



INDIAN ASSOCIATION OF SOCIAL SCIENCE INSTITUTIONS  
**23<sup>rd</sup> IASSI ANNUAL CONFERENCE**  
25-27 OCTOBER 2024 | Mesra, Ranchi, India

# Summaries of the Conference Papers

*Organised by*

**Birla Institute of Technology**  
Mesra, Ranchi

**Institute for Human Development**  
Eastern Regional Centre, Ranchi





INDIAN ASSOCIATION OF SOCIAL SCIENCE INSTITUTIONS  
**23<sup>rd</sup> IASSI ANNUAL CONFERENCE**  
25-27 OCTOBER 2024 | Mesra, Ranchi, India

## Summaries of the Conference Paper

*Organised by*



**Birla Institute of Technology**  
Mesra, Ranchi, India



**Institute for Human Development**  
Eastern Regional Centre, Ranchi



## CONTENTS

### Theme 1 CHALLENGES OF CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT

Examining the efficacy of Inclusive DRR policies at City and District level- A case study of Ganjam District, Odisha <i>Aishwarya Bali, Kanika Bansal and Utsav Choudhury</i>	6
Organized Exclusion and the Decline in Real Income: A Critical Analysis of Fishermen's Livelihoods in Kerala's Fisheries Sector <i>Akhila Kumaran, S Irsbad Mohammed and Nasba Muneer</i>	7
Analysis of Annual and Seasonal Trends of Rainfall in Districts of Madhya Pradesh <i>Alinda George, Sobam Ghosh and Amrutha AA</i>	8
Addressing Climate Change and Sustainable Development: Role of Renewable Energy <i>Anand B. Rao</i>	9
Urban Heat Island – A strong contributor to Climate Change – Case study of Jaipur with emphasis on Urban Forestry and Sustainable Development <i>Anindita Bhattacharjee, Tania Das and Akshey Bhargava</i>	9
Integrated Plastic Waste Management in Rural & Urban Areas of Samastipur District, Bihar, India: For Effectively Waste Management and Resource Efficiency <i>Arvind Kumar</i>	10
Organic Production in India: Trend, Instability and Decomposition Analysis (2019-2022) <i>Ashu Chaudhary and Pranav Kumar Anand</i>	11
Assessing the Impact of Climate Change, Sea Water Dynamics and Economic Sustainability on Shrimp Aquaculture along the Tuticorin Coast <i>Athira Raveendran and Sacratees J</i>	11
Potentiality of Clean Energy Demand for India's Sustainable Future <i>Bidisha Chatterjee</i>	12
Perceptions about Green Buildings in a Metropolitan City: A Case of Bengaluru <i>Channamma Kambara, Manasi S and Vijayalaxshmi S</i>	13
Role of Green Technology for Sustainable Development in Agriculture <i>Deepa Kumari</i>	14
Socio-demographic and Micro Environmental Risk Factors Associated with Japanese Encephalitis and Acute Encephalitis Syndrome in Under 15 Children of Gorakhpur, Uttar Pradesh <i>Deepak Gopal</i>	15
Addressing SDG with Innovative Approaches: Cases from Selected Developmental Agencies of Jharkhand <i>Divya Swaraj and Rashmi Verma</i>	16

Timing the Transfer: Liquidity Constraints and the Transition to Clean Fuels <i>Farzana Afridi, Prabhat Barnwal and Shreya Sarkar</i>	17
Climatic Vulnerability and Health Risks: An All India Analysis <i>Girika Sharma, Purnamita Dasgupta, William Joe, Gudakesh and Madhura Chowdhari</i>	17
Rethinking Histories of Migration in West Bengal with Reference to the Indian Sundarbans and the District of Purulia <i>Indrila Guba and Atrayee Banerjee</i>	18
Integrating Indigenous Knowledge of Tribal Communities and their Traditional Practices to Enhance Sustainability Efforts <i>Ivana Chakraborty and Sanchay Ghosal</i>	19
Queering the Climate Change: Challenges and Solutions for the LGBTQIA+ Community in Climate Change <i>Jitender Bhardwaj</i>	20
Challenges of Climate Change and Dilemma on Using Chemical Pesticides in Agriculture <i>Kailas Thaware</i>	21
Decoding Emission Puzzle: How Methane and Nitrous Oxide Drive GHG Convergence Clubs <i>Keshav Sethi and Debajit Jha</i>	21
The Role of Indigenous People of India in Combating Climate Change and Resource Management Sustainability <i>Kirti and Abha Rani Sinha</i>	22
Role of CSOs (Civil Society Organizations) for Extreme Heat Management in India <i>Kshitij Gupta, Rutuj Salunkhe and Grace George</i>	23
Impact Analysis of Hybrid and High Yielding Rice Varieties (HYVs) on Productivity, Profitability and GHGs Emission in the Coastal Saline Zone of West Bengal State, India: A Multi-Criteria Approach <i>Kundan Mabato, Subhajit Banerjee, Surjakanta Pramanik and Simeon Emilov Dimitrov</i>	24
Enhancing Climate Resilience in MGNREGA: Strategies for Sustainable Development <i>Manish Ranjan</i>	25
Beyond SDGs: Quest for a New Development Paradigm through G20 Lens <i>Milindo Chakrabarti and Pratyush Sharma</i>	26
People's Response to the Global problem: Paani Foundation in Step Towards Water Conservation and Effect of Climate Change in Maharashtra <i>Nabid Hasan</i>	27
Role of Micro Enterprises in Achieving Sustainable Development Goals (SDGs) <i>Namrata Chaurasia and Umesh Pratap Singh</i>	28
Challenges of Climate Change and Sustainable Development in Rajasthan's Mining Sector <i>Nandita Roy</i>	29
Building Women's Leadership in Water Conservation: A Situational Analysis of Alwar, Rajasthan <i>Naveen Kumar and Nebul Goyal</i>	30

Contemporary Indian Climate Fiction (Cli-Fi) Films: Narrating Climate Change Concerns and Sustainable Development <i>Neha Timari</i>	31
The Impact of Theatre on Inspiring Sustainable Behaviour <i>Nirbhay Trigun</i>	32
Optimizing Water Demand Management through Consumer Willingness to Pay: A Strategy for Sustainable Water Use <i>Nirupama Tete and Lipishree Das</i>	33
Procuring Sustainable Development Through Romanticism: In the Selected Works of Wordsworth and Coleridge <i>Nupur Sharma and Ajay Majumdar</i>	34
Climate change effects and Challenges of Coffee Plantation in Dindigul District <i>P G Balasubramanian</i>	35
Spirituality and Nature as A Balance to Climate Change: Towards Sustainable Indigenous Developments <i>Pedro Henrique Azalim Cunha and Roberto Luis de Melo Monte-Mór</i>	36
The Nexus of Energy Consumption, Trade Openness, and Economic Growth on Environmental Degradation: Evidence from SAARC Countries <i>Priyanka Sahu</i>	37
Karnataka and India's Silk Industry: A Comprehensive Analysis of Sericulture Dynamics and Sustainability Practices <i>Revappa M Rebasiddanavar, Geetha GS and Gandhi Doss</i>	38
Examining the Nexus between Temperature, Economic Growth and FDI on Environmental Degradation: A Perspective on India <i>Richa George and Manasi Dash</i>	38
Case Study of Collaborative Working Model of Gujarat Based NGO to Combat Challenges of Climate Change and Achieve Sustainability <i>Riya Pathak</i>	39
Long-term Effects of Natural Disasters on Household Assets: Evidence from India <i>Rupali Tamuly and Pranab Mukhopadhyay</i>	39
Climate Change and Inequality in Karnataka <i>S Madheswaran and Gowri Prasad.K</i>	40
Inequalities and Development – G20 Action and UN Summit of the Future <i>Sabyasachi Saha and Syed Arslan Ali</i>	41
Inclusive Employment for Sustainable Development in India: An Analysis <i>Sajida Anjum</i>	42
Subsidies vs. Substitution: Forest Cover and Effectiveness of Clean Fuel Policies in Rural India <i>Samarpita Ghosh and Prasenjit Sarkhel</i>	43

Determinant of Climate Change Anxiety among College Students: A Cross-Sectional Online Study <i>Sandhya Bageri and Absar Ahmad</i>	44
Local Governance and Climate Change Action Plan in Maharashtra: Case Studies of Pune City <i>Satyendra Kumar Prasad and Bisnu Prasad Mohapatra</i>	45
A Review of Literature on the Effect of Climate Change on Agricultural Production with Specific Reference to Methodology and Models <i>Saumya Srinastava</i>	46
Relative Importance of the Determinants of CO <sub>2</sub> Emissions in the Selected Emerging Economies <i>Seema Joshi and Sachin Gupta</i>	46
The Nexus between ICT, Technological Innovation, Economic Growth, Institutional Quality and Economic Complexity on CO <sub>2</sub> Emissions: Evidence from ARDL Model <i>Shrestha Kaur</i>	47
Climate Change: An Assessment of Real-life Problems in Nation-states and Possible Global Solutions <i>Shreya Pandey</i>	48
The Causal Effects and the Impact of Climate Change: A Review of Floods in KwaZulu Natal- North and South of eThekweni <i>Simangele and Joyce M. Mdiniso</i>	49
Balancing Tradition and Modernity: The Role of Sustainability in the Era of Modernization <i>Smriti Singh, Labani Bismas and Sohini Naiya</i>	50
A Systematic Study on Climate Change: An Emergent Challenge Before the Northeastern States of India <i>Souvik Mukherjee</i>	51
Comparative Analysis of Carbon Footprint between a 3-star hotel and a 1-star hotel in Ranchi District <i>Sriya Sinha and Umesh Pratap Singh</i>	52
The Role of Courts in Promoting Climate Action from a Human Rights Perspective <i>Sudha Shrotria</i>	53
Financial Inclusion and Financial Literacy among Tribal Households: A Study of Bankura District of West Bengal, India <i>Sudipta Sarkar</i>	54
Profiling the Quagmire of Determinants and Gender-related Differential of Financial Inclusion in India: An Evidence from Decomposition Analysis <i>Sumit Kumar and Kalandi Charan Pradhan</i>	54
ESG Goals Aligned with DEI to Enhance Employee Engagement and Productivity <i>Supriya Krishnan</i>	55
Transformation of Demographics, Deforestation, and Industrialization in Plateau City, Ranchi, Jharkhand <i>Ujjwala Gupta</i>	56

Theme 2  
**TECHNOLOGICAL TRANSFORMATION  
 AND INCLUSIVE DEVELOPMENT**

Conceptualization of Virtual Market: New Horizons for Women Entrepreneurs <i>Anupam Kumari</i>	61
Transformation of Human Resource Management in the Digital Age: Recent Trends and Practices <i>Afzal Hassan Khan and Manju Bhagat</i>	64
Efficacy of Social Security Measures for Unorganized Workers – A Study in Selected Rural Regions in Burdwan District of West Bengal <i>Debanjana Roy and Soumyendra Kishore Datta</i>	64
A Preliminary Study of the Impact of 4ir on Agricultural Labour in India <i>Deepika Devi</i>	65
Opportunity to Get Rich Before Getting Old: Analysing the Demographic Capabilities of Bihar <i>Eakta Yadav and Rachna Mujoo</i>	66
Digital Literacy in India: Initiatives, Status, and Challenges <i>Geetha Rani Prakasam</i>	66
Review Paper on Organizational Structure and Workforce Discipline in Assam Tea Industry <i>Gulshan Borah</i>	67
Global Value Chains and Informality in Developing Economies: Relation between GVC Participation and the Size of Informal Economies <i>Kumar Rohit</i>	67
Beyond Food Self-Sufficiency: Green Revolution and Nutrition Risks among Females in India <i>Kumar Ashutosh</i>	68
Technological Transformation and the Changing Nature of Work: Implications for Inclusive Development in Vocational Education <i>Meghna Khurania</i>	69
Empowerment Strategies: Advancing Skills through Technical and Pedagogical Expertise <i>Merin Prakash and F.R. Alexander Pravin Durai</i>	70
India's New Skilled Workers: Skilling, Migration, Employment, and Livelihoods <i>Narayan Barman, Subhajit Banerjee, Sandhya Iyer and Sanchita Das</i>	71
Financial Inclusion through PMJDY: An Empirical Analysis <i>Neelu Kumari</i>	71
Leveraging Technology for Effective Fund Allocation in Sustainable Development Goals: A Financial Innovation Model <i>Neba Raj Singh and Suman Priyadarshi</i>	72
Impact of Trade Liberalization on Wage Inequality and Skill Formation: A Theoretical Analysis <i>Niladri Saha and Priya Brata Dutta</i>	73

Predicting and Unveiling the Drivers of Multidimensional Poverty in India: A Machine Learning Approach Integrating Satellite and Socioeconomic Data <i>Prashant Kumar Arya, Koyel Sur, Tanushree Kundu and Siddharth Dhote</i>	74
Exclusion and Access to Primary Education in Bihar: A Multi-dimensional Approach <i>Rosy Sulochana</i>	75
Financial Inclusion and Social Protection: Integrated Approaches to Support Disabled Persons <i>Seshu Babu Thiruvedula and Saraswati Raju Iyer</i>	75
Demographic and Regional Variations in Financial Literacy Among College Students of Ranchi <i>Shahin Perveen and Absar Ahmad</i>	76
Very Small Businesses (VSBs) for Economic Development – The Role of Digital Competency in Women-Owned VSBs <i>Shewli Hira, Sartaj Ahmad and Manoj Tripathi</i>	77
Determinants of FoMO among GenZ and its Coping Strategies <i>Shruti Sudha Mishra, Anita Pareek and Binita Nanda</i>	79
Factor Augmenting Technology and Elasticities of Factor Substitution in Production Structure: A Study on Indian Industries <i>Swapan Chakraborty</i>	80
Technology and Labour Process in Globalised Era <i>Vinay Kumar</i>	80
Extreme Heat Risk Impact on Small Businesses and Solutions in Five Indian Cities <i>Vishal Patbak, Satyam Singh and Grace George</i>	81
E-Commerce as a Lifeline: Mitigating Job Displacement Risks for Women in the Digital Era <i>Vishwaja Rangannagari and Saraswati Raju Iyer</i>	82
Exploring Digital Financial Inclusion in India: A Socio-Economic and Demographic Analysis Using NSSO Data <i>Zebra Tabassum and Padmini Ravindra Nath</i>	83

Theme 3  
**GOVERNANCE, INSTITUTIONS AND PUBLIC POLICY**

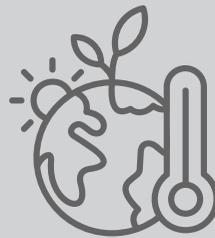
Construction and Standardisation of Attitude Scale of Elderly Towards the Health Aspects in Rural Bihar <i>Colonel Ajay Kumar Roy (Retd.), Bikeram Pattanaik and Sarda Prasad</i>	89
Ensuring Social Sector Convergence in Inclusive Urbanisation: An Empirical Study of Select Cities in Telangana <i>Alok Kumar Mishra and Iti Vyas</i>	90
Mapping Climate Change Resilience with Environmental Sustainability: A Case Study of Kolkata <i>Ankhi Sanyal</i>	90
Maternal Health Care Services in Aspirational Districts of Bihar: A Trend Analysis of Services Utilization <i>Antra Rani and Jaya Kumari Pandey</i>	91
Advancing Financial Inclusion through Incentives in Women's Health: Evidences from Field <i>Archana Sinha</i>	92
Trends and Patterns in Rural Credit of India and West Bengal: A Critical Assessment of Neo-Liberal Policies <i>Arjun Bhattacharya</i>	93
Identifying the Gaps in Health Insurance Access: Indian Evidence for 2019-21 <i>Asbrita B and Brinda Viswanathan</i>	94
New Dimension of NTFP Marketing and Women Empowerment: A Case Study of Simdega and Ranchi District of Jharkhand <i>Ashwani Kumar and Devika Modi</i>	95
Demographic Composition and Socio-Economic Divide: Evidence from Caste Census of Bihar <i>Baikunth Roy and Smita Anand</i>	95
Empowerment or Endangerment? The Nutritional Consequences of Female Employment in Rural India <i>Bandana Mondal and Prasenjit Sarkhel</i>	96
Okun's Law and Nigerian Economy: An ECM Analysis <i>Bhola Khan</i>	97
The Appropriate Oil Price Policy for India – A Macro-Theoretic Study <i>Debashree Chakraborty</i>	97
Citizen Participation in India's Smart Cities Mission: The Case of Patna <i>Deepak Kumar</i>	98
Female Specific Alternate MPIs: An Assessment for 2019-21 <i>Devika J and Brinda Viswanathan</i>	98
Poverty, Migration, Socio-Economic Discrimination and Rising Indebtedness of Illegal Immigrant Workers from Bangladesh: A Case Study in West Bengal, India <i>Dipannita Chakraborty and Parmod Kumar</i>	99

Strengthening Women & Land Rights: Contested Policies and Social Norms <i>Govind Kelkar and E. Revathi</i>	100
NICHE Tourism Products: A Solution to Seasonal Unemployment and 365 Days Tourist Destination in Bodoland Territorial Region of Assam <i>Gunajit Sarma</i>	101
Policy Planning for Ship Recycling Industry <i>Hrudanand Gunanidhi Misra</i>	101
Governance, Institutions and Polices and their Impact on Bonded Labour in India <i>Joshua Moses and Tamsukumla Pongener</i>	102
Socio-Demographic Predictors of Elementary School Attendance in Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan <i>Jyotsna Rosario</i>	102
A Travesty of Law: The Implementation of Right to Education in Patna, Bihar <i>Kalyan Shankar V and Naveen Kumar</i>	103
The Aftermath of Farmers' Suicides: Farm Widows and the Mapping of Power for Social Action <i>Kalyan Shankar V and Ira Deulgaonkar</i>	104
Forced Journeys for Healing: Health Migration and Structural Disparities in Post-COVID Rural Jharkhand <i>Keshav Sawarn</i>	105
Impact of Political Regime on Remittance Flows in Asian Countries <i>Krittika Sen Bandyopadhyay and Abhideep Khare</i>	105
Economic Growth and Diversity in India: A State-Level Analysis <i>Kumar Shaishav</i>	106
Determinants of Utilization of Integrated Child Development Services in Uttar Pradesh: A District wise Analysis <i>Lakhan Singh</i>	107
Benefits of Liberalisation for the Weaker Sections of Society <i>Madan C Sarkar</i>	108
Transgender Participation in Workforce: An Exploratory Study <i>Madhurima Dasgupta, Indranil Bose and Manish Ranjan</i>	108
Harnessing Green Technologies, Big Data Analytics, and Decentralized Governance: Denmark's Strategic Insights for Strengthening India's Jal Jeevan Mission <i>Manish Ranjan</i>	109
Leveraging Demographic Dividend for Viksit Bharat@2047 <i>Manoj Kumar and Nikita Jain</i>	110
Exploring Subaltern Politics in Defence of the National Rural Employment Guarantee Act in Neoliberal India <i>Matilde Adduci</i>	111
Judicial Self-Perceptions and the Separation of Powers in Varied Political Regime Contexts <i>Max Steuer</i>	112

Policy Perspectives on Extreme Heat Adaptation and Mitigation in India <i>Mehul Pandya, Pratiti Sasmal and Grace George</i>	113
The Sorrow of Bihar: The Need for Enhanced Governance and Innovative Policies <i>Mrutyunjay Shingare</i>	114
Caste-inflected State and Agricultural Land Grab in Patna <i>Mukesh Kumar</i>	115
Socio-Economic Linkages of GI Registered Products: An Assessment within and Beyond India <i>Nalin Bharti, Muskan Kanwar and Shivadiya</i>	116
Debate on Contract Farming Policy in India: Perspectives from Smallholder Farmers in West Bengal, India <i>Prasenjit Barik and Rajshree Bedamatta</i>	117
Each One Plant and Adopt a Tree Strategy for Sustainability <i>Prateek Khanna</i>	118
South-South Cooperation and the Right to Development in the Era of SDGs and Beyond <i>Pratyush Sharma</i>	119
Intimate Partner Violence: Looking at Intra Household Scenario using Secondary Data Analysis <i>Priyanthi Bagchi</i>	123
Addressing the Development Concerns of Uttarakhand <i>Rajendra Prasad Mamgain</i>	124
Public Policy for Developing the Underdeveloped: Promoting Employment, Generating Income and Transforming Agrarian Bihar <i>Rakesh Ranjan Kumar and Anjana Rajagopalan</i>	124
Governance of Public Procurement in India: A Legal Analysis of the Procurement Policy, Scope of Judicial Review, and Approach of the Constitutional Courts towards Interpretation of Tender Documents <i>Ravindra Kumar Singh</i>	126
The Multifaceted Nature of Crisis: Insights from Talakanpada Village, Bhadrak District, Odisha During the COVID-19 Pandemic <i>Ravindra Nath Mahto and Rasmita Das</i>	127
Tracing and Forecasting the Locus of Sex Ratio and Its Socio-Economic Correlates in 20th and 21st Century India: A Multilevel, Longitudinal Study <i>Rohan Kanti Khan, Sukhendu Samajdar and Susbovon Jana</i>	128
Ecofeminism: A Portrayal of Humanism in the Text 'Nectar in Sieve' <i>Rupa Sarkar</i>	129
An Analytical Study about the Fiscal Positions and Extent of Government Debt in North Eastern States of India <i>Rupjyoti Bordoloi</i>	130
On the Development of National Evaluation Capacities: Evidence from Karnataka, India <i>S Madheswaran and Gowri Prasad. K</i>	131

Imagining Sustainable Agriculture in Viksit Bharat @2047 <i>S P Singh</i>	132
Literacy, Employment, and Gender: Quantitative Insights into Awareness of Financial Inclusion Scheme <i>Saloni Singh</i>	133
Interrelationships between School Infrastructure and Students' Performance: An Empirical Study of Physical and Human Inputs in Selected Districts of West Bengal <i>Samir Kumer Das</i>	134
Socio-Economic Status and Learning Outcome Trajectories of EWS Students in Private Schools <i>Sathvika Prakash A</i>	135
Assessing the Self-Help Groups Financial Performance and Sustainability: Evidence from Sikkim <i>Shanti Tamang and Soumyadip Chattopadhyay</i>	136
A Comparative Analysis and Overview of Selected Nutrition Policies from India and South Africa <i>Sheetal Bhoola and Dasarath Chetty</i>	137
Role of Self-Governance within Community Organization in Shaping Sustainable Livelihood Options for Women: A Study of SHG Cluster Cooperatives in West Bengal <i>Soumik Sarkar and Tapati Bhadra Banerjee</i>	137
Underemployment: The Burgeoning Crisis that Necessitates Reinforced Governance Structures <i>Srikanth Tekumalla and Saraswati Raju Iyer</i>	139
Illuminating Regional Disparities: A Nightlight-Based Assessment of Development Pattern in Jharkhand <i>Tanushree Kundu and Prashant Kumar Arya</i>	139
Towards Understanding of Entrepreneurial Ecosystem of Women Entrepreneurs in India <i>Tomo Kawane</i>	140
The Interplay of Government Policy, Unemployment and Poverty in India: A Review <i>Veerabhadraiah C</i>	141

# THEME 1



## **CHALLENGES OF CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT**



## Challenges of Climate Change and Sustainable Development

Climate change and sustainable development represent two of the most formidable challenges facing humanity today as the world experiences global warming with an unprecedented rise in average temperature of 1.1 degrees Celsius is an indication that the age of the Anthropocene has been ushered in. The complex interplay between human activities and the Earth's climate system are likely to lead to melting ice caps, rising sea levels, more frequent and severe weather events, and disruptions to agricultural systems that threaten the stability of ecosystems and the very foundations of human prosperity. These physical changes have wide-ranging implications for human societies, economies, and natural ecosystems.

The differential responsibility for the greenhouse gas emissions in the past and the unequal adverse impact of climate change on poorer regions and people highlights the embedded inequity which translates into unequal and higher impact on poorer regions and people who are least prepared to face such consequences.

Sustainable development, as outlined by the United Nations Sustainable Development Goals (SDGs), provides a framework for addressing these multifaceted challenges. The goals advocate for an integrative approach that balances economic growth with the imperatives of social equity and environmental stewardship. However, translating these objectives into action has been fraught with difficulties, as it requires unprecedented collaboration across borders, sectors, and disciplines. In 2023, the stagnation or reversal in SDGs relating to hunger, quality education, sanitation, decent work, life below water and life on land highlights the challenges in achieving sustainable development.

Economic considerations are central to the discourse on sustainable development. The transition to a green economy necessitates a radical restructuring of existing industries, energy systems, and infrastructure. This presents both challenges, in terms of displacement and the need for new skills, and opportunities, particularly in the renewable energy sector, green technologies, and sustainable practices across various fields.

Social dimensions are equally critical. Climate change disproportionately affects the most vulnerable populations, exacerbating existing inequalities and posing severe risks to those least capable of adapting. Addressing these issues requires a focus on environmental justice, ensuring that climate policies are equitable and do not place undue burdens on the poor and marginalized.

In terms of policy responses, the Paris Agreement represents a landmark consensus on the need for global action on climate change. Yet, implementation has been patchy, with some nations falling behind on their commitments. Moreover, there is an urgent need for more ambitious targets

if we are to limit warming to 1.5 degrees Celsius above pre-industrial levels. importance. Innovation is key to addressing the challenges of climate change and achieving sustainable development. This includes technological advancements, such as carbon capture and storage, as well as innovations in policy, finance, and business models that can facilitate the widespread adoption of sustainable practices for climate change mitigation but more importantly for adaptation.

In India, climate change and sustainable development are not just policy challenges but existential ones. India is affected adversely by climate change on account of its unique topography and diversity of climatic conditions. The issue of transition from coal to cleaner fuels is also a challenge given that millions of workers depend on coal either directly or indirectly for their livelihoods. The Government of India has announced the intention to achieve net zero by 2070 and has launched several initiatives such as the solar and hydrogen missions and is ranked highest on the climate change performance index among G20 countries in 2022. The idea of Lifestyle for Environment (LiFE) focusing on changing individual and collective behaviour towards sustainable consumption and production, introduced during India's G20 presidency in 2022 and unanimously adopted by the G20 countries, opens up a newer dimension towards achieving sustainable development.

Tackling climate change and sustainable development requires an integrated approach that combines scientific understanding, technological innovation, economic restructuring, social inclusiveness, and strong governance. Only through such a holistic approach can we hope to build a resilient, sustainable future for all.

Some of the key issues that can be considered for prospective paper writers on this theme are:

- Impact of climate change on poverty and employment
- Impact of climate change on food security and strategies to meet the challenge
- Strategies for achieving energy security while transitioning to sustainable sources.
- Innovative approaches to water resource management that address scarcity and support conservation efforts.
- Role of biodiversity in maintaining ecosystem services and strategies for its conservation amid changing climate
- Climate change, disaster risk management and community led initiatives
- Circular economy practices that improve waste management and resource efficiency.
- Integrating indigenous knowledge and traditional practices to enhance sustainability efforts
- Recognizing the contribution of India's indigenous populations in combating climate change and managing resources sustainably.
- Eco feminism and climate adaptation
- Policies for promoting sustainable consumption and production to reduce environmental footprints.
- Lifestyle for Environment (LiFE) and its implications

- Challenges and opportunities in the implementation and governance of climate and sustainability initiatives.
- Financing mechanisms that effectively channel resources towards achieving sustainable development goals.
- Financial inclusion as a means to empower communities and stimulate sustainable economic growth.
- Partnerships between civil society, private sector, and government for sustainable development.
- Shifts in India's monsoon patterns attributable to climate change and their consequent effects on agricultural productivity.
- Strategies that enable India to pursue economic growth while also addressing the critical need to minimize carbon emissions.
- Policy frameworks for climate change adaptation and disaster preparedness and response.
- Waste management practices that are conducive to the advancement of a circular economy in India.
- India's challenges in fulfilling the objectives of the Paris Agreement and solutions for successful adherence.
- Reforming India's financial systems to enhance funding avenues for sustainable development initiatives.

## **Examining the efficacy of Inclusive DRR policies at City and District level- A case study of Ganjam District, Odisha**

**Aishwarya Bali**, *Jr Program Associate, National Institute of Urban Affairs, New Delhi*

**Kanika Bansal**, *Lead Universal Design and Accessibility, National Institute of Urban Affairs, New Delhi*

**Utsav Choudhury**, *Program Manager, National Institute of Urban Affairs, New Delhi*

Climate-induced disasters such as floods, cyclones, heatwaves, etc. have an imperative impact on the lives of millions of people worldwide. India, due to its geographical location, faces an increased frequency of these disasters, rendering it vulnerable to a myriad of challenges. The consequences are exacerbated when considering vulnerable groups such as persons with disabilities, women, children, and elderly. Their vulnerabilities affect access to emergency services pre-, during-, and post-disaster, underscoring the urgent need for inclusive disaster risk reduction (IDRR). Despite a comprehensive policy framework at the national level aimed at including PwDs in disaster management, the effectiveness of these policies in on-ground implementation is crucial.

The ‘Strategic Actions to build Resilience for All - SARAL (सरल)’, an initiative by NIUA seeks to mainstream inclusion across all phases of disaster management in Odisha. It highlights the importance of addressing the needs of vulnerable groups during disasters, emphasizing active involvement from marginalized communities. This paper tries to analyse the inclusion of persons with disability in disaster management through the assessment of policies and plans at different levels of governance. Further, the gap assessment from FGDs and KIIs/KPIs is used to understand the implementation and integration of these policies at the local level.

The findings reveal a strong commitment by officials and policies to integrate PwDs into disaster management processes, but also highlight significant gaps in local-level implementation. There is a comprehensive framework of policies at the international and national level and the same has to trickle down to the local level. To ensure a smooth implementation of these policies, the study advocates for a bottom-up approach that empowers local communities, particularly persons with disabilities, through localized disaster management initiatives. There is also a need for enhanced awareness and improved accessibility for the meaningful participation of PwDs in disaster management. This will create a circular channel of participation, feedback and policy formulation creating a sustainable and evidence-based governance system.

## **Organized Exclusion and the Decline in Real Income: A Critical Analysis of Fishermen's Livelihoods in Kerala's Fisheries Sector**

**Akhila Kumaran**, Ph.D. Scholar, Tata Institute of Social Sciences Mumbai,  
Maharashtra

**S Irshad Mohammed**, Assistant Professor, Tata Institute of Social Sciences Mumbai,  
Maharashtra

**Nasha Muneer**, M.A. Student, Tata Institute of Social Sciences Mumbai,  
Maharashtra

The stagnation of Kerala's fishing economy over the past six decades presents a complex challenge, deeply intertwined with the socio-economic realities faced by the state's fishing community. The period examined from the 1950s has witnessed a significant decline in fish production and the real income of fishermen, despite substantial capital investments and extensive modernization of fishing practices. The paradox lies in the fact that these advancements, instead of uplifting the economic status of the fishing community, have often left them heavily indebted, struggling to sustain their livelihoods.

The fishing economy in Kerala has historically been a vital source of income and sustenance for a significant portion of the coastal population. However, over the last sixty years, there has been a marked decline in fish production, contributing to a parallel decrease in the real income of fishermen. The introduction of advanced fishing technologies and mechanization, while initially promising increased yields, has not translated into sustainable income growth for the small-scale fishermen who form the backbone of this sector. Instead, the heavy capital required to adopt these new technologies has often led to increased debt, with many fishermen unable to recover their investments due to fluctuating fish stocks and market prices. Data from the Economic Review, ICAR-CMFRI landings data all point towards the stagnation in production and supported by case studies from selected fisheries cooperative societies in three key coastal districts, provide concrete evidence of this trend. These data reveal that while there have been periods of increased fish production, the overall trend has been one of stagnation, particularly when adjusted for inflation and rising costs. The real income of fishermen, therefore, has either remained stagnant or declined, failing to keep pace with the rising cost of living and the increasing expenses associated with modern fishing practices.

The narrative of modernization in Kerala's fisheries sector is often framed around the potential for increased productivity and economic growth. However, this perspective overlooks the uneven distribution of benefits that modernization brings. Large-scale investments in fishing infrastructure, such as mechanized boats, advanced nets, and cold storage facilities, have predominantly benefited larger, capital-rich operators. In contrast, small-scale fishermen, who lack the financial resources

to invest in such technologies, are often left behind, their traditional practices unable to compete with the efficiency of modern methods.

While the fishing economy stagnates, coastal areas in Kerala continue to attract substantial investment, not just for fishing but also for non-fishing economic activities led by multinational companies. The state's blue economy strategy, which promotes large-scale fish production and other coastal economic activities, exemplifies this trend. However, these investments often come at the cost of the local fishing community, who find themselves increasingly marginalized and alienated from the resources they once depended on.

## **Analysis of Annual and Seasonal Trends of Rainfall in Districts of Madhya Pradesh**

**Alinda George**, Assistant Professor, Christ (Deemed to be University), Bengaluru,  
Karnataka

**Soham Ghosh**, Research Scholar, Indian Institute of Technology Indore, Madhya  
Pradesh

**Amrutha AA**, Research Scholar, Indian Institute of Technology Indore, Madhya  
Pradesh

Rainfall is an essential parameter of climate, and its variation can significantly impact economies like Madhya Pradesh, which highly depend on natural resource-intensive sectors. This article tries to assess the long-term trend of annual and seasonal (pre monsoon, monsoon, post monsoon and winter) rainfall at district level in Madhya Pradesh using 123 years data (1901 to 2023). Mann-Kendall test and Sen's Slope estimator is used for assessing the direction and magnitude of trend while Pettit's test is employed to identify the year of shift in long term trend. Annual rainfall is found to have significantly decreased in 17 districts and significantly increased in 6 districts. There is a significant decrease of monsoon rainfall 11 districts, of pre monsoon rainfall in 15 districts, of post monsoon rainfall in 1 district and winter rainfall in 13 districts. Whereas, there is significantly increase in monsoon rainfall in 6 districts, pre monsoon rainfall in 2 districts and post monsoon rainfall in 1 district. The study also found that annual and monsoon rainfall has significantly increased in South-western districts, whereas significantly decreased in eastern districts. While Southern Madhya Pradesh suffered from significant decrease in pre monsoon rainfall, it is showing increasing trend in northern Madhya Pradesh. Eastern parts of the state suffer from significant decrease in post monsoon rainfall, while western parts have significant increase in post monsoon rainfall. Winter rainfall showed a decreasing trend in all the states. The results of this study have important implications in state as well as district level planning in agriculture, hydrology, disaster management and other related sectors.

## **Addressing Climate Change and Sustainable Development: Role of Renewable Energy**

**Anand B. Rao**, Institute Chair Professor & Head, Centre for Technology Alternatives for Rural Areas (C-TARA), Associate Faculty: Ashank Desai Centre for Policy Studies; Centre for Climate Studies, IIT Bombay, Mumbai

Energy is considered to be a catalyst and enabler of the development process. However, the choice of the energy resource/ energy technology is critical, and the environmental externalities of the energy consumption is a major concern. The use of conventional energy technologies using fossil fuels (coal, oil and natural gas) result in greenhouse gas (GHG) emissions that are responsible for the accelerating climate change. Climate change with its adverse impacts is a global issue. While the world is aspiring to tackle climate change problem, as well as to achieve the Sustainable Development Goals (SDGs), there are several challenges on ground. Although India is not a “major” contributor to the global GHG emissions, we are highly vulnerable to the adverse impacts of climate change, and also hold a potential to be part of the solution. Energy transition in India will have long term implications for climate change as well as the sustainable development process.

The demand for energy is increasing in India – both in the urban and the rural areas – due to the growing population, urbanization and consumerism. Majority of the rural households are still using solid biomass fuels for cooking and many are still unelectrified or inadequately electrified. So, access to modern (cleaner) energy services at affordable prices is a key challenge. Renewable energy technologies hold the potential to address a variety of concerns including energy security, energy poverty, climate change and health concerns arising out of the poor air quality. Numerous government initiatives have tried to push the renewable energy solutions, with varied degrees of success. The talk is designed to give the participants an awareness about renewable energy technologies - their importance as well as the issues in field implementation and deployment, especially in the rural areas.

