steel manufacturers, transport services, retail trade and financial services across both public and private sectors. An overview of the value chain is offered in Fig. 11.1. It shows that financiers, developers, owners and users are four key players. Moreover, mining-based industries such as steel, cement, marble, glass and sand, forest-based industries such as furniture and woodwork, and logistics- and finance-based services such as electricals, sanitary ware and paints are vital components of the construction industry's value chain. On the implementation and quality assurance side, the presence of general and special contractors along with regulators, consultants and training institutions is vital for the successful execution of construction projects.

An important denominator of the construction industry is its fragmented nature. This fragmentation arises from two areas within the traditional construction process: the construction work process, where the

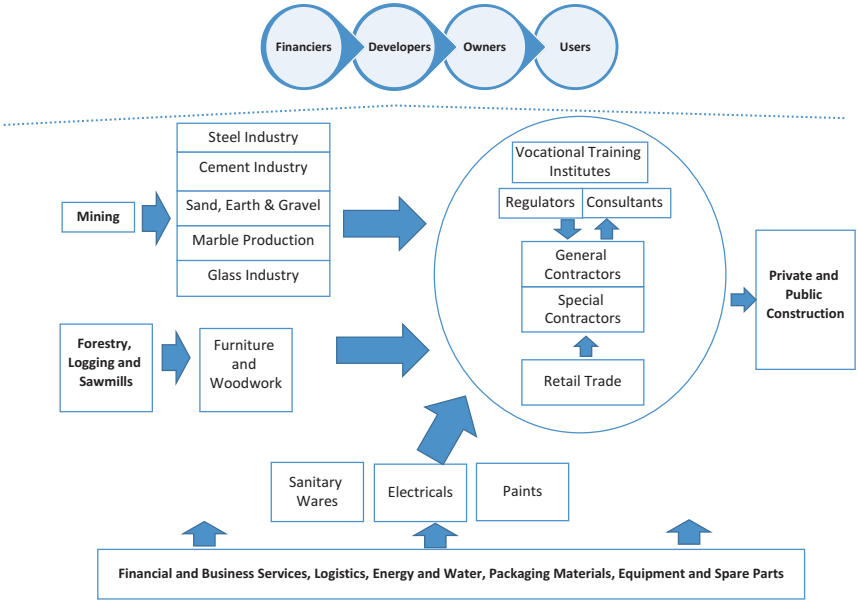


Fig. 11.1 Construction sector value chain

most significant division is in the separation of the design and construction phases, and the construction structure itself (Nawi et al. 2013). There are also challenges in various sub-sectors which contribute to this industry. This fragmentation not only affects the development of the industry, but also hinders the integration of construction knowledge among its various actors.

The construction of power plants is a subset of the construction sector and its value chain is presented in Fig. 11.2. Its key support functions include engineering, procurement and construction (EPC) companies, skilled labour, infrastructure and government investment. Within the regulatory framework, the most noteworthy are the Environment Protection Agency (EPA), the Punjab Power Development Board, the National Electric Power Regulatory Authority (NEPRA, for the tariff), the Power Purchase Agreement (negotiated under the domain of NEPRA) and the Private Power Infrastructure Board. Key market players include the governments of Pakistan and China, the World Bank, labour laws,

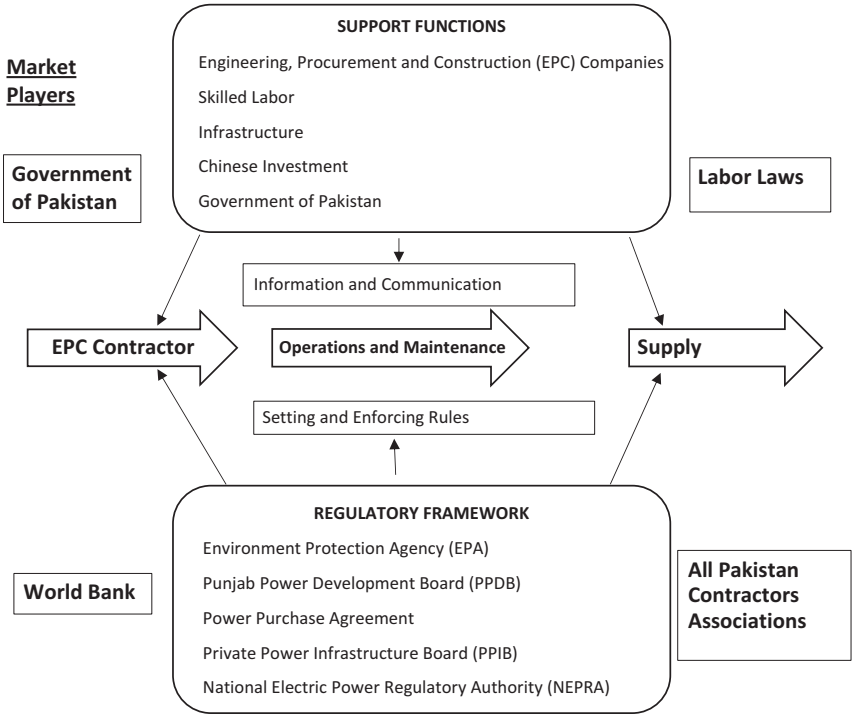


Fig. 11.2 Value chain of power plant construction

EPC contractors and the All Pakistan Contractor Association. Next, a detailed discussion of the major industries serving as a backward linkage to the construction sector is offered. These industries form the backbone of construction.

Cement Industry

There are 24 cement manufacturers in Pakistan with an installed capacity of 49.4 million tons per year. The cement manufacturers are divided into a north zone and a south zone, with 80% of the manufacturing and sales coming from the north zone. With investments in various infrastructure projects under CPEC (Ministry of Planning, Development, and Reform (n.d.), the demand for cement and allied industry products (e.g. steel,

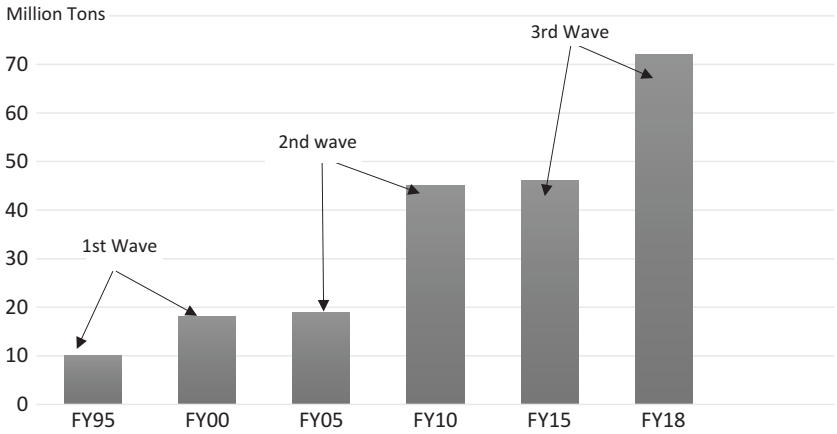


Fig. 11.3 Cement industry's production capacity

wood) is likely to increase in the future. As shown in Fig. 11.3, the cement industry is expected to increase its capacity from 49.4 million to 72.8 million tons (APCMA 2018; Arifeen 2018).

The cement industry was operating at 95% of its installed capacity owing to an increase in both domestic and foreign demand in 2017. About half of the major cement manufacturers had announced expansion plans and an extra 3 million tons were added in fiscal year 2018, while 23.4 million tons of capacity were expected to be added in the next two to three years by the major players in the industry, representing an addition of about 50% to the existing capacity (Arifeen 2018).

Steel Industry

The production of the steel industry of Pakistan is estimated to have reached 5 million tons by the end of 2018. This is a jump of 39.3% in recent years. In view of CPEC construction projects, the major steel factories of Pakistan are increasing their production capacities. For example, Amreli Steels announced an increase in the annual production capacity of reinforcement bars in the next two years to 750,000 tons (The News 2018a). Similarly, Aisha Steel Mills, another key player in this sector, was

planning to expand its production capacity from 220,000 tons to 700,000 tons (The Nation 2017).

These industries, cement and steel, supply their outputs to the construction sector. While inputs are necessary, their conversion cannot take place without a set of practices that aid in this transformation. Here the importance of project management, which turns these inputs into outputs, manifests itself.

Project Management

Project management is the art of managing a project through its life cycle in view of cost, quality and time-related constraints. It incorporates activities that are designed to achieve a pre-defined set of objectives. Project management not only comprises designing the project but also incorporates various elements such as cost management, time management (sequential vs parallel scheduled tasks) and contract management. Key elements of project management, based on PMI (2018), are conceptually described in Fig. 11.4.

It is possible to examine CPEC construction projects through the lens of project management. The first step is to carry out a feasibility study for a proposed project, which is generally done by a private firm. The study is then vetted by various government departments (both Chinese and Pakistani), such as the Planning Commission, Finance Division and Environmental Protection Agency. A formal project proposal is then made by the interested party under the Planning Commission's framework. After its acceptance by various government agencies, formal planning on the project begins, which culminates in a complete design of activities in the form of a work breakdown structure.

Project management remains a differentiating factor between Chinese and Pakistani construction practices. While inputs like steel and cement may stay the same, their transformation through project management can create or undermine the overall value of the project.

Pakistan's construction sector is generally marked by inefficient management, significant production delays and high overhead costs. The main reasons for these challenges include incompetent contractors,

Fig. 11.4 Project management conceptual model

procurement delays, payment delays and inaccurate cost estimates. Table 11.1 (adapted from Wasim and Khalidi 2018) offers an overview of key reasons for construction project delays in Pakistan.

Sahiwal Coal Power Project

A noteworthy example in the energy sector, to exemplify China–Pakistan cooperation in project management, is the SCPP, consisting of two 660 MW power plants. It is Pakistan's major super-critical coal-fired power plant with a total capacity of 1320 MW.

Research for this section was conducted through interviews with individuals closely associated with the construction and operations of SCPP. Moreover, secondary data including the company's web site and CPEC-related reports were used to produce a synthesized analysis.

Table 11.1 Main reasons for construction project over-runs in Pakistan

S. no.	Causes/factors	Relative importance index	Rank
1	Incompetent contractor	0.817	1st
2	Delay in procurement of long-lead items	0.787	2nd
3	Delay in payments to contractors	0.770	3rd
3	Inaccurate cost estimates	0.768	4th
5	Inaccurate project schedule	0.763	5th
6	Incompetent project team	0.748	5th
7	Lack of project planning	0.746	6th
8	Incompetent project manager	0.743	7th
9	Delay in providing side access to contractors	0.734	8th
10	Lack of cash flows	0.729	9th
11	Delay in design phase	0.717	10th
12	Poor site management	0.714	11th
13	Changes to 'issued for construction' drawings	0.714	12th
14	Incompetent designer/consultant	0.714	12th
15	Shortage of skilled personnel/workers	0.712	12th
16	Lack of management support for the project	0.712	13th
17	Shortage of material	0.702	13th
18	Delay in approval of shop drawings	0.690	14th
19	Shortage of equipment	0.682	15th
20	Lack of communication	0.673	16th
21	Lack of resource planning	0.673	17th
22	Lack of quality procedures	0.673	17th
23	Lack of coordination between trades	0.670	17th
24	Delay in payments to consultants/designers	0.670	18th
25	Lack of stakeholders and management	0.658	18th
26	Lack of change control process	0.658	19th
27	Scope creep	0.653	20th
28	Government or regulatory changes	0.609	21st
29	Law and order issues	0.609	21st
30	Lack of risk planning	0.592	22nd
31	Organizational changes	0.563	23rd
32	Natural disaster	0.514	24th
33	Extreme weather conditions	0.502	25th

SCPP is located in the province of Punjab in the vicinity of Sahiwal. In May 2014, the government of the Punjab province invited tenders to build this plant.

The total cost of the project was $1.8 billion. The project was initiated as a joint venture between China's state-owned Huaneng Group and

Shandong Ruyi Technology Group, with 20% of its financing ($356.4 million) secured from the Huaneng Shandong Ruyi consortium as equity from the Chinese government, while $1.43 billion is commercial from the Industrial and Commercial Bank of China.

The project site comprises 690 hectares of land, provided free of charge by the Punjab government. The area also includes a new railway line from the town of Yusuf Wala to the plant.

Each plant consists of one boiler, a steam turbine and a generator and is powered by sub-bituminous coal. Using super-critical steam, the plants have a gross efficiency of about 42%. This figure is much higher than the average efficiency (33%) of other coal-based power plants in the country.

SCPP consists of a state-of-the-art air quality monitoring system and an electrostatic precipitator to reduce ash and sulphur emissions from the plant. The operation uses 60,000 cubic metres of water per day from the Lower Bari Doab Canal.

Raw materials for the plant are usually obtained from within Pakistan, including cement, sand, wood and other building materials. The plant requires an expected 4.48 million tons of coal yearly, to enable 22 hours of power generation every day. The vast majority of the coal is imported from Indonesia and South Africa and transported by rail from Karachi to the plant. Coal from Pakistan's very own Thar coalfield has been found to contain inordinate amounts of sulphur and lime and has not been viewed as of adequately high calibre for the plant. To transport coal, Pakistan Railways built a railway line from Yusuf Wala to the plant, for which it bought new electric diesel locomotives and hopper wagons. Now 10,000 tons of coal is transported daily from Port Qasim to the power plant via a direct railway line.

A 9.5 km single-circuit transmission line of 500 kV has been built to connect the plant to the national electricity grid.

The civil works for construction started in July 2015. Both plants, 660 MW each, were launched in May 2017. Approximately 3000 workers were needed to build the plants.

Construction of the project was completed in approximately 22 months. Our source stated with great pride: 'The Sahiwal Coal Power Plant truly is a marvel of how different governmental and private companies come

together to complete work at breathtaking pace without compromising quality.'

SCPP's commercial operation date was 25 December 2018. The project was, however, successfully completed on 25 October 2018, 22 days before the initial deadline.

The project operates essentially on a Build-Own-Operate-Transfer (BOT) model and the government of Pakistan has agreed to purchase electricity at US cents 8.36 per watt (NEPRA Purchase Agreement) from the facility for 30 years, after which it will be transferred to Pakistan. BOT is a form of project financing, wherein a private entity finances and constructs a construction project, operates it to cover its investments and make a profit, and then at the culmination of the contract period hands it over to the initiating authority.

Due to the super-critical technology it uses, SCPP is regarded as the most reliable and eco-friendly coal-power-producing facility (IEA 2018). The coal used is high quality and imported from abroad.

SCPP employs more than 600 people and has a lean organizational structure, led by a General Manager (GM), who is assisted by a Deputy GM and Chief Finance Officer. The following key persons report to the GM: Chief Engineer, Director Administration, Director Human Resources, Director Audit, Director Operations, Director Maintenance, Director Coal Supply, Director Planning and Development, Director Safety, Director Procurement and Director Commercial.

The plants' operation requires an estimated 350 personnel to be trained in China, including 200 Pakistani engineers.

Huaneng Shandong Ruyi Energy submitted an application to NEPRA on 11 March 2015 for the approval of the upfront coal tariff for its proposed two 660 MW coal-fired power plants in Sahiwal. The application was approved and it was considered eligible for the granting of the upfront tariff. For one plant (660 MW), the computed construction costs are given in Table 11.2.

The tariff terms that were agreed and the tariff control period were to be set to 30 years. The basis for determination of the tariff was the following factors: quality of coal (low sulphur content), plant size, site of plant, plant specifications, auxiliary consumption and exchange rate. A detailed description of the tariff is given in Table 11.3.

Table 11.2 Construction costs per 660 MW plant

Tasks	US $ million
Capital costs	767.9
Custom duties and cess	30.5
Sub-total	798.4
Financing charges	21.0
Sino-sure fee	63.9
Interest during construction	72.8
Sub-total	157.7
Total	956.1

Table 11.3 SCPP's tariff structure

Tariff components	Years	
Capacity charges (PKR/kWh)	1–10	11–30
Fixed O&M—Local	0.1435	0.1435
Fixed O&M—Foreign	0.1435	0.1435
Working capital	0.2276	0.2276
Insurance	0.1021	0.1021
Return on equity	1.1872	1.1872
Debt servicing	1.6691	0
Total capacity charges	3.473	1.8039
Energy charges (PKR/kWh)		
Fuel cost component	4.2913	4.2913
Ash disposal	0.22	0.22
Limestone	0.09	0.09
Variable O&M—Foreign	0.0684	0.0684
Variable O&M—Local	0.0456	0.0456
Total energy charges	4.7153	4.7153

O&M, operations and maintenance

Key Differences between Sahiwal Coal Power Project and Other Projects

Pakistani public companies have not been very efficient when it comes to the construction of complex feats of engineering such as power plants. For example, the Hub Power Plant located in Karachi took five years to be completed. In contrast, the construction processes for SCPP were much more methodical, systematic and efficient. A major reason for delays in previous projects was the lack of local expertise in project man-

agement. In the case of SCPP, specialized and experienced Chinese project managers, engineers and blue-collar labour were brought in to work on the project. As our source stated: 'Chinese engineers were very adept at working on complex projects with tight deadlines. Everyone knew their role and was a subject matter expert on how to troubleshoot problems and get work done.'

Due to rapid urbanization and expansion in the last two decades in China, Chinese construction companies have had a lot of exposure to efficient construction techniques, which has given them a lot of expertise in these fields. Along with experienced Chinese labour, consultants as well as Chinese contractors were brought in in parallel so as to complete the project as soon as possible.

