

Annual Report 2019-20



“Linking India
with the World”



Indian Council for Research on
International Economic Relations

Annual Report 2019-20



Indian Council for Research on
International Economic Relations

ICRIER

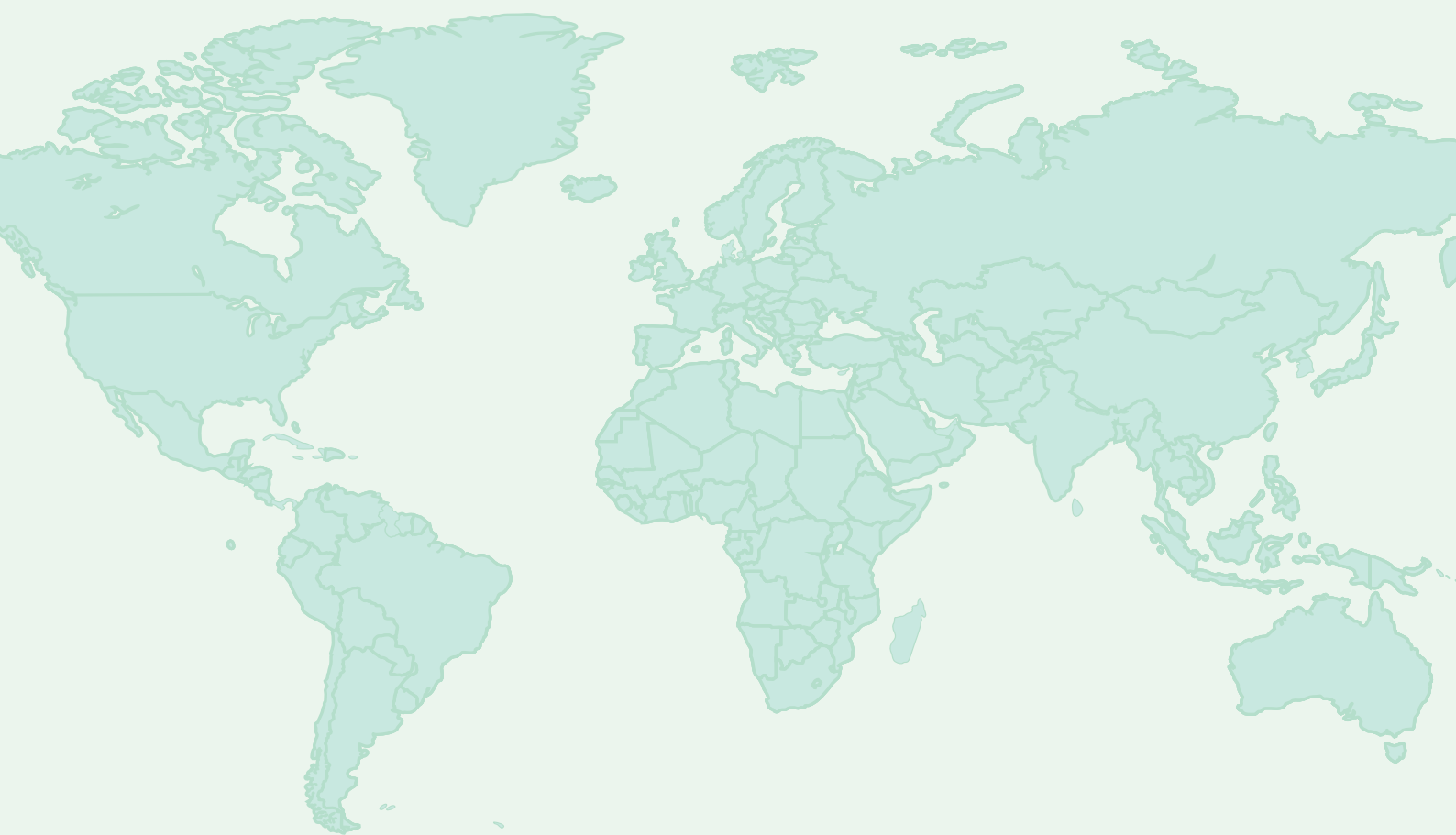


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Foreword by Chairperson



I write this foreword with totally mixed feelings. I am delighted that I was elected to chair one of India's and the world's finest think tanks but sad at the circumstances in which I assumed the charge. The untimely demise of my predecessor and dear friend Isher Ahluwalia has distressed me personally and has left India in general and ICRIER in particular deprived of a brilliant economist and a charming personality who was justly and widely regarded as a powerful icon for aspiring women leaders. The words of John Quincy Adams spring to mind when I think of Isher - *"If your actions inspire others to dream more, learn more, do more and become more, you are a leader."* Isher was a natural leader and her long association with ICRIER, as Director & CE first and then as Chairperson, has been instrumental in shaping its evolution into a globally recognised, top ranked, independent think tank. It is, therefore, with a deep sense of gratitude and responsibility that I embark on this journey to further the legacy of challenging orthodoxy and fostering new ideas with evidence-based research and dialogue in critical areas of contemporary policy relevance for India.

Both in terms of research studies and outreach activities, it has been another productive year at ICRIER. I am happy to inform that despite the unprecedented challenges imposed by the COVID-19 pandemic, we have continued to actively engage with all stakeholders on issues confronting the Indian and global economy. In fact, our engagement with policy makers at all levels of government has seen a marked increase during this time.

As India prepares to host the presidency of the G-20, we launched a webinar series, the inaugural talk for which was delivered by Shri Suresh Prabhu, India's Sherpa to the G20 and former Union Minister of Railways, Minister of Commerce and Industry and Civil Aviation. He spoke on the theme "Are We Staring at a Global Financial Crisis? Preparing for Ensuring International Financial Stability" on May 19, 2020. The 21st Annual Neemrana Conference, which brings together top-level Indian policy makers, academics, opinion makers and captains of industry to interact with leading researchers and policy makers from the USA, was hosted by ICRIER between December 13 and 15, 2019. The conference was preceded by an interaction with Smt. Nirmala Sitharaman, Hon'ble Union Finance Minister, Government of India.

ICRIER continues to be among the top Indian think tanks in the world. In the 2019 *Global Go to Think Tank Index Report* brought out by the University of Pennsylvania, ICRIER has once again been ranked as India's best think tank in the areas of "International Economics" and "International Development Policy". In the "International Economics" category, we are now rated as the 14th best in the world. We will continue to strive for improvement.

As Isher says in her very readable and touching memoir '*Breaking Through*', independent sources of funding are critical to foster a vibrant research agenda. I will continue to emphasise the need for independence, for new ideas and for fresh talent. During these extremely turbulent times, we also have a chance to redefine our key focus areas. We have terrific leadership in a few key areas – Trade Policy, Agriculture and Telecom. At the same time there is an enormous lack of high quality data and research within India in a wide variety of areas – all of which have a significant impact on India's economy.


A post-Covid 19 world will have new priorities that deserve to be researched deeply. Our world will see a renewed focus on healthcare as a central issue not just in India but around the world. The impact of healthcare (or lack of it) across the economy is being visibly felt today. The use of technology across a wide range of areas to drive changes and disruptions will become increasingly prominent – and in some areas, it will be vital to success. Digitalisation and access will drive economic success for segments of our economy. And the impact of artificial intelligence (AI) as a ubiquitous, easy to apply tool across most industries will profoundly change them, generally for the better. And the start-up movement, where India is excelling, is still at a nascent stage and may

become one of the foremost means of job creation for our country.

Each of these areas deserves attention. An incremental approach will not solve India's deep development concerns. At ICRIER, I hope we can build on our capabilities for high quality research and develop real expertise in some of these newer areas. For that we need funding as well – but collectively, we can solve these issues.

I take this opportunity to thank all stakeholders for the enormous trust and confidence reposed in ICRIER's work and look forward to your continued support. I am particularly thankful to the Board of Governors of ICRIER, laden with eminence and quality, to have entrusted me with the responsibility of guiding ICRIER for the next four years.

I am confident that under the able management of the Director & CE and the high quality of faculty and staff, ICRIER will continue to break new ground and achieve excellence in content and communication. There can be no better tribute to Isher.



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Chairperson, ICRIER

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49. Lord Nicholas Stern
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Director's Report



This has been a year of challenges and transition at ICRIER. It is with profound sadness that we marked the passing away of our Chairperson Emerita, Isher Ahluwalia. While India lost a brilliant mind and economist, for ICRIER, this was a tragic and heart-breaking loss. Isher was an institution herself and built ours to where it is today. She laid the foundations on which ICRIER prospered. She helped maintain a liberal environment to attract talent, secured financial autonomy for ICRIER by establishing an Endowment Fund and ensured long-term viability by setting up its custom built office premises to support expanding activities. ICRIER's vast reputation and standing was inextricably linked with Isher.

The outpouring of condolence messages that followed underscored the respect and admiration she commanded across the globe. Hers is an irreplaceable loss, but we remain committed to carrying forward her legacy and her commitment to quality research. Her seminal works in the fields of macro-economic reforms, industrialisation and urbanisation will continue to inspire us, especially in

the context of sustainability and inclusion – a theme that she had been thinking and writing about for several decades. In the years to come, ICRIER will continue to make significant contributions in these areas and others that are important in the Covid and post-Covid economy.

In 2019-20, ICRIER continued to contribute to economic policy thinking in many vital ways. Research and dialogue activities at ICRIER focused on areas of central importance to India's domestic and international policy agenda. As India prepares to assume the G-20 presidency in 2022, it has the opportunity to set the global economic governance agenda and make it inclusive. To prepare for this, ICRIER is undertaking a series of research and capacity building activities to support the Department of Economic Affairs and other departments under the Ministry of Finance (MoF) for G20 negotiations. The project is part of the support provided by the Department for International Development, UK, to the Indian government's reform programme under the UK-India Economic Policy and Prosperity Partnership. Thus far, sixteen research studies have been completed and submitted to the MoF. In 2019-20, research studies were completed on Universal Health Care, Resilience against Natural Disasters, Society 5.0 and Artificial Intelligence with a Human Face and India's Strategy under the G20 Compact with Africa initiative. Four studies are currently underway on the evolution of the G20 Sherpa Track, evolution of the Finance Track, Digital Financial Inclusion and Energy Sustainability. In the run-up to the G20 Summit held in Osaka, Japan, in June 2019, we organised the 11th Annual International G-20 Conference on the theme of "Global Co-operation for Inclusive Growth: View from G20 Countries". The conference, which has been an annual feature since

2009, has continued to bring together academics and key policy makers from G20 countries to deliberate on pressing and challenging issues of economic co-ordination and sustainable development.

With the Indian economy slowing down in recent years and witnessing a sharp contraction of 23.9 per cent in the first quarter of 2020-21, there is an urgent need to accelerate the competitiveness of the Indian economy. ICRIER's research on the Global Competitiveness of the Indian Economy focusing on agriculture, manufacturing and services has been vibrant in depth and scope and has continued to inform policy in these areas. With over 40 per cent of India's workforce dependent on agriculture for their livelihoods, the growth of the Indian economy is inextricably linked to the performance of the agricultural sector. Research has focused on issues related to water use in agriculture, financial inclusion of small holders in high value agriculture in the dairy, horticulture, poultry, pulses, grape and pomegranate value chains, and a comparative analysis of the performance of the agricultural sector across six states. More recently, a study on "Getting Markets Right" is aimed at analysing market efficiency in terms of price discovery and price risk management, in commodities such as potato, onion, tomatoes, gram, pigeon pea/tur, cotton, maize, turmeric, sugarcane, rice and wheat.

The manufacturing sector that has failed to emerge as a critical engine of growth and productive job creation in India has been the subject of intense research. "The Challenge of Productive Employment Creation in India", a Ford Foundation-funded research programme seeks to understand the key factors constraining the growth of the manufacturing sector and highlights the need for an industrial policy. A research project supported by the IDFC Foundation examines India's export competitiveness and linkages with global value chains and attempts to identify ways to create more productive jobs in

exporting firms. Another study under the same project examines the impact of the renewable energy sector on livelihoods and competitiveness, whilst a third study examines India's vast number of micro and small informal enterprises and how productivity of these enterprises can be increased.

Digitisation, which harnesses the power of connecting people, process, data and things, is critical to maintaining India's global competitiveness, GDP growth, innovation and creating employment. With over two decades of commercial access to the Internet, India has come a long way from dial-up connections to super-fast broadband speeds, at least in some urban pockets. However, several challenges persist, in particular slow and delayed infrastructure development. ICRIER's research in this area has been prolific and has engaged directly with key decision makers in government. For example, both the ICANN and MeitY Internet Policy Chair projects have created research based inputs to inform government's domestic policy and simultaneously enhanced the quality of government's engagement in international fora. The National Digital Communications Policy (NDPC), 2018, denounced the level of preparedness of broadband infrastructure at the state level. To give a fillip to state competition and co-operation to improve the quality and quantity of broadband at the state level, ICRIER, in collaboration with the Department of Telecommunications (DoT), conceptualised the Broadband Readiness Index (BRI). BRI seeks to quantify the underlying infrastructure, policy regimes and outcomes at the state-level. BRI is a multi-year effort and will be presented every year for 3 years, promising insights into strategic choices made by states and encouraging cross learning. The first BRI is scheduled to be released in 2020.

Urbanisation is an integral part of the process of economic growth. Urbanisation in India has expanded rapidly as increasing numbers of people

migrate to towns and cities in search of economic opportunity. However, the migrant labour crisis India witnessed in the wake of the Covid-19 and lockdown shock has revealed the precarities of the urban migrant workforce. In particular, it highlighted the challenge of affordable housing not just for migrant workers but also other urban residents. A research study funded by the Ford Foundation attempts to understand demand aspects of low-income housing in urban India, land related challenges in the supply of affordable housing, technology related challenges for the supply of rental housing as a solution to the affordable housing challenge. Another study titled “Towards Functioning Land and Housing Market for the Urban Poor”, funded by GIZ, looks at related aspects of the affordable housing challenge from the supply side and in the light of current legislation and prevalent tenurial models.

As growth falters, India is grappling with several macroeconomic challenges. An ongoing study under the RBI endowed Chair “Modern Monetary Theory and the Dollar” examines the conditions that led to the transition from conventional monetary policies to unconventional ones increasingly being pursued by central banks in advanced economies. It studies their impact on both advanced economies and emerging markets, and the extent to which emerging market economies have adopted such policies. Another study examines how the insurance sector influences macroeconomic developments by acting as a financial intermediary and providing ex-ante protection against risks and ex-post financial recovery.

Trade continues to receive necessary attention in ICRIER. Studies on multilateral trade negotiations and FTAs, India’s participation in the Regional Comprehensive Economic Partnership, India’s export incentives, and trade and investment opportunities between India and select African and Asian countries were topical and provided real time input to policy makers. Strengthening trade and

connectivity between India’s north-eastern states and Myanmar is a major building block in India’s Act East Initiative. The project on “Enhancing Trade and Connectivity between India and Myanmar” examines the effectiveness of the trade policy measures adopted by India in 2015 to switch from barter trade to normal trade, the persisting impediments at the India-Myanmar border and suggests how these can be addressed to enhance cross-border trade.

Another topical and noteworthy survey undertaken at ICRIER this year was on health. The study, funded by NITI Aayog, assesses the scope of the existing National Family Health Survey (NFHS) vis-à-vis data requirements of the National Health Policy, health programmes, NITI Aayog’s dashboard for monitoring health outcomes and health-related SDGs.

Climate change and sustainable development is a key pillar of ICRIER’s research activities. To this end, we completed a number of studies including an assessment of the financial requirement for implementing India’s nationally determined contribution (NDC), linking tourism, local environment and waste generation in Indian Himalayan States, and an examination of cost-reduction strategies for electric vehicle (EV) batteries among others.

Research work at ICRIER culminated in the release of numerous books and reports, which are listed in the Annual Report. In December 2019, ICRIER hosted the Annual Neemrana Conference, a signature event in ICRIER’s calendar of policy focused interactions between India and the United States. The partner institution for the annual event from the United States is the National Bureau of Economic Research (NBER). The discussions at this two-day conference were structured into sessions on the world economy, banking and finance, economic growth and financial inclusion, urbanisation, public finance and the

macro economy, labour market, education and skill development, and growth, inequality and inclusion. The 2019 Conference paid tribute to the late Professor Martin Feldstein (1939-2019) who, through his three decades of leadership of NBER, had a major impact on US public policy and was also the guiding force behind the Neemrana Conference, now in its 21st edition. The China-India Dialogue (CID) on Climate Change involving key experts from both countries has provided an important platform for discussions on the themes of energy, finance, sustainable growth, infrastructure and institutional development. The fourth CID scheduled for March 2020 has been put on hold due to the outbreak of the Covid-19 pandemic. Meanwhile both research institutions in the track II dialogue, ICRIER and Tsinghua University, are preparing a synthesis report on the long-term emissions reduction strategies in India and China respectively.

With the spread of Covid-19 in early 2020, we also moved our research and dissemination activities online. A series of webinars discussing issues pertaining to challenges that have emanated or have been exacerbated in the wake of the pandemic were conducted. Under the 'Samvaad' dialogue series in partnership with the Ford Foundation, two discussions were held on preparing the ground for *kharif* sowing and the challenges of crop procurement and prices during the pandemic. Additionally, we held virtual webinars on the macro-economic challenges posed by Covid-19 and the fallout of the pandemic on the industrial sector and platform economy.

Our high rank among Indian and global think tanks is a matter of great pride and ICRIER continues to be among the top Indian think tanks in the world. The ICRIER team remains committed to enhancing the knowledge content for policymaking and facilitating India's effective engagement with the global economy by undertaking high quality, evidence based policy-oriented research and fostering informed discourse. I am fortunate to be admirably supported by an excellent team of experienced and young researchers at this particularly challenging time. A number of our faculty continue to pull their weight in public policy discourse through participation in several government committees and via membership in the boards of respected public sector organisations.

The passing away of Isher Ahluwalia is quite literally the end of an era at ICRIER. Pramod Bhasin, an eminent member of the Board of Governors, was unanimously elected as the new Chairman of ICRIER in August 2020. I have no doubt that under his leadership, we will continue to move from strength to strength and keep the ICRIER flag flying, as Isher would have wanted. At ICRIER, we will continue to celebrate her life.

Thank you very much for all your support.



Rajat Kathuria

Director & Chief Executive, ICRIER



Research Activities

1. Macroeconomic Management, Financial Liberalisation and Regulation

1.1 India and the G20

Project Co-ordinator: *Arpita Mukherjee*

Research Team: *Rajat Kathuria, Saon Ray, Amrita Goldar, Mansi Kedia, Tanu Goyal, Prateek Kukreja, Diya Dasgupta, Charulata Singhal, Tarun Singh, Varsha Jain, Samridhi Jain, Vasundhara Thakur, Angana Parashar Sarma, Nibha Bharti and Drishti Vishwanath*

External Consultants: *Suresh Aggarwal, Smita Miglani, Souvik Dutta and Akshay Mathur*

Commencement: September 2017

Expected Date of Completion: June 2021

Funded by: Department for International Development (DFID), UK, and Department of Economic Affairs, Ministry of Finance, Government of India (Rs. 563 lakh)

As India prepares to assume the G20 Presidency in 2022, the objective of this research programme has been to provide evidence-based inputs and knowledge support to the Department of Economic Affairs (DEA) and other departments under the Ministry of Finance, Government of India, on issues related to the G20. The project is part of the support provided by the Department for International Development (DFID), UK, to the Indian government's reform programme under the UK-India Economic Policy and Prosperity Partnership (EPPP), which includes research and capacity building of Indian central government agencies. PricewaterhouseCoopers (PwC) India is the consortium lead for this initiative and ICRIER is a consortium partner.

As of March 2020, sixteen research studies have been completed and submitted to the Ministry of Finance, Government of India. In 2019-20, four research studies were completed. In phase 3 of the project, currently underway, four studies are being undertaken.

Research Studies completed in 2019-20:

1.1.1 Universal Health Care

Ali Mehdi, Pallavi Joshi, Divya Chaudhry and Priyanka Tomar

This study has been undertaken in two parts. In phase 1, the focus was on the theme of universal health care (UHC) that has gained prominence with its inclusion as Sustainable Development Goal (SDG) target 3.8. The study analyses WHO's conceptualisation of UHC, discussions of UHC at the international level (UN, G20, G8/7, WHO, the World Bank and the OECD), and UHC experiences, financing and challenges in select G20 countries, including a comprehensive assessment of UHC in India since independence. Based on these analyses, it provides a set of general and specific recommendations for India's engagement on UHC in the G20 as well as other international fora.

The second phase of the study focused on traditional and complementary systems of medicine (TCSM) and provided recommendations to the Government of India for its G20 health engagement vis-à-vis TCSM in general, and AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) in particular. The study highlighted that while several efforts have been made, the search for the right terminology and definition, both from a conceptual and policy/operational perspective, needs to go on. Subsequently, it provided an overview of the evolution of the international TCSM narrative and a

review of the approaches and strategies of selected G20 countries vis-à-vis TCSM. The reports made a series of recommendations, among them a 7-principle framework to enhance the wider acceptability and practice of TCSM and its complementary/integrative capacity vis-à-vis modern medicine.

1.1.2 *Resilience against Natural Disasters*

Saon Ray, Samridhi Jain and Vasundhara Thakur

The rapidly evolving policy area on reducing disaster risk and strengthening climate resilience has attracted much attention in recent times. With climate change emerging as a global threat on a never before scale, the magnitude and frequency of natural disasters are bound to multiply, bringing in new challenges at all levels of governance – global, national and local. Enhanced resilience and improved adaptive capacity is important not only for risk reduction but also to ensure sustainable development. The objective of this study was to highlight measures that the G20 forum can adopt to strengthen the financial resilience of member countries to natural disasters. The study suggested that G20 should facilitate the development and popularisation of ex ante financial mechanisms to counter disaster risk, especially for the most vulnerable in member countries, explore the potential for and feasibility of more multi-country catastrophe risk pools among member nations, facilitate knowledge transfer and technical assistance from experienced multilateral agencies to ensure sound design of cost-effective solutions to provide comprehensive risk protection and support the recently established Coalition for Disaster Resilient Infrastructure (CDRI), and its development as a platform for knowledge exchange and capacity development to promote quality, resilient, low-carbon infrastructure.

1.1.3 *Society 5.0 and Artificial Intelligence with a Human Face*

Rajat Kathuria, Mansi Kedia, Richa Sekhani and Sashank Kapilavai

Introduced in Japan's 5th Science and Technology Basic Plan in April 2016, Society 5.0 is an "Imagination Society" where digital transformation combines the imagination and creativity of diverse people to solve social problems and create value. Society 5.0 aims to contribute towards delivering the United Nation's sustainable development goals (SDGs). Artificial intelligence (AI), with its range of characteristics, makes it particularly well placed to generate social welfare. However, the adoption of AI towards Society 5.0 is not straightforward. AI presents nation states with great potential for social welfare while at the same time posing significant risks that may lead to exclusionary and anti-welfare outcomes. As AI takes centre stage in the policy space, it is incumbent upon the G-20 countries, which have individually recognised the benefits of AI, to call upon its collective strength to address and mitigate the risks posed by AI. This study was based on secondary data analysis of broad-based ICT indicators, including human capital, distribution of AI-based patents, concentration of AI-based venture capital funding, etc., to understand the drivers of AI ecosystems across G-20 countries. It presented case studies that highlight AI applications being deployed towards achieving the sustainable development goals (SDGs) across G-20 countries. Besides, it identified the role of governments in achieving Society 5.0, compiling and analysing the relative strengths of national AI strategies as developed (or as being developed) across G-20 countries. It also examined the cross-border implications, including that of data mobility, and the scope, if any, for collaboration among G20 countries. Finally, the study proposed a way forward, including a list of G20 countries that can align in finding a common solution to identified challenges pertaining to AI.

1.1.4 *India's Strategy under the G20 Compact with Africa initiative – Phase 2*

Anirudh Shingal, Minakshee Das and Akshaya Aggarwal

The first phase of India's strategy under the G20 Compact with Africa initiative was completed in 2018-19. Following the first phase of this study to support the Department of Economic Affairs, Ministry of Finance, Government of India, in taking an informed decision on India's strategy under the G20 Compact with Africa (CwA) initiative, the study in the second phase explored a strategy for India's engagement in the entire African continent and highlighted the countries and sectors for priority treatment. It also looked at the challenges that India is likely to confront in this engagement. The study used both quantitative and qualitative analysis to (i) examine African countries' macroeconomic and investment climate, including the quality of reforms undertaken under the G20 'Compact with Africa' (CwA) initiative; (ii) assess measures taken by other G20 countries under the CwA initiative; and (iii) highlight India's commercial interests in the continent.

Research Studies being undertaken in 2020-21:

1.1.5 *Evolution of the G20 Sherpa Track*

Rajat Kathuria, Mansi Kedia, Tanu Goyal, Prateek Kukreja and Akshay Mathur

The objective of this study is to explore the evolution of G20's Sherpa Track. In doing so, the study will document the evolution of issues under each working group of the G20's Sherpa Track, identify emerging priorities for the G20, and develop the agenda for the Indian G20 Presidency in 2022. The study will be based on a primary survey of past and present G20 Sherpas, the B20 and T20 co-ordinators, and representatives of multilateral and domestic institutions involved in the Sherpa Track and an analysis of existing information.

1.1.6 *Evolution of Finance Track and Way Forward*

Saon Ray, Samridhi Jain, Vasundhara Thakur and Smita Miglani

The G20 was launched as a forum of finance ministers and central bank governors primarily to address the challenges to international financial stability that had begun in Asia in 1997. Discussions on the international financial system among the G20 countries centred round the need to include emerging countries with access to international capital markets that had been highlighted by the global financial crisis of 2008. The need for a permanent forum for informal dialogue between developing and developed countries was felt. The platform that was created for the purpose was one where leaders of systemically important countries resolved to co-ordinate macroeconomic policies to counteract the global financial crisis and diagnose its deeper, underlying causes, namely financial deregulation and mounting global imbalances. This study will track the evolution of the agendas covered in the Finance Track in G20 summits, document the organisational features of the G20 Finance Track, and map the documents generated by international organisations (IOs). It will also trace the trajectory of major issues picked up in the Finance Track with respect to the world's political economy.

1.1.7 *Digital Financial Inclusion: Enhancing Access to Opportunities for All*

Souvik Dutta, Drishti Vishwanath, Angana Parashar Sarma and Nibha Bharti

The leaders of G20 nations have recognised financial inclusion as one of the main pillars of the global development agenda for the last 10 years. Since 2016, G20 members have emphasised the potential of digital financial products and services, and digital identity systems related to the fin-tech revolution to close existing gaps in financial inclusion, especially with regard to financially excluded groups such as women, youth and small and medium-sized enterprises (SMEs).

The objective of this study is to present a comparative framework of the policy and regulatory ecosystem supporting digital financial inclusion across G20 nations and identify relevant case studies that highlight the use of technology to address both the demand and supply challenges of financial inclusion. The study aims to provide inputs to the Department of Economic Affairs (DEA), Ministry of Finance, regarding India's role in supporting G20's efforts to enhance digital financial inclusion based on extensive stakeholders' consultations, analysis of G20 reports and secondary data. It will identify challenges that India faces in promoting digital financial inclusion and will present best practices that can be adopted in India. It will examine areas of synergy and collaboration with other G20 countries to steer the agenda of digital financial inclusion forward to India's Presidency in 2022, with a focus on women, youth and SMEs.

1.1.8 *Energy Sustainability and G20*

Amrita Goldar, Diya Dasgupta, Charulata Singhal, Tarun Singh and Varsha Jain

The objective of this study is to develop an overall stand for India across the four themes identified by the Energy Sustainability Working Group (ESWG) for the Riyadh summit, namely cleaner energy systems for the new era, strengthening international co-operation on energy access, more secure energy markets, and institutional frameworks for energy market stability. Based on extensive stakeholder consultations and secondary research, the study will highlight the underlying issues and strategic opportunities for India's collaboration with other countries, besides identifying like-minded countries to partner with. The study also aims to assist the Ministry of Power (MoP) that leads ESWG negotiations, and the Department of Economic Affairs (DEA), Ministry of Finance, to identify key issues that India can highlight in its 2022 Presidency.

1.2.1 *Modern Monetary Theory and the Dollar: An Emerging Market Perspective*

Project Leader: *Alok Sheel*

Commencement: May 2020

Expected Date of Completion: October 2020

Funded As part of RBI Chair (Rs. 400 lakh)

The study seeks to explore the developments that led to the transition from conventional monetary policies to unconventional ones increasingly being pursued by central banks in advanced economies. It studies their impact on both advanced economies and emerging markets, and the extent to which emerging market economies have adopted such policies. Finally, it takes a forward-looking view on the possible consequences of these policies.

1.2.2 India's Growth Story over the Last Two Decades

Project Leader: *Alok Sheel*

Research Team: *Akshaya Aggarwal*

Commencement: May 2019

Date of Completion: December 2019

Funded As part of RBI Chair (Rs. 400 lakh)

This study discusses and analyses the two competing growth narratives arising out of the recent revisions in India's gross domestic product (GDP) data, namely the contemporaneous one based on 2004-05 prices and the revised narrative based on 2011-12 prices. Based on the assumption that several economic data sets like bank credit, investment, consumption, exports, etc., are strongly correlated to growth, a forensic 'smell' test is being carried out to cross check the robustness of the two narratives.

1.3 Liberalising India's Insurance Sector: Challenges and Opportunities

Project Leader: *Saon Ray*

Research Team: *Vasundhara Thakur and Kuntala Bandyopadhyay*

Commencement: May 2019

Date of Completion: January 2020

Funded by: US-India Strategic Partnership Forum (USISPF), (Rs. 15.50 lakh)

The crucial place occupied by insurance in the macroeconomic development of an economy is widely acknowledged. There are two prime channels through which the insurance sector influences macroeconomic development: it acts as a financial intermediary and provides ex-ante protection against risks and ex-post financial recovery. Other positive effects of insurance on economic development include generation of employment and service delivery; impetus to innovation and entrepreneurship; capitalisation of high-risk, high-return investment opportunities; smoothening of trade and commerce and as a possible substitute for government social security programmes. Empirically, the insurance sector's impact has been shown to be greater in developing than in developed countries.

In the Indian case, the existence and extent of correspondence between the insurance sector and economic development have been relatively less explored. The insurance industry in India has been growing dynamically, with total insurance premiums increasing rapidly as compared to its global counterparts. In the past 17 years or so, the compound annual growth rate (CAGR) of India's insurance sector has been 16.5 per cent. However, insurance penetration and density stood at 3.69 per cent and USD 73 respectively for FY2017-18 (IRDAI, 2019), which is low even in comparison to other BRICS nations and world rates. The low penetration and density rates reveal the uninsured nature of large sections of the population in India and the presence of an insurance gap. This study traces the journey of the Indian insurance sector and identifies the challenges facing the sector.

Life insurance dominates the sector with a huge share of 74.73 per cent, with non-life insurance accounting for a market share of 25.27 per cent. Motor, health, and crop insurance segments are driving the growth of non-life insurance in India. The nationalisation of the general insurance sector and liberalisation of the insurance industry have been instrumental in moulding the Indian reinsurance market to its current form. From the earlier confinement of the reinsurance market to only the public sector reinsurer GIC Re, the market has been opened up to private reinsurers as well as branches of

foreign reinsurers. The life reinsurance market is relatively small vis-à-vis the non-life reinsurance market in India. Insurance against catastrophes in India is at a very nascent stage of development as very few property insurance products in India extensively cover natural disaster risks. The Indian insurance sector faces various challenges as identified and detailed in the study. The penetration and density of insurance is relatively low. Insurers have tended to neglect the rural population; life insurers, especially private ones, gravitate towards the urban population, to the detriment of the rural population.

1.4 Exploring Trade and Investment Opportunities between India and Select African and Asian Countries

Project Leader: *Anirudh Shingal*

Research Team: *Neha Gupta, Meenakshi Das, Akshaya Aggarwal and Varsha Jain*

Commencement: January 2019

Date of Completion: September 2019

Funded by: Department for International Development (DFID), (Rs. 43.2 lakh)

Using descriptive statistical analysis, this study examines trade and investment opportunities between India and 41 African and Asian economies (mostly LDCs) by focusing on export opportunities in the Indian market that these countries can exploit and on India's investment opportunities in the selected countries. It also discusses barriers to realising identified trade and investment opportunities between India and the selected economies, based on a review of existing literature.

Amongst the sample countries, the top sources of merchandise imports for India over time include Nigeria and Angola from Africa, and Myanmar, Bangladesh and Nepal from Asia. India's main imports from Africa include petroleum, precious stones and metals, mineral ores, coal, natural gas and agricultural products. India's imports from Asia have also been concentrated in a few traditional product lines such as jute, fish, gold, petroleum oil, copper ores, ferro-silicon, beans, nuts and non-alcoholic beverages. Thus, the export baskets of the sample countries studied in this report are still not diversified enough to meet the rising demand for consumer and capital goods in India, which points to the immense untapped potential to enhance these countries' trade and investment relationship with India. While the value of these countries' services exports to India is much lower than that of their merchandise exports, India's services imports have increased over time from all the 38 countries for which services trade data are available. This shows these countries' growing services trade linkages with India, which must also be strengthened with the right policies.

The limited capacity of African LDCs, as well those in Asia, to supply goods and services to India has been regarded as one of the main obstacles in realising the full potential for bilateral trade. India can potentially invest in those sectors in the sample countries that have supply constraints (i.e., where India's global imports exceed the concerned country's global exports as well as the associated region's global exports). Results show that none of the Asian LDCs have a supply constraint in any of the goods and services due to the Asian region's huge global exports. In Africa, in contrast, almost all manufacturing goods and financial and computer-related services are identified as supply constrained and such constraints seem to be evident in all the sample countries from the continent.

Finally, the study has undertaken a quadrant analysis to identify the products and services in which the selected countries still have low shares in Indian imports despite a revealed comparative advantage in exporting, suggesting the need for active trade promotion policies. Across both regions, most of these products belong to the categories of general, electric and precision machinery followed by wood and paper articles, and fruit and vegetable products, and in the case of some Asian LDCs, some textiles items. Among services, transportation, other business services, financial, and computer and information services have been identified as the target sectors in which to pursue active trade promotion policies.

2. Global Competitiveness of the Indian Economy – Agriculture, Manufacturing and Services

2.1 NABARD Centre for Research in Agri-Economics

Project Leader: Ashok Gulati

Research Team: Bharat R. Sharma, T. Nanda Kumar, Pravesh Sharma, Kavery Ganguly, Sandip Das, Harsh Wardhan, Pritha Banerjee, Gayathri Mohan and Anisha Samantara; Manasi Phadke and Bhushana Karandikar (External Consultants)

Commencement: May 2016

Date of Completion: September 2019

Funded by: National Bank for Agriculture and Rural Development (NABARD), (Rs. 266.16 lakh)

2.1.1 Issues Related to Water Use in Agriculture

The objective of the research studies under this theme has been to identify the major issues that hinder the efficient use and management of water in the agricultural sector in India. The studies outline competitive, inclusive, sustainable, scalable and financially feasible solutions to the problems prevailing in the sector that are based on existing best practices in the country as well as the world. The broad theme of the studies related to this segment is that India needs to shift its focus from maximising land productivity of crops to water productivity as water is getting scarcer by the day, and water is going to be a major constraint in realising the full potential of agriculture. A report on this theme titled “*Water Productivity Mapping of Major Indian Crops*” has already been published in June, 2018.

2.1.1.1 *Getting More from Less: Story of India’s Shrinking Water Resources*

Ashok Gulati, Bharat Sharma, Pritha Banerjee and Gayathri Mohan
Completed

Water shortages will compromise the nation’s ability to sustain growth through supply deficits and more conflicts, with negative social and political consequences. The agricultural sector is the largest user of fresh water but unfortunately, uses it very inefficiently. ‘Getting More from Less’ strives to find out how to use groundwater and surface irrigation water so that India can get more crop, per drop of water. It looks across major agrarian states of India and explores the best farming practices and policies for optimal use of water resources. The study analyses the rich data available in the public domain. The study underlines the fact that to sustainably manage depleting groundwater

resources, water and energy policies must be framed not just looking at aquifer characteristics but also the economic value of groundwater resources across different regions. This study identifies and details the possible reasons behind the widening gap between surface irrigation potential created and utilised by major and medium irrigation schemes. It also analyses the key reasons behind inordinate delays in completing main irrigation systems, delay in equipping the command areas for actual access, changes in cropping systems, inefficient public delivery system and lack of system management. The study then presents concrete technical and policy measures to address both groundwater and surface water challenges faced by Indian agriculture. The results have now been presented under an ICRIER-NABARD publication with the same title.