## **Urban Heat Island – A strong contributor to Climate Change – Case study of Jaipur with emphasis on Urban Forestry and Sustainable Development**

**Anindita Bhattacharjee**, Assistant Professor, Amity School of Architecture and Planning, Amity University, Kolkata, West Bengal

**Tania Das**, Assistant Professor, Amity School of Architecture and Planning, Amity University, Kolkata, West Bengal

**Akshey Bhargava**, Ex. Member Secretary, Rajasthan Pollution Control Board, Rajasthan

Urban sectors are posing serious challenges presently and are likely to become an issue of great global concern in future. Around 55 percent of the total global carbon footprint is contributed

from the urban sector resulting into climate change. The resulting contributing factors are mainly on account of continuous increasing urban population, non-optimization of concreting to non-concreting urban surface and vertical to horizontal spread of urban area coupled with other environmental parameters of relevance. These environmental issues are in the form of insufficient urban air ventilation, increasing urban heat island, inadequate carrying capacity of road network leading to traffic congestion resulting into enhanced air pollution, inadequate disposal and treatment of municipal solid waste and sewage and so on so forth.

To address some of the issues referred to above, present research has been made by the authors to assess the urban heat island with emphasis on infusion of urban forestry. A case study has been carried out for Jaipur, Rajasthan which has been divided into 14 grids with 56 locations where temperatures were recorded during the months of April to June 2023. Urban heat islands were calculated for different locations in Jaipur and isopleths were drawn using Surfer-9 software. An attempt has also been made to estimate increase in energy consumption on account of Urban Heat Island effect in Jaipur. To mitigate such an alarming UHI which is partly responsible for climate change, various mitigating measures were described with special reference to infusion of Urban Forestry in Jaipur.

## **Integrated Plastic Waste Management in Rural & Urban Areas of Samastipur District, Bihar, India: For Effectively Waste Management and Resource Efficiency**

**Arvind Kumar**, Waste Management Advisor, GIZ India, Patna, Bihar

The project aims to promote a more integrated approach for maximizing materials use efficiency across the plastics waste to encourage a sustainable, and a safe environment. In this project the inclusivity of small aggregators, waste pickers (Safai Mitras) & Women led group ( Self Help Group ) will be institutionalized and within the respective governance mechanism made to affect improved social conditions. Project's target at the end of period is have a systemic approach and investments into better management of dry waste in a more circular economy approach in the City of Samastipur.

In this Program we have established 10MT / day Plastic (Dry Waste) Processing plant at Dharampur processes 10 MT / day dry waste coming from 20 block plastic waste management unit, 149 Panchayat & 20 wards & involved 6500 Women for collection, segregation, Processing & operation & maintenance of Waste processing unit at Panchayat, block & district level .

## **Organic Production in India: Trend, Instability and Decomposition Analysis (2019–2022)**

**Ashu Chaudhary**, Research Scholar, Department of Economics, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh

**Pranav Kumar Anand**, Assistant Professor, Department of Economics, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh

This paper provides an in-depth analysis of the future of organic farming in India, based on the data focusing on the period from 2019 to 2023. Amid growing concerns about the environmental and health impacts of conventional farming practices, organic farming presents a promising alternative. This study uniquely applies Compound Annual Growth Rate (CAGR), Instability Index, and Decomposition Analysis to assess the harvested area, production, and productivity of organic farming during the study period, offering a novel approach to understanding the sector's growth patterns.

The results of the research astoundingly reveal a significant upward trend in the harvested area of organic crops, driven by a positive compound growth rate. However, the productivity of organic farming has seen a sharp decline, with a negative compound growth rate of -21.3%, indicating suboptimal performance. The decomposition analysis shows that the harvested area contributed substantially to production growth, compensating for the negative impacts of declining productivity and the interaction between area and productivity.

This study highlights a critical challenge: while the expansion of organic farming areas has contributed to increased production, it is not sustainable due to declining productivity. Since land is a finite resource, further expansion cannot be the primary focus. The study recommends shifting government policies towards improving productivity through targeted interventions, including subsidies, awareness programs, and region-specific farming practices.

## **Assessing the Impact of Climate Change, Sea Water Dynamics, and Economic Sustainability on Shrimp Aquaculture along the Tuticorin Coast**

**Athira Raveendran**, Ph.D. Scholar, Department of Economics., Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu

**Sacratees J**, Professor, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu

This study examines the substantial impacts of global climate change on the marine ecosystem of the Tuticorin coast, a vital area for shrimp farming, by analyzing changes in water quality parameters from 2009 to 2018, including temperature, pH, salinity, dissolved oxygen, and nutrients. Significant increases in temperature and salinity, along with pH and nutrient level fluctuations,

indicate a departure from the coast's previously stable conditions. By comparing the 2018 water quality parameters with established shrimp culture benchmarks using a paired sample t-test, the research underscores critical deviations that could impact shrimp health, growth, and productivity. Despite the statistical significance being borderline, the practical implications for shrimp farming are undeniable. The study highlights the urgent need for adaptive strategies and policy measures to mitigate the effects of climate change on shrimp culture, ensuring its resilience and sustainability. In the context of ongoing climate change, the necessity of scientific, economic, and societal adjustments to safeguard marine-based livelihoods in regions like Tuticorin is emphasized.

Climate change presents a global challenge, affecting natural habitats, economic structures, and community life, with coastal zones facing significant impacts due to evolving climatic patterns. These changes not only threaten coastal ecosystems but also jeopardize dependent industries like coastal aquaculture. Aquaculture, a sustainable path for aquatic food production amid dwindling wild fish stocks, emerges as a viable option to meet the rising global demand for aquatic products. However, its sustainability is threatened by the impacts of climate change, necessitating adaptive and mitigative strategies to secure aquaculture's future while protecting the coastal environments it relies on. This study focuses on Tuticorin's coastal region within the Gulf of Mannar, a UNESCO Biosphere Reserve, which is significant for its shrimp farming of species like *Penaeus vannamei* and *Penaeus monodon*. These species are crucial for their nutritional benefits and market demand, highlighting Tuticorin's importance in the global shrimp market. Furthermore, shrimp farming provides essential employment, enriching the socio-economic fabric of the region.

## **Potentiality of Clean Energy Demand for India's Sustainable Future**

**Bidisha Chatterjee**, Assistant Professor, St. Xavier's College, Burdwan, West Bengal

India, the world's most populous country, is the world's third-largest emitter of greenhouse gases (GHGs) which is also increasing steadily since 2010. Despite employing several energy sources, India still relies heavily on coal, its primary energy source. Given India's swiftly rising energy demand, this challenges meeting emission reduction targets necessary for preventing negative environmental impacts and climate change. India has significantly increased investments in renewables like solar and hydrogen in recent years in order to move towards the path of sustainability and reduce energy intensity across sectors. In this context, this paper attempts to portray the energy mix in India in recent years and in the near future following the carbon emission trends over years. On the other hand, forecast total primary energy consumption in India till 2050 using both univariate and multivariate forecasting methods. For multivariate forecasting, we have assumed two alternative possibilities for GDP growth: the business-as-usual (BAUS) and the high-growth scenarios. Both univariate and multivariate forecasts under BAUS are close, and the discrepancy between them is less than 5% in the long run thus highlighting robustness of our forecasting results. The high-growth forecast is close to the other forecasts for 2030 but significantly higher for 2040 and 2050.

Based on these findings, this paper recommends that Indian government policies emphasize on expanding renewable energy resources and increasing its availability for consumption in major energy consuming sectors. Besides, from the multivariate forecasting analysis we find Gross Domestic Product and Population are the major factors affecting Total Energy Consumption. Therefore, as India's Economic Growth and Population both show a rising trend; they will initiate high demand for energy. In order to help sectors to transform themselves from dirty to clean energy sources, Central Government along with the States should look at availability of transmission channels with proper regulatory framework across the country such that development of renewables does not give rise to regional and sectoral imbalances.

## **Perceptions about Green Buildings in a Metropolitan City: A Case of Bengaluru**

**Channamma Kambara**, Assistant Professor, Centre for Research in Urban Affairs, Institute of Social and Economic Change (ISEC), Bengaluru

**Manasi S**, Professor, Institute of Social and Economic Change (ISEC), Bengaluru, Karnataka

**Vijayalakshmi S**, Assistant Professor, School of Business, RV University, Bengaluru, Karnataka

Buildings are the most prominent aspect of human living. It is evident that, as population grows, the demand for buildings increases at a faster rate. However, often the harmful environmental effects of the construction sector are ignored to cater to the demand for buildings. It is reported that nearly 40 percent of world's energy is consumed in this sector which is emitting nearly 39 percent of processed-carbon dioxide emissions. This highlights the importance of making this sector eco-friendly or what is termed recently as 'green'. In this context, the present paper tries to identify the level of awareness among the residents residing and the employees working in green buildings and to arrive at policy suggestions to increase the awareness levels so as to promote green buildings. For this two sets of respondents from Bengaluru, a fast urbanising metropolitan city in Karnataka and a place where the number of construction of green buildings are increasing, are were selected. One is the people working in the green buildings and the other is the residents of green building. The main rationale for the selection is to understand the level of awareness among them, mainly in terms of benefits related to the cost of construction, materials used, green facilities to be adopted and health improvements, as they are already residing or working in green spaces. This extensive primary survey provides interesting insights regarding the awareness and also suggest that government incentives can play a significant role in promoting the green buildings in urban set up like Bengaluru. This shows that sustainable development goals require conscious behavioural shift among the individual. In spite of the number of green buildings increasing in Bengaluru, there seems to be less awareness about it among the people who are already either staying or working in them. A theoretical model has proved that whenever an individual is made

aware of the impact, it exhibits behavioural change in him/her. Hence, there is a necessity to make the people aware of the benefits of GBs. Though there is awareness among the residents and employees about green buildings, there still lies a gap in the information reach.

## **Role of Green Technology for Sustainable Development in Agriculture**

**Deepa Kumari**, Ph.D. Scholar, Department of Commerce, V.K.S. University, Ara, Bihar

Green technology, also known as environmentally-friendly technology, has become a cornerstone in the quest for sustainable development in agriculture. The agricultural sector, traditionally associated with significant environmental degradation, is undergoing a transformative shift towards practices that prioritize ecological balance, resource efficiency, and resilience against climate change. The agricultural sector faces unprecedented challenges in meeting global food demands while mitigating environmental degradation and climate change. Green technology offers a promising solution, enabling sustainable agricultural development through innovative solutions and eco-friendly practices. This study examines the role of green technology in transforming agriculture, focusing on its potential to enhance productivity, reduce environmental impact, and promote social equity.

Green technology innovations, such as precision agriculture, vertical farming, and organic farming, are revolutionizing agricultural practices, enabling farmers to optimize crop yields, conserve water, and reduce chemical usage. These solutions not only improve agricultural productivity but also contribute to environmental sustainability by minimizing waste, conserving biodiversity, and reducing greenhouse gas emissions.

The adoption of green technology in agriculture also has socio-economic benefits, including improved livelihoods, increased farmer income, and enhanced food security. However, challenges persist, including limited access to technology, infrastructure gaps, and the need for policy and regulatory support.

The methodology used in this study is mixed method approach, case study approach and the analysis of secondary data taken from article published in research journals This study highlights the importance of addressing these challenges to ensure the widespread adoption of green technology in agriculture. It emphasizes the need for a multi-stakeholder approach, involving governments, private sector entities, and civil society organizations, to create an enabling environment for green technology development and dissemination.

In conclusion, the role of green technology in sustainable agricultural development is multifaceted, encompassing environmental protection, economic efficiency, and social equity. As the world faces escalating challenges related to climate change, population growth, and resource depletion, the adoption of green technologies in agriculture is not just beneficial but essential. It provides a pathway to a more resilient, sustainable, and equitable future, ensuring that agriculture can continue to meet the needs of a growing global population without compromising the health of our planet.

## **Socio-demographic and Micro Environmental Risk Factors Associated with Japanese Encephalitis and Acute Encephalitis Syndrome in Under 15 Children of Gorakhpur, Uttar Pradesh**

**Deepak Gopal**, Research Scholar, International Institute For Population Sciences (IIPS), Mumbai, Maharashtra

Japanese Encephalitis (JE) and Acute Encephalitis Syndrome (AES) are major public health concerns in the Gorakhpur district of India, particularly affecting children under 15 years of age. Understanding the risk factors associated with JE/AES is essential for developing effective prevention and control strategies.

This study employed a case-control design, analysing data from 400 children (200 cases and 200 controls) under 15 years old in the Gorakhpur district. Variables examined included socio-demographic factors (age, gender, parental education), environmental conditions (proximity to stagnant water, rainfall patterns), and behavioural factors (vaccination status, use of mosquito nets, sleeping pattern). Multivariate logistic regression analysis was used to identify significant risk factors for JE/AES.

The analysis revealed several significant risk factors for JE/AES. Children with complete vaccination status had a significantly lower risk compared to fully vaccinated children risk (OR = 0.59, 95% CI: 0.3-0.8). Literate mother was associated with a decreased risk (OR = 0.4, 95% CI: 0.2-0.6) compared to the illiterate mothers. Environmental factors, such as living near stagnant water bodies (OR = 3.214, 95% CI: 1.9-5.2) and pond near school (OR = 3.7, 95% CI: 1.9-7.2), were significant predictors of disease occurrence. The adjusted model shows higher risk (OR = 10.639, 95% CI: 1.2-92.0), indicating that children who go for open defecation are 10.639 times more likely to develop JE/AES after controlling for other factors. Behavioural factors, including use of mosquito ointment (OR = 0.154, 95% CI: 0.09-0.2), also contributed to the lower risk of JE/AES.

Children having access to animal sheds demonstrate significantly higher odds of JE/AES compared to those without access (OR = 1.675, 95% CI: 1.132-2.478,  $p = 0.010$ ). After adjustment, the association between child access to animal sheds and JE/AES risk strengthens significantly (Adjusted OR = 4.064, 95% CI: 1.548-10.666,  $p = 0.004$ ), indicating children with access to animal sheds are over 4 times more likely to contract JE/AES. This likely reflects the increased exposure to mosquitoes in these environments, which are common breeding grounds for vectors of JE/AES.

Detailed statistical analysis indicated that religion specific risks varied, children of Muslim religion are at the lower risk (OR = 3.80, 95% CI: 0.1- 0.7) as compare to the children of Hindu religion.

This study underscores the multifaceted nature of JE/AES risk factors in the Gorakhpur district. Public health interventions should prioritize increasing vaccination coverage, enhancing parental education, and improving environmental management to mitigate the risk of JE/AES. Targeted community awareness programs and behaviour change interventions, including promoting the use of mosquito nets and insect repellents, are critical for reducing the burden of these diseases in endemic regions.

## **Addressing SDG with Innovative Approaches: Cases from Selected Developmental Agencies of Jharkhand**

**Divya Swaraj**, Researcher, Central University of Jharkhand, Ranchi, Jharkhand

**Rashmi Verma**, Sr. Asst Prof, Central University of Jharkhand, Ranchi, Jharkhand

To ensure long term national and global developmental objectives, working towards sustainable development goals (SDG) becomes the need of the hour. Jharkhand situated in eastern India, is known for its rich cultural heritage, abundant natural resources, and diverse population. Due to prolonged political instability, the state is still lagging behind in the ladder of development as compared to its neighbouring states. Attaining the Sustainable Development Goals in Jharkhand is critical for improving the quality of life, promoting economic growth, ensuring environmental sustainability and reducing inequality. Understanding the structural problems and addressing it all with innovative practices could offer a solution in this regard. There are a number of development agencies which are working in the state and running different campaigns to address different issues which are directly indirectly affecting the progress of the state and its people. This research study explores the innovative practices adopted by some of the developmental agencies and NGOs in Jharkhand. These developmental agencies are running their activities in the form of campaign, program etc. and trying to improve the conditions in view of Sustainable Development Goals (SDGs) suggested by the UN framework. The SDGs, adopted by the United Nations in 2015, serve as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030. With a focus on reaching marginalized communities, these organizations have developed unique and contextually relevant strategies to overcome the challenges posed by the state's diverse geography, tribal population, and socio-economic barriers. The study also examines the expected futuristic advancements that could further enhance the effectiveness of these agencies in promoting sustainable development. For the purpose of this study, an exploratory cum qualitative research design is used to identify, understand and explain these innovative practices. In-depth Interview research method is adopted for the purpose of data collection. A non-probability snowball sampling technique is used to identify and engage with experts of selected developmental agencies, having knowledge and experience in the domain. The research questions for this study are 1). What innovative practices are adopted by developmental agencies to address SDG in Jharkhand? 2). What futuristic advancements these developmental agencies are suggesting to address SDG. This research will pave the way for more innovative practices in this direction.

## Timing the Transfer: Liquidity Constraints and the Transition to Clean Fuels

**Farzana Afridi**, Professor of Economics at the Indian Statistical Institute (Delhi)

**Prabhat Barnwal**, Associate Professor, Michigan State University, USA

**Shreya Sarkar**, Doctoral Student, University of California, Berkeley

We study the role of the administrative design of energy subsidy programs aimed at encouraging households' transition to cleaner energy sources. Our context is the universal subsidy for clean cooking gas (LPG) in India - households first purchase LPG at the market price (over-the-counter) and then receive a 'cash-back' subsidy in their bank account. The subsidy varies with the market price such that the effective price (out-of-pocket price net of subsidy) for households does not change. Using exogenous variation in the LPG market price, which varies in tandem with the international price, and administrative data on LPG purchases by one million households, we find that a 1% increase in over-the-counter LPG price causes a 1.4% decrease in LPG purchase by low-income households, even when the effective price remains unchanged. Household survey data show that low-income households substitute away from LPG towards polluting biomass-based solid fuels by 5% in response to a 1% increase in the LPG market price. Consequently, we estimate that the 'cash-back' subsidy design may worsen neonatal mortality and other relevant health outcomes. The adverse impact of the program design on clean fuel usage weakens when households have more cash on hand, suggesting households' short-term liquidity constraint is the key explanation. Our results, thus, show that the design of energy subsidy programs, in particular the timing of transfers, may have significant implications for the energy transition of liquidity-constrained households.

## Climatic Vulnerability and Health Risks: An All India Analysis

**Girika Sharma**, Senior Research Analyst, Institute of Economic Growth, Delhi

**Purnamita Dasgupta**, Professor, Institute of Economic Growth, Delhi

**William Joe**, Assistant Professor, Institute of Economic Growth, Delhi

**Gudakesh**, Assistant Professor, Institute of Economic Growth, Delhi

**Madhura Chowdhari**, Junior Consultant, Institute of Economic Growth, Delhi

This study explores how climate vulnerability poses risks to the health and wellbeing of the Indian population. India has made significant progress under the Sustainable Development Goals (SDGs) including SDG 3 on Good Health and Wellbeing. We select some of the individual targets under SDG 3 to study the extent to which climate vulnerability poses challenges in achieving and sustaining these targets. Nationally representative datasets are used for the analysis, which is conducted in two

stages. At the first stage, available district level climate vulnerability data (CRIDA, 2019) and data from NFHS 5 is used to econometrically examine the relationship between climate vulnerability, other social and economic determinants of health and the selected SDG targets. The exercise is conducted at the all-India district level (573 districts). This analysis reveals significant regional disparities in both climate vulnerability and the attainment under the selected SDG targets across the districts in India. A significant relationship is found to exist between climate vulnerability and some selected SDG targets. Health outcomes across regions in India would vary by the type of climatic event being considered. At the second stage, therefore, to further probe on the findings, the study examines the impact of extreme heat on health outcomes in three states each from two agro climatic zones: Central Plateau and hills region and Eastern Plateau and hills region. This analysis focuses on self-reported morbidity outcomes across a set of non-communicable diseases using data from the National sample Survey (NSS). Findings indicate that a significant seasonal difference in reporting of occurrence of illness exists, with higher reporting during the summer months (March to June) than in the rest of the months for the study of non-communicable diseases. Overall, the study findings, establish the need for focussing on climatic vulnerability alongside other socio-economic determinants of good health and wellbeing.

## **Rethinking Histories of Migration in West Bengal with Reference to the Indian Sundarbans and the District of Purulia**

**Indrila Guha**, Principal and HoD, Department of Economics, Basanti Devi College,  
Kolkata

**Atrayee Banerjee**, Teaching Faculty, Department of Human Rights, Basanti Devi  
College, Kolkata

The history of migration in India is a long drawn process, especially across the eastern border. The post-independence immigration process gradually picked up a political flavour and reports of migrants posing a potent threat to the national security surfaced over the years. If one is thinking and talking about cross border migration and the consequent influx of refugees to the various refugee camps, then it is mention-worthy that this kind of crossing over happened through different migration phases during which people primarily migrated from East (Bangladesh) to Bengal. It is to be mentioned in this context that West Bengal not only witnessed people coming from East but also influx of people moving out of West Bengal to other states like Assam in what is known as internal migration in India. Post-independence migration across the eastern border happened first during 1947-48 and the Nehru-Liaquat Pact in 1950 was a significant event during that time. The people who migrated in different phases from present day Bangladesh to West Bengal were primarily dalits, namasudras and peasants. When we talk about migration, it should be remembered that internal migration, that is, people leaving West Bengal and moving to other states also marked a remarkable stage in the history of Bengal. Scholarly works of

Hunter and Birt often pointed out that peasants moved out of erstwhile Manbhum region of West Bengal and settled in Assam. This migration was famously known as peasant migration. Given this backdrop, the present paper will deal with the history of migration in West Bengal and then take two study areas- the Indian Sundarbans (the poor local communities) and the district of Purulia (the Santals) as the case to understand the present situation of intrastate migration and the resulting job/livelihood pattern change. These two places are two of the most backward regions of West Bengal with high incidence of poverty, hunger and mal nutrition. Data have been collected using pre-tested schedules. In-depth interviews, case studies, focus group discussion (only in the Sundarbans) and observation were also taken into consideration. The secondary research primarily included the relevant works and scholarly articles. Although these two areas exhibit contrasting geographical features, still it was revealed through the study that the pattern of insecurity and deprivation confluence at a certain point. The paper will also try to understand socio-economic vulnerability of the local communities and try to find a solution to address the distress and rights violation. The main question that pertains is ‘does India need a migration policy?’

## **Integrating Indigenous Knowledge of Tribal Communities and their Traditional Practices to Enhance Sustainability Efforts**

**Ivana Chakraborty**, Assistant Professor, St Xavier’s College, Ranchi, Jharkhand  
**Sanchay Ghosal**, Research Scholar, Ranchi University, Ranchi, Jharkhand

The rich repository of indigenous knowledge accumulated and possessed by the tribal communities residing in the state of Jharkhand and the traditional, ecological practices emanating from their insightful, well- rounded and wise knowledge base is indicative of sustainable efforts undertaken under the stewardship of traditional communities for generations. This paper probes into how indigenous knowledge of the tribal communities and their traditional, sustainable practices can be integrated with the modern sustainability measures thereby enhancing the efforts towards ecological conservation and sustainable development. The paper will delve into the understanding of traditional ecological knowledge of the tribal communities in Jharkhand like the Santhals, Oraons and the Mundas and a range of ecological practices associated with these communities. It will then identify the significant sustainability initiatives being undertaken in the state of Jharkhand under the tutelage of the government and civil society organizations. Further, it analyses the effectiveness of these sustainability measures and the challenges that they face. The paper will then attempt to identify the strategies employed to effectively integrate indigenous knowledge into modern sustainability efforts. The integration assists in addressing the challenges faced by the modern sustainability initiatives while at the same time complementing the modern techniques and scientific knowledge systems, while improving their acceptance by the indigenous population, enhancing their relevance in the context of particular ecological conditions and thereby

contributing to sustainable resource management, biodiversity preservation and sustainable development. The paper will also present case studies from Jharkhand depicting the sustainable nature of indigenous knowledge and practices and their relevance in contemporary times in the context of sustainable resource management, development and ecological conservation. Finally, it will analyze the potential challenges, conflicts and barriers in the path of integrating traditional, indigenous knowledge with modern sustainability efforts and the diverse ways in which these potential challenges can be addressed effectively.

## **Queering the Climate Change: Challenges and Solutions for the LGBTQIA+ Community in Climate Change**

**Jitender Bhardwaj**, Independent Researcher, New Delhi

Queer communities often inhabit precarious social and economic positions, making them more susceptible to the adverse effects of climate change. Discrimination in housing, employment, and healthcare limits access to resources that are essential for resilience in the face of climate disasters. For instance, queer people, particularly transgender and non-binary individuals, frequently encounter barriers when seeking emergency shelter during natural disasters due to systemic transphobia and the rigid gender norms imposed by many institutions (Vinyeta et al., 2016). This exclusion from safe spaces amplifies their risk during crises like hurricanes, floods, and wildfires (Dominey-Howes et al., 2021). Moreover, the economic precarity faced by many queer individuals' means that they are less likely to have the financial means to recover from climate-related events. Marginalized queer people, particularly those who are from Dalit, Tribal, disabled, and other marginal communities, are disproportionately represented in low-income brackets and are more likely to live in areas with poor infrastructure and higher exposure to environmental hazards (Singh & Walker, 2017). This economic vulnerability is further compounded by the lack of legal protections and social safety nets, which leaves them with fewer resources to rebuild their lives after a disaster (Goldsmith, 2020). Climate change also threatens queer people's mental health and well-being. The stress and anxiety associated with the climate crisis are magnified by the existing trauma of discrimination and social exclusion. Queer youth, who already face higher rates of mental health issues due to bullying, family rejection, and social isolation, are particularly vulnerable (Russell & Fish, 2016). The destruction of queer-friendly spaces, such as community centers and safe havens, during climate disasters further exacerbates feelings of isolation and despair (John, 2019). Despite these challenges, queer communities have shown remarkable resilience and leadership in climate adaptation and activism. Queer environmental activists bring a unique perspective to the fight for climate justice, emphasizing the need for intersectional approaches that address both environmental and social inequalities (Gaard, 2017). This paper will explore the precarious nature of being a queer person in a world of climatic changes and how survival is not only a need but an essentiality for queer people.

## **Challenges of Climate Change and Dilemma on Using Chemical Pesticides in Agriculture**

**Kailas Thaware**, Professor, Gokhale Institute of Politics and Economics, Pune, Maharashtra

Climate change brings a lot of change in the pattern of agriculture across all climatic zones in the world. Some areas receive heavy rainfall untimely, while some areas face drought-like situations. As a result, farmers get confused about how to deal with the sudden climatic change and its long-term adverse impact on agriculture. The farmers also struggle to maintain productivity by using short-duration crops with high-yield varieties and high doses of chemical fertilizers. In changing scenarios, the farmers also attempt to adopt sustainable development tools and techniques to cope with the present climatic crisis.

Cost-benefit Analysis gives hypothetical views on the pesticides' effect on the environment, ecology, and human health. All three are closely interdependent. But, present agriculture practices that use highly chemical fertilizers obstruct the process of achieving sustainable development goals. The exact effects of all such can be derived with data on the cost of health that society spends from using the above model.

The environment and humans are closely interdependent. A healthy environment provides liveable conditions to all living beings. So, good health of environment is necessary condition for the survival of human beings on the earth (Johnston, 2001). Destroying such condition may adversely affect the human health that is critical parameter for a long life or longevity. So, there are critical debates over longevity and disease-free society. But longevity may be increased with cost of medicines, since human immune system declined considerably due to using chemical food and pesticides agricultural products (Alewu, 2011). So, a longer survival period come with additional cost. All such cause and effects led to formulation of cost benefits analysis (CBA), which tells us whether human society continues with practices or not.

If we observe that the environment, ecology and society receive adverse environmental effects from such chemically induced pollution and climate change effects, that distinctly destroy the space, such areas may be called as damaged areas/pollution 'reception' areas or receptors.

## **Decoding Emission Puzzle: How Methane and Nitrous Oxide Drive GHG Convergence Clubs**

**Keshav Sethi**, Ph.D. Scholar, O.P. Jindal Global University, Sonipat

**Debajit Jha**, Professor, O.P. Jindal Global University, Sonipat

The existing literature on emission convergence reveals the presence of multiple steady states in the convergence of GHG emissions across countries. Despite CO<sub>2</sub> emissions, a major contributor to GHG emissions, demonstrating absolute convergence among countries, the differences in GHG

convergence trends have persisted in the empirical literature. What is causing such variations, if CO<sub>2</sub>, a key greenhouse gas from human activities, is convergent globally? This study seeks to solve this puzzle by incorporating the role of other primary greenhouse gases i.e., methane and nitrous oxide emissions in determining the GHG emissions differences across countries. Using Phillips and Sul's (2007b; 2009) technique, we supported the findings of empirical literature i.e., absolute convergence in per capita CO<sub>2</sub> emissions while multiple convergence clubs in per capita, methane, nitrous oxide, and GHG emissions for 168 countries from 1990 to 2019. We called this situation an "Emission Puzzle" and using bi-probit regressions, we showed that methane and nitrous oxide emissions convergence clubs positively and significantly affect GHG emission convergence clubs. If a country is in a high per capita methane emission club then there is a 51% probability that it also got stuck in a high per capita GHG emission club while 33% probability in the case of nitrous oxide emissions. For the determinant analyses, we find that energy consumption, population, and trade globalization index are significant predictors of club membership. Hence, these results help us to frame some important policy recommendations towards methane and nitrous oxide emissions convergence clubs along with carbon dioxide emissions. Our findings underscore the need to shift policy attention from carbon dioxide emissions to methane and nitrous oxide emissions for immediate and substantial climate benefits.

## **The Role of Indigenous People of India in Combating Climate Change and Resource Management Sustainability**

**Kirti** , Professor, College of Commerce, Arts & Science, Patliputra University, Patna, Bihar

**Abha Rani Sinha**, Professor, P.G. Department of Psychology, Bihar University, Bihar

Climate change and resource management sustainability in context of indigenous population is a relevant topic for today's scenario. The space is infinite. As we know like other planets, the earth is also revolving around sun. Many incidents keep happening and time does not remain the same. In this sequence, many climatic changes occurred on the earth also. Today we are witnessing the effects of climate change globally. Most of the impacts are considered to be manmade. The task of reducing the ill-effects of climate change impacts cannot be done by one person, one country or one continent. The co-operation of many people needed for combating the climate change.

In this context the indigenous knowledge of tribal population enables them to combat the impacts of climate change and it can also help the management of sustainable resources. The Indigenous knowledge of our traditional people is rich and they are working in diverse areas such as water management, animal husbandry, agro-forestry, ethno-medicine, seed storage, soil fertility, food preservation, weather prediction, human health and many more.

In the face of growing inequalities of the environment, it is realised globally that indigenous knowledge constitutes and important driving force for sustainable development.

This paper attempts to understand and explain the contribution of tribal people regarding climate change effects and maintaining resources sustainability. In the first part of the paper indigenous people and indigenous knowledge are described. It was necessary to explain climate change effects to understand the severity. If we do not adapt the relevant practices which can reduce various issues relating to climate change, the situation may get worse in the coming days. The studies show some findings regarding climate change impact when temperature increases 2oC to 4o C in South Asia, South East Asia and Sub-Saharan Africa. These findings show adverse effects of climate change in the areas like agriculture, water, soil, rainfall, social and health. Everything we consume is obtained from resources existing on the earth, it is essential to manage our resources because the available natural resources are limited. If managed properly, it ensures the availability of these resources today and tomorrow. Renewable resources, resource efficiency, resource sharing, eco-friendly technology, policies, missions are some important strategies for sustainable resource management.

A brief description is given regarding SDGs, Acts, Mission and Policies which the Government of India has implemented for the protection of indigenous people and their knowledge. Finally, the role of indigenous people in combating climate changes and resource management sustainability in various areas mentioned.

## **Role of CSOs (Civil Society Organizations) for Extreme Heat Management in India**

**Kshitij Gupta**, Senior Coordinator, All India Disaster Mitigation Institute, Lucknow, Uttar Pradesh

**Rutuj Salunkhe**, Researcher, All India Disaster Mitigation Institute Lucknow, Uttar Pradesh

**Grace George**, Research Assistant, All India Disaster Mitigation Institute, Lucknow, Uttar Pradesh

Heatwave resilience is the ability of individuals and communities to proactively prepare for, endure, and bounce back from the intense temperatures and adverse effects of heat waves. Given that a sizable percentage of India's workforce is engaged in the informal economy—sectors most susceptible to heat-induced disruptions—protecting these workers is critical. The synergy among non-governmental organizations, government bodies, academic, and private sectors manifests in joint efforts to mitigate heatwave risks and enhance preparedness. Such collaboration is crucial in developing and enforcing policies that effectively reduce the vulnerability of the informal economy to heatwave phenomena. The paper discusses concepts and practices for extreme heat management with a focus on CSOs. The paper reflects key recommendations that results from the literature review, and field practices in India. The paper also shares the case studies that reflect recent updates for heat risk management from India.

The government's response to heatwaves has yielded several vital achievements, notably the substantial decrease in heatwave-related deaths across India. A significant stride in this effort is

adopting the ‘Gujarat model,’ which features comprehensive heat action plans that other states have emulated as a standard framework. Furthermore, the National Disaster Management Authority has formulated extensive guidelines to aid states and districts in preparing their heatwave action plans. Financial relief measures have also been put in place, with victims of heatwaves receiving compensation from State Disaster Response Funds. Additionally, the development and implementation of early warning systems, combined with extensive public awareness campaigns, have significantly improved preparedness and resilience among the populace in the face of heatwave conditions. These systematic and proactive measures underscore the government’s commitment to reducing the adverse effects of heatwaves and safeguarding its citizens. The paper reviews key literatures including guidelines, frameworks, and plans that related with the SDGs, SFDRR, and Paris Agreement. CSOs actions are promoting and strengthening these plans for the stronger local implementation. Key recommendations include: local integration and community focus in heatwave management, recognition and funding for heatwave response, targeted research on heat impacts, sustainable mitigation practices, capacity building for local institutions and economic impact assessment methodologies.

CSOs are crucial to increasing heatwave resilience through their multifaceted roles in awareness, community action, policy advocacy, and offering direct aid to those most in need. CSOs act as essential platforms for trialling new heatwave mitigation technologies and products, contributing to valuable iteration through feedback, piloting within communities, and ensuring that new solutions are functional and culturally appropriate. The practical knowledge and insights CSOs gather from on-the-ground activities offer vital input to inform and enhance government policies. The effectiveness of these policies is critical for protecting those in the informal sector, who are among the most vulnerable to heatwave threats, thus ensuring that interventions are appropriately tailored to meet the specific needs of these groups.

## **Impact Analysis of Hybrid and High Yielding Rice Varieties (HYVs) on Productivity, Profitability and GHGs Emission in the Coastal Saline Zone of West Bengal State, India: A Multi-Criteria Approach**

**Kundan Mahato**, Young Professional, Rajasthan State Rural Livelihood Mission (RGAVP), Jaipur, Rajasthan

**Subhajit Banerjee**, Research Associate, Tata Institute of Social Sciences, Mumbai, Maharashtra

**Surjakanta Pramanik**, Research Assistant, University of Calcutta, Kolkata, West Bengal

**Simeon Emilov Dimitrov**, Research Scientist, Bulgarian Academy of Sciences, Bulgaria

The study was designed to estimate the productivity, profitability and GHGs emission from cultivation of hybrid and high yield variety (HYV) of rice in two selected villages of South 24

Parganas district which falls under coastal saline zone (CSZ), a resource-scarce zone of the state West Bengal, India. The data revealed that grain yields of hybrids were higher than HYVs, however, straw yields were comparatively higher in HYVs. Average grain yield of hybrid was higher in boro (~ 8 t ha<sup>2</sup>) than aman (~ 6 t ha\*1) season. Hybrids recorded higher cost of cultivation, gross and net return in both seasons. Except methane emission, emission of both of the CO<sub>2</sub> and N<sub>2</sub>O were higher in aman season. Global warming potential (GWP) of hybrid rice was slightly higher than HYVs in both seasons. However, the yield-scaled GHG emission was higher in HYVs. This means for producing unit amount of grain yield, GHGs emission was higher in HYVs than hybrids. Also the eco-efficiency was higher in hybrids than HYVs, proving that the hybrids are both economically and environmentally sustainable. Lower water footprint and higher water productivity was observed in hybrids, indicating that for producing unit amount of grain yield, hybrids use lower amount of water input. Considering the better grain yield, economics, lower yield-scaled HG emission and water footprint and higher eco-efficiency, hybrid rice cultivation systems can be recommended to practice with suitable site-specific agronomic management in the locations.