Another possible reason for SCPP's expedition is that the planning phase was very efficiently carried out. Compared to Pakistani companies, which do not deploy project management techniques such as concurrent engineering and development of a work plan, the Chinese were methodical about their forecasts and processes. Forecasting of raw materials is one specific example of their cost-effective practices. The amounts of materials required are forecasted, their inventory management is pre-planned and orders are placed and procured way before the time when inventories fall critically low. According to industry experts in Pakistan, procurement time causes the highest number of time delays in construction. The Chinese were able to rectify that by efficient forecasting of resources.

Industry experts have also identified issues with implementation and adhering to work breakdown structures in Pakistani construction projects. In the case of SCPP, this issue was remedied by sticking precisely to the work breakdown structure, and delays were not tolerated.

Contingency plans have also been an issue in Pakistani construction companies. Unforeseen circumstances may cause significant delays in construction projects. In the case of SCPP, contingency plans were chalked out and strictly implemented. As an example, billing and monetary payments to suppliers and distributors of machinery and raw materials have caused significant delays in Pakistani projects. Projects are often halted because payments are made late to the supplier. In the case of SCPP, a contingency plan was in place and all billing was done before the forecasted deadline. This disallowed any form of production delays due to non-availability of raw materials.

Conclusion

In view of SCPP's success, a host of factors may serve as lessons for future power plant and other construction projects. First, there must be proper project scheduling. No changes must be made in the 'issued for construction' drawings after a project's initiation. The work breakdown structure can play a vital role here. During the buffer days, the project speed may be improved through concurrent engineering. Concurrent scheduling of project activities may minimize the time for completion (e.g. simultaneous government approvals and construction). An automated reporting system may be helpful in this regard. Moreover, efficient site management may reduce issues related to the quality and quantity of work. In addition to the availability of economical direct and indirect labour in Pakistan, the skilled labour force made the SCPP project a huge success. More than 5000 trained and experienced Chinese engineers and workers and more than 2000 Pakistani engineers and workers were involved in the project. This may also be helpful in future given that local resources have the expertise to work on such projects. Government support and other necessary approvals played a crucial role. For example, the visa facilitation for Chinese engineers was very helpful. The EPA expedited certification on environmental regulations, which were granted in a couple of months during the project's completion. Punjab Power Development Board played a key role in facilitating this project. Pakistan Railways laid a dedicated track through which coal was transported from Karachi to Sahiwal.

The future of construction is extremely bright in Pakistan, not only in the industrial sector but also in residential housing. In 2018, the Pakistani government announced plans to start social housing schemes for millions of poor and homeless people. According to an official from the Association of Builders and Developers: 'There is a need of more than two million homes in Pakistan, while the extent of development industry is over PKR250 billion, in this way the administration ought to boost the part to fill the lodging gap and making work openings. The government ought to declare tax reforms.' In addition, it has been proposed that the raw material for the development industry should be produced locally within the country (The News 2018b).

Last but not least, the government needs to invest in human capital development. More skilled labour would mean a better finished product. Moreover, by providing specialized training on project management, not only to business entrepreneurs and project managers but also to policy-makers and support service providers, the overall efficiencies of the construction sector and its various projects may be monumentally improved.

References

Ahmed, A. (2018, July 13). Feasibility Study of Main Line 1 Project Completed. *Dawn*. Retrieved from https://www.dawn.com/news/1419744.

APCMA. (2018). *Installed Capacity*. All Pakistan Cement Manufacturers Association. Retrieved from https://www.apcma.com/data_productioncapacity.html.

Arifeen, M. (2018, September 22). Pakistan Sees Huge Expansion in Cement Industry. *Pakistan and Gulf Economist*. Retrieved from http://www.pakistaneconomist.com/2018/09/24/pakistan-sees-huge-expansion-in-cement-industry.

BOI. (2018). *China Pakistan Economic Corridor (CPEC)*. Board of Investment. Retrieved from http://boi.gov.pk/InfoCenter/CPEC.aspx.

CPEC. (2018). *China Pakistan Economic Corridor*. Government of Pakistan. Retrieved from http://cpec.gov.pk/.

Halpin, D. W., Lucko, G., & Senior, B. A. (2017). *Construction Management*. John Wiley & Sons.

Hussain, T. (2017, October 23). Pakistan's Construction Industry – The Hot Cake for Foreign Investors. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1538687/2-infrastructure-building-pakistans-construction-industry-hot-cake-foreign-investors/.

IEA. (2018, October 1). *Pakistan: Sahiwal Power Plant: World's Most Reliable and Eco-Friendly Facility*. IEA. Retrieved from https://www.iea-coal.org/pakistan-sahiwal-power-plant-worlds-most-reliable-and-eco-friendly-facility/.

Kuo, L., & Kommenda, N. (2018, July 30). What Is China's Belt and Road Initiative? *The Guardian*. Retrieved from https://www.theguardian.com/cities/ng-interactive/2018/jul/30/what-china-belt-road-initiative-silk-road-explainer.

Ministry of Planning, Development & Reform. (n.d.). *CPEC Gwadar Projects*. 'P' block Pak-Secretariat, Islamabad. Retrieved from http://cpec.gov.pk/gwader.

MoF (Ministry of Finance). (2018). *Overview of the Economy*. Pakistan Economic Survey 2016–17. Retrieved from http://www.finance.gov.pk/survey_1617.html.

MOFA (Ministry of Foreign Affairs). (2013, September 7). *President Xi Jinping Delivers Important Speech and Proposes to Build a Silk Road Economic Belt with Central Asian Countries*. Ministry of Foreign Affairs, People's Republic of China. Retrieved from https://www.fmprc.gov.cn/mfa_eng/topics_665678/xjpfwzysiesgjtfhshzzfh_665686/t1076334.shtml.

Nawi, M., Nasrun, M., Baluch, N. H., & Bahaudin, A. Y. (2013, November 21). *A Review on the Impact of Fragmentation Issue in Construction Industry*. The 3rd International Building Control Conference (IBCC), Kuala Lumpur: Royal Chulan Hotel.

PMI. (2018). *Practice Standards and Framework*. Project Management Institute. Retrieved from https://www.pmi.org/pmbok-guide-standards/framework.

TE. (2018). *Pakistan GDP from Construction*. Trading Economics. Retrieved from https://tradingeconomics.com/pakistan/gdp-from-construction.

The Nation. (2017, December 31). Aisha Steel Commences Expansion Plans. Retrieved from https://nation.com.pk/31-Dec-2017/aisha-steel-commences-expansion-plans.

The News. (2018a, February 21). *Amreli Steels Finalises Rs2bln Expansion Plan*. Retrieved from https://www.thenews.com.pk/print/283525-amreli-steels-finalises-rs2bln-expansion-plan.

The News. (2018b, February 18). *Govt Pledges Steps for Construction Sector Growth*. Retrieved from https://www.thenews.com.pk/print/282368-govt-pledges-steps-for-construction-sector-growth.

Wasim, S. S., & Khalidi, M. A. (2018). Causes of Construction Project Failures in Pakistan. *Civil and Environmental Research, 10*(7), 38–41.

12

Special Economic Zones under the CPEC and the Belt and Road Initiative: Parameters, Challenges and Prospects

Asifa Jahangir, Omair Haroon, and Arif Masud Mirza

Introduction

This chapter is one of the outcomes of a joint project of the China–Pakistan Managing Initiative at Lahore University of Management Sciences (LUMS) and the Association of Chartered Certified Accountants. There are following objectives of the chapter: (1) to comprehend the concept and classifications for developing special economic zones (SEZs); (2) to understand the rationale of the SEZs within the framework of China Pakistan Economic

A. Jahangir
Centre for South Asian Studies, University of the Punjab, Lahore, Pakistan

O. Haroon (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: Omair.haroon@lums.edu.pk

A. Masud Mirza
Association of Chartered Certified Accountants, Middle East, North Africa and South Asia (ACCA MENASA), Lahore, Pakistan

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_12

Corridor (CPEC) and the potential of the SEZ idea within Pakistan; (3) to look at the parameters for understanding the establishment of SEZs in Pakistan; and (4) to explore the challenges Pakistan is currently facing regarding the development of SEZs and presenting the way forward.

Research Methodology and Interview Technique

Qualitative and inductive methods are used for this research project and the data collected by using the interview technique is analysed to comprehend the basic concept of the SEZs. Moreover, this research tries to look at the technology of the SEZs, such as their design, development and management (Farole and Moberg 2014). Besides, this research investigates the potentials, parameters, challenges and prospects of the SEZs within the framework of Pakistan's national political economy. In addition, the study explains the descriptive characteristics and evaluates the performance of SEZs in other countries of the South Asian region. This research is basically analytical, exploratory and explanatory (Patton 2002). The interview method was used because of its utility for collecting large amounts of primary data quickly other than secondary data (Marshall and Rossman 1995).

The main goal of the interviews was to obtain a broad range of different viewpoints as possible for purposive sampling due to their expediency (Bryman 2008: 183). For this, the research population targeted specific research participants as research respondents (Creswell 2009: 113), including government officials, university doctoral scholars, experts and practitioners of different think tanks, and individuals who are attached to the CPEC directly or indirectly in their own capacity. These were Dr Liaquat Ali Shah from the Centre of Excellence, China–Pakistan Economic Corridor; Hyder Mustafa from the China–Pakistan Institute; Dr Iftikhar Ahmed from the Pakistan Institute of Development Economics (PIDE) at Quaid-i-Azam University Campus; Dr Syed Hasan Javed and Dr Zamir Azam Awan from the Chinese Study Centre at the National University of Science and Technology (NUST); Hasan Daud Butt from Pakistan's Ministry of Planning, Development and Reform;

Zulfiqar Ali from the Board of Investment (BOI) at the Prime Minister's Office, Lahore; Nabeel Saqib Shah from the Punjab Board of Investment and Trade (PBIT); Khalid Mahmood from CPEC Platform International Pakistan; Mueen Batlay and Shahzad Qasim from the China Study Circle; and Dr Frank Yung-Hsiang Ying from National Taiwan Normal University.

Concept of Special Economic Zones

Generally, an SEZ is defined as an area in which the rules and regulations of business, trade and commerce are different from the rest of the country for the promotion of industrialization, job creation and investment. Any region that gets the status of an SEZ for the industrialization of the county is run according to special economic laws and policies. The purposes are (1) to attract investors by creating a conducive environment for ease of doing business; (2) to promote trade; (3) to develop new job opportunities; and (4) to speed up administrative matters related to investment, industry and trade.

Prof. Qu Jian, a Chinese expert on the development committee at the China Development Institute (CDI), defined an SEZ in the Economic Summit of 2016 as 'a wide area where special economic system under special economic policies are applied. Initial purpose of such zones is to create a favorable environment to attract investment and to increase employment' (Jian 2017). Pakistan presented the definition of an SEZ in the SEZ Act of 2012, but it was modified in the SEZ Act 2016 as an 'economic zone means a geographically defined and *delimited area* which has been notified and approved for economic, industrial and commercial activities' (the italicized words were not included in the 2012 Act).

Historically, the first and foremost SEZ was established in Dublin, Ireland. However, this idea became well known after the establishment of an SEZ in Shenzhen, China. Experts state that an SEZ is not a guarantee of development and industrialization. There are many examples where the best infrastructure was developed, but there was no chance to utilize those facilities, such as at Hambantota SEZ in Sri Lanka, which was developed by the Chinese investment, but was not very successful because of several problems.

Classification of Special Economic Zones

There are around 5000 SEZs across the globe. Most of them are successful due to effective one-window operations, regional connectivity, advanced infrastructure, an easy taxation system and ease of doing business, efficient institutional functionality, and a decentralized power system, for instance SEZs or export processing zones (EPZs) in Hong Kong, the United Arab Emirates and Shenzhen. The most commonly used taxonomy is EPZs, urban enterprise zones (UEZs), bonded logistics parks and eco-industrial parks (Jeong and Kechichia 2015; Zeng 2016: 2).

There is also an advanced category of SEZ, charter cities, which are made for the special purpose of industrialization, such as Hong Kong, which is a centre for high-tech industry, and the City of San José in Silicon Valley, California (USA) that is a centre for information technology (IT) industry (Akram 2018). In these charter cities, local or provincial governments have numerous powers to handle and run economic matters. Decentralization is promoted and the role of the federal government is greatly restricted in this specific area. Moreover, China is trying to transform one of the big industrial zones of Chengdu into a charter city. It has imposed a ban on the import of old machinery and technology. It prefers to promote better and well-reputed companies to invest in innovative industries.

Different nomenclature is normally used for the SEZs. Table 12.1 shows the classification of SEZs around the South Asian region and the globe by the World Bank, and Table 12.2 contains a comparative analysis of different incentives being offered by various countries in the EPZs and the SEZs.

Chinese Experience of Special Economic Zones and Global Outlook of the Belt and Road Initiative

China opened its economy to the world in 1989. It took different measures to develop a market economy and attract foreign investment. Various EPZs and industrial parks were established, mostly borrowing

Table 12.1 Classification of special economic zones (SEZs) around the South Asian region and the globe

Type of SEZ	Objective	Size	Typical location	Typical activities	Market	Examples
Export processing zone (single-unit/ free enterprise)	Export manufacturing	No minimum	Countrywide	Export manufacturing	Mostly export	
Export processing zone (traditional industrial estates)	Export manufacturing	100 ha	Countrywide	Export manufacturing	Mostly export	9 in Pakistan 10 in Sri Lanka
Free port/special economic zone	Integrated development	1000 ha	Coastal areas	Multi-use	Internal, domestic, export	Gwadar, Dubai
Free trade zone	Support trade	50 ha	Port of entry	Trade related	Domestic	Developing countries: Brazil, Colombia, India, Indonesia etc.
Urban enterprise zone	Urban revitalization	50 ha	Urban/rural	Multi-use	Domestic	UK (London), USA (Indiana)

Sources: Special Economic Zones Progress, Emerging Challenges, and Future Directions 2011; Economic Zones in the ASEAN 2015: 26

Table 12.2 Comparative analysis: Different kind of incentives offered for different classes of special economic zones (SEZs), globally and regionally

SEZ fiscal policy	India	Bangladesh	Sri Lanka	China	Cambodia	Vietnam
Income tax exemption	100% Up to 10 years on export income for first 5 years, 50% for next 5 years, 25% for next 5 years Including for offshore banks (5 years)	10% for 2 years, 15% thereafter; thrust* Industries still exempt up to 20 years; total exemption for gems and jewellery exporters 'Thrust' industries in Sri Lanka: electronics, ceramics, glassware, mineral based, rubber based and engineering based manufactured exports[b]	12 years; after, 50% exemption; 3 years personal exemption	25% Tax for all businesses inside and outside SEZ up to undefined time span[a] This is the modern policy of China, while in the past they had given more than 50% tax holiday to the SEZs[b]	100% exempt for up to 9 years	10–20% exemption for those firms which starts production within 10–15 years

(*continued*)

Table 12.2 (continued)

SEZ fiscal policy	India	Bangladesh	Sri Lanka	China	Cambodia	Vietnam
Profit tax rate	100% deduction first 5 years; 50% deduction for next 5 years	20% tax on offshore transactions	100% deduction first 10 years; 50% deduction for next 5 years			
Custom and excise duties	SEZ Units are free to import from the domestic sources without paying any duty on capital goods, raw materials, etc.	Exemption on the import of equipment, vehicle and raw materials for construction	Exempt on items that cannot be sourced locally General office equipment and household items are not duty exempt	Customs duties exemption on import of production equipment, construction materials and production inputs	Exemption on import of production equipment, construction materials and production inputs	Exemption on import of production equipment, construction materials and production inputs
Total no. of SEZs	569 notified SEZs, 224 are non-operational	2 Industrial Parks operational, 3 SEZ proposed	100 proposed, 3 operational, 56 under construction and 20 out of 56 are being built by Private companies	Several export processing zones and specialized industrial parks are operational and 4 SEZs are operational as well	34 SEZs and 5 SEZs are fully operational	18 coastal economic zones with up to 325 state-supported industrial parks throughout the country (Quang 2018)

(*continued*)

Table 12.2 (continued)

SEZ fiscal policy	Myanmar	Belarus	Thailand	Laos PDR	South Africa
Income tax exemption	Exemption for 7 years, then 50% relief for 5 years, then 50% relief on current legal income tax for profit that is reinvested for 5 years	No tax on all goods and services for 5 years, then 50% tax; exemption No taxes on real estate and purchasing vehicles	Under general activities, Exemption for a period of 3 years, but altogether not exceeding 8 years. Under targeted activities, Exemption of corporate income tax for a period of 8 years (not exceeding 100% of investment value excluding cost of land and working capital) and 50% reduction of corporate income tax for a period of 5 years	Services sector shall be granted the exemption of profit tax for a period 2–10 years and afterward 8% or 10% corporate profit tax will be applied based upon investment capital. Trade sector shall be granted the exemption of profit tax for a period 2–5 years and afterward 10% corporate profit tax will be applied. Industrial sector shall be granted the exemption of profit tax for a period 5–10 years and afterward 8% corporate profit tax will be applied	Preferential 15% corporate tax rate
Profit tax rate					

(*continued*)

Table 12.2 (continued)

SEZ fiscal policy	Myanmar	Belarus	Thailand	Laos PDR	South Africa
Custom and excise duties	Exemption on import of production equipment, construction materials and production inputs	No custom duties on raw material and equipment imported from outside the Belarus. Exemption from VAT, Customs fees, anti-dumping fees, and offset fees s	Exemption of import duties on machinery, Exemption of import duties on raw material or essential materials used in manufacturing of export products	Exemption on the import of equipment, vehicle and raw materials for construction	Exempt on import of new and advanced machinery for one time
Total no. of SEZs	Three SEZs established, Thilawa SEZ is operational and most successful	6 Free Economic Zones and are operational	10 SEZs were announced in 2015, SEZ of Tak province is operational. Thai Economic corridors are working as well	Since the first SEZ was set up in 2002, 12 active and operational SEZs nationwide	SEZs are called Industrial Development Zones. 5 IDZs are operational. Other incentives are building allowance; employment tax incentive[a]; customs controlled area; and 12I tax allowance[b]

[a]The Employment Tax Incentive (ETI) is a job incentive aimed at encouraging employers to hire young work seekers. It was implemented with effect from 1 January 2014.