2.1.2 Financial Inclusion of Small Holders in High Value Agriculture

The value chain studies include dairy, horticulture (onion, potato, banana and mango), poultry, and pulses. All these chains are analysed in the framework of competitiveness, inclusiveness, sustainability and scalability (CISS) and access to finance (F). To ensure the overall growth of the sectors, it is important that these chains are competitive in terms of domestic market efficiency and are trade competitive. Given the large smallholder base in Indian agriculture, ensuring inclusiveness is key to ensure farmers are able to participate in the agricultural value chains and earn remunerative returns. The study focuses on different stages of the agriculture value chain that require financial assistance. The study also examines innovative financing methods followed in different countries and explores to what extent these can be replicated in India.

2.1.2.1 Poultry Value Chain in India

Nearing Completion

Among the Indian livestock-based sectors, poultry farming has occupied an exceptional position due to its rapid growth and sustained expansion. While agricultural growth has been rising rather slowly at about 3 per cent per annum over the past two decades, poultry production has been rising at the rate of around 8 per cent per annum (FAO, 2017).

The present growth rate of poultry in the country has put India among the top poultry producers in the world, with India having become the third largest egg producer after China and USA and the fifth largest chicken meat producer in 2017-18. The transformative growth in the poultry sector was spearheaded by the commercial poultry industry, which contributes nearly 80 per cent of the total output, with the remaining (20 per cent) coming from backyard or traditional poultry. However, the lack of adequate cold chains and regulated wet markets puts pressure on the wholesale prices of poultry products due to cyclical boom and bust trends. Since marketing is in the hands of commission agents and private traders, procurement in remote and backward areas is hardly prioritised. The concentration of commercial poultry in certain areas has excluded rural areas from gaining from this revolution, which can be overcome with a strong marketing network to free the sector from middlemen.

This paper seeks to capture the dynamics of the industry's growth from four critical angles over the recent past (2000 onwards) – competitiveness, scalability, inclusiveness and sustainability, over-arched by financing patterns that intersect all of these. Utilising production, growth, export and price data from the period between 2000-01 to 2016-17, the study examines the trends and features of

development in the Indian poultry sector, the rise of integrators and contract farming models, structural changes in the livestock sector vis-à-vis poultry farming and its implications for the inclusiveness of small farmers, and the sustainability of such growth – economically and environmentally. It also sheds some light on how smallholders are affected by the on-going changes, especially with regard to the financing of poultry value chains, and how this seriously undermines their competitiveness. In the light of this research, the study makes some policy recommendations that could make the poultry revolution more inclusive while retaining its competitiveness.

2.1.2.2 *Deconstructing Value Chains of Tomatoes, Onions and Potatoes (TOP)*

Nearing Completion

Even with a record production of vegetables year after year, vegetable cultivation in India is characterised by fragmentation, substantial quality and quantity losses, high price volatility and low levels of processing. The prevalence of these problems has not only limited India's potential in global trade but also resulted in low returns to farmers growing these high value crops.

This study analyses the existing value chains of the three most important vegetable crops in India – tomatoes, onions and potatoes (TOP) and provides recommendations to develop more competitive, inclusive, sustainable and scalable value chains with an improved financing mechanism (CISS-F). The research is based on a combination of secondary data analysis, field visits and discussions with stakeholders in the value chain. The study is expected to help policymakers to best operationalise the recently launched 'Operation Green' scheme, aimed at stabilising the prices of TOP vegetables. The study finds that TOP vegetables are export competitive in the international market, but frequent distortions in Indian trade policies lead to substantial fluctuations in exports. The efficiency of the value chain has been analysed by estimating the mark-ups (costs and margin) of each stakeholder for selected value chain models of TOP. The study covers inclusiveness in production, marketing and post-harvest management, contract farming models, financial and environmental sustainability, scalability of production and exports, and the existing financing mechanism for stakeholders. The study also presents policy recommendations to bring greater efficiency and inclusiveness in existing value chains.

2.1.2.3 *Towards Efficient Banana and Mango Value Chains in India*

Nearing Completion

In India, fruit crops are high-value agricultural crops and are mostly managed by individual farmers, unlike in western countries where large private corporations are involved in their production and exports. India's fruit production increased significantly from 28.6 million metric tons (MMT) in 1991-92 to 97.4 MMT during 2017-18. Among fruits, bananas and mangoes are the most important with a 50 per cent share in total fruit acreage, production and value. The study finds that while bananas were export competitive throughout the period of study, mango (Alphonso variety) exports were occasionally competitive. While poor quality because of fragmented land holdings and lack of pre- and post-harvest management are reasons for low banana exports, the high cost of air freight to the US, the EU and Japan are reasons for low mango exports, whose only selling points are its unique flavour, colour and taste.

As a majority of banana and mango farmers are small and marginal, agencies such as NABARD, SFAC and state governments must play a pro-active role in enhancing dysfunctional FPOs so that farmers' price realisation increases. Both bananas and mangoes have been found to be profitable and hence, financially sustainable. Steps like drip irrigation, high density planting and organic waste management can ensure the environmental sustainability of these crops. This study analyses the existing financing mechanism available for stakeholders and identifies major constraints in the value chain. Policy recommendations suggested in this study will go a long way in correcting the inefficiencies inherent in the existing banana and mango value chains.

2.1.2.4 Dairy Value Chain in India

Nearing Completion

Since 1998, India has held the number one position (around 19 per cent share in world milk output) amongst the milk producing countries of the world. Between 2001-02 and 2017-18, India's milk production rose from 84.4 million tons (MT) to 176.3 MT at a compound annual growth rate of 6.4 per cent. Much of the rise in milk production is attributed to the success of Operation Flood. As a result, the present per capita availability of milk in India is 375 grams per day as compared to the global average per capita availability of 229 grams per day. Milk contributes to one-third of the gross income of rural households. In the case of the landless, half their gross income is from milk. It is estimated that 16 million farmers are engaged in dairying. The value of the milk output was Rs. 5.60 lakh crore, which surpassed the value of food grain (cereals and pulses) output of Rs. 3.74 lakh crore in 2015-16.

The study analyses existing value chains in the dairy sector and recommends policy measures for creating competitive, inclusive, sustainable and scalable value chains with adequate financing options. The research is based on a combination of secondary data analysis, field visits and discussions with stakeholders such as officials from dairy co-operatives, private sector players, farmers and traders in the value chain.

2.1.2.5 Pulses Value Chain in India

Nearing Completion

Pulses are integral to addressing the protein gap in Indian diets and sustaining food and nutritional security. India has been the largest producer, consumer and importer of pulses. With an unprecedented production level of 23.95 million tonnes in 2017-18 (2nd advance estimate), Indian farmers have been unable to find remunerative markets for their produce. Hence, the challenge facing the pulses sub-sector is no longer only about augmenting production but about enhancing marketing opportunities to ensure the profitability of pulses production. The objective of the study is to map the current pulses value chain, focusing on gram, *chana*/chickpea and pigeon pea/*tur* (which together account for nearly half the production basket) and assess the competitiveness, inclusiveness, sustainability and scalability (CISS) of the chains. The study also includes access to finance and risk mitigation (FRM) for the different stakeholders involved. Under competitiveness, domestic value chain efficiency is measured in terms of the share of the farmer in the consumer price of pulses. In the case of gram, *chana*/chickpea and pigeon pea, while farmers realise 50-60 per cent of the retail price, the problem over the past few years has been that market prices have crashed below the minimum support

price and farmers are unable to recover their cost of production. India has been a large importer of pulses and, in a situation of glut, continuing with cheap imports hurts farmers. Tariffs were raised, but somewhat late. The inclusiveness of the pulses value chain reflects the extent to which farmers participate in direct marketing channels, value chain logistics, and value addition. Pulses farmers are largely marginal and small and a large part of the area under pulses cultivation is unirrigated. Besides, pulse farmers have limited access to markets, warehousing and storage, adversely affecting effective price realisation. Sustainability of the pulses value chain is analysed in terms of environmental and financial sustainability. Pulses, being relatively less water and resource intensive, make for sustainable production, more so as they are also nitrogen fixing in soils. Given these benefits of pulses, it will be important to ensure that pulses production is financially profitable to farmers. The study is based on an analysis of secondary data and information, and interaction with key stakeholders (farmers, wholesalers, and processors) in the value chain to understand the issues, challenges and ways to address these.

2.1.2.6 *Grape and Pomegranate Value Chain in Maharashtra*

Nearing Completion

Grapes and pomegranates are positioned globally as high value fruits. India is the second largest producer of grapes and the largest producer of pomegranates in the world. The grape and pomegranate value chain in India (Maharashtra) is relatively young, but has evolved to include small farmers, small and big exporters, firms producing processed products such as arils and raisins, traders, bankers, owners of cold chains, import agents in the Gulf and EU and super market retail chains. The grape and pomegranate value chains from Nasik to other markets in India and the world are highly remunerative and boast of the involvement of tech-savvy, scientific minded, small farmers. And yet, our export-production ratio is one of the lowest in the world. This study aims to document the presence, remuneration and risk of every player in the value chains in terms of their competitiveness, inclusiveness, sustainability, scalability and financial requirements (CISS-F). It finds that grape and pomegranate exports are competitive currently, but there needs to be more research into varieties for sustained exports in the future. Both value chains are inclusive of small farmers and small exporters and have scaled up well too. However, there is a huge requirement for domestic as well as export credit guarantee to strengthen the value chains further. The study also finds that the value chains lack an insurance culture, even though climate uncertainty has severely threatened the viability of both commodities.

2.2 **Updation of Producer Support Estimates for India for 2017 and 2018**

Project Leader: *Ashok Gulati*

Project Team: *Sakshi Gupta and Shweta Saini*

Commencement: December 2019

Date of Completion: March 2020

Funded by: Organisation for Economic Co-operation and Development (OECD), (Rs. 14.38 lakh)

The project is an extension of the OECD-ICRIER project on “Agriculture Policies in India”. The report “Agriculture Policies in India”, which outlines the policy environment for farmers in India, was released in July 2018 and is updated every year. This is the second update after the detailed report

was published in July 2018. The current work has provided an update of the PSE estimates along with a summary and analysis of agricultural policies in 2019-20. The report has been published by the OECD.

2.3 **Driving Agricultural Growth and Alleviating Poverty in Eastern India (Uttar Pradesh, Bihar and Odisha): Learning from Successes in Punjab, Madhya Pradesh and Gujarat**

Project Leader: *Ashok Gulati*

Research Team: *Ranjana Roy, Shweta Saini, Siraj Hussain, Harsh Wardhan and Shyma Jose*

Commencement: April 2015

Expected Date of Completion: December 2020

Funded by: Bill and Melinda Gates Foundation (BMGF), (Rs. 402 lakh)

Under the first phase of collaboration with the Bill and Melinda Gates Foundation (BMGF), ICRIER had begun a three-year exhaustive study of the agricultural sector in six Indian states. The states were identified based on their historical agricultural performance and representation was taken from states whose performance had been average or slow (Bihar, Odisha and Uttar Pradesh) and states that had registered exceptional (or high) agricultural growth (Punjab, Madhya Pradesh and Gujarat).

The research objective was two-fold. One was to undertake an exhaustive study of the agricultural sector in each of the six states and identify factors that explained the performance of their agricultural sector and those that constrained it. The second was to establish a linkage between malnutrition and agricultural growth in these states. Finally, the best practices from each state were to be identified and studied for possible replication in other states.

2.3.1 **Revitalising Indian Agriculture and Boosting Farmers' Income**

Nearing Completion

All the research work under the project has been completed. In light of continued developments in the agriculture sector, the research under this project was extended to include the current emphasis on doubling farmers' incomes, and an evaluation of the major agricultural programmes and schemes of the current union government. The research work has been compiled into a book titled '*Revitalising Indian Agriculture and Boosting Farmers' Income*'. The book proposes an evidence-based roadmap to revitalise Indian agriculture while ensuring that the growth process is efficient, inclusive, and sustainable, and results in sustained growth of farmers' incomes. The book will be published later this year.

2.3.2 **Performance of Agriculture in Uttar Pradesh: District-wise Analysis**

Nearing Completion

The agricultural sector in Uttar Pradesh has a significant impact on the food security of the country. Agricultural growth in the state was around 2.3 per cent per annum in the period from 2002-03 to 2015-16 (at 2011-12 constant prices) while India achieved an agricultural growth rate of 2.7 per cent per annum. The average income of farm households in the state was the lowest in the country at Rs.6,668 per month in 2015-16, indicating the dismal agricultural scenario in the state. In this backdrop, the present study examines the sources and drivers of agricultural growth across the four regions in the

state. Through a panel data regression analysis for the period from 2004-05 to 2014-15 across the 70 districts of Uttar Pradesh, the study finds that agricultural growth significantly depends upon rural infrastructure such as the proportion of irrigated area, surfaced road density and power intensity in the agricultural sector and success in diversifying into the livestock sub-sector.

The study recommends increasing public investment to ensure adequate power supply to the agricultural sector, increased road connectivity, improved irrigation facilities and the establishment of efficient value-chains across the four regions to remove disparities in agricultural growth. Further, the state needs to implement reforms in sugar pricing based on the Rangarajan Committee's (2012) recommendations to ensure the long-term financial health of the sugar sector, which is a very important sector in the state. The state also needs to ensure adequate and consistent procurement operations for wheat and rice, increase the processing of milk in the organised sector to boost the livestock sector and invest in agro-processing of pulses and oilseeds, especially in Bundelkhand, to enhance agricultural growth and farm incomes in the state. The study has been submitted to the donor and is being edited for publication.

2.4 A Comparative Study of High Performing States in India to Understand Best Practices in Agriculture Extension

Project Leader: *Ashok Gulati*

Research Team: *Anisha Samantara and Pravesh Sharma*

Commencement: October 2015

Date of Completion: September 2019

Funded by: Bill and Melinda Gates Foundation (BMGF), (Rs. 142 lakh)

2.4.1 *Innovations in Agriculture Extension in India*

Nearing Completion

The demand driven extension system in India has experienced major conceptual, structural, and institutional changes since the late 1990s to meet the needs of increased production and demand. Both quantity and quality are expected to drive India's agricultural sector and the policies that govern it. Greater use of the internet and mobile technology can ease outreach and make pricing transparent, benefitting both farmers and consumers. These developments rest on the pillars of agricultural extension and innovation. Recently, extension has moved from a narrow definition to one which bridges gaps between farmers and markets, especially in India. The changing definitions of extension come from a rethinking of ideas putting farmers' welfare at the core and aligning that with new technological innovations in agriculture. The first part of the study looks at public sector spending with respect to agricultural extension and research and education, while carrying out a quantitative analysis to determine how much spending on agricultural extension contributes to agricultural GDP. The study focuses on selected Indian states. To take that forward and expand the scope of the study, the second part of the study deals with the changing paradigms of extension in the age of climate change and sustainability. India as a whole might have not performed as desired on the extension front but it is worthwhile to both assess agricultural extension from a perspective different from the traditional lens of expenditure and look at space-specific and sector-specific extension outside the six selected states. The second part comprising a short systematic review gives a flavour of how extension is perceived in the 21st century and a brief summary of the first part of the extension research, giving

details of India's overall performance as well as the six selected states studied. Moreover, the analysis also sheds light on concepts of new extension paradigms like 'm-agriculture' and 'e-agriculture', which cut across most field-demonstrations and transfer of knowledge activities.

2.5 **Agricultural Markets in India**

Project Leader: *Ashok Gulati*

Research Team: *Tirtha Chatterjee, Siraj Hussain and Sakshi Gupta*

Commencement: April 2016

Date of Completion: September 2019

Funded by: National Commodity and Derivatives Exchange (NCDEX), (Rs. 100 lakh)

The purpose of futures trade is to reduce market uncertainty and bring stability to all stakeholders through the process of price discovery and risk management. Agricultural commodity futures have gone through a roller-coaster ride since their mega opening in 2003 and have been subject to abrupt regulatory interventions. Against this background, this study looks into the agricultural commodity market and provides recommendations to deepen markets in India. The questions we ask in this study are the following: do all commodities have similar prospects in the futures market? If not, which of them are potential winners? How can farmers be linked to the futures market? What is the best way to support farmers?

2.5.1 **Linking Indian Farmers to Futures**

Tirtha Chatterjee, Raghav Raghunathan and Ashok Gulati

Completed

The objective of this study is to identify constraints in the participation of farmers/farmer groups in futures markets, and how best to resolve them. The study posits that the first limitation in farmers' participation is the small size of holdings. It is here that the role of farmer producer organisations (FPOs) as an aggregator becomes crucial. FPOs can aggregate the produce and ensure that both size and quality standards required for participation in futures markets are met. Some of the key takeaways are the following: (1) focus initially on commodities not protected by heavy government intervention since this helps instil confidence in the functioning of the market (2) identify production centres for these crops, build delivery centres around them and encourage futures trading in these, (3) provide necessary training in resource institutions, (4) encourage government initiatives like *Rajeevika* in Rajasthan in other regions, (5) like China, focus on futures, reduce protection and customise products, (6) ensure that government bodies directly participate in the futures market and (7) encourage the use of instruments like forwards and options.

2.5.2 **How Best to Support Farmers?**

Nearing Completion

This paper reviews the rules and regulations of the present agricultural marketing structure, explores how India incentivises its farmers and identifies what is going wrong in the current setup. The objective of the paper is to identify ways of getting agricultural markets right and identifying the best way to help the farmer. We identify the problems with the current system and recommend reforms required to resolve these. We focus on reforms required in the Agricultural Produce Market

Committee Act, Essential Commodities Act, export and import policies, and the futures market, apart from highlighting the need for infrastructural support. Lessons will be drawn from the experiences of countries like China and the USA.

We find that there is need for agricultural marketing reforms through institutional and infrastructural support. The government should ensure that all states implement the Model Agricultural Produce and Livestock Marketing Act of 2017. There has to be greater focus on futures markets. Greater government and farmer participation is likely to help the market as a whole. Farmers' participation in trading can help in efficient price discovery and in providing more liquidity to markets. Farmer producer organisations can act as aggregators to link farmers with futures and derivatives.

2.6 Agriculture Sustainability, Productivity and Profitability

Project Leader: *Ashok Gulati*

Research Team: *Bharat Sharma, Ritika Juneja and Pritha Banerjee*

Commencement: April 2016

Expected Date of Completion: December 2020

Funded by: Monsanto Holdings Private Ltd. (Rs. 300 lakh)

Innovations are critical for future agricultural development. Efficient technology, effective policy and good governance have contributed immensely to the growth of the agricultural sector globally. This project examines how innovations in technology, institutions, processes and products can play an important role in making Indian agriculture globally competitive and domestically sustainable, productive and profitable. The interplay of different innovations that have helped India achieve agricultural growth over the years starting from the green revolution era has been reviewed, documented and analysed. On the input side, the project focuses on water resources, a critical input for agriculture production, and highlights how innovations in water use and management can ensure sustainable agricultural development without compromising on productivity and profitability.

2.6.1 *From Scarcity to Surplus: Innovations in Indian Agriculture*

Nearing Completion

This project looks at how innovations in technologies, incentives, institutions, processes and products have played an important role in transforming agriculture in India. The focus of our work is on India and how various innovations have made Indian agriculture productive, profitable, sustainable, and resilient. India is also compared with other countries especially China and Israel with focus on innovations. Attempts have also been made to identify key challenges likely to be faced by India in 2030 and beyond.

2.6.2 *Fertiliser Subsidies and Sustainability of Indian Agriculture*

Ongoing

The Indian fertiliser sector and its stakeholders face many challenges. The Government of India, perceiving the importance of the sector in ensuring food security has been subsidising fertilisers through price policy for a long time. The policies adopted increased fertiliser consumption and food grain production but brought some challenges. Subsidising urea more heavily as compared to others

led to an imbalance in nutrient use, which in turn led to declining crop response ratios, and adversely affected profitability of farming. Excessive subsidy on granular urea rather than on soluble fertilisers has had an adverse environmental impact. Almost 70 to 75 per cent of nitrogen remains unused by plants and gets lost in the environment or leaches into groundwater, causing pollution.

Since the fertiliser sector (especially urea) is highly regulated by the government, there is lack of new private investments in the sector. The profitability of urea has also been negative over the last five years because of the piling up of unpaid fertiliser subsidy, which was estimated at around Rs.39000 crore in 2018-19. Although urea units are technically efficient on an average as compared to their global counterparts, high production costs have reduced global competitiveness. A decline in the share of the fertiliser industry in cheaply priced domestic gas has led to an increase in the pooled price of gas supplied to the sector, leading to increased production costs. To rejuvenate the sector, India needs to make some bold policy changes. The paper suggests freeing up the sector from the shackles of government controls by freeing the pricing of gas as well as pricing of product, import and distribution of fertiliser products, taking the direct income transfer route to subsidise farmers and emphasising joint ventures with countries with relatively low gas price among others.

2.6.3 *Water Resources Management for Productive and Sustainable Agriculture: Major Issues and Policy Responses*

Ongoing

The sustainability of economic development and of Indian agriculture is threatened by the growing scarcity of water, inefficient management of water resources and insufficiency of institutional and policy responses. This study brings out a balanced techno-economic and policy analysis of the major issues relating to water management and use in Indian agriculture. A multi-disciplinary team has been working for about a year on the subject to bring out an up-to-date analysis. The outcome is likely to be a book manuscript titled “Water Resources Management for Productive and Sustainable Agriculture: Major Issues and Policy Responses”. It covers important issues related to (i) the state of India’s water resources (ii) bridging the gap between irrigation potential created and utilised, (iii) addressing groundwater challenges in Indian agriculture, (iv) supporting rain-fed farmers, (v) non-conventional water resources, (vi) financing of irrigation and institutional reforms, (vii) subsidy on water for agriculture, (viii) water productivity assessment of major Indian crops, (ix) micro-irrigation for productive agriculture, (x) solar-powered irrigation (xi) recent initiatives and an assessment of their effectiveness in water management, and (xii) the way forward.

2.7 *Getting Indian Agricultural Markets Right*

Project Leader: *Ashok Gulati*

Research Team: *Kavery Ganguly, Siraj Hussain, Sandip Das, Harsh Wardhan and Sakshi Gupta*

Commencement: December 2019

Expected Date of Completion: November 2022

Funded by: National Stock Exchange of India Ltd. (NSE), (Rs. 399 lakh)

The study on “Getting Markets Right” is aimed at analysing market efficiency in terms of price discovery and price risk management, and inclusiveness of smallholders. The commodities being studied are potato, onion, gram, pigeon pea/*tur*, cotton, maize, turmeric, sugarcane, rice and wheat.

The study includes a critical review of policies related to agricultural marketing (domestic and international) and the legal and regulatory framework that governs agricultural marketing in India. The study also analyses the benefits of integration between traditional and e-spot markets, and spot and futures derivative markets and the challenges that need to be addressed. Further, the advantages of integrating markets with other aspects of logistics such as warehousing and cold chains, leveraging technology and the way forward has been studied in detail. One of the key challenges in agricultural marketing relates to farmers' ability to access markets. In this context, the role of emerging institutions like farmer producer organisations (FPOs) in linking farmers to markets including e-NAM and futures markets has been looked at. Keeping in view the performance of agricultural markets and the policy direction, the study aims to put forth a roadmap for developing efficient markets in India, identifying the key institutions and policy reforms needed.

2.7.1 *Macro-study on Getting the Markets Right* *Ongoing*

Agricultural growth and farmers' benefits are affected by marketing. The production boom that followed the success of the Green Revolution in the 1960s-1970s necessitated the establishment of markets and the setting up and strengthening of existing institutions that catered to price, standards and warehousing, among others. With increasing diversification of agricultural production, the importance of markets has increased manifold. The predominance of small and marginal farmers (operating on less than two hectares of land) in Indian agriculture makes it challenging to ensure market access. Although agricultural marketing policies and practices existed in pre-independent India, the need for a holistic organisation of markets emerged in the 1960s. The macro study examines some key agricultural marketing policies and institutions that have shaped the marketing structure in India in terms of their design, implementation, impact and shortcomings. It also assesses the current marketing structure and its performance in ensuring greater market access, ease of marketing, incentivising competition, etc. The paper focuses on the role of various marketing models such as wholesale markets, e-NAM, warehousing, cold chains, futures market, etc., in attaining fair price discovery and price risk management.

2.7.2 *Getting the Maize Market Right* *Ongoing*

Maize is among the most versatile agricultural crops due to its varied usage as feed, food and industrial raw material. However, marketing of maize in India is fragmented and inefficient and lacks in innovative practices. With maize being traded mostly through the traditional *mandi* system, there is a dire need for reform in marketing practices. Given the importance of maize in India, the study attempts to analyse maize marketing in India, its inefficiencies, weaknesses and future outlook. Outlining the vagaries of the supply of and demand for maize because of seasonality and price volatility, the study evaluates the structure of maize marketing channels in key maize producing states. The study finds that farmers flock to the APMC *mandis* just after the harvest, leading to lower price realisation. Maize trading at e-NAM and through e-NWR is limited, with no major participation by farmers being seen. The study highlights the need to ensure that farmers in major maize producing areas have access to the best markets, and are able to hedge their price risks through futures markets

and contract farming. The study also focuses on major maize consuming entities, such as feed mills, poultry and the starch industry, and the need for them to hedge their price risks for better price discovery and stable markets.

2.7.3 *Getting the Cotton Market Right*

Ongoing

The study titled 'Getting the cotton market right' attempts to analyse cotton marketing in India based on the hypothesis that farmers do not play a significant role in the process of price discovery and recommends measures to ensure greater participation by farmers. The study is based on secondary official data as well as extensive interactions with key stakeholders (farmers, ginner, traders, textile mills, etc.) in the marketing process to understand the dynamics of the cotton trade.

The study finds that traders and ginner buy produce from farmers in the Agricultural Produce Market Committee (APMC) *mandis* as a large number of farmers, mostly small and medium farmers, do not have the financial resources or infrastructure to store cotton. The Cotton Corporation of India (CCI) undertakes procurement operations when cotton (*kapas*) market prices fall below the minimum support price. The study finds that a major chunk of produce arrives in *mandis* during the peak harvesting season (December – March). Traders and some multi-national commodities firms buy the produce, keeping in mind global and domestic stocks and likely future price movements.

The study also finds that farmers' participation in cotton trading through instruments such as the electronic-National Agriculture Market (e-NAM) and through e-Negotiable Warehouse Receipts (NWR) has been marginal as both the instruments are still evolving. The volume of cotton futures trade at commodity exchanges is small compared to market arrivals. Farmers' participation in futures trade has been insignificant. The study finds that CCI intervention has not benefitted either the textile industry or farmers significantly in terms of ensuring regular raw material supplies and providing remunerative prices. The study suggests the government should go for direct benefit transfer (DBT) to farmers rather than procurement by CCI. The fast tracking of integration of e-NWR with e-NAM will help in better price realisation by farmers.

2.7.4 *Getting the Rice and Wheat Markets Right*

Ongoing

The study attempts to analyse the rice and wheat markets in India. It aims to examine the efficiency of these markets based on their level of spatial and temporal integration, farmer's share in consumer prices, and the price spread. It also highlights the market distortions that minimum support prices (MSP) have created in the case of these two commodities leading to only a small numbers of farmers being benefitted. It focuses on the challenges farmers face in accessing the market and getting remunerative prices for their produce. Further, it examines how farmers can hedge against price risk through channels such as the negotiable warehouse receipt system, e-NAM, and futures.

2.8 Vision 2030 for Ensuring Food and Nutritional Security and Pathways for Enhancing Agri-exports

Project Leader: *Ashok Gulati*

Research Team: *Sandip Das, Shyma Jose, Kriti Khurana and Akshaya Aggarwal*

Commencement: December 2019

Expected Date of Completion: December 2020

Funded by: National Bank for Agriculture and Rural Development (NABARD), (Rs. 77 lakh)

2.8.1 *Assessing Economic Viability of Zero Budget Natural Farming (ZBNF)*

Ongoing

With the increasing use of fertiliser and pesticides in the Indian farming system, the government has been trying to promote sustainable and profitable ways of farming, which entail the judicious use of chemical fertilisers and pesticides. Zero budget natural farming (ZBNF) is one such farming method being encouraged by the government. Subhash Palekar, the key proponent of ZBNF in India, emphasises four basic elements of ZBNF – *bijamrit*, *jivamrit*, mulching and *waaphasa* – which focus on rejuvenating soil health. It claims that it can reduce the cost of cultivation, improve yields, and make agriculture more efficient and sustainable, while augmenting farmers' incomes.

In the absence of reliable official data on ZBNF, the study relied on extensive field visits – to the experimentation sites of the Indian Council for Agricultural Research (ICAR) in Uttar Pradesh – interactions with Subhash Palekar along with a group of farmers (who have adopted ZBNF) in Saurashtra (Gujarat), at Gurukul in Kurukshetra, Haryana (a private estate which has adopted ZBNF), and interactions with senior scientists of Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra) and the Indian Agricultural Research Institute (IARI), Pusa, Delhi. The study states that the government must prepare a scientific protocol for ZBNF before it decides to expand its outreach. The preliminary results from ZBNF field trials by ICAR indicate a sharp fall in yields of key agricultural commodities like rice and wheat. The study states that scaling up ZBNF as part of a national policy may jeopardise India's food security system built over decades. The study recommends that without validation by ICAR, which is the scientific arm of the government, adoption of farming techniques and practices like ZBNF as a national policy may not be wise. However, farmers must have full freedom to choose whatever suits their requirements best.

2.8.2 *Achieving Nutritional Security in India: Vision 2030*

Ongoing

Globally, India's commitment to achieve nutritional security is significant since it accounts for the highest number of stunted and wasted children, and the undernourished. Despite an unprecedented GDP growth rate of 6.8 per cent per annum from 1992-93 to 2015-16 and a commensurate decline in poverty from 45.9 per cent to 13.4 per cent between 1993 and 2015, malnutrition still remains alarmingly high in India. The question that the study aims to address is how India can achieve nutritional security by 2030.

The study assesses the status and determinants of under-nutrition in India based on NFHS unit level data. It also looks at existing policies and programmes to tackle the multi-dimensional challenge of nutritional insecurity in India. Our findings highlight that maternal education, particularly higher education, and access to health care facilities have a significant effect on child malnutrition. Other major factors affecting child malnutrition are breastfeeding practices, mother's nutritional status and wealth index. Hence, child malnutrition can be addressed by focusing on nutritional interventions and improving access to health care, higher education and sanitation facilities. The report also recommends leveraging agricultural policies to be more "nutrition-sensitive" to encourage diet diversification.

2.8.3 *Prospects for India's Demand and Supply of Agricultural Commodities Towards 2030* *Ongoing*

A country is said to have achieved complete food and nutritional security if every individual in the country is able to consume an adequate and balanced diet regularly (FAO). The long-term trend in the per capita consumption pattern at the household level shows that there has been a decline in the per capita consumption of cereals whereas that of high value commodities like livestock products has surged. This has been attributed to factors like diversification of the food basket, changes in the price of food commodities and rise in incomes. The changing proportion of the consumption of cereals and non-cereal commodities has a direct impact on the future prospects of the demand for and supply of food.

Therefore, it has been deemed necessary to forecast the demand for food grains in the future and formulate long-term policies accordingly. In the paper, we validate the ex-ante forecasts made by numerous studies in the past to assess the credibility of the methodology and assumptions used. After studying the methodology adopted by various studies, it attempts to forecast the demand for and supply of food grains (rice, wheat and cereals) until 2030.

2.9 *Agriculture, Value Chains, Food Security and Trade*

Project Leader: *Ashok Gulati*

Research Team: *Siraj Hussain and Kriti Khurana*

Commencement: October 2014

Funded as part of Infosys Chair (Rs. 300 lakh)

2.9.1 *Story of Indian Crop Insurance – Many Successes, More Challenges* *Ongoing*

Agriculture is an inherently risky business and a robust crop insurance scheme is one of the most effective mechanisms to mitigate agricultural risks. The central government launched a new crop insurance scheme, *Pradhan Mantri Fasal Bima Yojana* (PMFBY), from *kharif* 2016 to overcome the shortcomings experienced in previously existing crop insurance schemes.

This study examines the performance of PMFBY from *kharif* 2016 to *rabi* 2018-19 at the all-India level. The findings show that only 26 per cent of the gross cropped area was covered under the scheme

against the target of 50 per cent in 2018-19. The penetration of crop insurance as depicted by insurance intensity for TE2018-19 was the highest in Madhya Pradesh (52.7 per cent) followed by Chhattisgarh (40.2 per cent) and Rajasthan (38.1 per cent). The study also evaluates the reasons for the reluctance of states and insurance companies to continue under PMFBY. The performance of PMFBY at the district level in Uttar Pradesh has been evaluated in the study. We have also drawn lessons on crop insurance from best practices in China and the USA. The release of actual yield data in the public domain for at least the previous seven years, awarding a contract for three years to insurance companies, expanding the area insured under the Restructured Weather Based Crop Insurance Scheme (RWBCIS), etc., are some of the recommendations made for the proper implementation of PMFBY.

2.10 Sales and Purchase Trends of Processed Foods and Beverages in India: Analysis of Trends over the Past Decade and Forecast till 2030

Project Leader: *Arpita Mukherjee*

Research Team: *Angana Parashar Sarma, Nibha Bharti and Drishti Vishwanath;
Dripto Mukhopadhyay (External Consultant)*

Commencement Date: May 2020

Expected Date of Completion: November 2020

Funded by: World Health Organization (WHO), India (Rs. 18.30 lakh)

A large number of people in India suffer from diet related illnesses, be it under-nutrition or over-nutrition/wrong diet. In this context, the objective of this study, conducted for the Food Safety and Standards Authority of India (FSSAI) through the World Health Organization (WHO), is to analyse the trends in the sale and purchase of packaged processed foods and beverages between 2010 and 2020 and project the likely growth until the year 2030. It will estimate the revenue generated from sales of processed food and beverages and the likely changes in the volume of per capita purchase and consumption of certain select categories of processed food. The purpose is to document the changes in food habits that may lead to diet related illnesses.

The study will be based on secondary information and data analysis and will analyse food purchases made through different retail and distribution channels and through out-of-home and on-the-go consumption, including at fast food outlets, to understand the proportion of a household's budget spent on processed foods and beverages. It will also analyse the heterogeneity in patterns of sales and/or purchase of processed foods and beverages over time, across geographical areas (urban/rural) and different socio-economic strata (low/middle and high income). It will examine the usage of different retail distribution channels over time by different socio-economic classes across rural and urban India. Given that there can be variations across states in terms of sales and consumption, the study will perform a state-level analysis of purchase and/or sales trends of packaged processed food and beverages. The study will undertake a detailed analysis of the regulatory environment governing the sale of processed foods and beverages, identify the gaps, if any, and make policy recommendations.

3. Challenges and Opportunities of Urbanisation

3.1 Urban India's Affordable Housing Challenge: Assessment and Analysis

Project Leader: *Debarpita Roy*

Research Team: *Meera M. L. and Ayush Khare*

Commencement: November 2019

Expected Date of Completion: October 2021

Funded by: Ford Foundation (Rs. 111 lakh)

The demand for and supply of affordable housing in urban areas will pose a grave challenge for urban India unless there is significant course correction. Affordable housing is both a political and economic challenge. Policy formulation to ensure affordable housing has suffered due to the lack of systematic evidence on which to base it. This research attempts to bridge that gap in the following areas: demand aspects of low-income affordable housing in urban India, land related challenges in the supply of affordable housing, technology related challenges in the supply of affordable housing and rental housing as a solution to the affordable housing challenge in urban India. This research takes a holistic view of the urban housing challenge in India and approaches the problem from the angles of adequacy, affordability, land, technology and policy. The overall objective is to create a research-based dialogue on the provision of housing services to India's large city dwelling population in the future.

4. Climate Change and Sustainable Development

4.1 Towards a Functioning Land and Housing Market for the Urban Poor

Project Leader: *Amrita Goldar*

Research Team: *Ismail Haque, Saheli Das, Diya Dasgupta and Tarun Singh*

Commencement: December 2019

Expected Date of Completion: July 2021

Funded by: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), GmbH (Rs. 194 lakh)

The objective of this study is to develop a knowledge base on the supply-side scenario and challenges to urban housing for the poor in Bhubaneswar and Kochi and highlight the intricacies of access of the urban poor to housing under current legislations and prevalent tenure models. The first part of this study is based on a field-based empirical investigation focusing on who supplies housing for LIG and EWS urban poor households, what their modus operandi in supplying housing is and what sort of tenure arrangements are available for the urban poor in the two cities in question. The second part explores various tenure models prevalent around the world to build a case for an alternate tenure model in the context of current legislations of city governments to provide housing for LIG and EWS groups. Drawing on data from both secondary desk research and a primary field survey, this study uses mixed methods to achieve its objectives. Two important research outputs are expected from this study – the first is an evidence-based policy brief useful for policy makers and city governments to make affordable housing that is more sustainable and safe in terms of tenure a reality for the urban poor; the second is developing an alternate affordable housing model that would feed into current policies and programmes prevalent in Bhubaneswar and Kochi by gauging their current shortcomings and identifying possible remedies.