## **Enhancing Climate Resilience in MGNREGA: Strategies for Sustainable Development**

**Manish Ranjan**, IAS, Director General, Shri Krishna Institute of Public Administration (SKIPA), Government of Jharkhand, Ranchi

This paper critically examines the role of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) in promoting climate resilience and sustainable development, with a particular focus on Jharkhand, one of India's most climate-vulnerable states. As climate change intensifies, rural communities dependent on rain-fed agriculture and natural resources face escalating risks from droughts, erratic rainfall, and land degradation. This research argues that MGNREGA, originally designed as a social protection program, has significant untapped potential to enhance adaptive capacity and contribute to climate mitigation by aligning its activities with broader environmental objectives.

This research critically examines the role of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) in fostering climate resilience and promoting sustainable development, with a particular focus on six climate-vulnerable districts in Jharkhand: Dumka, Hazaribagh, Palamu, West Singhbhum, Simdega, and Ranchi. These districts represent a diverse range of ecological vulnerabilities, from drought-prone areas to forested regions susceptible to environmental degradation. The study investigates how MGNREGA can be restructured to better align with climate adaptation goals, thereby ensuring both livelihood security and environmental sustainability in a region heavily impacted by climate change. One key recommendation is the adjustment of wage rates linked to climate indicators, which would provide financial buffers to rural households during periods of climate stress, such as droughts or excessive rainfall, thereby enhancing economic resilience.

The research also highlights the necessity of strengthening local governance structures to improve asset quality and ensure the sustainability of climate-resilient infrastructure. Drawing on Ostrom's (1990) theory of collective action, the study argues that empowering gram panchayats and block officials through targeted capacity-building initiatives is essential for the successful implementation of climate-smart projects. Additionally, the integration of low-carbon technologies—such as solar irrigation pumps, biogas plants, and energy-efficient water management systems—is identified as a critical strategy for aligning MGNREGA with climate mitigation goals. The paper provides evidence that these technologies not only reduce greenhouse gas emissions but also contribute to long-term agricultural productivity and livelihood security in regions facing environmental degradation.

Furthermore, this research advocates for the institutionalization of climate data into MGNREGA planning, utilizing tools such as GIS-based monitoring and real-time weather forecasting to improve the effectiveness of rural development projects. By leveraging these technologies, MGNREGA can better target interventions, such as water conservation and soil management, to areas most vulnerable to climate impacts. The study also calls for a robust framework to track and assess climate co-benefits, such as carbon sequestration, groundwater recharge, and biodiversity enhancement, which are often overlooked in current MGNREGA evaluations.

Finally, the paper underscores the importance of vermicomposting and solid waste management as sustainable agricultural practices that can be promoted under MGNREGA to enhance soil fertility and reduce environmental waste. By integrating these practices into the scheme, Jharkhand's rural communities can transition towards more sustainable livelihoods while contributing to broader climate adaptation efforts. The research concludes by recommending that future studies focus on the long-term ecological and social impacts of MGNREGA, particularly how it can serve as a model for integrating rural employment schemes with climate governance to promote sustainable development in climate-vulnerable regions. This study provides a framework for policymakers to reform MGNREGA in ways that strengthen its role in building climate resilience, ensuring that it contributes not only to poverty alleviation but also to environmental sustainability.

## **Beyond SDGs: Quest for a New Development Paradigm through G20 Lens**

**Milindo Chakrabarti**, Professor O.P. Jindal Global University, and Consultant, RIS, India

**Pratyush Sharma**, Consultant, RIS, India

The quest for an alternative development paradigm has become significant in view of the multiple crises faced by the global community. The increased concern about achieving the Sustainable Development Goals (SDGs) by 2030 is a clear indication of inability of existing development paradigm to help us achieve the desired objectives. Development has for a considerable time been

argued to be achieved through optimisation of individual interests with a belief that it would automatically result in maximising aggregate welfare. However, the complex interactions among economic, social, cultural, political, environmental, and ecological spaces and the resulting plethora of crises make us realise that development calls for a collective effort that engages the simultaneous interactions, not only among the individuals but also with nature to ensure sustainable existence for all – the fundamental objective of Sustainable Development. G20 as a collective platform of countries must play an effective role in delivering development as a collective good. The diplomatic clout and strategic stature of the G20 must bring an amplified change in our interactions with each other and with the planet. The prevalence of the conceptual paradigm of individual-led development was necessitated by two most cliqued understanding in the contemporary development discourse: development being understood synonymously with GNP-led growth, and the reversible and limitless nature of resources being exploited to achieve growth. This perspective is getting questioned as it is clear that one's development is not achieved without meaningful contributions from others. It is even argued that one's freedom today is often the result of unfreedom of some others as development pursued so far has mostly resulted from extraction – both from nature and other individuals. This realisation has resulted in the coinage of the term 'no one left behind' as the spirit of sustainable development. The paper engages in a discussion on interlinked nature of development along the socio-economic, enviro-ecological, and physical strands of development and proposes a new 'Development Paradigm' that involves dynamic interactions among these strands to ensure sustainable development in reality and argues that G20 platform is required to play an active role in ensuring the necessary interlinkages.

## **People's Response to the Global problem: Paani Foundation in Step Towards Water Conservation and Effect of Climate Change in Maharashtra**

**Nahid Hasan**, Assistant Professor, Guru Ghasidas Vishwavidyalaya, Bilaspur,  
Chhattisgarh

Climate change and environmental degradation is evident everywhere. It could be seen in the changing pattern of rainfall, Increasing duration and intensity of summer or winter. It is evident in maximum and minimum temperature everywhere. It may be seen in the rising temperature of America or Europe. It could be seen in the recent floods in Sharjah, UAE, Saudi Arabia, Oman, Yemen, Behrain and Qatar It could also be seen in the recent fire in Victoria's rainforest in Australia. The concept of sustainable development is there in theory. But unless it is realized in action by the people, the planet could not be saved. The paper has seen how this theory has turned into action. It has seen how it has been taught to people to internalize the concept, to feel the relationship between human and environment, inspire and instigate the people to save the environment by making it a movement. This effort has been done in Maharashtra, India by the Paani Foundation by Amir Khan and his team with the help of people's Shramdan. It started with constructing water

storage infrastructure in the drought hit areas of one of the richest parts of Maharashtra. It was assisted by some of the corporate and government. Later on, this effort broadened its canvass and imbibed the concept of sustainable development. All the steps were met with action after deep investigation of the area's problem and possible solution by using the method of training. Some of the people were trained and they mobilized, inspired, and trained the whole villagers. Soon it took a form of movement to save the earth, its soil, watershed management, refilling the ground water by different techniques. Soon a deep bond with water was created. People got the feeling that water, forest, land, environment is theirs. People got the conviction that they don't need the government. They could solve their problem on their own. Economic help to Paani Foundation is given by Reliance Foundation, Tata Trust, HT Parekh Foundation, HDFC, Piramal Jankidevi Bajaj and Maharashtra government. Another effort to generate and conserve water through technological device is seen in the paper. It dealt with Majik Water technology of Kenya which is a technology based on extracting air's moisture and condensed this into potable water through electrical device based on solar energy and biofuel. Both of these water conservation methods are based on climate sustainability.

## **Role Of Micro Enterprises in Achieving Sustainable Development Goals (SDGs)**

**Namrata Chaurasia**, Research Scholar, Department of Economics, Ewing Christian College, University of Allahabad, Prayagraj, Uttar Pradesh

**Umesh Pratap Singh**, Associate Professor, Department of Economics, Ewing Christian College, University of Allahabad, Prayagraj, Uttar Pradesh

Summary: Micro Enterprises play a crucial role in achieving Sustainable Development Goals (SDGs) in India, contributing to poverty reduction, gender equality, clean energy and sustainable practices. Despite challenges, micro enterprises have the potential to significantly impact SDGs. Globally, countries are increasingly focused on sustainable development, which seeks to balance social progress, environmental protection, and economic expansion. The World Commission on Environment and Development (WECD) defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” in its 1987 Brundtland Report, which is the definition that is currently most widely accepted (International Institute of Sustainable Development (IISD), n.d.). This idea emphasizes the necessity of addressing challenges related to global development while making sure that resources are not depleted for future generations. Barbara Ward originally used the term “sustainable development” in the 1974 Cocoyoc Declaration. Since then, it has been extensively addressed in international venues, with notable publications such as the WECD's seminal study, *Our Common Future*, and the IUCN study (1980, 1990). Sustainability has been acknowledged at these summits and studies as being crucial to guaranteeing the long-term survival of humanity. The 1992 Earth Summit placed additional emphasis on sustainable practices, as did the 1995

Norway Round Table and the Rio Declaration on Environment and Development, which included Agenda 21. A comprehensive global approach is still elusive despite these efforts. The Millennium Development Goals (MDGs), which were approved by the UN in 2000, are intended to reduce poverty on a global scale. The Sustainable Development Goals (SDGs), which set out 17 goals and 169 targets to be accomplished by 2030 and focused on eradicating poverty, health, education, reducing inequality, economic growth, and environmental protection, eventually superseded the Millennium Development Goals (MDGs) in 2015. This means that a wide range of environmental, economic, and social challenges are included in sustainable development. By putting community development, fair opportunity, and human rights at the forefront of global advancement, it aims to build a society in which people can prosper economically without causing irrevocable harm to the environment.

## Challenges of Climate Change and Sustainable Development in Rajasthan's Mining Sector

**Nandita Roy**, Research and Communications, MLPC (Mine Labour Protection Campaign), Jodhpur, Rajasthan

Rajasthan, a state rich in a diverse array of minerals, stands at a crucial juncture in addressing climate change and sustainable development. With 79 varieties of minerals, including major ones like limestone, quartz, feldspar, mica, lead, zinc, and gypsum, and minor minerals such as sandstone, marble, and granite, the state has historically supported local economies. The desert regions, in particular, benefit from these resources, with over 33,375 mining leases and quarry licenses granted—138 major, 15,136 minor, and 18,249 quarry licenses. To combat desertification and support marginalized communities affected by climate change, the Rajasthan government initially allocated quarry licenses for minor minerals to disadvantaged groups. These included Scheduled Castes (SC), Scheduled Tribes (ST), women (especially widows), and the physically challenged, with reservations set at 15% for SC, 7.5% for ST, 10% for women, and 5% for the physically challenged. This approach aimed to empower these communities through a lottery system, ensuring equitable access to resources. However, the policy landscape shifted in 2017 when the Rajasthan Minor Mineral Concession Rules were revised, moving from a lottery-based allocation to an auction system. The government aimed to increase revenue and curb illegal mining by awarding leases to the highest bidders. Yet, this transition neglected the critical needs of marginalized communities, who were neither provided with the necessary skills nor the resources to sustain their operations. The lack of training, financial support, and technology made it economically unfeasible for these individuals to manage quarries. Consequently, the shift to auctioning quarries to wealthier investors led to extensive extraction activities, further degrading the environment and sidelining the original beneficiaries.

This policy shift was akin to arming individuals with a tool they were not trained to use—leaving them vulnerable and unsupported. The government's failure to provide necessary

backup measures, such as skill development, financial aid, and technological support, led to the unsustainability of the initial policy, forcing a move to the auction system. This not only deprived marginalized communities of their livelihoods but also contributed to environmental degradation as larger investors prioritized profit over sustainable practices.

The government should invest in the skill development of local communities and provide them with financial and technological resources. This would enable them to manage mining operations sustainably, ensuring both economic viability and environmental stewardship. Moreover, empowering locals with employment opportunities in low-carbon construction materials can enhance Artisanal and Small-Scale Mining (ASM), fostering community resilience and sustainable livelihoods. Mandatory measures such as reforestation and converting mined lands into green businesses, like solar farms, can restore ecological balance and generate employment opportunities for local communities, promoting environmental stewardship.

Ultimately, the government should restrict the allocation of mining licenses to ensure that only those equipped with the necessary resources and knowledge are granted access. By empowering local communities and fostering rational, controlled mining practices, Rajasthan can achieve a balance between economic development and environmental preservation, securing a sustainable future for both its people and its natural resources.

## **Building Women's Leadership in Water Conservation: A Situational Analysis of Alwar, Rajasthan**

**Naveen Kumar**, Head of the Department, Centre for Social Research, New Delhi

**Nehul Goyal**, Project Coordinator, Centre for Social Research, New Delhi

India has 17.5% of the world's population but less than 4% of its water resources, making it among the most water-stressed country globally. Rajasthan, particularly the district of Alwar, exemplifies this stress, with groundwater levels consistently declining at an alarming rate of 25 cm annually from 2002 to 2011. This decline is symptomatic of broader issues across India, where the country is the largest consumer of groundwater worldwide, heavily relying on it for irrigation and drinking water.

Over 60% of India's irrigated agriculture and 85% of its drinking water depend on groundwater. Since the 1990s, there has been a significant shift from traditional surface water irrigation methods, such as canals and tanks, to groundwater-based irrigation, primarily through tube wells and bore wells. This shift is driven by the efficiency and control that groundwater provides, allowing farmers to precisely manage when and how much water their crops receive. Groundwater-irrigated farms demonstrate double the crop water productivity compared to those relying on surface water, which has made groundwater a preferred choice for farmers.

However, this shift has come at a cost. Groundwater extraction has far outpaced natural recharge rates, leading to a severe depletion of aquifers. Approximately one-third of India's

groundwater aquifers are now classified as semi-critical, critical, or overexploited. This over-extraction, compounded by the impacts of climate change, is threatening the sustainability of agriculture, food security, and the broader economy. If current trends continue, over a quarter of India's harvests could be at risk, endangering livelihoods and economic growth.

The over-exploitation of groundwater is further exacerbated by several factors, including landholding sizes, population density, crop water requirements, irrigation methods, and inadequate regulation. Despite the critical importance of groundwater, public investment in water resources since India's independence has largely focused on surface water infrastructure. Meanwhile, the need for infrastructure to recharge groundwater has been neglected, even as groundwater has increasingly become the backbone of India's agricultural and domestic water supply.

The unchecked extraction of groundwater represents a classic "tragedy of the commons" scenario, where a resource is overused by individuals despite being a community asset that can only be sustainably managed at the community level. The solution lies in community management of groundwater, where community members take primary responsibility for its conservation and management. This approach involves reviving traditional water conservation structures, such as the Johads of Rajasthan and the Baoris of Delhi, which are well-suited to local conditions and have historically been effective in groundwater recharge.

The role of women, especially in rural India, is crucial in water management at the household level. Yet, they are often excluded from broader community-level water management initiatives. Climate change is exacerbating water scarcity in regions like Rajasthan, increasing the burden on women to secure water for their households. There is a pressing need for greater social inclusion and the empowerment of women in developing and implementing solutions to climate change and water management challenges.

This paper aims to address these issues by reviving traditional water conservation structures in Alwar, Rajasthan, and promoting women's leadership in water conservation and management.

## **Contemporary Indian Climate Fiction (Cli-Fi) Films: Narrating Climate Change Concerns and Sustainable Development**

**Neha Tiwari**, Assistant Professor, Department of English & Professor In charge,  
Department of Mass Communication, Karim City College, Jamshedpur,  
Jharkhand

This research paper provides an analysis of contemporary Indian climate fiction (Cli-Fi) films as focusing on *Sberni* (2021), *Kadvi Hawa* (2017), *2018* (2023), and *Kalira Aitita* (2020). These narratives depict the climate change concerns and the idea of sustainable development through audio-visual story telling. These films represent a growing genre within Indian cinema that engages with environmental issues, particularly those related to climate change and its impact on the socio-

economic and cultural landscape of India. By examining the content or thematic elements in these films, the paper seeks to understand how Indian filmmakers portray climate change's multifaceted challenges, from environmental degradation and natural disasters to human-wildlife conflict and climate-induced displacement.

The analysis highlights several recurring themes across the films: the struggle for survival amidst environmental crises, the conflict between development and conservation, the psychological and emotional toll of climate change on individuals and communities, and the portrayal of governmental and institutional inadequacies in addressing ecological issues. *Sherini* presents a nuanced narrative on human-wildlife conflict, bureaucratic apathy, and the ethical dilemmas faced by forest officers in preserving wildlife amidst political pressure. *Kadvi Hawa* explores the harsh realities of farmer distress and climate-induced migration in drought-affected regions, focusing on the human cost of environmental change. *2018* dramatizes the devastating floods in Kerala, capturing the collective trauma and resilience of a community facing an unprecedented natural disaster. *Kalira Atita* tells a poignant story of a coastal village grappling with the existential threats posed by rising sea levels and climate change.

Through a thematic analysis of these films, this study argues that contemporary Indian Cli-Fi serves as a critical medium for raising awareness and fostering dialogue on climate change, reflecting the urgent need for sustainable practices and policy interventions. By exploring the interplay of local cultural contexts and global environmental concerns, the paper contributes to the understanding of how Indian cinema engages with and represents the complexities of climate change.

## **The Impact of Theatre on Inspiring Sustainable Behaviour**

**Nirbhay Trigun, Ph.D. Scholar, MANIT, Bhopal, Madhya Pradesh**

This research meticulously investigates the profound influence that theatre possesses as a transformative mechanism for cultivating sustainable behaviours among individuals and communities, thereby accentuating its pivotal role in nurturing a heightened awareness of environmental issues and galvanizing actionable responses. Through the art of storytelling, theatre adeptly captivates audiences by engaging them on both emotional and intellectual dimensions, thereby providing an immersive experience that allows for a deeper understanding of intricate and multifaceted challenges such as the pressing issue of climate change. By employing established theories of behaviour modification and analysing various case studies, this paper elucidates how theatre has the capacity to elicit feelings of empathy, foster communal bonds, and ultimately encourage individuals to adopt behaviours that are more conducive to environmental sustainability. Notwithstanding the various obstacles that may arise, including concerns related to production waste and ethical dilemmas surrounding the art form, it is evident that theatre holds considerable promise as a catalyst for social transformation and progressive change. This investigation highlights the imperative need for the adoption of sustainable practices within the theatrical

industry and calls for comprehensive and systematic research aimed at exploring the enduring impacts of performances that are centred around themes of sustainability. The findings of this study contribute significantly to the ongoing discourse regarding the intersection of the arts and environmental advocacy, thereby reinforcing the critical importance of innovative approaches in addressing urgent global challenges. Ultimately, this research not only sheds light on the potential of theatre to effectuate change but also serves as a clarion call for further exploration of its role as a vehicle for promoting environmental stewardship and conscientiousness.

## **Optimizing Water Demand Management through Consumer Willingness to Pay: A Strategy for Sustainable Water Use**

**Nirupama Tete**, Assistant Professor in Economics, Ravenshaw University, Cuttack, Odisha

**Lipishree Das**, Associate Professor in Economics, Ravenshaw University, Cuttack, Odisha

This study investigates the willingness to pay (WTP) for improved water services among households in Cuttack, Odisha, utilizing a two-part model (2-PM) to analyze consumer behaviour regarding water quality and supply. The research is grounded in the theoretical framework of Hicks a demand and the minimum expenditure function, which facilitates the calculation of WTP for enhanced water quality. A comprehensive survey was conducted involving 345 households, focusing on various socio-demographic factors, household characteristics, and perceptions related to water services. The empirical strategy employed includes a logit model to assess the binary decision of WTP and ordinary least squares (OLS) regression to evaluate the continuous aspect of WTP. The findings reveal critical insights into the determinants influencing WTP for improved water services. Key socio-demographic factors identified include household size, education level, gender, and dwelling type. Specifically, larger household sizes and higher education levels were positively correlated with WTP, indicating that households with more members and those with higher educational attainment are more inclined to invest in improved water services. Notably, the study found that female-headed households exhibited a higher willingness to pay compared to their male counterparts, suggesting gender dynamics play a significant role in water service valuation.

The analysis also highlights the impact of water quality perceptions on WTP. Households experiencing frequent water shortages reported lower satisfaction levels, which negatively influenced their willingness to pay for enhanced services. The average water shortage level was recorded at 2.29, indicating a significant prevalence of water scarcity, whilst the average satisfaction score was low at 1.37, reflecting widespread dissatisfaction with current water services. These findings underscore the necessity for improved water supply management and the potential for consumers to pay for enhanced services, which can inform policy decisions and resource allocation.

Moreover, the study examines actual payment behaviour in relation to WTP. While household size positively influenced WTP, it was found to negatively impact actual payment due to increased consumption costs. Other significant factors affecting actual payment included dwelling type, education, gender, and gardening activities. The robustness of the model was confirmed through consistent results across different estimation methods, including generalized linear models (GLM) and OLS regression. In conclusion, this research emphasizes the importance of understanding consumer willingness to pay for improved water services as a strategy for sustainable water demand management. The findings contribute to the existing literature on water economics and provide valuable insights for policymakers aiming to enhance water service delivery. By recognizing the socio-demographic factors and perceptions that influence WTP, stakeholders can develop targeted interventions and pricing strategies that align with consumer preferences, ultimately leading to improved water service outcomes and greater satisfaction among users. The study advocates for ongoing consultation with water users to determine appropriate tariffs and enhance service delivery, thereby fostering a more sustainable approach to water resource management in Cuttack and similar contexts

## **Procuring Sustainable Development Through Romanticism: In the Selected Works of Wordsworth and Coleridge**

**Nupur Sharma**, Assistant Professor, ARKA Jain University, Jamshedpur, Jharkhand  
**Ajay Majumdar**, Ph.D. Scholar, ARKA Jain University, Jamshedpur, Jharkhand

Nature can provide for 'Human Need' but not for 'Human Greed'. Sustainable Development is perhaps one of the most demanding and onerous aspect of the current times. Almost stepping into the 22<sup>nd</sup> century, the motive of Eco criticism, with its emergence in the 1980s, establishes avant- garde viewing angles to the green poets and their Romantic literature. Earlier, Romantics were viewed only to love and glorify nature, but recently the focus has shifted to how they depict the relationship between literature and our Biome. Thus, English Romantic canon is now being judged in a new light of eco warriors. Eco critics and environmentalists are looking for new insights in the

Romantic's presentation and depiction of nature in their poetry. The belief that English Romantic writers also taught of preserving their natural surroundings through their humanitarian and didactic preaching is gaining a lot of ground. They tried to show and teach the people about the importance of maintaining harmony and balance amidst Nature, Science, Development and Sustainability. This makes the Romantic canon a new field of study for both Eco critics and environmentalists.

The central concern of both the Romantics and the Eco critics is, human midst nature. In the age of Prose and Reason, literature involving nature writing lost its significance to the socio-centric issues. The works of Dryden and Pope talk about the contemporary society. But the Romantics

went back to the open lap of nature. Being disillusioned and perplexed by the extremities the French Revolution, the Romantics turned to nature writing which lost its importance in the past ages. The human and nature interconnection is greatly studied by the Eco critics. Eco criticism strives to reconnect the old lost relationship between Humans and Nature. The sole reason for our existence is none other than nature; therefore, to pay utmost respect and significance to nature is the ultimate wish of the eco critics.

Like Wordsworth, the Eco critics also believe that nature never betrays the heart that loves her. If the humans take good care of nature, it will also in turn take good care of them. And also in the similar ensue; as Coleridge projects, the needless hurting of an organism shall also lead to harsh repercussions and reprimands by Nature. This paper shall attempt mainly to trace the development that gradually raised ecological awareness in English Romantics, establishing the facet that the English Romantics were really aware of environmental degradation that had started much before they had started writing. Moreover, through textual and contextual analysis, this article shall demonstrate the romantic responses found in their literature for a more sustainable ecosystem. This article shall also be delineating their intriguing moral insights and didactic pulpistry to be thus extracted from their works.

## **Climate change effects and Challenges of Coffee Plantation in Dindigul District**

**P G Balasubramanian**, President, Alternative Agriculture Research Foundation (NGO), Salem, Tamil Nadu

Climate change effects are unavoidable elements of the cultivation process and preparation of strategies by the horticulture-based crop growers. It has compared to other countries, the uniqueness of Indian coffee is that it is shade grown, handpicked and sun dried. Besides the unpredictable climatic vagaries, growing coffee under multi-tier shade helps in reducing crop loss to a great extent. The multitier shade pattern reduces and stabilizes soil and air temperature, increases and preserves surface soil humidity and reduces the direct light intensity from reaching the coffee bushes directly, resulting in enhanced production of coffee. Hence growing coffee under shade trees is essential not only for the sustenance of coffee plantations but also for protecting the environment in ecologically sensitive regions. Climate change effect is a major element of cultivation process and preparation of strategies by the horticulture-based crop growers in India. The cause and effect of seasonal variation which intervene the environmental premises on ecological balance in the particular region it has affected not only processing activity on farmers before planting or prepared land for ready to cultivate but it also affects for environmental safeguards of agricultural activities and practices. In this context, coffee plantation is one of the major elements of environmental protection and promotion of afforestation in hill zone based geographical background.

## **Spirituality and Nature as A Balance to Climate Change: Towards Sustainable Indigenous Developments**

**Pedro Henrique Azalim Cunha**, Student, UFMG (Federal University of Minas Gerais),  
Belo Horizonte, Brazil

**Roberto Luis de Melo Monte-Mór**, Professor, UFMG (Federal University of Minas  
Gerais), Belo Horizonte, Brazil

Climate change and sustainable development are among the most pressing challenges facing humanity in the Anthropocene era. The intricate interplay between human activities and the Earth's climate system has led to a range of severe consequences, including the melting of polar ice caps, rising sea levels, and an increase in extreme weather events such as hurricanes, floods, and droughts. These phenomena are causing significant disruptions to ecosystems, biodiversity, and human prosperity, affecting agriculture, health, water resources, and overall livelihoods. Notably, the poorest regions of the world bear the brunt of greenhouse gas emissions and face the greatest difficulties in adapting to these changes due to limited resources, infrastructure, and technological capacity. Sustainable development, as outlined by the United Nations Sustainable Development Goals (SDGs), aims to achieve a delicate balance between economic growth, social equity, and environmental preservation. The 17 SDGs encompass a wide range of objectives, from eradicating poverty and hunger to ensuring access to clean water and sanitation, promoting sustainable cities and communities, and taking urgent action to combat climate change and its impacts. However, the path to implementing these goals is fraught with significant challenges, including political resistance, economic constraints, and the need for global cooperation and commitment. Despite these difficulties, indigenous knowledge and practices offer a powerful source of sustainable development solutions. Indigenous peoples' ways of life and the biodiversity they preserve play a crucial role in fostering a harmonious relationship with nature. Their traditional ecological knowledge, which includes sustainable land management, conservation of water resources, and the use of medicinal plants, provides invaluable insights into achieving sustainability in the face of climate change. Indigenous communities often possess a deep understanding of local ecosystems and have developed adaptive strategies to cope with environmental changes over centuries. By integrating indigenous knowledge with modern science and policy, there is potential to develop more holistic and effective approaches to sustainable development that respect cultural diversity and promote resilience in both human and natural systems.

## **The Nexus of Energy Consumption, Trade Openness, and Economic Growth on Environmental Degradation: Evidence from SAARC Countries**

**Priyanka Sahu**, Assistant Professor of Economics, Ghani Khan Choudhury Institute of Engineering and Technology, Narayanpur, West Bengal

This study examines the impact of energy consumption and trade openness on economic growth and environmental degradation in five SAARC countries (India, Pakistan, Sri Lanka, Bangladesh, and Nepal) from 1990 to 2022. Using robust methodologies including unit root tests, cointegration analysis, causality tests, Vector Error Correction Models, and Fully Modified Least Squares, the research identifies significant long-run relationships among the variables for both panel and country-specific analyses. The findings reveal bi-directional causation between renewable and non-renewable energy consumption with economic growth, supporting the feedback hypothesis. Trade openness is found to significantly influence both economic growth and energy consumption, while energy consumption, economic growth, and trade openness are shown to Granger-cause environmental degradation.

Panel analysis demonstrates that renewable energy consumption, non-renewable energy consumption, and trade openness positively impact economic activity, with non-renewable energy consistently showing a greater impact than renewable energy in both short and long runs. Country-specific analyses yield similar results, though with some variations. Notably, India and Pakistan show stronger dependence on energy consumption for economic growth compared to other countries in the sample. The study also finds that economic growth is a significant driver of environmental pollution in all countries, though its impact varies. Both renewable and non-renewable energy consumption contribute to increased CO<sub>2</sub> emissions, with non-renewable energy's effect being approximately twice as strong as renewable energy's. Trade openness is also found to contribute to environmental degradation in the long run.

The research concludes that while energy conservation policies might impede long-term growth in SAARC economies, excessive energy use could lead to significant environmental concerns, particularly higher CO<sub>2</sub> emissions. It recommends policies focusing on enhancing energy efficiency and increasing the share of renewable energy sources. Additionally, the study suggests leveraging globalization to facilitate the transfer of advanced technologies for renewable energy, rather than continuing the reliance on fossil fuels. This comprehensive analysis provides valuable insights for policymakers aiming to balance economic development with environmental sustainability in these emerging economies.

## **Karnataka and India's Silk Industry: A Comprehensive Analysis of Sericulture Dynamics and Sustainability Practices**

**Revappa M Rebasiddanavar**, Scientist, CSB- Central Sericulture Research and Training Institute Mysuru, Karnataka

**Geetha GS**, SRA, CSB- Central Sericulture Research and Training Institute Mysuru, Karnataka

**Gandhi Doss**, Director, CSB- Central Sericulture Research and Training Institute Mysuru, Karnataka

India is the second largest producer of silk with 36,453 MT (2022-23) after China and also the largest consumer of silk in the world. Asia is the main producer of silk in the world and produces over 95 per cent of the total global output. In India, mulberry silk is produced mainly in the states of Karnataka, Andhra Pradesh, Tamil Nadu, Jammu & Kashmir and West Bengal, while the non-mulberry silks are produced in Jharkhand, Chattisgarh, Orissa and North-Eastern states. Much of silk exports earnings is from silk garments, silk carpets and silk wastes, which is about 1,773.38 crore Rs. in total in 2022–23. Mulberry is the largest contributor to the total raw silk production with the compound annual growth rate of 3.09 per cent at 1 per cent level of significance. Tasar silk production registered highest growth rate of 13.67 per cent at 1 per cent level of significance and Jharkhand is the major contributor of about 80 per cent for the total tasar silk production. Karnataka is the leading producer of mulberry silk whereas Assam is currently the largest producer of Vanya silk. Telangana registered a highest compound annual growth rate of 21.1 per cent at 1 per cent level of significance followed by Maharashtra (16.9%). Ramanagara is having highest area under mulberry (20804.56hectares) followed by Chikkaballapura (20544.62hectares) and Kolar (19907.79hectares) in Karnataka.

## **Examining the Nexus between Temperature, Economic Growth and FDI on Environmental Degradation: A Perspective on India**

**Richa George**, Student, CHRIST University, Bangalore, Karnataka

**Manasi Dash**, Assistant Professor, CHRIST University, Bangalore, Karnataka

This paper explores the nexus between economic growth, temperature, environmental degradation, and Foreign Direct Investment (FDI) in India. It examines how FDI impacts environmental quality amidst climate change challenges. Despite the increasing importance of climate-aligned investments, Emerging Markets and Developing Economies (EMDE), including India, face funding constraints exacerbated by post-pandemic economic pressures. This study analyses India's vulnerability to climate change and investigates how economic growth and FDI intersect with

environmental degradation. Through empirical analysis, the research aims to offer insights for policy formulation towards sustainable development and climate-resilient strategies in India.

## **Case Study of Collaborative Working Model of Gujarat Based NGO to Combat Challenges of Climate Change and Achieve Sustainability**

**Riya Pathak**, Programme Manager, Vicharta Samuday Samarthan Manch, Ahmedabad, Gujarat

Sustainability, defined by the Brundtland Commission in 1987 as “meeting the needs of the present without compromising the ability of future generations to meet their own needs,” has gained prominence in recent years seeing the adverse effects of rapid development on our climate. The UN’s Sustainable Development Goals (SDGs), introduced in 2016, emphasizes social, economic and ecological sustainability. Ecological sustainability is crucial for overall development, yet significant challenges remain in achieving that. In India, escalating climate change impacts, including extreme weather events, water scarcity, and deforestation, which underscore the urgency of addressing ecological sustainability. Gujarat, a state particularly vulnerable to climate change due to its subtropical climate, faces issues such as depletion of ground water tables, deteriorating water bodies and diminishing green cover. The Ahmedabad-based NGO Vicharta Samuday Samarthan Manch (VSSM) has implemented two key programs to tackle these issues: Participatory Water Management and Community Tree Plantation. VSSM’s Participatory Water Management program focuses on desilting lakes to enhance water retention and support groundwater recharge, while the Community Tree Plantation program aims to restore green cover by planting trees on degraded land. Both programs demonstrate effective community engagement and collaboration with government and corporate sectors. The combined efforts of VSSM illustrate the power of multi-stakeholder partnerships in achieving sustainability goals and offer a model for addressing the complex challenges of climate change and ecological degradation.

## **Long-term Effects of Natural Disasters on Household Assets: Evidence from India**

**Rupali Tamuly**, Faculty, Parvatibai Chowgule College of Arts and Science, Autonomous, Margao, Goa

**Pranab Mukhopadhyay**, Professor, Goa Business School, Goa University, Goa

The impact of natural disasters has been increasingly experienced by developed and developing economies in recent years. The impact on developing economies is greater. The households use public and private coping mechanisms, one among which is assets. The sensitivity and resilience to the impact of natural disasters by households much depend upon the assets owned pre-disaster and the ability of the assets to be swiftly converted into coping mechanisms.

We have used panel data from the India Human Development Survey by merging the data from households and village schedules. The data is analysed using the difference in differences regression with continuous treatment as Natural disaster intensity for outcome variable assets. The other controls are monthly consumption expenditure, adjusted consumption expenditure (adjusted for health expenditure), membership intensity, social security intensity, safety net intensity, membership intensity, health infrastructure intensity, family size, the proportion of children 0-14, and number of married females.

Natural disasters have a negative impact on household assets. There are differences in impact when examined using socio-economic disaggregation.

Measurement of the impact of natural disasters at the household level provides important direction towards drafting mechanisms to reduce the impact.

## **Climate Change and Inequality in Karnataka**

**S Madheswaran**, Professor and Head, Centre for Economic Studies and Policy,  
Institute for Social and Economic Change, Bengaluru, Karnataka

**Gowri Prasad.K**, Ph.D. Scholar, Centre for Economic Studies and Policy, Institute for  
Social and Economic Change, Bengaluru, Karnataka

The paper explores the unexamined interplay between climate change and social inequality within the country, especially with a special focus on Karnataka which is more susceptible to climate related change. While sustainable Development Goal (SDG) 13 focuses on the “urgent action” required to “combat climate change and its impacts”, highlighting the need for incorporating both climate change mitigation and adaptation. SDG 13 aims at (a) strengthening resilience and adaptive capacity to climate related hazards and natural disasters in all countries, (b) integrating climate change measures into national policies, strategies, and planning, and (c) improving education, raising awareness and human institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning. Crucially, Goal 13 acknowledges the role being played by the United Nations Framework Convention on Climate Change (UNFCCC), and thereby looks to minimise duplication of efforts, and ensure efficient and effective utilisation of limited resources.

The study seeks to address the gap by assessing how unmanaged climate change could jeopardise poverty elevation initiatives and exacerbate the different dimensions of social inequality within the state of Karnataka. Inequality to climate change is has been part of the discussion on “climate justice” issue, which in turn is a particular case of the “environmental justice” issue. However, the focus in this discussion has been mainly on inequality across countries and their responsibility for mitigation (and adaptation) efforts to combat the climate change. In this scenario, the Rio principle of “Common but Differentiated Responsibility (CBDR)” is attempted to resolve this “burden” issue. Although, the inter-country inequality issue continues to dominate the international discussion of climate change, the intra-country inequality to climate change or social inequality has not received much attention in the exiting literature of climate change. The

discussion of the impact was initially focused on its physical side, i.e. on the impact of climate change on the nature. With time, the social impact received little attention, and evidence was presented regarding the relationship between climate change and poverty and livelihood. However, the interlinkages between climate change and within-country inequality have not yet received necessary attention. This paper aims at overcoming this weakness.