[b]The 12I Tax Allowance Incentive (12I TAI) has been designed to support greenfield investments (i.e. new industrial projects which will utilize only new and unused manufacturing assets), as well as brownfield investments (i.e. expansions or upgrades of existing industrial projects by using of modern technology and innovativeness). The incentive offers support for both capital investment and training.

the SEZ model from Ireland (Xiang, January 23, 1984; Yeung et al. 2009: 224).

The SEZs have been a significant part of China's policy of opening to the world. The idea was first put forward at the end of 1978, when China commenced its modernization drive. The Chinese National People's Congress formally approved the SEZs in Guangdong province in August 1980 and the Xiamen zone two months later. The first and foremost SEZ was established in Shenzhen, which was primarily planned in 1969 on an urgent basis as a litmus test and opened to the world in 1979. In 1980, China began building the SEZs in other cities, including Zhuhai and Shantou in Guangdong province, and in Xiamen in Fujian province.

Shenzhen: A Chinese Success Story in Special Economic Zones

Shenzhen, next to Xianggang (Hong Kong), is considered to be the largest and most successful SEZ in China, covering an area of 327.5 sq km. It was constructed quickly within only three years. Its geographical location and other conditions favoured its strategic position as an SEZ. Liang Xiang described it in the *Beijing Review*:

> Shenzhen has ample natural resources and wide political, economical and cultural connections with Xianggang (Hongkong) and Aomen (Macao). It is also one of China's major ports and has access to major roads, railways and airports. With the large-scale exploration of oil in the nearby South China Sea and the planned construction of a nuclear power station in neighboring Dayawan, Shenzhen is certain to prosper (Xiang, January 23, 1984).

Historically, Shenzhen made considerable achievements after its three years of construction. Some of the factors were an effective regulatory mechanism, preferential corporate policy planning, speedy construction of Shenzhen's administrative capital and its connectivity with adjacent areas (one-window operation; Xiang, January 23, 1984), import of modern equipment and technology from abroad, and an immense increase of

industrial output (production). Most of the projects that were in operation encouraged tremendous progress in management and administration as a result of successful planning between 1979 and 1983. During this short time span, Shenzhen spent 1990 million yuan on capital construction, completing 3,250,000 sq m of floor space. A large number of industrial and residential buildings, department stores, modern hotels and restaurants, and picturesque scenic spots with up-to-date facilities were completed, as well as 55 roads that were built or expanded in the city district, of which 37 with a total length of 56 km were completed.

On account of the overall historical picture of Shenzhen, 'the biggest success story [regarding SEZ] is China, and … Shenzhen,' (*The Economist* 2015). Additionally, Shenzhen's gross domestic product (GDP) was about 7.5% per year in 2018 to US $350 billion and 4.16% (about 100 billion yuan) of its GDP is solely spent in the research and development sector (Huifeng 2019).

If a comparison is done between Shenzhen and Hong Kong and Shenzhen with other countries' SEZs, the success story can be better understood (Table 12.3).

The export volume from all Indian SEZs combined is US $72 billion. Exports from major Chinese SEZs are $127 billion in Pudong and $280 billion in Shenzhen. The exports from all Indian SEZs combined make up around 25% of exports from the Shenzhen SEZ alone. As a comparison, Shenzhen's population is similar to the population of Lahore (a major city in Pakistan) and its GDP is equal to the entire country of Pakistan.

In short, after several years of hard work, a small fish market-based city with a population of 30,000 in 1979 was transformed into a modern socialist city with a highly developed metropolis and a population of 11 million on the shores of the South China Sea. The lessons the Chinese learnt from the Shenzhen experience were twofold. First, no compromise was made with respect to the SEZ technology used in Shenzhen. More

Table 12.3 Gross domestic product (GDP) ratio of Shenzhen to Hong Kong

Year	Ratio of GDP
1979	1: 600
2016	1: 1.1

Source: China Development Institute

importantly, it was decided that further development of the SEZs would be improved and state-of-the art SEZs would be established across the country to create rapid economic growth and industrialization. Indeed, the SEZs have been a catalyst of China's economic rise. Second, according to Dr Frank Yung-Hsiang Ying, regardless of leadership change in China, there has been policy consistency and sustainability of project development, which can be considered the biggest lessons learnt from the rapid economic progress of the country in general and of Shenzhen SEZ in particular.

How Did Businesses Participate in China's Special Economic Zones?

Chinese Communist governments have given several economic advantages for setting up the SEZs. According to Prof. Qu Jian at the Economic Summit of 2016, the '123' Planning Framework was established (Jian 2017; Fig. 12.1).

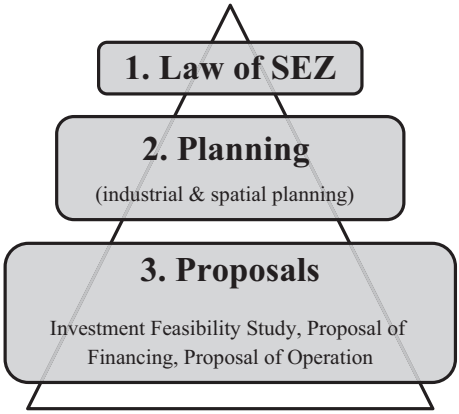


Fig. 12.1 '123' Planning Framework. Source: Developed by the authors

Through better regulations on preferential policies, large amounts of foreign investment can be used in a better way. Consistent application of law and regulation helped China to import advanced technology and to acquire scientific techniques and management skills (Xiang 1984). The preferential policies in the SEZ Law enabled the country as a whole to develop economically at a quicker pace. The SEZ Law is indeed an economic cooperative tool used by China to improve modern urban construction and management methods, and to train professionals.

Chinese governments have devised special plans for the rapid development of the SEZs. For this, preferential policies are created and decisions are taken accordingly. The managerial procedures, policy systems and measures in the SEZs are quite different from the rest of China. Some of the preferential policies were described by a Chinese expert on the development committee at CDI at the Economic Summit of 2016 (Jian 2017; Brautigam and Tang 2014):

- Policy of imported equipment for foreign-funded enterprises;
- Duty-free for self-used goods in the SEZs;
- Land tax incentive;
- Policy of credit funds in the SEZs;
- Short- and medium-term policy of international commercial loans;
- Corporate income tax incentive for enterprises in the SEZs;
- Coordinated measures of social insurance in the SEZs;
- Opening-up policy of e-commerce and eco-industry in the SEZs;
- Policy of establishing foreign banks;
- Priority port reforms;
- Incentives for processing trade;
- Policy for imported goods and raw materials;
- Performance measuring mechanism (PMM) within the regulatory framework of enterprises and the law;
- Largely market-regulated system of prices gradually established, on the condition that prices remain relatively stable;
- Simplified entry and exit procedures and other formalities for businesspeople and visitors; and last but not the least,
- Government's prime responsibility that China develops an environment that facilitates business

Rounds of Relocation of Industries and China's Rationale behind the Belt and Road Initiative

Historically, labour-intensive and uncompetitive industries have relocated to areas with access to cheaper labour and capital. In the age of globalization, four rounds of relocation of industries are documented (Jian 2017). During the first round in the 1950s, industry was relocated from the USA and Europe to Japan. During the second round in the 1970s, the scientific and technological revolution accelerated Japan's industrial upgrading. As a result, Japan shifted its focus to developing capital-intensive industries, for instance chemicals and automobiles, as well as technology-intensive industries, such as electronics, aviation, biology and pharmaceuticals. These two types of intensive industries were displaced from Japan to the four Asian Tigers, namely South Korea, Taiwan, Hong Kong and Singapore. After opening up its economy to the world in 1989, China began making rapid economic progress and rising in technological advancement in the 1990s, therefore, many manufacturing businesses decided to transfer labour-intensive industries to China. This was the time of the commencement of the third round in the 1990s, when various traditional industries and some low-technology-intensive industries were moved from the Asian Tigers to the coastal areas of mainland China. During the fourth round after 2010, China decided to relocate manufacturing industries from its coastal areas to its central and western regions, Africa and Southeast Asia, and other Asian regions. Relocation of industries was one of the motivations for launching the idea of One Belt One Road (OBOR). Later, the OBOR was changed into the Belt and Road Initiative (BRI) in 2017. According to the experts, there are some other reasons behind this relocation in the fourth round, including high labour costs and low competitiveness, as well as environmental issues in China (I. Ahmad, personal communication, 8 January 2019).

The BRI is a Chinese initiative to manage its economic growth, capital, investment, skilled labour and professionals, industrialization, innovativeness and technological efficiency by co-opting other countries through infrastructure projects for regional connectivity and global economic integration along the lines of a liberal economic market.

BRI comprises six corridors and 65 countries are recipients of the majority of the relocated industries, which are labour-intensive machinery and electronics industries. The empirical focus is on a combination of the major economic/political centres in BRI countries and the major centres along the six corridors that have been identified to link to the BRI: China–Mongolia–Russia Economic Corridor, New Eurasian Land Bridge, China Central Asia–Western Asia Corridor, China–Indochina Peninsula, China Pakistan Economic Corridor and Bangladesh–China–India–Myanmar Corridor.

The CPEC is one of the critical corridors of BRI, which came earlier in 2013 under the notion of OBOR (that later changed into the BRI). The development of SEZs under the BRI is a significant part of China's current BRI policy for the industrialization and economic growth of developing countries.

Pakistan's Rationale behind Special Economic Zones under CPEC

The CPEC is a government-to-government mechanism to deepen strategic relations between China and Pakistan. It is purported to be a win–win game strategy for both time-tested partners (Z. Ali, personal communication, 10 December 2018). On the one hand, the CPEC highlights the strategic and commercial interests of China in Pakistan to have the shortest trading route via Gwadar to the Middle East, Africa and the Persian Gulf countries. Furthermore, according to experts, the CPEC can provide great benefits to Pakistan, but Pakistan has to keep its national interests and the concerns of local industrialists in consideration (Q. Shahzad, personal communication, 6 January 2019). Chinese goods have overwhelmed local manufacturing industries in Pakistan, especially after the signing of a free trade agreement (FTA) with China in 2007. The FTA has totally changed Pakistan's national economic outlook into being trader oriented rather than manufacturer based. Apart from that, 'Pakistan's industrial policy has not been obvious since 1989 when the country started hostage to the international financial regimes. Most of the industrial policies have likely been half-cooked', stated Dr Syed Hasan Javed, Director of the China Study Centre, NUST Islamabad

(personal communication, 7 January 2019). Since 2012, Pakistan has tried to identify a small portion of its industrial policy—that is, the establishment of SEZs—because of the following objectives:

- To change the country's outlook from agriculture based to an industrially developed country;
- To create efficient and competitive industrial clusters, to make the existing traditional industrial clusters more competitive and technologically advanced;
- To reduce the cost of doing business through an attractive incentive package;
- To attract foreign direct investment (FDI) with imports of technology, expertise and professionals;
- To meet global competitiveness challenges and access new markets to be part of the global value chain;
- To create skilled and trained human resources; and
- To improve companies' social and environmental compliance.

Earlier and Recent Developments in Special Economic Zones in Pakistan

This section has been divided into sub-sections for better comprehension of developments in the SEZs that occurred in Pakistan from the beginning of the twenty-first century.

Earlier Developments

The Chinese-style SEZ idea was introduced to Pakistan in around 2006, when then Chinese President, Jin Tao visited Pakistan and inaugurated the single-unit zone of Haier Company as an SEZ. It was the very first step by the private sector not only to relocate any Chinese brand outside China's boundaries, but also to make a huge investment in transferring Chinese industries to within Pakistan. At that time, the idea of SEZs was not new, because Pakistan had already established several traditional industrial estates or parks. However, the government of Pervaiz Musharraf

ordered work to start on understanding the notion of SEZs. By 2007, during the government of the Pakistan Muslim League Quaid-e-Azam (PML-Q), the then Chief Minister Pervaiz Elhai took a further step to establishing the first SEZ in Kala Shah Kako (Punjab) and 3000 ha of land was acquired for its development.

Holistically speaking, almost every district headquarters of Pakistan has a traditional industrial estate (a form of SEZ) or area that has infrastructure and offers special incentives of various kinds: Punjab has 26 industrial estates, while there are 30 industrial states in Sindh, 7 in Balochistan and 12 in Khyber Pakhtunkhwa (Mahmood, 5–7 January 2018: 6). Some of these are working successfully, even though others have been unsuccessful because of their existence in remote areas lacking the necessary skilled work force, and the unavailability of a connectivity network or basic amenities for workers and investors. Additionally, some large cities in Pakistan also have traditional industrial clusters on the basis of their strength in skilled work force, raw materials, supporting institutions and deep historical links with local and global supply chains, such as sports and surgical clusters in Sialkot, a textiles cluster in Faisalabad, a fan cluster in Gujrat and an engineering cluster in Gujranwala. Furthermore, there are some industrial parks in Pakistan: Rachna Industrial Park (Lahore), Marble City (Lahore) and Textile City (Port Qasim). Pakistan also has some existing EPZs and economic zones (EZs), including Karachi EP, Risalpur EPZ, Sialkot EPZ, Gujranwala EPZ, Khairpur EZ (Rashakai-Mardan, M-1), Gadoon Economic Zone (Gadoon-Amazai Swabi) and Hathar Economic Zone (Hathar-Haripur). In spite of the EPZs and industrial parks, Pakistan has approved seven SEZs (see Table 12.4); however, these SEZs are not included in the CPEC initiatives.

Under the umbrella of CPEC, work on the SEZ Law started again and the SEZ Act was approved in 2012 and modified in 2016. In this way, CPEC provided Pakistan with a golden opportunity to make the establishment of SEZs successful. Prior to the initiation of CPEC, Pakistan was facing a serious energy crisis and there was a lack of basic infrastructure for the successful implementation of economic zones. Security and terrorism issues further hindered investments in the country. Energy projects under the CPEC have somewhat mitigated the capacity issues,

Table 12.4 Approved special economic zones (SEZs) in Pakistan

Area/location	Sectors
Khairpur SEZ, 140 acres	Agro-based industry and date processing
Bin Qasim SEZ, 930 acres	Light engineering, auto vendors, steel, chemicals, food, pharmaceuticals, consumer goods, etc.
Korangi Creek SEZ, 240 acres	Consumer goods, food, pharmaceuticals, garments, value-added textiles, light engineering, etc.
Quiad-e-Azam Apparel Park, 1536 acres	Textile and cotton industries
M3 Industrial City, Faisalabad, 4356 acres	Textiles, energy, construction, chemicals, electronics, food and beverages, etc.
Value Addition City, Faisalabad, 225 acres	Textiles, energy, chemicals, electronics etc.
Hattar Economic Zone, Hattar, 424 acres	Mixed industries

Source: Drafted by the authors from available data

as the focus of early harvest projects under the CPEC has been energy and infrastructure development.

Understanding the institutional organization of the CPEC is important for exploring the issues surrounding the SEZs in Pakistan. Four joint working groups have been formed by the Joint Coordination Committee (JCC), the apex body overseeing the implementation of CPEC projects. The JCC includes the Federal Ministry of Planning, Development and Reform, headed by the Prime Minister of Pakistan. The China Development and Reform Commission is headed by the Chinese counterpart. The four working groups were related to energy, infrastructure, Gwadar and industrial cooperation. Recently, a new joint working group has been formed related to social indicators after the eighth JCC meeting in Beijing in November 2018. Also, four phases of the CPEC implementation were identified: (1) 2015–2018: Early harvest; (2) 2018–2020: Short term; (3) 2020–2025: Medium term; and (4) 2025–2030: Long term. Around 43 major projects had been agreed under the CPEC, out of which 22 projects were on fast-track development, whereas 9 were already completed. Almost $33 billion out of $62 billion Chinese investment was allocated for energy projects. In this regard, Chinese Ambassador,

Yao Jing categorically showed his concern on 10 January 2019 when addressing the Lahore Chamber of Commerce and Trade:

> Though the outgoing PML-N government paid full attention to the Gwadar port, infrastructure and energy projects, it neglected completion of the SEZs. Since there are no SEZs too, how Chinese investors can make investments. (Inconsistent policies keep Chinese investors at bay: envoy 2019)

Under the CPEC, according to Pakistan's Board of Investment (BOI), 41 points for developing the SEZs across the country have been identified so far. The details of these 41 SEZs are as follows.