4.2 China-India Dialogue

Project Leader: *Rajat Kathuria*

Research Team: *Amrita Goldar and Diya Dasgupta*

Commencement: December 2019

Expected Date of Completion: August 2020

Funded by: World Resources Institute (WRI), (Rs. 36 lakh)

The objective of the China-India Dialogue is to convene key policymakers, business leaders, academics, and technical experts from both countries through annual workshops centred round growth, development and climate action, on the cross-cutting themes of energy, finance, sustainable growth, infrastructure, institutional development and south-south development. The dialogue is expected to provide a platform to share strategy, policy directions and technical content between experts from both countries and ultimately for each to learn from the experiences of the other. The intended audiences are Chinese and Indian policy makers, business leaders, academics and technical experts. The 3rd China-India Dialogue took place in Beijing on March 21, 2019. As part of the dialogue, the session on Energy and Economic Transition looked at both energy supply and demand and identified key areas as potential areas of collaboration over the next two to three years. In December last year, it was agreed that both sides would draft a synthesis report on Long-term Emissions Reduction Strategies (LTS) in their respective countries and would come together to discuss the potential learning and avenues for collaboration between the two countries.

4.3 Linking Tourism, Local Environment and Waste Generation in Indian Himalayan States Using CGE Model: Case-Study of Uttarakhand

Project Leader: *Amrita Goldar*

Research Team: *Manisha Mukherjee, Shubham Sharma and Viraj Sawant*

Commencement: January 2019

Expected Date of Completion: August 2020

Funded by: National Mission on Himalayan Studies, Ministry of Environment, Forest and Climate Change (Rs. 35 lakh)

The objective of this study is to prepare a strategy to link tourism, local environment and waste generation and highlight policy instruments for effective waste management in the states in the Indian Himalayan Region (IHR). To quantify the impact of rising tourist footfalls on the state economy, a regional input-output (IO) table is being created, focusing on the tourism sector, that will be used as a base to construct a social accounting matrix (SAM) for the state of Uttarakhand. The bi-directionality between the amount of municipal solid waste generated and tourist footfalls in the state is explored by the development of a Computable General Equilibrium (CGE) model on the generated IO table. The study uses secondary research and primary data collection as part of its methodology to estimate state-level CGE parameters. Once all the parameters of the model are estimated, various policy instruments will be tested to analyse their efficacy in managing solid waste generated in the region and understand their possible effects on other economic parameters such as tourism revenue and employment.

4.4 **Assessment of the Financial Requirement for Implementing India's Nationally Determined Contribution (NDC)**

Project leader: *Amrita Goldar*

Research Team: *Himanshu Shekhar, Shubham Sharma, Sajal Jain, Diya Dasgupta and Viraj Sawant*

Commencement: October 2018

Date of Completion: October 2019

Funded by: Department of Economic Affairs (DEA), Ministry of Finance (Rs. 31.85 lakh)

The study examined the costs of successfully achieving the ambitious nationally determined contributions (NDCs) of India to the United Nations Framework Convention on Climate Change (UNFCCC) by a thorough examination and analysis of the financial requirements as well as the effective channels, sources, instruments and structures that need to be put in place. The objective was to provide a detailed and realistic assessment of the total financial requirement with an updated understanding of climate to successfully meet NDCs. The study was undertaken in three parts. The first part focuses on estimating the financial requirement for mitigation NDCs (energy and forestry); the second part looked at adaptation funding requirements and the last part examined the funding gaps that exist and the potential mechanisms (financial innovations, market instruments, policies, etc.,) to source the finance required from international and private sources.

4.5 **Exploring Cost-reduction Strategies for Electric Vehicle (EV) Batteries**

Project Leader: *Rajat Kathuria*

Research Team: *Himanshu Shekhar, Shubham Sharma, Viraj Sawant and Utkarsh Patel*

Commencement: February 2019

Date of Completion: October 2019

Funded by: Shakti Sustainable Energy Foundation (Rs. 38.5 lakh)

Electric mobility is considered the future of mobility, especially for India, which remains a big importer of fossil fuels. The Indian automobile manufacturing sector has developed a local manufacturing ecosystem of components, making low-cost vehicles with significant and increasing export contribution. This globally competitive sector should be further supported to ride on the global transition to EVs which, according to the Boston Consulting Group (BCG), is expected to account for 50 per cent of all vehicle sales by 2030. However, due to the nascent technology, the relatively high battery cost compared to fossil fuels remains an impediment to the adoption of EVs. The battery accounts for almost 50 per cent of the vehicle cost.

State support for the promotion of EVs has also grown with the National Electric Mobility Mission Plan (NEMMP), Faster Adoption and Manufacturing of Electric Vehicles (FAME) and other policies that target financial support for vehicle manufacturers and consumers to increase penetration. A part of the proposed new policy also factors in support to develop an EV manufacturing base in India.

As the cost of batteries/storage has been identified as the key challenge to higher penetration of electric mobility, the primary outcome of the project was to identify plausible policy options for the government to reduce the cost of batteries and accordingly recommend battery technologies that would suit Indian conditions. The study focused on the domestic battery ecosystem to provide an

optimum mix of policy instruments at the disposal of the government. This selection is based on policies currently existing, domestic battery manufacturing capabilities and financial requirements of these options. It also presented the range of battery technologies that may be suitable for Indian usage patterns and environmental conditions.

5. Physical and Social Infrastructure including Telecom, Transport, Energy and Health

5.1 ICANN Research and Multi-stakeholder Engagement Assistance Programme

Project Leader: *Rajat Kathuria*

Research Team: *Gangesh Sreekumar Varma, Sashank Kapilavai, Ujjwal Krishna, Abhishek Raj, Isha Suri and Raj Kumar Shahi*

Commencement: June 2018

Expected Date of Completion: May 2021

Funded by: National Internet Exchange of India (Rs. 331 lakh)

The Internet Corporation for Assigned Names and Numbers (ICANN) is among the key global Internet governance institutions responsible for the co-ordination and management of the domain name system (DNS). ICANN is the exemplar of the multi-stakeholder model of Internet governance. India announced its support for the multi-stakeholder approach in Internet governance at the ICANN53 meeting in 2015. In November 2016, ICANN57 was held in Hyderabad, marking an important milestone in the transfer of oversight to the 'global multi-stakeholder community' and presented an important opportunity for greater influence and leadership by developing countries such as India.

Through this programme, ICRIER aims to enable meaningful and sustained engagement of Indian stakeholders with ICANN. Over the three years of engagement, ICRIER will provide research support for India's representation in the Governmental Advisory Committee of ICANN, and in facilitating greater multi-stakeholder engagement on ICANN related issues. Over the three-year duration of the project, we will update and contextualise various stakeholder positions to bring out Indian perspectives and crystallise the issues to be raised by Indian stakeholders in various fora. Finally, through multiple stakeholder engagements, we will aim to develop capacity and build expertise among Indian stakeholders on ICANN related issues. To further this objective, ICRIER has been regularly holding pre-meeting briefings and readouts prior to and subsequent to each of the three ICANN meetings in a year in order to facilitate stakeholder interactions and highlight diverse issues of importance to Indian stakeholders. As a part of this project, ICRIER is also writing research papers to support and shape policy thinking on various issues of importance, including (i) bolstering IDN uptake in India (ii) role of governments in ICANN – past, present and future (iii) evaluating governance models of the root server system (iv) the importance of data sovereignty on internet governance and (v) strategies for protection of geographical names.

5.2 Economic Impact of the Recorded Music Industry on the Unorganised Sector in India

Project Leader: *Rajat Kathuria*

Research Team: *Richa Sekhani and Kaushambi Bagchi*

Commencement: December 2019

Expected Date of Completion: March 2021

Funded by: Indian Music Industry (IMI), (Rs. 44.9 lakh)

The recorded music industry in India contributes both directly as well as indirectly (via industries dependent on it) to national income and livelihood generation. However, this industry is plagued by challenges of revenue leakages that emerge in the form of a sizeable grey market, which is partly driven by piracy or copyright infringements. There are other revenue leakages that arise from the commercial use of recorded music in the informal economy.

A critical issue that merits immediate policy attention in this regard is to estimate the size of the segment of India's informal economy in which illegitimate use of recorded music is rampant. Although its size is presumably large, it is difficult to make rational predictions without developing an in-depth understanding of this sector. This study, therefore, aims to evaluate the approximate size and characteristics of the informal music industry that is based on the unlawful use of recorded music. This will be useful to assess the impact of the recorded music industry on the unorganised sector in India.

5.3 Building an Inclusive Digital Society for Rural India

Project Lead: *Rajat Kathuria*

Research Team: *Chavi Asrani and Kaushambi Bagchi*

Commencement: November 2019

Expected Date of Completion: December 2020

Funded by: Broadband India Forum (BIF), (Rs. 22.4 lakh)

Even after several years of telecom liberalisation, rural telephony and broadband internet are far from becoming universal in India. Both are crucial to the government's Digital India initiative. While projections for growth in Internet usage in rural areas are optimistic, the digital divide has been more stubborn than imagined. Disparities across states and among rural and urban areas are persistent. A distinguishing feature of India's telecom development has been a mobile first trajectory. There is tremendous potential, particularly in rural areas, to facilitate efficient and effective delivery of e-governance, e-health, e-education, e-banking and other internet-enabled services. The ability to tap into this potential in the rural segment calls for the creation of backhaul infrastructure, accomplished on optical fibre cables (OFC). However, the cost of this can be significant.

The Bharat Net project was initiated as a centre-state collaboration to address the lack of rural broadband infrastructure. As the project heads into its second phase, the implementation strategy needs to be strengthened. There have also been concerns with regard to the quality of service provision, as many of the 'service-ready' *gram panchayats* have experienced 'functional' but extremely slow internet connection and many of the internet kiosks installed in the initial phases remain dysfunctional. These factors raise the question of where government efforts should be currently prioritised. This study

seeks to identify challenges facing the digitisation of rural India. Alongside challenges in access to rural Internet and broadband, the study will evaluate the uptake of digital services in rural areas and provide recommendations on building an inclusive digital society for India.

5.4 India's Platform Economy and Emerging Regulatory Challenges

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia and Kaushambi Bagchi*

Commencement: April 2019

Expected Date of Completion: August 2020

Funded by: Indian Institute of Management (IIM), Ahmedabad, (Rs. 34.96 lakh)

The platform economy has undoubtedly become an engine for growth and development in India. Apart from the immediate benefits of such efficiency, 'platformisation' creates a wide range of business opportunities. India's potential to deepen platformisation makes it opportune to systematically analyse its role in economic growth and job creation. However, the benefits of platformisation must also be viewed alongside the concerns it raises on the disruption of traditional businesses and the likelihood of anti-competitive behaviour. Two-sided platforms are often seen to violate principles of marginal pricing, when they set zero cost or even pay users to enter platforms, in an attempt to trigger network effects.

The study uses an extensive survey across 11 cities in the country to understand the effects of digital platforms on consumers, both for work and leisure, as part of a larger attempt to understand the effect of platformisation on the Indian economy. The survey data is used in a simple econometric model to compute consumer welfare from the use of platforms in India. The study uses case studies to illustrate the variegated impacts of platforms across different sectors. The study also highlights regulatory challenges emerging from the rise of digital platforms and appropriate policy responses that can enable an equitable diffusion of platforms in India.

5.5 Broadband Readiness Index 2020

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Richa Sekhani and Chavi Asrani*

Commencement: June 2019

Expected Date of Completion: August 2020

Funded by: Department of Telecom, Ministry of Communications, Government of India (Rs. 88.55 lakh)

With over two decades of commercial access to the Internet, India has come a long way from dial-up connections to super-fast broadband speeds, at least in some urban pockets. Despite massive upscaling of digital networks and services on a global scale, India's performance is discouraging. Slow and delayed infrastructure development is a challenge that India's digital economy is grappling with. Statistics at the country-level do not do justice to the accomplishments of each state. The performance of states varies with respect to digital access, affordability and usability. In fact, there exist state specific challenges. For example, conflict states like Jammu and Kashmir are constrained by several political and security limitations. There are other terrain and infrastructure specific challenges, such as those faced by states in the North East. The outcomes are reflected in the subscription levels of each state.

State governments are deeply involved in the process of network deployment and proliferation of digital services.

Conceptualised in the National Digital Communications Policy, 2018, the Broadband Readiness Index provides a state-level index appraising the status of the underlying infrastructure, policy regimes and investment climate that examine the digital environment and its related factors at the state-level. This exercise provides useful insights into strategic choices made by states to optimise policy and consequent investment allocations in ICT programmes. In the spirit of competitive federalism, the study provides opportunities for states to cross learn and jointly participate in achieving the overall objective of digital inclusion and development in India.

5.6 Market Study on the Telecom Sector in India

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Richa Sekhani and Isha Suri*

Commencement: January 2020

Date of Completion: July 2020

Funded by: Competition Commission of India (Rs. 11.8 lakh)

India's telecom sector is one of the largest and fastest growing networks across the world. Communication is now the backbone of India's digital economy, which includes a host of new businesses such as digital platforms that pervade several sectors of the economy including retail, health, education, entertainment and communication, to name a few. Over time, the level of convergence within the sector has increased considerably with a discernible impact on competition strategies employed by incumbent operators.

The study is a fact-finding exercise, tracing the recent evolution of the industry, analysing threats and challenges to competition, identifying strengths and opportunities in the wake of technological innovations and recommending policies that will secure growth in the future. The research adopts mixed methods, using both quantitative and qualitative techniques. Data is collected and analysed from published reports and other online resources to present industry trends such as revenue growth, market concentration ratios, financial health and profitability. The analysis is further complemented by stakeholder interactions including operators, equipment manufacturers, content companies, academics, sector experts, business associations and government departments. The research is bolstered by a careful review of all relevant policies and regulations that currently govern the sector, and their potential to impact competition in the future.

5.7 The Role of Standards in Diffusion of Emerging Technologies: Internet of Things (IoT)

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia and Richa Sekhani*

Commencement: April 2019

Date of Completion: July 2020

Funded by: Department of Scientific and Industrial Research (DSIR), (Rs. 19.2 lakh)

Standardisation is necessary to enable the deployment of interoperable, secure, high quality IoT applications in India. However, while standardisation is critical, its economic consequences are

not straightforward and can generate costs and benefits to industry. Researchers have found that governance frameworks around standard setting processes can play a role in the rate of commercialisation, incentives to engage in R&D, etc. The success of the upcoming IoT industry will depend on the co-ordinated deployment of several Intellectual Property Rights (IPRs). This study adds another lever to the decision-making toolkit and can help design the most suitable governance framework that helps India achieve speed and thoroughness in IoT applications.

The analysis is based on an extensive review of global standard development organisations and their governance mechanisms, In-depth stakeholder interactions and secondary data analysis have helped identify current levels of standards adoption in India for IoT and other combination technologies such as artificial intelligence, augmented reality, virtual reality and mixed reality. The study provides an elaborate list of recommendations to improve India's contribution to standards development in an emerging area of technology as well as encouraging their adoption among user industries.

5.8 MeitY Chair for Internet Policy: Value, Security and Governance Project

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Gangesh Sreekumar Varma, Isha Suri, Richa Sekhani, Chavi Asrani, Kaushambi Bagchi and Ujjwal Krishna*

Commencement: September 2017

Date of Completion: June 2020

Funded by: Ministry of Electronics and Information Technology (MeitY), (Rs. 95.43 lakh)

The Internet continues to alter the structure of the economy; more fundamentally, it has altered how people and institutions relate to each other. It has contributed tremendously to GDP disruptions in businesses while also creating socio-political tensions, which demand nuanced governance responses. Moreover, the pervasive use of the Internet in the daily organisation of social lives and its global reach raise issues of security and privacy of individuals and communities, which warrants an understanding of how to manage and govern the Internet, both in the national and international contexts. The MeitY Chair for Internet Policy at ICRIER primarily put together policy based research on aspects of internet openness, security and governance. The objective was to undertake evidence based research that will build capacity for India's participation in international fora while strengthening domestic policy. Towards achieving these objectives, the first year of the programme focused on a study related to the domain name market in India and the performance of the country code top-level domain (ccTLD) in particular. The second paper looked at data flows and data localisation policies in India within the global context. Over the course of the second year, ICRIER carried out a study on the digital divide in India and examined the challenges and opportunities in transitioning to Internet Protocol Version 6 (IPv6).

Along with the research papers, a fortnightly news digest on Internet policy related news was prepared and widely disseminated as a part of this research programme through the two years. A database curating content on global internet infrastructure and policy related datasets are also being developed on a dedicated website www.internetpolicy.in. As part of this research programme, ICRIER also hosted a one-day conference on 'Internet Governance in India: People, Purpose and Process' in February 2020.

5.9 An Analysis of Competition in India's Mobile Handset Market

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Kaushambi Bagchi and Gauri Bansal*

Commencement: August 2016

Date of Completion: October 2019

Funded by: Qualcomm Incorporated (Rs. 95.33 lakh)

Telecom and information technology have transformed the way we live. Mobile phones have been the key to this revolution in India. It is now the second largest smart phone market globally. At present, the mobile phone market in India is overcrowded with over 100 brands and 3400 models. Moreover, the market is very dynamic; the pecking order of firms is constantly evolving with new brands challenging established manufacturers.

This study mapped the transformation of the industry through technological progress, usage and price of mobile phones in India, identifying competition issues if any. The competition analysis includes an overview of the market structure, technological advancements, estimation of concentration ratios and an entry-exit analysis. The analysis is based on data for mobile sales in India from 2007 to the second quarter of 2018. While there seem to be no immediate concerns related to significant market power in the overall industry, some trends stand out as concerns for the future. One among these is the high proportion of irrelevant firms in the market. In order to deepen market competition, policy interventions, must allow for incentives to develop innovation capabilities within the larger set of manufacturers in the industry. Substantive value addition as proposed under the phased manufacturing plan is likely to limit the cases of hit and run entry, which currently crowds the market.

The study also used survey data collected through an online platform on consumer preferences to identify patterns of brand lock-in. While there is evidence that familiarity with the operation and functioning of an existing smartphone determines the future choice of a handset brand, a large percentage of respondents also reported a willingness to switch to other models and brands for new experiences and features. Additionally, although handset prices have declined in recent years, there is a clear preference for mid-range smart phones, regardless of income categories. The demand for mobile phones in India is unquestionable. Affordable domestic manufacturing is essential to help satiate this demand and benefit from its spill overs. The government has taken appropriate policy measures to address this; however, further collaboration with the industry is necessary to build domestic capabilities and accelerate this growth.

5.10 The Economics of Data Localisation in India

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Kaushambi Bagchi and Gangesh Sreekumar Varma*

Commencement: July 2018

Date of Completion: November 2019

Funded by: Internet and Mobile Association of India (IAMAI), (Rs. 57.78 lakh)

'Datafication' is at the core of the global digital economy. With enormous amounts of data at their disposal, businesses are now equipped to capture value from analytics. Personal data is being collected and analysed to better understand the preferences of customers and their willingness to pay. The

importance of data has also risen in ranks as an input to global trade and commerce, affecting not only the information technology sector but also traditional industries. However, the dynamism of the data economy is not without challenges. Burgeoning volumes of data and its evolving nature and utility have brought fresh policy challenges to the fore. The lack of an implementable international framework, coupled with the nature of the internet and data to disregard geographical and sovereign boundaries, have led to stringent measures regulating the flow of data, which have taken the form of localisation across several countries. This report borrows from recent literature on data localisation to provide a granular view of the economic implications of existing and proposed localisation measures adopted by India. The study follows a three-pronged approach: (i) an econometric estimation measuring the impact of cross-border data flows on India's total trade (ii) in-depth case studies with domestic and global companies to determine the implications of localisation and (iii) an enterprise survey to assess the broader impact of localisation on businesses operating in and engaging with India.

The study finds that cross border data flows significantly affect international trade. The case studies reveal the mixed effect of localisation. Established multi-national companies with global delivery models are likely to be most affected by localisation. The study is not a blanket assessment of the need for data localisation. However, it does bring evidence on the economic implications of such policies in India.

5.11 Liberalising Satellite Communications in India: Opportunities for Enhanced Economic Growth

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Prateek Kukreja and Ujjwal Krishna*

Commencement: September 2018

Date of Completion: November 2019

Funded by: Broadband India Forum (BIF), (Rs. 17.9 lakh)

Satellite communication technology is growing rapidly. India's share in the global satellite ecosystem is relatively small. India lags behind several countries in adoption and implementation of cutting edge satellite technologies. It is alleged that the performance of India's satellite industry is due to government over regulation and the restricted participation of foreign companies. However, as the application of satellite communication technologies becomes more pervasive, there could be a reconsideration of the issue of deregulating the sector.

Market projections find that India's demand for satellite broadband is likely to be high and use cases are likely to increase. However, current tariffs in India are significantly higher as compared to other countries. The comparison of policy architectures and regulatory interventions that govern satellite communications between India and other countries presents a case for reforming the regulatory framework towards unrestricted open skies. Developing countries such as India with sizeable infrastructural deficits can realise both quantitative and qualitative improvements in their economic growth and quality of life by unleashing the innovative and efficient capacities of the private sector in a crucial sector such as satellite communications. This study illustrates existing as well as promising potential use cases for satellite communications in India and has argued for satellites complementing terrestrial communication capabilities to extend connectivity to the most challenging geographical and topological terrains of the country. For this growth to be unleashed, policymakers must reconsider the gradual liberalisation and adoption of open skies principles.

5.12 Regulating Data & India's Digital Economy

Project Leader: *Rajat Kathuria*

Research Team: *Mansi Kedia, Gangesh Sreekumar Varma, Isha Suri and Kaushambi Bagchi*

Commencement: April 2019

Date of Completion: December 2019

Funded by: Data Catalyst Institute (Rs. 74.25 lakh)

There has been an explosion of data flows that have created new markets, improved existing markets, disrupted businesses, and simultaneously created new business models, delivered new monopolies and of course new politics. Digital information carried over pipes and air waves are unlike any previous resource – it is mined, refined, valued, bought and sold in ways that is challenging traditional market principles of pricing and property rights among others. It changes the rules for markets and perhaps demands a new approach from regulators. Many economists are of the view that the task of government is to take necessary steps to ensure that all impediments to the proper functioning of markets are removed, i.e., regulation ought to be minimal. On the other hand, there are those who support a more active role for public policy since market failures can be pervasive. The key to effective government intervention, therefore, lies not in demonstrating the existence of market failures but rather in identifying the nature of the intervention that would make it worthwhile. For the data economy, this is vital and perhaps more complicated. One of our chief tasks in this research programme will be to understand the functioning of markets in the data economy, the associated size and conduct of firms therein. Transparency and trust (or lack thereof) will be crucial attributes underlying the analysis.

Under this study, a total of three white papers were written. The first paper on Minors in the Digital Economy and Challenges in Age Verification sought to explore burdens and limitations surrounding age verification requirements in the digital economy, with a special focus on India. The study examined existing and proposed age verification requirements for the use of different services on the internet, including the use of age-restricted services. The second paper on the Regulatory Burden of Data Localisation policies on Small & Medium Businesses in India objectively analysed the challenges and opportunities that confront MSMEs in India due to existing and proposed measures of data localisation, using 10 use cases of MSMEs and MSME associations. It provides a snapshot of their data management practices, regulatory challenges, use of data in business processes, quantum of cross-border data flows, impact of data localisation and policy preferences. The final paper titled The Data Centered Economy: A New Temple for a New India, deconstructed the role of data in the economy and society, along with a discussion on the economic identity of data and related regulations.

5.13 Health Surveys in India: Review and Recommendations

Project Leader: *Ali Mehdi*

Research Team: *Priyanka Tomar, Divya Chaudhry, Rituparna Sengupta and Nilanjana Gupta*

Commencement: May 2019

Date of Completion: June 2020

Funded by: NITI Aayog, Government of India (Rs. 23.08 lakh)

In a meeting of the Cabinet Committee on Economic Affairs (January 2, 2019), chaired by the Hon'ble Prime Minister, it was mentioned that the National Family Health Survey (NFHS) 'provides valuable

data for policy and programmes right up to the district level’, and ‘the target for NFHS is to provide reliable data on all health indicators’ in the future. NFHS is part of the ‘Health Surveys and Research Studies’ (HSRS) component of the ‘umbrella scheme for family welfare and other health interventions’ of the Union Ministry of Health and Family Welfare. The scheme is seen as ‘crucial for attaining the goals and objectives’ of the National Health Policy (NHP) 2017 and international commitments under the sustainable development goals (SDGs). Its HSRS component is expected to ‘assist in keeping a tab on the progress of the entire set of health programmes/schemes run by Government of India, assisting in timely course corrections’. Since no independent assessment of the HSRS had been done vis-à-vis its objectives, the Cabinet mandated the NITI Aayog to get it done through a third-party institute. ICRIER was selected for this purpose. The objective of the study was to assess the scope of the NFHS vis-à-vis data requirements of 1) NHP 2017 and other health policies, 2) health programmes, 3) NITI Aayog’s dashboard for monitoring health outcomes, 4) health-related SDGs and 5) vis-à-vis the scope of other official health surveys in the country. The mandate of the study included an assessment of health surveys in selected countries (US, UK and Canada) to draw lessons for India. Based on extensive desk research as well as stakeholder and expert interactions in New Delhi and six states (Rajasthan, Uttar Pradesh, Bihar, Maharashtra, Assam and Kerala), the study made several recommendations as part of India’s health survey strategy, including the conduct of six health surveys by various agencies – an India Health Survey (HIS), an India Health Measures Survey (IHMS), a Maternal and Child Health Survey (MCHS), a COVID-19 Impact Survey (CIS) and the continuation of the ongoing Sample Registration System (SRS) and Cause of Death Survey (CDS).

6. Skill Development, Entrepreneurship and Jobs

6.1 “Samvaad” A Dialogue on Globalisation, Equity and Jobs

Project Co-ordinator: *Tanu M. Goyal*

Commencement: September 2017

Expected Date of Completion: October 2020

Funded by: Ford Foundation (Rs. 48 lakh)

Samvaad is a dialogue forum that takes a problem-solving approach by identifying a broad issue and then exploring solutions through discussion. Under the aegis of this project, ICRIER has launched a quarterly roundtable discussion on globalisation, equity and jobs. These are closed-group discussions, which include participants from central and state-level government departments as well as academics, journalists and other relevant stakeholders. During the first two years, discussions were centred on the issue of jobs, data collection and the future of work. In the year 2020, the focus has shifted to agricultural development, focusing on pertinent issues such as minimum support price, and the role of markets and government. This year, two roundtable discussions were organised on the impact of the pandemic on sowing and on procurement of *kharif* and *rabi* crops.

6.2 Programme on Global Competitiveness of the Indian Economy

Project Co-ordinator: *Radhicka Kapoor*

Research Team: *Deb Kusum Das, Amrita Goldar, Sajal Jain, Viraj Sawant, Neha Gupta and Prateek Kukreja*

Commencement: March 2017

Expected Date of Completion: Ongoing

Funded by: IDFC Foundation (Rs. 150 lakh)

A third of India's population still lives in extreme poverty – possibly the highest incidence outside sub-Saharan Africa – and many people still lack access to basic services and opportunities such as sanitation, healthcare, and quality schooling. Improving the living standards of the Indian population will not only require acceleration in the growth rate but also an improvement in the economy's competitiveness in order to put growth on a more stable footing. However, despite an improvement in India's performance in key drivers of competitiveness over the last decade, significant challenges, stemming from factors such as a narrow manufacturing base, the predominance of agriculture as a source of employment, fiscal constraints, infrastructural deficiencies and low digital connectivity, remain. Addressing these challenges is imperative, given the enormous gains to be made from improving competitiveness. In particular, this will help rebalance the economy and move the country up the value chain to ensure more solid and stable growth; this, in turn, could result in more employment opportunities for the country's rapidly growing population. Over the course of this project, three studies will be undertaken to provide key insights on how to improve the competitiveness of the Indian economy. These studies will look at the issue of global competitiveness through the lens of job and livelihood creation. Work on two studies has commenced.

6.2.1 *A Study of Firm Life Cycle Dynamics and Drivers of Employment Growth in India's Manufacturing Sector*

Radhicka Kapoor, Surbhi Ghai and Serene Vaid

Ongoing

A striking feature of India's manufacturing landscape is the dominance of very small firms. A disaggregated look at the firm size distribution in India, where we include firms in both the formal and informal sectors, shows that for the period 2000-01 to 2015-16, an overwhelming majority of enterprises (over 95 per cent) in the manufacturing sector had less than 10 workers. Not only are mid-sized firms missing in the data, but large firms are missing too. In fact, the distribution of firm size has not changed much over the years. Given this backdrop, it is imperative to understand what inhibits small firms from expanding, becoming more productive and creating more jobs. This paper will attempt to examine the firm-level life cycle dynamics of plants in the manufacturing sector and identify what has held back firms in the manufacturing sector from expanding and what has depressed their productivity. The primary objective of this study is to understand how to accelerate job creation by enhancing the competitiveness of Indian firms, particularly medium, small and micro enterprises. The study begins with an analysis of the dispersion of productivity across firms of different sizes. Thereafter, it examines the production structure and productivity of Indian firms using plant level micro-data and identifies the set of distortions that depress productivity in the manufacturing sector in India's economy at different levels.

6.2.2 *Embodied Jobs in the Renewable Power Sector and its Competitiveness Links*

Amrita Goldar, Sajal Jain and Viraj Sawant

Ongoing

The study examines two aspects of the renewable energy sector – its impact on livelihoods and its impact on competitiveness. The impact is analysed by employing the social accounting matrix (SAM) methodology, framed on the national input-output (IO) table. The various sectors in the IO table are broken down to incorporate the RE components and facilitate the construction of a social accounting matrix for the study. The revival of manufacturing industry and increasing its share in overall GDP and exports are critical to the growth and creation of employment in India. Backward and forward employment multipliers are looked into to study the employment effects of increased renewable energy generation. To analyse the impact of renewable energy (RE) on competitiveness, the focus of the study is on high value manufacturing (HVM) industries. There are two approaches employed to identify HVMs, viz., ‘outcome related dimensions’ and ‘enabling dimensions’. Outcome related dimensions take into consideration value added of three types – financial, social, and strategic. The other approach of ‘enabling dimensions’ consists of the skill level of labour, technological intensity, capital intensity, process flexibility, etc.

These theoretical parameters have been used to identify the HVMs in the states under observation (Gujarat, Tamil Nadu and Maharashtra). On the basis of past literature, HVMs are defined as those that create more than just financial value by delivering value for one or more of their stakeholders through higher capability, innovation, higher standards and eventually, by contributing to a sustainable society. It thus becomes important that focused policies are designed to develop HVM industries. Understanding this link will emphasise the importance of RE in contributing to India’s lagging manufacturing sector and on the overall competitiveness of the economy.

To build the competitiveness model at the firm level, specific case studies have been selected. High energy consuming industrial clusters were identified in each of the three states studied. All three states boast of a naturally rich and accommodating energy landscape, aiding the process of a faster switch to renewable alternatives. Extensive fieldwork in the three states was conducted to test and validate the developed methodology. Two working papers are under preparation on these topics.

6.2.3 *Domestic Value Added and Foreign Content in India’s Exports and its Impact on Export Competitiveness, Global Value Chains and Job Creation*

Deb Kusum Das, Neha Gupta and Prateek Kukreja

Ongoing

The global production process is highly fragmented with different stages of production being carried out in developed as well as developing countries. Rising import content signifies more linkages with global value chains (GVCs) and is becoming increasingly important to enhance the competitiveness of manufacturing exports. From a policy perspective, there is now greater need to understand the value addition of an economy in the context of international trade, especially as changes in bilateral exchange rates can affect a country’s trade balance. Against this backdrop, the study aims to examine India’s export competitiveness and linkages with global value chains (GVCs) and to find ways to create more productive jobs in exporting firms. It looks at three different dimensions, each

characterising a different aspect of Indian exports, and the resultant job creation. The first focuses on identifying India's intermediate products that are crucial for achieving competitiveness in exports to selected markets and capturing a greater share in world's trade. This has been brought out as an ICRIER working paper titled "Climbing up India's Manufacturing Export Ladder: How Competitive are Intermediate Goods?" in April 2019. The second dimension of the study involves estimating foreign and domestic value added content in India's exports as well as quantifying employment in each exporting sector by the skill level of workers. This has recently been published as an ICRIER working paper titled: "Value Addition, Jobs and Skills: A Study of India's exports" in June 2020. The analysis has also resulted in an opinion piece published in the Financial Express, titled, "Assemble in India: May Revive Exports but Widen Skills Gap" in March 2020. The third aspect of the study looks at the nature of the labour regime and its impact on exporting firms. In particular, using information from a panel of firms covering the period 2008-2015, this aspect seeks to understand two things: first, whether there is a relationship between jobs and export Intensity and second, whether the nature of labour market regimes affects this linkage, especially in terms of direct workers and contract workers.

6.3 The Challenge of Productive Employment Creation in India

Project Leader: Radhicka Kapoor

Research Team: Surbhi Ghai and Serene Vaid

Commencement: November 2016

Date of Completion: January 2020

Funded by: Ford Foundation (Rs. 93 lakh)

As India stands at the cusp of a demographic dividend, the maximisation of employment and not just maximisation of GDP needs to take centre stage. There is an urgent need to create an environment that is conducive to the attainment of full and productive employment and decent work for all as a foundation for sustainable development. It is widely acknowledged that India has been far from successful in creating such employment opportunities. In the given context, it is imperative to understand where jobs will come from in the future, where existing jobs are located in the economy and whether these jobs are indeed productive/good jobs. The key objective of the study is to understand the drivers of output growth and employment growth in a way that informs policy. More specifically, it examines whether certain sectors and types of firms hold the key to job creation. What has been the record of these sectors and firms in contributing to output growth and job creation so far? To the extent that their track record has been lacking, what holds these firms back from creating good jobs? Additionally, using data from the Annual Survey of Industries, the study examines variations in the performance of the manufacturing sector across Indian states to identify the role of state level regulatory factors in explaining this heterogeneity. Understanding these questions is essential for the policy debate to rest on strong conceptual foundations.

While such an analysis is imperative to understand where and what kind of jobs have been created in a country, any study on employment in India would be incomplete without a discussion on the nature of available employment statistics. Employment statistics are a key input in designing macroeconomic policies and need to be reliably sourced, and need to be accurate and timely for policy responses to be meaningful and to validate the outcomes of policy decisions taken. However, the reliability and timeliness of employment statistics in India leave much to be desired. Real time data is missing and,

unlike in the US economy, where employment statistics can be tracked minutely through official data, there are very few data points to rely on in the case of India. In the absence of frequently updated data, policy planners have to extrapolate old data such as the five-year cycle for employment data from the NSSO. The government needs to focus on improving the measurement of employment and wages even as it works towards improving the ease of doing business and enhancing India's manufacturing and employment capability. An important part of this study, therefore, was to discuss the shortfalls in employment statistics and examine alternative data sources to give a better sense of real time changes in labour markets.

The study has been completed and published as an ICRIER working paper. More recently, the research team has also examined the impact of the Covid-19 shock on the labour market and how this exacerbates India's jobs challenges. This study has been prepared as an ICRIER policy series paper.

7. Asian Economic Integration with Focus on South Asia

7.1 Facilitating India's Act East Policy: Gap Analysis in Infrastructure at Land Customs Stations in the North Eastern Region of India

Project Leader: *Nisha Taneja*

Research Team: *Sanjana Joshi, Pankaj Vashisht, Samridhi Bimal and Loknath Acharya*

Commencement: November 2018

Expected Date of Completion: March 2021

Funded by: Department for International Development (DFID), (Rs. 306 lakh)

Improved connectivity between the north-eastern states of India with neighbouring countries is imperative to strengthen economic co-operation and develop strategic relationships as envisaged in the 'Act East Policy'. Well-functioning land customs stations (LCS) and integrated check posts (ICPs) in the north-eastern region are the cornerstones for building strong economic ties with neighbouring countries. The objective of the project is to identify the gaps in the hard and soft infrastructure at LCSs and ICPs in the north-eastern region of India. This is also one of the key objectives of the National Trade Facilitation Action Plan and a part of the agenda of the Ministry of Development of the North-eastern Region. The project will examine trade flows through existing LCSs in the north-eastern region and assess whether the state of infrastructure is adequate for handling the flows. Hard infrastructural gaps related to warehousing, scanning equipment, weighbridge, cold storage, etc., and soft infrastructural gaps related to transport protocols, banking and adoption of information technology driven systems, etc., are also being identified. Besides, the project will assess the quality of roads, rails and waterway transportation around the LCSs.