In recent decades, global economic growth has lifted millions out of extreme poverty and reduced inequalities between countries. But unmanaged climate change threatens to set back that progress by damaging poverty eradication efforts worldwide, and disproportionately affecting the poorest regions and people (Taconet et al.,2021). The evidence is mounting: a World Bank report estimated that an additional 68 to 135 million people could be pushed into poverty by 2030 because of climate change.

Climate change and inequality are locked in a vicious cycle, whereby climate change hazards end up aggravating inequality. It begins with multidimensional inequalities, which then cause greater exposure of the disadvantaged groups to climate hazards, increase their susceptibility to damage caused by these hazards, and decrease their ability to cope with and recover from the damage. As a result, when the climate hazards actually hit, disadvantaged groups suffer disproportionate loss of income and assets (physical, financial, human, and social). Climate change thus makes inequality worse, thus perpetuating the cycle (Nazrul Islam and John Winkel, 2017).

## **Inequalities and Development – G20 Action and UN Summit of the Future**

**Sabyasachi Saha**, Associate Professor, Research and Information System for Developing Countries (RIS), New Delhi

**Syed Arslan Ali**, Research Assistant, Research and Information System for Developing Countries (RIS), New Delhi

The UN Secretary General's 2023 SDGs Progress Report paints a bleak picture, with only 12% of tracked SDG target are on course, signalling the deep entrenchment of poverty, intersectional inequality, and climate change as interlinked global challenges. Rising inequalities have amplified setback for poverty alleviation, reversing years of progress in global income convergence. The pandemic exacerbated disparities, especially among vulnerable populations, with significant economic and food security impact. Despite, previous commitments development remains uneven, particularly in Global South, where climate vulnerabilities and financial constraints pose severe challenges.

Amid these crises, the G20 has shown a growing sensitivity toward holistic development approaches. The 2023 Action Plan on Accelerating SDG Progress and the Principles on Lifestyles for Sustainable Development (LiFE) adopted during the Indian G20 Presidency emphasize localized, equitable, and sustainable development, aiming to bridge global-local divides. However, existing models of financing and growth are insufficient, often neglecting grassroots solutions and perpetuating inequalities.

The policy brief calls for a new development paradigm centered on Access, Equity, and Inclusion (AEI) to counteract rising inequalities and climate crises. This includes integrating ethical considerations and wellbeing metrics into economic systems, alongside localized efforts to address regional disparities. Localization is crucial for addressing multidimensional poverty and regional challenges, with community participation and decentralized governance key to success.

The upcoming UN Summit of the Future and Brazil's G20 Presidency are pivotal moments to align global actions with localized solutions, addressing poverty, hunger, and inequalities. For meaningful progress, existing governance models must reform to prioritize localized, inclusive, and ethical development practices. We argue that given the scale of challenges there is need to effectively fulfil all past commitments and at the same time unleash new processes where global takes care of the local, and create spaces for unorthodox approaches enabling sustainable and equitable development that starts with stemming growing inequalities.

## **Inclusive Employment for Sustainable Development in India: An Analysis**

**Sajida Anjum**, Head of P G Department of Economics, L S College BRABU,  
Muzaffarpur, Bihar

Employment is a vital element of anyone's life, whether economically or socially. Employment does not only impact the economic situation of an individual's life but the entire economy. Economic activity is the most significant tool for the growth and development of any economy. For inclusive and sustainable development, every segment of society must be involved in the development process. It is critical to determine a group's or community's employment involvement in order to determine its economic state. Employment, when extended to all socio-religious groups, becomes a catalyst for sustainable development that transcends economic growth, touching upon social harmony, poverty eradication, and nation-building. With a history woven with multiple faiths and communities, India's journey towards sustainable development hinges on the equitable distribution of opportunities for all. Many socio-religious groups in India, such as Scheduled Castes (SCs) and Scheduled Tribes (STs), have a long history of marginalization and discrimination as a result of their caste affiliation, as evidenced by numerous studies on the subject. However, the subject of marginalization among minorities, particularly Muslims, is a less researched area in India. To understand the economic situation of different Socio-Religious Groups (SRGs) it is necessary to know their employment participation rates. The present study is focused on the employment pattern and distribution of different SRG workers by using the Periodic Labour Force Survey (PLFS) 2019-20 by National Sample Survey Office (NSSO). NSSO gives a heavy data set with many variables related to the socio-economic profile of the respondents and households. With the help of these data, this study provides the calculations of the employment status of workers. To analyze the distribution of workers by industry and occupation wise, there is the use of 1-digit level data of Industry and Occupational list. All the relevant data for the study is calculated for the

Usual Principal Status for the age group of 15-59 years workers. This study suggests that Muslims are more vulnerable than other Socio-Religious Groups (SRGs) in India. Their participation in regular salaried jobs is very low and highest in self-employment work when compared with the other SRGs. It is discovered that Muslim workers' participation in quality jobs and regular salaried employment is low, and they are mostly engaged in low-quality work. As argued in the paper, the employment condition of Muslims in India is a major barrier to their participation in sustainable development. By improving the employment condition of Muslims, India can create a more equitable and just society that is better able to achieve sustainable development.

## **Subsidies vs. Substitution: Forest Cover and Effectiveness of Clean Fuel Policies in Rural India**

**Samarpita Ghosh**, Research Scholar, University of Kalyani, Kolkata, West Bengal

**Prasenjit Sarkhel**, Associate Professor, University of Kalyani, Kolkata, West Bengal

This study investigates the persistent reliance on solid fuels for cooking in rural India, a practice that poses significant health risks due to indoor air pollution. Despite national efforts to promote clean cooking fuels through initiatives like the Pradhan Mantri Ujjwala Yojana (PMUY), the transition away from traditional solid fuels remains uneven. Using data from the Mission Antyodaya survey for 2020, encompassing 483,996 village-level observations, this paper explores the factors influencing clean cooking fuel adoption across rural regions in India.

Our analysis highlights the critical role of forest cover density in shaping household fuel choices. By integrating forest cover data from the SHRUG database, we uncover substantial heterogeneity in clean fuel usage based on the density of surrounding forests. Households in moderately dense forests and open forests are significantly less likely to adopt clean cooking fuels compared to those in areas with less forest cover. This suggests that the availability of firewood as a readily accessible fuel source may deter the transition to cleaner alternatives.

To further explore these dynamics, we apply an instrumental variable regression model, using the training of elected representatives under the Rashtriya Gram Swaraj Abhiyan (RGSA) refresher program as an instrument. We expect that efficient politicians are more likely to ensure access to public schemes like PMUY. The results indicate that in regions with high and moderately dense forests, the effect of PMUY benefits on clean fuel adoption is statistically insignificant, implying that subsidies alone may be insufficient to drive behavioral change in these contexts. Moreover, the persistent use of firewood, despite the availability of subsidized clean fuels, suggests a close substitution relationship between traditional and clean fuels.

Our findings underscore the need for more nuanced policy interventions that consider local environmental contexts, particularly in forested regions, to effectively promote the adoption of clean cooking fuels in rural India.

## Determinant of Climate Change Anxiety among College Students: A Cross-Sectional Online Study

**Sandhya Bageri**, UG Student, Faculty of Forestry, Birsa Agricultural University, Ranchi, Jharkhand

**Absar Ahmad**, Assistant Professor, College of Veterinary Science and Animal Husbandry, Birsa Agricultural University, Jharkhand

Climate change, a global phenomenon with extensive impacts, significantly affects physical, social, and psychological well-being. Growing awareness of its potential effects has given rise to climate anxiety, characterized by intense fear, helplessness, and despair regarding the anticipated impacts of climate change. Additionally, climate change is closely linked to human health. Despite increasing awareness of the health risks associated with climate change, uncertainty remains about how students, particularly those in Jharkhand, perceive its relevance and associated health effects.

Study aims to explore the relationship between climate anxiety and various factors among students. An online, cross-sectional research study was conducted. From June to August 2024, students were invited to participate in an online cross-sectional survey. A total of 222 participants, predominantly from Jharkhand (88%), took part in the study. Data were collected using a structured questionnaire addressing social and health factors related to climate change, along with the Climate Anxiety Scale. This scale, developed by Clayton and Karazsi (2020), includes 22 items rated from 1 (never) to 5 (almost always), with higher scores indicating greater climate anxiety. The scale demonstrated high reliability, with a Cronbach's alpha coefficient of 0.83.

The study provides a demographic and socio-economic profile of 222 college students, with 88.3% residing in Jharkhand and 67.1% living in rural areas. Most respondents are female (67.1%) and under 20 years old (73%). A significant majority (92.3%) have an undergraduate degree. The religious distribution is predominantly Hindu (73.9%), followed by Sarna (17.1%). The caste distribution includes OBC (44.1%), ST (27.5%), General (18.5%), and SC (9.9%). Over half (56.3%) come from joint families, and 54.1% report a monthly income of less than ₹15,000. Additionally, 38.3% of respondents report illnesses potentially related to climate change, with respiratory and heat-related conditions being the most common.

Regarding perceptions of climate change, 48.2% of respondents recognize global warming as a consequence, while 21.6% acknowledge its effects on biodiversity and 35.6% on water scarcity. Fewer students associate climate change with desertification (13.1%) and ocean/river acidification (14%). Additionally, 34.2% attribute extreme weather to climate change, and 16.7% connect it with rising sea levels.

Students from Jharkhand report significantly higher levels of climate anxiety (65.46) compared to students from other states (53.30) ( $p < 0.001$ ). Rural students (65.12) show slightly higher anxiety than urban students (61.82) ( $p = 0.074$ ). However, no significant differences in anxiety levels were

found based on gender, age, or family structure. Students with climate-related illnesses report significantly higher anxiety (66.85) compared to those without such illnesses (62.29) ( $p = 0.01$ ).

The study reveals significant levels of climate anxiety among college students, particularly those residing in Jharkhand and rural areas. Geography and health status are key determinants of climate anxiety, with students experiencing climate-related illnesses reporting higher anxiety levels. Although factors such as gender, age, family type, caste, and income show some variations in anxiety, they are not statistically significant predictors. The findings highlight the need to address both geographic and health-related disparities when designing interventions to mitigate climate anxiety among students. Furthermore, enhancing awareness of the broader impacts of climate change is crucial, as many students have limited recognition of its effects beyond global warming.

## **Local Governance and Climate Change Action Plan in Maharashtra: Case Studies of Pune City**

**Satyendra Kumar Prasad**, Assistant Professor, Dr. Viswanath Karad MIT-World  
Peace University, Pune

**Bishnu Prasad Mohapatra**, Assistant Professor, Dr. Viswanath Karad MIT-World  
Peace University, Pune

Climate change has emerged as a key challenge for the survival of human civilisation with recent years witness alarming rise of global warming. At the same time, this has also adversely impacted sustainable development of urban areas. The urban areas emerged as growth engine for economic development. In order to tackle the climate change for ensuring sustainable development in urban areas, the Urban Local Governments (ULGs) have initiated local action plans. This paper explores the role of the ULGs in tackling climate change and biodiversity loss in India with a special reference to Pune, a city located in western India. A key objective is to explore local level climate change action plan designed and implemented by the Pune Municipal Corporation and impact of this on tackling climate change in Pune City in the reference of India. A mixed-method approach was employed in this study, combining quantitative data on climate indicators and urban development with qualitative insights from key stakeholders involved in the implementation of Pune's climate action plan. The findings suggest that Pune's efforts to tackle climate change are challenging, particularly in terms of innovative policy design and community engagement. However, the study also highlights significant challenges in the plan's implementation. These include inadequate financial resources, a lack of coordination among various government agencies, and limited public awareness of the importance of climate action. We argue that India has been implementing Sustainable Development Goals to make Indian cities climate resilient. However, this research paper shows that while Pune's climate action plan has made important strides in addressing climate change, its success depends on a more systematic and coordinated effort towards Sustainable Development Goals effective. This involves not only greater collaboration among ULGs, state, and national governments but also active participation from the private sector and civil society.

## **A Review of Literature on the Effect of Climate Change on Agricultural Production with Specific Reference to Methodology and Models**

**Saumya Srivastava**, Research Scholar, Ewing Christian College, University of Allahabad, Prayagraj, Uttar Pradesh

Climate change has been major concern for almost all countries especially from late 20th century. Continuous rise in temperature due to Greenhouse gas emission, heavy rainfall, droughts, landslide, melting of glaciers, rising sea level, depleting ozone are some of major concerns. Developing economies heavily rely on agriculture, with abrupt changes in pattern of rainfall, temperature the livelihood of farmers of developing and underdeveloped economies is at stake. Agricultural production, yield is the one that deals with first hand impact of abrupt climatic changes. The paper reviews the methodologies and models along with their benefits and limitations used by different researchers to see the impact of climate change on agricultural production, yield of different crops from different countries of world including India. The independent variables used in different models are mean rainfall/ precipitation, mean temperature, fertiliser consumption, labour consumption, and irrigation pattern, primary energy consumption, CO<sub>2</sub> emission etc. While dependent variable used are total production, yield per unit land, area under production, fertiliser consumption etc. Models are basically divided in two part largely i.e. Economic models and biophysical. They are further subdivided into categories where economic models are regression models, microeconomic models, and macroeconomic model, spatial or temporal analogues meanwhile biophysical models are agro climatic indices, statistical models, and process-based models. The paper also reviews the literature which has qualitative aspect involved in methodology. Data collection for this is done through focused group survey, interviews from farmers. It is observed by the review that panel data regression model simple regression model is popular among all the model used. Choice of models and methodology is very important part of the study. Proper assessment and analysis can only be done if proper tools are used. This review paper aspires to inform and provide holistic view of methodology and models used in the studies.

## **Relative Importance of the Determinants of CO<sub>2</sub> Emissions in the Selected Emerging Economies**

**Seema Joshi**, Professor, Kirori Mal College, University of Delhi, Delhi.

**Sachin Gupta**, Dean Research, Vivekananda Institute of Professional Studies- Technical Campus, Delhi.

The main motivation of this paper is twofold: to identify the natural similarity in countries towards the emission of CO<sub>2</sub> and then to assess the relative importance of the determinants explaining CO<sub>2</sub> emissions in the Selected Emerging Economies. The data for 42 emerging economies was gathered first and later

classified into two clusters having similar characteristics utilizing the exploratory hierarchical clustering method. The machine learning K-Means clustering technique was also used to verify the clusters. Such clustering helps us to identify the grouping of countries that are in proximity concerning the selected determinants of CO<sub>2</sub>. It is also the utilization of the neural network technique that helped us to identify the relative importance of explanatory variables about the response variable viz CO<sub>2</sub> emissions. The empirical results bring out that economic growth (EG) is the most important variable in causing CO<sub>2</sub> emissions followed by renewable energy consumption (REC), urbanization (URB), democracy index (DI), and foreign direct investment (FDI). The policy implication of this study for emerging countries is that they have to pay due attention to green growth strategies including a big push to REC and other green methods and urbanization processes and policies like smart cities for climate mitigation and adaptation. Political systems too will matter. However, FDI holds the least significance signifying that internal policies and factors (rather than external ones) will play a larger role in impacting environmental quality.

## **The Nexus between ICT, Technological Innovation, Economic Growth, Institutional Quality and Economic Complexity on CO<sub>2</sub> Emissions: Evidence from ARDL Model**

**Shrestha Kaur**, Masters Student, CHRIST (Deemed to be University), Bengaluru, Karnataka

This rapid growth in economies has seen a massive upsurge of carbon dioxide gases critically detrimental to human health and ecosystem in general. These gases constitute 75% of all greenhouse gases, with the global temperature increasing by a whopping 15 degree Celsius and leading to severe environmental damage. This paper tries to examine how the Institutional Quality, Economic Complexity and Technology and innovation play a vital role in mitigating CO<sub>2</sub> emission in Top 10 emerging economies.

The objective of the study is to analyze the statistical properties of CO<sub>2</sub> emissions and related economic indicators, the cointegration relationship among all the variables. This paper also estimates the causal relationship between CO<sub>2</sub> emissions and other variables to understand the direction and nature of influence.

This paper explores the impact of institutional quality and economic complexity along with technological innovation on economic growth on one hand and CO<sub>2</sub> emissions on the other using a dynamic panel model estimation technique to detect the changes. The outcomes are significant and show that ICT in high income countries is highly challenging the previous research conclusions. By creating a new framework and balancing technology it contributes to previous economic and environmental literature.

The study uses a dataset comprising 230 observations on seven variables: CO<sub>2</sub> emissions (CO<sub>2</sub>), economic growth (EG), energy consumption (EG), information and communication technology (ICT), income quality (IQ), research and development (R&D), and renewable energy (REN).

Methodology: 1. Descriptive Statistics: Basic statistical measures including mean, median, maximum, minimum, standard deviation, skewness, and kurtosis are computed to summarize the dataset. 2. Correlation Analysis: Pearson correlation coefficients are calculated to explore the linear relationships between variables. 3. Unit Root Tests: First and second-generation unit root tests (Fisher ADF, Fisher PP, IPS, LLC, CADF, CIPS) are performed to determine the stationarity of the variables. 4. Cointegration Tests: Pedroni and Kao tests are used to identify long-term relationships among the variables. Johansen Fisher panel cointegration tests further analyze the presence of multiple cointegration vectors. 5. Model Estimations: Fully Modified OLS (FMOLS), Dynamic OLS (DOLS), and Canonical Cointegrating Regression (CCR) models are applied to estimate the relationships between CO<sub>2</sub> emissions and other indicators. 6. Causality Tests: Granger causality tests (D-H causality tests) are conducted to determine the direction of causality between the variables.

The descriptive statistics reveal significant variability in CO<sub>2</sub> emissions with a mean of 6.280 and standard deviation of 4.076. Correlation analysis indicates that ICT and REN have strong relationships with CO<sub>2</sub> emissions, with ICT positively correlated and REN negatively correlated. Unit root tests confirm that most variables are I (1), while cointegration tests indicate significant long-term relationships among the variables. FMOLS and CCR models show that ICT, R&D, and REN significantly influence CO<sub>2</sub> emissions, with ICT and R&D having positive effects and REN a negative effect. DOLS results provide additional insights into the impact of IQ and R&D. Causality tests reveal bidirectional relationships between CO<sub>2</sub> emissions and ICT, R&D and REN.

## **Climate Change: An Assessment of Real-life Problems in Nation-states and Possible Global Solutions**

**Shreya Pandey**, Assistant Professor, Department of Political Science, St. Xavier's College (Autonomous) Ranchi, Jharkhand

Non-traditional security threats loom large over the global horizon. Climate change is one such overarching concern which has cast a perpetual dark shadow upon the well-being of mankind. It has challenged the traditional international security and defence institutional structure which catered to all exigencies of recent times. Climate change has in fact created a new normal. It has to be dealt with and tackled and defeated by all and sundry, by the nation-states as well as by the international community as a whole. The entire definition of warfare for sustaining humanity has been revisited and unlearned. The proposed study seeks to identify solutions to the entire gamut of problems thrust upon the world due to the phenomenon of climate change. It seeks to understand the fallout of climate change upon the international economic and political order. The study shall discuss various problems being faced by the nation-states in different parts of the world. It shall try to comprehend the true nature of the problem besetting the people in their daily lives. It shall also try to assess the efforts being made at the state-level as well as the global level towards climate change adaption and mitigation. The paper shall try to

trace the trajectory of the efforts made towards controlling the menace of the climate change and the impact and effect of such endeavours. The paper shall also provide an in-depth analysis about the reasons behind certain policies to have taken-off while others have proved to be bloopers. The proposed study shall make recommendations for consolidating global efforts and achieving unanimity for the sake of mitigating climate change in a sustainable and holistic fashion.

## **The Causal Effects and the Impact of Climate Change: A Review of Floods in KwaZulu Natal- North and South of eThekweni**

**Simangele, Constance Cele**, Senior Lecturer, University of Zululand, Empangeni,  
KwaZulu Natal, South Africa

**Joyce M. Mdiniso**, Department of Anthropology and Development Studies,  
University of Zululand, South Africa

The continuous loss of life, and damage to infrastructure, i.e., roads, bridges, houses, agriculture, and aquaculture due to the repercussions of flooding caused by heavy rainfall has caused regression in the socio-economic landscape of eThekweni region in KwaZulu Natal (KZN) coastal belt. This paper aims to review the flooding events that caused the KZN community to report low socio-economic growth. Furthermore, by synthesising existing research on climate change and floods in KwaZulu-Natal, this review aims to provide a comprehensive overview of the current situation in the region. However, the authors anticipate that the frequency and severity of floods in the area including changes in rainfall patterns, deforestation, and urban development and occurrences have increased in the past few decades. Drawing from literature and the recorded series of catastrophic flooding suggests that climate change is here and is serious and would double the likelihood of flooding, and this would have a gross impact on socioeconomic development. Furthermore, the review assesses the impact of floods on the residents of KwaZulu-Natal, particularly in terms of their health, livelihoods, and overall well-being. Findings reveal that climate change has become serious and causes catastrophic damages that exceed the allocated disaster management budgets and other allocated miscellaneous budgets. The findings reveal that flooding can lead to displacement, loss of property, and even loss of life, making it a critical issue that must be addressed urgently. The paper recommends rigorous planning, and consultation with climate professionals, structural engineers, human settlements specialists, and environmentalists in South Africa- KwaZulu Natal and other flood-prone countries.

## Balancing Tradition and Modernity: The Role of Sustainability in the Era of Modernization

**Smriti Singh**, Professor, Indian Institute of Technology Patna, Bihar

**Labani Biswas**, Research Scholar, Indian Institute of Technology Patna, Bihar

**Sohini Naiya**, Research Scholar, Indian Institute of Technology Patna, Bihar

Traditional food practices, deeply rooted in cultural heritage and ecological wisdom, have played a pivotal role in promoting sustainable development across generations. This study critically explores the role of traditional Indian food practices in promoting sustainable development, grounded in a thorough analysis of literature. Drawing on theories from ecocriticism, ecofeminism, and cultural ecology, the research examines how these practices, deeply rooted in cultural and ecological knowledge, contribute to environmental sustainability and social equity. Texts such as K.T. Achaya's *Indian Food: A Historical Companion* and Fikret Berkes' *Sacred Ecology: Traditional Ecological Knowledge and Resource Management* are pivotal in illustrating the connection between Indian food culture and ecological stewardship. The study highlights the sustainability of plant-based diets, local sourcing, and resource-efficient cooking, aligning these practices with global sustainability goals. It further emphasizes the critical role of women in preserving these traditions, drawing on Vandana Shiva's ecofeminist insights. Additionally, using Gayatri Spivak's postcolonial theory, the research critiques marginalization of indigenous practices in the face of globalization.

Case studies like the Bishnoi community's environmental practices and Sikkim's organic farming model underscore the relevance of integrating traditional knowledge into contemporary sustainability efforts. The study concludes that preserving and reclaiming these practices are essential for advancing sustainable development, advocating for stronger policy support and educational initiatives.

Post-independence, India's Green Revolution in the 1960s further accelerated this transition. While it addressed immediate food shortages through the introduction of high-yielding varieties of crops and chemicals, it also entrenched a model of agriculture that was heavily reliant on chemical fertilizers, pesticides, and irrigation. This modern approach to food production, while increasing yields, came at a significant environmental and social cost. It led to a decline in soil fertility, groundwater depletion, and the marginalization of small-scale farmers who could not afford the new technologies. Despite these challenges, there has been a growing recognition in recent years of the need to return to more sustainable food practices. This has led to re-evaluation of traditional knowledge and a burgeoning movement towards organic farming and agroecology. The modern sustainability food culture in India, therefore, represents an effort to reconcile the advancements of Green Revolution with the wisdom of indigenous practices. It seeks to integrate scientific innovations with traditional methods to create a more holistic approach to food production that is both sustainable and resilient.

However, this transition is not without its apprehensions. The challenge lies in balancing the need for food security with environmental sustainability, especially in a country as diverse and populous as India. Moreover, the modern sustainability movement often risks co-opting indigenous practices without fully recognizing or compensating the communities that have preserved this knowledge. Thus, the transition from indigenous to modern sustainability food culture in India is a story of both loss and reclamation, one that requires careful navigation to ensure that the wisdom of the past is not only preserved but also integrated into the future of food production.

## **A Systematic Study on Climate Change: An Emergent Challenge Before the Northeastern States of India**

**Souvik Mukherjee**, Research Scholar, University of North Bengal, Siliguri, West Bengal

Climate change has been a significant issue for which many environmentalists, researchers, scientists, and professionals directly or indirectly involved are working rigorously to understand, delay, and minimize the impacts it is creating on human life. The significant need for sustainability begins with the rise in global temperature, which has caused subsequent multifaceted problems. The UN has been working on various protocols to control temperature changes in the climate. However, climate changes are exponentially impacting areas and creating zones of vulnerability. This paper aims to study the vulnerabilities of hilly terrain to understand the issues arising from disruption in regular patterns in climatic conditions. The changes considered over the years include livelihood, economic status, geographic conditions, climate, etc. The North Eastern Region (NER) possesses ecological significance for India. Hence, the socio-economic stability of the region is of utmost importance. However, the NER is essential from the climate change perspective because most rural populations and the economy are based on natural resources and climate-sensitive sectors - agriculture, water resources, and forestry. The region needs to be adequately equipped to handle the adversities of climate change impacts. Therefore, analyzing the effects of climate change and vulnerabilities at the state level of northeast India is necessary to develop adaptation strategies. In this backdrop, the present study quantifies the climate change vulnerability of eight North-Eastern states - Arunachal Pradesh, Manipur, Assam, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura to climate change impressions, using the Vulnerability Resilience Indicators Model (VRIM after Moss et al. 2001). For this purpose, proxies have been identified and used for various climate sensitivities and coping-adaptive capacity sectors. The outcome was analyzed at the state level regarding the relationship between the values of VRIM and the respective socio-economic situation to determine the sources of vulnerability. This methodological framework will help analysts, policymakers, and stakeholders systematically evaluate individuals and sets of indicators to identify the vulnerable areas and sectors. The concluding section of this study offers some practical policy measures that would substantially bring down vulnerability to climate change and alleviate long-term resilience in the NER.

## **Comparative Analysis of Carbon Footprint between a 3-star hotel and a 1-star hotel in Ranchi District**

**Sriya Sinha**, Research Scholar, Ewing Christian College, University of Allahabd, Prayagraj, Uttar Pradesh

**Umesh Pratap Singh**, Professor, Ewing Christian College, University of Allahabd, Prayagraj, Uttar Pradesh

The hospitality industry, encompassing hotels, restaurants, and various tourism-related businesses, significantly impacts the environment due to its energy-intensive operations, resource consumption, and waste generation. This study investigates the carbon footprint of two hotels - a 3-star hotel (providing number of facilities to the customer including meal services and a 1-star hotel (with limited facilities and without meal service) to assess their environmental impact and add to the growing body of knowledge on sustainability in the hospitality sector.

A quantitative approach, employing an adapted framework of the Hotel Carbon Measurement Initiative (Hotel Carbon Measurement Initiative (HCMI) – Sustainable Hospitality Alliance, 2020), was used to collect data from the selected hotels. The HCMI framework provides a standardized methodology for measuring and benchmarking carbon emissions in the hotel industry. Data collection focused on key areas identified by the HCMI, including energy consumption, water usage, waste generation, and outsourced laundry services.

The findings revealed that the 3-star hotel exhibited a lower carbon footprint compared to the star hotel. The 1-star hotel recorded carbon footprint of 2468.54kg/co2e/year, while the 3-star hotel recorded a total carbon footprint of 1865.04kg/co2e/year. Carbon footprints of per occupied room daily are 54.26 kg CO<sub>2</sub>e and 76.8 kg CO<sub>2</sub>e for a 3-star hotel and a 1-star hotel respectively. This difference can be attributed to factors such as the 3-star hotels are potentially more energy efficient. 1-star hotels often operate within older buildings with outdated infrastructure, leading to higher energy consumption for heating, cooling, and lighting. Occupancy rates are generally higher in 1-star hotels due to lower prices, often translate to increased energy and resource consumption per square foot. They also lack comprehensive resource management programs.

Additionally, the study found negligible use of renewable energy sources in both hotels in both the hotels. The 3-star hotel demonstrated a minimal contribution of less than 5% from solar energy, while the 1-star hotel had not adopted any renewable sources. This finding highlights an urgent need for improvement in the use of renewable sources of energy.

## The Role of Courts in Promoting Climate Action from a Human Rights Perspective

**Sudha Shrotria**, Former Joint Secretary to Government of India; Environmental Lawyer, Independent, New Delhi

In the recent years, the discourse on climate change has shifted from the social and economic impacts of climate change to the implications it has for the fundamental human rights. The climate change litigation in national courts is largely attributable to NGOs, activists, groups and citizens who have challenged government policies on adaptation, mitigation and national commitments to contain the greenhouse gas emissions.

Over the years, the recognition that climate change impacts human rights has gained support from the UN and other international institutions. A point arises as to what role the courts can play in the matter of climate action when the States have already committed themselves to act under an international agreement. The Courts in many countries are presently accepting the human rights approach towards cutting down on greenhouse gases. They are willing to step in and compel the executive to take suitable action to fulfil the promises made. The question that arises is whether the courts are an appropriate answer to climate action or whether they are overstepping the other Constitutional institutions.

As more and more citizens worldwide are becoming aware of the climate change issues affecting them, they are exerting their rights and demanding action from their governments seeking Court directives. Prominent among those moving courts are children and youth, women's groups, local communities and indigenous people. The courts in many countries are presently accepting the human rights arguments towards cutting down on GHG emissions. The paper discusses the trend of climate change litigation at the national, regional and international level. Jurisprudence developed at the regional and international level based on human rights principles is gaining ground in national jurisdictions.

In the Indian context in eighties and the nineties there was a surge of Public Interest Litigation in India on environmental matters and the much-needed push was given by the Supreme Court, the highest court of the land, to wake up the government into action on several environmental fronts. A perspective is drawn on whether the Supreme Court in dealing with environmental issues is treading into areas reserved for the executive and the legislative wings of the State.

## **Financial Inclusion and Financial Literacy among Tribal Households: A Study of Bankura District of West Bengal, India**

**Sudipta Sarkar**, Associate Professor, Department of Rural Development Studies, University of Kalyani, Kalyani, West Bengal

Financial inclusion implies delivery of formal financial products and services at an affordable cost to disadvantaged, low-income and unbanked sections of people of the society for their well-being. People are said to be financially included if they have at least one bank account. But it is to be noted that having bank account is not merely a good indicator for people being financially included. Financial literacy is highly necessary for financial well-being of people. Financial literacy is a blend of skill, behaviour, awareness, attitude and knowledge of individual that is required to make sound financial decision leading towards the achievement of financial well-being. Thus the three important components of financial literacy are financial knowledge, attitude and behavior of people. Tribal peoples are the most vulnerable sections of the society in terms of different socio-economic characteristics. In this regard, the present paper has tried to assess the status of financial inclusion and financial literacy among Scheduled Tribe (ST) population in backward areas of Bankura district of West Bengal. Multistage purposive sampling has been used for selection of 160 sample respondents from 2 blocks of Bankura district. It has been observed that all sample households have at least one bank account but a negligible portion of sample respondents can be said to be financially literate. Results of the study reveal that sample tribal HHs are financially included in terms of having at least one savings bank account basically opened for getting direct benefit transfer of different government schemes, but the status of financial literacy among them is very miserable.

## **Profiling the Quagmire of Determinants and Gender-related Differential of Financial Inclusion in India: An Evidence from Decomposition Analysis**

**Sumit Kumar**, Research Scholar, Indian Institute of Technology Indore, Madhya Pradesh

**Kalandi Charan Pradhan**, Assistant Professor, Indian Institute of Technology Indore, Madhya Pradesh

Financial inclusion is a multidimensional concept, The World Bank (2018) defined, “financial inclusion implies that all individuals and businesses have access to a range of financial products and services, such as transactions, payments, savings, credit, and insurance, to meet their needs in an affordable, convenient, responsible, and sustainable manner”. Financial inclusion affects the economy multidimensionality, i.e., financial inclusion not only affects economic growth but also

affects the socio-economic factors of the economy. Following this, financial inclusion significantly affects the household's income and helps more to the marginalized and low-income households of society to increase their income and living standard (Zhang & Posso (2019). Meanwhile, financial inclusion helps in the reduction of inequality (Fouejieu et al., 2020; Kling et al., 2022). Furthermore, many studies find that financial inclusion helps in reducing poverty (Dawood et al., 2019; Dogan et al., 2022). Due to these effects of financial inclusion on the economy or society, many efforts have been taken by all the country's governments to promote financial inclusion across their country. For example, in India PMJDY (Pradhan Mantri Jan Dhan Yojana) was launched in 2014, and the National Financial Inclusion Strategy (NFIS) 2019-2024 in 2020. Despite many efforts to expand access to formal financial services, there are significant disparities persist between males and females. Following this, many studies consistently highlighted that females are less financially included than men. For example, Demirgüç-Kunt et al., (2018) illustrated that women are disproportionately excluded from formal financial systems, with lower account ownership rates than men. However, the causes of differences between males and females are less explored. This study investigates the gender gap in financial inclusion in India by examining the factors that lead to differences between male and female access to financial products. The research utilizes a logistic model combined with Fairlie decomposition methods and uses a multi-indicator survey dataset 2020-21. The findings reveal that, on average, 89.6% of men have access to financial inclusion products such as formal accounts, compared to only 83.9% of women. This indicates a significant gender disparity in financial inclusion.

The analysis further reveals that only 42.4% of the gap between male and female financial inclusion can be attributed to observable characteristics. This suggests that over half of the difference in financial inclusion is due to unobserved or structural factors that are not easily measured.

Key determinants of the gender gap in financial inclusion include mobile phone usage, education levels, and income. These factors have been identified as the most significant contributors to the disparities. Women's lower access to mobile phones, lower education levels, and lower income, compared to men, are major obstacles to achieving equal financial inclusion.

## ESG Goals Aligned with DEI to Enhance Employee Engagement and Productivity

**Supriya Krishnan**, Assistant Professor, Department of PMIR, Darbhanga House, Patna University, Bihar

The intricacies of the post-pandemic world have intensified the demand of *green knowledge and skills*, which imperative to sustainable growth. Therefore, corporate organizations are gradually shifting their focus from being only profit-centric as of consumption model to a more triple bottom line (people, planet and prosperity) centric holistic contribution model. People/ Employee, the most important resource of an organization, are the lifeblood for its existence and their buy-in is vital in

driving meaningful changes for achieving ESG goals. Policies and practices in an organization are designed and developed to ensure safety and well-being of its people and allow them to contribute their potential at its best, and bring their best ideas to fruition for benefit of the organization. The *environmental, social and governance* (ESG) goals integrated with *diversity, equity, and inclusion* (DEI) goals have emerged as a North Star in safeguarding the long-term sustainable and liable business practices. The ESG and DEI integration kindles the organisational growth by resonating with employees, corporate leaders, shareholders, and the global community with societal relevance. Aligning DEI across each of the component of ESG have been found to have positive outcomes in a) attracting and retaining best talent thereby lowering attrition, b) sustaining a positive work culture by bringing agility that leads to higher productivity, c) achieving financial and non-financial business objectives, d) supporting sustainable livelihoods across organizational ecosystem, e) pursuing innovative approaches for a healthy planet, f) balancing consumption and contribution to a net zero economy, g) supporting for *green commuting* that provide subsidies or incentives to employees for using eco-friendly modes of transportation, like public transit, carpooling, cycling, or electric vehicles and h) creating *Eco-conscious workspace* that implements energy-efficient designs and opt for sustainable materials that reduce waste and hence, minimise environmental impact. Businesses can flourish if it stands at the intersection of a rapidly changing world and growing ESG expectations, it's crucial to harness the green momentum. Employee benefits and employee engagement are powerful tools to drive collective action, resulting in enhancement of corporate sustainability and benefiting the employees and global community at large.