Punjab

- Pind Daden Khan Industrial City, the largest SEZ (10,000 acres)
- Multan Industrial Estate-II (80 acres)
- Rahim yar Khan Industrial Estate (450 acres)
- Bhawal Industrial Estate (400 acres)
- DG Khan Industrial Estate (3815 acres)
- Mainwali Industrial Estate (600 acres)
- Rawalpindi Industrial Estate (200 acres)

Khyber Pukhtunkhwa

- Hattar Industrial Estate (10363 acres)
- Mansehra Marble and Granite Industrial Estate (80 acres)
- Nowshera Industrial Estate (manufacturing; 1000 acres)
- Chitral Industrial Estate (food processing; 80 acres)
- Ghazi Industrial Estate (manufacturing; 90 acres)
- DI Khan Industrial Estate (manufacturing; 188 acres)
- Bannu Industrial Estate (400 acres)
- Karak Oil Refinery (1.00,000 barrels of oil per day)

Baluchistan

- Gwadar Industrial Estate (3000 acres)
- Lasbela Industrial Estate (1290 acres)
- Turbat Industrial Estate (1000 acres)
- Dera Murad Jamali Industrial Estate (50 acres)
- Winder Industrial and Trading Estate (50 acres)
- Mini Industrial Estate Khusdar (50 acres)
- Bostan Industrial Estate (1000 acres)

Sindh

- Chinese Industrial Zone near Karachi (2000 acres)
- Textile City near Port Qasim (1250 acres)
- Marble City Karachi (300 acres)

Gilgit Baltistan

- Moqpondass Industrial Estate (mining and food processing; 250 acres)

Priority Special Economic Zones

Out of 41 sites identified by provincial governments, 9 sites have been earmarked to be priority special economic zones (PSEZs) in the sixth JCC (for details, see the Appendix):

- Rashakai SEZ, Khyber Pakhtunkhwa
- China SEZ, Dhabeji, Sindh
- Boston EZ, Balochistan
- Punjab-China SEZ, Sheikhupura, Punjab
- Maqpoondas SEZ, Gilgit Baltistan
- ICT Model SEZ, federal government, Islamabad
- Industrial Park on Pak Steel land at Port Qasim, Karachi (federal government)

- Bhimber Industrial Zone, Azad Jammu and Kashmir
- Mohmand Marble City, Federally Administered Tribal Areas

The current status of all PSEZs is that no model PSEZ is ready to launch. According to Hasan Daud Butt at the Ministry of Planning, Development and Reform, 'feasibility reports of 8 SEZs except Gilgit Baltistan have been sent to China. The SEZ in Rashakai is scheduled to be launched in March 2019' (personal communication, 7 January 2019). It is claimed that there is a 'great potential in the M-3 and Dhabeji proposed SEZs', according to Dr Laiquat at the Centre of Excellence, CPEC Islamabad (personal communication, 8 January 2019).

Provincial SEZ authorities (as opposed to the federal government) are responsible for identifying the incentive to boost the development of the PSEZs according to the requirements and opportunities of the area concerned.

Recent Developments and Analysis of Pakistan's Industrial Progress

According to the PBIT and the Ministry of Planning, Development and Reform, the recent government of Pakistan is focusing on bringing foreign investment to the country, increasing exports, promoting industrialization and creating an immense number of jobs and a facilitating business environment within the country (personal communications, 26 December 2018 and 7 January 2019). For achieving these goals, the great significance of the SEZs and their role in the overall national economy has been highlighted. Chinese Ambassador Yao Jing expressed his views thus: 'The new government has an export-oriented vision and looks determined to resolve various issues (Inconsistent policies keep Chinese investors at bay: envoy 2019).' Figure 12.2 shows the national economic outlook and the importance of SEZs in industrial policy.

If properly implemented, the potential for the SEZs to contribute to the development of Pakistan, as discussed by the research respondents, includes:

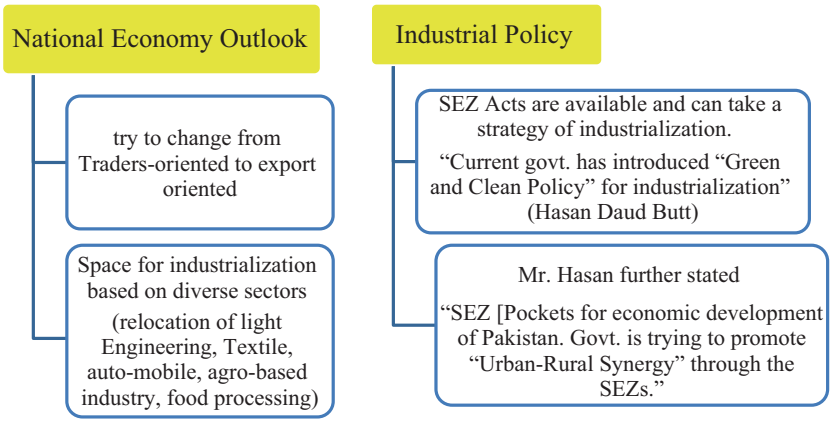


Fig. 12.2 Pakistan's national economic outlook and the status of special economic zones in industrial policy. Source: Authors' notes

- Pakistan can develop by changing to an agro-oriented outlook;
- Pakistan can go towards rapid industrialization and technology advancement;
- Immense job creation and poverty alleviation;
- Economic growth as Pakistan's trade deficit will deplete and the GDP growth rate will increase;
- Pakistan will move towards import substitution and export promotion;
- Value addition can be increased; and
- Promotion of 'Made in Pakistan can be possible (PBIT).
- 'We will get a regional as well as global outreach and integration by the Chinese companies and can be a part of global value chain', according to Dr Iftikhar Ahmed at PIDE, Quaid-e-Azam University, Islamabad (personal communication, 7 January 2019)

There are different guesstimates of the economic significance of the SEZs under the CPEC for Pakistan and the SEZs' contribution to changing the country's outlook. According to the Ministry of Planning, Development and Reform, the SEZs can contribute 2–3% to the GDP of Pakistan. Estimates regarding job creation with the development of SEZs vary (I. Ahmed, personal communication, 7 January 2019):

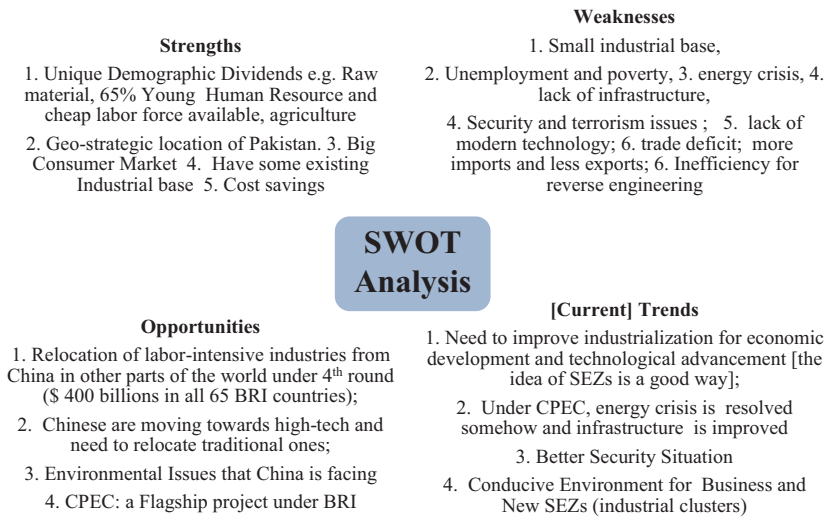


Fig. 12.3 Pakistan's Economic Strengths, Weaknesses, Opportunities and Trends in the Context of SEZs. Source: Authors' notes

700,000 (Applied Economic Research Centre, Karachi University); 400,000 (International Labour Organization); 800,000 (Ministry of Planning, Development and Reform). Figure 12.3 summarizes the analysis of the interviews with people involved in policy development and implementation in Pakistan.

Parameters of Pakistan's Special Economic Zones

The SEZ Act of 2012 was promulgated to encourage domestic and foreign investment. The objective was to boost economic growth, business and commercial activities and employment in the country through concentrated efforts. As already outlined, an SEZ means a geographically defined and delimited area which has been approved and notified by the competent forum (provincial SEZ authorities and the BOI at federal level). SEZs are allowed certain liberal fiscal incentives to promote a capital market economy in that particular area.

After the two Acts of 2012 and 2016, all previous laws for industrialization were terminated and it was decided to start the policy of industrialization under these new laws. According to Pakistan's SEZs Act of 2016, income tax exemption is for a period of five years for developers and ten years for enterprises commencing commercial production by 13 June 2020 in the SEZs for the next ten years: 'Provided that exemption from all taxes on income for those zone enterprises or firms which commence commercial production after the aforesaid date shall be for the next five years.' Moreover, compared to the SEZs at regional and global levels mentioned in Table 12.3, no information regarding the tax rate on profits has been identified in these Acts. Additionally, there is only a one-time exemption from all customs duties on plant and machinery imported into an SEZ, except the items listed in chapter 87 of the Pakistan Customs Tariff. Figure 12.4 offers the institutional framework for SEZs.

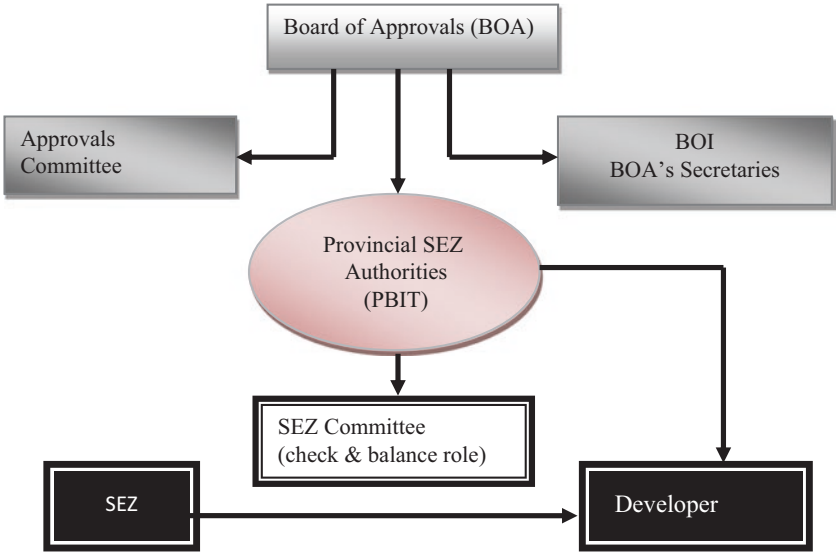


Fig. 12.4 Institutional framework for special economic zones. Source: BOI

Salient Features of Special Economic Zones

According to the BOI, there are these *performance requirements*:

- Construction within six months;
- Production within 24 months after approval (extendable);
- No transfer of land title till the unit has been in production for six months; and
- The SEZ shall use 70% of the area for operations of the zone enterprises

There will be *captive power***:**

- In order to ensure a continued and undisturbed electricity supply, SEZs have been allowed to have a captive power facility to fulfil their power demands

Regarding the *existing industrial zones or estates***:**

- Any existing zone may apply to the SEZ authority in which they are located to become an SEZ and thereafter will be entitled for incentives under this Act; and
- Country-specific SEZs are encouraged; sector-specific SEZs are allowed—the Quaid-e-Azam Apparel Park is one example where textiles and related industries are specifically allowed

There are several *modes of establishment of SEZs:*

- Public sector
- Public–private partnership basis
- Private sector
- Build, operate, transfer

The minimum area is 50 acres and there is no maximum limit. According this research, the framework of the Pakistani SEZs is similar to the Chinese '123' Framework.

Incentive Package under the Pakistan SEZ Act 2012

For the developer:

- One-time exemption from all taxes on all imported capital goods for the development, operation and maintenance of the SEZ; and
- Exemption from all taxes on income accruable in relation to the development and operations of the SEZ for a period of five years, starting from the date of signing of the Development Agreement

For zone enterprises:

- One-time exemption from all taxes on all imported capital goods for the development, operation and maintenance of the SEZ; and
- Exemption from income tax for a period of ten years till 30 June 2020 and five years thereafter.

Additional or special incentives:

- Board of Approval may grant additional benefits to a developer, zone enterprise, region or sector with respect to a particular SEZ, or to all or certain zone enterprises in a particular SEZ, region or sector, if justified.

In a nutshell, with reference to Table 12.2, the technology used in Pakistan's existing single-unit based EPZs and traditional industrial estates was not up to the mark and with this kind of technology the country cannot compete with the rest of world for the rapid promotion of industrialization. The inefficiency of EPZs in design, development and management provided room for the idea of SEZs. Therefore, the decision

was taken to develop free ports as in Gwadar and free trade zones such as the seven approved SEZs and nine PSEZs across the country.

The nine PSEZs under the CPEC are proposed but have not been notified yet. All these SEZs fit well into common practices exercised across the world. Yet Pakistan's existing EPZs and seven approved SEZs are facing serious challenges in terms of development and management. It has been suggested by experts that Pakistan will need to move towards the long-term planning of new UEZs and eco-industrial parks owing to the contentious issues of over-crowded metropolitan urban centres and pollution in these cities.

Challenges Faced by Pakistan for Implementation of the Overall Special Economic Zone Mechanism

It is important to mention here that research respondents categorized the challenges faced by Pakistan into those that are general for developing the overall SEZ mechanism and specific for establishing the PSEZs. Some of the challenges faced by China in the implementation of the CPEC and the SEZs within Pakistan have been highlighted as well in this section.

General Challenges

- *Incompetence of government departments and bureaucratic mode of governance*: There are many issues related to governance which put hurdles in the way of implementing any policy in its true spirit. For instance, there is too much involvement of bureaucracy in the matters of the BOI and provincial SEZ authorities. '[P]oor performance and non-professional attitude is one of the biggest problems of not implementing the SEZ Act', stated Khalid Mehmood (personal communication, 7 January 2019). Moreover, there is a lack of central coordination between the BOI and the SEZ authorities. Government departments may not be competent enough for industrial zone management and operation, especially when dealing with foreign investors. This seriously

undermines their implementation capacity. There is an urgent need for developing the requisite capacity in public-sector institutions.

- *Location of SEZs and competitiveness of the area*: The allocation of a proper site, non-availability of a connectivity network and installation of industry compatible with the natural endowments of that area are considered key success factors for the SEZs (Q. Shahzad, personal communication, 6 January 2019). There should be no compromise or politics involved in the location of the SEZs.
- *Competitiveness of available human resources*: There are two related thoughts. First, Pakistan's available human resources might not be compatible with requirements in terms of Chinese language proficiency and professional expertise for operating Chinese technological machines. Secondly, Pakistan should plan to develop the SEZs which are attuned to the available expertise in abundance, such as agro-based SEZs, fashion-based textile SEZs and so on.
- *Non-availability of a proper human resource development plan*: The plan for human resource development is not well designed for the government of Pakistan to benefit properly from the employment opportunities of the SEZs. National vocational training centres at federal and provincial levels are insufficient to meet the current challenges of generating a skilled labour force and there is a need to expand training planning.
- *Lack of coordination among government and non-government agencies*: Lack of coordination among various government departments and agencies hinders potential investment in the SEZs. For instance, chambers of trade, commerce and business show a non-cooperative attitude and are reluctant to work with the government agencies concerned. Therefore, the federal government is facing a challenge in developing the capacity of small provinces.
- *Ease of doing business*: Pakistan is one of the most difficult places for doing business and it is ranked 136 in terms of ease of doing business (Doing Business 2019). Pakistan needs to make sure that industries establish an export-oriented vision in the SEZs. For this, 'the industries should work in *laissez faire* environment and benefit from the best trade facilitation system that cut their trade-related costs and time' (Mahmood, 5–7 January 2018: 15). Furthermore, local connectivity

and provision of utilities are other key challenges. The SEZs will be successful when cost-effective and uninterrupted utilities are provided along with proximity to road, rail, sea and air links. It is important to physically connect all SEZs with national and international supply chains. Apart from that, an adequate number and size of allied and supplier firms should be available and located in the SEZs or in nearby industrial clusters to draw on the benefits of external economies.

- *Lack of innovativeness and modern technology*: Another hurdle to ease of business is that there is no innovativeness available in the established industrial structure. According to the Centre of Excellence-CPEC, local industrialists are willing neither to install modern technology nor to invest because of the expensive and the reduction in their profitability factors (personal communication, 7 January 2019). The creation of an environment for fast and effective dissemination of technology and knowhow is imperative for rapid industrialization (Mahmood, 5–7 January 2018: 15).
- *Lack of financial resources*: Difficulty in accessing financial resources is the single most important impediment to the growth of industries. According to Mahmood, 'This problem especially increases in magnitude with reduction in size of the firm' (5–7 January 2018: 14). So financial institutions will have to prioritize provision of financial resources to such industries working with the SEZs.

Specific Challenges for the Implementation of Priority Special Economic Zones

- There is too much involvement of bureaucracy. Pakistan needs to come out of a bureaucratic mode of governance. The governance challenge includes overcoming political influence, rent-seeking and tariff-seeking activities, and coordination failures among different stakeholders.
- There is a lack of infrastructure for the PSEZs in small provinces.
- No model of the SEZ is ready yet.
- Businesspeople and industrialists are unaware of the CPEC and the SEZs because of the lack of coordination between the provincial SEZ authorities and the BOI with chambers of trade, commerce and business.