As part of the project, ICRIER organised stakeholder consultative meetings in Assam, Meghalaya, Tripura, Mizoram, Arunachal Pradesh, Sikkim, Manipur and Nagaland, where discussions were held with experts and stakeholders from northeast India.

7.2 India-Myanmar Trade and Connectivity: Phase II

Project Leader: *Nisha Taneja*

Research Team: *Sanjana Joshi, Pankaj Vashisht, Samridhi Bimal, Loknath Acharya, Sakshi Garg and Anmol Nagpal*

Commencement: March 2021

Expected Date of Completion: November 2020

Funded by: Department for International Development (DFID), (Rs. 273 lakh)

The study on India-Myanmar cross-border trade and connectivity conducted in 2017-18 (Phase-I) indicated that there has been a significant increase in informal trade even though the Indian government had taken measures in 2015 to normalise cross-border trade between India and Myanmar. The barter trade that was allowed earlier has been converted rapidly to informal trade, and formal trade, which was low even prior to 2015, has become negligible after the Indian government introduced measures to normalise border trade with Myanmar. The objective of Phase II of the project is to examine how impediments in formal trade can be addressed to increase trade and how informal trade can be shifted to formal channels through corrective and adaptive measures.

ICRIER organised a training session for the survey co-ordinators from the four northeast states of India bordering Myanmar – Arunachal Pradesh, Nagaland, Manipur and Mizoram, on June 1, 2019, in New Delhi. The objective of the training session was to explain the objectives and nuances of the methodology of the project and to ensure consistency of approach across all the four Indian states bordering Myanmar. Following this, ICRIER organised stakeholder consultative meetings in August 2019 in Imphal, Manipur, and in November 2019 in Aizawl, Mizoram, to understand the important institutional aspects underlying informal trade in contrast to formal trade between India and Myanmar across the states of Manipur and Mizoram respectively. Following the consultative meetings, a review workshop was held in November 2019 in Yangon, Myanmar, to discuss and synthesise the findings of the first round of survey that was conducted in Myanmar. Another detailed project review workshop was organised with key experts on February 3-4, 2020, at New Delhi.

7.3 East Asia Research Programme

Project Leader: *Sanjay Pulipaka*

Research Team: *Saranya Sircar*

Commencement: March 2017

Date of Completion: March 2020

Funded by: Tata Trusts (Rs. 95 lakh)

The East Asia Research Programme has been running the project on 'Values and Foreign Policy', which is aimed at examining the driving forces of formulation of foreign policy in several important countries. As a major element of this project, the book titled '*Values in Foreign Policy: Investigating Ideals and Interests*' was published in early 2019. Written by specialists in the field of foreign relations all across the globe, the volume covers all aspects of the tension between values and national priorities, with specific reference to the leading countries of today – it explores the effect of enlightenment, colonialism, modernity and post-modernity in determining contemporary value systems that are often uncomfortable in their interface with each other.

Panel discussions on '*Values in Foreign Policy*' were organised in various Indian cities – Bangalore, Hyderabad, Kolkata, and New Delhi – and in Dhaka, Bangladesh. Eminent academicians, senior policymakers, and journalists participated in these events, deliberating on the role of values in foreign policy formulation in various countries. The book titled '*Values in Foreign Policy*' was also mentioned at the Kolkata Literary festival in January, 2020. The book has received substantial coverage and appreciation in the form of book reviews and mentions in the media.

Additionally, a web portal was created to facilitate conversations among scholars and policy experts on the interface between values and foreign policy and several articles have been published on the programme website.

7.4 Supporting Knowledge Solutions for New Development Strategies in South Asia

Project Leader: *Neha Gupta*

Research Team: *Varsha Jain*

Commencement: March 2020

Date of Completion: June 2020

Funded by: Asian Development Bank (ADB), (Rs. 5.25 lakh)

The study assesses the status of intra-regional investment flows within South Asia (SA) and evaluates each country's extra-regional investments in the decades of the 2000s. The study's novelty lies in combining the two recent databases of ADB-Asia Regional Integration Center (ARIC)'s '*Integration Indicators*' and Financial Times' '*FDI Markets*'. The study concluded that, during 2001-18, the share of intra-regional FDI flows in SA has been low at around 1 per cent (except 4 per cent during 2010). This share has deteriorated to a negligible level of 0.1 per cent during 2018, against the intra-regional FDI flows of 17 per cent among South-East Asian countries, which is a matter of great concern. There exists strong linkages between intra-regional FDI and intra-regional trade and global value chains (GVCs) integration, but such linkages are miniscule for SA. In fact, SA recorded cumulative intra-regional Greenfield investment flows (2003-18) of USD 22.3 billion, as against extra-regional cumulative inflows of USD 653.6 billion and extra-regional outflows of USD 208.74 billion. India's share in the latter flows has been above 90 per cent, and is expected to remain strong even post-COVID at least in ICT/digitisation services. The paper also shows that India is both the major host and investor in the SA region, but its policies are tilted towards extra-regional flows. But this indicates that lead participation from India on stimulating regional networks can boost intra-regional trade and investments.

The paper identifies the key barriers that prevent higher intra-regional investments in South Asia, mainly the low credibility of SAARC as compared to ASEAN, infrastructural bottlenecks, political instability, preference for extra-regional engagements, aversion towards India's dominance, slow FDI liberalisation in SA, signing of a few intra-regional bilateral investment treaties (BITs), low intra-regional trade, etc. As a way forward, the study provides policy recommendations, including a more homogenous FDI policy environment and the ratification of a comprehensive investment agreement in South Asia similar to the ASEAN Comprehensive Investment Agreement (ACIA).

8. Multilateral Trade Negotiations and FTAs

8.1 Supporting Indian Trade and Investment for Africa: Independent Project Evaluation

Project Leader: *Pankaj Vashisht*

Research Team: *Anwarul Hoda and Durgesh K. Rai*

Commencement: November 2016

Expected Date of Completion: December 2020

Funded by: Oxford Policy Management (Rs. 40 lakh)

Supporting Indian Trade and Investment for Africa (SITA) is a DFID-funded aid for trade (AfT) and value-chain programme. It was initiated in 2014 to harness Indian resources (knowledge, technology and capital) to increase value-added exports from selected African countries to the Indian and third country markets. The selected programme countries are Ethiopia, Kenya, Rwanda, Tanzania and Uganda. The programme is designed and implemented by the International Trade Centre (ITC). ICRIER, in association with Oxford Policy Management and International Economics, has been assigned the task of evaluating the SITA programme. The evaluation will assess whether the SITA idea works, and whether the worth, merit and value of the SITA programme is as conceptualised and designed. This includes learning about what does and does not work in DFID's first South-South AfT and value chain programme, whether the programme has been successful in harnessing Indian resources (expertise, technology and capital) for the promotion of value-added African exports, whether it has been successful in increasing access to the Indian and regional and third country markets, and whether it has been successful in catalysing greater Indian FDI in programme countries.

8.2 Regional Comprehensive Economic Partnership (RCEP) Study on Goods and Services

Project Leader: *Saon Ray*

Research Team: *Anwarul Hoda, Arpita Mukherjee, Durgesh Kumar Rai, Smita Miglani and Kuntala Bandyopadhyay; Badri Narayanan Gopalakrishnan (External Consultant)*

Commencement: March 2019

Date of Completion: August 2019

Funded by: Department of Commerce, Ministry of Commerce and Industry, Government of India (Rs. 19.4 lakh)

The Regional Comprehensive Economic Partnership (RCEP), a mega FTA, involves 16 countries, that is, 10 ASEAN Members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam) and their 6 FTA Partners (India, Australia, China, Japan, South Korea and New Zealand). The negotiations on market access in goods and services were in progress. The Department of Commerce, Government of India, commissioned a comprehensive study on the impact analysis of RCEP for India to understand the possible gains and losses for the country in the RCEP. The comprehensive report contained an analysis of both the goods and services sector. Global Trade Analysis Project (GTAP) model analysis of the gains and losses by joining RCEP was done by Badri Narayanan Gopalakrishnan.

8.2.1 *Goods Study for India's Participation in Regional Comprehensive Economic Partnership (RCEP) Negotiations*

Anwarul Hoda and Durgesh K. Rai

Completed

The Regional Comprehensive Economic Partnership (RCEP) is a regional free trade area centred around ASEAN and includes the ten ASEAN member states and six other nations that have existing free trade agreements (FTAs) with ASEAN, namely, Australia, China, India, Japan, Republic of Korea and New Zealand. The RCEP negotiations were launched in 2012 and India has been participating in the negotiations since then.

At the request of the Department of Commerce (DoC), Government of India, ICRIER conducted a study to enable the government to participate in the RCEP negotiations. The study was completed and the report submitted to the DoC in the middle of 2019 in three parts: Part I – lists of India's proposed offers; Part II – analysis of partner country offers to India; and Part III – lists of India's proposed request lists. Part I contains four lists, a common list of offers for existing FTA partners (ASEAN, Japan and Korea) and three separate lists for Australia, China and New Zealand. The proposed offers in Part I, whether for elimination, reduction or exclusion of tariffs, and the related staging, reflect the domestic sensitivity of the tariff line assessed during the study. Part II examines the main features of the base tariffs and the related offers of other RCEP participating countries. Part III draws up India's proposed request lists, mainly on the basis of the country's current and potential exports. The study was based on inputs from stakeholder consultations and India's tariff commitments in existing FTAs with ASEAN, Japan and Korea were duly factored in.

The Government of India participated in the negotiations up to the twenty-eighth round held in Vietnam from September 19 to 27, 2019. However, on November 4, 2019, India opted out of the negotiations.

8.2.2 *Services Study for India's Participation in Regional Comprehensive Economic Partnership (RCEP) Negotiations*

Saon Ray, Smita Miglani and Kuntala Bandyopadhyay

Completed

The services analysis included the computation of sub-sectoral RCAs and export and import trends to identify areas of trade potential, complementarity and overlap between India and partner countries in the RCEP. An analysis of requests was made to see if they addressed India's interest areas adequately and if there was further scope to make requests. Analysis of offers made, mapping these against requests made to see what was realised, and an examination of cross-modal and cross-sectoral linkages in the services offers was done. Besides, the study included a gravity analysis of the services trade between India and the 15 countries.

Inputs from stakeholder consultations were also included.

8.3 Making Trade Facilitation Inclusive in India

Project Leader: *Nisha Taneja*

Research Team: *Shravani Prakash and Samridhi Bimal*

Commencement: November 2019

Expected Date of Completion: December 2020

Funded by: ICRIER

After the ratification of the Trade Facilitation Agreement (TFA) by India, the National Committee on Trade Facilitation has prepared the “National Trade Facilitation Action Plan” (NTFAP) 2017-20 to comply with requirements of the TFA well as to improve the Ease of Doing Business in India. The objective of the plan is to reduce cargo release time and cost, move towards paperless regulatory environment, transparent and predictable legal regime and improved investment climate through better infrastructure. While the implementation of the NTFAP is expected to increase trade flows and lower trade costs, it has often been observed that trade facilitation efforts do not automatically benefit everyone, as they mostly tend to focus on the experience of large companies that trade in large quantities. The specific needs of smaller-scale firms and Small and Medium Enterprises (SMEs), special logistical requirements of agricultural products (especially perishable products) and concerns of women traders are often left out of the trade facilitation process.

In this context, the objective of the study is to propose an additional objective of “inclusiveness” in India’s Trade Facilitation Action Plan which will ensure that trade facilitation reforms are beneficial for SMEs, female traders and agricultural exports. The study will explore how the use of new technologies can help in achieving these objectives. The study is assessing the current status of implementation of trade facilitation measures in India, especially on the inclusion parameter and identifying the steps that would help make India’s trade facilitation efforts more inclusive, by including measures to facilitate SMEs, female traders and the agricultural sector. The study is also reviewing inclusive trade facilitation measures adopted in other countries, so that appropriate lessons can be drawn for India.

8.4 WTO and Trade Policy

Project Leader: *Anwarul Hoda*

Research Team: *Durgesh K. Rai*

Commencement: August 2009

Expected Date of Completion: Ongoing

Funded by: ICRIER

The World Trade Organization (WTO) and Trade Policy research and capacity building project has been developed to enhance trade policy and WTO research at ICRIER and to provide Indian policymakers with a deeper understanding on how to take forward India’s interests in the multilateral trading system. The principal objectives of the research programme are to engage in policy-oriented research and bring out papers and publications on important WTO and trade policy issues, assist the Ministry of Commerce and Industry, Government of India, in policy making, constructively engage with relevant stakeholders at regular intervals, organise stakeholder meetings to seek suggestions on the possibilities and opportunities for agreement in multilateral trade negotiations, and to help India effectively participate in the reform of global governance and the trade agenda.

8.4.1 *Study on India's Export Incentives: Rethinking Export Incentives*

Anwarul Hoda

Completed

A recent WTO panel report has held that five main export incentive programmes fall in the category of prohibited subsidies under the WTO Agreement and has recommended that they be all withdrawn. India has notified its decision to appeal against the panel report and, with the WTO Appellate Body becoming dysfunctional, the final decision may not come at all. Nevertheless, it is likely that India will come under retaliatory pressure from its trading partners to discontinue export subsidies, which are now prohibited by the WTO Agreement. Under the WTO Agreement, it is already possible for importing countries to levy countervailing duties if subsidised imports cause material injury to domestic industry in those countries. The international trade environment is becoming increasingly hostile for subsidy as a trade policy instrument and the US, EU and Japan propose to enhance disciplines to other public subsidies as well. In the above context, the study was undertaken to make recommendations on alternative policy instruments to improve competitiveness, with minimal recourse to even non-prohibited subsidies.

The study has recommended that India rethink its incentives programme and eschew export incentives altogether. The first important policy alternative that should be put in position is to introduce a comprehensive scheme for rebate of state and central taxes and levies for all export segments. Further, import duty on capital goods should be reduced progressively, while simultaneously reducing import duty on important intermediate goods that go into the production of capital goods.

At the same time, purposive action should be taken to reduce logistics cost. The effort to improve transport infrastructure should be redoubled and expressways, ports and dedicated freight corridors should be built within an expedited time frame. Trade facilitation should be intensified by improving the risk management system (RMS), *e-Sanchit*, authorised economic operators programme (AERO), direct port delivery (DPD) and direct port entry (DPE), and vigilance to curb illicit payments extracted from truck drivers.

8.4.2 *Study on WTO Reform*

Anwarul Hoda

Ongoing

Twenty-six years after its establishment, a sense has developed among members that the World Trade Organization is faltering. Many years have gone by without the negotiation of a comprehensive multilateral agreement for the liberalisation of trade. The Doha Development Agenda has languished for 18 years. In this connection, Members have been discussing the need for negotiating plurilateral trade agreements.

In all these years, the WTO Members had the satisfaction that the dispute settlement system was functioning well. However, on December 11, 2019, the Standing Appellate Body, designated to make final recommendations on disputes, became dysfunctional. This has had a crippling effect on the dispute resolution function too.

Differences have developed on special and differential treatment of developing countries, and divisive proposals made for the exclusion of certain Members from the benefits of such treatment. Another important source of dissatisfaction is the increasing non-compliance of Members with notification requirements, which were put in position to enable the monitoring of trade policy developments as well as to maintain surveillance on the adherence of Members to their obligations. Intensive discussions were held in the WTO on the Appellate Body but the crisis could not be averted. On other subjects, only casual discussions have been held.

In the above background, it is proposed to study these subjects to enable a full understanding of the issues and to develop proposals that are in India's interest

8.4.3 *Agreement on Fishery Subsidy*

Anwarul Hoda

Ongoing

One of the few areas of negotiations in which there is some progress at the WTO is that of fishery subsidy, which is of topical interest currently in the context of depleting fish stocks around the world. The proposed agreement came up for consideration at the Eleventh Ministerial Conference of the WTO that was held at Buenos Aires from December 11 to 14, 2017, but the debate remained inconclusive. India has strong concerns in the area in view of the need to protect the livelihood of artisanal fishermen. The study aims to explore all relevant issues that need to be factored into India's stance during the negotiations.



Conferences

Internet Governance in India: People, Purpose and Process

February 24, 2020



L to R: Rajat Kathuria and Ajay Prakash Sawhney at the conference on *Internet Governance in India: People, Purpose and Process*

The one-day conference on *Internet Governance in India: People, Purpose and Process* organised by ICRIER, with the support of the Ministry of Electronics and Information Technology (MEITY), Government of India, deliberated on India's engagement with global Internet governance institutions and processes. It also focused on the need to protect the country's critical internet infrastructure.

In his keynote address, Ajay Prakash Sawhney, Secretary, MEITY, emphasised the need to develop capacity in India in the realm of internet governance. He pointed out that despite a vast majority of internet users coming from the region, Indian stakeholders are yet to play a significant role in global discussions on internet policy making and that there is an urgent need to address this discrepancy.

The three panel discussions during the conference focused on the history and evolution of global and domestic internet, and internet governance institutions. The latter part of the discussions also touched upon measures to bolster digital inclusion, capacity building, standards development and co-operation between different stakeholders. The participants highlighted the need to encourage a transparent, democratic and diverse process for domestic policy formulation and deliberated on India's critical internet infrastructure emphasising the role of 'trust' between different institutions in the area of internet governance.

21st Annual Neemrana Conference

December 13-15, 2019

The Neemrana Conference is the signature event in ICRIER's calendar of policy focused interactions between India and the United States. Hosted at the picturesque Neemrana Fort Palace Resort in Rajasthan every year, this conference brings together top-level Indian policy makers, academics, opinion makers and captains of industry to interact with leading researchers and policy makers from the USA. The partner institution for the annual

event from the United States is the National Bureau of Economic Research (NBER). The Indian partners are ICRIER and the National Council of Applied Economic Research (NCAER) and the two institutions take turns to host the conference every year. The conference provides an opportunity for intensive and frank dialogues on current issues relating to economic policy and triggers stimulating discussion on areas of further study.

The 21st Annual Neemrana Conference was hosted by ICRIER from December 13 to 15 December, 2019. The conference was preceded by an interaction with Smt. Nirmala Sitharaman, Hon'ble Union Finance Minister, Government of India.



Speakers at the 21st Annual Neemrana Conference

The conference started with participants paying tribute to the renowned late Professor Martin Feldstein (1939-2019) who through his three decades of leadership of NBER had a major impact on US public policy and was also the guiding force behind this annual gathering of eminent experts at Neemrana. The conference deliberations were structured into eight sessions - India and the US Economy; The World Economy; Federal Finance Framework; Growth, Inequality, and Inclusion; Urbanisation; Public Finance and the Macroeconomy; Labour Market and the Challenge of Job Creation; Education and Skill Development; and Health and Economic Growth. The keynote address was delivered by Raghuram Rajan, Former Governor, RBI; Arvind Subramanian, former Chief Economic Advisor, Government of India, delivered a special dinner address.

Several eminent economists and policy makers participated in the conference. The participants from NBER included James Poterba, President, NBER; Anne O. Krueger, Senior Research Professor of International Economics, School for Advanced International Studies, Johns Hopkins University; John Lipsky, Senior Fellow, School of Advanced International Studies (SAIS), Johns Hopkins University; Charles Engel, Donald Hester Professor of Economics, University of Wisconsin-Madison; Stephen Redding, Harold T. Shapiro, Professor in

Economics, Princeton University; Karthik Muralidharan, Tata Chancellor's Professor of Economics, University of California, San Diego; Edward Glaeser, Fred and Eleanor Glimp Professor of Economics, Harvard University; Alan J. Auerbach, Robert D. Burch Professor of Economics and Law, University of California, Berkeley; Rema Hanna, Jeffrey Cheah Professor of South-East Asia Studies and Chair of the International Development Area, Harvard Kennedy School; Marianne Bertrand, Chris P. Dialynas Distinguished Service Professor of Economics, The University of Chicago Booth School of Business; Michael Peters, Assistant Professor, Department of Economics, Yale University; Parag Pathak, Jane Berkowitz Carlton and Dennis William Carlton Professor of Microeconomics, Massachusetts Institute of Technology (MIT); Kathleen McGarry, Professor and Vice Chair, Department of Economics, University of California, Los Angeles; Raghuram G. Rajan, Katherine Dusak Miller Distinguished Service Professor of Finance, The University of Chicago Booth School of Business and Former Governor, RBI, and Neeraj Kaushal, Professor of Social Policy, Columbia University.

The participants from India included N. K. Singh, Chairman, 15th Finance Commission, Government of India; Ashok Lahiri, Member, 15th Finance Commission of India; Surjit S. Bhalla, Executive Director for India at the IMF; Uday Kotak, Executive Vice Chairman & Managing Director, Kotak Mahindra Bank; Indu Bhushan, CEO, Ayushman Bharat and National Health Authority (NHA); Pramod Bhasin, Founder, Genpact Ltd. and Chairman, Clix Capital Services; K.P. Krishnan, Secretary, Ministry of Skill Development and Entrepreneurship & Chairman, National Skill Development Agency; Shankar Acharya, Honorary Professor, ICRIER; Prachi Mishra, Managing Director in Global Macro Research and India Chief Economist, Goldman Sachs; Chetan Ghate, Professor, Economics and Planning Unit (EPU), Indian Statistical Institute; Sonalde Desai, Professor and Centre Director, NCAER-National Data Innovation Centre; Rajat Kathuria, Director & CE, ICRIER; Shekhar Shah, Director-General, NCAER; Rakesh Mohan, former Deputy Governor, RBI; Varadarajan V. Chari, Professor of Economics, University of Minnesota; Alok Sheel, RBI Chair Professor in Macroeconomics, ICRIER; Rana Hasan, Director, Economic Analysis and Operational Support Division, ADB; Partha Mukhopadhyay, Senior Fellow, Centre for Policy Research; Radhicka Kapoor, Senior Fellow, ICRIER, and Ali Mehdi, Senior Fellow, ICRIER.

Global Co-operation for Inclusive Growth: Views from G20 Countries

May 30-31, 2019

Since 2009, ICRIER has been organising an annual international conference prior to the G20 Summit, bringing together academics and key policy makers from G20 countries to deliberate on pressing and challenging issues of economic co-ordination and sustainable development. The 11th Annual International G20 Conference was organised by ICRIER on the theme "Global Co-operation for Inclusive Growth: Views from G20 Countries" in the context of the forthcoming 14th G20 Summit in Osaka, Japan, in June 2019.

In her welcome address, Isher Judge Ahluwalia, Chairperson, ICRIER, highlighted ICRIER's ongoing research on issues of concern to G20 countries, which could be the focus of collective policy action and highlighted the need for a new global agenda that extends beyond economic growth to promote a sustainable, inclusive and resilient society. On this occasion the book "*20 Years of G20*", edited by Rajat Kathuria and Prateek Kukreja, was released by Subhash Chandra Garg, Secretary, Ministry of Finance, Government of India. In his address, Shri Garg talked about India's roadmap to 2022, when India assumes Presidency of the G20.

The conference discussions were divided into the following sessions – Evaluating Global Financial Architecture and Regulatory Practices: Progress and the Way Forward; Future of Work; Improving Global Health for



L to R: Isher Judge Ahluwalia, Subhash Chandra Garg and Rajat Kathuria at the 11th G20 Conference on Global Cooperation for Inclusive Growth: Views from G20 Countries

Economic Growth; Aging Population and Global Macroeconomic Stability; Financing Quality Infrastructure for Inclusive Growth; Climate Financing for Sustainable Growth; and Looking Ahead: Views from Past, Current and Upcoming Presidencies.

The session on *Evaluating Global Financial Architecture and Regulatory Practices* focused on the issues relating to international financial architecture (IFA) and the associated challenges including the fragmented global financial safety net (GFSN), volatile capital flows and rising debt vulnerabilities. The session on *Future of Work* dwelt on the challenges of Industry 4.0 for emerging market economies (EMEs), the need to build a robust technical and regulatory ecosystem in India to tackle the negative impacts of automation and technologies that define Industry 4.0 as well as an education/skill policy aligned to structural changes in employment in India. The session on *Improving Global Health for Economic Growth* discussed three pertinent issues related to the health sector – the need to focus on health; various determinants of health and medical care; and individual and social responsibility in health.

The session on *Aging Population and Global Macroeconomic Stability* highlighted the impact of an ageing population on economies and the implications for developing countries like India. The discussion on *Financing Quality Infrastructure for Inclusive Growth* stressed the common challenges involved in building quality infrastructure, the underlying funding gap and the opportunities with the Quality Infrastructure Investment (QII) Partnership established by the Government of Japan and the World Bank to raise awareness and scale-up attention to the quality dimensions of infrastructure in developing countries.

The session on *Climate Financing for Sustainable Growth* focused on co-operation among G20 countries to lead the way to prevent marine pollution and conserving marine biodiversity, creating a good circular economy-environment system and securing private sector investments to address global environmental challenges. The final session noted the progress made thus far by the G20 forum and sought to identify the challenges that could be taken up by upcoming presidencies.



L to R: Montek Singh Ahluwalia and Richard Baldwin at the 11th G20 Conference on *Global Cooperation for Inclusive Growth: Views from G20 Countries*

A key highlight of the conference was the special address by Richard Baldwin, Professor of International Economics, Graduate Institute of International and Development Studies, Geneva. The session was chaired by Montek Singh Ahluwalia, former Deputy Chairman of the Planning Commission, Government of India. Professor Baldwin stated that the twin trends of globalisation and robotics – *globotics* – will usher in a period of unprecedented disruption that could displace workers at the fastest pace in history. According to him, this new phase of automation is not just about vast machines and industrial robots that replace blue-collar workers in factories. It concerns white-collar robots with software that perform functions that previously only humans could. Yet, Professor Baldwin noted that motivating people, managing people, providing creativity, dealing with unknown situations, applying ethics and things that require a human touch or human talent are the things that AI can't do. Thus, a key rule about getting ready for this displacement is to think of future work in terms of more human skills and capabilities such as creativity and independent thought.

Other notable speakers at the conference included Saud Mohammed Alsati, Ambassador of Saudi Arabia to India; Daniel Chuburu, Ambassador of Argentina to India; Kenko Sone, Minister (Economic and Development), Embassy of Japan in India; C. K. Mishra, Secretary, Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India; Ajay Mathur, Director General, The Energy and Resources Institute (TERI); Prachi Mishra, MD and Chief Economist for India, The Goldman Sachs Group, Inc.; Heena Dhawan, Officer on Special Duty and Deputy General Manager, National Health Authority (NHA), Ayushman Bharat; Santosh Kumar Mehrotra, Professor, Centre for Informal Sector and Labour Studies, School of Social Sciences, Jawaharlal Nehru University (JNU); Alina Lancu, Deputy Chief, Strategy Unit, Strategy, Policy and Review Department, International Monetary Fund (IMF); Mathew Cherian, CEO, HelpAge India; Shankar Acharya, Honorary Professor, ICRIER; Toshiro Nishizawa, Professor, Graduate School of Public Policy (GraSPP), University of Tokyo; Kumar V. Pratap, Joint Secretary (Infrastructure Policy and Finance), Ministry of Finance, Government of India; Naoyuki Yoshino, Dean, Asian Development Bank Institute (ADBI), Suresh K Reddy, Joint Secretary (MER), Ministry of External Affairs, Government of India; S. Irudaya Rajan, Chair Professor, Centre for Development Studies, Thiruvananthapuram; and K.S. James, Director & Senior Professor, International Institute of Population Sciences (IIPS).



**Webinars, Seminars,
Lectures &
Panel Discussions**

Shaping India's Platform Economy in the Wake of COVID-19

June 30, 2020

The platform economy has rapidly developed as an engine for economic growth and job creation in India. However, *platformisation* has also generated concerns about disruption of traditional businesses and the likelihood of anti-competitive behaviour. The webinar on “Shaping India's Platform Economy in the Wake of COVID-19” was organised by ICRIER on June 30, 2020. The lead speakers were Dhanendra Kumar, former Chairman, Competition Commission of India (CCI), Rajneesh Kumar, Chief Corporate Affairs Officer, Flipkart, Mohit Saraf, Senior Partner, L&L Partners, and Rekha Jain, Senior Visiting Professor, ICRIER. This online discussion, moderated by Rajat Kathuria, Director & CE, ICRIER, focused on the transformation of the platform economy and the challenges and opportunities facing digital platforms in the wake of the COVID-19 pandemic.

Mr Dhanendra Kumar noted that competition law in India is sufficiently flexible to deal with the growing market power of platforms. On the other hand, Mr Rajneesh Kumar highlighted the problems faced by e-commerce companies due to lack of clarity and frequent changes in government orders during the early phases of the lockdown implemented in India to deal with the COVID-19 pandemic. He highlighted the increasing willingness among MSMEs to collaborate with online platforms and stated that his company, Flipkart, has strengthened its supply chain and increased local partnerships amid the unprecedented challenges presented by the COVID-19 lockdown. Professor Rekha Jain outlined the pros and cons of the growing strength of big platforms pointing out that while on the one hand MSMEs attaching themselves to bigger platforms has meant more formalisation in the economy, on the other, there is a risk of these platforms becoming bigger and stronger, and therefore there is need for policy to acknowledge this trend. Mr Mohit Saraf highlighted the simultaneous transition among businesses and consumers to adopt digital platforms. He also emphasised the diminishing role of deep discounting strategies and the need for regulatory certainty to enable innovation.

Preparing the Ground for Kharif Sowing: Challenges and the Way Forward

June 11, 2020

Agriculture is the backbone of the Indian economy and around 60 per cent of India's food supply and farmers' incomes is dependent on the *kharif* season. ICRIER organised its fourth discussion under the ongoing dialogue series ‘Samvaad’ on the topic, *Preparing the Ground for Kharif Sowing: Challenges and the Way Forward* on June 11, 2020. The discussion was moderated by Siraj Hussain, Visiting Senior Fellow, ICRIER.

The discussion focused on the outlook for the *kharif* season in the context of the COVID 19 pandemic, including several aspects such as preparing the ground for sowing, challenges and experiences of different states and different crops including plantation crops, cereals, floriculture and horticulture crops. The discussion also focused on the response of the government and measures being taken across different states. The closing remarks were delivered by Srinivasan Iyer, Ford Foundation.

Women's Entrepreneurship in India: Overview of the Ecosystem, Challenges and Areas for Future Intervention

June 08, 2020

A webinar on “Women's Entrepreneurship in India: Overview of the Ecosystem, Challenges and Areas for Future Intervention” was organised jointly by ICRIER, Talentnomics and Ellenomics on June 8, 2020, to

pursue the Network on Enabling Women in the Start-Up Ecosystem (NEWSE's) objective of consolidating and aggregating information on all institutions/resources including central, state, private and social sector available for women entrepreneurs in India. This will help in identifying the *strength, opportunities, challenges and the gaps* that need to be addressed to enable and enrich the existing start-up ecosystem for women in India.

Rajat Kathuria, Director and CE, ICRIER, Geetha Kumar and Ipsita Kathuria, Talentnomics, and Shravani Prakash, Founder, Ellenomics presented the opening remarks. The framework and the format for data collection highlighting the strength and challenges of the schemes were presented by Richa Sekhani, Research Associate at ICRIER. The presentation also explained inputs that were required from members and responded to all the queries. The event was moderated by Shravani Prakash.

The members who participated in the event consisted of well networked professionals. They pledged to contribute and actively participate in facilitating the required change within the eco-system by sharing their inputs and feedback to facilitate the creation of a directory for women entrepreneurs in India.

Crop Procurement and Prices in the Times of the Pandemic: Challenges and the Way Forward

May 29, 2020

The third discussion under the ongoing dialogue series, 'Samvaad' on *Crop Procurement and Prices in the Times of Pandemic: Challenges and the Way Forward* was organised by ICRIER on May 29, 2020. The discussion was moderated by Ashok Gulati, Infosys Chair Professor for Agriculture, ICRIER. Experts with varied backgrounds participated from several states across India to deliberate on four key issues – status of procurement and the challenges faced by states due to the COVID 19 pandemic; state-level price differentials for different commodities, particularly wheat, gram and rapeseed and mustard; the crop procurement experiences of different states, and suggestions for market reforms. The closing remarks were delivered by Srinivasan Iyer, Ford Foundation.

COVID-19: Getting the Macroeconomic Policy Right

May 22, 2020

The webinar on "COVID-19: Getting the Macroeconomic Policy Right" was presented by Gurbachan Singh, Visiting Faculty, Indian Statistical Institute (ISI), and moderated by Alok Sheel, RBI Chair Professor, ICRIER. Noting the clamour for adopting unconventional monetary and fiscal policy to deal with the economic impact of the COVID 19 pandemic, Dr Singh presented a different diagnosis, and accordingly, an alternative policy prescription. His presentation addressed two primary questions – what can the government of India do to take care of the poor and expand/ improve medical care? And what can public authorities do to maintain output and employment?

Dr Singh stated that the policy framework to address the question on output and employment differed for the lockdown period, wherein fiscal policy had a limited role and it is in the post-lockdown phase that the need for a fiscal stimulus has gained emphasis. Given the critical role of investment in sustainable recovery and economic growth, the government can increase spending on investment, especially infrastructure spending (including medical infrastructure in a big way at this juncture). But according to Dr Singh, there can be other ways as well such as setting up an investment-holding company (or a variant of sovereign wealth fund), and

provide funds to it. This new institution can subscribe to issues floated by new or existing companies in the primary capital market in this recessionary environment. This, according to him, has a more direct effect on investment and can also be useful in preventing bankruptcies of existing firms that have weak balance sheets at present. This investment policy can complement the new credit policy that is already being implemented. To take care of demand, Dr Singh advocated “reallocative fiscal policy and redistributive fiscal policy”. The former is about increasing expenditure on some items and reducing expenditure elsewhere. The latter is about increasing taxes for the rich and spending more on the poor.

A Manufacturing Strategy for India

May 21, 2020

On May 21, 2020 a webinar was presented by Santosh Mehrotra, Professor of Economics, Centre for Informal Sector and Labour Studies, School of Social Sciences, Jawaharlal Nehru University on his recently published book “Make in India: The Components of a Manufacturing Strategy for India”. The discussion was moderated by Anwarul Hoda, Professor, ICRIER, and the lead discussants were Ajay Shankar, Distinguished Fellow, TERI and former Secretary, Department of Industrial Policy and Promotion (DIPP) and Rajat Kathuria, Director & CE, ICRIER.

Professor Mehrotra began by spelling out the reasons why India needs an industrial strategy and went on to highlight key elements of a manufacturing strategy for India, which would address the concerns of large corporates and small and medium enterprises, as well as micro-enterprises. According to him, in the case of India, the essential elements of an industrial strategy for the 21st century include a trade-cum industrial policy, special packages for labour-intensive industries such as textiles and food processing, cluster development for MSMEs, urban development aligned with manufacturing clusters, industrial corridors that engage in global value chains, focus on mineral development, creating a design capability and innovation institutional system, and labour law reform as a corollary of industrial policy. Professor Mehrotra also noted that these must be accompanied by ease of doing business and measures to attract FDI.

In his remarks, Dr Kathuria pointed out that while policies have been announced in the past, their implementation has been lacking. He stressed that administrative and judicial reforms are necessary to enforce a manufacturing policy. He also emphasised that innovation will be a key driver of manufacturing growth rate and the government must encourage R&D. Mr Ajay Shankar stated that India has tended to focus on the ease of doing business but not paid enough attention to the cost of doing business. In the concluding remarks, Mr Hoda noted that land, labour and logistics are the three key areas for an industrial policy and that only by easing regulatory hurdles in these three domains can India expect to enhance its manufacturing growth.

ICRIER G20 Series Inaugural Webinar

May 19, 2020

The inaugural webinar under ICRIER’s G20 series was delivered by Suresh Prabhu, India’s Sherpa to the G20 and former Union Minister of Railways, Minister of Commerce and Industry and Civil Aviation on the theme “Are We Staring at a Global Financial Crisis? Preparing for Ensuring International Financial Stability” on May

19, 2020. Shri Prabhu noted that a synchronised slowdown in the world economy was evident for some time and highlighted that the *Global Risks Report 2020* released by the World Economic Forum in January 2020 had stated that by the third quarter of 2019, six of the world's largest seven economies, which together represent more than half of global production, had decelerated. This slowdown has been deeply exacerbated by the COVID-19 pandemic and the global economy is facing a double crisis – complete closure of economic activity and movement of people across various countries and regions in the world. Furthermore, Shri Prabhu added, the various economic packages that have been provided by each country in the form of fiscal and monetary measures to stimulate demand have increased the public debt to GDP ratio to a large extent. A resultant social crisis could emerge when these debts are financed through the means of taxation. According to him, a co-ordinated multilateral response is essential to deal with the unprecedented disruptions to the global economy and the G20 in particular has an important role to play in addressing debt vulnerabilities in low-income countries due to the pandemic and enhancing co-ordination among international organisations to maximise impact and optimise the use of resources.