## **Transformation of Demographics, Deforestation, and Industrialization in Plateau City, Ranchi, Jharkhand**

**Ujjwala Gupta**, Assistant Professor, Yenepoya Deemed to be University, Mangalore, Karnataka

The paper empirically examines the evolutionary trajectory of population growth, deforestation, urbanization, and sudden upsurge of industrialization in an otherwise small and obscure city of Ranchi in the State of Jharkhand. With its vast treasure of rich tropical deciduous forests, mineral resources, and industrial growth, Jharkhand has induced a large influx of people from different parts of the country and the adjoining states. Earlier, the enormous forest cover provided its population with abundant food, economic resources, and a home for many natives. However, after the 1950s, continued denudation, overexploitation of flora and fauna, and urban sprawl in forest areas have caused an epic threat of growing concern. Even at present, human migration and city area expansion continue unabated, which is seemingly visible in growing *urban* areas. In addition to the historical and anthropological elements collected from secondary and primary sources, this qualitative research study uses a phenomenological approach to comprehend the degradation of Ranchi. Ten senior citizens were the informants in the study who nostalgically remembered and narrated the stories of the pleasant weather conditions around the year of old Ranchi town and

the differences they observe now. Detailed field notes about the overall impression of interviews, settings, respondents' emotional reactions, and background sound were considered helpful for each interview. Based on the thematic analysis of narratives from old residents of Ranchi, this study establishes a link between climate change and human activities that may be connoted to the *Anthropocene*. The article highlights the trajectory of changes in demography, deforestation, household structure, and industrial growth of Ranchi city, calling urgent attention to its resultant climate change. The paper ends with recommendations by the researcher emphasizing the need to undertake vulnerability assessment studies followed by interventions that can prevent further damage to the climate in light of the findings of the study.



## **THEME 2**



# **TECHNOLOGICAL TRANSFORMATION AND INCLUSIVE DEVELOPMENT**



# Technological Transformation and Inclusive Development

The rapid pace of technological transformation has the potential to drive economic growth and reshape societies. Emerging technologies such as artificial intelligence, automation, and the Internet of Things are at the heart of the Fourth Industrial Revolution, which has immense potential for contributing to economic growth and social progress.

One of the most pressing concerns is the impact on the labour market in general and women in particular. Automation threatens to displace many traditional jobs while simultaneously creating new ones that require advanced skills. This shift raises critical questions about the future of work, nature of employment and equitable participation of all segments of the labour force in the coming decades. For development to be inclusive, it must provide benefits across all levels of society. The digital divide—a technological access gap—poses a significant barrier to achieving this goal. Ensuring everyone has the skills and access needed to participate in the digital economy is crucial.

Education systems must adapt to prepare individuals for this rapidly changing technological landscape. This includes imparting technical skills and fostering adaptability, critical thinking, and lifelong learning. Technology also has the potential to revolutionize education itself, providing personalized learning experiences and opening up new opportunities for remote and underserved populations.

India's technological landscape is burgeoning, with its digital economy growing at an unprecedented rate. However, disparities in access to technology and digital literacy are significant. As a leader in software and services, India faces the challenge of leveraging its technological prowess for inclusive growth and bridging the digital divide. The country's demographic dividend could either be an asset or a liability, depending on how effectively it manages technological disruption and skilling its workforce.

The governance of policies for technology advancement is a critical issue. Regulators strike a balance between encouraging innovation and protecting public interests. This includes developing frameworks for ethical AI, data governance, and cybersecurity. As technology advances, the need for effective governance structures that can adapt to new challenges will only grow more acute.

Thus, technological transformation offers tremendous opportunities for growth and development. However, harnessing these opportunities benefits to benefits everyone requires careful management, foresight, and a commitment to inclusivity. As we stand on the brink of a technological revolution, our choices will shape tomorrow's society.

Some of the key issues that can be considered for prospective paper writers on this theme are:

- Technological transformation, employment and strategies for mitigating the risks of job displacement.

- Green technology innovations that support sustainable growth while ensuring environmental protection.
- Governance of technological progress and their implications for society and the environment.
- Innovative financing models that leverage technology to allocate funds effectively toward sustainable development goals.
- The role of digital platforms in fostering financial inclusion and sustainable economic participation.
- Collaboration between technology firms, civil society, and government to drive inclusive technological growth.
- Strategies to alleviate the impact of AI and automation on employment in India, with a focus on transitioning the workforce to new opportunities.
- Ensuring that technological progress in India is equitable, fostering an environment where advancements benefit all segments of society, thereby narrowing socio-economic divides.
- Ethical application of AI and safeguarding data privacy within India's burgeoning digital landscape.
- Capitalizing on technological innovation to advance financial inclusivity and enable broader economic engagement across diverse population groups in India.
- Evaluating the adoption of robots, digital tools, and technologies across various sectors in developing countries and their consequences on employment, with an emphasis on strategies to mitigate job displacement risks.
- Implications of new technologies on occupational profiles, tasks, and skills, and assessing how they reorganize work and contribute to job polarization.
- Gendered impacts of new technologies on labour productivity, wage dispersion, and working conditions, particularly assessing whether these technologies perpetuate traditional gender roles through increased home-based work.
- Evaluating how digital labour platforms influence or perpetuate inequities and discrimination along gender, race, citizenship, and age, as well as the rise in precarity and informality associated with these platforms.

## **Conceptualization of Virtual Market: New Horizons for Women Entrepreneurs**

**Anupam Kumari**, Research Scholar, Patliputra University, Patna, Bihar

Entrepreneurship is one of the key elements of economic growth and social progress in general and women's entrepreneurship in particular for a developing nation like India. While women entrepreneurship is on the rise globally, evidence indicates that women entrepreneurs still face significant socio-economic challenges in male-dominated business environments, greatly diminishing their confidence. Many women possess entrepreneurial ideas and aspire to launch their businesses, but they often hesitate due to fears of failure and financial loss. However, with the rise of the digital era, many are now eager to take the plunge. The lower investment requirements of digital ventures, along with a basic understanding of digital marketing, allow many to explore their ideas without significant risk before fully committing. Digital marketing is widely used to promote products or services and plays a crucial role in attracting customers through digital channels. It also encompasses marketing methods beyond the internet. Further Search Engine Marketing (SEM) has evolved as a new tool for marketing that incorporates mobile devices, social media marketing, display advertising, and various other digital media formats. Social media has significantly influenced the evolution of communication among people. Entrepreneurship has been a subject of extensive academic discourse and varies in interpretation. Two different views exist, while one takes it as taking risks, others appreciate its creative and exciting dimensions. Consequently, we can observe a notable increase in women entrepreneurs linked to the growth of digital marketing. Traditional marketing helps businesses identify consumers with specific buying behaviours. Digital marketing is a strategy aimed at achieving targeted marketing objectives online, utilizing mass media like the Internet and mobile phones. Online marketing is highly effective for promoting businesses, as numerous advertisements are available on the internet. This study identified various obstacles and difficulties encountered by women throughout their entrepreneurial journey. This research study significantly enhances the field of marketing by contributing important insights into emerging marketing techniques, particularly digital marketing. It assesses how the level of digital marketing adoption affects sales growth. Consequently, the researcher advises women entrepreneurs to improve their digital marketing adoption by developing their digital skills and knowledge to fully leverage this marketing strategy for business growth. Additionally, the researcher recommends that government authorities and entrepreneur associations focus on providing technical training and financial support to empower women entrepreneurs in the digital space.

## **Transformation of Human Resource Management in the Digital Age: Recent Trends and Practices**

**Afzal Hassan Khan**, Assistant Professor, NSHM Business School , NSHM Knowledge Campus , Durgapur, Durgapur, West Bengal

**Manju Bhagat**, Professor, Birla Institute of Technology ,Mesra ,Ranchi

The advent of the digital age has brought about significant changes in a number of fields, including human resource management (HRM). The transformation of digital technology, which includes advancements in automation, the internet, and information technology, has completely changed the way organisations manage their workforce. These days, digital technology is essential to HR management strategies. The evolution of human resource management (HRM) in the rapidly changing digital world is examined in this article. The primary goal is to integrate digital technologies into HR management, specifically automation, artificial intelligence (AI), and digital platforms. Human Resource Management (HRM) is the process of successfully and efficiently managing an organization's human resources in order to accomplish business objectives and targets. Digital Conversion Integrating digital technology into every facet of an organisation to alter how it runs and provides value to clients is known as digital transformation. Descriptive qualitative research methodology was employed in this study. The article also discusses how prepared an organisation is for change, including retraining, restructuring, and policy updates. Based on the study conducted, it can be inferred that the digital era's impact on HR management presents a range of opportunities and difficulties, necessitating an integrated and flexible strategy from the organisation. In the rapidly changing digital era, human resource management, or HRM, is undergoing substantial transformation. The HR management process is changing as a result of the incorporation of digital technology including digital platforms, automation, and artificial intelligence (AI). HR managers today need to have greater proficiency in data analysis and technology management. They also need to be flexible in response to evolving business trends and workforce needs. In order to adapt to evolving working styles, organisations need to be ready to alter their rules and adopt new technologies. This could entail personnel retraining or restructuring.

## **Efficacy of Social Security Measures for Unorganized Workers – A Study in Selected Rural Regions in Burdwan District of West Bengal**

**Debanjana Roy**, Ph. D Scholar and Lecturer in Humanities, MBC Institute of Engineering and Technology, Burdwan

**Soumyendra Kishore Datta**, Professor, University of Burdwan, West Bengal

Social security schemes have immense importance in catering to the well-being of rural unorganised sector workers in a developing country like India. It provides financial protection to the needy

citizen. The market of unorganized workers or informal workers in India is large. Most of the informal workers are self-employed. Our study considers promotional and protective schemes for uplifting unorganized sector workers. This study examines the effectiveness of various social security schemes like old age pension, widow pension, Disability pension, PMAY, PROFLAL, MGNREGA, SGSY, JSY, PMUY, PDS system, Laxmi Bhandar, Swasthya Sathi scheme etc. in rural West Bengal. A survey for the study was conducted on a total of 320 households in eight villages across two blocks in the Burdwan district of West Bengal. The impact of different security schemes on village dwellers working in the informal sector has been assessed entirely based on primary field survey data. On the other hand, in calculating the rate of diffusion of schemes like IGNWPS, IGNOPS, IGNDPS, and JSY, we have considered several states of India based on the availability of data. In this case, secondary data taken from the IndiaStat site has been used. Diffusion of schemes, Test of Homogeneity, and Likert scale technique have been used as a methodology in this paper. The household survey reveals the economic condition of the villagers and how different government schemes help them for the betterment of their economic status. Also, few of them were deprived of those schemes though they ought to have benefitted from them. Results indicate that the Public Distribution System (PDS) is the most broadly accessed scheme, followed by MGNREGA (till 2020) and health insurance under the Swasthya Sathi scheme. According to the survey, most of the villagers were fairly satisfied whereas a significant percentage of people were very dissatisfied due to various reasons such as lack of awareness, administrative complications, middleman intervention, etc. If more awareness camps can be conducted on the benefits and application process of various schemes and training programmes can be organized to increase the work efficiency of the women in SHGs then the common people will benefit a lot financially.

## **A Preliminary Study of the Impact of 4ir on Agricultural Labour in India**

**Deepika Devi**, Ph.D. Scholar, Pondicherry University, Puducherry

This paper examines the impact of Fourth Industrial Revolution (4IR) on agricultural labour in India. The paper highlighted both the opportunities and challenges presented by technological advancements such as Artificial Intelligence and digitalization. It acknowledges that each industrial revolution significantly alter nature of work, often reduces labour capacity and increases productivity especially in agriculture. The 4IR are reshaping the agriculture sector, potentially widening the gap between skilled and unskilled workers and exacerbating economic inequalities. However, it potentially benefitted developed nations. The study includes a descriptive analysis of existing literature and a regression analysis using data from various government sources to assess the relationship between 4IR and labour productivity. the results indicates that the government spending on Research and Development (R&D) positively impacts employment opportunities in agriculture, while increase in patent in agro-chemical sectors reduce labour demand due to higher productivity. Conversely patents in agro-engineering are positively associated with labour employability, suggesting that

mechanisation increases the demand for skilled labour. The discussion also highlighted several key issues including the risk of digitalization leading to job polarization, wage inequality and the potential exploitation of marginalized and migrant workers. It also has raised concern about the digital divide particularly among women and disadvantaged society who have limited access to new technologies. Hence democratization of technology is argued to be needed, ensuring all stakeholders in the agricultural sector, including small farmers, have access to AI and other digital tools. Finally, it suggests that incremental mechanization and development of micro-technologies might be more realistic and beneficial for the Indian Agricultural sector than large-scale automation. Moreover, emphasis should be given to skill development particularly in Science, Technology, Engineering and Mathematics (STEM), to make the workforce demand ready for 4IR. Additionally, the study advocates for protective policies towards the vulnerable workers and marginalized groups; and promote mobility in accordance to technological changes.

## **Opportunity to Get Rich Before Getting Old: Analysing the Demographic Capabilities of Bihar**

**Ekta Yadav**, Research Scholar, University of Lucknow, Uttar Pradesh

**Rachna Mujoo**, Dean, Faculty of Commerce, University of Lucknow, Uttar Pradesh

Bihar is one of the poorest states of India. Being the third most populous states of India, its young demography is its striking feature. The current paper focussed on analysing the economic trajectories of Bihar in view of its enormous demographic dividend. For this, it has been analysed that how the demographic developments influence prosperity of the State. The study further tries to understand the State's capability to channelize the demographic developments to its own growth and development. Data has been collected from Census, Building Knowledge on Population Ageing in India and Economic and Political Weekly Research Foundation India Time Series. Using Auto-Regressive Distributive Lag and Vector Error Correction Model, the results reveal that Bihar is in midst of accruing demographic dividend yet unable to utilize it to its full potential because of poor socio-economic infrastructure. In an environment of unseized opportunities and potentials, Bihar looks towards a fast-ageing population.

## **Digital Literacy in India: Initiatives, Status, and Challenges**

**Geetha Rani Prakasam**, Professor, National Institute of Educational Planning and Administration (NIEPA), New Delhi

Digital literacy indicates having the skills that one needs to live, learn, and work in a e-permeated society and economy, where communication and access to information is through digital technologies like internet/digital platforms/ apps, social media, mobile devices, etc. Given this trend, the present paper tries to understand how the digital literacy has been evolving in the last two decades. Central theme of this review has been: what is digital literacy and how it has been evolving over time and

across multiple perspectives such as from information science (library science), media studies, social sciences – economics, psychology, sociology, political sciences, computer sciences, etc. It is argued that digital literacies should be seen as ‘evolving’, as digital practices ‘shape, and are shaped by the imitations and innovations along with the development of the public digital ecosystem combined with its accessibility and affordability of both the data and the devices. This, however, differ based on income, location whether rural or urban, age, level of education, culture, language (primarily English) skills, etc. As we will see, defining this term has proven to be complex, because the digital environment is constantly fast changing. Due to its inherent nature of fluidity and flexibility, the term covers from a narrow to a comprehensive coverage. The first part of the review examines the evolution of digital literacy, a much broader term and subsequently analyses its measurement as digital competencies or skills. In this backdrop, its significance in the Indian context is looked at. The last part of the raises the concerns that needs attention from multiple perspectives is highlighted.

## **Review Paper on Organizational Structure and Workforce Discipline in Assam Tea Industry**

**Gulshan Borah**, Research Scholar, Martin Luther Christian University, Shillong, Meghalaya

Tea is a significant global commodity that plays a pivotal role in India’s national economy, with Assam being the world’s largest producer of black tea. This labour-intensive industry comes under the purview of the current Plantations Labour Act and Rule. Little documentation provides comprehensive spatial insights into the organizational structure, function and associated discipline of its workforce. This review paper strives to outline the hierarchical structure and its role in guiding the large workforce towards sustainable tea cultivation practices. Utilizing a non-experimental approach, it combines scoping and formative research methodologies to provide a comprehensive understanding of this critical issue. The paper offers valuable insights for tea industry stakeholders, helping to strengthen organizational frameworks and promote a culture of sustainability. By leveraging the power of the hierarchical structure, businesses can unlock the full potential of their workforce and pave the way for a more environmentally responsible and economically viable tea industry.

## **Global Value Chains and Informality in Developing Economies: Relation between GVC Participation and the Size of Informal Economies**

**Kumar Rohit**, Ph.D. Scholar, South Asian University, New Delhi

This paper investigates the association between participation in GVCs and the size of the informal economy in DEs. Incorporating data from 73 developing countries from the regions of Asia,

Europe, Sub-Saharan Africa, Middle-East and North Africa, and the Latin American and Caribbean region over the period 1995-2018, we analyse how both employment and output-based indicators of the size of the informal economy are related to three crucial indicators of integration within GVCs: backward GVC integration, forward GVC integration, and overall GVC integration. The results of our regression analysis provide evidence that on average increasing levels of forward GVC integration have been positively associated with both the share of informal employment in total employment and the share of informal output in total output in DEs. Although backward GVC integration displays a negative correlation with both employment and output-based indicators of the size of the informal economy in DEs, on average the impact has not been significant. While the overall GVC participation index does not display a significant association with the indicators of the share of informal employment in total employment, it displays a (weakly) significant positive association with the share of informal output in total output. One could argue that DEs with a large proportion of its relatively less-skilled workforce engaged in the informal economy, both in rural and urban areas, are more likely to participate in GVCs by supplying primary products and services. In these cases, the share of domestic value added is often greater than foreign value added. However, it is also possible that the significant positive association between forward GVC integration and the size of the informal economy may be indicative of (i) the growing GVC integration of the firms and workers in the informal economy through various sub-contracting linkages, and (ii) shrinking formal job opportunities for the relatively less-skilled workers in GVC integrated firms. The latter can be attributed to the rising tendency to increase the share of domestic value added in GVC-related trade by shifting towards capital-intensive production methods and the increasing bias towards the skilled workers in GVC-integrated firms in DEs. This may in turn have been playing a role in reducing the potential of GVCs to create formal employment opportunities in DEs, thus compelling an increasing share of relatively less-skilled unemployed and displaced workers towards (informal) self-employment and/or wage-employment in low-value adding, less productive informal economic enterprises for economic sustenance. Our analysis has important implications for understanding (and raises serious concerns over) the nature of GVC-induced growth in DEs.

## **Beyond Food Self-Sufficiency: Green Revolution and Nutrition Risks among Females in India**

**Kumar Ashutosh**, Ph.D. Scholar, IFMR Graduate School of Business, Krea University, Sri City, Chittoor, Andhra Pradesh

This study investigates the relationship between district-level exposure to the Green Revolution and individual level obesity and overweight risks among women in India. Utilizing a government program that focused on crop production intensification and data from the 2019-21 round of the nationally representative National Family Health Survey (NFHS), the analysis empirically examines how targeted wheat production intensification influences women's overnutrition outcomes. The findings indicate that women residing in districts targeted for wheat production face a 23.36% higher

probability of obesity and an 11.54% higher probability of being overweight. These associations persist even after accounting for a wide range of individual, household, and state-level factors, including access to subsidized food grains. The robustness of these results highlights a significant connection between Green Revolution policies and rising overnutrition risks in India. Further exploration using data from a nationally representative household consumption expenditure survey sheds light on the mechanisms driving these outcomes. The study finds that the increased risks of obesity and overweight in wheat-targeted districts are largely explained by higher consumption of wheat from non-subsidized sources and out-of-home production, rather than from the public distribution system (PDS). In contrast, there were no significant differences in the consumption of other food groups, such as refined foods, sugar, and fats, which are typically associated with overnutrition. The findings underscore the unintended consequences of agricultural policies aimed at intensifying specific crop production and their long-term implications for public health, particularly among vulnerable populations. By linking historical crop production strategies with contemporary health outcomes, the study contributes to a broader understanding of how agricultural and food systems influence nutrition and health in developing economies. These insights are particularly relevant for policymakers aiming to balance agricultural productivity with public health goals in the context of rising non-communicable diseases, increasing dietary imbalances, and persistent regional disparities in nutrition.

## **Technological Transformation and the Changing Nature of Work: Implications for Inclusive Development in Vocational Education**

**Meghna Khurania**, Ph.D. Scholar, Jawaharlal Nehru University, Delhi

The rapid pace of technological transformation is redefining the nature of work globally, with significant implications for vocational education and inclusive development. This paper examines how technological advancements, particularly in automation and digital tools, are reshaping labour market demands and influencing the aspirations of students in vocational training programs. Using data from Industrial Training Institutes (ITIs) in Delhi, the study investigates how students adapt to these changes and how vocational education systems are preparing them for the evolving job market.

The analysis highlights the importance of equipping students with both technical and cognitive skills necessary for the future of work, while also addressing socio-economic disparities that may limit access to these opportunities. As India experiences a shift towards more technologically driven industries, the role of vocational education becomes crucial in fostering inclusive development by ensuring that students from diverse backgrounds are not left behind in the changing labour market landscape.

This research calls for policy interventions that align vocational education with the emerging needs of the labour market. It emphasizes the need for stronger industry partnerships, updated curricula, and access to digital resources to ensure that vocational training remains relevant in the face of technological disruption, promoting both workforce readiness and social equity.

## **Empowerment Strategies: Advancing Skills through Technical and Pedagogical Expertise**

**Merin Prakash**, Research Scholar, St. Joseph's College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu

**F.R. Alexander Pravin Durai**, Vice Principal & Associate Professor, St. Joseph's College, Trichy, Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu

The increasing integration of artificial intelligence (AI) in higher education necessitates an exploration of its effects on faculty empowerment. We conducted this study among 195 college faculty members in the Thrissur district of Kerala, using a structured questionnaire and structural equation modeling through AMOS software to investigate the relationship between technical knowledge, pedagogical training, and faculty empowerment. The findings highlight a significant positive correlation between a comprehensive understanding of AI-based tools, effective pedagogical training, and faculty empowerment. These results emphasise the importance of developing tailored training programs that align with technological advancements to enhance faculty skills and confidence. By focusing on professional development that incorporates both technical expertise and modern teaching methodologies, educational institutions can foster an environment that promotes innovation, excellence, and effective teaching. Faculty empowerment, as indicated by this study, significantly influences autonomy in job-related activities, decision-making capabilities, societal status, and opportunities for professional growth. Faculty members equipped with substantial technical knowledge and effective pedagogical training are better positioned to navigate the evolving educational landscape, resulting in increased job satisfaction and improved performance. Furthermore, as students become more skilled in AI tools, faculty members are increasingly compelled to utilize these resources, necessitating ongoing training and adaptation. The study underscores the need for continuous academic learning and adaptation, highlighting that empowering educator with the right skills and knowledge not only enhances their professional lives but also enriches students' learning experiences. In conclusion, this research underscores the critical role of technical knowledge and pedagogical training in empowering faculty and advocating for ongoing professional development initiatives that keep pace with technological advancements. Educational institutions can ensure that faculty members are well-prepared to deliver innovative and effective education, ultimately benefiting both educators and students. Overall, this study calls for a proactive approach to equipping faculty with the necessary skills to thrive in a technology-driven academic environment. By fostering a culture of continuous learning and adaptation, institutions can significantly enhance the overall quality of education and meet the demands of a rapidly evolving educational landscape.

## India's New Skilled Workers: Skilling, Migration, Employment, and Livelihoods

**Narayan Barman**, Senior Research Associate, Tata Institute of Social Sciences, Mumbai, Maharashtra

**Subhajit Banerjee**, Research Associate, Tata Institute of Social Sciences, Mumbai, Maharashtra

**Sandhya Iyer**, Professor, Tata Institute of Social Sciences, Mumbai, Maharashtra

**Sanchita Das**, Assistance Professor, Tata Institute of Social Sciences, Mumbai, Maharashtra

This descriptive study documents the impact of public-private skill training on migration, employment, and the livelihoods of India's newly skilled workers who have undergone training under the new skilling policy. It describes how marginalized youth with secondary and higher secondary education from India's most backward regions are recruited for various short-term and long-term skill training programs and promoted for economic mobility in India's new labour regime. They were given the labour-market oriented training which have proposed by the employers to avoid unemployment after completion of the training. The findings of the study show that non-profit organisation-based skill training centres are playing a big role towards the skilling of disadvantaged groups and create an opportunity of upward economic mobility. The study contributes to current debates on unemployment, skilling programmes, migration and livelihood practices in India.

## Financial Inclusion through PMJDY: An Empirical Analysis

**Neelu Kumari**, Assistant Professor, Department of Economics, Ranchi University

In India, the pursuit of enhancing access to formal financial services has been a focal point of policy initiatives for decades. Among these efforts, the launch of the 'Pradhan Mantri Jan Dhan Yojana' (PMJDY) on August 15, 2014, represents one of the most ambitious financial inclusion schemes globally, as recognized by the Guinness Book of World Records. However, in spite of government's substantial initiatives, around 50% of the population, particularly in rural and economically disadvantaged regions, remains excluded from basic financial services. This paper investigates the extent of financial inclusion following the PMJDY in Palamu district, Jharkhand. Through a cross-sectional study involving 215 PMJDY account holders across various banks in the district, data were collected using a structured questionnaire focusing on three dimensions of financial inclusion: access, availability, and usage. Beneficiaries' perceptions of these dimensions were evaluated using a five-point Likert Scale and analyzed through exploratory factor analysis. The findings indicate improvements in the access, availability, and usage of banking services; however, these improvements vary across different socio-economic groups. The study underscores the need

for comprehensive and coordinated efforts from banks, beneficiaries, and regulators to enhance the effectiveness of financial inclusion initiatives.

## **Leveraging Technology for Effective Fund Allocation in Sustainable Development Goals: A Financial Innovation Model**

**Neha Raj Singh**, Assistant Professor, Chaitanya International Business College,  
Gaya, Bihar

**Suman Priyadarshi**, Research Scholar, Magadh University, Bihar

In order to optimize the efficacy, efficiency, and transparency of financial institutions in advancing the Sustainable Development Goals (SDGs), this research suggests a financial innovation model that makes use of cutting-edge technologies. The approach addresses the difficulties traditional financial institutions encounter in advancing sustainable development by offering a framework for matching financial resources with global sustainability goals. Within this framework, technology has become a potent instrument for revolutionizing the distribution and administration of resources. Fintech innovations such as blockchain, artificial intelligence, and big data analytics present novel opportunities to improve transparency, optimize money allocation, and synchronize financial flows with Sustainable Development Goals. Stakeholders including governments, financial institutions, and non-governmental organizations can use these technologies to reduce inefficiencies, make better decisions, and have a greater impact on attaining the SDGs. The following are the main goals of the paper:

1. Examining the Effect of Technology on Fund Allocation: Recognizing the revolutionary potential of technology to transform the distribution of funds for sustainable development initiatives.
2. Building a Financial Innovation Model: Constructing a thorough model that incorporates cutting-edge technology to improve the efficiency of financial resource allocation.
3. Enhancing Transparency and Accountability: Examining how technology may enhance transparency and accountability in the financial sector, especially with regard to investments tied to the Sustainable Development Goals.
4. Evaluating the Impact of Fund Allocation Driven by Technology: assessing how technology-driven financial innovations affect the distribution of funds and how they help achieve the SDGs.
5. Developing Strategic Suggestions: Offering stakeholders practical advice on how to successfully apply the suggested financial innovation model.

The application of financial breakthroughs driven by technology. The study concludes by highlighting how fintech technologies have the ability to revolutionize financial distribution procedures and bolster international efforts to realize the SDGs. Stakeholders can enhance

transparency, optimize resource allocation, and promote sustainable development by utilizing technological innovations.

## **Impact of Trade Liberalization on Wage Inequality and Skill Formation: A Theoretical Analysis**

**Niladri Saha**, Ph.D. Scholar, Visva-Bharati University, Kolkata, West Bengal

**Priya Brata Dutta**, Assistant Professor, Visva-Bharati University, Kolkata, West Bengal

Difference in skill among workers (skilled-unskilled Labour), existence of wage inequality, skill formation, unemployment due to difference in skill, these are the important issues in the literature of trade and labour economics. Due to mismatch of skills among the workers there exists difference in wages as well. Thus, there exists increasing wage inequality in the economy. This increasing income inequality is found in US between 1960s and 1970s and in European countries between 1978 and 1988. We find similar picture in many developing countries because wage inequality problem has worsened in many Latin American and South Asian countries in the mid-1980s. However, the experience of East Asian countries between 1960s and 1970s goes in favour of the conventional theory that a greater openness to international trade tends to narrow the skilled-unskilled wage gap. Different studies point out different reasons for this increase in income inequality. Trade liberalization and technological progress are the main two controversial reasons of this phenomenon. Many empirical studies point out other causes of this growing inequality like international outsourcing, increase in the price of skill intensive good, entry of overpopulated low-income countries like Bangladesh, China, India, Indonesia, and Pakistan in the global market etc. There exists a lot of theoretical works dealing with the issue of this growing wage inequality. They adopt the framework of static competitive general equilibrium models of small open economies in which there exist two different types of labour- skilled and unskilled. In this paper, we consider a small open economy with four primary factors and three sectors to show the effects of change in different parameters on wage inequality and skill formation in the economy. We develop a static general equilibrium model similar to less developed or developing economies, where agricultural sector uses two specific factors, while manufacturing and skill formation sector use two mobile factors. Skill formation takes place instantaneously in our model. Factor endowments are fixed in this static model. We have tried to show an economy similar to the LDCs and DCs, where skilled-unskilled wage gap already exists. Due to change in price of the final good of any sector or due to capital inflow or outflow, wage rates change along with the skill formation in the economy. We have showed these effects along with the necessary conditions. Further, we have extended our model, where there are only three factors and three sectors. In the extended model, capital is mobile between all the three sectors. Other assumptions remain the same. In this extended model, we went through same procedure to find out the effect of change in parameters on wage inequality and skill formation. We might assume skill formation sector as the education sector. Skill could be assumed as education then. We strongly feel that an education sector is needed in the economy for development.

## **Predicting and Unveiling the Drivers of Multidimensional Poverty in India: A Machine Learning Approach Integrating Satellite and Socioeconomic Data**

**Prashant Kumar Arya**, Visiting Fellow, Institute for Human Development, New Delhi  
**Koyal Sur**, Scientist C, Geospatial Resource Mapping and Application Group, Punjab Remote Sensing Centre (PRSC)  
**Tanushree Kundu**, Assistant Professor, Central University of Jharkhand, Ranchi  
**Siddharth Dhote**, Senior Research Associate, Institute for Human Development, New Delhi

Traditional poverty analysis, primarily reliant on household surveys and income data, often fails to capture the multidimensional and spatial nature of poverty. This research addresses this gap by integrating conventional socioeconomic data from the NFHS-5 with satellite-derived environmental indicators to better understand and predict Multidimensional Poverty Index (MPI) at fine spatial scales. The limited use of high-resolution spatial data in poverty prediction, especially in developing countries like India, underscores the need for innovative approaches to unveil underlying poverty drivers. The main objective of this study is to predict MPI across India using advanced machine learning models and uncover the key socioeconomic and environmental factors contributing to poverty. By utilizing NFHS-5 household GPS cluster data, the study constructs a 10x10 km grid to capture poverty at a fine spatial resolution. Satellite data, including Normalized Difference Vegetation Index (NDVI), nightlight intensity, rainfall, and proximity to points of interest (POI), were integrated into the model. Spatial analysis was performed to extract relevant satellite features for each grid, which were then combined with household-level socioeconomic factors such as household size, caste composition, and distance to collect drinking water. Two machine learning models, Random Forest Regression (RFR) and K-Nearest Neighbor (KNN), were applied to predict MPI. The RFR model achieved an  $R^2$  of 0.504, with a Mean Squared Error (MSE) of 0.004 and a Root Mean Squared Error (RMSE) of 0.063, demonstrating stronger predictive performance than KNN, which had an  $R^2$  of 0.455. The results from both models revealed that the household size, average time to collect water, percentage of Scheduled Caste and Scheduled Tribe population, and satellite-based indicators like NDVI and nightlight intensity were among the most significant factors contributing to poverty. The outcome of this research reveals that combining socioeconomic and environmental data leads to more precise predictions of poverty and highlights the regional factors that influence poverty levels. This method offers a scalable, data-driven solution for policy design, enabling targeted interventions that address both environmental vulnerabilities and socioeconomic disparities. By identifying key poverty drivers, policymakers can focus on context-specific strategies, optimizing resource allocation and poverty alleviation efforts across India. This study contributes to poverty research by bridging the gap between spatial data science and socioeconomic analysis, providing a novel framework for predicting MPI using machine learning and spatial data.

## **Exclusion and Access to Primary Education in Bihar: A Multi-dimensional Approach**

**Rosy Sulochana**, Assistant Professor, B.R.A. Bihar University, Muzaffarpur, Bihar

With the dawn of numerous initiatives like, Sarva Siksha Abhiyan, midday meal and right to education scheme, however the Gross Enrolment Ratio in the rural primary schools in Bihar reached an impressive level i.e., 143.6%, yet the retention rate shows an alarming 58.7% and the dropout ratio in grade V with a depressing 18.9%<sup>[1]</sup> over a period of time. As a matter of fact, the children from socially excluded communities and marginalised groups either develop a habit of absenteeism or attain the status of dropouts. In essence, the prevailing primary education happens to be exclusive to infuse a sense of willingness and motivation that could promote true access to primary education among marginalised children. The existing literature highlights that the schooling environment and teaching-learning practices are not sensitive towards addressing the learning needs and concerns of children belonging to the targeted group.

Access and inclusion go hand in hand with each other. In fact, access to basic amenities & resources like education, health, housing, sanitation, *etc.* for the deprived and vulnerable sections is considered a principal criterion for evaluating and ensuring inclusiveness of growth process. Social Exclusion is seen both as a cause and consequence of capability deprivation (Sen, 2000). Merely not having something doesn't mean denial of access; non-availability becomes denial of access only when it comes through a societal process. It is, therefore, in wider sense exclusion is found to be multi-dimensional in nature.

The paper, thus primarily emphasizes on the multi-dimensional paradigm of access to counter the exclusion in primary education. The paper is divided into three sections. Section-I discusses the conceptual issues associated with multi-dimensional access to primary education. Section-II highlights the methodology to measure different dimensions of access. Section-III attempts to measure access multi-dimensionally by constructing Access Index for 15 major states of India especially focussing Bihar, using DISE data (2009-10). Section-IV furnishes some policy implications.

## **Financial Inclusion and Social Protection: Integrated Approaches to Support Disabled Persons**

**Seshu Babu Thiruveedula**, Research Scholar, Acharya Nagarjuna University,  
Nambur, Andhra Pradesh

**Saraswati Raju Iyer**, Professor and Research Director, Department of Sociology &  
Social Work, Acharya Nagarjuna University, Guntur, Andhra Pradesh

In India, persons with disabilities (PwDs) face significant socio-economic challenges that hinder their inclusion in mainstream financial and social protection systems. Despite legislative advancements, PwDs often remain marginalized due to barriers in accessing financial services and social protection

programs. Financial inclusion and social protection are critical to ensuring the socio-economic empowerment of disabled individuals, offering them the means to achieve financial stability, social security, and a dignified life. This study seeks to explore the integrated approaches to social protection and financial inclusion for PwDs in India, identifying the existing challenges and proposing strategies to enhance their access to these vital resources. The primary objectives of this study are to evaluate the current landscape of financial inclusion and social protection for disabled individuals, to analyze successful integrated models combining financial inclusion and social protection, to propose strategies for enhancing financial inclusion and social protection for disabled individuals. The literature highlights the critical role of financial inclusion and social protection in empowering disabled individuals. Studies by Polack, S., Scherer, N., Yonso, H., Volkan, S., Pivato, I., Shaikhani, A., & Patterson, A. (2021) and Puli (2024) emphasize the necessity of accessible financial services in safeguarding PwDs from exploitative practices and promoting social justice. Wann and Burke-Smalley (2022) underscore the importance of government oversight in overcoming disability-specific barriers. Additionally, Kandpal (2023) and Mont (2023) identify key factors such as availability, accessibility, usage, and affordability as critical to financial inclusion, while emphasizing the need for social protection policies that account for the additional expenses incurred by PwDs. The aforementioned objectives are examined by collecting the requisite secondary data from both published and unpublished sources. Books, journals, seminar papers, content analysis, newspapers, publications, and websites are utilized to enhance the research. To address these challenges, the study suggests several strategies, including the adoption of universal design principles in financial services, the implementation of targeted financial inclusion policies, and the strengthening of social protection programs to account for disability-specific needs. Furthermore, it recommends enhancing public awareness, improving financial literacy among PwDs, and fostering multisectoral collaborations to create an enabling environment for their full participation in society. Government oversight and enforcement of regulations are also crucial in ensuring that financial institutions comply with accessibility standards and non-discriminatory practices. The study concludes that achieving financial inclusion and social protection for PwDs in India requires a multifaceted approach that integrates inclusive financial services, robust social protection policies, and collaborative efforts across sectors. By addressing the identified challenges and implementing the suggested strategies, it is possible to empower disabled individuals and ensure their full participation in the socio-economic fabric of the nation.