- There is a lack of planning and the PMMs.
- There is an improper scanning mechanism for suitable sectors.
- The service sector is not included in the SEZ Acts of 2012 and 2016.

Challenges Faced by China for Implementation of CPEC and Special Economic Zones

Due to the challenges discussed for the implementation of the SEZs, Chinese concerns were categorically explained by Chinese Ambassador Yao Jing, who stated when addressing the Lahore Chamber:

> The main reasons behind fewer Chinese investors in Pakistan are poor trade policies, high taxes, no tax incentives and lack of business-friendly environment.
>
> Your policies lack consistency, keeping investors from China and elsewhere at bay.
>
> In SEZs and joint venture schemes, 70–80 percent priority would be given to Pakistan shares and exports of Pakistan would increase by 70–80 percent.
>
> Improvement of competitiveness will help your country make trade balanced. The new government has an export-oriented vision and looks determined to resolve various issues. (Inconsistent policies keep Chinese investors at bay: envoy, 10 January 2019)

During the Chinese Panel discussion at the international conference at LUMS on 17–18 January 2019, various challenges were expressed by different academic and non-academic personnel:

- From the Pakistani side, the lack of policy consistency and sustainability of project development are the biggest hurdles to progress of the SEZs under the CPEC, according to Dr Frank Yung-Hsiang Ying.
- Customs duties and taxes increase annually. Taxes and duties are highest in Lahore, according to Sunny Yang, General Manager, TCL Pakistan.
- The working cultures of Pakistan and China are different. Pakistan lacks professionalism, according to Li Yingyang, Commercial Manager, CNEEC Pakistan Engineering Co.

- The Chinese security issue is another big challenge, except in Lahore and Islamabad, stated Li Yimin, Chairman of Pakistan Phutti International.

Some suggestions were also put forward:

- Pakistan should work seriously on how to keep policy sustainable and consistent. The policy should not change with a change of internal or external environment, according to He Wei, Branch Manager, China Machinery Engineering Corporation.
- There is no clear policy for the SEZs. Pakistan must get a published copy of recent progress and management reports about any SEZ from China, and then start studying how to manage the SEZs within the country, if Pakistan truly intends to learn economic growth from the Chinese experience, stated Li Yimin.
- Better homework is needed from both China as well as Pakistan regarding the CPEC and the PSEZs, according to Li Wen, Managing Director, Lahore Office, Huawei Technologies Pakistan.
- The taxation system should be relaxed to attract Chinese investors to the PSEZs, according to Li Yimin.

Way Forward and Policy Recommendations

'Development of the SEZs is a wicked (tough and complex) problem. We need to plan our future by following the World Bank future planning suggestions and by learning from Chinese experience for rapid industrialization' (M. Batlay, personal communication, 22 December 2018). The following policy recommendations were presented by Pakistani research respondents:

- *Institutional capacity building and coordinated approach for better governance*: There is a need to build the institutional capacity of the BOI and break the trap of a bureaucratic mode of governance regarding the SEZs. The BOI has to face serious governance challenges such as political influence, rent-seeking and tariff-seeking activities, and

coordination failures among different stakeholders. Better management and governance are much needed. They should follow the Chinese principle of result-oriented rewards. Governance can be better only by placing professionals in the departments concerned. There must be merit-based recruitment. 'Coordinative approach should be institutionalized', according to Mustafa Hyher, Chief Executive of China-Pakistan Institute Islamabad (personal communication, 10 January 2019).

- *Well-trained management in public-sector institutions*: Pakistan should make 'public sector organizations efficient and productive by creating a mindset to assist and facilitate foreign private companies and involve private sector experts for this purpose' (Mahmood, 5–7 January 2018: 18). Moreover, there must be effective coordination between ministries and concerned public organizations. For this, all ministries should work together to ensure speedy implementation of the SEZ projects to seize the upcoming opportunities. All provincial and federal governments should work together as 'one team' for the success of the SEZs.
- *Allocation of SEZ sites*: Once a site for an SEZ is chosen in consultation with all stakeholders, Pakistan's government should stick to it and strongly avoid being influenced by any interest groups.
- *Involving stakeholders*: There is a need to address the concerns of all industrialists and other stakeholders. The business community and chambers of commerce have to play an effective role in this regard.
- *Operations of SEZs*: 'In consultation with potential industrial leaders from China and Pakistan develop an agreed-upon set of *rules of engagement* with respect to how the SEZs should operate to ensure greater success' (Mahmood, 5–7 January 2018: 17). The SEZ Act 2012, which was enacted before the launch of the CPEC project, was revised so that the aspirations of Chinese investors are also taken into account. Pakistan should adopt the following operations in which it is lagging behind China:

  - Creation of an environment for fast and effective dissemination of technology and knowhow.
  - One-window operation and one-stop shopping.

- Focus on supplying gas and electricity to the approved SEZs and PSEZs according to their requirements. For instance, M-3 Industrial Unit Faisalabad is working efficiently and effectively, but it is facing an insufficient gas and electricity supply.
- Inclusion of the service sector.
- Development of vertical industrial parks within horizontal SEZs.
- Develop a PMM and give more incentives to the developers as per the PMM. In this regard, absolutely discourage rent-seeking activities, and do not allow investors to exploit policies or circumvent the very objective of establishing the SEZs.
- Establish incubators in the SEZs in close coordination with Chinese companies, so that Pakistani start-ups can closely watch and learn from their way of working, which will quickly enhance entrepreneurship.
- Modernize the trade facilitation system and infrastructure.
- Create a special cadre of customs officials and staff who can facilitate the SEZs' trade on an efficient basis, especially minimizing the time involved in various procedures. By cutting delays, bureaucratic hurdles and corruption, trade costs and trade time will be cut too, especially for export-oriented industries. In this context, close coordination with concerned Chinese institutions should be developed.
- Ensure market access through an efficient transportation system. This will guarantee *just-in-time* availability of raw materials as well as delivery of the goods produced.

- *Education and training*: The government needs to explore more ways to disseminate information. For this, it urgently needs to invest in research and development. It should encourage work in academic institutions on developing entrepreneurs rather than job seekers. Some further steps should be taken (Mahmood, 5–7 January 2018):

  - Establish modern vocational and technology institutions.
  - Utilize the expertise of Chinese vocational and technology institutions, which are modern and elaborate, by inviting master trainers from those institutions to Pakistan.

  - Host them for a longer period by appointing retired experts.
  - Introduce vocational training partnerships with Chinese institutions.
  - Prepare a plan and share it with the Chinese government.
  - Train local allied firms on how to efficiently conduct ancillary business with the SEZ firms.
  - Appoint qualified Chinese trainers to conduct short-term training courses and workshops.

- *Marketing of SEZs*: According to Dr Liaquat, 'Pakistan must prepare a model SEZ and then marketize it as enclaves of good practices and self-discipline which should be assisted by good infrastructure, one-stop shopping and service provider companies' (personal communication, 8 January 2019). The government should preferably engage a private firm to develop and manage the SEZs, while being itself an active player in the provision of transport, electricity, water, telecommunications, waste disposal and other infrastructure to link the SEZs with global and local supply chains.
- *Information sharing and dissemination*: The diaspora can spearhead SEZ activities and can be champions and drivers of the SEZs. The government can encourage them by giving full confidence that their investments and transfer of skills and knowledge will be absolutely secure and highly valued by the nation. Full media coverage based on credible information should be given to project a positive image of the SEZs. The SEZ planners should then organize road shows to mobilize potential investors from China and Pakistan to promote the SEZs. For instance, 'Road-shows were conducted by the government of Imran Khan during his November 2018 visit to Beijing' (Hason D. Butt, personal communication, 7 January 2019).
- Har*monizing Pakistani SEZ policies with Chinese SEZ policies*: Harmonization of the SEZ policies should be done effectively and primarily to cut down the cost of doing business and to facilitate it. This can be done through information dissemination and training. China has successfully positioned its SEZs to establish backward linkages with allied and supplier industries. Pakistan should act fast to learn from the Chinese experience. In this regard, synergy should be created

between Pakistani and Chinese SEZs for their mutual advantage and connectivity. Pakistan needs to create a positive attitude in local firms about working with Chinese companies. There is an urgent need to match local brands with Chinese brands so that Pakistan may add itself to the global supply chain, stated Dr Liaquat at the Centre of Excellence-CPEC (personal communication, 8 January 2019). Pakistan can be part of the global supply chain and global value chain by increasing the competitiveness of its supplier firms with improved reliability and efficiency. For this to happen, Pakistan needs to introduce business-supporting policies. In addition, it should negotiate with the Chinese government to secure duty-free status for exports originating from the SEZs. Pakistan should promptly conclude a special trade agreement for the SEZs in addition to the existing bilateral FTA.

- *Consistency in policies*: In Pakistani political culture, policies change with a change of governments. This factor puts a big question mark over the country's seriousness about tackling governance issues. Therefore, government commitment and consistency in policies are crucial for the success of the SEZs. Another factor is that accord completion and secure property rights protection are mandatory to ensure sustainability and attract Chinese firms.
- *Monitoring*: A coordinated approach should be drawn up and the pace of work should be monitored. The Xi Jinping government has established the best example of this. There is a need to learn from the Chinese experience if Pakistan truly wants to make itself a developed country and raise the level of per capita income of its people as the Chinese have done.
- *Urbanization*: In the long run, Pakistan will need to transform the SEZs into new urban centres. With an increase in the size of SEZs in the future, they will benefit more and more from external economies. From the beginning, the government should keep the option open to expand the successful SEZs. There should be no limit on the SEZ expansion.

In a nutshell, if Pakistan does not deal with the challenges it faces in implementing the SEZs under the CPEC and the BRI, the country may not be able to secure fruitful results from these initiatives.

Appendix: Physical Attributes of the PSEZs and Their Current Status

Name of project	Location and province	Area (acres)	Sector(s)	Current status of project development	Geographical connectivity
Rashakai Economic Zone, M-1	Nowshera in Khyber Pakhtunkhwa	1000	Fruit/food/packaging/ textile stitching/knitting	Land acquired	• Airport 50 km • Dry port 65 km • Railway station 25 km • Motorway 0 km • Highway 5 km • City centre 15 km
China Special Economic Zone	Dhabeji in Sindh	1000	To be determined during feasibility stage	Land earmarked	• Airport 80 km • Seaport 85 km • Railway station 5 km • Highway 4.5 km (N-5)
Bostan Industrial Zone	Bostan (30 km from Quetta by road) in Balochistan	1000	• Fruit processing • Agricultural machinery • Pharmaceuticals • Motorbike assembly • Chromite • Cooking oil • Ceramic industries • Ice and cold storage • Electric appliances • Halal food Industry	Availability of allied utilities, i.e. road, street lights, etc. And 200 acres have been developed	• Airport 23 km (Quetta) • Seaports 713 km (Karachi) and 976 km (Gwadar) • Dry port (Quetta) 32 km • Highway (N-50) 0 km

(*continued*)

Name of project	Location and province	Area (acres)	Sector(s)	Current status of project development	Geographical connectivity
Allama Iqbal Industrial City (M-3)	Faisalabad in Punjab	3000 approx.	• Textiles • Steel • Pharmaceuticals • Engineering • Chemicals • Food Processing • Plastics • Agricultural implements, etc.		• Adjacent to existing SEZ of M-3 Industrial City, Faisalabad • Sahianwala Interchange Motorway M-3
ICT Model Industrial Zone	Islamabad (capital of Pakistan and operated by federal government)	200–500	• Steel • Food processing • Pharmaceuticals and chemicals • Printing and packaging • Light engineering, etc.	Identification of land i process	
Development of Industrial Park on Pakistan Steel Mills Land at Port Qasim near Karachi	Port Qasim Near Karachi, federal government	1500	• Steel • Auto and allied • Pharmaceuticals • Chemicals • Printing and packaging • Garments etc.	Land has been earmarked. The Pakistan Steel Mills will transfer the land to National Industrial Parks Development and Management Company	

(*continued*)

Name of project	Location and province	Area (acres)	Sector(s)	Current status of project development	Geographical connectivity
Special Economic Zone at Mirpur	Mirpur, Azad Jammu Kashmir	1078	Mixed industries		• 22 km from main GT road Dina–Jhelum • 130 km from airport • 2 km from inactive railway track • 5 km from proposed dry port at Mirpur • 140 km from Sialkot
Mohmand Marble City	Mohmand Agency in Federally Autonomous Tribal Areas	300	Infrastructure Regular power and utilities Marble stone	For completed projected see web link (http://fatada.gov.pk/project/marble-city-in-mohmand-agency)	
Moqpondass Special Economic Zone	Gilgit Baltistan	250	• Marble/granite • Iron ore processing • Fruit processing • Steel industry • Mineral processing unit • Leather industry	Land allotted	• Airports 35 km (Gilgit) and 160 km (Skardu) • Sust dry port 200 km • CPEC Route 4 km • On Gilgit–Skardu road

Source: Website of Ministry of Planning, Development and Reform

References

Akram, N. (2018, January 7). *Special Economic Zones in CPEC, Critical Flaws & Fixes in Policies of Pakistan*. Retrieved January 10, 2019, from Youtube https://www.youtube.com/watch?v=OXabgF-eDXY&t=2s.

Brautigam, D., & Tang, X. (2014). "Going Global in Groups": Structural Transformation and China's Special Economic Zones Overseas. *World Development, 63*, 78–91.

Bryman, A. (2008). *Social Research Methods* (3rd ed.). Oxford, New York: Oxford University Press.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Los Angeles: Sage Publications.

Doing Business 2019: Training For Reforms, Comparing Business Regulation For Domestic Firms In 190 Economies. (2019). A World Bank Group Flagship Report, Edition 16, Washington, DC.

Economic Zones in the ASEAN. (2015). United Nations Industrial Development Organization, New York.

Farole, T., & Moberg, L. (2014). *It Worked in China, So Why Not in Africa? The Political Economy Challenge of Special Economic Zones*. World Institute for Development Economics Research (WIDER). United Nations University (UNU), WIDER.

Huifeng, H. (2019, January 19). China's Tech Hub Shenzhen Misses Growth Target But Leapfrogs Hong Kong into Asia's top 5, Mayor Says. *South China Morning Post*.

Inconsistent Policies Keep Chinese Investors at Bay: Envoy. (2019, January 10). Retrieved February 7, 2019, from Dawn https://www.dawn.com/news/1456639

Jeong, E., & Kechichia, M. H. (2015). *Main Streaming Eco-Industrial Parks: Conclusions from the Eco-Industrial Parks 2015 Event in Seoul*. Washington, DC: World Bank.

Jian, Q. (2017, August 28). *Special Economic Zone (SEZ)*. Retrieved January 15, 2019, from Youtube https://www.youtube.com/watch?v=eID6y1lqgRI.

Mahmood, Z. (2018, January 5–7). *Opportunities and Challenges of Special Economic Zones under CPEC for Pakistan*. The paper was presented at The International Academic Seminar on Industrial Cooperation and Construction of Industrial Zones, CPEC (pp. 1–27). Beijing China: Centre for Pakistan Studies of Peking University. Retrieved from http://www.nust.edu.pk/INSTITUTIONS/Schools/S3H/Research/Documents/SEZs%20CPEC%20Paper.pdf.

Marshall, C., & Rossman, G. B. (1995). *Designing Qualitative Research* (2nd ed.). Thousand Oaks and London and New Delhi: SAGE Publication.

Patton, M. (2002). *Qualitative Research and Evaluation Methods* (3rd ed.). California: Sage Publications.

Quang, N. M. (2018, September 14). *SEZs in Vietnam: What's in a Name?* Retrieved January 31, 2019, from The Diplomat https://thediplomat.com/2018/09/sezs-in-vietnam-whats-in-a-name/.

Special Economic Zones: Political Priority, Economic Gamble. (2015, April 4). *The Economist*. Retrieved from https://www.economist.com/node/21647630/all-comments.

Special Economic Zones Progress, Emerging Challenges, and Future Directions. (2011). The International Bank for Reconstruction and Development. Washington, DC: World Bank.

Xiang, L. (1984, January 23). *China's Special Economic Zones*. Retrieved February 9, 2019, from Beijing Review no. 4. Retrieved from http://www.bjreview.com/Special_Reports/2018/40th_Anniversary_of_Reform_and_Opening_up/Now_and_Then/Shenzhen/201806/t20180622_800133463.html.

Yeung, Y.-m., Lee, J., & Kee, G. (2009). China's Special Economic Zones at 30. *Eurasian Geography and Economics, 50*(2), 222–240.

Zeng, D. Z. (2016). Special Economic Zones: Lessons from the Global Experience. *PEDL Synthesis Paper Series* (1), pp. 1–9. Retrieved from https://assets.publishing.service.gov.uk/media/586f9727e5274a130700012d/PEDL_Synthesis_Paper_Piece_No_1.pdf.

13

Cooperation among Business Schools across the Belt and Road: A CPEC Perspective

Jawad Syed and Memoona Tariq

Introduction

The Belt and Road Initiative (BRI) is a Chinese development strategy that focuses on connectivity and economic, cultural and political cooperation between China and the world through the historical land-based and new maritime Silk Road. The Pakistani section of BRI is known as the China Pakistan Economic Corridor (CPEC).