Economic Fallout of COVID-19 in India

May 01, 2020

The webinar on the “Economic Fallout of COVID-19 in India” reflected on the implications of the COVID-19 pandemic for public health, farmers and food security, employment and trade along with the important role of digital technologies in dealing with the ongoing crisis.

The presentation by Ali Mehdi, Senior Fellow, ICRIER, advocated that instead of a siloed approach, a more ‘syndemic’ approach to tackling COVID-19 was needed as it accounts for not just co-morbidities – a key element in the current discourse – but also for the social conditions in which vulnerability is heightened. Focusing on the agriculture sector, Siraj Hussain, Senior Visiting Fellow, ICRIER, noted that the Indian agriculture and food processing sector had so far ensured that staple foods such as wheat flour, rice, pulses, edible oils, and fruits and vegetables were largely available across India and that there was no serious shortage of food items. However, despite abundant production and availability of fruits and vegetables, prices had risen due to restrictions on *mandi* operations and movement from villages. According to him, India must revamp its food grain storage techniques, modernise its *mandis* and expand the capacity of cold chains without any further delay.

Radhicka Kapoor, Senior Fellow, ICRIER, pointed out that as India grapples with a health, economic and humanitarian crisis of epic proportions, the immediate need is to provide emergency relief to cushion the effects of the dual shocks of the virus and lockdown on informal workers. She emphasised that going forward, there is a need to strengthen MGNREGA and come up with an industrial policy that recognises the changes brought on by COVID-19. Anirudh Shingal, Senior Fellow, ICRIER, stressed that India must resist imposing export restrictions and use the crisis to explore new market access opportunities in Asia and Africa. Drawing attention to the important role of digital technologies in dealing with the pandemic, Rajat Kathuria, Director & CE, ICRIER, pointed out that the pandemic could also be an opportunity for India to emerge as a hub for frugal innovation.

US-India Economic Partnership

February 25, 2020



L to R: Arpita Mukherjee, Rajat Kathuria, Sanjay Chadha, Anwarul Hoda, Atul Dhawan and Ranjana Khanna at the session on U.S. - India Economic Partnership

In the context of US President Donald Trump's visit to India, ICRIER, in collaboration with American Chamber of Commerce (AMCHAM), organised a brainstorming session on US-India Economic Partnership on February 25, 2020. The panellists included Sanjay Chadha, Additional Secretary, Ministry of Commerce & Industry, Government of India, Atul Dhawan, Honorary Secretary & Treasurer, AMCHAM and Partner, Deloitte, Anwarul Hoda, Professor, ICRIER, Arpita Mukherjee, Professor, ICRIER, and Ranjana Khanna, Director General CEO, AMCHAM. The discussion was moderated by Rajat Kathuria, Director & CE, ICRIER.

In his opening remarks, Rajat Kathuria, noted that US-India relations were at an all-time high and hoped that President Trump's visit would lay the foundation for a free trade agreement (FTA) between the two countries in the near future. Anwarul Hoda, in his remarks mentioned that the findings and recommendations by the Private Sector Advisory Group (PSAG) set up in 2007 to get industry feedback on the measures needed to improve bilateral trade and investment relations between the US and India were never implemented in their entirety. Pointing out that the trade deficit between India and the US is gradually decreasing, Sanjay Chadha emphasised that the conventional calculation of bilateral trade excludes defence purchases, and when added, the deficit becomes even narrower. He also stressed that as interlinkages between the two economies increase, issues of concern are bound to surface but the overall direction is towards convergence. Arpita Mukherjee pointed out that the trade deficit was linked to market access barriers that India has imposed on US products and technology companies. In the context of global value chains, Atul Dhawan mentioned that requisite infrastructure is a crucial pre-condition for India to benefit from opportunities coming from the US-China trade conflict. Adding to the deliberations, Ranjana Khanna stressed the importance of infrastructure and the need to further enhance India's ease of doing business ranking and the predictability of the tax structure, both of which have served as deterrents for US investors.

The Union Budget 2020-21: Reforms and Development Perspectives

February 08, 2020



L to R: Rajat Kathuria, Yamini Aiyar, Shereen Bhan, Shekhar Shah, Rathin Roy and Nishant Chadha at the seminar on *The Union Budget 2020-21: Reforms and Development Perspectives*

To critically examine the Union Budget presented on February 1, 2020, the heads of five leading think tanks, including ICRIER, came together to share their views and the longer-term implications of the budget for the Indian economy at this seminar. This annual assessment of the Union Budget by the five institutes – ICRIER, Centre for Policy Research (CPR), National Institute of Public Finance and Policy (NIPFP), National Council of Applied Economic Research (NCAER), and India Development Foundation (IDF) – has been presented for the last thirteen years since 2007.

This year the speakers included Yamini Aiyar, President and Chief Executive, CPR, Rathin Roy, Director, NIPFP, Shekhar Shah, Director General, NCAER, Rajat Kathuria, Director & CE, ICRIER and Nishant Chadha, Head of Research, IDF. The discussion and the Q&A with the audience were moderated by Shereen Bhan, Managing Editor, CNBC-TV18.

Act East to Act Indo-Pacific: India's Expanding Neighbourhood

January 29, 2020

To mark the release of the book *Act East to Act Indo-Pacific: India's Expanding Neighbourhood* by Prabir De, Professor, Research and Information System for Developing Countries (RIS), New Delhi, ICRIER organised a panel discussion on the key themes discussed in the publication. This book presents short essays by the author on several key aspects of India's economic relations and the challenges faced by India after the launch of the Act East Policy (AEP). Ten broad themes are analysed in this book: BBIN, BIMSTEC, SAARC, ASEAN, MGC, Act East-North East, BCIM, BRI, Act Far East and Indo-Pacific.



L to R: Prabir De, Vikram K. Doraiswami, Chutintorn Gongsakdi, Rajat Kathuria and Arpita Mukherjee at the panel discussion on *Act East to Act Indo-Pacific: India's Expanding Neighbourhood*

The book was released by Chutintorn Gongsakdi, Ambassador of Thailand to India, and Vikram K. Doraiswami, Additional Secretary (BM&IP), Ministry of External Affairs, Government of India. In his remarks, Ambassador Gongsakdi emphasised the need for collaboration in sustainable development, connectivity, economic and maritime co-operation. Mr Doraiswami noted that while there are multiple perspectives on the concept of the Indo Pacific, what is of primary importance is that it is characterised by geopolitical openness, based on the freedom to choose and to bring on partners on the basis of existing architecture, rules and international laws.

The panel discussion was moderated by Arpita Mukherjee, Professor, ICRIER, and the panellists included Keiichi Onozawa, Representative for South Asia, Ministry of Economy, Trade and Industry (METI), Government of Japan; Constantino Xavier, Fellow in Foreign Policy Studies, Brookings India; Subhomoy Bhattacharjee, Consulting Editor, Business Standard; Sanjay Pulipaka, Senior Fellow, Nehru Memorial Museum Library (NMML) and Dipanjan Roy Chaudhury, Senior Assistant Editor (Foreign & Strategic Affairs), The Economic Times.

Data Governance at Crossroads

January 11, 2020

ICRIER, in collaboration with the SKOCH Group, organised a panel discussion titled “Data Governance at Crossroads” on January 11, 2020 at New Delhi. This discussion was a part of the Public Policy Forum and Public Policy LitFest at the 63rd SKOCH Summit. The session was chaired by Rajat Kathuria, Director & CE, ICRIER. The panellists for the session were Gulshan Rai, Former National Cyber Security Co-ordinator & Distinguished Fellow, SKOCH Development Foundation, Shyamal Ghosh, Chairman, Telecom Export Promotion Council (TEPC), Rahul Sharma, Founder, The Perspective, Anita Gurumurthy, Executive Director, IT For Change, Saranya Gopinath, Co-Founder, Digital India Collective for Empowerment (DICE) & Research Fellow, Bharat Inclusion, Mudit Kapoor, Associate Professor of Economics, Indian Statistical Institute (ISI) and Udbhav Tiwari, Advisor, Public Policy, Mozilla.



Rajat Kathuria and other panellists at the panel discussion on *Data Governance at Crossroads*

In his opening remarks, Dr Kathuria highlighted three different facets of personal data namely a ‘valuable asset’ capable of being monetised by private companies, a ‘public good’ that can be leveraged for wide-spread social and economic benefits or a ‘toxin’ that has the potential for misuse for commercial gains. He stated that the co-existence of all three facets have raised policy questions related to anti-trust conduct, inequality, privacy, data security and surveillance. The panellists presented their views on different issues of data governance. Dr Gulshan Rai highlighted the issue of India’s critical internet infrastructure and emphasized the heterogeneity across hardware and software comprising India’s data economy and its increasing vulnerability. Ms Anita Gurumurthy focused on the need to treat data as a knowledge common and underlined the importance of treating different types of data differently. Dr Mudit Kapoor pointed out the risks of data monopolisation and spoke about the ethics of collecting data from uninformed individuals. He also highlighted the inadequacy of existing institutions to deal with these policy questions. Ms Saranya Gopinath focused on the API marketplace and its regulations. She presented her views on the weaponisation of private data and the challenges of compliance. Mr Rahul Sharma explained the need for careful regulation of data as it is a critical input to many sectors of the economy and Mr Udbhav Tiwari suggested the need for an independent law that would create checks and balances in sharing and usage of data and minimising discriminatory practices. In his concluding remarks, Dr Shyamal Ghosh spoke about the evolution of policy concerns in the telecom sector and India’s emerging digital economy.

Values in Foreign Policy

December 11, 2019

The panel discussion following the release of the book *Values in Foreign Policy: Investigating Ideals and Interests*, edited by Krishnan Srinivasan, James Mayall, and Sanjay Pulipaka, dwelt on the role that values, principles, interests and ideals play in the formulation of foreign policies of nations around the world. The discussion was moderated by Shakti Sinha, former Director, Nehru Memorial Museum and Library (NMML); the panellists



L to R: Sanjay Pulipaka, Preeti Saran, Rajiv Bhatia, Shakti Sinha, James Mayall and Sanjaya Baru at the panel discussion on *Values in Foreign Policy*

were Preeti Saran, former Indian diplomat; Sanjaya Baru, Distinguished Fellow, Institute for Defence Studies and Analyses, New Delhi; James Mayall, Emeritus Professor, University of Cambridge, UK; and Rajiv Bhatia, Distinguished Fellow, Foreign Policy Studies, Gateway House, Mumbai.

Global Spillovers, Multilateral Co-operation and WTO Reform

December 04, 2019

The lecture by Bernard Hoekman, Professor and Director, Global Economics at the Robert Schuman Centre for Advanced Studies, European University Institute, Florence, Italy, on the topic *Global Spillovers, Multilateral Co-*



L to R: Bernard Hoekman, Anwarul Hoda and Anirudh Shingal at the lecture on *Global Spillovers, Multilateral Co-operation and WTO Reform*

operation and WTO Reform was organised by ICRIER on December 04, 2019. The session was chaired by Anwarul Hoda, Chair Professor, Trade Policy and WTO Research Programme, ICRIER.

Professor Hoekman's presentation focused on the challenges being faced by the multilateral trading system in the context of spillovers generated by increasing use of trade distorting policy measures; geopolitical/geo-economic systemic competition/conflict; technological change; and servicification and growth of the digital economy. He stated that the World Trade Organization (WTO) was missing in action with an outdated rule book as also working practices such as the consensus approach. The Preferential Trade Agreements (PTAs) have been used to fill some gaps, but PTAs are inherently limited as they do not address major sources of competitive distortions/spillovers, which requires all major players to participate. Dr Hoekman highlighted three broad challenges for multilateral co-operation with respect to the deliberative and rule-making function of the WTO – policy measures for sustainable development, transparent implementation and reform of the dispute settlement mechanism.

Society 5.0 and Artificial Intelligence with a Human Face

December 03, 2019



L to R: Richa Sekhani, Mansi Kedia, Rajat Kathuria and Arnab Kumar at the seminar on *Society 5.0 and Artificial Intelligence with a Human Face*

At the research dissemination event for ICRIER's report titled *Society 5.0 and Artificial Intelligence with a Human face*, Rajat Kathuria, Director and CE, ICRIER emphasised the importance of AI in addressing social challenges. In their address B.K Murthy, Senior Director & Group Head (R&D in IT), MeitY and Arnab Kumar, Program Director, Frontier Technologies, NITI Aayog, discussed some recent initiatives undertaken by India to enhance the AI ecosystem in the country. A presentation on the study was made by Mansi Kedia, Fellow, ICRIER, and Richa Sekhani, Research Associate, ICRIER. This was followed by a panel discussion between Ashish Aggarwal, Senior Director and Head, Public Policy, NASSCOM; Varun Aggarwal, Co-Founder, Aspiring Minds; Deepak Garg, Director, Leadingindia.ai; and Mukesh Mohania, Professor, Indraprastha Institute of Information Technology (III-T), Delhi. The event was moderated by Ganesh Sreekumar Varma, Consultant, ICRIER. The importance of data in AI, the AI talent gap and skill challenges, and ethical and accountable AI were some of the issues that were discussed by the panellists.

The Future of Asia – Asian Flows and Networks are Defining the Next Phase of Globalisation

November 20, 2019



Oliver Tonby delivering his talk on *The Future of Asia – Asian Flows and Networks are Defining the Next Phase of Globalisation*

The seminar on “Asian Flows and Networks that are Defining the Next Phase of Globalisation” was delivered by Oliver Tonby, Chairman, Asia, McKinsey & Company, on November 20, 2019. The session was moderated by Rajat Kathuria, Director & CE, ICRIER.

Mr Tonby stated that Asia is increasingly the centre of the world economy and, by 2040, the region could account for more than half of global GDP and about 40 per cent of global consumption. According to him, global cross-border flows are shifting towards Asia on seven of eight dimensions – trade, capital, people, knowledge, transport, culture, resources, and the environment, and the region’s growth is becoming more broad-based and sustainable as its constituent economies increasingly integrate with each other. There is an observable shift toward regionalisation. For instance, 60 per cent of goods traded by Asian economies are within the region, 71 per cent of Asian investment in start-ups and 59 per cent of foreign direct investment (FDI) is intra-regional, and 74 per cent of Asian travellers move within the region. However, Mr Tonby pointed out, the inter linkages between India and the rest of Asia are missing. Comparing India and China, he noted that the innovation market in China is growing whereas the labour force is declining while in India, it is the other way round.

In his remarks, Rajat Dhawan, Senior Partner, McKinsey & Company pointed to the need to identify specific areas for increasing India’s contribution to trade in Asia. These included a more extensive shift towards in-house assembly lines, R&D, increasing capital and investments flow for powering development, increasing innovations in the field of electric mobility and 5G spectrum, etc.

Does Choice of Contract Matter for Cost and Quality of Highways? Empirical analysis of PPPs vs. Traditional Contracts

September 20, 2019

The seminar on “Does Choice of Contract Matter for Cost and Quality of Highways? Empirical Analysis of PPPs vs. Traditional Contracts” was delivered by Ram Singh, Professor, Delhi School of Economics, on September 20, 2019. The session was chaired by Alok Sheel, RBI Chair Professor, ICRIER.

Dr Singh addressed this issue by examining the relative performance of various types of procurement contracts used for highways projects in India. He stated that his study modelled the incentive structures induced by public private partnerships (PPPs or P3) contracts and traditional procurement contracts used for infrastructure and this was used to predict outcomes the two types of contracts. Predictions emanating from the model were tested using a dataset of 313 national highways projects in India. Dr Singh’s analysis showed that construction costs are significantly higher for PPPs than for traditionally procured (non-PPP) highways. However, the PPPs encourage a life-cycle approach towards project costs and the quality of PPP roads is better than the traditional highways. The subsequent floor discussion revolved around cost issues and possible options to reduce the cost of PPP projects.

The Technology Trap: Capital, Labour and Power in the Age of Automation

August 28, 2019

ICRIER organised its second discussion under the ongoing dialogue series, ‘Samvaad’, on August 28, 2019. The discussion was initiated by Carl Benedikt Frey, Co-Director, Programme on Technology & Employment, Oxford Martin Citi Fellow, Oxford Martin School, University of Oxford, with reference to his book *The Technology Trap: Capital, Labour and Power in the Age of Automation*.

Dr Frey’s presentation focused on the history of technological progress and how it has radically shifted the distribution of economic and political power among society’s members. He also compared the short and long-term effects of the industrial revolution and stated that these effects mirror those in the current age of automation, which began with the computer revolution. Dr Frey concluded by suggesting that in the midst of the current technological revolution, the lessons of the past can help to more effectively face the present.

The presentation was followed by key remarks from Imraan Valodia, Dean, Faculty of Commerce, Law & Management, University of Witwatersrand, South Africa, who highlighted the differences in the impact on the developed and developing world. The open floor discussion was moderated by Srinivasan Iyer, Ford.

Corruption – Growth Relationship: Do Political Institutions Matter?

July 24, 2019

The seminar on “Corruption-Growth Relationship: Do Political Institutions Matter?” was delivered by Shrabani Saha, Senior Lecturer (Associate Professor), Economics, University of Lincoln, UK, based on the paper jointly written by her and Kunal Sen, Director, World Institute for Development Economic Research (UNU-WIDER), Helsinki, Finland. The session was moderated by Saon Ray, Senior Fellow, ICRIER. The paper examines the corruption and economic growth nexus and the role of different political regimes in mediating such relationships

using panel data from over one hundred countries for the period 1984-2016 and indicates that the corruption-growth relationship differs by political regime, and that the growth enhancing effect of corruption is more positive in autocracies than in democracies.

In her presentation, Dr Saha said that the paper estimates the relationship between corruption and growth using various panel estimation techniques including fixed effects, two-stage least square and dynamic panel-system-GMM methods. She stressed that the paper focused on democracy because it is assumed to be a growth enhancing form of government. However, according to Dr Saha, the study results provide support for the so-called East Asian paradox of high corruption and high growth and suggests that the benign effect of corruption on growth is because of the authoritarian nature of the political regimes in these countries for the greater part of their development experience that gives firms confidence that the ruling powers will deliver on the deals that they have entered into and these credible commitments are vital for investment and growth. On the contrary, for the average democratic country, the effect of corruption on growth is likely to be strongly negative. Democratisation is likely to weaken the positive relationship between corruption and growth in previously autocratic countries, and the increasing wave of democratisation observed in the developing world suggests that corruption may be more of a threat to economic growth in the years ahead. Dr Saha concluded by noting that although corruption forms a potential area of research in today's era, limitations pertain to data availability and in suitable format.

The Union Budget 2019-20: Reforms and Development Perspectives

July 22, 2019



L to R: Yamini Aiyar, Rajat Kathuria, Nishant Chadha, Puja Mehra, Shekhar Shah and Rathin Roy at the seminar on *The Union Budget 2019-20: Reforms and Development Perspectives*

The seminar on “The Union Budget 2019-20: Reforms and Development Perspective” was delivered by Yamini Aiyar, President and Chief Executive, CPR, Nishant Chadha, Fellow and Head-Projects, IDF, Rajat Kathuria, Director and Chief Executive, ICRIER, Rathin Roy, Director and CEO, NIPFP and Shekhar Shah, Director General, NCAER. The session was moderated by Puja Mehra, an independent economist.

The speakers elaborated on different sections of the budget session. The focus areas were education, health, telecom, trade, tax, agriculture, fiscal crisis and political economy. Each of these areas was presented by different speakers specialising in that domain.

The presentations were started by Rathin Roy, where he discussed about the silent fiscal crisis. He discussed briefly the fiscal space and shrunken revenues due the conundrum surrounding GST collections. After a brief discussion on fiscal responsibilities, the seminar was taken forward by Shekhar Shah who discussed the agricultural sector. While the government has comprehensive taken various steps for development like providing electricity and gas connections, better road connectivity and schemes for up gradation for traditional industries to address the issues of low productivity and growth, he questioned the direction of these schemes and their benefits. Rajat Kathuria discussed the issue of '5 trillion economy'. He explained the trade mechanics in our country and the investment factors required for higher growth. The discussion went on to questioning the hiking of custom duty and its impact on our economy. He ended his presentation by the talking about barriers on tax compliance in India and showed a way to tackle these issues. The seminar then shifted its focus to education and health with the presentation of Nishant Chadha. He emphasised the importance of investing in education, health, research and development (R&D) and labour market infrastructures to augment human capital of our country. He also talked about the need to focus on increasing average productivity as opposed to targeting investments on creating outliers. Yamini Aiyar shed light on the political context in which the budget was placed.



Workshops, Roundtables & Consultations

East and North-East States and UTs: Broadband Readiness Index

March 02, 2020



L to R: J. Jena, A. K. Sahu, Hari Ranjan Rao, Syedain Abbasi and T. R. Dua at the workshop on *East and North-East States and UTs: Broadband Readiness Index*

The National Digital Communication Policy (NDCP) 2018 recommends a Broadband Readiness Index for states/UTs as a tool for states to attract investments and address right of way (RoW) challenges. ICRIER has been tasked by the Department of Telecom (DoT) to undertake a systematic evaluation of states' performance on metrics set out as goals under the NDCP on an annual basis (2019-2022). Such an exercise will provide useful insights into the strategic choices made by states to optimise policy and the consequent investment allocations in ICT programmes. In this context, ICRIER, in collaboration with the Department of Telecom (DoT), Government of India, organised a regional workshop in Guwahati on March 2, 2020, to discuss the creation of the Broadband Readiness Index (BRI) and the challenges faced by states in data collection.

The keynote address was delivered by Anshu Prakash, Secretary (Telecom), DoT, Government of India. Representatives from DoT, the Cellular Operators Association of India (COAI), the Tower and Infrastructure Provider's Association (TAIPA) and ICRIER participated in this third regional interaction with twelve states and union territories (UTs), namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, West Bengal, Bihar, Jharkhand, Orissa and Sikkim. Key speakers at the workshop included Amit Yadav, Joint Secretary (T), DoT; T. R. Dua, DG, TAIPA; R. S. Mathews, DG, COAI; Rajat Kathuria, Director and CE, ICRIER; and V. Meenalochiny, DDG, DoT LSA.

India-Myanmar Trade and Connectivity

February 03, 2020

The workshop on the theme *India-Myanmar Trade and Connectivity* was organised by ICRIER on February 3, 2020, at New Delhi as part of the ongoing work to identify the key reform measures needed to enhance trade and connectivity between India and Myanmar. The objective of this workshop was to analyse why formal cross-

border trade between India and Myanmar has declined substantially in the last few years, identify impediments faced by traders in conducting cross-border trade between India and Myanmar through the formal channel, understand the institutional arrangements supporting informal trade and the modalities of this trade, and deliberate on policy measures that would facilitate shifting of informal trade to formal channels.



L to R: Nisha Taneja and Laisam Simai at the workshop on *India-Myanmar Trade and Connectivity*

The workshop commenced with an introductory presentation by Nisha Taneja, Professor, ICRIER. The other key speakers included Laisam Simai, Member of Legislative Assembly, Arunachal Pradesh (Nampong Constituency); Arvind Mehta, Secretary, 15th Finance Commission; Rajat Sethi, Advisor to CM, Manipur; Gautam Mukhopadhyaya, former Indian Ambassador to Myanmar; Alemtemshi Jamir, Working President, Nationalist Democratic Progressive Party (NDPP) & CEO, Investment & Development Authority of Nagaland (IDAN); and Toko Tatung, Secretary General, Arunachal Pradesh Chambers of Commerce and Industry.

Regional Meetings on Broadband Readiness Index

December 24, 2019

The Indian Council for Research on International Economic Relations (ICRIER) organised a regional meeting for the northern states of India along with the Department of Telecom (DoT) on the Broadband Readiness Index in Chandigarh. Naresh Sharma, Senior DDG from the Punjab Licensed Service Area (LSA), Department of Telecom, delivered the welcome address and explained the importance and need for the Broadband Readiness Index (BRI). This was followed by a keynote address from Mahesh Kashyap, Under Secretary, Department of Telecom, highlighting the department's recent policy initiatives. Dr Rajat Kathuria, Director and CE, ICRIER, presented the objectives and scope of the index, including the measurement parameters. Kapil Bhateja, Senior Manager, Tower and Infrastructure Providers Associations of India (TAIPA), explained the progress on right of way at the state-level. He provided the implementation status and highlighted gaps in state policies. The final session delivered by Commodore Jena from the Cellular Operators Association of India (COAI) focused on building awareness around electromagnetic emissions and their impact on the sector.



L to R: Kapil Bhateja, Manoj Singh, Rajat Kathuria, Mahesh Kashyap, Naresh Sharma and J. Jena at the Regional Meetings on *Broadband Readiness Index*

The second half of the event was an open discussion with nodal officers appointed by states for the purpose of BRI, along with representatives from DoT, LSAs and Telecom Service Providers (TSPs) across the states and union territories of Delhi, Chandigarh, Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttar Pradesh, Punjab, Uttarakhand, Haryana and Rajasthan. The interactions highlighted the challenges pertaining to data collection and provided useful suggestions for the index building exercise in the future.

India's Labour Markets: Opportunities and Challenges in a Changing Global Environment

December 20, 2019



Participants and Speaker Homagni Choudhury at the workshop on *India's Labour Markets: Opportunities and Challenges in a Changing Global Environment*

ICRIER, in collaboration with Kingston University, London (UK), organised a consultative workshop on *India's Labour Markets: Opportunities and Challenges in a Changing Global Environment* on December 20, 2019. The workshop was moderated by Homagni Choudhury, Head of the Department of Economics, Faculty of Business and Social Sciences, Kingston University, London.

The objective of the workshop was to undertake a discussion with academics and other stakeholders including government agencies/officials to identify the current opportunities and challenges in India's labour markets. The workshop also aimed to chart out a policy-focused research agenda needed to strengthen labour market institutions in India that would aid policy makers and stakeholders to lay out the policy changes needed to enhance labour market outcomes in the future. The discussion centred on issues such as data architecture on labour markets, codification of labour laws, support for the informal sector, and skills mismatch and development.

India's Domain Name Market and ICANN66 Readout

December 02, 2019

To foster discussions on ICRIER's ongoing research on the 'domain name market' in India, a consultation was organised with key domain industry stakeholders in the National Capital Region (NCR) on December 2, 2019. This research is part of a project funded by the Ministry of Electronics and Information Technology (MeitY), Government of India.

The session commenced with a brief presentation by Richa Sekhani, Research Associate, ICRIER, and Gangesh Varma, Consultant, ICRIER, outlining the key findings of the study. This was followed by an open discussion focusing on the current market size of the domain name industry in India, the competitive landscape of the market, existing challenges and future growth strategies. Participants agreed that there was immense potential of the market and that the key challenges impeding growth included lack of consumer awareness, limited local language content causing slow uptake of IDNs, and lack of a favourable ecosystem.

At this event, the highlights of ICANN66 were also presented by Gangesh Varma. The Internet Corporation for Assigned Names and Numbers (ICANN) is among the key global Internet governance institutions responsible for the co-ordination and management of the domain name system (DNS). Its Annual General Meeting (AGM) in 2019 – ICANN66 – was held in Montréal, Canada. The session that followed focused on DNS Abuse, which was also a topic of great interest at the last ICANN Meeting. Expert insights were provided by Shubham Saran, General Manager, National Internet Exchange of India (NIXI), and Nitin Wali, Regional Director, Technical, Neustar.

Traditional and Complementary Systems of Medicine in the context of SDGs, UHC and PHC

November 29, 2019

As part of the research programme to provide evidence-based inputs and knowledge support to the Department of Economic Affairs (DEA) and other departments under the Ministry of Finance, Government of India, on issues related to the G20, a study on the promotion of traditional and complementary systems of medicine (TCSM) in the context of the sustainable development goals (SDGs), universal health coverage (UHC) and

primary health care (PHC) has been undertaken by ICRIER. In this regard, a stakeholder consultation was organised to elicit views from a wide range of health sector stakeholders on three major themes: challenges to UHC in India, India's strategy to promote TCSM and AYUSH, and India's best practices vis-à-vis UHC and TCSM that could be showcased at the international level.

Some of the distinguished participants in the consultation included Parveen Kumar, Director (G-20 Finance & OECD), Ministry of Finance; Satyapal Shani, Deputy Drugs Controller (I), Central Drugs Standard Control Organisation (CDSCO); Vid Nukala, Senior Advisor, US Department of Health and Human Services; N K Arora, Additional Director, Employees' State Insurance Corporation; Adarsh Kumar, Assistant Director (Ayurveda), Central Council for Research in Ayurvedic Sciences (CCRAS); M Akhtar Siddiqui, Dean and Head of Department, School of Unani Medical Education & Research, Jamia Hamdard; and William Joe, Assistant Professor, Institute of Economic Growth.

With regard to universal health coverage (UHC) the participants noted the need to address administrative inefficiencies such as pendency of payments and quality of health care services under existing health insurance schemes in addition to improving coverage in terms of numbers. On the issue of traditional and complementary systems of medicine (TCSM), a general consensus was voiced in favour of the need for elaborate and systematic documentation of evidence to scientifically validate the clinical efficacy of AYUSH. Participants also identified the establishment of Traditional Knowledge Digital Library (TKDL) and the launch of National AYUSH Morbidity and Standardised Terminologies Electronic (NAMASTE) Portal as India's best practices vis-à-vis UHC and TCSM that merit attention at the international level.

India-Myanmar Trade and Connectivity

November 23, 2020

Myanmar's border trade with India is very low when compared to other countries such as China and Thailand and a significant proportion of trade across the land border is conducted informally between Myanmar and



Participants and Speakers at the workshop on *India-Myanmar Trade and Connectivity*

India. To examine the characteristics of the informal cross-border trade between the two countries and analyse the impediments in formal route that encourage traders to adopt the informal route, ICRIER organised a workshop in Yangon on November 23, 2019.

The workshop deliberations were moderated by Nisha Taneja, Professor, ICRIER, and key participants from Myanmar included Tin Htoo Naing, Director, Center for Economy, Environment and Society (CEES), Yangon; Thar Haty, Professor, Monywa University of Economics; Myo Myint, Director of Strategy, DaNa Facility, Yangon; Thein Myint Wai, Deputy Director, Trade Training Institute, Directorate of Trade, Ministry of Commerce, Yangon; Cho Thein, Professor, Dept. of Economics, Yangon University of Economics; Hnin Pam Phyu, Assistant Director, Myanmar Trade Promotion Organisation, Yangon; Pe Than Win, Deputy Director, Commerce Department, Kachin State; Thet Naing Assistant Director, Commerce Department, Sagaing Regional Office; and M. Phywai, Assistant Director, Dawei Special Economic Zone.

Financing Resilience against Natural Disasters

September 30, 2019

A discussion on the summary report of the study “Financing Resilience against Natural Disasters” was organised on September 30, 2019. The presentation made by the research team leader Saon Ray, Senior Fellow, ICRIER, stated that the rising frequency of disasters and their increasing severity calls for ex-ante financial protection solutions that can reduce the fiscal impact of disasters. Prudently designed and efficiently implemented financial instruments can increase the disaster resilience of an economy, along with complementing risk reduction and mitigation efforts. Dr Ray noted that India is a country prone to multiple disasters and has a very diverse vulnerability profile. She pointed out that ‘catastrophic insurance’ has not been able to acquire a separate market in India as its value is not yet realised by consumers and insurance providers. It is a product that is offered as an embedded benefit under the home insurance policy in the country and since the penetration of home insurance in India is low, the percentage of catastrophic insurance is almost negligible.

The session was attended by Preeti Balyan, Deputy Director, Ministry of Finance, Kamal Kishore, Member, National Disaster Management Authority (NDMA), Krishna Vatsa, National Disaster Management Authority (NDMA), Daljeet Kaur, Climate and Environment Adviser, Department for International Development (DFID) India, Divya Sharma, Senior Consultant, Urban Policy and Planning, Oxford Policy Management Limited, Ulka Kelkar, Director, Climate Program, WRI India and Neha Kumar, Assistant Professor, Georgia Tech as key speakers. The discussion acknowledged the need to shift the focus from excessive reliance on ex-post relief measures to investment in ex-ante protection measures in the case of India. Participants also underlined the crucial importance of resilient infrastructure and insurance as ex-ante. The difficulty in achieving commercial viability of insurance for the most vulnerable segment, that is, the low income groups, was touched upon and there was general consensus that India can learn from the insurance systems in place in other parts of the world, particularly from the African, Pacific and Caribbean regions.

Role of Standards in Diffusion of Emerging Technologies: Internet of Things (IoT)

September 03, 2019

A stakeholder consultation was organised by ICRIER on September 3, 2019 at New Delhi to discuss the study on “The Role of Standards in Diffusion of Emerging Technologies: Internet of Things (IoT)”, commissioned by the Department of Science and Industrial Research (DSIR), Government of India.

To set the context and present the preliminary findings of the study, a presentation was made by Mansi Kedia, Fellow, ICRIER, which provided a concise overview of the evolution of the IoT ecosystem (India and globally), the importance of standardisation and the role of standards development organisations (SDOs). The subsequent discussion focussed on the importance of standardisation and the role of SDOs and the challenges related to the adoption and implementation of standards in India. The participants noted that India’s current contribution to the standards ecosystem has largely come from Indian counterparts of foreign corporates. Alternatively, global standards were adopted, which did not necessarily cater to the needs of the Indian IoT ecosystem. There was consensus on the need to enhance India’s role by increasing participation and contributing more actively to the global standards ecosystem. This will help India develop innovative methods concepts which could be cornerstones for the emerging ‘smart’ industries and ‘smart’ solutions.

Facilitating India’s Act East Policy: Gap Analysis in Infrastructure at Land Customs Stations in the North Eastern Region of India

June 15, 2019

Improved connectivity between the north-eastern states of India with neighbouring countries is imperative for strengthening economic co-operation and developing strategic relationships as envisaged in the ‘Act East Policy’ and well-functioning land customs stations (LCS) and integrated check posts (ICPs) in the north-eastern region are the cornerstones for building strong economic ties with neighbouring countries. To examine trade flows



L to R: Nisha Taneja, Rajeev Kher and Gautam Mukhopadhyaya at the workshop on *Facilitating India’s Act East Policy: Gap Analysis in Infrastructure at Land Customs Stations in the North Eastern Region of India*

through existing LCSs and ICPs in the north-eastern region and assessing whether the state of infrastructure is adequate, ICRIER organised a workshop on June 15, 2019 at New Delhi. The workshop deliberations were moderated by Nisha Taneja, Professor, ICRIER. The notable speakers included Rajeev Kher, Former Commerce Secretary, Government of India, and Gautam Mukhopadhaya, former Ambassador of India to Myanmar.

In his remarks Mr Kher noted the changes taking place in the global trade environment in the context of increasing protectionism and pointed out that there were implications for the North Eastern Region (NER) as well, as the region plays a vital role in India-ASEAN economic relations. He pointed out that policy changes in trade facilitation could provide the needed impetus to trade flows from the north-eastern region. He also highlighted the need for domestic reforms in agriculture and the labour market to take advantage of India's forward and backward linkages with ASEAN. Ambassador Mukhopadhaya spoke about the key challenges and opportunities for the NER. He noted that in addition to infrastructure and poor regional connectivity, the other major problems faced by the NER were the lack of production centres and low productivity. According to him, the region's economy was dependent mainly on the primary sector – agriculture and allied activities – and a regional approach was needed to ensure that produce from the region is processed for value addition and exported to neighbouring markets in Southeast Asia.

Gurudas Das, Professor, National Institute of Technology, Silchar, Assam; Maila Lama Assistant Professor, Rajiv Gandhi University, Arunachal Pradesh; T. Zarenthung Ezung, Assistant Professor, Nagaland University; Konthoujam Gyanendra Singh, Assistant Professor, National Institute of Technology, Aizwal, Mizoram; C. J. Thomas, Deputy Director, ICSSR North Eastern Regional Centre, Shillong, Meghalaya; Gadde Omprasad, Assistant Professor, Sikkim University; Ashish Nath, Professor, Tripura University and Thiyam Bharat Singh, Reader, Manipur University, also made presentations during the workshop.



Special Dialogues

Conversations on Urbanisation

Cities are integral to India's rapid growth, particularly in its current stage of development. To discuss and identify the key challenges and opportunities for Indian cities and towns as they prepare to deliver a better quality of life and act as engines of growth, ICRIER, in February 2014, jointly with India Habitat Centre (IHC), launched a series of interactive discussions between the IHC membership and eminent experts, titled, 'Conversations on Urbanisation', mostly moderated by Isher Judge Ahluwalia, Chairperson, ICRIER. The following three conversations were organised this year.

Air Emergency: What is the Way Ahead?