## **Demographic and Regional Variations in Financial Literacy Among College Students of Ranchi**

**Shahin Perveen**, UG Student, College of Forestry, Birsa Agricultural University, Ranchi, Jharkhand

**Absar Ahmad**, Assistant Professor, College of Veterinary Science & Animal Husbandry, Birsa Agricultural University, Jharkhand

Financial literacy is a crucial element of the financial system, involving the skills and knowledge needed for individuals to make informed financial decisions. Although recent research on financial

literacy has expanded, it has largely concentrated on vulnerable populations, often overlooking more affluent groups. To foster a sustainable financial system, financial literacy must be widespread, including among educated individuals who can act as advocates. College students, new to managing finances and dealing with scholarships, are a key group for evaluating the impact of education on financial literacy. This study aims to assess how education influences financial literacy within this demographic.

Primary data was gathered through an online survey of college students in Ranchi, Jharkhand, conducted between July and August 2024. Participants provided consent via an online form. The study utilized a self-administered, semi-structured questionnaire, which was divided into two sections: one covering demographic and socioeconomic profiles, and the other evaluating digital financial literacy and financial knowledge. Both sections were developed after an extensive review of relevant literature.

The study surveyed 222 respondents, revealing that most were from South Chotanagpur (48.2%) and over half were aged between 21 and 25 years (52.7%). A majority lived in urban areas (73%) and had completed their graduation (88.7%). Gender distribution was nearly balanced, with 52.3% female and 47.7% male respondents. Most were unmarried (95.5%) and identified as Hindu (81.1%). In terms of caste, 52.7% belonged to the General category, and Science was the most common field of study (70.3%). Nearly half of the respondents relied on parents (46.8%) and the internet (43.7%) for financial guidance, with friends (27.9%) and TV/Radio (17.1%) being less common sources. Additionally, the study explored the relationship between digital financial literacy and various background characteristics. Significant disparities in digital financial literacy were noted based on administrative division, residence, and field of study, with the Kolhan division, urban residents, and commerce students demonstrating higher literacy levels. Differences based on age, gender, marital status, religion, and caste were less pronounced and not statistically significant.

## **Very Small Businesses (VSBs) for Economic Development – The Role of Digital Competency in Women-Owned VSBs**

**Shewli Hira**, Research Scholar, Swami Vivekananda Subharti University, Meerut, Uttar Pradesh

**Sartaj Ahmad**, Professor, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh

**Manoj Tripathi**, Head of the Department, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh

This paper studies the increasing participation of married women in Indian economy through small and very small businesses against the backdrop of Digital India. We conducted this study to understand the challenges in utilizing digital platforms in fostering financial inclusion and sustainable economic participation. Indian society is still very conservative and there is a continuous

conflict between the traditional values restricting women empowerment and modern values that are encouraging women empowerment. This role of married women in small businesses is believed to fuel India's economy as we can see large corporations are trying to woo women back to work. In spite of the social and financial challenges in business, women are trying to make their mark in every field. Social change has been quite slow due to the caste and religious rigidities and what education could not do, infrastructural development, technological advancement, the economic slowdown and the pandemic have successfully initiated women's engagement in public space. The pandemic destroyed the thin line between the public and the private, forcing homemakers to look for jobs, support family shops and businesses in the public space. During the pandemic, services shifted from brick-and-mortar space to online and therefore women's participation also increased from the comforts of home as it did not entail any travel. The increasing participation of married women in very small businesses represents a significant shift in the entrepreneurial landscape, with profound implications for social change, economic development, and gender equality. This study explores the use of digital platforms, tools and applications for better business by women in very small businesses. The findings in this study tells us how traditional education is not enough for doing business online as it requires training in using digital tools, applications and platforms. The extent of use of digital tools, applications, platforms and devices provides valuable insights into the dynamics shaping women's entrepreneurship within the context of digital India reducing unemployment and creating a successful digital environment. Many families have one device which their grown-up children use and therefore they are not habituated to use the device for any purchase or sale. Though, we may often see young people using the device taking pictures and making videos, they are unable to use it for searching information, downloading information from safe websites, posting information on products to attract attention and to use digital applications to respond, collect and store information. They are comfortable talking and therefore they like Facebook and Whatsapp to present their products on 'live' which is managed by highly educated digitally savvy women. This study does not include digitally skilled women professionals as our objective is to reach women, (in very small businesses) who need support to benefit from digital India programmes and enhance their ability to access the digital tools, application and platforms to run a sustainable business and generate sufficient income to escape poverty. The study finds the gap between digital use and traditional education which impedes women from using digital media, tools, and applications for their advantage in business. Also, this study aims to provide the policy makers the information needed to build strategy to encourage women in very small businesses. Very small businesses' needs are different from 'micro businesses' as defined by the government. The very small businesses in this study cover businesses that require just several thousands of rupees to handle the demands and supply during certain seasons and festivals. To sustain the seasonal or festival pressure there is a need for easy finance loans with low interest rates and there is an expectation from the women owning very small businesses that the Government can help them with finance at a low interest rate.

## Determinants of FoMO among GenZ and its Coping Strategies

**Shruti Sudha Mishra**, Assistant Professor, Kalinga Institute of Social Science (DU),  
Bhubaneswar, Odisha

**Anita Pareek**, Assistant Professor, Kalinga Institute of Social Science (DU),  
Bhubaneswar, Odisha

**Binita Nanda**, Assistant Professor, Kalinga Institute of Social Science (DU),  
Bhubaneswar, Odisha

Social media and online information services provide real-time access to conversations, events, and activities across multiple networks. Because of the rising usage of the Internet, researchers are facing challenges in assessing the association between electronic media and mental health. Recent research has highlighted the indirect impact of fear of missing out (FoMO) on the relationship between mental well-being and media activity, owing to the abundance of information available online. FoMO refers to anxiety caused by being unable to participate in social events, typically through electronic communication (Hetz et al., 2015). According to Przybylski et al. (2013a), social media users have a constant desire to interact with others, exchange information about their activities, and stay informed about the behaviors of others. Researchers have found that low life satisfaction, despair, and bad moods may all be linked to FoMO (Ellison et al., 2007). Additionally, it is thought that FoMO acts as a mediating element between the psychological factors and the use of social media, including Facebook addiction (Przybylski et al., 2013a). Stated differently, social media use and psychological need shortages can coexist in FoMO. This study explores the contributing factors to FoMO development and its coping strategies for GenZ. A mixed-method approach was employed, combining primary data collection through a validated questionnaire with secondary data from relevant literature. Statistical analyses, including factor analysis and reliability tests, were conducted on responses from 380 participants to identify key factors influencing FoMO. Results revealed five primary factors: Psychological Pressure, Social Self-Efficacy, Mediocre Emotions, Social Media Fatigue, and Social Media Usage, each contributing differently to the manifestation of FoMO among GenZ. The study suggests several coping mechanisms, including growing in self-awareness, reducing social media use, cultivating meaningful relationships, practicing appreciation, and accepting the joy of missing out (JOMO). By balancing online and physical encounters, these tactics seek to encourage a more positive digital lifestyle for Gen Z wellbeing.

## **Factor Augmenting Technology and Elasticities of Factor Substitution in Production Structure: A Study on Indian Industries**

**Swapan Chakraborty**, Assistant Professor, St. Xaviers University, Kolkata, West Bengal

Elasticity of factor substitution represents the degree at which one factor may be substituted by other. For example, elasticity of substitution between capital and labour represents the rate at which labour may be substituted by capital (and vice a versa) for given change in wage-rental ratio. Apart from being a technology parameter, elasticity of factor substitution also reflects the distribution aspect of the economy when labour is being replaced by capital in the production process (Hicks (1963)). The estimated value of the elasticity of factor substitution has far reaching implications towards convergence in economic growth, steady state conditions and others. Similarly, factor augmenting technology refers to the adoption of a technology which is biased towards a particular factor (either capital or labour) irrespective of the change in relative factor prices.

In the empirical literature, a large volume of work was devoted to estimate the true value of the elasticity of factor substitution. These estimates were found to be highly sensitive to the nature of data (cross-section or time series) as well as to the methodology used to estimate them. On the estimation of the elasticity of factor substitution, pioneering work was done by Arrow *et al* (1961). The generalized production function derived in Arrow et al was later popularized as CES (or SMAC) production function with elasticity of factor substitution constant everywhere. A large body of literature used the CES production function directly or indirectly to estimate the elasticity of factor substitution.

India has gone passed almost 30 years after economic liberalization in 1991. There has been a major structural change in Indian economy as service sector have almost become the leading sector or the engine of economic growth. Indian manufacturing sector didn't perform well for a long period time both in terms of its share in GDP as well as generating sufficient employment. Indian agriculture remained stagnant for a long period of time. All these contributed towards the phenomenon of rising income inequality in India. In this paper we tried to estimate elasticity of factor substitution (Allen-Uzawa elasticity of substitution) and factor augmenting technology for 27 Industries. We use the India KLEMS database covering the time-period from 1980-81 to 2018-19. The estimated elasticity was found to vary between industries and across factors of production.

## **Technology and Labour Process in Globalised era**

**Vinay Kumar**, Front line supervisor, Tata Steel Ltd, Jamshedpur, Jharkhand

The relationship between Technology and labour process have always been contested terrain. Technology disturbs the ongoing labour process and compels it to be changed accordingly. In

the capitalist labour process, employers always attempt innovative ideas and technology assists in it through increasing productivity and being cost competitive. Revolutionary development in technology after the 1990 or globalized era and correspondingly utilisations in the labour process could be visualized at shop floors/workplaces in terms of automations, surveillance, documentation etc. Especially, the internet of things, robotics, and artificial intelligence has drastically changed the world of work and paid employment (precarious work and informalisation). Informality and precarity at workplaces have brought changes in the world of paid work employment. Anybody could hardly imagine such major changes 30 years earlier. Platform, gig economy emerged in a globalized era have further intensify precariousness that does not require a single specified workplace as in traditional work setting and the tasks to be performed at several locations or digitally. This paper conceptualizes theoretically this development in the 20<sup>th</sup> and the 21<sup>st</sup> century in persisting labour process discourses (since Harry Braverman's Labour and Monopoly Capital and their after) and recapitulates empirically it in Tata Steel Jamshedpur. Tata Steel Ltd, Jamshedpur as the leading steel industry in India, has been pioneered for these kinds of transformation for more than 100 years and seems to be a benchmark with evolving the lowest cost producer of steel across the world through technology progression and corresponding changes in the labour process. Methodologically, participant observant and 50 respondents comprising contract workers/their supervisors, regular workers, line managers, representatives of trade unions etc. have been interviewed through open ended questions. The paper concludes as technology utilization further commodifies and marginalised workers as described in Harry Braverman's book "Labour and Monopoly Capital".

## **Extreme Heat Risk Impact on Small Businesses and Solutions in Five Indian Cities**

**Vishal Pathak**, Senior Coordinator, All India Disaster Mitigation Institute,  
Ahmedabad, Gujarat

**Satyam Singh**, Researcher, All India Disaster Mitigation Institute, Ahmedabad,  
Gujarat

**Grace George**, Research Assistant, All India Disaster Mitigation Institute,  
Ahmedabad, Gujarat

In recent years, the impact of climate change has become increasingly evident, with extreme heat emerging as a significant threat to human health, agricultural yields, and economic productivity. Escalating global temperatures intensify the threat of heatwaves, notably in populous locales like India, where the National Disaster Management Authority (NDMA) warns that nearly all states are increasingly vulnerable. These scorching periods wreak havoc on agriculture and strain healthcare systems, while infrastructural wear and surging energy needs highlight the environmental strain. Averaging 2000 annual fatalities, heatwaves disproportionately impact those without cooling resources, such as outdoor labourers and underprivileged inhabitants in substandard housing, underscoring the urgent necessity to study the situation, needs, and demand of these populations.

Groups most at risk of heat include children, older adults, people experiencing homelessness, those with pre-existing conditions, people with disabilities, indoor and outdoor workers, emergency responders, incarcerated individuals, low-income communities, and pregnant women. Exposure to extreme heat can lead to a range of health issues, including heat stress, heat stroke, worsened heart disease, and acute kidney injury. The unorganised sector, which employs about 80% of India's labour force and contributes 50% of its GDP, is particularly vulnerable. Understanding the situation of these small businesses, including their financial services, access to social protection measures, and the impact of heatwaves, is essential. Additionally, recognising the measures these businesses take during summer months and their recovery strategies is crucial. These businesses, often not covered by formal compensation mechanisms, face significant risks due to their exposure and small nature. The paper shares study findings of 400 small businesses across five locations in India – Lucknow in Uttar Pradesh, Cochin in Kerala, Ahmedabad in Gujarat, and Puri in Odisha. The paper presents data analysis of surveys covering 400 small businesses, supported by a literature review along with the voices of victims as well as their experience with the adaptation in their small businesses. The study covers various aspects of small businesses with a focus on extreme heat, such as social and economic, mental health, education and awareness, energy needs, finance, insurance, health, water, and related cooling measures that these businesses adapted.

## **E-Commerce as a Lifeline: Mitigating Job Displacement Risks for Women in the Digital Era**

**Vishwaja Rangannagari**, Ph.D. Scholar, Sociology, Acharya Nagarjuna University, Guntur, Andhra Pradesh

**Saraswati Raju Iyer**, Professor and Research Director, Department of Sociology & Social Work, Acharya Nagarjuna University, Guntur, Andhra Pradesh

The world of employment is undergoing rapid changes due to advancements in technology, mainly in automation, artificial intelligence, and the Internet of Things (IoT). This paper focuses on the gendered impacts of these technological advancements, exploring mainly on how women, who are thrown into a vulnerable state as there is increase in job losses and economic marginalisation. The paper recognises the fact that the role of technology advances is not gender neutral. Women are recipients of most of job displacement because of several reasons. First of all, it is a fact that women are underrepresented in STEM related industries poised for growth which are utilizing automation for the new opportunities. Second, the jobs that were prime for women employment in the past years especially in the retail manufacturing and administrative jobs are exposed to be automated. In this regard, e-commerce can be seen as a factor that may help reduce the threat of job displacement for women. This paper focuses on the changes in employment opportunities that resulted from e-commerce in a way that adequately suits the women employment requirements and circumstances. Unlike other traditional employment sectors, e-commerce can put women into business from the comfort of their homes, without being limited to care giving duties. This

flexibility is especially important in societies where women are expected to be the managers of the households as well as caregivers. The study stresses that due to engaging in the e-commerce sector, women can make their living and contribute to the digital economy and, therefore, socio-economic progress. By so doing, the study pinpoints how e-commerce can be used to foster gender equity. Given the equal opportunities that e-commerce presents women with regards to entrepreneurship, the two groups are thus at par. We can say that such digital inclusiveness is vital for reducing the employment gender gap. As much as new technologies imply threats to women, e-commerce represents a promising approach to economic vulnerability of women. The present provides critical insights into how e-commerce can be harnessed as a tool for gender-inclusive growth, offering a roadmap for stakeholders committed to fostering equitable and sustainable economic development.

## **Exploring Digital Financial Inclusion in India: A Socio-Economic and Demographic Analysis Using NSSO Data**

**Zehra Tabassum**, Research Scholar, Banaras Hindu University, Varanasi, Uttar Pradesh

**Padmini Ravindra Nath**, Associate Professor, Banaras Hindu University, Varanasi, Uttar Pradesh

This Study investigates the dynamics of digital financial inclusion in India, Focusing on the influence of socio-economic and demographic factors on the adoption of mobile money and combination of all (bank, financial institution and mobile money). The analysis is based on data from the 78th round of the National Sample Survey Office (NSSO), which provide a comprehensive overview of financial engagement across demographic groups, including religion, gender, employment, education, age, and marital status.

The research aims to understand the likelihood of individuals opting for mobile money services, either as a standalone financial tool or in combination with traditional banking services, as opposed to relying solely on conventional bank accounts. The paper employs a logit model to analyze the data, enabling an in-depth examination of the factors that contribute to or hinder the adoption of digital financial services.

The findings reveal significant disparities in digital financial inclusion across different demographic groups. Age, education, gender, marital status, and profession emerge as critical determinants of mobile money usage. For instance, younger individuals 25-34 are more adopting where as individual from age of 65 there engagement fall and the individual of age 85+ are least likely to engage themselves through digital financial inclusion and those with higher educational qualifications are more likely to adopt digital financial services whereas women, Muslims, Christians, unemployed, unmarried are less likely to involve in digital financial services.

Religious affiliation also plays a notable role, with certain groups like Hindus, Sikhs, and Jains demonstrating more trust and engagement with digital financial platforms on the other hand groups like Muslims and Sikhs were lacking in it. These findings underscore the need for targeted policies that address the unique challenges faced by different demographic segments to promote broader financial inclusion. As this study is on secondary data but one of its kind because work on digital financial inclusion is not done using NSSO data.

## **THEME 3**



# **GOVERNANCE, INSTITUTIONS AND PUBLIC POLICY**



# Governance, Institutions, and Public Policy

Governance, institutions, and public policy form the bedrock of functioning societies and effective management of collective resources and interests. Good governance is characterised by processes that are transparent, inclusive, accountable, and aligned with the rule of law. Strong institutions underpin these processes, serving as the mechanisms for formulating and implementing policies. Yet, the challenges facing governance structures worldwide are profound and multifaceted.

The erosion of trust in public institutions, often exacerbated by corruption, inefficiency, and a perceived lack of responsiveness to citizens' needs is an enormous challenge. Public policy must be rooted in ethical values of equity, integrity, evidence-based decision-making, and open dialogue with stakeholders to address these concerns. This requires a renewed focus on public sector reform, emphasizing transparency and citizen engagement to rebuild trust and enhance the efficacy of governance.

One of the greatest challenges in public policy is adapting to an increasingly globalized and interconnected world. Policies once confined to national borders now have far-reaching implications, necessitating international cooperation and coordination. The transnational nature of issues such as climate change, economic instability, and cybersecurity requires governance structures that can operate effectively at global, national and local levels.

In public administration, the imperative to deliver high-quality public services is paramount. Service delivery efficiency and effectiveness have direct implications for societal well-being and trust in government. Innovations in technology offer promising avenues to improve service delivery, from e-government initiatives that streamline processes to data analytics that enhance policy outcomes.

India's governance structures are as diverse as its society. With a robust democratic framework, the country grapples with issues of inclusion, policy implementation, leakages, and the need for public sector reform. The federal structure poses its own set of challenges with center-state relations, particularly in differing priorities, resource management and policy harmonization. Public trust in institutions is a vital concern, and India's burgeoning civil society plays a crucial role in holding these institutions accountable.

The dynamic interplay between governance and technology is shaping the future of public policy. The digital revolution has the potential to transform governance through increased transparency, improved service delivery, and enhanced civic participation. However, it also poses new challenges, including the need for regulation of digital platforms, protection of digital rights, and the ethical use of data.

In sum, governance, institutions, and public policy sit at the crossroads of continuity and change. The path forward requires a reimagining these foundational elements to meet the needs of a rapidly evolving world that is also more equitable and just. It calls for visionary leadership, innovative policy solutions, and robust institutions that can navigate the complexities of the 21st

century to benefit the disadvantaged and marginalised sections of the population. Through these means, governance can be a powerful force for good, enabling societies to thrive amidst change and uncertainty.

Some of the key issues that can be considered for prospective paper writers on this theme are:

- Addressing poverty and unemployment through effective governance and policy-making.
- Incorporating circular economy principles into public policy to promote sustainable waste management.
- Safeguarding indigenous knowledge within the legal and policy frameworks to enhance sustainability practices.
- Overcoming the challenges of implementing and governing sustainability initiatives at various scales.
- Establishing responsible governance frameworks for emerging technologies.
- Mobilizing public and private finance for achieving sustainable development goals in a constrained fiscal environment.
- Strategies for advancing financial inclusion through policy interventions and institutional support.
- Enhancing the effectiveness of partnerships between civil society, the private sector, and government in public policy formulation and implementation.
- Reforming India's governance structures to address poverty and unemployment with enhanced efficacy through innovative policy designs.
- Crafting robust policy frameworks in India to fortify climate change adaptation and bolster disaster response capabilities.
- Establishing responsible governance frameworks in India that are responsive to the rapid evolution of digital technologies.
- Pioneering strategies to amplify the impact of public-private partnerships in India for more collaborative policy development and execution.

## **Construction and Standardisation of Attitude Scale of Elderly Towards the Health Aspects in Rural Bihar**

**Colonel Ajay Kumar Roy (Retd.),** Ph.D. Scholar, School of Extension and Development Studies, IGNOU, Delhi

**Bikram Pattanaik,** Professor, School of Extension and Development Studies, IGNOU, Delhi

**Sarda Prasad,** Assistant Professor, School of Extension and Development Studies, IGNOU, Delhi

The study was conducted amongst the elderly living in the villages of Gaya region of Rural Bihar. 88% of the population of Bihar state resides in the rural area. As per 2011 census Bihar has the least elderly population amongst the states that is 7.7%. The average life expectancy at birth in Bihar is 69.2% while that of India is 69.7 (National Sample Survey Report 2022 by Registrar General of India). Health has a major role in the quality of life (QOL) of the elderly and their wellbeing. It involves addressing health challenges, promoting family support and tailoring interventions. Economic support for specialised health care is also required Kumar A, (2020)

A study of the elderly attitude towards health in the rural area gives pointers to the satisfaction levels and challenges in improving the QOL of elderly in rural Bihar. The development and the standardisation of a valid and reliable tool will assist in interventions.

The findings indicate that the elderly strongly feel about unreasonable charges at the private hospitals. However, they are satisfied that their health needs are being met. The elderly also feel that their living arrangements at home and surroundings outside are hygienic. They do not perceive any connection to family history of diseases as a cause of their present ill health. They strongly feel that their health emergencies can be met due to improved infrastructure, availability of two-wheelers in households and hired transport.

The instrument has 20 selected items to measure the attitude of elderly towards health in rural Bihar. This instrument can be used by students, research scholars, teachers, social workers and public officials as well as public representatives to have a comprehensive understanding of elderly's attitude towards health aspects.

The final selected list of 20 items contained 13 positive statements and 7 negative statements. The instrument's score obtained on Likert scale indicates the attitude of the elderly towards health aspects. The scores being valid and reliable can be analysed for better understanding of satisfaction levels and concern of elderly towards health in rural Bihar.

## **Ensuring Social Sector Convergence in Inclusive Urbanisation: An Empirical Study of Select Cities in Telangana**

**Alok Kumar Mishra**, Professor, University of Hyderabad, Hyderabad, Telangana  
**Iti Vyas**, Assistant Professor, ICFAI Law School, IFHE, Donthanapally, Hyderabad, Telangana

Urbanization presents both opportunities and challenges for inclusive development, particularly in rapidly growing regions such as Telangana, India. This study, unique in its focus on the role of social sector convergence in promoting inclusive urbanization, investigates this phenomenon in selected cities of Telangana. Social sector convergence, a concept that aligns and integrates various sectors such as health, education, housing, and social welfare to achieve holistic development outcomes, is at the heart of this research. By conducting an empirical analysis using field data from four cities in Telangana State—Bhongir, Siddipet, Warangal, and Hyderabad, this study examines the extent to which social sector policies and programs converge to foster equitable urban growth. The study identifies the gaps in sectoral coordination and evaluates their impact on marginalized communities, particularly in terms of access to essential services, economic opportunities, and quality of life. Fieldwork conducted in several slums reveals that non-economic factors significantly impact the income levels of the urban poor. Factors such as central location, living in a recognized slum, access to civic services, land ownership, tenure security, affordable housing, and social security all play a direct or indirect role in determining the income of slum dwellers. Therefore, urban poverty requires a different perspective than rural poverty. Government programs aimed at slum development, rehabilitation, and poverty alleviation should adopt the principle of “think globally, act locally,” combining inclusive policies at both state and city levels while addressing the specific needs at the slum or community level. Issues like land tenure and the right to the city must be tackled at a higher level, while education, skills, access to essential services, and the capacity of local bodies and communities should be addressed through a needs-based approach. Based on these principles, urban local bodies should develop city-specific poverty reduction plans, integrated with city master plans and aligned with the state’s inclusionary urbanization agenda. These plans should address the needs of all notified, non-notified, and underserved settlements. These insights contribute to ongoing discussions on urban planning, social equity, and sustainable development in India and beyond.

## **Mapping Climate Change Resilience with Environmental Sustainability: A Case Study of Kolkata**

**Ankhi Sanyal**, Assistant Professor, Basanti Devi College, Kolkata, West Bengal

Sustainability is a catchword today. The Earth Summit and the Local Agenda 21 has played the pivotal role in the worldwide publicity and popularity of sustainability, particularly sustainability pertaining to the protection and preservation of the people and environment. Subsequently, local

governments were pitted against the compulsion of acclaiming the vulnerability of the environment and initiate loads of projects to ensure their commitment to environmental sustainability. Through time the realization gripped the popular mind that environmental sustainability is embedded in the broader context of social sustainability. In course of time it became conspicuous that cities, particularly the developing world are the budding zones of threatening images of environmental pollution and unhealthy and unhygienic lifestyles. The slums are the root cause of environmental degradation and the degraded lifestyle of the slum dwellers are the source of perturbed environmental health. As a positive gesture to capture the problem the Urban Local Bodies in West Bengal were engaged in envisioning the true picture of the social and environmental conditions. Accordingly Kolkata Urban Services to the Poor (KUSP) was launched in collaboration initially with the Asian Development Bank and later co-funded by DFID, West Bengal Government and KMC as a gesture to 'soft governance'. Parallel to KUSP Kolkata Environmental Improvement Project (KEIP) was launched to improve the welfare of the poor people through an improved urban environment within Kolkata Municipal Corporation (KMC) area. KUSP reflects how the LA 21 made its headway at the local level. The program encompassed the district of Kolkata and its suburbs identified as the Greater Kolkata. The purpose of KUSP is to identify the means of achieving environmental sustainability through 'Bustee' or slum development that will also auger social sustainability. The various projects undertaken under KUSP are Calcutta Slum Improvement Programme, Calcutta Urban Development Project, Environmental Improvement of Urban Slums and National Slum Improvement Programme. The paper proposes to indulge in a comprehensive statistical study of the following areas of knowledge building; 1. The success of private-public partnership in environmental governance in Kolkata 2. The role of climate fund in ushering green governance in Kolkata

## **Maternal Health Care Services in Aspirational Districts of Bihar: A Trend Analysis of Services Utilization**

**Antra Rani**, Research Scholar, Jai Prakash University, Chapra, Bihar

**Jaya Kumari Pandey**, Assistant Professor, Rajendra College, Jai Prakash University, Chapra, Bihar

The shortage of resources in healthcare is a well-known problem. Maternal health is central to the discussion of sexual and reproductive health. Inequality in access to services for maternal health care is a major problem in our country. In January 2018, the Indian government initiated the Aspirational Districts Programme. 13 Districts in Bihar were designated as Aspirational District by NITI Aayog. Maternal health care services are crucial for reducing maternal mortality and improving health outcomes in Bihar's aspirational districts. The objective of this study is to analyse the trends in maternal health care services utilization in Bihar's aspirational districts. A secondary data analysis of National Family Health Survey NFHS 5 and Health Management Information System (HMIS) data from 2018-19 to 2020-21 has been adopted for this investigation. Antenatal

care, skilled birth attendance, and postnatal care are the three main components of maternal healthcare services. Present paper aims to highlight the status of utilization of maternal healthcare services in the above mentioned districts of Bihar. The study reveals significant improvements in maternal health care services utilization, including antenatal care, institutional delivery, and postnatal care. However, disparities persist across districts and socio-demographic groups. The trend analysis highlights the need for targeted interventions to address persistent gaps in maternal health care services utilization in Bihar's aspirational districts. The result of this study showed huge variations within districts of Bihar in utilization of Maternal Health care services. Maternal health care services in aspirational districts of Bihar continue to face significant challenges. Improving availability, accessibility, and quality of care is crucial to reducing MMR and improving health outcomes. However, disparities persist across districts and socio-demographic groups. Some districts have also seen reversal of improvements here & there in few crucial variables, which should be further investigated. Overall, the study clearly reveals significant improvements in maternal health care services utilization, including antenatal care, institutional delivery, and postnatal care.

## **Advancing Financial Inclusion through Incentives in Women's Health: Evidences from Field**

**Archana Sinha**, Gender & Development Specialist, Professor Emeritus, Indian Social Institute, New Delhi

This paper brings together evidence and experience from Uttarakhand highlighting how health organization, can be more responsive JSY is one of largest CCT in world. In this state with reasonably worse socio-economic levels, JSY offers a cash incentive to women on birthing in health institution. The cash incentive is intended to lessen financial difficulty to accessing institutional care for purpose of delivery. Further, increased institutional births are expected to reduce MMR. Thus, JSY is expected to increase institutional births and reduce MMR in states with high proportions of institutional deliveries.

In India, policy centered on enhancing access to maternal health care services has led to measures to lessen cost barriers obstructing women's access to care. Particularly, these take account of cash transfer schemes intended to stimulate demand for services, including antenatal-delivery-postnatal care. Albeit their popularity, nevertheless, little is known about impact or efficacy of these schemes. This paper provides thorough empirical evidence for improvement in JSY, recognized in literature review, take account of need for more efficient operational management, comprehensible guidelines, financial transparency, plans for sustainability, evidence of fairness and, above all, demonstrated impact on quality of care and maternal mortality-morbidity. This paper provides a case from Uttarakhand on what has worked and how, and ends with an agenda for action to underline and reinforce work of policymakers in addition to practitioners as they seek to integrate banking perspectives into strengthening health systems including health care reforms.

The paper examines connection between service uptake, that is, accessibility and utilization at levels of antenatal-delivery-postnatal care and institutional birth proportions. Analysis of primary sample data were supplemented with data from Sample Registration Survey of India to illustrate trends in proportion of institutional deliveries and the implementation of the JSY. The analysis confirmed that JSY succeeded in increasing institutional deliveries appreciably. However, it was unable to notice significant linkage between institutional birth proportion and MMR. These points that high institutional delivery proportions that JSY has attained are of themselves inadequate to reduce MMR. Other issues together with improved quality of care at institutions are vital for intended consequence.

Any assessment of financial incentives should go beyond the narrow objectives of scheme to inspect potential unintended consequences. In this paper, author has examined contributory link between one of world's largest demand-side financial incentive schemes and maternal health-related behaviour in Uttarakhand. Consistent with much of available literature, the paper locates that the financial incentives offered in JSY are effectual in escalating use of formal health services, particularly at lower levels of the public health system. Nevertheless, there is an implementation gap. Owing to incomplete coverage of JSY, increase in use of formal maternal health care due to scheme has been modest. The collective evidence in this paper, on both intended and unintended consequences, necessitates for policymakers to be vigilant in the use of financial incentives.

*Acknowledgements:* This field-level empirical study was undertaken by Archana Sinha under the premises of Indian Social Institute, New Delhi.

## **Trends and Patterns in Rural Credit of India and West Bengal: A Critical Assessment of Neo-Liberal Policies**

**Arjun Bhattacharya**, Assistant Professor and Ph.D. Scholar, Economics, Dinabandhu Andrews Institute of Technology and Management, Kolkata, West Bengal

The implementation of neo-liberal policies in 1991 has led to a substantial reduction in bank loan allocation to the agricultural and rural sectors. The removal of the 4:1 bank licensing policy, deregulation of interest rate, as well as modifications in the definition of priority sector lending, have led to certain key changes in the field of rural finance. The shift of credit from direct to indirect, long term to short term are key evidences which indicates the channelisation of rural finance to large agri-business companies instead of directly to the farmers.

Another important aspect of the neo-liberal regime is the promotion of micro-finance, leading to a substantial rise in loans provided by microfinance institutions (MFI) and self-help groups (SHG). According to the AIDIS data, bank loans are mostly focused on large farmers and farmers who are part of the upper caste population. In contrast, small and marginal farmers, who predominantly belong to the Scheduled Caste and Scheduled Tribe communities, rely heavily on informal credit and loans from self-help groups and microfinance institutions. The informal sources of credit and micro-finance loans impose exorbitant interest rates, resulting in a significant

increase in the cost of cultivation for small and marginalized farmers belonging to the backward communities. This leads to increased indebtedness during periods of crop failure.

Along with India, these trends are also observed in the state of West Bengal. West Bengal, although successfully executing land reforms and seeing high agricultural growth in the 1980s, currently has a fragmented rural credit system. The land-reform measures abolished landlordism, thus eradicating landlord credit, but, the vacuum of bank credit is being compensated by other sources of informal credit and micro-finance sectors to a great extent. This paper aims to give a comparative analysis of India and West Bengal using the RBI, and All India Debt and Investment Survey data to critically examine the contemporary credit policy of India and its impact on farmers.

## **Identifying the Gaps in Health Insurance Access: Indian Evidence for 2019–21**

**Ashrita B**, Student, Madras School of Economics, Chennai, Tamil Nadu

**Brinda Viswanathan**, Professor, Madras School of Economics, Chennai, Tamil Nadu

Expansion of health insurance ensued from India's effort to achieve Universal Health Coverage (UHC). Despite the implementation of The Pradhan Mantri Jan Arogya Yojana (PMJAY), as a part of this initiative, in 2018, India's health insurance market is still characterized by high out-of-pocket expenditure (OOPE), imposing a significant financial burden on individuals. Recent data shows that only 33.9% of males and 29.8% of females have reported having a health insurance card, indicating a low penetration. According to the NITI Aayog (2021) report, the "missing middle", comprising of the middle 30% of the population is missing out on health insurance. Given the background, the current study aims to provide a detailed analysis of the characteristics of an individual missing out on health insurance using the NFHS-5 (2019-20) dataset, which is a demand-side perspective. Multinomial Probit estimates based on three options of health insurance: none, at least one government insurance, and only private and other insurance indicate that smaller household size and increasing age are associated with lower investment in any form of health insurance for women. Moreover, the men and women in the richest quintiles have a stronger inclination towards private insurance while the opposite holds true for those in other quintiles. Furthermore, the study also reveals that Hindus and individuals of other religions are more likely to invest in public and other health insurance, whereas Muslims tend to invest less. When considering the caste, men, from other castes are more inclined towards private insurance, deviating with OBC and other castes. For Women, irrespective of caste, there is a lower investment in public insurance and more in private insurance schemes. In conclusion, the study highlights the need for creating more awareness and appropriate pricing of premiums for private insurance providers to improve the health insurance coverage, thereby improving the overall health insurance penetration in India.