Given the enormous scale of business and employment opportunities likely to be created by CPEC and other BRI projects, there is a dire need to pay attention to capacity development and human resource development in China, Pakistan and other countries to develop and train

J. Syed (✉)
Suleman Dawood School of Business, Lahore University of Management Sciences, Lahore, Pakistan
e-mail: jawad.syed@lums.edu.pk

M. Tariq
University of Huddersfield, Huddersfield, UK
e-mail: memoona.tariq@hud.ac.uk

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4_13

technically and culturally competent managers and leaders. Simultaneously, there is a need to design and conduct academic and executive education programmes to develop leaders and business managers for BRI/CPEC projects, educating them about the unique cultural features and regulatory frameworks of each country as well as key issues facing entrepreneurs, business managers and policymakers. Business schools in both countries can play a key role in fostering this collaborative development.

Overview of CPEC

CPEC comprises energy and infrastructure projects which are under construction throughout Pakistan connecting Western China to the Indian Ocean. Seen as the main plank of BRI, the value of CPEC projects is estimated to be US $55 billion by 2030. This represents about 19% of Pakistan's gross domestic product (GDP) of $280 billion in 2016. CPEC investments alone may boost the investment ratio in Pakistan from 15% of GDP to 16.5% over the next decade (Iqbal 2017). In November 2016, CPEC became partly operational when Chinese cargo of 250 containers was transported from Xinjiang to Gwadar port and from there to the Middle East and Africa (*Dawn* 2016). There are several multi-billion-dollar energy projects along CPEC, which is focused on energy projects, road/railway infrastructure and special economic zones (SEZs). Table 13.1 offers an overview of CPEC investments reported by government sources up to December 2017.

Table 13.1 CPEC investments: 2017 update

Sector	Allocated amount US$ billion	Percentage of total
Energy	36.00	67
Railways	10.79	20
Roads	6.10	11.3
Gwadar port	0.80	1.5
Fibre-optics	0.04	0.2

Source: www.cpec.gov.pk

Energy

About $36 billion worth of energy infrastructure will be constructed as part of CPEC to address severe energy shortages in Pakistan. These shortages regularly amount to over 7000 MW in the peak season (Kiani 2017) and are estimated to slash 2–2.5% off Pakistan's annual GDP. Based on the higher estimate of the energy shortfall, the Pakistani economy lost PKR 1439 billion (7% of GDP) in 2015 (*Pakistan Observer* 2017). As part of CPEC's fast-tracked 'early harvest' projects (Deloitte n.d.), over 10,400 MW of energy-generating capacity was expected to be produced by the end of 2018. In total, CPEC-related energy projects will eventually produce 17,000 MW of power and nearly double Pakistan's installed capacity. Moreover, a network of pipelines will transport liquefied natural gas and oil, including a $2.5 billion pipeline between Gwadar and Nawabshah, which will further extend westward to import gas from Iran. While fossil fuels will be the main source of electricity production through these projects, hydroelectric, windpower and solar projects are also being built and installed as part of CPEC.

Roads

In terms of road infrastructure under the auspices of CPEC, newly built and revamped roads will connect the seaports of Gwadar and Karachi in southern Pakistan with cities in central and northern Pakistan, and further north with western China.

There are four main routes or alignments which connect China's Xinjiang province with Pakistan's Indian Ocean seaport of Gwadar. Those are the Northern, Western, Central and Eastern Alignments.

The Northern Alignment (850 km), which mostly comprises the Karakoram Highway (KKH), starts from China and enters Pakistan from Khunjerab in Gilgit Baltistan, moving onwards through Abbottabad, Hasanabdal and Burhan and connecting to the Islamabad–Peshawar motorway, from where there are three main routes to reach Gwadar: the Western, Central and Eastern Alignments.

The Western Alignment (2674 km) starts from Attock in Punjab, runs through Dera Ismail Khan in Khyber Pakhtunkhwa province, then enters

Balochistan to reach Gwadar, passing through Zhob, Qila Saif Ullah, Quetta, Sorab and Panjgur.

The Central Alignment (2756 km) passes through Dera Ismail Khan and reaches Gwadar via passing through Bhakkar, Muzaffargarh, Layyah, Rajanpur, Sukkur and Khuzdar.

The Eastern Alignment (2781 km) consists of M-2 (the Lahore–Islamabad motorway), M-3 (the Lahore–Faisalabad motorway) and M-5 (the Lahore–Karachi motorway), passing through the cities of Lahore, Multan, Sukkur, Hyderabad and Karachi. The Makran Coastal Highway connects Karachi and Gwadar port in Pakistan (KCCI 2017).

A 1100 km motorway will be built between Karachi and Lahore as part of CPEC. Moreover, the KKH (N-35) between Rawalpindi and China's Xinjiang province will be reconstructed and expanded. The railway network in Pakistan will be upgraded, including the Karachi–Peshawar section, and extended to China's Xinjiang Railway in Kashgar. The estimated $11 billion needed to modernize the road networks will be financed by low-interest loans (Deloitte n.d.). About $17 billion has been dedicated to the transport infrastructure in CPEC's long-term plan, including $10.8 billion for railways and $6.1 billion for roads (Sherdill 2017).

In addition to road and railway connectivity, there is also a focus on information connectivity. Work is being done to reinforce and expand the communication infrastructure along the Belt and Road. In May 2016, construction began on the 820 km Pakistan–China Fiber Optic Project, costing $44 million to improve telecommunication in the Gilgit Baltistan region, while providing Pakistan with a fifth route for telecommunication traffic (*Economic Times* 2016).

Special Economic Zones

The Pakistani government has been establishing SEZs to support business-friendly policies and attract investment across a range of industry sectors (SEZ 2017). An SEZ is an area dedicated to promoting industrial growth through lenient economic and tax policies. Nine SEZs are being developed, one located in each of the four provinces and various special areas, such as Gilgit, Azad Jammu and Kashmir, Port Qasim, the Federally Administered Tribal Areas and the federal capital.

Moreover, in addition to development of the Gwadar seaport and connecting it to China through the road infrastructure, an SEZ is being built in Gwadar to encourage industrial development and growth. Gwadar port will have a channel depth of up to 20 m, with 80 berths. It will also have an offshore oil loading and unloading facility (Sherdill 2017).

Next, the chapter discusses the human resources needed for CPEC.

Human Resource Needs

With a population exceeding 207 million (2017 census), 55% of the population below the age of 30, an unemployment rate of at least 6% and a much greater rate (estimate) of under-employment, there is an immense need for human resource development and employment opportunities in Pakistan (Sherdill 2017). According to an estimate by the International Labour Organization, CPEC may create around 400,000 jobs (APP 2017). In Pakistan, in addition to employment, CPEC's projects are anticipated to add between 1.5 and 2.5 percentage points to the country's annual economic growth (Iqbal 2017; Shah 2016). Yousafzai (2017) suggests that by June 2017, CPEC had created 30,000 jobs for Pakistani workers and engineers (including 16,000 working in the energy sector). A further 8000 jobs were being carried out by Chinese nationals. Work on transport infrastructure had created around 13,000 jobs by June 2017 (PCN 2017a). There is thus an opportunity for tremendous and collaborative efforts to develop human resources, in both Pakistan and China, to develop leaders, entrepreneurs, managers and workers for CPEC projects. In particular, it is essential to develop the young population, to train them on new technical systems, management techniques and cross-cultural skills (Butt 2017).

Much of the employment under the CPEC portfolio is in the energy sector, where 16,000 Pakistanis are hired as engineers and labourers. Port Qasim Coal Power project created jobs for 5000 Pakistanis. Sahiwal Coal Power Plant Project and Zonergy Solar Power Project created 3000 jobs each. Around 300–500 engineers are working on these energy projects. Moreover, two more projects in the energy sector, Sukki Kinari and Karot, would generate around 6000 jobs for Pakistani engineers and

workers. Many Pakistani engineers could grab this opportunity where hydropower projects are under execution.

Besides the energy portfolio, CPEC's transport infrastructure sector has created around 13,000 jobs for locals. About 9800 Pakistanis are working on the Peshawar–Karachi motorway (Multan Sukkur section), a major infrastructure project under CPEC. Moreover, KKH Phase II Havelian provided jobs to 2071 locals, Orange Line Metro Lahore created employment for 956 people and the Fiber Optic Project created 580 jobs. Development of the free zone project at Gwadar created 404 direct jobs with an additional 2000 indirect employees.

Construction work on the ML-1 project of the Pakistan Railway, Karachi Circular Railway, Gwadar Airport, Eastbay Expressway at Gwadar and other road projects are soon to be started and may create around 10,000–15,000 direct jobs in 2018–2019. About 75% of these jobs are being carried out by Pakistani engineers and other professionals (Jabri 2018).

According to a Pakistani government official, over 30,000 people had been employed by the end of 2017 in different projects under CPEC. Chinese Deputy Head of Mission Zhao Lijian, who is designated as the focal person on CPEC power projects, estimates that around 60,000 Pakistanis are working on different Chinese projects in Pakistan, including those under CPEC (ET 2018).

The governments of China and Pakistan are making efforts to address this challenge through various agreements and interventions. In 2014, the two countries signed an Economic and Technical Cooperation Agreement, as well as pledging to build the China-Pakistan Joint Cotton Bio-Tech Laboratory and the China–Pakistan Joint Marine Research Centre (Haider 2015). A total of 47 agreements were formalized in April 2015 (Appendix). Moreover, in January 2017, Pakistan's National Accountability Bureau signed a memorandum of understanding (MoU) with China to enhance cooperation and oversee transparency in CPEC projects in Pakistan (Irfan 2018). Similarly, an MoU for construction of the East Bay Expressway in Gwadar under the CPEC project was signed in 2017 (Irfan 2017).

In February 2016, the two countries agreed to establish the Pak-China Science, Technology, Commerce and Logistic Park near Islamabad, at an estimated cost of $1.5 billion. The park will comprise 500 hectares, which

will be provided by Pakistan to China's Xinjiang Production and Construction Corps, with investments from China over the course of ten years.

To promote the availability of skilled workers in the country, the National Vocational and Technical Training Commission (NAVTTC) is providing training in 38 CPEC-specific trades in 197 institutes across Pakistan (PCN 2017b). The Pakistani government intends to establish a training institute named Pak-China Technical and Vocational Institute at Gwadar, costing PKR 943 million, to train residents to operate machinery at the port.

However, given the low literacy rate (58%) in Pakistan, which is particularly low in rural areas (49%) and very low in tertiary education (10%) (WEF 2017), there is a need to pay special attention to the technical and soft skills needed for CPEC. There is a lack of cross-cultural understanding of the business environment, laws, culture and language in these countries' business leaders and managers. To address this gap, business schools along the Belt and Road will need to play a pivotal role in designing and delivering academic programmes and management training. This issue is dealt with in detail in the next section.

Cooperation among Business Schools

The concentration of infrastructural activities around Shanghai and Beijing led to the establishment of top academic institutions in these areas. Similarly, it may be worthwhile to develop an international management education platform and mechanism for cooperation along the Belt and Road. Here, we provide a few examples of efforts at cooperation among business schools.

In May 2015, a University Alliance of the Silk Road was founded at Xi'an Jiaotong University, China with the aim of fostering openness and promoting international cooperation and exchanges in higher education, training, research (in the areas of business, law, engineering, informational technology, medicine, etc.), policy and cross-cultural understanding (XJU 2016). By virtue of its focus on cooperation among universities along the Silk Road in business and other disciplines, the alliance has a special relevance to BRI, including CPEC.

In August 2017, eight top business schools in China and nine in Pakistan launched the CPEC Consortium supported by the Higher Education Commission (HEC) of Pakistan. This partnership aims to increase academic collaboration to support the economic and management systems of China and Pakistan (HEC 2017). The consortium seeks to bring business school leaders onto a single platform for collaborative research and educational and management development programmes to support CPEC. The universities and institutes that are part of the consortium are:

- *China*: Fudan University, Hong Kong Polytechnic University, Nanjing University, Peking University, Shanghai Jiao Tong University, Tsinghua University, University of Science and Technology of China, and Zhejiang University.
- *Pakistan*: Balochistan University of Information Technology, Engineering and Management Sciences, COMSATS Institute of Information Technology, Institute of Information Technology, Institute of Business Administration (IBA), Institute of Management Sciences, Lahore University of Management Sciences (LUMS), National University of Sciences and Technology (NUST), Pakistan Institute of Development Economics (PIDE) and University of the Punjab.

According to the consortium's declaration, these business schools will work together to aid their respective governments and chambers of commerce in the development and operation of CPEC and its key components. These schools will work on joint research and training projects to promote business-to-business relations between Pakistan and China. Such linkages will help to build international academic and professional relationships and lead to an exchange of knowledge.

Infrastructure of Cooperation

In order to understand China's business practices as well as its cultural norms, ethics and laws, there is a need to review academic and executive programmes, upgrade university libraries and develop the ability to

translate Chinese publications to make them accessible to Pakistani students, research scholars, government officials and businesspersons (Javaid and Javaid 2016). Similar measures may be considered within business schools in China to promote an understanding of the Pakistani business environment and wider society. A functional understanding of Chinese and Urdu languages, in addition to English, may help academic programmes and executive training at business schools in both countries. Moreover, regular meetings, research and case seminars and conferences may be organized to gain a better understanding of Chinese and Pakistani economies, laws, cultures, issues of relocation and joint ventures, and the alignment of such interventions with university programmes (Javaid and Javaid 2016). Faculty and student exchanges, as well as platforms for cross-cultural interactions of businesspersons from both countries, may be extremely useful.

Business schools and universities along CPEC may establish integrated research centres or area study centres to address knowledge gaps in areas of academic focus and promote cross-cultural understanding and interfaith harmony. Accordingly, there may be a need to re-orient faculty recruitment and development programmes with a focus on international faculty exchange and sabbaticals.

According to You Yi, Cultural Counsellor of China in Pakistan, 'Educational exchange programs between China and Pakistan have a vital role in bilateral relations' (The Nation 2017: 1). By mutual cooperation and support, academics and students may contribute to the educational systems and economies of both countries.

About 2500 new Pakistani students were enrolled in Chinese universities in 2017, taking the total number of Pakistani students in China to 22,000, who are pursuing their studies in engineering, economic, management, agriculture, medicine, information technology, communication and languages. About 3000 of them are PhD students (*Geo TV* 2017).

In 2017, 145 Pakistani students were awarded scholarships to study in China (*The Nation* 2017). The purpose was to provide them with training and support on new technological systems and knowledge areas. Some of these students are expected to research and analyse the impact of China's investments related to CPEC projects in fields as diverse as energy, road infrastructure and industrial cooperation (*The Express Tribune* 2017). Pakistani students have shown increasing interest in learning the Chinese

language, while some of them wish to pursue further studies in China (Bacha 2017).

Examples from China and Pakistan

China Pakistan Management Initiative

Business schools in Pakistan are working on improving the Chinese business- and culture-related skills of their faculty members. In some of these schools such as the Suleman Dawood School of Business (SDSB), based at LUMS (AACSB Accredited), there is an explicit commitment to developing human resources and management for the Belt and Road, including CPEC.

In 2016, SDSB set up a specialized centre, the China Pakistan Management Initiative (CPMI), with an emphasis on high-quality peer-reviewed research articles, concept notes, technical and policy papers, case studies and executive training to support CPEC. CPMI is working with organizations in China and Pakistan, including academic institutions, businesses, government departments and non-governmental organizations, to support CPEC and other aspects of BRI. This will ultimately link well-trained young people to the new economic era of regional trade, cooperation and connectivity. CPMI's aims are listed in the following textbox.

According to the 2017 QS World University Rankings (by subject), SDSB is the top business school in Pakistan. It is among the top eight schools in South Asia and in the top 251–300 band across the world. The school offers a full suite of academic programmes, including a BSc degree (four years) with two majors (Accounting and Finance, and Management Science). It also offers a case-method-based full-time MBA (two years) and a weekend executive MBA. Moreover, the school offers PhDs in Finance, Operations Management and Human Resource Management.

SDSB prides itself on active engagement with industry, with a focus on topics of current interest and the management implications. A collection of more than 800 cases has been written by SDSB's faculty members, a selection of which is also available at the Harvard Business Publishing web site. The school also has a thriving executive development centre which is

designing specialized programmes with a focus on CPEC. Moreover, SDSB offers international scholarships for MBA students to encourage Chinese and other international students to study at LUMS.

In 2017–2018, CPMI at SDSB conducted several research and policy seminars on topics related to various dimensions of CPEC and also published a number of case studies and policy notes. In March 2018, CPMI it an international symposium on CPEC at the Annual Management Research and Case Conference that was held in Bhurban, near Islamabad.

Similar initiatives are found at other universities, such as NUST Business School and IBA Karachi, which regularly hold conferences and symposia on topics related to CPEC.