December 12, 2019



Speaker Sunita Narain at the urban conversation on *Air Emergency: What is the Way Ahead?*

The conversation, "*Air Emergency: What is the Way Ahead?*", was initiated by Sunita Narain, prominent environmental campaigner and a member of the Environment Pollution (Prevention and Control) Authority (EPCA) for the National Capital Region (NCR). Dr Narain began by stressing that Delhi has over the years taken several steps to improve air quality – the shift to compressed natural gas (CNG) for autos and taxis; construction of the Ring Road to reduce entry of trucks into the city; and the move to BS-IV fuel norms for vehicles. However, air pollution has continued to worsen and more drastic measures are necessary. Dr Narain noted that, as pointed out in a 2016 study by SAFAR-IITM, vehicular pollution alone contributes about 40 per cent of the total air pollution load in Delhi while garbage burning is another significant source. This, combined with seasonal factors such as crop burning in the neighbouring states of Punjab and Haryana in October and the burning of firecrackers on Diwali night in the entire region, creates dense smog and makes the air quality hazardous. To combat the resulting air emergency, EPCA has notified the Graded Response Action Plan (GRAP) that puts into action several emergency measures such as a ban on construction activity, sprinkling of water on roads, and the odd-even scheme for vehicular traffic once pollution level reaches a certain specified limit. However, according to Dr Narain, the scale of response to air pollution needs to be much wider and all-year

round. There is a need to fast-track BS-VI fuel for vehicles, substantially improve public transport with last mile connectivity, and bring down air pollution from industries in the region.

Solutions to India's Water Crises

September 04, 2019



Speaker Mihir Shah at the urban conversation on *Solutions to India's Water Crises*

The conversation on *Solutions to India's Water Crises* was initiated by Mihir Shah, former Member, Planning Commission of India. The session was moderated by Isher Judge Ahluwalia, Chairperson, ICRIER.

In his remarks, Dr Shah noted that India's water woes arise primarily due to the lack of a multi-dimensional approach to water planning. According to him, water policy in India has been based on attempts to increase supply endlessly through damming rivers and extracting groundwater, overlooking the fact that with increasing water extraction, natural water recharge is hampered, leading to water depletion. Emphasising the principle of interconnectedness, he bemoaned that policymakers have also overlooked the integral link between the health of catchment areas and the rivers they feed; our river flows have suffered in quantity and quality.

Dr Shah pointed out that the most important fact regarding India's water is that 90 per cent of it is consumed in farming and that 80 per cent of this irrigation is for three water guzzling crops – rice, wheat and sugarcane. Reducing water consumption in farming and enhancing crop diversification is the most effective way to solve India's water problem. Allied to this paradigm shift in farming, Dr Shah advocated the need to 'democratise water' through local participatory governance to manage shared groundwater and surface water collectively, equitably and sustainably. He concluded by stating that investing in data generation and capacity building of urban local bodies to handle water issues is a must for water management in India.

Issues Relating to Water Availability

July 09, 2019



Speaker Isher Judge Ahluwalia at the urban conversation on *Issues Relating to Water Availability*

The conversation on *Issues Relating to Water Availability* was initiated by Isher Judge Ahluwalia, Chairperson, ICRIER and Member, Water Advisory Group, Asian Development Bank.

Dr Ahluwalia focussed on governance and regulatory issues in managing water supply. She began by highlighting the inefficient use of water in agriculture, with the sector taking up 80 per cent of usable water. She pointed out that India's water productivity is far behind China, Brazil and South Korea and for every litre of water consumed, about 0.8 litres of water is wasted. In urban areas, inefficiency in water use arises from inadequate, old and dilapidated distribution networks, inefficient operations, inadequate metering, incomplete billing and collection, and a general state of poor governance. Another source of inefficiency comes from not treating wastewater and using the recycled water for specialised uses such as horticulture and for flushing toilets.

According to Dr Ahluwalia, the under-pricing of urban water also contributes to wasteful use. She cited the example of Singapore, which started by levying water charges only to cover operational and maintenance costs. Subsequently, the city-state increased the charges to cover capital costs, costs for its NEWater technology and ultimately an extra charge to encourage residents to save water. She suggested that India should follow a similar model.



**Books
&
Reports Releases**

BACKSTAGE: The Story behind India's High Growth Years

February 19, 2020



L to R: Rajat Kathuria, Montek Singh Ahluwalia, Manmohan Singh and Kapish Mehra at the release of the book *BACKSTAGE: The Story behind India's High Growth Years*

ICRIER and Rupa Publications hosted the launch of Montek Singh Ahluwalia's book *Backstage – The Story behind India's High Growth Years* on February 19, 2020. Tracing the trajectory of Dr Ahluwalia's life from humble beginnings in Secunderabad to the corridors of power in New Delhi, this book is an insider's account of how the transformation of India from a state-run to a market-based economy was shaped and scripted.

This intimate portrait of three decades of economic reforms was launched by Hon'ble Dr Manmohan Singh, former Prime Minister of India. Speaking at the event, Dr Manmohan Singh noted that the real danger is that if problems are not recognised, finding credible answers to take corrective action is unlikely. The book launch was followed by a panel discussion. The panel included P. Chidambaram, former Union Minister for Finance, Y. V. Reddy, former Governor, RBI and Bibek Debroy, Chairman, PM's Economic Council. The discussion was moderated by Rajdeep Sardesai, Consulting Editor, India Today group.

Economic Implications of Cross-Border Data Flows

November 25, 2019

The report *Economic Implications of Cross-Border Data Flows*, authored by Rajat Kathuria, Mansi Kedia, Gangesh Varma and Kaushambi Bagchi, was released by G. Narendra Nath, Joint Secretary, National Security Council Secretariat, at an event jointly organised by ICRIER and the Internet and Mobile Association of India (IAMI) on November 25, 2019.

This report builds on recent literature on data localisation to provide a reflective view on the economic implications of existing and proposed localisation measures in India. The study captures the economic impact of data localisation by presenting both domestic and global business models and the potential impact on India's international trade. It provides evidence on the economic implications of cross-border data flows for India using



Authors and Panellists at the release of the report *Economic Implications of Cross-Border Data Flows*

an econometric estimation, in-depth case studies and an enterprise survey. Using the *augmented gravity model of trade* to estimate the impact of cross-border data flows (as proxied by international internet bandwidth) on total trade, the study highlights the fact that the economic impact of data localisation is not likely to be uniform across sectors. The report recommends minimising the opportunity costs of data localisation by encouraging bilateral and multilateral data transfer arrangements and softening localisation through measures such as mirroring of critical datasets.

The report release was followed by a panel discussion, whose participants included Shubhashis Gangopadhyay, Research Director, India Development Foundation, Sandip Beri, Senior Partner, Shardul Amarchand Mangaldas & Co., and Prasanto Kumar Roy, Senior Director, FTI Consulting. The panellists highlighted the point that the nuances of regulation must be founded on an understanding of data and its value as a commercial resource.

Global Value Chains and the Missing Links: Cases from Indian Industry

November 22, 2019

The book *Global Value Chains and the Missing Links: Cases from Indian Industry*, authored by Saon Ray and Smita Miglani and published by Routledge, was launched at an event on November 22, 2019.

The book examines the reasons why India has failed to integrate with global value chains (GVCs) so far and looks at key examples to understand the impediments in this process. It brings together case studies from across manufacturing industry – labour-intensive (garment, paper and diamond), capital-intensive (automobile and petrochemical), and knowledge-intensive (semi-conductor microchip, chemical and pharmaceutical) sectors. The volume also highlights the importance of GVCs in the context of developing countries in terms of benefits such as income and value generation, knowledge and technology collaborations, and advances in systems and processes.



Authors and Panellists at the release of the book *Global Value Chains and the Missing Links: Cases from Indian Industry*

The book launch was followed by a panel discussion, whose panellists included Dev Nathan, Professor, Institute for Human Development and GenDev Centre; Bornali Bhandari, Senior Fellow, NCAER; Arpita Mukherjee, Professor, ICRIER, and Avinash Ramachandra, Former Director for Public Policy, Amazon. The discussion was moderated by Saon Ray, Senior Fellow, ICRIER.

Exploring Cost Reduction Strategies for Electric Vehicle (EV) Batteries

November 14, 2019

Electric Vehicles (EVs) are viewed as a solution to several problems – reducing emission of greenhouse gases, sustainable economic growth, improving air quality, and reducing fossil fuel imports – in India. However, the transition from a fossil fuel-based transport system to an electric mobility system faces a variety of challenges. The key findings of the project on '*Exploring cost-reduction strategies for Electric Vehicles (EV) batteries*' undertaken by ICRIER and funded by Shakti Foundation were disseminated at an event organised by ICRIER on November 14, 2019.

One of the major barriers is the distinct cost disadvantage of EVs vis-à-vis traditional internal combustion engine vehicles. The battery in an EV is its most expensive component, accounting for 50 per cent of its total cost; thus, the affordability of EVs is directly proportional to the affordability of a battery. This study identifies strategies that could reduce battery costs and make EVs affordable and improve its uptake in India's transport and mobility system and recommends a mix of policy instruments that are implementable by the central/state governments and other stakeholders like Energy Efficiency Services Limited (EESL), original equipment manufacturers (OEMs), etc.

Speaking at the event, Rajat Kathuria, Director & CE, ICRIER, discussed the vitality of the upcoming EV sector and emphasised that the rapid development of EV technology would require an extra effort to break the existing equilibrium surrounding fossil fuels and attain the new equilibrium of electric mobility. Vivek Chandran of



L to R: Himanshu Shekhar, C. K. Mishra, Rajat Kathuria and Vivek Chandran at the release of the report *Exploring Cost Reduction Strategies for Electric Vehicle (EV) Batteries*

Shakti foundation highlighted the growing importance of electric mobility in the Indian context. The chief guest at the event was C. K. Mishra, Secretary, Ministry of Environment, Forest and Climate Change (MoEF&CC). Mr Mishra emphasised the growing urgency of improved technologies in the transport sector in India in the wake of hazardous pollution levels and increasing import bills on account of fossil fuels. A presentation on the key points was made by Himanshu Shekhar, Consultant ICRIER. The presentation noted that an important highlight of the study is the ranking exercise of strategies based on industries' willingness to engage in different processes of the battery value chain undertaken by the research team.

The report release was followed by a panel discussion. The panel included Anil Srivastava, Principal Consultant & Mission Director (Mobility), NITI Aayog; Karthik Ganesan, Research Fellow, CEEW; Kuldeep Singh Kakran, Scientist, CSIR-CECRI and Sajid Mubashir, Scientist, Ministry of Science and Technology. The discussion was moderated by Amrita Goldar, Senior Fellow, ICRIER.

Exploring Trade and Investment Opportunities between India and Select African and Asian Economies

October 14, 2019

The release of the report *Exploring Trade and Investment Opportunities between India and Select African and Asian Economies*, authored by Anirudh Shingal, Neha Gupta, Minakshree Das, Akshaya Aggarwal and Varsha Jain, was organised by ICRIER on October 14, 2019. The study was funded by the Department for International Development (DFID), UK.

Using descriptive statistical analysis, this study examines trade and investment opportunities between India and 41 African and Asian economies (mostly LDCs) by focusing on the latter's export opportunities in the Indian market and on India's investment opportunities in the selected countries. It also discusses barriers to realising the identified trade and investment opportunities between India and the selected economies, based on



L to R: Rajat Kathuria, Jayant Dasgupta and Anirudh Shingal at the release of the report *Exploring Trade and Investment Opportunities between India and Select African and Asian Economies*

a review of existing literature. The study has also undertaken a quadrant analysis to identify the products and services where the selected countries still have low shares in Indian imports despite a revealed comparative advantage, suggesting the need for active trade promotion policies.

The event was chaired by Jayant Dasgupta, IAS (Retd.), and former Ambassador to the WTO. Ambassador Dasgupta noted that even though global trade has been increasing, the share of LDCs in global trade has been decreasing. He stressed the need for infrastructure and capacity building for export development. In his presentation on the study report, Anirudh Shingal, Senior Fellow, ICRIER, highlighted the growing services trade linkages between the studied countries with India.

The report release was followed by a panel discussion. The panellists included Biswajit Nag, Professor, Indian Institute of Foreign Trade (IIFT); Prabir De, Professor, RIS and Pranav Kumar, Director-International Policy and Trade, Confederation of Indian Industry (CII). The discussion was moderated by Arpita Mukherjee, Professor, ICRIER.

Low Carbon Pathways for Growth in India

September 30, 2019

The book *Low Carbon Pathways for Growth in India*, edited by Rajat Kathuria, Saon Ray and Kuntala Bandyopadhyay was released on September 30, 2019.

This book explores ways in which India can negotiate the low carbon path up until 2030, when it is expected to be the largest economy after the US and China. It comprehensively reviews the low climate pathways for India and provides a guide to the pathways that the country can adopt. India's population, energy demands and emissions will increase significantly, and the challenge is to restrict its CO₂ emissions and walk the low carbon path. Through its intended nationally determined contributions (INDCs), India has pledged to reduce its emissions significantly. Addressing the question of which low carbon paths India can adhere to without



Authors and Panellists at the release of the book *Low Carbon Pathways for Growth in India*

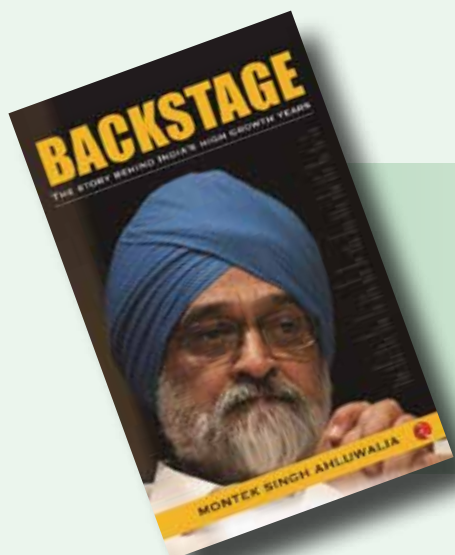
compromising its growth, the book identifies the key factors that feed into existing models of climate change and discusses the cost of action versus inaction. It also examines key issues concerning India's environment through the lens of the transport, industry and water sectors. The book concludes by looking at the policy implications for low carbon growth in India.

As part of the event, the panel discussion moderated by Subhomoy Bhattacharya, Consulting Editor, Business Standard, saw participation by Vaibhav Chaturvedi, Research Fellow, Council on Energy Environment and Water (CEEW); Meeta Keswani Mehra, Professor of Economics, Centre for International Trade and Development (CITD), JNU, Amrita Goldar, Senior Fellow, ICRIER, Shailly Kedia, Fellow, The Energy and Resources Institute (TERI), and Neha Kumar, India Programme Manager, Climate Bonds Initiative.



Publications

Books

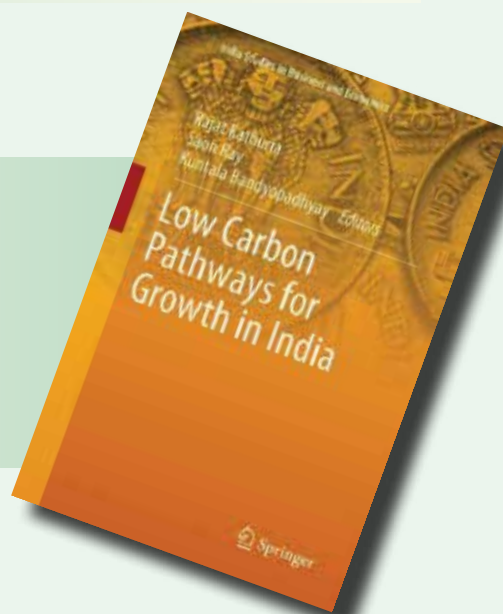


BACKSTAGE: The Story behind India's High Growth Years

Montek Singh Ahluwalia
Rupa Publications, 2020

Low Carbon Pathways for Growth in India

Rajat Kathuria, Saon Ray
and Kuntala Bandyopadhyay
Springer, 2019



Global Value Chains and the Missing Links: Cases from Indian Industry

Saon Ray and Smita Miglani
Taylor and Francis, 2019

Reports

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Nisha Taneja, Sanjana Joshi, Samridhi Bimal and Shubham Kumar Singh

ICRIER, June 2020



Liberalizing India's Insurance Sector: Challenges and Opportunities

Saon Ray (et al)

ICRIER, January 2020



Exploring Cost-reduction Strategies for Electric Vehicle (EV) Batteries

Himanshu Shekhar, Shubham Sharma, Utkarsh Patel and Viraj Sawant

ICRIER & Shakti Sustainable Energy Foundation, December 2019



Liberalising Satellite Communications in India: Opportunities for Enhanced Economic Growth

Rajat Kathuria, Mansi Kedia, Prateek Kukreja and Ujjwal Krishna

ICRIER, India SatCom & BIF, November 2019



Economic Implications of Cross-Border Data Flows

Rajat Kathuria, Mansi Kedia, Gangesh Sreekumar Varma
and Kaushambi Bagchi

ICRIER & IAMAI, November 2019



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Saon Ray, Samridhi Jain and Vasundhara Thakur
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Sindhushree Khullar, Divya Satija and Kumar Abhishek
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Working Papers

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- WP No. 392** Deb Kusum Das and Prateek Kukreja, “Value Addition, Jobs and Skills: A Study of India’s Exports”, June 2020
- WP No. 391** Jaivir Singh, Vatsala Shreeti and Parnil Urdhwaresh, “The Impact of Bilateral Investment Treaties on FDI Inflows into India: Some Empirical Results”, June 2020
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- WP No. 387** Anirudh Shingal and Maximiliano Mendez-Parra, “African Greenfield Investment and the Likely Effect of the African Continental Free Trade Area”, March 2020
- WP No. 386** Saon Ray and Smita Miglani, “India’s GVC Integration: An Analysis of Upgrading Efforts and Facilitation of Lead Firms”, February 2020
- WP No. 385** Pankaj Vashisht and Nisha Rani, “Automation and Future of Garment Sector Jobs: A Case Study of India”, September 2019
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- Radhicka Kapoor, “COVID -19 and the State of India’s Labour Market”, June 2020

Acknowledgements

ICRIER acknowledges the financial support received in 2019-20 from the following organisations for conducting research studies and organising seminars/workshops/conferences:

- American Chamber of Commerce (AMCHAM)
- Asian Development Bank (ADB)
- British High Commission
- Data Catalyst Institute
- Department for International Development (DFID), United Kingdom
- Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
- Department of Economic Affairs (DEA), Government of India
- Department of Telecommunications(DOT) Government of India
- Department of Scientific and Industrial Research (DSIR), Government of India
- Fifteenth Finance Commission, Government of India
- Ford Foundation
- Foreign & Commonwealth Office (FCO), United Kingdom
- G - 20 Saudi Secretariat
- Google India (P) Ltd.
- IDFC Foundation
- IIMA IDEA Telecom Centre of Excellence
- International Monetary Fund (IMF)
- Internet & Mobile Association of India (IAMAI)
- Indian Music Industry
- Internet Protocol Television Society
- Kotak Mahindra Bank
- Kingston University, United Kingdom
- McKinsey & Company
- Ministry of Commerce and Industry, Government of India
- Ministry of Electronics and Information Technology (MeitY), Government of India
- Ministry of Environment, Forest & Climate Change, Government of India
- National Stock Exchange of India Ltd.
- NCDEX Investor (Clients) Protection Fund Trust
- NITI Aayog
- Organisation for Economic Co-Operation and Development (OECD)
- Price Waterhouse Coopers (P) Ltd.
- Qualcomm Incorporated
- Shakti Sustainable Energy Foundation
- Tata Education and Development Trust
- The Lok Foundation
- Toshiba International Foundation
- USIN Foundation
- World Resources Institute (WRI)

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Dr Alok Sheel

Dr Nisha Taneja

Dr Rekha Jain (Sr. Visiting Prof.)

Visiting Senior Fellows

Mr Siraj Hussain

Mr Deepak Maheshwari

Dr Bharat R. Sharma

Ms Rashmi Sharma

Senior Fellows

Dr Amrita Goldar

Dr Radhicka Kapoor

Dr Ali Mehdi

Dr Saon Ray

Dr Anirudh Shingal

Dr Pankaj Vashishta

Senior Consultants

Mr Sandip Das

Ms Sanjana Joshi

Ms Shweta Saini

Fellows

Dr Samridhi Bimal

Dr Neha Gupta

Dr Mansi Kedia Jaju

Dr Shyma Jose

Dr Debarpita Roy

Dr Durgesh K. Roy

Associate Fellow

Mr Ismail Haque

In-house Consultants

Dr Chavi Asrani

Ms Kaushambi Bagchi

Ms Tanu M. Goyal

Ms Ritika Juneja

Ms Saranya Sircar

Mr Gangesh Sreekumar Varma

Mr Harsh Wardhan

Research Associates

Mr Loknath Acharya

Ms Kuntala Bandyopadhyay

Ms Pritha Banerjee

Ms Divya Chaudhary

Ms Saheli Das

Mr Prateek Kukreja

Ms Smita Miglani

Ms Richa Sekhani

Ms Isha Suri

Ms Priyanka Tomar

Research Assistants

Ms Akshaya Aggarwal

Ms Nibha Bharti

Ms Diya Dasgupta

Ms Sakshi Garg

Ms Sakshi Gupta

Ms Samridhi Jain

Ms Varsha Jain

Mr Ayush Khare

Ms Kriti Khurana

Ms Meera ML

Ms Manisha Mukherjee

Mr Anmol Nagpal

Ms Vasundhara Thakur

Mr Utsav Saxena

Ms Angana Parashar Sarma

Mr Shubham Kumar Singh

Ms Charulata Singhal

Mr Tarun

Ms Drishti Vishwanath

Administration

Secretary

Ms Geetha Nair

Senior Manager (Admin & Events)

Mr Manmeet Ahuja

IT Manager

Mr Raj Kumar Shahi

Senior Accounts Executive

Mr Prabhat Kumar

Accounts Executive

Mr Rishi Kumar

Library cum Doc. Officer

Ms Chhaya Singh

Private Secretaries

Ms Jasmine Maria Anthony

Mr Rahul Arora

Mr Anu Mohandas

Ms Priti Rajput

Mr Rajinder Singh Rawat

Mr M. Janardhan Reddy

Account Assistant

Mr Ram Kumar

Office Assistants

Ms Sonia Chopra

Mr Sharad Natha Jha

Mr Krishan Kumar

Ms Aric Mary

Ms Neha Saini

Jr. Office Assistant

Mr Rajesh Chaudhary

Reprographic Operator

Mr Pherum Singh (Consultant)

Driver

Mr Ashok Kumar Singh

Sr. Library Attendant

Mr Ajay Pal

Senior Office Attendants

Mr R. M. Yadav (Consultant)

Mr Jovinder

Office Attendants

Mr Deepak

Mr Jeet Singh

External Consultants

Suresh Chand Aggarwal

Professor

Department of Business Economics

University of Delhi, India

Rupa Chanda

Professor of Economics

IIM, Bangalore

India

Brahma Chauhan

Founder, Rocket Flyer Technology Pvt. Ltd.

Gurugram, India

Homagni Choudhury

Lecturer in Economics

Aberystwyth University

Ceredigion, UK

Michelle Chow

Consultant

Wealth Planning and Tax Withers

Hong Kong

Noshir Dadrawala

CEO, Centre for Advancement of Philanthropy

Mumbai, India

Deb Kusum Das

Associate Professor, Department of Economics

University of Delhi, India

Kavery Ganguly

Independent Consultant

Mumbai, India

Badri Narayanan Gopalakrishnan

Independent Consultant

Sammamish, Washington, USA

Ashima Goyal

Professor

Indira Gandhi Institute of Development Research

Mumbai, India

Bhushana Karandikar

Faculty & Project Consultant

Gokhale Institute of Politics and Economics

Pune, India

Tin Htoo Naing

Director

Center for Economy, Environment and Society

Myanmar

Manasi Phadke

Faculty & Project Consultant

Gokhale Institute of Politics and Economics

Pune, India

Shravani Prakash

Founder, TelleNomics

Bengaluru, India

Sanjay Pulipaka

Senior Fellow

Nehru Memorial Museum & Library (NMML)

New Delhi, India

Pravakar Sahoo

Professor

Institute of Economic Growth

Delhi, India

Himanshu Shekhar

Independent Consultant

IIM, Bengaluru

India



Faculty Activities

DIRECTOR & CHIEF EXECUTIVE

RAJAT KATHURIA**Appointed**

- Member of 'Economic Affairs Council', Confederation of Indian Industry (CII)
- Member of 'Committee on International Trade Policy and Exports', Confederation of Indian Industry (CII)
- Member of 'Board of Trustees', India Brand Equity Foundation (IBEF)
- Member of the 'Implementation Committee for Nationally Determined Contribution (NDC)', Ministry of Environment, Forest and Climate Change, Climate Change Division
- Member of 'Advisory Council of ASSOCHAM'
- Member, Editorial Board, Journal of International Commerce, Economics and Policy (JICEP) brought out by School for Policy, Government and International Affairs, George Mason University, USA

International Conferences/Seminars/Workshops

- Speaker 'Giving Direction to Post-pandemic Recovery in Developing Countries', in a webinar organised by SD Strategies, Berlin, July 2, 2020
- Speaker, ISAS-NUS roundtable on 'India's Economic Reforms: New Developments and Upcoming Prospects', webinar organised by ISAS, Singapore, June 26, 2020
- Speaker, 'G20 in the Time of Covid-19 Challenges to the Ideal of Club Governance', organised by CET, DIE, Germany, June 23, 2020
- Speaker, 'Fostering Asian Regional Co-operation and Open Regionalism in an Unsteady World', organised by Regional Co-operation and Integration Thematic Group, Asian Development Bank (ADB), Manila, November 27-28, 2019
- Speaker, 'The Global Value Chain and Economic Development', ADB-Asian Think Tank Development Forum, Yangon, October 22-23, 2019
- Speaker, 'Platform for the Future of Trade and Global Economic Interdependence', World Economic Forum, Geneva, October 7, 2019

National Conferences/Seminars/Workshops

- Speaker, 'Introduction to Internet Governance, Actors, Issues, Trends & Opportunities' in the webinar on 'The Digital Dialogues', organised by Broadband India Forum (BIF), New Delhi, June 29, 2020
- Speaker, 'Is Globalization Really Dead?' organised by Indian Council of World Affairs (ICWA), New Delhi, June 25, 2020
- Speaker, 'The Digital Dialogue 2 on occasion of World Wi-Fi Day', organised by BIF, New Delhi, June 20, 2020
- Addressed students on 'Role of Young Indians on Building an Aatma Nirbhar Bharat: A Conversation between Yourself and Youth Citizenry from Across India', organised by Confederation of Young India, New Delhi, June 18, 2020
- Speaker, 'COVID-19: An imperative to Accelerate Digitization in Government Services', organised by McKinsey, New Delhi, June 12, 2020
- Speaker, 'COVID-19 and the Evolving Geo-Politics of West Asia', organised by Ananta Aspen Centre, New Delhi, June 11, 2020

- Speaker, 'Financing as a Catalyst for the Internationalisation of SMEs', organised by European Business and Technology Centre (EBTC), New Delhi, June 11, 2020
- Addressed students on 'Narratives of Transformation Roadmap to the Future', in the webinar on 'Atmanirbhar Bharat: Challenges and Opportunities', organised by Global Youth, New Delhi, June 5, 2020
- Speaker, 'Global Supply Chains during COVID 19', organised by Carnegie India, New Delhi, May 27, 2020
- Speaker, 'A Manufacturing Strategy for India', organised by ICRIER, New Delhi, May 21, 2020
- Speaker, 'Impact of Covid-19 on India's Trade Dynamics', organised by Mahindra and Mahindra, New Delhi, May 15, 2020
- Speaker, 'SAMBANDH FIKA: What's Cooking in the Indian Economy?' organised by Swedish Chamber of Commerce India, New Delhi, February 20, 2020
- Discussant, 'India's Sanitation Challenge - WASTED, the Messy Story of India's Sanitation Challenge, a Manifesto for Change', India International Centre, New Delhi, February 10, 2020
- Panellist, 'Universal Basic Income or Central Sector Schemes?' 3rd Annual Pre-budget Seminar 2019, organised by Pahle India Foundation, New Delhi, November 19, 2019
- Speaker, 'Evolution of Regulatory Regime in Telecom Sector', in international training programme on 'Capacity Building and Sharing of Best Practices in Policy, Regulation and Development', organised by ASEAN and Telecom Regulatory Authority of India (TRAI), New Delhi, November 18, 2019
- Speaker, 'Encashing the Human Capital: Bolstering Education, Culture and People to People Ties', in 18th India-Korea Dialogue on 'Reinvigorating Strategic Ties in a Volatile World', New Delhi, November 8-9, 2019
- Presentation, 'Objective and Methodology of BRI; Data Collection from States/UTs', ICRIER and Department of Telecommunication (DOT), Chennai, September 16, 2019
- Panellist, 'For Enhanced Market Access in Trade in Services and Investment' roundtable discussion on 'Global and Regional Trade and Economic Integration Issues RCEP Track 1.5', organised by Centre for Regional Trade (CRT), New Delhi, September 13, 2019
- Speaker, 'Mid-Career Training programme for IP & TAFS Group A officers', organised by National Institute of Communication Finance (NICF), New Delhi, September 11, 2019
- Speaker, 'Unpacking India's Political Economy: The Big Policy Debates and Key Research Questions', Centre for Policy Research (CPR) and the National Institute for Public Finance Policy (NIPFP), New Delhi, September 9, 2019
- Panellist, 'E-commerce: Regulatory and Policy Milieu', Competition Commission of India (CCI), New Delhi, August 30, 2019
- Panellist, 60th Skoch summit on 'Power Panel: Climate Change and \$5 Trillion Economy', New Delhi, August 29, 2019
- Keynote Speaker, conference on 'South-South and Triangular Co-operation: Exploring New Opportunities and New Partnerships Post-BAPA+40', organised by Research and Information System for Developing Countries (RIS) with Network of Southern Think Tanks (NeST), Ministry of External Affairs, Government of India, The United Nations Office for South-South Co-operation (UNOSSC) and Forum for Indian Development Co-operation (FIDC), New Delhi, August 22-23, 2019
- Panellist, roundtable discussion on 'Enabling Policies for Sustainable Digital Economy', organised by US-India Business Council (USIBC), New Delhi, July 30, 2019

Publications

Reports

- “Society 5.0 and Artificial Intelligence with a Human Face”, with Mansi Kedia and Richa Sekhani, ICRIER, December 2019
- “Liberalising Satellite Communications in India: Opportunities for Enhanced Economic Growth”, with Mansi Kedia, Prateek Kukreja and Ujjwal Krishna, ICRIER – India SatCom – BIF, New Delhi, November 2019
- “Economic Implications of Cross-Border Data Flows”, with Mansi Kedia, Gangesh Varma and Kaushambi Bagchi, ICRIER – IAMAI, November 2019
- “The Data Centred Economy: A New Temple for a New India”, with Mansi Kedia and Kaushambi Bagchi, ICRIER, November 2019
- “Competition Issues in India’s Mobile Handset Industry”, with Mansi Kedia and Kaushambi Bagchi, ICRIER, New Delhi, October 2019
- Chapter, “The Crisis of Jobless Growth in India”, with Ujjwal Krishna, In *India Higher Education Report (IHER)* 2020

PROFESSORS

ASHOK GULATI

Appointed

- Member of the Group of Experts committee set up by the Chief Minister of Punjab to Revive the State’s Economy in the Aftermath of the Covid-19 Crisis, since April, 2020
- Director on the Board of Directors of National Commodity and Derivatives Exchange (NCDEX), since 2018
- Panel Member of the MaMo Montpellier Panel, a Group of International Agriculture Experts, since 2018
- Director on the Central Board of Directors of Reserve Bank of India (RBI) appointed by the Government of India, since 2017
- Director on the Board of Directors of the National Bank for Agriculture and Rural Development (NABARD), since 2017
- Co-Chair of the Task Force for G-20 on Ending Hunger in Sustainable Agriculture (Chair – Joachim von Braun), since 2017
- Member of the Madhya Pradesh Chief Minister’s Task Force for Agriculture, since 2016
- Member of the Rajasthan Chief Minister’s Task Force for Agriculture, since 2016

International Seminars/Conferences/Workshops

- Participated and Presented on the topic ‘Transforming India with Unity and Diversity: The Challenge of Feeding 1.35 Billion Indians’ at the 46th session of the Academy of the Kingdom of Morocco: Asia as a Horizon for Thought – India, Experiences in Modernisation and Development’, organised by the Academy of the Kingdom of Morocco, Rabat, Morocco, December 11-12, 2019
- Participated and Presented in the ‘Small Holder Roundtable’, organised by the Bayer AG Group and KPMG, Monheim, Germany, November 20-24, 2019

- Presented on 'Transforming Indian Agriculture under Modi 2.0 at the 19th Annual Conference on Indian Economic Policy: Priorities for the new Government', organised by the Stanford King Centre on Global Development, Stanford University, USA, June 3-4, 2019
- Presented in the 'International Workshop on Agricultural Innovations in India, China and Israel focussing on Agritech and its Potential to Support Agriculture in Africa', jointly organised by the TelAviv University and Syngenta Foundation, Tel Aviv, Israel, May 19-23, 2019
- Speaker in the 'Working Group to Review Agricultural Credit: Study on Credit Delivery of Small Holder Economies: Best Practices: China', co-organised by Reserve Bank of India and the Centre for the Advanced Study of India (CASI), Washington, USA, May 13-17, 2019

National Seminars/Conferences/Workshops

- Speaker, webinar on 'Impact of COVID-19 on Indian Agricultural Economy', organised by the National Stock Exchange, May 29, 2020
- Speaker, webinar on 'Steps being Taken for Agri-reforms', organised by Indo Asian Commodities, May 25, 2020
- Discussant in the roundtable discussion on 'Policies for Enhancing Private Sector Investments in Agriculture to make Indian farmer globally Competitive', organised by the Trust for Advancement of Agricultural Sciences (TAAS), New Delhi, December 14, 2019
- Participated and presented on the topic of 'Rejuvenating Indian Fertiliser Sector' at the Fertilizer Association of India Seminar 2019, organised by the Fertiliser Association of India, New Delhi, December 3, 2019
- Inaugural Lecture on 'Mapping Sustainable Agriculture', in monthly lectures and discussions on the 'Agrarian Crisis in India today', organised by the India International Centre, New Delhi, November 26, 2019
- Chaired the session on 'Mainstreaming Sustainable Agriculture to Achieve 2030 Agenda' at the 6th World Congress Conference on Rural and Agriculture Finance', jointly organised by the Asia-Pacific Rural and Agricultural Credit Association (APRACA), National Bank for Agriculture and Rural Development (NABARD) and Ministry of Agriculture, Farmers' Welfare and Co-operation, Government of India, New Delhi, November 12, 2019,
- Guest of Honour at the '8th Edition of Global Agri Connect', at the conference on 'Accelerating Investments in Climate Change Agriculture', organised by the National Skills Council of India, New Delhi, October 22, 2019
- Lecture on 'What is Needed for Agriculture Transformation in India', at 'Phase V Mid-Career Training Programme of IAS Officers on Agriculture', organised by the Lal Bahadur Shastri National Academy of Administration (LBSNAA), Dehradun, June 30 - July 1, 2019

Publications

Books/Chapters in Books

- Chapter, "Addressing Farm Distress: MSP, Loan Waivers, and Direct Income Support", co-authored with Tirtha Chatterjee and Prerna Terway, In Raj Kapila and Uma Kapila (Eds.) *Economic Developments in India*, Academic Foundation, 2019

Reports

- "Getting More from Less: Story of India's Shrinking Water Resources", co-authored with Bharat R. Sharma, Pritha Banerjee and Gayathri Mohan, ICRIER and NABARD, 2019 (*yet to be released*)

Paper in Refereed Journals

- “Reforming Indian Agriculture”, co-authored with Devesh Kapur, Marshall M. Bouton, *Economic and Political Weekly*, Vol. 55, Issue 11, March 14, 2020
- “Goal Setting for Indian Agriculture”, co-authored with Pritha Banerjee, *Economic and Political Weekly*, Vol. 55, Issue 9, February 29, 2020
- “Putting the Cart before the Horse - Agri-food in the Union Budget 2019-20”, *Economic and Political Weekly*, Vol. 54, Issue 33, Pgs 33-36, August 17, 2019

Working Papers

- “Agricultural Credit System in India: Evolution, Effectiveness and Innovations”, co-authored with Ritika Juneja, Working Paper No. 184, Centre for Development Research (ZEF), University of Bonn, September, 2019
- “Skill Development in Indian Agriculture and Food Processing Sectors: A Scoping Exercise”, co-authored with Kavary Ganguly and Joachim Von Braun, Working Paper No. 183, Centre for Development Research (ZEF), University of Bonn, September, 2019
- “Reforming Indian Agriculture”, co-authored with Devesh Kapur, Marshall M. Bouton, CASI Working Paper, August, 2019
- “Linking Farmers to Futures Market in India”, co-authored with Tirtha Chatterjee and Raghav Raghunathan, ICRIER Working Paper No. 383, August 2019