## **New Dimension of NTFP Marketing and Women Empowerment: A Case Study of Simdega and Ranchi District of Jharkhand**

**Ashwani Kumar**, Associate Fellow, Institute for Human Development, Eastern Regional Centre, Ranchi

**Devika Modi**, Acting Director, Institute for Human Development, Eastern Regional Centre, Ranchi

A study conducted in Simdega and Ranchi districts of Jharkhand titled “New Dimension of NTFP Marketing and Women Empowerment” highlights the critical role that Non-Timber Forest Products (NTFPs) play in the livelihoods of communities that depend on forests, particularly women. These goods, which range from salted seeds to tamarind, not only give these communities’ women a voice economically but also give them a sense of empowerment. The complex dynamics of NTFP marketing and its effect on women’s rights and empowerment have yet to receive enough attention despite their importance. By examining the experiences, difficulties, and goals of women involved in NTFP collection, marketing, and processing, this study seeks to close this disparity. To shed light on the experiences of these women who are the backbone of NTFP activities in their households, the study explores several topics, including sources of livelihood, decision-making procedures, access to healthcare and education, and involvement in local governance.

The research is expected to yield highly significant findings that offer a nuanced understanding of women’s roles in NTFP marketing and their potential for empowerment. To inform future policies and initiatives, the study aims to address the complexities of NTFP marketing and its relationship to women’s empowerment. The research ultimately aims to create a more equitable and empowered environment for sustainable growth in Jharkhand’s NTFP sector by identifying and addressing the challenges faced by women in this field. The study has also attempted to analyse the change in the bargaining power of the women in the households by an increase in their income levels. The improvement in the agency of women in terms of decision making by improving the standard of living and empowering them at the household as well as the community level is the main objective this study is attempting to analyse.

## **Demographic Composition and Socio-Economic Divide: Evidence from Caste Census of Bihar**

**Baikunth Roy**, Assistant Professor, Department of Economics, College of Commerce, Arts & Science, Patliputra University, Patna, Bihar

**Smita Anand**, Assistant Professor, Department of Economics, College of Commerce, Arts & Science, Patliputra University, Patna, Bihar

Caste Census of Bihar was released on 2nd October, 2023 as the date coincides with Bapu’s birthday. The report, titled *Bihar Jaati Adharit Ganana*, focussed on 17 socio-economic indicators,

including caste, and also included a percentage-wise breakup of sub-castes. The present research makes an effort to examine demographic composition and socio-economic divide across caste groups as evident in the caste-based survey of Bihar 2023. Further, regression analysis is carried out to investigate the association between employment and factors affecting it for each caste category. Data emanating from the caste census reveals that the EBCs with 112 castes comprise the largest chunk of the population in the State with a 36.01% share. The OBC and EBC population account for 63% of the total population. The report also revealed that only 1.5% of the state's population is employed in government jobs. Caste census reveals that 34.13 percent of all families in Bihar survive on less than ₹ 6,000 per month while 95.49% of state's population do not possess any vehicles. As far as education system is concerned, only 7% of the population are graduates and less than 1% has a postgraduate degree in the State. Besides, close to 99% population do not possess any computer or laptop. The findings of the OLS regression reveal that acquiring technical education, access to two wheelers and possessing computers with and without internet affect employment outcomes positively and significantly. Thus, access to information, skill and mobility are strongly linked with employability. We observe that, even among broadly disadvantaged categories, some specific Jatis are significantly more disadvantaged than others. This disparity is primarily due to the inequality present within the Jatis themselves. However, the paper also raises serious concerns about reliability of data, possible discrepancies and methodological glitches as micro-level data has not been released by the government.

## **Empowerment or Endangerment? The Nutritional Consequences of Female Employment in Rural India**

**Bandana Mondal**, Assistant Professor, Raja Peary Mohan College, Kolkata, West Bengal

**Prasenjit Sarkhel**, Associate Professor, University of Kalyani, West Bengal

Lack of agency is often related to poor nutritional status in Indian women. Employed female are therefore expected to have better command over nutritious food. However, while female employment enhances financial empowerment it is often associated with friction from entrenched social norms that can impact the intra-household allocation of food. Using the rural sample of National Family Health Survey 5 (NFHS-5) data on food intake, we measure a nutrition index which does not specify the scarcity or availability of food rather include the extent of protein intake of individual family member. In this paper, we examine the effect of employment on nutrition of the female member of the household. OLS estimate guarantees that employed women are nutritionally worse off relative to their unemployed counterpart in rural India. The effect persists even after accounting for the potential endogeneity of female employment and nutrition. The instrument passes through the various tests of endogeneity correction along with the test of violation of strict exogeneity which is termed as plausible exogeneity. The negative relation between nutrition and employment remains stable across the consumption of different food

items as well as alternative measure of nutrition like body mass index (BMI). On searching the pathways, we find that potential dominance of male members measured by spousal violence which is triggered by women employment in general can have significant negative impact on female nutritional status. Our findings underscore the need for nutrition-oriented employment policy for eligible women. The programme like Deen Dayal Antyodaya Yojana which would enhance the employment opportunities for women and indirectly influences their nutritional status. However, our result highlights that to remove the poverty and hunger in women, the enhancement of employment opportunities among women is not strong enough rather their intrinsic empowerment should be upgraded. Our study therefore suggests to decrease the educational gap between men and women and to initiate some extensive development policy which help to reduce the friction with the prevailing cultural or social norms.

## **Okun's Law and Nigerian Economy: An ECM Analysis**

**Bhola Khan**, Professor, MJP Rohilkhand University, Bareilly, Uttar Pradesh

Okun's law is one of the fundamental laws to explore the relationship between unemployment and the output of a country; based on this, the policymaker can make an appropriate decision for the economic policy. In this article, an attempt is made to explore the same for the Nigerian economy. For this purpose, 32 years (1991-2022) of secondary data on Gross Domestic Product (GDP, a proxy of output), unemployment, male unemployment, female unemployment, and exports are used. All the related data is sourced from the World Development Indicators and various Central Banks of Nigeria (CBN) bulletins. For the analysis of the data, an Augmented Dicky-Fuller (ADF) test and Autoregressive Distributed Lag (ARDL) are employed. After carefully analysing the results, one can infer that four variables are stationary at their first difference while one is at level. The relationship between unemployment and output is negatively related to the Nigerian economy in the short and however, in the long run, it is positively associated.

## **The Appropriate Oil Price Policy for India – A Macro-Theoretic Study**

**Debashree Chakraborty**, Assistant Professor, Eastern Institute for Integrated Learning in Management (EILM) Kolkata, West Bengal

Since rationing of a scarce good through price rise is the cruellest and most unjust form of rationing, this paper suggests that the price of oil in India should be administered by the government at appropriately low levels so that the majority working class population can secure the basic necessities of life in adequate quantities and the subsidy should be financed by appropriate taxation designed in such a way that the burden of taxation falls mainly on the rich who have the ability to pay and make all the non-essential uses of oil. The paper shows that, when the government follows the rationing scheme mentioned above, an increase in the world price of oil will leave the real

wage rate and the levels of aggregate output and employment unaffected insulating the workers from the ill effects of a rise in the world price of oil. In contrast, an increase in the world price of oil under free market conditions will lower the real wage rate and very much likely to bring about a substantial contraction in aggregate output and employment much to the misery of the poor. Similar result will be obtained even in the administered price regime if the subsidy is financed by means of indirect taxation. This is an important policy conclusion for inclusive economic development in a developing economy. The paper builds these arguments by developing a simple macro theoretic model that can capture the salient features of the Indian economy on the lines of Keynes and Kalecki. The argument put forth in this paper holds true for any important imported intermediate input for a small developing economy.

## **Citizen Participation in India's Smart Cities Mission: The Case of Patna**

**Deepak Kumar**, Research Associate, Asian Development Research Institute, Patna, Bihar

The Arnstein's ladder of citizen participation is applied in the context of India's Smart Cities Mission, laying focus on the case of the Patna Smart City. An attempt has been made in this paper to investigate the smart city plan of Patna with respect to citizen participation in policy decision-making. Additionally, the paper explores the goals of Patna and the levels of citizen participation of different projects being executed in the city. Through thematic coding and qualitative analysis of smart city projects in Patna, it is argued that these projects, which can be broadly classified into four categories of infrastructure development, city beautification, surveillance and information & awareness, lack critical citizenship. Furthermore, on the typology of Arnstein's ladder of citizen participation, smart city projects in Patna correspond to the lowest rungs of tokenism and non-participation. It is argued that active citizen participation requires creating more accessible institutional avenues for democratic participation of citizenry where they are aware of what they are participating for and how their suggestions/inputs get incorporated in the policy-making.

## **Female Specific Alternate MPIs: An Assessment for 2019-21**

**Devika J**, Student, Madras School of Economics, Chennai, Tamil Nadu

**Brinda Viswanathan**, Professor, Madras School of Economics, Chennai, Tamil Nadu

The analysis sheds focus on the channels of non-monetary deprivation, faced by women, modelled using the Multidimensional Poverty Index (MPI). This alternate MPI employs 20 indicators, double the conventional number of 10 indicators, of which some exclusively capture the deprivations that women disproportionately face, viz. use of dirty cooking fuel, lack of a ventilated kitchen,

use of rudimentary menstrual hygiene products etc. Some other indicators like roofing and flooring material, toilet facility etc. which are shared resources that derive their value from use by all members in a household are employed in the analysis to understand the effect of economies of scale in household consumption and whether it makes any difference to deprivations among women.

The inference from the index scores resulting from the analysis proposes that the magnitude of MPI score from individual specific alternate MPI, of 0.225 is substantially higher than the magnitude of MPI from shared goods specific MPI (of 0.144) or the alternate MPI which combines all indicators (0.046). Nevertheless, the rankings and patterns across states and union territories are retained, essentially implying that while general patterns may be similar, it is still a useful exercise to delve into the gap left by the lack of focus of interpersonal inequality by MPI.

## **Poverty, Migration, Socio-Economic Discrimination and Rising Indebtedness of Illegal Immigrant Workers from Bangladesh: A Case Study in West Bengal, India**

**Dipanwita Chakraborty**, Giri Institute of Development Studies (GIDS), Lucknow

**Parmod Kumar**, Professor and Head, Agriculture Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bangalore

Cross-border migration is not a new phenomenon witnessed by India. India has received immigrants from almost all neighbouring countries since time immemorial. But the immigration from Bangladesh has raised distress as the flow has been mainly unilateral and incessant, a flow which is believed to have put pressure on the growth and development of bordering states of India with Bangladesh, especially that of West Bengal. Though the flow of migration is continuous, the intensity has varied over time and the variations have taken place due to diverse reasons. The present study suggests that the principal reason for such illegal migration has been economic in nature. With Coochbehar, a district of West Bengal being the study area which shares as much as 549 kilometer long border with Bangladesh, findings of the field survey carried out in the FY 2022-23 reveals that the migrants actually become worse-off economically in India as against what they were when they were in their country of origin. They resorted to illegal migration in lieu to alleviate indebtedness. However, they were constantly subjected to variable forms of discrimination and harassment in neighbourhood and working place alike based on the conjecture that they were criminals involved in illicit activities despite not having valid evidences which persisted even during pandemic when there was an overall threat to the life of entire human race. More importantly, situation of indebtedness in destination country gets exacerbated as well as migrant workers' vulnerability to labour exploitation. The economic precariousness associated with indebtedness is a feature of the power imbalances in the relationship of workers with employers. It also contributes to discouraging workers from acting on situations of labour

exploitation, undermining the prospects for exercising voice and agency. In view of the current grave scenario in Bangladesh as Prime Minister Sheikh Hasina has resigned on July, 2024 after weeks of deadly unrest, following which there are many reports of vandalism and looting of the houses of Sheikh Hasina party members (Muslims) as well as religious minorities, namely Hindus, raising fear of escalated illegal in-migration, the study attempts to understand, based on the interaction carried out with respondents and Local Self Government, in course of the primary survey during 2022-23, how Indian-State Government of West Bengal should frame policy to tackle illegal border migration, make sure the immigrants are not terrorists and once ascertained, they can work with dignity in undiscriminating decent working conditions so as to experience improved living standards as the lion's share of these displaced are nothing but victims of poverty and sensitized religious radicalism.

## **Strengthening Women & Land Rights: Contested Policies and Social Norms**

**Govind Kelkar**, Visiting Professor, Institute for Human Development

**E. Revathi**, Professor and Director, Centre for Economic and Social Studies (CESS),  
Hyderabad

Since 2000, India has witnessed significant progress in Gross Domestic Product (GDP) per capita, but poverty rates for women in South Asia remain higher than the global average (UN Women 2024 p 9). The Global Gap Index for 2024, published by the World Economic Forum, show significant regional disparities in gender equality and women's economic empowerment. South Asia ranks seventh out of eight WEF regions. This can be seen in women's extremely limited rights to land and productive resources. This is despite the substantial feminization of agricultural work for over three decades. The Annual Periodic Labour Force Survey (PLFS, 2021-2022) shows that agriculture has the highest estimated female labour force participation of 64.3 percent. Alarming, only 13.8 percent of operational holdings are managed by women; and area operated is 11.5 percent (Agriculture Census 2015-16). They are not recognized as farmers, as they do not own any land or livestock and do not have decision-making powers.

This paper is an attempt to draw attention to the complex interrelationship between women agriculture producers and their extremely limited rights to ownership and management of land and related factors of agricultural production. The authors situate the discussion on women and land in the broader context of governance at the local and national levels. The patriarchal forces of the state and social-cultural norms influence both formal and informal institutions at all levels. Our discursive analysis also shows women's emerging agential power to claim their rights within the insidious male-centered structure of the family and community supported by local-level implementing agencies of the states.

The fieldwork-based study was conducted using qualitative and quantitative methods in six states of India (Andhra Pradesh, Telangana, Madhya Pradesh, Rajasthan, Meghalaya, and West

Bengal in tribal and non-tribal villages). Over a period of several decades, we noted that these laws were contested in the name of cultural and social norms.

## **NICHE Tourism Products: A Solution to Seasonal Unemployment and 365 Days Tourist Destination in Bodoland Territorial Region of Assam**

**Gunajit Sarma**, Associate Professor, Central Institute of Technology Kokrajhar, Assam

The importance of tourism industry all over the world is evident and crucial. A well-developed tourism industry results in the social and economic upliftment of the economy. The tourism industry of Bodoland Territorial Region also has the capacity to contribute to the development of the region. However, the tourism industry of BTR suffers from the chronic problem of seasonality. To overcome this grave issue, the development of niche tourism products is the most desirable and accurate solution. Considering the status of Bodoland Territorial Region and its capacity to diversify the tourism products of the area, potential niche tourism products including adventure tourism, medical and wellness tourism, golf tourism, polo tourism, eco-tourism and sustainable tourism, film tourism, food tourism, rural tourism and MICE have been identified and explained in the present study for the purpose of diversification and development of niche tourism products in BTR. The study also presents the initiatives of the Ministry of Tourism of India in developing niche tourism products

## **Policy Planning for Ship Recycling Industry**

**Hrudanand Gunanidhi Misra**, Professor, Institute of Management, Nirma University, Ahmedabad, Gujarat

Ship Recycling is the process of breaking old ships to recover steel scraps. In India, the ship recycling activity is majorly concentrated in Alang which is situated near Bhavnagar city on the Gulf of Cambay. Alang ship recycling yard is considered as the world's largest yard. In developing countries like India, the ship-breaking activity is labour-intensive and all the work from cutting to loading is done manually. This industry is also considered as one of the hazardous industries. International Labour Organization also recognized that ship-breaking activity is harmful for human health. Health problems are common for all ship-breaking yards in the world and also for Alang. The main aim of this paper is to examine the health problems faced by workers at Alang ship-breaking yard and also to identify the various associated factors with health of the workers therein. The study also suggests various policies to be implemented at the Alang. Policy planning is need in this industry due to engagement of large workforce employed. Further, various policies towards the sustainable recycling activities and uses of technology in the process of recycling the old ships. The study also analyse the feasibility of various labour and industrial laws which is applicable to the

industry. This study is also important from the policy makers and young researchers to understand the role of various policy implementation in formal sector industry.

## **Governance, Institutions and Polices and their Impact on Bonded Labour in India**

**Joshua Moses**, Advocate, Self-employed, Gurugram, Haryana

**Temsukumla Pongener**, Advocate, Self-employed

Bonded labour remains a persistent issue in India despite legal prohibitions. It is a form of forced labour where compulsion of servitude is derived from a debt or an obligation. In this system the debtor loses their right to minimum wage, right to move freely and freedom of employment in consideration of a loan, violating the fundamental rights that are guaranteed by the Constitution to every citizen of this country. “Each day, people are tricked, coerced, or forced into exploitative situations that they cannot refuse or leave. Each day, we buy the products or use the services they have been forced to make or offer without realising the hidden human cost” (Walk free org)

This paper explores the intersection of bonded labour with governance, institutions and policy in Indian context. Effective governance is essential in addressing bonded labour, requiring a comprehensive approach that includes enforcement of existing laws awareness-raising efforts, and support for victims. India’s national and state governments have a collective responsibility to safeguard bonded child labourers by taking measures to prevent children from entering into bonded labour, rescuing those who are already in bondage, and ensuring that they do not fall back into bondage. While the government has developed an extensive range of laws and policies related to bonded labour, the practical implementation and enforcement of these measures remain ineffective for the majority of bonded labour victims. Institutions play a crucial role in combatting bonded labour by providing mechanisms for redress and rehabilitation. Policy interventions are necessary to address the root causes of bonded labour. Each function has specific roles to play yet they are also interdependent to ensure optimal functioning and implementation on ground. Hence, strengthening governance structures institutions and policies India are essential towards eradicating bonded labour.

## **Socio-Demographic Predictors of Elementary School Attendance in Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan**

**Jyotsna Rosario**, Assistant Professor, Vidyashilp University , Bangalore, Karnataka

India strives for inclusive elementary education, yet around 75.35 lakh children in elementary schooling age are still out of school. Using unit-level data from the 75th National Sample Survey round and state-specific logit models, this study explores socio-demographic predictors

of elementary school attendance in Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh that collectively represent 72% of the country's out-of-school children. Empirical results show that the predictors to schooling vary from State to State. Significant urban-rural attendance gaps are evident in Rajasthan. Muslim children are vulnerable in Uttar Pradesh, Bihar, Rajasthan, and Madhya Pradesh. Social group is a key predictor in many States, excluding Bihar. Distance to school lacks significance. Children of casual laborers are at risk in all the States under consideration. Income is a significant predictor only in Bihar and Madhya Pradesh. Children with disabilities face additional risks. The study highlights the need for targeted policy making catering to the vulnerable sections of the society. It provides insights for tailored approaches to ensure universal access to schooling as guaranteed by the Right to Education Act, 2009.

## **A Travesty of Law: The Implementation of Right to Education in Patna, Bihar**

**Kalyan Shankar V**, Associate Professor, Symbiosis School of Economics, Symbiosis International (Deemed University), Pune, Maharashtra

**Naveen Kumar**, Ph.D. Scholar, Symbiosis School of Economics, Symbiosis International (Deemed University), Pune, Maharashtra

In the course of the 2000s, the Government of India put together “a new welfare architecture” through a series of legislations, thereby restructuring and expanding the social commitments of the state with its citizens. A new set of rights, hitherto part of the Directive Principles of the Constitution, were now legally binding on the state. The RTE 2009 was one such legislation, guaranteeing education for all children in the age group of six to fourteen years in a neighbourhood school. Over a decade later, has the Act been successful in fulfilling its mandate? To what extent have its provisions been implemented on the ground? Where are the endogenous bottlenecks getting created within the educational systems which can lead to the subversion of the Act in its spirit and content? In this paper, we examine these questions through the intersections of two far-reaching provisions within RTE 2009 – Section 12(1)(c) and Section 18.

Section 12(1)(c) of RTE 2009 was an attempt to expand the scope of inclusive education to private unaided schools in the country. Based on their management, schools in India get segregated into government, private-aided and private-unaided schools. The last segment comprises schools which are completely self-financed and do not receive any financial support from the government. Section 12(1)(c) made it mandatory for such private unaided schools to offer a minimum of twenty-five percent of their seats in Class I to “children belonging to weaker section and disadvantaged group in the neighbourhood and provide free and compulsory elementary education till its completion”. Section 18 of RTE 2009, on the other hand, dealt with a regulatory problem of the mushrooming of unauthorised, private, for-profit schools in the country. Such schools filled an intermediate space between the public and private schools, claiming to offer better quality education than government schools for a fraction of the costs of private schools. Under Section

18, if they had to continue functioning, they were to seek recognition from appropriate educational authorities by fulfilling the norms laid out for the establishment and functioning of the schools.

Through an examination of the two Sections, this paper seeks to evaluate the outcomes of RTE 2009 and place them in the context of literature pertaining to (a) the functioning of low-cost, private unaided schools, especially the unrecognised ones, and (b) implementation of institutional mechanisms, especially the way in which formal rules created through the state get adopted by the implementing parties. This paper draws upon over a decade of grassroots research in understanding the implementation of RTE Act in Patna district in the state of Bihar (India) and involves multiple rounds of data collection spanning 2012-24.

## **The Aftermath of Farmers' Suicides: Farm Widows and the Mapping of Power for Social Action**

**Kalyan Shankar V**, Associate Professor, Symbiosis School of Economics, Symbiosis International (Deemed University), Pune, Maharashtra

**Ira Deulgaonkar**, Consultant, International Institute for Environment and Development

The Marathwada region in Maharashtra (India) is historically prone to long periods of drought. In the face of declining water tables and the heavy dependence of agriculture on seasonal rains, the farming community in the region remains saddled with heavy indebtedness and low yields. The region is also among the epicenters of farmer suicides in the state. In this paper, we engage with a much neglected community affected by farmer suicides – the widows of the farmers, who bear the burden of the family. The paper draws upon participatory-action based research conducted with farm widows in the Latur and Osmanabad districts of Maharashtra and outlines an attempt at collectivizing the women such that they can effectively engage with the state and other stakeholders.

In this paper, we discuss the power structures in which the lives of farm widows remain embedded. For exploring these structures, we make use of the framework of social power and the different questions of “who gets what, who does what, who decides what, and who sets the agenda” within power relations. We provide elaborate narratives from the field to showcase how the lived experiences of farm widows fit into the different questions. While the farm widows do claim some agency with other stakeholders who influence their lives, they distinctly felt powerless in their interactions with the state. All the women who attempted making claims of the state for fitting into governmental welfare schemes found themselves struggling to understand and fulfil the bureaucratic requirements of documentation. Thus, they were being denied benefits officially meant for them.

This article forms the background research for Wadarai Prakalp, an initiative for supporting farm widows in the Latur and Osmanabad districts of Maharashtra (India). We are grateful to all the respondents, ASHA and anganwadi workers who participated in the study. We thank People's Archive of Rural India (PARI) and HALO Medical Foundation, Andur for making this research possible at different stages.

## **Forced Journeys for Healing: Health Migration and Structural Disparities in Post-COVID Rural Jharkhand**

**Keshav Sawarn**, Indian Statistical Institute, Giridih

Jharkhand, the state of India, comprises 26.2% of tribes, ranking 12th-largest tribal population in the nation and making up 8.3% of the overall ST population. The post-COVID-19 era witnessed a significant surge in health-induced migration, where the state is already one of the least healthy and second-poorest states in India. This study focuses on the structural factors contributing to healthcare disparities and the resulting health-induced migration in Giridih District. Despite global initiatives such as Health for All (HFA), the Millennium Development Goals (MDGs), and the Sustainable Development Goals (SDGs), many areas continue to experience inadequate healthcare services, leading residents to migrate in search of better healthcare options. This research utilises the Participatory Rural Appraisal (PRA) method to engage local communities and gather data on healthcare needs and migration patterns. Primary data was collected through focus group discussions, in-depth interviews, and community mapping, while secondary sources like government reports and migration statistics complemented the analysis. Findings reveal that insufficient healthcare infrastructure, lack of medical personnel, and inadequate sanitation are key drivers of both healthcare disparities and migration. Cultural and linguistic barriers further exacerbate these challenges, limiting the effectiveness of healthcare programs. The study underscores the need for community-driven healthcare interventions that address structural disparities locally, reducing the need for migration. It advocates for policies that integrate structural competency into healthcare systems, ensuring that practitioners understand the socio-economic and migration dynamics influencing health outcomes. By focusing on community engagement and structural change, this research aligns with broader development goals and contributes to the understanding of health migration as a critical aspect of healthcare inequality.

## **Impact of Political Regime on Remittance Flows in Asian Countries**

**Krittika Sen Bandyopadhyay**, Assistant Professor, Indian Institute of Technology Kharagpur, West Bengal

**Abhideep Khare**, Masters Student, Indian Institute of Technology Kharagpur, West Bengal

Remittances constitute a significant component of the BoP of many Asian nations, providing crucial support to households and contributing to overall economic stability. This study examines the relationship between political regime types and remittance flows in Asian countries, as the link between government institutions and remittances remains relatively unexplored.

Using panel data analysis, this research investigates how various political regimes, with varying levels of democracy, affect the volume and stability of remittance inflows in a sample of Asian economies. Employing rigorous econometric techniques like Generalized Method of Moments (GMM), the study controls for potential confounding factors to explain the nuanced relationships between political regimes and remittance dynamics. The findings reveal that political regime types exert a notable impact on remittance patterns in Asian countries. Specifically, democratically governed nations tend to experience higher levels of remittance inflows, reflecting factors such as political transparency, stability, and diaspora engagement. Conversely, authoritarian regimes may exhibit lower remittance volumes due to factors such as restrictive migration policies and limited financial inclusivity. Additionally, the study identifies a positive association between remittances and economic indicators such as GDP and inflation. By shedding light on the relationship between political regimes and remittance behavior, this research contributes to a better understanding of the socioeconomic factors driving migration and financial flows in Asia.

## **Economic Growth and Diversity in India: A State-Level Analysis**

**Kumar Shaishav**, Ph.D. Scholar, Indian Institute of Technology Roorkee, Uttarakhand

Diversity has increased across the world at an unprecedented pace in the past century. India, in particular, is among the world's most diverse nations, with many Indian states having a population at par with other large countries. This calls for a detailed investigation into how the increasing diversity affects the socioeconomic outcomes of the Indian states. In this regard, this study first reviews the existing measures of diversity. Then, using the ethno linguistic fractionalization index and the Reynal-Querol polarization index, it quantifies the level of diversity prevailing in India during 1991-2011 over the dimensions of religion and language using decadal census data. Further, using the computed levels of diversity, the study explores the impact of initial diversity on the decadal per capita GSDP growth rates of the states. This is tested by running pooled OLS, fixed effects, and random effects panel data regressions for 1991-2011 on a sample of 18 states for which consistent data is available. The computation of diversity indices shows that religious diversity has increased in India over all periods. Linguistic fractionalization fell in all periods, whereas linguistic polarization first decreased before increasing steeply. The results of the panel regression model show that religious fractionalization has a substantial negative and statistically significant impact on per capita growth. However, the impact of other measures of diversity was not statistically significant. It also finds supporting evidence for the convergence hypothesis. The study concludes by summarising the findings, highlighting the limitations of the study, and proposing directions for future research.

## Determinants of Utilization of Integrated Child Development Services in Uttar Pradesh: A District wise Analysis

**Lakhan Singh**, Assistant Professor, National Institute of Rural Development and Panchayati Raj, Hyderabad, Telangana

Well-nourished children of any country are the reflection of its sustainable growth and therefore investing in the improvement of children's health is considered the smart investment. Although, the Government of India has been putting its best effort to improve the overall well-being of the children through many affirmative actions and programmes and has been success in reducing malnutrition, particularly stunting, from 52 in 1993 to 36 percent in 2021 but still miles to go in order to achieve eradication of all forms of malnutrition and hunger by 2030 as committed in SDG-2. Almost 5 crore children in the country are Stunted. Of these, one fifth of them are alone in the state of Uttar Pradesh where the prevalence of stunting is 40 percent. India has been committed towards overall development of the children by providing a package of six services (supplementary nutrition, immunization, health checkup, referral services, pre-school and nutrition & health education) to both mother and children through 12.42 lakhs anganwadis under ICDS since 1975 onwards. Though the ICDS has been successful to some extent in improving the nutritional status of the children, the coverage, accessibility, monitoring, capacity building etc. has always been concerns for its significant impact on nutritional status of the children. The latest data of National Family health Survey-5 (2019-21) show that only 68 percent of children had access to any services of ICDS. Although there are several studies to unfold the issues of ICDS at the national and state level but hardly any study has been done at district level. The NFHS-4 has first time provided the opportunity to explore the issues of ICDS and nutritional status of the children. Keeping this in view, the present study has tried to find out the determinants of utilization of ICDS in Uttar Pradesh at district level by using NFHS-4 and NFHS-5 data to recommend strategies to the policy makers and implementers to design the implementation of ICDS more effectively. The findings of the study highlight that there is considerable variations among districts in terms of nutritional status of the children and show pattern for targeted intervention. Similarly, the causal analysis of the socioeconomic variables and nutritional status of the children suggest that caste, gender, educational status of mother, economic status of the households are the important determinants of it and demands target intervention for each of the indicators at district specific in order to achieve the zero hunger and end of all forms of malnutrition among the children.

## **Benefits of Liberalisation for the Weaker Sections of Society**

**Madan C Sarkar**, Freelance Researcher, VVSRD Secretary , Janshedpur, Jharkhand

This Paper highlights the achievements of a South 24 Parganas, West Bengal based voluntary social organization named Institute for Indian Mother and Child in short IIMC, during the post liberalisation era. The organization came into being with voluntary efforts of Dr. Sujit Brahmachari and his wife Barnali Brahmachari through rendering free health services to the remote rural people of South 24 Parganas who, due to inaccessibility and ignorance, were debarred from availing modern health services. Later, the leading members of IIMC responded to meeip peoples felt needs with regard to betterment of their educational and livelihood status through womens led educational and micro credit programmes. At present the IIMC is providing medical health care services to about 2900 outdoor patients, every week through its own five outdoor clinics. Besides, IIMC could organise more than 30000 poor working women through its micro credit programme managed under Five Micro Credit Banks. The paper opines that the IIMC could benefit its poor beneficiaries by harnessing the benefits of liberalisation policies.

## **Transgender Participation in Workforce: An Exploratory Study**

**Madhurima Dasgupta**, Assistant Professor (Sociology), The Neotia University, Kolkata

**Indranil Bose**, Associate Dean & Professor, School of Management MIT University Of Meghalaya, Shillong

The over emphasis on the binary category of gender has over shadowed the non-binary category, transgender being one of them which has resulted in denial of fundamental rights and accordance of power to them. Though there is a bust of literature and research on gender inequality against women, yet there is a dearth of research on the transgender community, especially the ways they are subjected to social exclusion from their family, close kins and workforce. They still continue to be marginalized from the employment sector as compared to the binary category of gender which is a denial of their fundamental human recognized by world community. Against this backdrop, the present paper tends to analyse the different types of challenges faced by trans-gender employees in formal employments, followed by the reasons behind their social stigma and social exclusion. The paper has also attempted to explore whether trans-inclusive policies exist to curtail the barriers faced by the community. Methodologically, the paper uses secondary data to provide a comprehensive understanding about the participation of transgender in the employment sectors mainly in the global context (due to lack of sufficient data in Indian context) followed by the myriad challenges faced by the community and its solution to curtail such challenges. The findings revealed that

transgender community are subjected to innumerable challenges in the employment in the global (UK and USA) context --- which can range from their marginalization from all types of workplace duties and responsibilities to encountering harassment, which hardly gets reported. They hardly get recruited for formal employment, and even if they do, they are socially humiliated and harassed and are forced to resign from their jobs due to the harassment of their employer or colleagues. Other barriers like transphobia, improper calling of their names and pronouns, inability to access washroom, gender neutral dress code --- all of which coerces them either to hide their identity during employment or to quit the labour market which aggravates their mental and social health.

## **Harnessing Green Technologies, Big Data Analytics, and Decentralized Governance: Denmark's Strategic Insights for Strengthening India's Jal Jeevan Mission**

**Manish Ranjan**, IAS, Director General, Shri Krishna Institute of Public Administration (SKIPA), Government of Jharkhand, Ranchi

This research paper critically examines the potential application of Denmark's advanced water management framework to enhance the success of India's Jal Jeevan Mission (JJM). By incorporating green technologies, big data analytics, and decentralized governance, this study seeks to explore sustainable strategies for improving water resource management in India's rural regions. Denmark's system—recognized for its energy-efficient technologies, real-time monitoring, and multi-stakeholder engagement—serves as a model for addressing India's challenges related to water scarcity, resource depletion, and inefficient governance. Insights gained from a study visit to Denmark in August–September 2023 provide the foundation for analysing how Denmark's best practices can be adapted to the Indian context.

Denmark's decentralized governance model, which allocates clear roles across national, regional, and local levels, plays a pivotal role in its water management success. This approach ensures effective policy implementation, stakeholder engagement, and accountability across all sectors. The research proposes that India can benefit significantly from adopting a similar governance structure in JJM. A multi-tiered system, with clearly defined responsibilities and active community participation, can promote more effective management of water resources and ensure that policies are responsive to local needs. This shift toward decentralized governance aligns with the principles of polycentric governance (Ostrom, 1990), which emphasize the importance of empowering local entities in managing common resources like water.

The study also highlights the critical role of green technologies in Denmark's water management framework, particularly its focus on achieving energy and climate neutrality. Denmark's deployment of renewable energy sources, such as solar and wind energy, in water pumping and treatment processes, as well as its use of energy-efficient technologies, offers a robust model for sustainability. Adapting these technologies to India's rural and resource-constrained regions could substantially reduce the carbon footprint of water supply systems under JJM. Additionally,

the research underscores the importance of adopting Denmark's TOTEX (Total Expenditure) model, which integrates both capital and operational expenditures, to ensure long-term financial sustainability and optimal use of resources in infrastructure development.

A central focus of this research is Denmark's use of big data analytics and real-time monitoring through SCADA (Supervisory Control and Data Acquisition) systems. Denmark's ability to use real-time data to optimize water distribution, detect leaks, and manage groundwater resources is key to its success. The study argues that implementing similar data-driven approaches in India can enhance the monitoring and management of water resources, particularly in regions suffering from groundwater depletion. The incorporation of predictive modelling and data analytics will enable better forecasting of water availability, improving India's ability to manage its water resources efficiently and sustainably.

Denmark's emphasis on community involvement and public awareness is another critical area examined in this research. Denmark's strong tradition of engaging the public through educational campaigns, community consultations, and participatory decision-making has fostered a culture of responsibility and sustainability. The research advocates for the adaptation of these practices in India to enhance local ownership of water management initiatives. Educational campaigns on water conservation and hygiene practices can foster behavioural change and empower communities to take an active role in managing their water resources, ultimately improving the long-term sustainability of JJM.

In conclusion, the integration of Denmark's best practices—including advanced technologies, decentralized governance, financial sustainability models, and community-driven approaches—offers a strategic roadmap for strengthening India's Jal Jeevan Mission. The study argues that by leveraging these insights, India can enhance the resilience, sustainability, and inclusivity of its water management systems, ensuring equitable access to water across its diverse and underserved regions.

**Note:** This article was prepared after his visit to Denmark in August–September 2023, where he studied Denmark's water management practices

## **Leveraging Demographic Dividend for Viksit Bharat@2047**

**Manoj Kumar**, Assistant Professor, Banaras Hindu University, Varanasi, Uttar Pradesh

**Nikita Jain**, Student, Banaras Hindu University, Varanasi, Uttar Pradesh

The study suggests that to leverage the demographic dividend for Viksit Bharat@2047, India requires a multifaceted approach. This dividend is expected to peak in 2041, when the share of the working-age population will be 59%, presenting India with a window of opportunity for accelerated economic growth. India requires a 9.09% CAGR to achieve its target of a 30 trillion-dollar economy by 2047.

This paper focuses on the policy imperatives and challenges prevailing in critical areas like education, health, and skill that hinder harnessing the benefits of demographic dividend. Apart from increasing GDP share in education, health, and skill development, equitable access to marginalised communities and overcoming the rural-urban divide in the education and health sector are also required. The analysis of Asian economies shows that demographic dividend has played a significant role in economic growth. Global practices show that investment in infrastructure, teacher training, and technology integration are needed to foster educational excellence. In the health sector enhancement measures and preventive healthcare should be prioritised, for enhancing life expectancy, promoting overall well-being, and establishing more primary healthcare setups. The population covered under universal healthcare facilities should be increased to mitigate disease burden and reduce out-of-pocket expenditure.