Aims of the China Pakistan Management Initiative

1. To capitalize on the potential for management development, research, teaching and consultancy in the wake of the China Pakistan Economic Corridor (CPEC)
2. To create a knowledge corridor to serve the needs of and steer the direction of the economic corridor
3. To promote joint research, case studies, concept papers, technical papers and policy briefs on business and management in China and Pakistan
4. To apply for research funding and jointly recruit research scholars and PhD students
5. To develop joint academic and training programmes with Chinese partners:
   (a) To design and deliver management development programmes for managers and policy makers in China and Pakistan
   (b) To develop and impart academic courses and training programmes on Chinese language, culture, Confucian and Buddhist values, laws, business norms and management techniques in Pakistan
   (c) To impart similar training on Pakistani culture, Islamic values, Urdu language, laws, business norms and management techniques to Chinese professionals in Pakistan and China
6. To document and critically review policies and activities of CPEC and examine their implications for Pakistan and China
7. To study, assess, forecast and support the logistics, supply chain, energy, security, infrastructure and human resources needed for CPEC (LUMS 2017)

Pakistan Study Center of Science & Technology and Economy

Beijing Technology and Business University (BTBU), a comprehensive public university in Beijing, has established the Pakistan Study Center of Science & Technology and Economy (PSCSTE). In November 2016, BTBU organized an International Seminar on China-Pakistan Economic Corridor (CPEC) and Scientific & Technological Cooperation at its Fucheng campus (BTBU 2016). PSCSTE aims to facilitate joint consultations and services relating to science, technology and the economy, help with the transfer of technology between the two countries and promote non-governmental exchanges. It seeks to accelerate the development of an innovative and open economy for both countries. There are examples of similar initiatives by Lanzhou University, Fudan University and other universities in China.

Centre of Excellence-CPEC

The Centre of Excellence-CPEC (CoE) is a policy-based research centre in Islamabad that seeks to provide input to Pakistan's federal and provincial governments and implementers of CPEC projects. CoE's mandate is to conduct research on key thematic areas of CPEC, promote a positive narrative on CPEC, guide the implementers of CPEC on policy matters and train the business community on CPEC-related business opportunities. Key thematic areas include urban development in Pakistan under CPEC; the socioeconomic impact of CPEC; trade and industry cooperation; regional connectivity; financing and financial sector integration under CPEC; and job growth and human resource development (CoE 2017).

Possible Areas of Cooperation

To maximize the benefits of youth employment related to CPEC, business schools in China and Pakistan may prepare students and businesspersons to gain technical skills as well as build managerial and soft skills.

These students and business trainees will also be expected to understand the social impact of the economy and the socioeconomic dynamics of China and Pakistan (Butt 2017).

Key themes for cooperation may focus on the *seven key pillars* of CPEC's long-term plan, including connectivity (transport and information networks), energy, trade and industrial parks (SEZs), agricultural development and poverty alleviation, tourism, people's livelihood and non-governmental exchanges, and financial cooperation. Business schools will need to think about cooperation in the shape of applied research and development, thematic research, policy think tanks, governance, cross-cultural training and socioeconomic growth.

Ying (2017) suggests that in order to develop inter-school partnerships, three factors may be considered: (1) commercial viability—that is, a go/no-go decision with due market analysis, and selection of champions from various fields; (2) maturity of the infrastructure ecosystem—that is, identification of strong partnerships across the Belt and Road countries, and locating adequate centres of excellence which are logistically viable; and (3) portfolio fit—that is, providing vision to expand more than just a project, and a focus on complementary roles instead of substitution. It is important to focus on not only existing champions but also forging partnerships that could result in centres of excellence with the support of adequate infrastructure and portfolio.

However, in addition to the technical skills and studies suggested by Ying, it is equally important to pay attention to the softer side of managing and leading BRI projects. More specifically, we may consider cooperation in the following areas.

Operations Management and Supply Chain Management

Pakistani business schools may be interested in learning from Chinese schools specializing in maritime and logistics studies. Very few schools in Pakistan work in these areas, while China has many schools specializing in various aspects of maritime and overland logistics. Pakistan's economy, geography, political (in)stability and security concerns pose unique chal-

lenges in devising optimal solutions to the country's logistics and transportation issues. These could be fruitful areas of research and case studies for academics in both China and Pakistan. For example, potential partners may include Tongji University in China, SDSB at LUMS, NUST in Pakistan and National University of Singapore. In particular, the Master's programme for Supply Chain and Logistics at Tongji and executive training programmes on the same topic at SDSB may be of particular value to students and business executives.

Human Resource Management

Chinese schools can collaborate with their Pakistani counterparts for gaining insights into the cultural and behavioural aspects of the Pakistani workforce. Such insights can be useful for Chinese companies and enterprises willing to invest in Pakistan. Similarly, Pakistani schools can learn about Chinese business culture, norms and ethics to inform Pakistani businesses and current and future employees of Chinese companies. Such learning can also help Pakistani companies to implement policies related to human resources, which may be relatively more effective and efficient compared to lessons learned from Western-centric studies. For example, schools in Pakistan may seek to benefit from Shanghai University's SILC business school's international and cross-cultural expertise. Similarly, the Social Enterprise Development Centre at SDSB-LUMS (Pakistan) may offer expertise in the cultural, religious and gender issues of the workforce in Pakistan. In the niche area of tourism and event management, Shanghai Jiao Tong University may be a great resource.

According to ACCA (2017), based on data from the Securities and Exchange Commission of Pakistan, there is a noteworthy growth in the registration of Chinese companies in Pakistan. The number of companies with Chinese directors showed a steady increase from 373 companies on 30 June 2013 to 775 (out of a total of 80,428 companies) registered in the country on 30 June 2016 (see Fig. 13.1). This indicates the need for better cross-cultural understanding to develop and manage human capital in both countries.

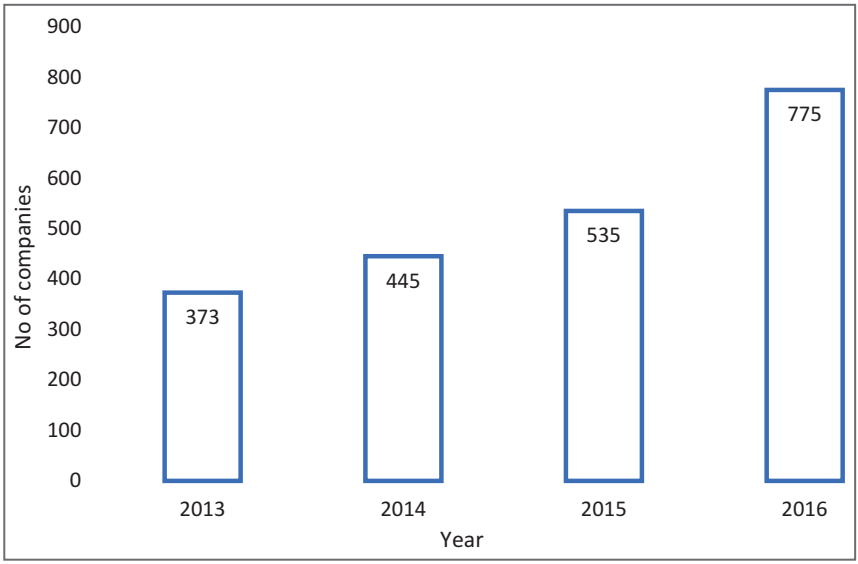


Fig. 13.1 Pakistani companies with Chinese directors

Based on a survey of survey of finance and business professionals in Pakistan, ACCA (2017) notes that around 86% of the 500 respondents agreed that they should attend short courses on Chinese language, culture and business practices. The study further reports, based on responses by Chinese executives, that while responding to the question 'What do you think are the key skills needed by Pakistani executives to be prepared for the future requirements related to CPEC?', the executives from the Chinese companies listed the following: international vision, good understanding of Chinese culture, knowledge of Mandarin, familiarity with Chinese ways of conducting business, communication skills, familiarity with company and tax laws and rebates and concessions allowed under CPEC in Pakistan, and full awareness of relevant business policies of the Pakistan government.

At the same time, some broad cross-cultural differences may be considered. For instance, based on Hofstede's (2001) index, the Chinese are generally more individualistic and Pakistanis are more collective; similarly, the Chinese are generally more likely to be risk takers than Pakistanis. The indulgence level of the Chinese is very high compared to Pakistanis.

Finance

China's centrally planned economy has resulted in the evolution of a unique financial system in the country. Coordination among academics in the area of finance in the two countries could support negotiators on both sides of the border in designing financing options suitable for proposed projects. Such cooperation would also help investors and potential investors to analyse the financial strength and expected future performance of companies in the two countries, especially in business-to-business transactions. The growth of Islamic financial products in Pakistan could be an interesting segment of the financial system for Chinese academics to study and perhaps help the Chinese government gain from such opportunities. For example, in commercial marketing and finance, the Chinese University of Hong Kong, the Centre for Excellence in Islamic Finance based at IBA Karachi and the Centre of Islamic Finance at SDSB may be worthy of consideration.

Scholars may pay attention to financing structures for CPEC which differ on the basis of sectors and projects. Most of the power projects have a debt to equity ratio of 80:20, which signifies that the inflows into Pakistan represent debt financing rather than equity investments. The mark-up on debt and return on equity may not only result in a higher electricity rate for the next several years, but profit and principal repayments in dollars—expected to increase after 2021—may put ongoing pressure on the Pakistani currency and foreign exchange reserves (KCCI 2017).

Public Policy

'Socialism with Chinese characteristics' has been a linchpin for informing the Chinese government's long- and short-term policies. Cooperation between business schools in Pakistan and China can not only help Pakistani academics develop policy-relevant scholarship, but also assist in aligning the policies of the two governments for smoother implementation of CPEC-related projects. In this regard, public policy and governance centres based at the PIDE and LUMS may be worth considering.

At the policy level in Pakistan, government departments and business schools may focus on possible interventions to facilitate 'doing business' in the country. Pakistan is ranked quite low (144th) in terms of 'ease of doing business' (World Bank 2017). For example, it takes 215 days to obtain an electricity connection and involves five procedures in Karachi, compared with the South Asian average of 136 days and 5.7 procedures (ACCA 2017).

Marketing

The Chinese government has pursued a policy of projecting a 'benevolent' image of the country, especially in poorer regions of Africa and East Asia. China is, in a way, pursuing a policy of exporting 'socialist culture' to the rest of the world. At the same time, Chinese firms are introducing their own standards and norms of work practices. This provides an opportunity for interested scholars in Pakistan to analyse Chinese economic and ideological policies and would also aid Chinese academics in analysing the implementation of marketing and branding policies by the Chinese government in Pakistan in comparison to its experiences in other countries. Business schools at Shanghai Jiao Tong University and IBA Karachi may be a great resource in this regard.

Other Disciplines

Given the unique nature of the Chinese economic structure and Pakistani dynamics, developing organizational strategies consistent with the economic, cultural and behavioural aspects for firms operating in both countries could be an interesting area to explore. Cooperation among business schools could exploit the divergence in the economic and cultural paradigms of both counties and develop the capacity to extend help and training to businesses in the development and implementation of long-term strategies. Peking University, Quaid-i-Azam University and LUMS may be worth considering in this endeavour.

Other areas of cooperation may include the following: diversity management to develop social, cultural and political harmony, international

business, laws (international trade, commercial, taxation, labour), cross-cultural management, manufacturing and engineering management, information and communication technology (including data science), food and agriculture and so on.

Industry Sectors

The *industry sectors* for such cooperation may include energy, textiles, construction (cement, building materials, etc.), engineering (including automotive, iron and steel, etc.), mining, leather, agriculture, food and fertilizers, telecommunication and fibre-optics, tourism, security management and so on.

Industries in Pakistan will need to pay special attention to improving their efficiency and leadership and management practices in order to remain competitive in the global market given the increased connectivity through CPEC. The textile industry in Pakistan has faced serious challenges in the past due to electricity shortages and also low productivity. In the wake of CPEC, the industry may face new challenges from large and competitive firms in China. For example, Xinjiang province in Pakistan's immediate neighbourhood is China's top cotton-growing area, producing about 60% of the country's cotton. The province is currently undergoing rapid industrialization and is expected to be a major textile-exporting hub. In 2017, the Chinese government dedicated a $27 billion investment to Xinjiang's transport infrastructure for better regional connectivity, while a $2.8 billion fund has been reserved to set up garment factories. By 2020, Xinjiang is expected to produce about 500 million garments annually (KCCI 2017). The implications of this production and export from Xinjiang for Pakistan's textile industry need to be carefully examined. It will be inevitable for Pakistan not only to have to improve the competitiveness and breadth of its textile production, but also to diversify its exports in other sectors.

As noted by KCCI (2017), CPEC is attracting the attention of many foreign firms. Shanghai Electric is seeking to buy a 66% share in K-Electric for a record $1.67 billion. Moreover, global companies are investing or exploring investment in diverse sectors, from automotive (Renault, Kia,

Hyundai) and cement (Anhui Conch of China, Asian Precious Minerals of UK) to dairy (Friesland Campina buying Engro Foods) and electronics (Turkey's Arcelic's $258 million buyout of Dawlance).

Proposed Activities and Deliverables of Business School Cooperation

The proposed cooperation among business schools on CPEC and other parts of the Belt and Road may have several intended or preferable activities or outcomes:

1. Academic courses and programmes to cover knowledge gaps in CPEC/BRI-related areas. Business schools may consider designing and offering independent or joint courses and programmes at undergraduate and postgraduate levels. Such courses may include the international business environment along the Belt and Road, doing business in Pakistan/China, the legal and regulatory environment, cross-cultural management in Pakistan/China (culture, religion, language, society, etc.), intercultural business communication, human resource management, the financial environment, regulations and norms, language (Urdu/Mandarin/English), supply chain management, energy production and distribution, international e-commerce, entrepreneurship in Pakistan/China, financial innovation, family-owned enterprises in Pakistan/China, and the policy and management response to extremism and militancy.
2. Faculty exchange can be recommended for two weeks to one term (12–14 weeks). Extensive courses (full or half) can be taught in subjects such as doing business in Pakistan or China, the business environment (culture and laws) in Pakistan or China and so on. The faculty can combine teaching with research activities. The host institution will provide return flights, accommodation and a teaching allowance.
3. Student exchanges and foreign internships could be from one to six weeks on a credit or non-credit basis. Students could attend formal

courses and guest lectures. Industry visits and internships could also be included. University, non-governmental organization and government scholarships for students from countries along the Belt and Road could be offered. When students undertake their internships in an international environment, their adaptability to different cultures will be greatly enhanced. Therefore, they will be equipped with the ability to get along well with peers and people from different cultural backgrounds.

4. Research publications. Research can be encouraged through joint research papers in high-quality journals (e.g. Australian Business Deans' Council rank 'A' and above), joint research books or special issues. Topics of interest could include studies of successful models for industrial growth, areas of convergence in business and industries, Chinese and other successful models of industrial and science parks, and manufacturing clusters to draw lessons for the development of industrial, science or knowledge parks in the Belt and Road countries, identification and development of trade and commerce for mutual collaboration, and identification of Chinese industries that can be relocated or linked with industrial parks in participating countries.
5. Joint academic conferences (focused on research papers, cases, policy papers, etc.).
6. Joint case studies in peer-reviewed journals such as the *Asian Journal of Management Cases* and *Case Research Journal*.
7. Joint policy papers, feasibility studies, industry-specific technical papers and concept notes (to serve as think tanks for governments and private corporations).
8. Joint applications for research grants, involving identification of and approaching funding agencies for joint projects.
9. Short-duration executive training for businesspersons and government officials.
10. Celebration of cultural festivals and events related to countries and ethnicities along the Belt and Road.
11. Translation of important research papers, case studies, news reports and documentaries into Mandarin and English.
12. Development of faculty members in specified areas with a focus on inter-disciplinary research to promote a global vision, intercultural awareness and professional competence.

13. Provision of adequate resources as well as incentives to faculty members to enable and motivate them to participate in CPEC-related activities.

These efforts for cooperation will encourage people-to-people bonds, acquisition and enhancement of talent and mutual development. For such endeavours to work, government and educational leaders in China, Pakistan and other Belt and Road countries will need to provide adequate infrastructure and resources, as well as incentives for academics to enable and encourage their full participation in BRI/CPEC.

Based on this discussion, Fig. 13.2 offers a holistic perspective on academic cooperation to support BRI/CPEC. It indicates that the schools along the Belt and Road may synergize their expertise in diverse academic disciplines with a focus on the development and dissemination of applied

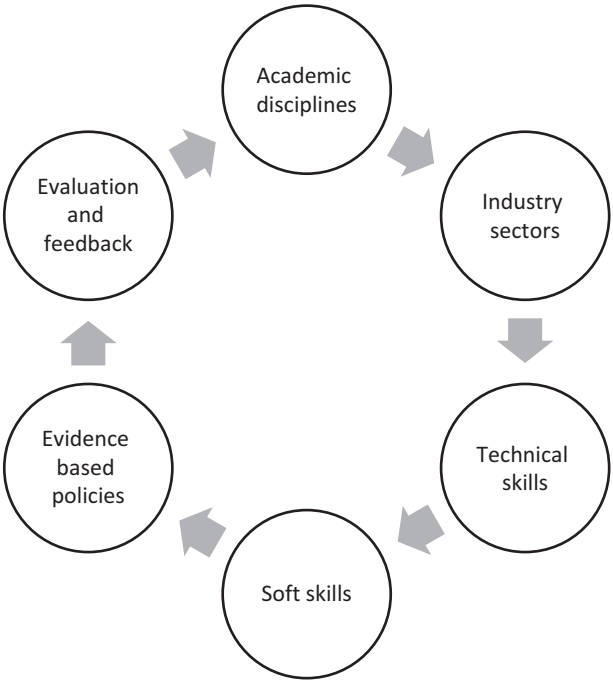


Fig. 13.2 A holistic perspective on academic cooperation for BRI/CPEC

research and case studies for relevant industry sectors. To provide and develop the much-needed human resources for BRI/CPEC, such cooperation may focus on the development of both technical and soft skills in the current and future leaders and managers of BRI/CPEC projects. Moreover, policy formulation at the macro-national and industry level will need to be informed by evidence-based research and case studies and there will be an ongoing system of evaluation and feedback.