ANWARUL HODA

National Conferences/Seminars/Workshops

- Discussant, at the roundtable discussion on ‘US-India Economic Partnership’, jointly organised by ICRIER and American Chamber of Commerce (AMCHAM), New Delhi, February 25, 2020
- Chair, the lecture ‘Global Spillovers, Multilateral Cooperation and WTO Reform’ by Prof. Bernard Hoekman, Robert Schuman Chair, Director of the Global Economics Research Area of the Global Governance Programme, organised by ICRIER, New Delhi, December 4, 2019
- Chair, the talk ‘The Future of Asia – Asian Flows and Networks are Defining the Next Phase of Globalisation’, by Mr Oliver Tonby, Chairman Asia, McKinsey & Company, organised by ICRIER, New Delhi, November 20, 2019

Publication

Working Papers

- “Rethinking Export Incentives in India”, ICRIER Working Paper No. 390, May 2020

ARPITA MUKHERJEE

Appointed

- Member, Expert Committee, Traditional Knowledge Digital Library (TKDL), Council of Scientific & Industrial Research (CSIR), India, since May 2020
- Technical Expert for the Medical Technology Division & Core Group on Ayurveda, Confederation Indian Industry (CII), since May 2020
- Advisor, Invest India, since January 2020

- Member, Research Advisory Board, Innovative Change Collaborative Services Pvt. Ltd. (ICCo), since July 2019
- Member of the Board, Asian Institute of Transport Development, since April 2017
- In the Panel of Experts for Indian Union Public Service Commission (UPSC) evaluations, since June 2016

Journal Editorial/Board Memberships/Reviewer

- IMI Konnect, published by IMI Kolkata, West Bengal, India, since July 2019
- Technical Expert/Reviewer for Indian Council for Cultural Relations (ICCR), India and The Economic and Social Research Council (ESRC), UK, since March 2019
- IIMB Management Review, published by Indian Institute of Management (Bangalore), India, since December 2018
- Journal of International Business Education (JIBE), Nielson Journals Publishing, Scotland, UK, since June 2017
- South Asian Economic Journal (SAEJ), SAGE Journals Publishing in association with Institute of Policy Studies, Sri Lanka, and Research and Information System for Developing Countries, India, since June 2017
- Journal of International Commerce, Economics and Policy, published by World Scientific Publishing, Singapore, since February 2014
- Journal International Review of Public Administration (IRPA), published by Taylor and Francis Group, Korea, since January 2014

International Seminars/Conferences/Workshops

- Discussant, roundtable web discussion on 'COVID-19 & Its Impacts on Food Waste – A Multi-Stakeholder Dialogue', jointly organised by Centre for Responsible Business (CRB) and Aston India Centre for Applied Research (AICAR), Aston University, India and UK, June 19, 2020
- Moderator, webinar on 'New Mode of Collaboration between India & Vietnam in the Era of COVID -19', organised by ASSOCHAM, India and Vietnam, June 12, 2020
- Moderator, 1st international logistics webinar on 'Indo-ASEAN Trade and Logistics Business', organised by M/s Qonatus Consultus & Voice of Cargo & Logistics (VOCAL), India and ASEAN Member States, June 5, 2020
- Presentation on 'Potential and Current Challenges for Rice Export Economic Perspective', at conference on 'Quality, Standards and Effective Residue Management in Rice Export: How to Ensure Food Safety and Sustainability Compliant Rice Supply Chain?', jointly organised by German Agribusiness Alliance (GAA)-[Asia-Pacific Committee of German Business (APA)], Germany, All India Rice Exporters Association (AIREA), India, and The Rice Exporters Association (TREA), India, May 27, 2020
- Panellist, webinar on 'Unlocking ASEAN-India Trade and Value Chains in Post-Covid-19', organised by ASEAN-India Centre (AIC) in partnership with ASEAN-India Business Council (AIBC), Asian Confluence (AC), ASEAN and India, May 22, 2020
- Keynote Speaker on 'State of the Agriculture Sector – Before, During and Post-COVID-19 and its Impact on Agriculture Value Chains', at webinar on 'Enhancing Agri Trade Post-COVID-19', organised by World Trade Centre (WTC), Mumbai, May 12, 2020

- Panellist, webinar on 'Regional Integration in ASEAN and BIMSTEC Countries: Repositioning South Asia in Post-COVID Scenario', organised by Indian Chamber of Commerce (ICC), India, ASEAN and BIMSTEC, May 11, 2020
- Panellist, roundtable discussion on 'US-India Economic Partnership', jointly organised by ICRIER and American Chamber of Commerce (AMCHAM), New Delhi, February 25, 2020
- Moderator & Discussant at the international workshop on 'Trade Facilitation in Services (TFiS)', organised by the World Bank, New Delhi, December 5 & 6, 2019
- Panellist, panel discussion on 'Trade Issues: India and RCEP', organised by RAND Center for Asia Pacific Policy Advisory and Indonesian Embassy in India, New Delhi, December 4, 2019
- Moderator, panel discussion on 'Sourcing policies/practices of MNCs and Implications on Food Waste Management', at the 6th annual sustainability conference on 'India & Sustainability Standards: International Dialogues and Conference 2019', organised by Centre for Responsible Business (CRB), New Delhi, November 21, 2019
- Panellist, at the European Union-India roundtable on 'How to Boost EU-India Trade in Agri-food Products – Challenges and Opportunities for International Trade in the Indian Market,' at the seminar on 'European Union (EU) Food Standards, Farming Policy and Trade', organised by Director General for Agriculture and Rural Development of the European Commission, New Delhi, October 11, 2019
- Presented paper on 'Reshaping Innovation Policies through the 4th IR – Challenges and Opportunities for South Asian Economies', at the 12th South Asian Economic Summit on 'Shaping South Asia's Future in the Fourth Industrial Revolution (4IR)', organised by Institute of Policy Studies of Sri Lanka (IPS), Colombo, Sri Lanka in partnership with CPD, Bangladesh; RIS, India; SAWTEE, Nepal, and SDPI, Pakistan, September 27, 2019

National Conferences/Seminars/Workshops

- Panellist, webinar on 'Agro Products & Logistics Business Opportunities from North East India and connecting South East Asia', jointly organised by Qonatus Consultus, Voice of Cargo & Logistics (VOCAL) and Federation of Industries & Commerce of North- Eastern Region (FINER), June 17, 2020
- Presentation as Guest Lecturer on 'FDI in Retail and E-Commerce: India', to MBA Students of Business Administration Department, University of Engineering and Technology, Kolkata, April 21, 2020
- Presentation as Guest Lecturer on 'FDI in Retail and E-Commerce: India', to Executive Management Students of Management Development Institute (MDI), Gurugram, March 5, 2020
- Presentation on 'Overview of GATS Agreement', as a Guest Lecturer on the subject of 'International Trade and Economics / GATS' to graduate and post-graduate students of Symbiosis Law School (SLS), Pune, February 14, 2020
- Panellist at the 'Post Budget Logistics Leadership Meet' on 'The Impact of Budget 2020, Logistics Policy and Way Forward', organised by M/s Qonatus Consultus, New Delhi, February 12, 2020
- Panellist at 'The Financial Literacy Colloquy (TFLC)', organised by Vittshala – The Financial Literacy Cell of Shri Ram College of Commerce (SRCC), University of Delhi, New Delhi, January 23, 2020
- Panellist, at the Book Release 'Global Value Chains and the Missing Links: Cases from Indian Industry', organised by ICRIER, New Delhi, November 22, 2019
- Presentation on 'India and 4th Industrial Revolution (4IR)', and delivered lecture on 'Economic Growth and Employment Issues for Macroeconomic Theory & policy course' to the batch of PGDM-HR students, organised at the International Management Institute (IMI), New Delhi, November 20, 2019

- Presented paper on 'Exports from Public Sector Enterprises in India and Enhancing their Geo-strategic Reach' at 'CII PSE Summit – Public Sector Enterprises: Achieving Greater Competitiveness', organised by Confederation of Indian Industry, New Delhi, November 18, 2019
- Speaker, session on 'Bridging Gaps on Fisheries Produces, Processing Marketing - Policy Framework to Improve Skills of Marginal Farmers', at 'National Conference on Policy Reforms to Access Skills for Agrarian Prosperity', jointly organised by Innovative Change Collaborative Services Pvt. Ltd. (ICCo) and Shobit Institute of Engineering & Technology (SIE&T), New Delhi, November 7, 2019
- Presentation on 'Policy Paper: Skill Development in the Agriculture and Allied Sector in Assam: The Case of the Piggery, Fishery and the Spices Industry', jointly organised by ICRIER and Innovative Change Collaborative Services Pvt. Ltd. (ICCo), New Delhi, November 6, 2019
- Speaker, panel discussion on 'Harnessing the Potential of 5G Technologies for Shared Prosperity', organised by Jindal Initiative on Research in IP and Competition, New Delhi, August 27, 2019
- Presentations on 'ICRIER-ICCo Partnership' and 'Trade in Organic Produce and Food Products: Assam' on potential for Northeast in Organic Production to Different Stakeholders at the Stakeholder Consultations, organised by Innovative Change Collaborative Services Pvt. Ltd. (ICCo), Guwahati, August 6-10, 2019
- Keynote Address, roundtable discussion on 'Omni-channel and E-Commerce Retailing Initiative (OERI)', organised by Indian School of Business (ISB), Hyderabad, July 24, 2019

Publications

Reports

- Report, "Skill Development in the Agriculture and Allied Sectors in Assam: The case of the Piggery, Fishery and the Spices" co-authored, ICRIER and Innovative Change Collaborative (ICCo India), published by Academic Foundation, June 2020. (Policy Series – 1)
- Report, "Streamlining Food Imports for Trade Facilitation and Ease of Doing Business in India", with Divya Satija, Angana Parashar Sarma, Soham Sinha, Brahma Chauhan and Raj Kumar Shahi, published by Academic Foundation, July 2019
- Report, "Facilitating Ease of Doing Business and Supporting FSSAI in Streamlining Food Safety Compliance Ecosystem: India", with Divya Satija, Brahma Chauhan and Raj Kumar Shahi, published by Academic Foundation, July 2019
- Chapter, "Five Strategies to Revive India's Trade Post-COVID-19", in report 'Covid-19 - Challenges for the Indian Economy: Trade and Foreign Policy Effect' jointly published by EPCC, India and RIS. (Pgs. 127-130). <https://lnkd.in/g7RNMye> (last accessed on July 7, 2020)

Papers in Refereed Journals

- "Regional Co-operation in 4th IR and South Asia: Opportunities, Challenges and Way Forward", with Divya Satija, In *South Asia Economic Journal (SAEJ)*, Volume 21, Issue No. 1, Sage Publication, April 6, 2020 <https://journals.sagepub.com/doi/abs/10.1177/1391561420908078> (last accessed on July 7, 2020)
- "Special Economic Zones (SEZs) and WTO: The Case of India" with Angana Parashar Sarma, In *Transnational Dispute Management (TDM)*, ISSN 1875-4120, June 2020
- "Export Linked Subsidies in Apparels: India, USA and the WTO", co-authored, In *Indian Journal of International Economic Law (IJIEL)*, Volume XI, Pgs. 38-56, November 2019
- "Food Imports in India: Prospects, Issues and Way Forward", co-authored In *Journal of Economic Science Research (JESR)*, Vol. 2, Issue 3, July 2019, Pgs. 18-36

Working Papers

- “Public Sector Enterprises in India: Enhancing Geo-Strategic Reach and Exports”, co-authored with Angana Parashar Sarma, Ankita Barah and Arush Mohan, ICRIER Working Paper No. 388, April 2020

Others

- “Enhancing Exports Post-Covid19: Issues and Way Forward”, In *FNB News* of June 1-15 2020 issue, published by Saffron Media, June 3, 2020
- Review of the Report titled “Unleashing E-commerce for South Asian Integration” co-authored with Sanjay Kathuria, Arti Grover, Viviana MariaEugenia Perego, Aaditya Mattoo and Pritam Banerjee, In *South Asia Economic Journal (SAEJ)*, Volume 21, Issue No. 1, Sage Publication, April 2020
- “G20 and India: Decision Support System (DSS) for Pandemic COVID-19”, with Shouvik Kishore Majumdar as a Policy Paper published by [lawschoolpolicyreview.com](https://lawschoolpolicyreview.com/policy-papers/), <https://lawschoolpolicyreview.com/policy-papers/> (last accessed on May 25, 2020), April 3, 2020
- “India and RCEP: The Withdrawal and Way Forward”, with Angana Parashar Sarma in *Vocal: Voice of Cargo and Logistics*, published by Qonatus Consultus <http://vocal.org.in/india-and-rcep-the-withdrawal-and-way-forward/>, December 2019
- “PSE in India: Potential for Exports”, with Angana Parashar Sarma in ‘*PSE Insights*’, a Bi-Monthly Newsletter of the CII’s Public Sector Enterprises Council, Vol. 4, Issue 5, Pgs. 09-11, Aug-Sept. 2019
- “India-Australia Trade and Investment Relation: Future Prospects”, with Divya Satija and Nibha Bharti, In *Diplomacy and Beyond Plus: A Journal of Foreign Policy & National Affairs*, Pgs. 22-24, October 2019
- “War between US & China is a Technological One”, Trade Promotion Council of India (TPCI) Blog Post accessible at <https://www.tpci.in/blogs/war-between-us-china-is-a-technological-one/>, September 9, 2019
- “Streamlining Food Trade through Use of Technology and Data Analytics” with Divya Satija, In *India Business & Trade Magazine* published by Trade Promotion Council of India (TPCI), September 2019

ALOK SHEEL

National Conferences/Seminars/Workshops

- Speaker, webinar on ‘Monetary Policy and the Economy’, organised by Motilal Oswal Securities Ltd., June 24, 2020
- Speaker, webinar on ‘Economic Growth with Self-reliance in India’, organised by Centre for Development Studies, May 27, 2020
- Moderator, webinar on ‘COVID-19: Getting the Macroeconomic Policy Right’, organised by ICRIER, May 22, 2020
- Presentation on ‘Global and Indian Economy’ at Observer Research Foundation (ORF), New Delhi, December 21, 2019
- Chair, session on ‘Public Finance and the Macro-economy’, in 21st Annual Neemrana Conference, jointly organised by National Bureau of Economic Research, National Council of Applied Economic Research and Indian Council for Research on International Economic Relationship (ICRIER), Neemrana, December 13-15, 2019
- Chair, the G20 stakeholder consultation on ‘Traditional and Complementary Systems of Medicine in the context of SDGs, UHC and PHC’, organised by ICRIER, New Delhi, November 29, 2019

- Chair, seminar session on 'Does Choice of Contract Matter for Cost and Quality of Highways? Empirical Analysis of PPPs vs. Traditional Contracts', organised by ICRIER, September 20, 2019
- Speaker, session on 'State of the Indian Economy' at the EU Commercial & Economic Counsellors' European Union Delegation Office, New Delhi, September 5, 2019
- Panellist, in the discussion on 'State of the Indian Economy and the Vision of Moving towards a \$5 Trillion Economy by 2024 - A Fiction or a Reality', organised by National Media Centre, Gurugram, August 11, 2019
- Presented on 'India's Economic Slowdown' for 'Discourse: An Archive of Ideas', Sri Ram College of Commerce, New Delhi, August 6, 2019
- Discussant, in the session on 'Indian Economy: Opportunities, Challenges and Realities', Motilal Oswal Securities Ltd, New Delhi, August 2, 2019
- Discussant, in the session 'Indian Economy & International Economics', Embassy of France, New Delhi, July 3, 2019

NISHA TANEJA

Appointed

- Member, Working Group constituted by the Ministry of Statistics & Programme Implementation (MoSPI) to suggest appropriate methodology for base revision of Index of Industrial Production (IIP), since June 2018

International Conferences/Seminars/Workshops

- Presentation on 'India Pakistan Bilateral Trade: Present Scenario and Future Prospects' at 'The Chao Track-Economic Connectivity Dialogue - Important Information', organised by The Chao Track, Bangkok, Thailand, January 21-22, 2020
- Presentation on 'Informal Trade between India and Myanmar' at the stakeholder consultation workshop on 'India-Myanmar Trade and Connectivity: Phase II', organised by ICRIER, Myanmar, November 23, 2019
- Panellist, session on 'Promoting Trade with 41R' at 'South Asia Economic Summit XII', organised by IPS, Colombo, Sri Lanka, September 26-27, 2019
- Discussant, session on 'Belt and Road Initiative', at conference on 'Belt and Road Initiative: What are the South Asian Perspectives', organised by Centre for Policy Dialogue in Dhaka, Bangladesh, September 8, 2019

National Conferences/Seminars/Workshops

- Panellist, session on 'Challenges in Cargo Operations at ICPs/ Land Ports', at '8th Foundation Day of LPAI', organised by Land Ports Authority of India, Delhi, March 2, 2020
- Presentation on 'Civilisational Links, Federal Experiences, Inclusive Democracy, Security Dimensions, Economic Growth and Cross Border Connectivity and Freedom of Movement', at '2nd India-Nepal Bilateral Dialogue: Co-operation for Mutual Growth and Prosperity', organised by India Foundation, Lucknow, February 12-13, 2020
- Participant, roundtable discussion on 'Critical Connectivity Infrastructure in South Asia', organised by Brookings India, Delhi, February 7, 2020
- Presentation on 'Informal Trade between India and Myanmar', at the review workshop on 'India-Myanmar Trade and Connectivity: Phase II', organised by ICRIER, Delhi, February 3-4, 2020

- Presentation on 'India-Pak Trade Resumption: Scenario Building', at 2nd Working Group Meeting of the Chao Track on Economic Connectivity, organised by The Chao Track- Economic Connectivity Vertical, Delhi, January 29, 2020
- Panellist, session on 'Connectivity in BIMSTEC', at the conference 'Re-imagining BIMSTEC', organised by ORF, Kolkata, November 28-29, 2019
- Participant, roundtable discussion on 'WEF India Economic Summit 2019', organised by Global Alliance for Trade Facilitation, Delhi, October 4, 2019
- Chaired the stakeholder consultation workshop on 'Status, Challenges and Opportunities of Border Trade through the Nampong LCS, with a Special Focus on Trade Infrastructure', organised by ICRIER, Itanagar, Arunachal Pradesh, October 1, 2019
- Presentation on 'Informal Trade between India and Myanmar', at the stakeholder consultation for the project 'India-Myanmar Trade and Connectivity: Phase II', organised by ICRIER, Imphal, August 24, 2019
- Panellist, session on 'India-Sri Lanka Economic and Development Co-operation: Issues and Prospects', at the conference 'India-Sri Lanka Relations in Present Context – Is it the Time for Reorientation of Policy', organised by The Indian Council of World Affairs, Delhi, August 30, 2019
- Speaker at the brainstorming meeting on 'Connectivity and Trade Facilitation in the Bay of Bengal Region: Role of the BBIN Motor Vehicles Agreement', organised by CUTS International, Delhi, August 13, 2019
- Participant at the roundtable discussion on 'India's Role in South Asia to Improve Regional Prosperity and Stability', organised by USAID, India, Delhi, May 31, 2019
- Participant, at the roundtable discussion on 'India's Economic Footprint in CLMV Countries: Expanding Slowly and a Long Way to Go', organised by Observer Research Foundation, Delhi, April 11, 2019

Publications

Books/Chapters in Books

- Chapter, "Informal Trade in the SAARC Region", with Samridhi Bimal, In Selim Raihan and Prabir De. *Trade and Regional Integration in South Asia: A Tribute to Saman Kelegama*, Springer (2020)

Reports

- "Post COVID-19 Prospects for India-Japan Economic Partnership", with Sanjana Joshi, Samridhi Bimal and Shubham Kumar Singh, ICRIER, June 2020
- "India's Act East Policy: Facilitating India-Myanmar Border Trade", with Tin Htoo Naing, Sanjana Joshi, Thiyam Bharat Singh, Samridhi Bimal, Sakshi Garg, Riya Roy and Manali Sharma, ICRIER, July 2019

Papers in Refereed Journals

- "Indo-Nepal Trade and Investment: An Analysis", with Shravani Prakash, Samridhi Bimal, Sakshi Garg and Riya Roy, In *India Quarterly*, SAGE, Vol. 76, Issue 2, Pgs. 243-275, May 2020

Working Papers

- "India-Bhutan Economic Relations", with Samridhi Bimal, Taher Nadeem and Riya Roy, ICRIER Working Paper No. 384, August 2019
- "Strengthening India-Nepal Economic Relations", with Shravani Prakash, Samridhi Bimal, Sakshi Garg and Riya Roy, ICRIER Working Paper No. 381, July 2019

Others

- “India-Sri Lanka Trade Relations”, with Samridhi Bimal, In *The Diplomatist*, March 3, 2020
- “Resurrecting India-Pakistan Trade”, with Samridhi Bimal, In *Regional Prosperity in South Asia*, The Chao Track, January 2020

SENIOR FELLOWS

AMRITA GOLDAR

National Conferences/Seminars/Workshops

- Presentation, webinar on ‘Linking Tourism, Local Environment, and Waste Generation in Indian Himalayan States Using CGE Model: Case-Study of Uttarakhand’, organised by ICRIER, July 10, 2020
- Facilitator and Moderator ‘Electric Mobility Initiative Annual Workshop’, organised by Shakti Sustainable Energy Foundation, February 13-14, 2020
- Presented at the ‘Multi-stakeholder Planning Workshop’, organised by GIZ, Kochi, January 25, 2020
- Moderator at the dissemination event on ‘Exploring Cost Reduction Strategies for Electric Vehicle (EV) Batteries’, organised by ICRIER, November 14, 2019
- Panellist, book launch and panel discussion on ‘Low Carbon Pathways for Growth in India’, organised by ICRIER, September 30, 2019
- Paper presented, ‘Industrial Productivity and Quality of Electricity: A Three State Analysis’, with Sajal Jain, at ‘Tenth National Seminar on Industrial Statistics’, Kolkata, August 19, 2019

Publications

Working Papers

- “Climate Change & Technology Transfer – Barriers, Technologies and Mechanisms”, with Shubham Sharma, Viraj Sawant and Sajal Jain, ICRIER Working Paper No. 382, July 2019

Others

- “Analysing the Electricity Consumption Patterns in High Value Manufacturing Industries: Case-Study of Three Indian States”, with Sajal Jain, In *IMI Konnect*, Vol. 8, Issue 2, 2019

RADHICKA KAPOOR

International Conferences/Seminars/Workshops

- Presentation on, ‘Future of Work’, at ‘Social Economic Policies Asia (SOPAS) ’ workshop, organised by Konrad Adenauer Stiftung (KAS), Tokyo, Japan, December 11, 2019
- Presentation on ‘Meeting Challenges in the New World of Work under 4IR’ in the ‘12th South Asia Economic Summit’, Colombo, Sri Lanka, September 26-27, 2019
- Presentation on ‘The Future of Work in Developing Countries’, at 2nd annual conference of the World Bank-IZA-Jobs for Development Network, World Bank, Washington DC, June 6-7, 2019
- National Conferences/Seminars/Workshops
- Presentation on ‘Labour Market and the Challenge of Job Creation’ in ‘21st Annual Neemrana Conference’, jointly organised by ICRIER, NBER and NCAER, Neemrana, December 13, 2019
- Presentation on ‘The Employment Challenge: Contemporary and Future Perspectives’ in ‘61st Annual Labour Conference’, organised by Indian Society of Labour Economics, Patiala, December 7-9, 2019

- Presentation on 'An Employment Data Strategy for India' at '16th Annual India Policy Forum', organised by NCAER, New Delhi, July 8, 2019

Publication

Books/Chapters in Books

- Chapter, "Technology, Jobs and Inequality: Evidence from India's Manufacturing Sector", In *Accelerators of India's Growth: Industry, Trade and Employment*, by Suresh Chand Aggarwal, Deb Kusum Das and Rashmi Banga (eds.). Springer, 2020

Working Papers

- "COVID-19 and the State of India's Labour Market", ICRIER Policy Series No. 18, June 2020

Others

- "Understanding India's Jobs Challenge", *The India Forum*, September 2019
- "An Employment Data Strategy for India", *India Policy Forum*, July 2019

ALI MEHDI

Appointed

- Reviewer, M.Phil. Thesis at JNU, New Delhi – "Private-Public Mix in Healthcare Provision and Health Outcomes in India: A District Level Analysis", August 30, 2019
- National Conferences/Seminars/Workshops
- Presentation on 'Health and Economic Growth' in '21st Annual Neemrana Conference', jointly organised by ICRIER, NBER and NCAER, Neemrana, December 15, 2019
- Participated in roundtable on 'Australia and India – Public Health Research Excellence', organised by Australian High Commission and Public Health Foundation of India, Gurugram, November 20, 2019
- Speaker, session on 'Counterfeiting Landscape in India – Role of Government and Industry in Curbing Counterfeiting Menace' in '3rd Annual Edition of The Authentication Forum 2019', by The Authentication Solution Providers' Association (ASPA) and Messe Frankfurt India, New Delhi, November 7, 2019
- Lecture on 'Public Health Surveillance' in 'Economics Seminar Series 2019', organised by Faculty of Economics, South Asian University, New Delhi, August 22, 2019

Publications

Books/Chapters in Books

- Book, "Health of the Nation: Perspectives for a New India", with S. Irudaya Ranjan, New Delhi: Oxford University Press, 2020

SAON RAY

International Conferences/Seminars/Workshops

- Presentation on 'Structural Transformation: Case Study of India,' at the session 'Developers Dilemma', at 'WIDER Development Conference -Transforming Economies', organised by UNU-WIDER, Bangkok, September 11-13 2019

National Conferences/Seminars/Workshops

- Presentation on 'MSMEs, Emissions and Carbon Markets' at webinar on 'Carbon Market Simulation: Leveraging Markets for Emission Reductions in India' organised by WRI, May 19, 2020

- Presentation on 'What Explains India's Poor Performance in Garments Exports: Evidence from Five Clusters?' in 1st South Asian conference on 'Sustainability in Textile and Apparel Industry', New Delhi, March 3, 2020
- Discussant at presentation of paper on 'US Trade Re-alignment: The Impact of GSP Withdrawal on India's Top Exports to the United States' at Observer Research Foundation, New Delhi, February 14, 2020
- Presentation on 'Global Value Chains and the Missing Links: Cases from Indian Industry' at the launch of the book *Global Value Chains and the Missing Links*, New Delhi, November 22, 2019
- Presentation on 'Role of Technology, Innovation and Technical Efficiency for Moving up the Automotive Value Chain in India', at consultation workshop under the project "UDAY-PRIDE (UNIDO-DHI-ACMA Yojana - Professionalism, Responsibility & Innovation in Driving Excellence) - Supporting Small and Medium-sized Manufacturers in the Automotive Component Industry in India, Delhi, November 15, 2019
- Presentation of the report 'Financing Resilience against Natural Disasters' at the stakeholder consultation and report release, New Delhi, September 30, 2019
- Presentation on 'Low Carbon Pathways for Growth in India' at launch of book, New Delhi, September 30, 2019
- Moderator, panel discussion on 'Financing Resilience against Natural Disasters', New Delhi, September 30
- Discussant of paper 'Foreign Direct Investment and Technology' by Dr Dibyendu Maiti at seminar on '25 years of WTO-India partnership', organised by Engineering Export Promotion Council (EEPC), New Delhi, September 5-6, 2019
- Presentation on '\$5tn Economy by 2024: Is the 2019 Budget Moving in the Right Direction?' in a panel discussion on 'The Union Budget 2019', British High Commission, New Delhi, July 26, 2019

Publications

Books/Chapters in Books

- 'Revitalizing Multilateralism: A New World Order?' In *The Multilateral Trade System under Stress: Charting Asia's Path Forward*. Special report published by the Konrad-Adenauer-Stiftung's Regional Program on 'Social and Economic Governance in Asia (SOPAS)', 2020
- 'COVID-19, India's Trade and Global Value Chains', In AIC-EEPC, eds. 2020. *COVID-19: Challenges for the Indian Economy - Trade and Foreign Policy Effects*. ASEAN-India Centre (AIC) - Engineering Export Promotion Council of India (EEPC), New Delhi, 2020

Working Papers

- "India's Insurance Sector: Challenges and Opportunities", with Vasundhara Thakur and Kuntala Bandyopadhyay, ICRIER Working Paper No. 394, July 2020
- "Kuznets' Tension in India: Two Episodes" with Sabyasachi Kar, WIDER Working Paper 2020/24, UNU-WIDER, Helsinki, March 2020 (also Institute of Economic Growth Working Paper No. 386)
- "'India's GVC Integration: An Analysis of Upgrading Efforts and Facilitation of Lead Firms'", with Smita Miglani, ICRIER Working Paper No. 386, February 2020

Others

- Review of Sanjay Kathuria and Priya Mathur (Eds.), "Strengthening Cross-Border Value Chains: Opportunities for India and Bangladesh (English)", *South Asia Economic Journal*. Vol. 21 Issue 1, Pgs. 181-183, 2020

- Review of “Labour in Global Value Chains in Asia”, edited by Dev Nathan, Meenu Tewari and Sandip Sarkar, Cambridge University Press. 2016 In *Journal of Asian Pacific Economic Literature*
- Review of “Development with Global Value Chains: Upgrading and Innovation in Asia”, edited by Dev Nathan, Meenu Tewari and Sandip Sarkar. 2018. Cambridge University Press, In *Journal of Asian Pacific Economic Literature*
- ‘India Should Engage In GVCs In Plastics, Hosiery, Garment Sectors’, In *World Trade Centre Newsletter*, Mumbai, May 7, 2020
- ‘Impact of COVID-19 on MSMEs’ video for World Trade Centre, Mumbai, April 20, 2020
- ‘How real is India’s Electric Vehicle Dream?’, with Smita Miglani, In *Automotive Products Finder* (APF) Magazine, October 2019
- ‘What Explains India’s Poor Performance in Garments Exports?’, *Ideas for India*, August 28, 2019

ANIRUDH SHINGAL

International Conferences/Seminars/Workshops

- Presentation, ‘Aid for Trade in Services: Definition, Magnitude and Effects’, Austria Export Day, June 30, 2020
- Presentation, ‘Greenfield Investment, Services and Integration into Value-chains’, European Trade Study Group, World Trade Institute, University of Bern, September 12, 2019
- National Conferences/Seminars/Workshops
- Presentation, ‘Services Trade and Covid-19: Implications for India’, in webinar ‘Economic Fallout of Covid-19 in India’, ICRIER, New Delhi, May1, 2020
- Presentation, ‘Liberalizing vs. Facilitating Mode 4 Trade in Services’, in ‘Trade Facilitation in Services Workshop’, organised by World Bank, New Delhi, December 5, 2019

Publications

Books/Chapters in Books

- Chapter, ‘Aid for Trade in Services: Definition, Magnitude and Effects’, with Hoekman B. in Austrian National Bank and Austrian Federal Economic Chamber (2020 eds.) “*Schwerpunkt Außenwirtschaft 2019/2020*” on “*International Trade and Sustainable Development*”, Facultas Verlags- und Buchhandels AG, Vienna, 2020
- Chapter, ‘Responding to the Covid-19 Crisis: Policy Priorities for India’ in *COVID-19: Challenges for the Indian Economy - Trade and Foreign Policy Effects*, ASEAN-India Centre (AIC) - Engineering Export Promotion Council of India (EEPC), New Delhi, 2020
- Chapter, ‘Mapping Government Procurement Provisions in Preferential Trade Agreements: Evidence from a New Classification’ with V. Ereshchenko, available as ‘Public Procurement’ in A. Mattoo, M. Ruta and N. Rocha. *Handbook of Deep Trade Agreements*, World Bank, Washington DC, 2020
- Chapter, ‘Gauging Procurement Policy Change During the Crisis Era: Evidence from the Global Trade Alert’, with Evenett S. in J.F. Francois and B.M. Hoekman (eds.) *Behind-the-Border Policies: Assessing and Addressing Non-Tariff Measures*, Cambridge University Press, October 2019

Reports

- ‘India’s Strategic Engagement in Africa: Beyond the G20 ‘CwA’ Initiative’, with A. Aggarwal, ICRIER, New Delhi, February 2020

- ‘Exploring Trade and Investment Opportunities between India and Select African and Asian Economies’, with N. Gupta, M. Das, A. Aggarwal & V. Jain, ICRIER and DFID India, October 2019
- ‘Migration, Trade and Foreign Direct Investment in the Twenty-first Century: Towards a New Common Concern of Humankind’, with Cottier, T., International Organization for Migration, September 2019

Working Papers

- “Commonwealth Greenfield Investment: Stylized Facts and Effect of Commonwealth Membership”, co-authored with A. Aggarwal, International Trade Working Paper, Commonwealth Secretariat, London, June 2020
- ““Liberalizing Versus Facilitating Mode 4 Trade in Services”, Policy Research Working Paper No. WPS 9227, Washington, D.C., World Bank Group, May 2020
- “Aid for Trade and Trade in Services”, with Hoekman B., Robert Schuman Centre for Advanced Studies Research Paper No. RSCAS 2020/32
- “African Greenfield Investment and the Likely Effect of the African Continental Free Trade Area”, with M. Mendez-Parra, ICRIER Working Paper No. 387, March 2020
- “Disentangling the merchandise trade effect of Commonwealth membership”, with A. Aggarwal, Background paper for the 2020 Commonwealth Trade Report, March 2020

Papers in Refereed Journals

- “Aid for Trade and International Transactions in Goods and Services”, with Hoekman B. In *Review of International Economics*, 28(2): 320-340, May 2020, <https://doi.org/10.1111/roie.12452> (featured as CEPR VoxEU column on 13 September 2017)
- “Manufacturing Growth Accelerations in Developing Countries”, Haraguchi, N., B. Martorano, M. Sanfilippo, In *Review of Development Economics*, 23(4): 1696-1724, November 2019, <https://doi.org/10.1111/rode.12621>.

PANKAJ VASHIST

National Conferences/Seminars/Workshops

- Presentation on ‘Technology and Future of Garment Sector Job in India’, in ‘61st Labour Economics Conference’, organised by Indian Society of Labour Economics and Punjabi University Patiala, December 7, 2019
- Discussant, session on ‘Technology, Globalisation and Work’, in ‘61st Labour Economics Conference’, organised by Indian Society of Labour Economics and Punjabi University Patiala, December 7, 2019
- Lecture on “Econometrics of Qualitative data Analysis”, delivered at Panjab University Regional Centre, February 2, 2020
- Presentation, ‘Technology and Future of Jobs in India’, in ‘India Development Review Workshop’, organised by Indira Gandhi Institute for Development Research, Mumbai, November 29-30, 2019

Publications

Working Papers

- “Automation and Future of Garment Sector Jobs: A Case Study of India”, with N. Rani, ICRIER Working Paper No. 385, September 2019

Papers in Refereed Journals

- “Automation and Future of Garment Sector Jobs in India”, with N. Rani, *The Indian Journal of Labour Economics*, Vol. 63, Issue 2, Pgs.1-22, June 2020

SENIOR CONSULTANTS

SANJANA JOSHI

International Conferences/Seminars/Workshops

- Panellist, workshop on “India-Myanmar Trade and Connectivity” organised by ICRIER, Yangon, Myanmar, November 23, 2019

National Conferences/Seminars/Workshops

- Presentation on “An Overview of India-Japan Economic Relations”, seminar on “India- Japan Relations” organised by Asiatic Society, Kolkata, March 13, 2020
- Moderator, consultation on “India-Myanmar Border Trade”, organised by ICRIER, Aizawl, November 12, 2019

Publications

Reports

- “Post COVID-19 Prospects for India-Japan Economic Partnership”, with Nisha Taneja et al, ICRIER, June 2020
- “India’s Act East Policy: Facilitating India- Myanmar Border Trade”, with Nisha Taneja et al, ICRIER, July 2019

FELLOWS

SAMRIDHI BIMAL

International Conferences/Seminars/Workshops

- Panellist, workshop on ‘India-Myanmar Trade and Connectivity’ organised by ICRIER, Yangon, Myanmar, November 23, 2019

National Conferences/Seminars/Workshops

- Panellist, workshop on ‘India-Myanmar Trade and Connectivity’ organised by ICRIER, New Delhi, February 3, 2020

Publications

Books/Chapters in Books

- Chapter, “Informal Trade in the SAARC Region”, with Nisha Taneja, In Selim Raihan and Prabir De ed. *Trade and Regional Integration in South Asia: A Tribute to Saman Kelegama*, Springer, 2020

Reports

- “Post COVID-19 Prospects for India-Japan Economic Partnership”, with Nisha Taneja et al, ICRIER, June 2020
- “Resurrecting India-Pakistan Trade”, with Nisha Taneja, In *Regional Prosperity in South Asia*, The Chao Track, January 2020
- “India’s Act East Policy: Facilitating India-Myanmar Border Trade”, with Nisha Taneja et al, ICRIER, July 2019

Papers in Refereed Journals

- “Indo-Nepal Trade and Investment: An Analysis”, with Nisha Taneja et al, *India Quarterly*, Vol. 76, Issue 2, Pgs. 243-275, SAGE, May 2020

Working Papers

- “India-Bhutan Economic Relations”, with Nisha Taneja, Taher Nadeem and Riya Roy, ICRIER Working Paper No. 384, August 2019
- “Strengthening India-Nepal Economic Relations”, with Nisha Taneja (et al), ICRIER Working Paper No. 381, July 2019

Others

- “India-Sri Lanka Trade Relations”, with Nisha Taneja, *The Diplomatist*, March 3, 2020

NEHA GUPTA

International Conferences/Seminars/ Workshops

- Presentation on ‘Changing Landscape of Global Value Chains: Redefining role of Asian Economies’ at the ADB-Asian Think Tank Development Forum 2019 on ‘The Global Value Chain and Economic Development’, organised by Asian Development Bank (ADB), Yangon, Myanmar, October 22-23, 2019

Publications

Report

- “Exploring Trade and Investment Opportunities between India and Select African and Asian Economies”, , co-authored with Anirudh Shingal, Minakshee Das, Akshaya Aggarwal and Varsha Jain, DFID & ICRIER, October 2019

Papers in Refereed Journals

- “Domestic versus Imported Content in Exports: The Case of India’s Merchandise Trade”, co-authored with B Goldar, Deb Kusum Das and Pihu Das. In *Journal of South Asian Development*, Vol. 15, Issue 2, Pgs. 62-96, April 2020

Others

- “Yoga for Transforming Human Lives”. In *Kurukshetra – A Journal on Rural Development*, Publications Division, Government Of India, New Delhi, June 2020
- “Post-Lockdown: An Opportunity to Regain Aatma Nirbharta in Yoga”, In *Perspectives*, Trade Promotion Council of India, New Delhi, June 2020

MANSI KEDIA

Appointment

- Nominated Member (from ICRIER) of the Network of Indian Competition Experts (2019 – to date) for the Competition Commission of India

National Conferences/Seminars/Workshops

- Presented on the ‘Broadband Readiness Index, at a regional meeting in Guwahati, organised by ICRIER, March 2, 2020

- Speaker, webinar on 'Personal Data Protection Bill in India', organised by Internet Society (ISOC) Delhi Chapter & CCAOI, December 24, 2019
- Presentation of the Report findings for the research on 'Society 5.0 and Artificial Intelligence with a Human Face', organised by ICRIER, New Delhi, December 3, 2019
- Moderated a panel discussion on 'Internet Governance: The Indian Experience', organised by ICRIER, New Delhi, February 24, 2020
- Moderated a panel discussion on 'The Economic Implications of Cross-Border Data Flows', organised by ICRIER, New Delhi, November 25, 2019
- Panellist, session on 'Indian Digital Economy and Indian Data Protection Law', organised by the India School on Internet Governance, Kolkata, November 15-17, 2019

Publications

Reports

- "Society 5.0 and Artificial Intelligence with a Human Face", co-authored with Rajat Kathuria, Richa Sekhani and Sashank Kapilavai, ICRIER, December 2019
- "Liberalising Satellite Communications in India: Opportunities for Enhanced Economic Growth", with Rajat Kathuria, Prateek Kukreja and Ujjwal Krishna, ICRIER, New Delhi, November 2019
- "Economic Implications of Cross-Border Data Flows", co-authored with Rajat Kathuria, Gangesh Varma and Kaushambi Bagchi, ICRIER, November 2019
- "Competition Issues in India's Mobile Handset Industry", co-authored with Rajat Kathuria and Kaushambi Bagchi, ICRIER, New Delhi, October 2019

Others

- "The Data Centred Economy: A New Temple for a New India", co-authored, published online, November 2019. Access at <https://datacatalyst.org/reports/digital-tightrope-balancing-innovation-and-consumer-protection-in-the-data-driven-economy/>

RESEARCH ASSOCIATES/CONSULTANTS

CHAVI ASRANI

National Conferences/Seminars/Workshops

- Presented the paper 'Bridging the Digital Divide in India' at the '8th International Conference on Agriculture Statistics', organised by Government of India, New Delhi, November 18-21, 2019
- Speaker, 'Sports as a Practice to Attain Sustainability' at 'Sports and Sustainability Workshop', organised by TERI School of Advanced Studies, New Delhi, July 3, 2019

Publications

Papers in Refereed Journals

- "MSMEs and Competition Law in India: Victims or Perpetrators", with Palakh Jain and Ashita Allamraju, In *Review of Socio- Economic Perspectives*. Vol. 5, Issue 1, April 2020, Pgs. 23-34
- "Review of Regulatory Challenges in Digital Platforms: Cases from India", with Palakh Jain and Ashita Allamraju, In *International Journal of Psychosocial Rehabilitation*. Vol. 24, Issue 8, May 2020
- "Demographic Dividend or Demographic Nightmare", with Palakh Jain and Sonam, In *International Journal of Advanced Science and Technology*. Vol. 29, Issue 11, 2020, Pgs. 275-294

- “Understanding MPLADS: To Scrap or Re-invent?” with Palakh Jain and Ashita Allamraju, In *Journal of Governance and Public Policy*. Vol. 9, Issue 1, January-June 2019

TANU M. GOYAL

Publications

- “India’s Development Partnership with Nepal: The Paradigm Shift and Future Prospects”, ORF Expert Article, July 2019 accessible at <https://www.orfonline.org/expert-speak/india-development-partnership-nepal-paradigm-shift-future-prospects-53022/>

PRATEEK KUKREJA

National Conferences/Seminars/Workshops

- Presented paper ‘Skill Mismatch and Returns to Education in India’s Textile and Clothing Industry’, at ‘Inter-Sectoral Linkages, Productivity and Competitiveness of Agro and Food Processing Industries in India’ seminar, JNU, New Delhi, September 20-21, 2019

Publications

Reports

- “Liberalising Satellite Communications in India: Opportunities for Enhanced Economic Growth”, with Rajat Kathuria, Mansi Kedia and Ujjwal Krishna, ICRIER, India SatCom and BIF November, 2019

Working Papers

- “Value Addition, Jobs and Skills: A Study of India’s Exports”, with Deb Kusum Das, ICRIER Working Paper No. 392, June 2020



Audited Annual Accounts

Audited Annual Accounts

V SAHAI TRIPATHI & CO **CHARTERED ACCOUNTANTS**

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+91-11-23324045
E-Mail : vst@sahaitripathi.com

INDEPENDENT AUDITOR'S REPORT

To

The Members,

Indian Council for Research on International Economic Relations,

Core 6A, 4th Floor, India Habitat Centre,

New Delhi - 110003.

Opinion

We have audited the accompanying Financial Statements of **Indian Council for Research on International Economic Relations** (hereinafter referred as 'ICRIER') which comprise the Balance Sheet as at March 31, 2020 and the Income and Expenditure Account for the year then ended, and a summary of significant accounting policies and notes to accounts.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required by the Income Tax Act, 1961 ("the Act") in the manner so required and give a true and fair view in conformity with the Accounting Standards issued by Institute of Chartered Accountants of India (ICAI), and other accounting principles generally accepted in India, of the State of Affairs of the Entity as at March 31, 2020 and its deficiency or surplus for the year ended on that date.

Basis for Opinion

We conducted our audit of the financial statements in accordance with the Standards on Auditing specified by ICAI (SAs). Our responsibilities under those Standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent from the Entity in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India (ICAI) together with the independence requirements that are relevant to our audit of the financial statements under the provisions of the Act and the Rules made thereunder, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ICAI's Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.



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Information Other than the Financial Statements and Auditor's Report Thereon

The Board of Governors is responsible for the preparation of the other information. The other information comprises the information included in the Management Discussion and Analysis, Board's Report including Annexures to Board's Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained during the course of our audit or otherwise appears to be materially misstated.

If based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Management's Responsibility for the Financial Statements

Management of ICRIER is responsible for the preparation of these financial statements that give a fair view of the financial position and financial performance of ICRIER in accordance with Accounting Standards and other accounting pronouncements, to the extent applicable, issued by the Institute of Chartered Accountants of India from time to time. This responsibility includes the design implementation and maintenance of internal controls relevant to the preparation and presentations of the financial statements that gives a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.



Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.



Materiality is the magnitude of misstatements in the financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



Report on Other Legal and Regulatory Requirements

- a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
 - b) In our opinion, proper books of account as required by law have been kept by the ICRIER so far as appears from our examination of those books;
 - c) The Balance Sheet as at March 31, 2020 and the Income and Expenditure Account dealt with by this report are in agreement with the books of account;
 - d) In our opinion, the Balance Sheet as at March 31, 2020 and the Income and Expenditure Account comply with the Accounting Standards and other accounting pronouncements, to the extent applicable, issued by the Institute of Chartered Accountants of India from time to time.
-

For V Sahai Tripathi & Co.

Chartered Accountants

Firm's Registration No.: 000262N



(Mukesh Kumar Aggarwal)

Partner


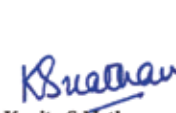

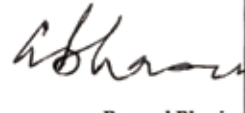

Membership No. 009069

Place: New Delhi

Dated: 21 SEP 2020

Indian Council for Research on International Economic Relations

Balance Sheet as at March 31, 2020

Particulars	Schedule No.	As at 31-Mar-20 Amount (₹)	As at 31-Mar-19 Amount (₹)
<u>SOURCES OF FUND</u>			
Endowment Fund		346,916,469	346,456,469
Opening Balance		346,456,469	345,971,469
Life Membership fee received during the year		-	5,000
Transferred from General Fund to RBI - Chair EF		460,000	480,000
Building Fund		149,767,665	150,809,215
Opening Balance		185,000,000	175,000,000
Received during the year		15,000,000	10,000,000
Accumulated depreciation reserve		(49,490,388)	(34,190,785)
Assets Scrapped (Bldg A/c)		(741,947)	-
Fixed Assets Fund-Net Block		15,956	38,893
Fixed Assets Fund-Gross Block		87,620	2,401,811
(Accumulated depreciation reserve)		(71,664)	(2,362,918)
General Fund		27,846,732	60,446,829
Opening Balance		60,446,829	55,661,901
Transferred From Income & Expenditure Account		(32,600,097)	4,784,928
Investment Equalisation Reserve		993,675	1,293,638
Current Liabilities & Provisions	1	47,535,550	33,480,019
Current Liabilities		9,093,627	11,348,517
Provisions		36,485,006	13,913,471
Grant received in advance		1,956,917	8,218,031
TOTAL		573,076,047	592,525,064
<u>APPLICATIONS OF FUND</u>			
Fixed Assets	2	174,156,759	184,171,493
Gross Block		263,718,745	261,374,853
Accumulated depreciation reserve		(89,561,986)	(77,203,360)
Investments	3	332,880,000	357,330,000
Long-term Investment		332,880,000	357,330,000
Current Assets, Loans & Advances	4	66,039,288	51,023,571
Cash and Bank		31,905,643	12,387,300
Loans, Advances & Other Recoverables		18,873,442	14,015,626
Grant Receivable		12,735,550	20,771,602
Prepaid Expenses		2,524,653	3,849,043
TOTAL		573,076,047	592,525,064
<p>Significant Accounting Policies and Notes (Schedule 7)</p> <p>In terms of our separate report of even date</p> <p>FOR V SAHAI TRIPATHI & CO</p> <p>CHARTERED ACCOUNTANTS</p> <p>Firm Reg. No. - 000262N</p> <div>     </div> <div>  <div> Mukesh Kumar Aggarwal (Partner) M. No. 009069 Place: New Delhi Date: September 21, 2020 </div> <div> Kavita S Nathan (Secretary) </div> <div> Rajat Kathuria (Director & CE) </div> <div> Pramod Bhasin (Chairperson) </div> </div>			

Indian Council for Research on International Economic Relations
Income & Expenditure account for the year ended March 31, 2020

Particulars	Schedule No.	As at 31-Mar-20 Amount (₹)	As at 31-Mar-19 Amount (₹)
A. INCOME			
Grants	5	125,329,560	124,024,883
Received during the year		126,789,497	119,056,813
Receivable during the year		12,735,550	20,771,602
Received during the year for previous year		(20,456,601)	(11,431,434)
Brought Forward from Previous Year		8,218,031	3,845,933
Carried Forward for next year		(1,956,917)	(8,218,031)
Income/Profit on Investment		25,093,112	36,745,678
Interest on Investments for the year		25,093,112	22,053,057
Profit on disposal of Mutual Fund Investment		-	14,692,621
Interest on Savings Bank Account		1,233,582	1,917,376
Exchange Rate Fluctuation		(52,647)	(27,831)
Other Income	6	3,474,009	1,108,774
TOTAL (A)		155,077,616	163,768,880
B. EXPENDITURE			
Research Expenses:-		141,828,166	112,605,782
Salaries & Allowances		61,900,812	51,997,853
Consultancy Charges		32,311,632	30,249,308
Travel Expenses		9,710,879	10,760,714
Workshops Seminars & Meetings		11,430,770	7,498,811
Publication Expenses		2,855,796	3,610,610
Communication Expenses		736,670	903,556
Library Expenses		7,359,902	7,584,931
Earned Leave		15,521,704	-
Administrative Expenses:-		32,115,386	31,420,466
Salaries & Allowances		22,808,172	26,125,558
Professional Services		801,857	688,880
Office Expenses		2,292,721	4,490,428
Fees and Subscriptions		70,450	115,600
Earned Leave		6,142,187	-
Overheads:-		11,995,790	13,164,450
Utility & Electricity Charges		1,965,898	558,168
Repair and Maintenance		8,698,493	7,901,646
Property Tax		1,331,399	4,704,636
TOTAL (B)		185,939,343	157,190,698
Surplus/(Deficit) before Tax and Depreciation (A-B)		(30,861,726)	6,578,182
Depreciation	2	16,877,186	17,954,803
Transfer of Depreciation to Fixed Assets Fund Account		(2,816)	(7,411)
Transfer of Depreciation to Building Fund Account		(15,774,449)	(16,663,597)
Loss on Sale of Fixed Assets		155,798	(2,671)
TDS Paid on Demand		22,652	32,130
Surplus/(Deficit) before appropriation		(32,140,097)	5,264,928
Appropriated to RBI Chair Endowment Fund		460,000	480,000
Surplus/(Deficit) after appropriation		(32,600,097)	4,784,928
TOTAL		155,077,616	163,768,880

Significant Accounting Policies and Notes to Accounts (Schedule 7)

In terms of our separate report of even date

FOR V SAHAI TRIPATHI & CO

CHARTERED ACCOUNTANTS

Firm Reg. No. - 000262N



Mukesh Kumar Aggarwal
(Partner)

M. No. 009069

Place: New Delhi

Date: September 21, 2020

Kavita S Nathan
(Secretary)

Rajat Kathuria
(Director & CE)

Pramod Bhasin
(Chairperson)

Indian Council for Research on International Economic Relations		
FY 2019-20		
Schedule 1		
Current Liabilities & Provisions:		
Particulars	As at 31-Mar-20 (₹)	As at 31-Mar-19 (₹)
A) Current Liabilities:-	9,093,627	11,348,517
-Sundry Creditors	5,651,623	5,992,993
-Statutory Dues	2,948,698	2,786,320
-Retention Money - Builder	493,306	2,569,204
B) Provisions:-	36,485,006	13,913,471
- Earned Leave Payable	21,663,891	-
- Expenses Payable	4,841,985	3,182,129
- Provision for Gratuity {liability (Net)} (As per Schedule 1A)	9,979,130	10,731,342
C) Grants Received in Advance:	1,956,917	8,218,031
Total	47,535,550	33,480,019

Schedule 1A

Provision for Gratuity {liability (Net)}		
Particulars	*As at 31-Mar-20 (₹)	As at 31-Mar-19 (₹)
Present value of obligations at the end of the period (as per LIC valuation)	18,101,650	17,369,078
Less : LIC Fund for Gratuity A/c	8,122,520	6,637,736
Net Unfunded Gratuity obligations	9,979,130	10,731,342

* Refer Schedule 7 Notes to Accounts Part B (5) : Provision for Employee Benefits

* Provision for Gratuity has been made as per LIC calculation.



Indian Council for Research on International Economic Relations
Details of Fixed Assets (FY 2019 - 20)

Schedule 2

(₹)

Particulars	Rate of Depreciation (%)	Gross Block			Depreciation			Net Block	
		As at 01.04.2019 Own	Additions		As at 31.03.2020	For the Year Own	Deductions	Upto 31.03.2020	As at 31.03.2020
			More than 180 days	Less than 180 days					
Air Conditioners Building (IHC)	15%	37,620	-	-	37,620	3,771	-	16,250	21,370
Car	10%	22,186,295	-	-	22,186,295	334,866	-	19,172,502	3,013,793
Computers	15%	939,111	-	-	939,111	485,656	-	553,457	385,654
Electrical Fittings	40%	8,919,936	85,019	203,255	8,621,015	282,346	586,074	8,095,669	525,146
EPABX	10%	1,063,525	-	-	1,063,525	23,606	-	851,069	212,456
Fax	15%	105,820	-	-	105,820	1,972	-	94,643	11,177
Cell Phone	15%	86,710	-	-	86,710	78,275	-	79,540	7,170
Furniture & Fixtures	15%	487,012	57,760	-	62,259	295,566	294,604	10,157	52,102
Laser Printer	10%	12,937,750	-	-	12,937,750	312,446	-	10,125,737	191,446
Misc. Equipments	40%	1,033,574	-	-	384,400	8,212	648,269	372,082	12,318
Multimedia Presentation System	15%	506,161	-	6,875	513,036	36,746	-	301,368	211,668
Overhead Projector	15%	270,400	-	-	270,400	285,266	-	266,036	4,364
Refrigerator	15%	257,770	-	-	36,060	2,616	190,547	21,233	14,827
Scanner	40%	14,500	80,015	-	94,515	11,624	-	24,058	70,457
		48,353	-	-	18,203	1,658	30,150	15,716	2,487
Total As at 31.3.2020		48,894,537	222,794	210,130	47,356,719	1,099,921	1,749,644	39,999,934	7,356,785
Total As at 31.3.2019		49,973,151	251,915	5,097	48,894,537	1,283,795	1,310,147	40,649,657	8,244,880

Funded Assets:

Funded Assets;		Rate of Depreciation (%)	Gross Block					Depreciation		Net Block				
			As at 01.04.2019	Additions		Sales/ Written Off	As at 31.03.2020	As at 01.04.2019	For the Year	Deductions	Upto 31.03.2020	As at 31.03.2020	As at 31.03.2019	
				Funded	More than 180 days									Less than 180 days
Computers	40%	2,225,473	-	-	-	2,225,473	-	2,224,358	-	-	-	-	1,115	
EPABX	15%	87,620	-	-	-	-	87,620	68,848	2,816	-	71,664	-	18,772	
Overhead Projector	15%	88,718	-	-	-	88,718	-	-	-	69,712	-	-	19,006	
Total*		2,401,811	-	-	-	2,314,191	87,620	2,362,918	2,816	2,294,070	71,664	15,956	38,893	
Land	-	33,913,421	-	-	-	-	33,913,421	-	-	-	-	33,913,421	33,913,421	
Building (Pushp Vihar)	10%	131,486,585	5,488,851	-	-	-	136,975,436	22,635,507	11,433,993	-	34,069,500	102,905,936	108,851,078	
Air Conditioner	15%	4,566,540	114,021	-	-	-	4,680,561	1,252,844	514,158	-	1,767,002	2,913,559	3,313,696	
Computers	40%	5,860,322	-	329,216	-	741,947	5,447,591	3,517,264	896,226	474,846	3,938,644	1,508,947	2,343,058	
Lift	15%	3,147,316	-	-	-	-	3,147,316	873,380	341,090	-	1,214,470	1,932,846	2,273,936	
Furniture & Fixture	10%	30,465,210	319,955	-	-	-	30,785,165	5,734,436	2,505,073	-	8,239,509	22,545,656	24,730,774	
Overhead Projector	15%	261,000	-	-	-	-	261,000	72,428	28,286	-	100,714	160,286	188,572	
Televisions	15%	378,111	-	-	-	-	378,111	104,926	40,978	-	145,904	232,207	273,185	
Misc. Equipments	15%	-	94,674	5,912	-	-	100,586	-	14,645	-	14,645	85,941	-	
Painting A/c	0	-	549,519	35,700	-	-	585,219	-	-	-	-	585,219	-	
Total**		210,076,505	6,567,020	370,828	-	741,947	216,274,406	34,190,785	15,774,449	474,846	49,490,388	166,784,018	175,887,720	
Grand Total As at 31.3.2020		261,374,853	6,789,814	580,958	-	-	263,718,745	77,203,360	16,877,186	-	89,561,986	174,156,759	184,171,493	
Total As at 31.3.2019		247,025,439	5,696,830	11,904,852	-	3,252,268	261,374,853	62,244,127	17,954,803	-	77,203,360	184,171,493	184,781,312	

* Against Capital Grant

** Against Building Fund

Refer Schedule 7 Notes to Accounts Part B (4) : ICRIER Green Building



Indian Council for Research on International Economic Relations	
FY 2019 - 20	
Schedule 5	
Details of Grant Receivable as on 31.3.2020 :	
Particulars	(₹)
Opening as on 1.4.2019	20,771,601
Less: Written off during the year	0
Less: Received during the year	20,456,601
Grant Receivable for previous F/Ys:	315,000
ADD: Grant Receivable for F/Y: 2019-2020	12,735,550
Closing as on 31.3.2020	13,050,550
Working:	
Details of Grant Receivable as on 01.04.2019	(₹)
Grant Receivable A/c - DFID	9,013,692
Grant Receivable A/c - Ecorys	1,919,650
Grant Receivable A/c - FCO	2,925,076
Grant Receivable A/c - OECD	534,481
Grant Receivable A/c - Japan Embassy	1,752,000
Grant Receivable A/c - IIMA	1,557,900
Grant Receivable A/c - NCDEX	315,000
Grant Receivable A/c - PwC	844,227
Grant Receivable -Tata Sky	1,909,575
Total	20,771,601
Grant Received During the year out of PY receivable:	
Particulars	(₹)
Grant Receivable A/c - DFID	9,013,692
Grant Receivable A/c - Ecorys	1,919,650
Grant Receivable A/c - FCO	2,925,076
Grant Receivable A/c - OECD	534,481
Grant Receivable A/c - Japan Embassy	1,752,000
Grant Receivable A/c - IIMA	1,557,900
Grant Receivable A/c - PwC	844,227
Grant Receivable -Tata Sky	1,909,575
Total	20,456,601
Grant Receivable as at 31.3.2020:	
Particulars	(₹)
Grant Receivable A/c - DFID	6,320,647
Grant Receivable A/c - Data Catalyst	1,119,000
Grant Receivable A/c - Ford	1,715,345
Grant Receivable A/c - OECD	778,923
Grant Receivable A/c - IAMAI	540,175
Grant Receivable A/c - NCDEX	495,000
Grant Receivable A/c - PwC	1,057,710
Grant Receivable - USIN	708,750
Total	12,735,550
Other Recoverables as at 31.3.2020:	
Particulars	(₹)
Seminar Grant Receivable A/c	0
Total	0
Grant Received in Advance as at 31.03.2020:	
Particulars	(₹)
Grant Received in Advance - NSE	1,956,917
Total	1,956,917

Schedule 6

Other Income:

Particulars	Current Year (₹)	Previous Year (₹)
Royalty	4,819	20,134
Interest on Income Tax Refund	-	146,398
Sundry balances Written back	219,534	-19,135
Income Recognized on Discount GOI Invtt.	244,982	317,481
Pramod Bhasin	1,500,000	-
Seminar Travel Receipts	1,244,929	-
Misc. Receipts	259,745	643,896
Total	3,474,009	1,108,774



**Indian Council for Research on International Economic Relations
For the Year Ended March 31, 2020**

**SCHEDULE 7: SIGNIFICANT ACCOUNTING POLICIES AND
NOTES TO ACCOUNTS**

(A) Accounting Policies:

1. Basis of Preparation of Financial Statements:

The financial statements of ICRIER have been prepared under the historical cost convention, on the accrual basis of accounting, in accordance with Generally Accepted Accounting Principles ("GAAP") in India. The financial statements are prepared to comply, in all material respects, with all the applicable accounting principles in India. The management evaluates all recently issued or revised Accounting Standards on an ongoing basis.

2. Use of Estimates:

The preparation of the financial statements in conformity with GAAP requires that the management makes estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent liabilities as at the date of the financial statements and the reported amounts of income and expenses during the reported period. Examples of such estimates include future obligations under employee benefit plans, the useful lives of fixed assets etc. Contingencies are recorded when it is probable that a liability will be incurred and the amount cannot be reliably estimated. When no reliable estimate can be made, a disclosure is made as contingent liability. Actual results could differ from those estimates.

3. Depreciation/ Amortization:

ICRIER follows the written down value method for providing depreciation at rates provided in the Income Tax Act, 1961 except for assets below Rs. 5,000 which are fully depreciated in the year of purchase.

Depreciation on additions to assets which are put to use for a period of more than one hundred and eighty days is provided for the full year and on additions made and put to use for less than one hundred and eighty days, fifty percent of the prescribed depreciation rate is provided. No depreciation is provided on assets sold/disposed off during the year.

4. Income Recognition:

- a) Grants are accounted for when there is reasonable certainty of their ultimate collection. The accounting policy is based on prudence and certainty.
- b) Interest accrued on fixed/term deposits is treated as income under revenue accounts of the year in which it is accrued using the time proportion method, based on underlying interest rates on accrual basis.



5. Fund Accounting:

- a) Donations received towards the corpus are carried forward in the Balance Sheet under Endowment Fund. Interest earned thereupon is used as per the terms and conditions imposed by Donor.
- b) Funds received for creation of chair/ professorship are kept intact and interest earned thereupon is used as per the terms or conditions imposed by Donor.

6. Fixed Assets:

- a) Fixed assets purchased from own funds are stated at cost including taxes, duties, freight and other incidental expenses and taxes incurred in relation to acquisition and installation of the same.
- b) Fixed assets purchased out of specific funds received from grantor(s) or donor(s), have also been capitalized and the depreciation on same has been computed as per the policy of ICRIER. The depreciation charged on such Fixed Assets has been reduced from the corresponding respective fund balance.
- c) Incidental expenditures during construction period incurred up to the date of commissioning the office building are capitalized. Cost of acquisition/construction is inclusive of freight, taxes & other incidental expenses.
- d) Expenditures on books and publications are charged to the Income and Expenditure account but a separate record of items purchased is maintained.

7. Investments:

- a) Investment for fixed period is shown as long term investment at their cost. Provision for diminution in the value is made only if in the opinion of the management the fall in value is of a permanent nature.
- b) Discount received or premium paid at the time of making investment in GOI Bonds are amortized over the period of maturity of the Bond by crediting/debiting in the Income and Expenditure Account.

8. Employee Benefits:

- a) **Short-Term Employee Benefits:**
Short-term employee benefits including salaries, social security contributions and non-monetary benefits (such as medical care) for current employees are estimated and measured on an undiscounted basis.
- b) **Defined Benefit Plan:**
The employee's gratuity scheme is the Organization's defined benefit plan. The Gratuity liability payable under the payment of Gratuity Act, 1972, provides a lump sum payment to vested employees at retirement, death, incapacitation or termination of employment, of an amount based on the respective employee's salary and tenure of employment. The liability to pay arises once an employee completes five years of uninterrupted service in the organization. It is paid/payable to employee at the time of retirement/resignation or on death to



his dependents. Organization's accrued liability towards contribution to gratuity is on the basis of actuarial valuation.

ICRIER has voluntarily applied Accounting Standard-15 on Employee Benefits which mandates that wherever applicable, the present value of the obligation under such defined benefit plans is to be determined based on actuarial valuation using the Projected Unit Credit Method, which recognizes each period of service as giving rise to additional unit of employee benefit entitlement and measures each unit separately to build up the final obligation. Actuarial gains and losses are to be recognized immediately in the Profit & Loss Account. Gains or losses on the curtailment or settlement of any defined benefit plan are recognized when the curtailment or settlement occurs. Past service cost is to be recognized as an expense on a straight-line basis over the average period until the benefits become vested.

Actuarial Valuation has been done in respect of Gratuity during the FY 2018-19. The Company has recognized the provisions in respect of gratuity on the basis of Actuarial Valuation.

c) **Earned leaves:**

Actual cost of Earned Leave has been provided for in the Books for all the employees who are on organization's enrollment on 31st March 2020.

9. **Fixed Deposits with Bank Categorized as Investments:**

- a) Investments have been made in Fixed Deposits in Scheduled Banks in compliance with Section 11(5) of the Income Tax Act, 1961.
- b) Funds received from Funding Agencies/ Donor(s) and the remaining unutilized, have been categorized under Cash & Cash Equivalents.

10. **Basis of Accounting:**

All Income & Expenses in the annual accounts are for "on-going" operations of ICRIER. All recognized gains and losses are accounted as per accrual basis of accounting.

11. **Grant Accounting:**

- a) Grants are accounted for as income when there is reasonable certainty i.e. either grant has been received and realized or sanction orders have been received. Unless there is reasonable certainty regarding their ultimate collection, grants are not recorded.
- b) In case of ongoing projects, for which grants were received also for the next period, have been carried forward as a liability to be recognized as Income for the corresponding period.

12. **Provisions and Contingencies:**

A Provision is recognized when there is a present obligation as a result of an obligating event that probably requires an outflow of resources and a reliable estimate can be made of the amount of the obligation. A disclosure for a contingent liability is made where there is a possible obligation that may, but probably will not, require an outflow of resources or where there is a possible obligation or a present obligations in respect of



which the likelihood of outflow of resources is remote, no provision or disclosure is made.

Contingent Liabilities are disclosed after an evaluation of the facts and legal aspects of the matters involved. Contingent Assets are neither recognized, nor disclosed. Provisions, Contingent Liabilities and Contingent Assets are reviewed at each Balance Sheet.

(B) Notes to Accounts:

1. Current Assets, Loans and Advances:

In the opinion of ICRIER, the current assets, loans and advances of ICRIER have a realizable value to the extent shown in the accounts and the provision for all known liabilities including depreciation are adequate.

2. Taxation:

The Director General of Income Tax (Exemptions) has with effect from the financial year 2006-07 and onwards granted exemption from income tax under sub-clause (iv) of section 10 (23C) subject to fulfilling certain conditions including application of 85% of income during the year and investment of surplus funds in specified investments. Therefore, no provision for income tax is made.

3. Depreciation on Funded Assets:

During the year ended 31st March, 2019, depreciation has been charged on funded assets with effect from date of purchase of such assets. The accumulated depreciation has been netted from the Gross Value of Fixed Assets. The corresponding depreciation on same has been shown separately under Schedule-2 on fixed assets and such amount of depreciation is deducted from Fixed Assets Fund appearing in the Balance Sheet.

4. Provisions for Employee Benefits:

Provision for Gratuity

Actuarial Valuation has been done in respect of Gratuity during the FY 2019-20. The Organization has recognized the provisions in respect of gratuity on the basis of Actuarial Valuation by LIC of India:

(Amount in Rupees)

Particulars	2019-20	2018-19
Amount recognized in Balance Sheet		
Present value of obligations as at the end of the period	1,81,01,650	1,73,69,078
Assets	81,22,520	66,37,736
+Net Liability/(Assets)	99,79,130	1,07,31,342
Retirement Age	60	60

5. Contingent liability:

Contingent liability on account of a labour dispute awaiting settlement in the Hon'ble Delhi High Court is estimated at Rs.10,00,000.

6. Plough Back to Endowment Fund:

During the year ended March 31, 2020, Rs. 4,60,000 has been appropriated to the Endowment Fund from the Income & Expenditure account which on account of Income from Investment made, as per the terms and conditions of RBI- Chair Fund Endowment Grant.



7. **Related Party Transaction:**
During the FY 2019-20, the Director & CE of ICRIER has been paid Rs. 61,41,780/- (Rs.59,44,558/- for FY 2018-19) as gross remuneration for whole time employment.
8. **Comparative Figures:**
Previous year's figures have been re-grouped or re-arranged wherever necessary.
9. **Round Off:**
The Figures in the Income & Expenditure Account and Balance Sheet are rounded off to the nearest rupee.
10. **Schedules:**
Financial Statements consist of Balance-sheet and Income & Expenditure along-with annexed Schedules, significant accounting policies and notes to accounts. **Schedules 1 to 7** form an integral part of the Balance Sheet and Income & Expenditure Account.

As per our report of even date
Attached to the balance sheet
For & on behalf of

V Sahai Tripathi & Co
Chartered Accountants

Firm Reg. No.-000262N



Mukesh Kumar Aggarwal
Partner
(M.N.-090069)

Place: New Delhi

Date: September 21, 2020

On behalf of the Board


Kavita S Nathan
Secretary


Rajat Kathuria
Director & CE


Pramod Bhasin
Chairperson

ICRIER Donors

ICRIER cherishes its status as the country's premier autonomous and independent economic policy think-tank. It has been able to nurture its treasured autonomy by establishing an Endowment Fund, the income from which helps to meet administration expenses and support research on important topics where project grant is not immediately available. Income from the endowment fund has also helped enhance ICRIER's research capacity and networking.

We appreciate the generosity of our donors and assure them that ICRIER will continue to strive to maintain its focus on policy-oriented research and achieve international standards in the quality of its research output. Prominent corporate donors to ICRIER's Endowment and Building Fund include:

- Abhishek Industries
- American Express Foundation
- Bajaj Auto Ltd.
- Bank of Credit and Commerce International (BCCI)
- Bank of Baroda
- Bank of India
- Bharat Forge Ltd.
- Bharti Enterprises
- Bharati & Suresh Shroff Memorial Trust
- Canara Bank
- Central Bank of India
- Citibank
- Corporation Bank of India
- Delhi International Airport (P) Ltd.
- Deutsche Bank
- DLF Ltd.
- DSP Merrill Lynch Ltd.
- ESSAR Group
- Financial Technologies (India) Ltd.
- Ford Foundation
- Fortis Group of Companies/Religare Enterprises
- GE Fund
- Housing Development Finance Corporation Ltd.
- HDFC Assets Management Company
- HDFC Bank
- HDFC Standard Life Insurance
- Hindustan Lever
- ICICI Bank Ltd.
- Indian Hotels Company Ltd.
- Industrial Development Bank of India
- Infosys Foundation
- Infosys Technologies Ltd.
- Infrastructure Development Finance Company
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- Ministry of Finance
- Mitsui Tokyo Kobe Bank
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- Oriental Bank of Commerce
- Pirojsha Godrej Foundation
- Punjab & Sind Bank
- Punjab National Bank
- Ranbaxy Laboratories Ltd.
- Reliance Industries Ltd.
- Reserve Bank of India
- Rohan Narayana Murty
- State Bank of India
- Sterlite Industries
- Tata Chemicals
- Tata Consultancy Services
- Tata Iron & Steel Co.
- Tata Sons (P) Ltd.
- Trident Group
- Union Bank of India
- Unit Trust of India
- WP Carey Foundation

About ICRIER

ICRIER, one of India's leading think tanks, was established in August 1981 as a not-for-profit research organisation to provide a strong economic basis for policy making. Under the current Chairperson, Dr Isher Judge Ahluwalia, ICRIER has continued and reinforced the pursuit of its original vision and in the process significantly expanded the scope of its research activities.

ICRIER is ably supported by a Board of Governors, which includes leading policy makers, academicians, opinion makers and well-known representatives of the corporate world.

ICRIER's success lies in the quality of its human capital. Led by Dr Rajat Kathuria, Director & Chief Executive, ICRIER's research team consists of highly qualified professors, senior fellows, fellows, research associates and assistants and consultants.

ICRIER conducts thematic research in the following eight thrust areas:

1. Macroeconomic Management, Financial Liberalisation and Regulation
2. Global Competitiveness of the Indian Economy – Agriculture, Manufacturing and Services
3. Challenges and Opportunities of Urbanisation
4. Climate Change and Sustainable Development
5. Physical and Social Infrastructure including Telecom, Transport, Energy and Health
6. Skill Development, Entrepreneurship and Jobs
7. Asian Economic Integration with focus on South Asia
8. Multilateral Trade Negotiations and FTAs

International conferences, seminars, public policy workshops, public lectures and publications form an integral part of ICRIER's outreach activities. ICRIER maintains a wide network of resource persons from India and abroad. It strives to attract well-qualified researchers, provides them a stimulating and scholarly work environment and encourages researchers to work in teams. ICRIER's research is widely cited by both academia and the popular press, and has over the years provided critical inputs for policy making



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