Conclusion

Both China and Pakistan have a rich resource of academics, researchers and practitioners in a wide range of disciplines, including accounting, law, human resource management, international business, economics, finance, construction, engineering and project management. However, these professionals may need cross-cultural training, with a specific focus on CPEC, to enable and enhance their productive contribution.

There is a need to develop centres of excellence and international initiatives for mutual exchange and development of students, teachers and practitioners, in order to develop high-quality business talent with an open, international mindset. For example, academics and policymakers may focus on devising new global financing arrangements that involve major commercial banks and public–private partnerships.

CPEC provides an opportunity to step up research to examine and design optimal trade and investment policies to bolster development in countries along the Belt and Road. In Pakistan, for example, there is a dire need to research the opportunities and challenges that the business community and government need to be aware of to take advantage of CPEC. For greater transparency, ownership and accountability, CPEC projects may be subjected to a proper 'due diligence' process of identification, appraisal and design. Independent monitoring may be put in place to serve as a credible information warehouse for CPEC. Similarly, a task force of professionals or experts may be formed to review and scrutinize the selection and design of all projects based on consistent criteria (BIPP 2017).

Scholars may also wish to address other important questions. How will businesses in China, Pakistan and other countries along the Belt and Road identify new opportunities based on existing cooperation? How will they push forward the investments made by Chinese corporations in Pakistan and other countries for industrial development and complementarity? How will the financial industry boost bilateral commercial cooperation?

Business schools in important cities along CPEC in Pakistan (such as Gilgit, Skardu, Lahore, Dera Ghazi Khan, Quetta and Karachi) and in China (such as Urumqi, Kashgar, Lanzhou, Xi'an, Beijing and Shanghai) may seek and provide answers to such questions and guide national strategy actively, helping to improve the mobilization of international projects, funding and human resources through jointly fostering inter-disciplinary and cross-cultural management talent. With the collaboration of business schools, scholars, students and entrepreneurs from diverse backgrounds will experience the customs and knowledge streams of different nations and develop the technical and leadership expertise needed for the successful execution of CPEC/BRI. Scholars at universities along the Belt and Road may identify best practices as case studies and seek to develop industry- and sector-specific synergies and expertise. For example, logistics is the common element for BRI as well as being common to China and Pakistan. Logistics is the champion. Shanghai Tongji university is considered number one in logistics in China and number five in the world. Similar champions may be identified and best practices shared in business schools along the Belt and Road.

Appendix: List of Agreements Signed Between Pakistan and China in April 2015

1. Economic and technical cooperation agreement between China and Pakistan.
2. Exchange of notes of feasibility study of the Demonstration Project of the Digital Terrestrial Multimedia Broadcast (DTMB).

3. Exchange of notes on provision of anti-narcotics equipment.
4. Exchange of notes on provision of law enforcement equipment.
5. Exchange of notes on feasibility study of Gwadar Hospital.
6. MoU on provision of Chinese governmental concessional loan for second phase upgrading of Karakorum Highway (Havelian to Thakot) between Ministry of Commerce of China and Ministry of Finance and Economic Affairs of Pakistan.
7. MoU on provision of Chinese governmental concessional loan for Karachi–Lahore Motorway (Multan to Sukkur) between Ministry of Commerce of China and Ministry of Finance and Economic Affairs of Pakistan.
8. MoU on provision of Chinese governmental concessional loan for Gwadar port East Bay Expressway Project between Ministry of Commerce of China and Ministry of Finance and Economic Affairs of Pakistan.
9. MoU on provision of Chinese governmental concessional loan for Gwadar International Airport between Ministry of Commerce of China and Ministry of Finance and Economic Affairs of Pakistan.
10. Protocol on banking services to agreement on trade in services.
11. MoU on provision of material for tackling climate change between National Development and Reform Commission of China and Ministry of Finance of Pakistan.
12. Framework agreement on Cooperation on Major Communications Infrastructure Project.
13. MoU on cooperation between National Development and Reform Commission (NDRC) of China and Ministry of Planning Development and Reform of Pakistan.
14. MoU on pro-bono projects in the Port of Gwadar region between Ministry for Planning, Development and Reform of Pakistan and the International Department of the Central Committee of the Communist Party of China.
15. MoU on establishment of China-Pakistan Joint Cotton Bio-Tech Laboratory between the Ministry of Science and Technology of China and the Ministry of Science and Technology of Pakistan.
16. Framework agreement between the National Railway Administration, China and the Ministry of Railways, Pakistan on joint feasibility

study for upgrading of ML1 and establishment of Havelian dry port of Pakistan Railways.

17. Protocol on the establishment of China-Pakistan Joint Marine Research Center between State Oceanic Administration of China and the Ministry of Science and Technology of Pakistan.
18. MoU on cooperation between the State Administration of Press, Publication, Radio, Films and Television of China and Ministry of Information, Broadcasting and National Heritage of Pakistan.
19. Triple party agreement between China Central Television and Pakistan Television (PTV) and Pakistan Television Foundation on the re-broadcasting of CCTV-NEWS/CCTV-9 documentary in Pakistan.
20. Protocol on establishment of sister cities relationship between Chengdu City, Sichuan province of People's Republic of China and Lahore City.
21. Protocol on establishment of sister cities relationship between Zhuhai City, Guangdong province of People's Republic of China and Gwadar City, Balochistan of Pakistan.
22. Protocol on establishment of sister cities relationship between Karamay City, Xianjian Uyghur autonomous region of China and Gwadar city, Balochistan of Pakistan.
23. Framework agreement between National Energy Administration (NEA) and MoPNRon Gwadar-Nawabshah liquefied natural gas terminal and pipeline project.
24. Commercial contract on Lahore Orange Line metro train project.
25. Agreement on financing for Lahore Orange Line metro train project.
26. MoU on financing for Karakoram Highway (KKH) upgrading Phase 2 (Havelian to Takot), KLM, Gwadar East Bay Expressway, Gwadar international airport projects.
27. Financing agreement relating to 870 MW Hydro-Electric Suki Kinari hydropower project between EXIM Bank of China, Industrial and Commercial Bank of China and SK Hydro.
28. Financing cooperation agreement between EXIM Bank of China and Port Qasim Electric Power Company on Port Qasim 2 × 660 MW coal-fired power plants.
29. Framework facility agreement for 720 MW Karot hydropower project between China Development Bank Corporation, EXIM Bank of China and Karot Power Company.

30. Term sheet of the facility for Zonergy 9 × 100 MW solar project in Punjab between China Development Bank Corporation, EXIM Bank of China and Zonergy Company.
31. Drawdown agreement on Jhimpir windpower project between UEP Wind Power as Borrower and China Development Bank Corporation as lender.
32. Terms and conditions in favour of Sindh Engro Coal Mining Company for Thar Block II 3.8 Mt/a mining project, Sindh province, Pakistan, arranged by China Development Bank Corporation.
33. Terms and conditions in favour of Engro Powergen Thar, Sindh province, Pakistan, for Thar Block II 2 × 330 MW coal-fired power project arranged by China Development Bank Corporation.
34. Framework agreement of financing cooperation in implementing the China Pakistan Economic Corridor between China Development Corporation and Habib Bank Limited (HBL).
35. MoU with respect to cooperation between Water and Power Development Authority (WAPDA) and Three Gorges Corporation (CTG).
36. MoU among Private Power and Infrastructure Board (PPIB), CTG, and Silk Road Fund on development of private hydropower projects.
37. Facility operating agreement for Dawood windpower project between Industrial and Commercial Bank of China (ICBC) and PCC of China and Hydrochina Dawood Power (PVT) Limited (HDPPL).
38. Framework agreement for promoting Chinese investments and industrial park developments in Pakistan between ICBC and HBL on financial services corporation.
39. Financing term sheet agreement for Thar Block-I between ICBC and Sino Sindh Resources Pvt Ltd (SSRL).
40. Energy strategic cooperation framework agreement between Punjab province of Pakistan and China Huaneng Group.
41. Framework agreement on China Pakistan Economic Corridor energy project cooperation between Ministry of Water & Power and China Export & Credit Insurance Corporation (Sinosure).
42. Cooperation agreement between Sino-Sindh Resources and Shanghai Electric Group for Thar Coalfield Block-I coal power integrated project in Pakistan.

43. Cooperation agreement for Matiyari–Lahore and Matyari (Port Qasim)–Faisalabad transmission and transformation project between National Transmission Distribution Company and National Grid of China.
44. IA on Port Qasim coal-fired power plant between Power China and Government of Pakistan (GoP).
45. Facility agreement for Sahiwal coal-fired power plant project between Industrial and Commercial Bank of China, Huaneng Shandong Electricity and Shandong Ruyi Group.
46. Cooperation agreement on Hubco coal-fired power plant.
47. Facilitation agreement on Salt Range coal-fired power project between China Machinery Engineering Corporation (CMEC) and Punjab Government.

Source: *The Express Tribune* 2015; Haider 2015, based on press release by Pakistan's Press Information Department

Note: CMEC, China Machinery Engineering Corporation; CTG, Three Gorges Corporation; DTMB, Digital Terrestrial Multimedia Broadcast; GoP, Government of Pakistan; HBL, Habib Bank Limited; HDPPL, Hydrochina Dawood Power (PVT) Limited; ICBC, Industrial and Commercial Bank of China; KKH, Karakoram Highway; NDRC, National Development and Reform Commission; NEA, National Energy Administration; PPIB, Private Power and Infrastructure Board; PTV, Pakistan Television; SSRL, Sino Sindh Resources Pvt Ltd; WAPDA, Water and Power Development Authority

References

ACCA. (2017). *The Economic Benefits of the Modern Silk Road: The China–Pakistan Economic Corridor (CPEC)*. Pakistan-China Institute. Retrieved from www.pakistan-china.com.

APP (Associated Press of Pakistan). (2017, June 6). *CPEC projects Create Over 30,000 Jobs: Officials*. Retrieved from https://www.app.com.pk/cpec-projects-create-over-30000-jobs-officials/.

Bacha. U. (2017). More Students in Pakistan Learning Mandarin Today than Ever Before. *Dawn,* May 22. Retrieved from https://epaper.dawn.com/DetailImage.php?StoryImage=22_05_2017_003_004.

BIPP. (2017). *The State of the Economy: China Pakistan Economic Corridor Review and Analysis*. BIPP 10th Annual Report 2017. Lahore: The Shahid Javed Burki Institute of Public Policy at NetSol.

BTBU. (2016, December 9). *BTBU Held Establishment Ceremony of "Pakistan Study Center of Science & Technology and Economy at BTBU" and "International Seminar on China-Pakistan Economic Corridor (CPEC) and Scientific & Technological Cooperation"*. Retrieved from http://english.btbu.edu.cn/about-news/btbunews/115618.htm.

Butt, S. (2017, September 15). Preparing Our Youth for CPEC. *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1402297/preparing-youth-cpec.

CoE. (2017). *Centre of Excellence – CPEC*. Retrieved from https://cpec-centre.pk/about-us/.

Dawn. (2016, November 13). 'Today Marks Dawn of New Era': CPEC Dreams Come True as Gwadar Port Goes Operational. *Dawn*. Retrieved from https://www.dawn.com/news/1296098.

Deloitte. (n.d.) *How Will CPEC Boost Pakistan Economy?* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/pk/Documents/risk/pak-china-eco-corridor-deloittepk-noexp.pdf.

Economic Times. (2016, May 19). *Pakistan-China 820-kilometre-Long Optical-Fibre Cable Project Launched*. Retrieved from http://telecom.economictimes.indiatimes.com/news/pakistan-china-820-kilometre-long-optical-fibre-cable-project-launched/52349319.

ET. (2018, January 22). CPEC Creating Job Opportunities for Locals. *Express Tribune*. Retrieved from https://tribune.com.pk/story/1614625/1-cpec-creating-job-opportunities-locals/.

Geo TV. (2017, November 15). *2,500 New Pakistani Students Enrolled in Chinese Universities This Year*. Retrieved from https://www.geo.tv/latest/167684-2500-new-pakistani-students-enrolled-in-chinese-universities-this-year.

Haider, I. (2015, April 20). Details of Agreements Signed During Xi's Visit to Pakistan. *Dawn*. Retrieved from https://www.dawn.com/news/1177129/details-of-agreements-signed-during-xis-visit-to-pakistan.

HEC. (2017). *HEC Conference Marks Launch of Cpec Consortium of Business Schools*. Higher Education Commission, Government of Pakistan. Retrieved from http://hec.gov.pk/english/news/news/Pages/HEC-Conference-CPEC.aspx.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*. Sage Publications.

Iqbal, F. (2017). Recent Economic Developments and Prospects. In *The State of the Economy: China Pakistan Economic Corridor Review and Analysis*. BIPP 10th Annual Report 2017, pp. 8–13. Lahore: The Shahid Javed Burki Institute of Public Policy at NetSol.

Irfan, M. (2017, September 25). CPEC: Pakistan, China Sign MoU for Construction of Gwadar Expressway. *Daily Pakistan*.

Irfan, M. (2018, January 9). NAB Again Signs MoU with China to Ensure Transparency in CPEC Projects. *Daily Pakistan*.

Jabri, P. (2018, February 8). More than 30,000 Jobs Created under CPEC Early Harvest Projects. *Business Recorder*.

Javaid, U., & Javaid, R. (2016). Strengthening Geo-strategic Bond of Pakistan and China Through Geo-economic Configuration. *Pakistan Economic and Social Review, 54*(1), 123–142.

KCCI. (2017). *CPEC: Is Pakistan Ready to Surf the Tide?* Karachi: Karachi Chamber of Commerce and Industry.

Kiani, K. (2017, May 8). Power Cuts Return as Shortfall Touches 7,000 MW. *Dawn*. Retrieved from https://www.dawn.com/news/1331738.

LUMS. (2017). *China Pakistan Management Initiative*. Suleman Dawood School of Business, Lahore University of Management Sciences. Retrieved from https://sdsb.lums.edu.pk/china-pakistan-management-initiative.

Pakistan Observer. (2017, June 20). *CPEC One of Best Performing Projects of Belt and Road Initiative: Lijian*. Retrieved from http://pakobserver.net/cpec-one-best-performing-projects-belt-road-initiative-lijian

PCN (Pak China News). (2017a, June 8). *CPEC Projects Create over 30,000 Jobs: Officials*. Retrieved from http://pakchinanews.pk/cpec-projects-create-over-30000-jobs-officials/.

PCN (Pak China News). (2017b). *NAVTTC Training Youth in 38 CPEC Specific Trades*. Retrieved from http://pakchinanews.pk/navttc-training-youth-in-38-cpec-specific-trades/.

SEZ. (2017). *Special Economic Zones. Web Site of the Planning Commission of Pakistan*. Retrieved from http://cpec.gov.pk/special-economic-zones-projects.

Shah, S. (2016, April 10). Big Chinese-Pakistani Project Tries to Overcome Jihadists, Droughts and Doubts. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/big-chinese-pakistani-project-tries-to-overcome-jihadists-droughts-and-doubts-1460274228.

Sherdill, K. (2017). CPEC Scope, Status and Potential Impact. In *The State of the Economy: China Pakistan Economic Corridor Review and Analysis*. BIPP 10th Annual Report 2017, pp. 65–77. Lahore: The Shahid Javed Burki Institute of Public Policy at NetSol.

The Express Tribune. (2015, April 26). *Agreements Signed Between China and Pakistan*. Retrieved from https://tribune.com.pk/story/876286/agreements-signed-between-pakistan-and-china/.

The Express Tribune. (2017, February 8). *CPEC Issues: Business Schools form Consortium*. Retrieved from https://tribune.com.pk/story/1319786/cpec-issues-business-schools-form-consortium.

The Nation. (2017, August 2017). *Sino-Pak Educational Exchange Programs Must for Cordial Ties*. Retrieved from http://nation.com.pk/islamabad/17-Aug-2017/sino-pak-educational-exchange-programmes-must-for-cordial-ties.

WEF (World Economic Forum). (2017). *Global Gender Gap Report*. Retrieved from http://reports.weforum.org/global-gender-gap-report-2017/.

World Bank. (2017). *Ease of Doing Business in Pakistan*. Retrieved from http://www.doingbusiness.org/data/exploreeconomies/pakistan#dealing-with-construction-permits.

XJU. (2016). *Announcement of "Xi'an Consensus" by University Alliance of Silk Road*. Xi'an Jiaotong University. Retrieved from http://en.xjtu.edu.cn/info/1043/1917.htm.

Ying, F. (2017, September 27). *The Belt and Road Initiatives – Value and Opportunity for Future Business Education*. Presentation at the "Belt and Road Forum for International Business Education", organized by Lanzhou University in Dunhuang, China.

Yousafzai, F. (2017, June 6). *CPEC Early Harvest Projects Create Over 30,000 Jobs for Locals*. Retrieved from http://www.cpecinfo.com/.

Index[1]

[1] Note: Page numbers followed by 'n' refer to notes.

J. Syed, Y.-H. Ying (eds.), *China's Belt and Road Initiative in a Global Context*, Palgrave Macmillan Asian Business Series, https://doi.org/10.1007/978-3-030-18959-4