Fostering skill development initiatives to equip the workforce with relevant skills aligned with market demands is crucial. Public-private partnerships must be encouraged to bridge the skills gap and promote entrepreneurship. Aligning skill development programs with industry needs, providing vocational training, and increasing GERD, primarily through private investments to enhance employability and drive innovation, would require the maintenance of stringent patent regulations and intellectual property rights (IPR). In this regard, the government initiative of providing internships to 1 crore youth over the next 5 years in the top 500 companies is a much-needed step (GOI, 2024). The government should focus on prioritising the job creation for an inclusive and resilient economy to leverage the existing skilled labour pool and sustain economic growth.

## **Exploring Subaltern Politics in Defence of the National Rural Employment Guarantee Act in Neoliberal India**

**Matilde Adduci**, Lecturer in History and Institution of Asia, Department of Humanities, University of Turin, Italy

This paper is part of a broader research project aimed at contributing to a political economy informed analysis of the National Rural Employment Guarantee Act (NREGA) – introduced in India in 2005 and recognised by the World Bank as one of the largest social safety net programmes in the Global South – in the light of the Gramscian concept of ‘integral State’. This concept designates, in essential terms, the dialectical union of the state coercive apparatuses and the state hegemonic apparatuses, and entails an understanding of the state both as an instrument of organization of class power, and as a terrain of class struggle, or a locus of struggle for hegemony, which involves the creation of ‘counter-hegemonic’ moments. By relying upon the notion of the integral state, conceived as a realm characterized by the continuous unfolding of dialectic processes, this paper aims at exploring the possible ways in which NREGA has been opening up spaces for the re-articulation of social policies by subaltern social strata of the population. In particular, it aims at contributing to the analysis of the politics of subalterns coalesced around NREGA, with

attention to the significance ascribed to social and labour policies, taking into account the period from 2014 to the present, characterized by a downsizing of the scheme, which will be read within the broader context of ‘authoritarian neoliberalism’. In this respect, attention will be devoted, on the one hand, to national initiatives, with particular attention to the processes which led to the establishment of the NREGA Sangharsh Morcha, a platform of worker’s collective, trade unions, organizations and individuals engaged in the defence, promotion and advancement of NREGA. This will lead to explore the debates on labour policies and the perceived specificities of NREGA within this platform and the way in which this has informed the strategies and the main political initiatives of the platform, as well as the main obstacles encountered in their realization in the context of neoliberalism’s authoritarian turn. On the other hand, this paper intends to explore the politics in defence of NREGA with attention to the discourses and practices of unions active at a local level. Drawing upon fieldwork activity conducted in drought prone/poverty-stricken rural regions of Maharashtra, Rajasthan and Bihar, based on in-depth interviews with male and female union cadres, including agricultural labourers actively involved in unions vigorously engaged in demanding the implementation of NREGA, the paper aims at shedding light on the way in which the struggles for NREGA intersect with other struggles, aimed at countering labour exploitation as well as a wider realm of oppressive relations based on gender, caste and religion. The importance accorded to the intertwining of these struggles by male and female unionists will be explored, along with the demands progressively expressed by the rural poor joining the unions – such as the demands related to land – as well as the difficulties and obstacles encountered in unionization campaigns and processes at the village level. In so doing, the specificities of agrarian labour relations of the different local contexts will be taken into account, along with the broader labour scenario. All in all, the paper aims at exploring the possible ways in which the struggles to defend and advance NREGA are harbingers of ‘counter-hegemonic’ discourses and practices elaborated within the universe of labour, able to challenge discourses and practices underlying a notion of social policies geared towards the government of poverty and inequality within the neoliberal social order.

## **Judicial Self-Perceptions and the Separation of Powers in Varied Political Regime Contexts**

**Max Steuer**, Associate Professor (Jindal Global Law School) and Principal Investigator (Department of Political Science) O.P. Jindal Global University and Comenius University in Bratislava, Sonipat

The study of constitutional courts (CCs) of post-1989 Central and Eastern Europe typically entailed the belief in CCs’ transformative potential for the consolidation of democracy. With the deterioration of democracy in several European Union member states including in Hungary after 2010 and in Slovakia in 2023, this belief has been questioned, albeit the knowledge of why at least some CCs in the region failed to prevent the rise of non-democratic regimes remains limited. This article addresses this gap via the cases of Hungary and Slovakia, which have taken

a different trajectory post-2010: the Slovak CC (SCC) remains an independent institution, while the Hungarian CC (HCC) has been packed by the executive, although it still remains formally powerful and entitled to constrain the concentration of powers. By combining contextual case law analysis of judgments referring to democracy and semi-structured interviews, the article shows that, during critical moments, the HCC did not perceive itself as responsible for Hungarian democracy, which resulted in its self-marginalisation. As a result, even if the Court at some point decided to challenge the de-democratizing executive via democratic readings of the Constitution, it would face an uphill struggle due to endogenous, not only exogenous constraints. The SCC was largely spared from similarly critical moments, which, however, facilitated particular self-perceptions of its responsibility (or lack thereof). These are being tested after the 2023 general elections which generated a majority with non-democratic leanings, buttressing the pressure on safeguarding democracy in the European Union as a whole. The findings offer empirical support for institutionalist scholarship that emphasizes the impact of ideas in calibrating the self-perceptions of political institutions and their positioning in the political system. They, furthermore, point to the significance of empirical research including contextual case law analysis and elite interviews that may be extended to other jurisdictions in the ‘Visegrad Four’ region of Central Europe (encompassing also Czechia and Poland) and beyond. Ultimately, the article underscores that constitutional courts remain inseparable from the political regimes they are located in.

[**Note:** This presentation builds on the article published in a special issue on ‘Constitutional Courts under Stress’ in *European Politics and Society*, 25(3) (2024), pp. 537-555, reflecting on more recent developments in 2023 and 2024 that are not engaged with in the article.]

## **Policy Perspectives on Extreme Heat Adaptation and Mitigation in India**

**Mehul Pandya**, Senior Coordinator, All India Disaster Mitigation Institute, Paladi,  
Gujrat

**Pratiti Sasmal**, Researcher, All India Disaster Mitigation Institute, Paladi, Gujrat

**Grace George**, Research Assistant, All India Disaster Mitigation Institute, Paladi,  
Gujrat

In recent years, India has experienced increased frequency and intensity of heatwaves, posing significant risks to human health, agriculture, tourism, and the overall economy. These heatwaves have resulted in numerous deaths and have highlighted the urgent need for effective heatwave action policies in India. The paper shares potential measures and perspectives that can be considered to mitigate the impacts of heatwaves in India. It is based on the action and research work done by the All India Disaster Mitigation Institute (AIDMI) with its partners and stakeholders including affected people and communities. The paper discusses ten key lessons from the action research in different parts of India covering both urban and rural. The paper is supported by the literature review on progress and challenges around extreme heat, its impact, and progress on adaptation and mitigation.

Recognize heatwaves as a disaster: Officially recognizing heatwaves as disasters allows access to disaster response funds and statutory powers to enforce orders.

Provide clarity on funding for Heat Action Plans (HAPs): Establish a central fund or leverage existing financial mechanisms like the National Adaptation Fund on Climate Change (NAFCC) for HAPs.

Promote climate-responsive cooling techniques: Encourage the use of climate-responsive cooling techniques in government-funded construction projects.

Make decision-making data-driven: Collect, analyse, and report accurate data on heatwave trends, health impacts, and economic consequences, and assign responsibility to ensure accurate reporting.

Invest in research and innovation: Support research and innovation in heatwave management strategies, interdisciplinary collaboration, and technology development.

Finance HAP implementation: Provide financial resources for implementing HAPs in India, ensuring long-term funding for preparedness.

Establish a multi-stakeholder platform: Develop and facilitate a forum for collaboration and coordination among governments, NGOs, academia, the private sector, media, and community representatives to enhance heatwave preparedness.

Provide affordable and clean cooling solutions: Encourage the private sector to prioritize energy-efficient and affordable cooling solutions, especially in the face of increasing demand.

Implement and measure the impact of innovative solutions through pilot projects: Collaborate with the government to implement pilot projects, focusing on urban green spaces, cool roofs, and building design adaptations to mitigate the effects of extreme heat.

Create public awareness: Raise awareness about the dangers of heatwaves and the importance of preventive measures, especially targeting vulnerable populations.

Heat Action Plans, and promoting affordable and clean cooling products significantly mitigate heatwave impacts. Given the projected increase in heatwave frequency and intensity in India, enhancing these initiatives and adopting a holistic and collaborative approach to heatwave management becomes crucial. By doing so, India can build resilience against heatwaves and safeguard its population and economy from the adverse effects of climate change.

## **The Sorrow of Bihar: The Need for Enhanced Governance and Innovative Policies**

**Mrutyunjay Shingare**, Student, MIT-WPU, Pune, Maharashtra

The Kosi River floods, often referred to as the “Sorrow of Bihar,” present a persistent and devastating challenge for the state of Bihar, claiming numerous lives and displacing thousands of people each year. Despite recurring efforts to address this natural calamity, Bihar’s flood

management strategies have been marred by systemic corruption, bureaucratic inefficiency, and inadequate policy frameworks. The diversion of relief funds by corrupt officials and the poor implementation of flood control measures have left communities vulnerable and infrastructure in disrepair. The state's failure to adopt a proactive, comprehensive approach to flood management further exacerbates the suffering of its population.

This research paper aims to investigate the underlying causes of Bihar's chronic flood management failures and the role of governance in perpetuating this crisis. Key questions addressed include: What are the critical flaws in the current governance structures and policies related to flood management in Bihar? How does bureaucratic corruption hinder effective disaster response and recovery efforts? What innovative policy reforms and governance strategies could improve resilience against the annual Kosi floods?

The study proposes several policy and governance reforms, including the implementation of advanced early warning systems, the construction of sustainable infrastructure, and the introduction of stringent anti-corruption measures to ensure the proper utilization of resources. By addressing these questions and proposing comprehensive reforms, the paper seeks to outline a path toward more resilient flood management in Bihar. Moreover, anti-corruption measures must be stringently enforced to ensure that allocated resources are utilized effectively and reach the affected populations without bureaucratic interference. Additionally, it advocates for decentralizing disaster management to empower local communities, promoting transparency, accountability, and building capacity for more effective, localized responses. Ultimately, it argues that only through significant governance improvements and innovative policy interventions can the cycle of devastation be broken, leading to a more sustainable and secure future for the people of Bihar.

## **Caste-inflected State and Agricultural Land Grab in Patna**

**Mukesh Kumar**, Research Scholar, Tata Institute Of Social Sciences, Mumbai,  
Maharashtra

The paper argues that the Caste-Inflected State played a decisive role for transferring the land ownership of Digha village from other backward castes to a coalition of upper castes by transforming it from an agricultural field to urban settlement. This was done in two ways. First, the State formulated a public housing scheme on Digha's land to enable takeover of these lands from other backward classes through land acquisition. Second, the land acquisition process was deliberately stalled, creating a situation of limbo, what Roy has described as 'deregulation'. This purposeful suspension of regulation for more than ten years created the grounds for upper castes to informally occupy this land and construct buildings, using nominally legal mechanisms like CHS and power of attorney. Both in occupation and construction, the role of the State is seen as crucial to this upper caste land grab employing a combination of formal policies and law, informal toleration, and suspension of laws over the long period of unauthorized development of the settlement. The State formalized informal land grab by enacting 'The Digha Acquired

Land Settlement Act, 2010' and 'Digha Acquired Land Settlement Scheme, 2014'. The paper, therefore, reveals how the State supports the reinforcement of the same landed caste hierarchy but reconstitutes landed middle classes in a new urban context using CHS as a tool of middle-class collective action around housing.

The ethnographic study of Rajeev Nagar, a newly incorporated area on Patna's periphery, shows that coalition of upper castes appropriated 'lawful' 'developmental' and 'democratic' modalities to grab Digha's agricultural land and carried out unauthorized construction. The paper conceptually builds the foundations for the idea of the 'Caste-Inflected State' in urban Bihar by showing how caste identity is central to everyday State (Sharma & Gupta, 2006) and democratic practices (Subramanian, 2009). The paper focuses on every day (democratic) state practices that highlight the mechanisms/pathways by which the 'Caste-Inflected State' works to expand urbanization to the advantage of upper caste groups for their urban future and fortunes.

## **Socio-Economic Linkages of GI Registered Products: An Assessment within and Beyond India**

**Nalin Bharti**, DPIIT IPR Chair Professor and Professor of Economics, Indian Institute of Technology Patna, Bihar

**Muskan Kanwar**, Research Scholar, Indian Institute of Technology Patna, Bihar

**Shivaditya**, Research Assistant under DPIIT IPR Chair, Indian Institute of Technology Patna, Bihar

India, with its diverse cultures and geography, is home to many products that hold Geographical Indications (GI). A GI is a name or sign used to identify products that originate from a specific geographic location and possess qualities or a reputation linked to that origin. The primary objective of the GI tag is to protect these products from unauthorized use and infringement, thereby empowering local communities. Although the GI Act is relatively new in developing nations like India, growing awareness is opening up new opportunities for trade. The GI tag not only boosts exports by increasing the value of these goods but also prevents the sale of low-quality infringed products and supports the local culture and local economy by promoting authentic products. We live in a world that is always changing, and it might be difficult to determine the true history and origin of a particular food stuff, handicraft, natural, agricultural or manufactured item. Unfortunately, some people are not hesitant to openly and unethically copy some goods from another region in order to gain profit from the popularity of those goods or items due to their superior quality. Many special sorts of food items and types of apparel have their origins in a particular geography. GI tags establish and maintain quality standards, discouraging malpractices and ensuring consumers receive genuine, high-quality products. Overall, GI tags preserve the unique characteristics and heritage of products while generating economic value, enhancing regional development, and increasing consumer confidence.

It is being seen that all the other nations who have registered their goods as GI are developed nations as they are aware of the trade related benefits, as it leads to increase in exports of those goods with higher prices. According to the recent data from the DPIIT, a total of 643 Geographical Indication goods are registered in India. Amongst them 605 are for Indian goods and 38 are for goods of other nations. Even among other nations, half of the GIs registered are from Italy and 32 goods out of 38 are in the category of manufactured goods.

Using the descriptive method to analyse the data from the Department for Promotion of Industry and Internal Trade, this paper offers a comparison between India's registered GI products with International registered GI products. The paper uses statistical abstract method to study the trade linkages and export scenario of specific Indian and other countries' GI products. Further, it also explores social-cultural relevance of GI products. The study is significant because it demonstrates that while some states are aware of the local and international significance of trading these goods, others are not and only a few nations are registering their products.

## **Debate on Contract Farming Policy in India: Perspectives from Smallholder Farmers in West Bengal, India**

**Prasenjit Barik**, Ph.D. Scholar , Indian Institute of Technology Guwahati, Assam

**Rajshree Bedamatta**, Professor, Indian Institute of Technology Guwahati, Assam

The recent Farm Acts 2020 (repealed) and farmer protests in India rejuvenated the debate surrounding contract farming (CF) in policy discourse. Despite intensive literature and recent policy debate, there is a lack of evidence-based research relevant to CF policy issues from a small farmer perspective.

This paper traces the progress and the current status of CF policy to understand the legal framework within which CF is operational in India. Through a critical review of recent policies on CF and empirical evidence, it directs towards future policy attention to protect smallholder farmers from corporate exploitations.

We applied mixed-method research and conducted two phases of fieldwork in the smallholder farmer-dominant state of West Bengal. In the first phase, we conducted focus group discussions (n=12) with contract farmers (n=90) and Key Informant Interviews (n=31) with intermediaries under PepsiCo. In the second phase, we conducted a household survey of contract (n=130) and non-contract (n=131) farmers. Based on empirical evidence and recent policies, we highlight the policy gaps and issues farmers face every day in CF.

Although the recent act had provisions to support farmers through written contract agreements, inputs, and fixed prices, some ambiguities favoured corporations and undermined the existing mandi system. We have highlighted the limitations of fixed-price provisions that failed to provide better income to contract farmers. Limited access to the market, unequal power relations and social dominance forced smallholders to cultivate under CF despite unfavourable contracts.

Due to the absence of legal framework and state controls, we found different forms of control over production and contract arrangement from intermediaries and PepsiCo.

With the dominance of smallholders and shrinking state control over agriculture and rural livelihood, CF needs proper regulations and state intervention to protect farmers from exploitation by agribusiness firms and intermediaries.

## **Each One Plant and Adopt a Tree Strategy for Sustainability**

**Prateek Khanna**, Research Scholar, Amity University, Ranchi, Jharkhand

Climate change, deforestation, and biodiversity loss are pressing environmental challenges demanding immediate action. This paper proposes a simple yet impactful strategy: Each One Plant and Adopt a Tree. This initiative promotes individual responsibility for environmental well-being by encouraging people to plant a tree or adopt an existing tree in their community. By fostering a culture of environmental stewardship on a personal level, this strategy can contribute significantly to achieving broader sustainability goals.

The paper highlights the environmental benefits of increased vegetation. Plants absorb carbon dioxide, a major greenhouse gas, mitigating climate change. They also improve air quality by filtering pollutants and releasing oxygen. Additionally, trees provide habitat for diverse animal species, promoting biodiversity. Moreover, increased vegetation can reduce soil erosion and regulate water flow, preventing floods and droughts.

The “Each One Plant and Adopt a Tree” strategy has several advantages over traditional top-down environmental initiatives. Firstly, it is accessible and inclusive. Anyone, regardless of age, location, or socioeconomic status, can participate by planting a sapling and adopting a tree in a nearby park or public space. This fosters a sense of ownership and responsibility for the environment. Secondly, the strategy is scalable. The cumulative impact of millions of individuals planting and caring for trees can be substantial. Even small pockets of greenery in urban environments can contribute significantly to environmental health. Thirdly, the program is cost-effective. Planting seeds, saplings, or adopting existing trees requires minimal financial investment. Additionally, increased tree cover can lead to long-term economic benefits through reduced energy consumption for cooling buildings and improved public health.

The “Each One Plant and Adopt a Tree” strategy represents a practical and empowering approach to environmental sustainability. It fosters community engagement, and delivers tangible environmental benefits. By encouraging individuals to become stewards of their environment, this grassroots initiative can pave the way for a more sustainable future.

- a) Public awareness and education: - National Campaign - Educational Programs -Community workshops
- b) Financial incentives and subsidies

- c) Provisioning for Infrastructure and Resources: - Seed and Sapling Bank - Public Green Spaces  
- Online resources and helpline for tree care
- d) Supportive Regulations: - Tree protection laws - CSR initiatives dovetailing into 'Each one plant and Adopt a Tree' initiative
- e) Recognition and Rewards: - Community Recognition Programs - Annual award for Tree Champions

## **South-South Cooperation and the Right to Development in the Era of SDGs and Beyond**

**Pratyush Sharma**, Consultant, Research and Information System for Developing Countries, New Delhi

The current International Development architecture and the incumbent Development Cooperation ecosystem is lopsided in favour of the developed countries with respect to quantum of foreign aid (Official Development Assistance), conceptualisation and framework of delivery (Washington Consensus), leashed operationalisations (Conditionalities), and the temporality of cooperation (delay in delivery). On the other hand, development cooperation between developing countries (South-South Cooperation) is one of the successful models of partnership for realising sustainable development as it is devoid of North-South Cooperation's (NSC) conceptual and operational handicaps. With the economic and political rise of the Global South and with the rise in the voice of the Global South, the development cooperation landscape has also been evolving where a convergence has emerged in NSC and SSC. Conceptually, the Right to Development (RtD) has the potential to revolutionise the global development architecture in the realm of SSC, NSC, and Triangular Cooperation whereby the development achieved would be sustainable and inclusive.

Rules of Multilateralism and establishment of International Organisations (IOs) co-originated in the post-Second World War era. The international system and the multilateral practices have been operating with a set methodology even during the rise of the Global South in the last two decades. The emerging economies of the Global South provided an impetus towards the reform agenda of intergovernmental institutions, and the international system. The slow pace of reforms and associated frustrations led the Global South to establish their own institutions and organisations like the BRICS backed New Development Bank, China led Asia Infrastructure Investment Bank, and India led International Solar Alliance, along with several special earmarked funding mechanisms for development at the United Nations like the India-UN Development Partnership Fund, and the IBSA Fund for Poverty Alleviation. The emergence of these new institutions and initiatives have not reduced the Global South's push towards the reform agenda be it at the United Nations, and at other IOs like at the WTO, and Multilateral Development banks. India has played an important role in these movement towards the reimagination of the multilateral system.

This chapter will delve into the historical origins of the power asymmetries in the field of international development followed by the emergence of SSC, and the RtD which emanated

through the challenges faced by the Global South in their quest for development. The following sections through case study analyses will showcase how the normative framework of the RtD is the answer towards a better operationalisation of the SSC than what currently exists. The sections will also discuss the current debates in the development cooperation ecosystem and how the RtD can help answer some of these burning issues. Contemporary issues of political economy and development will also be seen through the lens of the RtD in a solution driven approach. The chapter will end with actionable points as to how to make the RtD more relevant in the policy circles of the Global South and Global North.

India has been a responsible international player since its independence and since the last decade has started to play an active and leadership role in different aspects of international relations. India's South-South Cooperation (SSC) initiatives has seen an expansion in its quantum, in its sectoral specificity, and in its geographical spread. The Indian SSC is based on robust principles of non-intervention in the domestic policy space of the partner country, non-conditionality (both political and macroeconomic), demand driven along with the ideas of mutual-learning, and mutual benefit at the core of our cooperation practices. The modalities of our cooperation have also been described by development compact which have been expanded later in this paper.

India's sustained economic rise since the 1990s and the transformational change achieved in the last decade has positively altered the country's image and its positioning at the global stage. The material changes in form of lowered poverty figures, enhanced citizen lifestyles, and improved voice of India as a nation at global forum have been unprecedented. India in the process not only developed itself but made sure that the Global South is not left behind in this era of global prosperity. The meaningful presence of the Global South at world stage can be understood from the fact Indonesia, India, Brazil, and South Africa were/are and will be holding G20 Presidencies in 2022, 2023, 2024, and 2025 respectively. Indian Presidency of the G20 was dubbed as the People's Presidency which had 185 official meetings, and 230 meetings spread across 57 destinations in India. Apart from the African Union (AU) getting a seat at the G20, India was also instrumental in adding a working group on Disaster Risk Resilience (DRR) and an Engagement Group on Startup 20.

However, not every aspect of International Relations is picture perfect. The global challenges have multiplied in an era of a perfect storm where the planet is observing simultaneous problems of growing inequalities and developmental disparities, greater political risks and security challenges, climate change, ecological imbalances, and environmental disasters, and enhanced risk of public health outbreaks. And importantly, it is gradually realised that they are not independent either, or can they be solved by countries acting individually. The re-set, as a solution, is required not only in people's interaction with each other at both individual and collective levels but also their interaction with nature and its environment. A corollary overhaul is also pertinent in our understanding of the market, economy, growth, and development. These realisations and the required reconditioning primarily stem from the voracious appetite of economic growth and continuous quest towards efficiencies which led to recently observed growing distrust towards the ideas of globalisation and associated political pushbacks, and unchecked pillage of natural resources which has led to the

corresponding environmental degradation, and disasters.

It is in these aspects that this paper/presentation will delve into India's strategic vision that will chart a roadmap towards not only India's realisation of sustainable development but also act as a thought leader for the Global South in particular, and the global community in general. The Indian initiative and the concept of Lifestyle for Environment (LiFE) for sustainable development (launched during the G20 Presidency in 2023) looks at the delicate balance between development and environment, along with solving the problems of inequality and inequity in the social sphere through the idea of 'localisation of development'. The paper/presentation will also look into India's quest towards ensuring inclusive, and wellbeing-oriented human centric development strategy. These initiatives dovetail perfectly with the establishment of the Global South Centre of Excellence during the 2nd Voice of the Global South Summit in November 2023. India can now confidently share its developmental knowhow in the sector of Digital Public Infrastructure and Digital Solutions in the domain of Agriculture, and Health. India's domestic development is now directly feeding into its South-South Cooperation (SSC) initiatives in the Global South. For example, India's construction of its various physical infrastructure through the PRAGATI scheme has a direct bearing on India's SSC infrastructure projects in the Global South. These along with extending concessional lines of credit, capacity building scholarships, and providing LDCs duty free quota free access to the Indian markets are some of the modalities that is motoring India's SSC.

Another extremely important initiative with regards to SSC is the idea of 'Development Compact'. India hosted the 3rd Voice of the Global South Summit (VoGSS) on August 17, 2024, where the Prime Minister of India Narendra Modi talked about the inclusiveness of the Global South and how the countries of the Global South need to come together to overcome their challenges and developmental concerns. VoGSS over the years has emerged as a platform where countries of the Global South are represented at the highest level along with other ministers holding important portfolios to discuss, deliberate, and come up with solutions in the spirit of mutual learning and mutual development. Some extremely important announcements were made during the opening and closing remarks by Prime Minister, Modi and through the 10 sectoral sessions spanning in the areas of Health, Education, Trade and Commerce, Finance, Energy, Foreign Affairs, Youth Affairs, Technology and Communication, and Environment.

Apart from announcing that India will initiate a trade promotion activity worth USD 2.5 million, and USD 1 million fund towards capacity building and training in the area of trade policy and trade negotiations. The most important announcement came about in the closing remarks of the PM where he announced Global 'Development Compact'. Hon'ble PM elaborated on the idea of 'development compact' by adding that it will be multidimensional and multisectoral in nature and it consists of 5 broad modalities which are intersubstitutable in implementation. 'Development Compact' covers the modalities of trade for development, capacity building for sustainable growth, technology sharing, and project specific concessional finance and grants.

India is playing a leadership role in the field of development cooperation by insisting on the point that availability of finance is an important element towards the achievement of development

for the Global South, but it is not a sufficient condition to realise development. The challenge of achieving development must go beyond the financing aspects. There are other areas like non-availability of relevant and adaptable technology, and a limited presence of well-trained human resources in different spheres and sectors who would contribute to the development in their respective countries. This is where the ‘development compact’ proposes and views developmental concerns of the developing countries in a holistic perspective where capacity building for sustainable growth, and technology sharing finds an important mention.

The modalities within the ‘development compact’ can be elaborated as follows:

- Trade for Development: Trade has always been considered an engine of growth and development. This modality in the ambit of ‘development compact’ for the Global South goes beyond the usual trading of goods and services to assisting the Global South countries in providing them trade facilitation and trade promotion initiatives, along with providing them trade finance, and by providing them Tariff lines under Duty Free Quota Free (DFQF) Scheme.
- Capacity Building for Sustainable Growth: Traditionally, the Global South has faced challenges in the realm of enhancing the capacities of their human resources. The capacity building and training programmes for sustainable growth have evidently evolved from simple training modules aimed at handholding and sharing of technical expertise; to more sophisticated domains of scientific and technical knowledge, extending to professional fields like management, administration, policy and global governance.
- Technology Sharing: Other lacunae in the development of Global South has been the lack of access to affordable, effective, and adaptable technologies. This modality in the sphere of ‘development compact’ for the Global South through joint R&D projects, co-creation of knowledge, establishment of technical institutes, and development of shared indigenous technology will assist the Global South in achieving their desired goals.
- Project specific Concessional Finance and Grants: Availability of finance at sustainable interest rates and access to grants for development has been in short supply to the countries of the Global South. This modality of ‘development compact’ aims to fill the gap in this regard by providing lines of credit, grants, writing off debts, and providing humanitarian assistance to the countries in times of distress.

Theoreticians and academics have for long discussed that the concept of development must be viewed from the expanded perspective and needs to go beyond the realm of economic development to include the aspects of social, cultural, civic, political, and environmental aspects as well. The idea of ‘Right to Development’ which discussed many of these issues and was adopted at the UN General Assembly in 1986 when all countries of the Global South voted in its favour. However, it went into a deep slumber and only recently it is trying to revive itself at the global stage. ‘Development Compact’ is saying very similar things with the only and a major difference being that while the ‘Right to Development’ has not been able to operationalise itself on the ground, ‘development compact’ is already a successful operational model across the Global South.

Just as the idea of ‘sustainable development’ was crystallised by the adoption of Sustainable Development Goals in 2015, in a similar manner the theoretical idea of the Right to Development is receiving an operational heft through the announcement of the ‘development compact’ by the PM. India is continuing to play its role in the Global South towards the welfare of the countries in a demand driven manner.

As a way forward this presentation/paper will end with a discussion on the Right to Development (RtD) which has the potential to bring the SDGs back on track by observing development as a Right for all and not as a clarity or a privilege to be enjoyed by a few. RtD can act as a new paradigm towards development that observes development as a culmination of economic, social, cultural, civic, and political dimensions, and achievement and realisation of development at the cost of any one dimension of it, is no development according to the RtD. India has a rich legacy of championing the RtD at the UN fora since the Declaration on the Right to Development was adopted at the UNGA in 1986. In 2024, the RtD will be tabled at the UNGA again, this time as a Legally Binding Treaty, and India will vote positively towards it, the question remains, will India play a leadership role in this regard to create a momentum towards convincing the countries of the Global North to vote in affirmative is to be seen.

## **Intimate Partner Violence: Looking at Intra Household Scenario using Secondary Data Analysis**

**Priyanthi Bagchi**, Assistant Professor of Economics, Netaji Subhas Open University, Kolkata, West Bengal

The violence abuse of wives is a widespread and well recognized problem. Wife abuse is a part of a larger set of issues marginalized by quantitative social science which are ignored because they are difficult to measure. During the last few decades, violence towards women in general, and intimate partner violence (IPV) in particular, is increasingly being acknowledged as a violation of basic human rights and it is recognized as the consequential barricade of empowerment of women. Intimate Partner Violence has been recognized as a defamation of human rights, development and public health issues of our time. Economic empowerment is considered to be one of the most promising interventions to reduce IPV, yet the evidence around economic factors that are key to ensure a reduction in IPV are still mixed. Furthermore, there is a lack of clarity on what kinds of economic empowerment works for which population groups. This paper seeks a more nuanced understanding by investigating whether the associations between indicators of economic empowerment and physical and/or sexual IPV are similar between the general population of women and among urban versus rural and young, or middle-aged women versus older women. This study uses a nationally representative data collected through NFHS 4. In total 55,181 ever married women aged 15-49 were analyzed. Multiple logistic regression model has been used to quantify the factors associated with IPV. Prevalence of IPV has been observed to be higher among women who are uneducated, in the middle-aged group, are from rural background, who

are unemployed themselves and have unemployed partners. Surprisingly, IPV is prevalent among women who are employed and earn more than their partners. So, it can be mentioned that their greater contribution to households' earnings does not strengthen their bargaining power. Also, IPV is higher for poorest compared to richest and who justify wife beating compared to who do not and all these factors were found to be statistically significant.

## **Addressing the Development Concerns of Uttarakhand**

**Rajendra Prasad Mamgain**, Head, Department of Economics, Doon University,  
Dehradun, Uttarakhand

Uttarakhand is on a cusp of change. The state has experienced a remarkable progress on various indicators of development since its formation on 9th November 2000. These include access to basic infrastructure such roads, telecommunication network, drinking water and steady growth in income. The per capita income of Uttarakhand is higher than its neighbouring Himachal Pradesh. This all could be possible after the formation of Uttarakhand, thereby justifying the rationale of creation of smaller states. However, there are various challenges that Uttarakhand is facing and likely to face with varying intensities. One of such challenge is growing regional disparities between hilly and plain regions of Uttarakhand. Over three-fourths of the state's income is contributed by three districts (Haridwar, US Nagar and plain parts of Dehradun). Per capita income in hilly region is much less than half as compared to three plain districts. Population residing in hilly regions is predominantly dependent on agriculture as a source of employment with least diversification. The employment opportunities are thereby concentrated in these districts with hardly any significant increase in hilly regions of the state.

The traditional agriculture sector in hilly regions is prone to low productivity, associated with lack of irrigation facilities, fragile terrain, scattered landholdings and erratic rainfalls associated with climate change. The climate change conditions have led to a loss in agri-diversity and changes in the farm cropping pattern and an overall reduction in food production, thereby increasing the vulnerability of smallholder farmers. This made agriculture almost a non-sustainable enterprise and accelerated the 'push' migration from the hilly region. Lack of access to quality health and educational services, growing menace of crop destructions by wild animals and lack of employment opportunities outside agriculture are another major causes for acceleration in outmigration. Such outmigration is causing another challenge of abandoned villages, barren agricultural fields, closures of schools and adverse impact on local businesses. Such pattern of uneven development could hardly fulfil the dreams of people who fought for a separate statehood of the region.

Yet another challenge is loss of livelihoods and ever-rising cost of creating and maintaining infrastructure due to frequent landslides and floods associated with heavy rains and cloud burst events in recent years. Such disasters are often attributed to manmade actions like construction of big hydro projects on high altitude Himalayas and broadening of roads, which have serious impacts on the lives and livelihoods of people residing in those regions. The recent examples of subsidence of Joshimath town in Chamoli district and now Dharchula in Pithoragarh district are the testimonies of manmade disasters, effecting several businesses and families therein.

The well-tested tourism promotion as a strategy of development have started showing its adverse symptoms of carrying capacity of tourist destinations, unplanned construction of accommodations, increasing piles of solid waste due to lack of solid waste management facilities at tourist destinations, and reckless behaviour of tourists with serious social and cultural impacts. Such developments are breaking the delicate balance of fragile ecosystem of the state. Environmental concerns of infrastructural development projects such as roads and dams are realistic due to recent spikes in floods, landslides and loss of lives and livelihoods. Development of infrastructure is identified as a driver of growth but concerns of environmental degradation, floods and disasters are hardly discussed.

As the state shall be celebrating its silver jubilee next year, this paper attempts to assess the progress that Uttarakhand has made so far and critically assesses the concerns of sustainable livelihoods, particularly in its hilly region. The paper argues that the generalisation of any development strategy without keeping in view the local contexts is bound to backfire, particularly in states like Uttarakhand, which predominantly has a hilly terrain, with fragile ecosystem and associated inaccessibility. But at the same time, such features provide ‘niches’, that could be harnessed through localised development strategy. With this approach, it is possible to create sustainable livelihoods with reduced vulnerabilities for local populations. It argues for reviving mountain agriculture in a sustainable manner by integrating high value crop cultivation, basic agro-processing at the farm level, dairying, horticulture and floriculture with adequate market linkages. The paper emphasises to disperse the destinations for tourists destination by promoting more tourism choices and locations as the state offers many opportunities for cultural tourism, nature tourism and adventure tourism. Finally, the paper argues for a Hill Development Policy for creating balanced regional development. This will include developing Block headquarters as growth centres by provisioning quality infrastructure such as roads, electricity, water, housing, quality healthcare facilities, sanitation, waste management, service centres, workplaces, etc. It advocates for an eco-sensitive development strategy by incorporating it in Gram Panchayat Development Plans, which are yet to be practiced in reality.

## **Public Policy for Developing the Underdeveloped: Promoting Employment, Generating Income and Transforming Agrarian Bihar**

**Rakesh Ranjan Kumar**, Senior Research Fellow, The International Institute of Migration And Development, Thiruvananthapuram, Kerala

**Anjana Rajagopalan**, Senior Research Fellow, The International Institute of Migration And Development

Public policy, institutions and governance play a fundamental role in the economic development and well-being of the state. As a welfare state, even in the neoliberal era, it's the duty of the state to work towards promoting faster and more inclusive economic growth with social justice. Bihar's development experience has remained albeit stagnant and therefore there need to reexamine the

public policy so as to develop the underdeveloped. Bihar is among the predominantly agrarian economies. On account of the reverse migration during the Covid-19 lockdowns, the share of agriculture in 2020-21 went up to nearly 50%. Clearly, Bihar is not creating employment in the non-farm sector that can lead to the structural change, thereby generating high income. The paper presents the growth trajectory of Bihar, and analyses recent trends in employment generation, highlighting the serious economic and employment crisis. The paper provides the policy roadmap for the economic transformation of the agrarian state. The first step should be to increase per capita income growth for which a rapid reduction in population growth is required. Bihar has the highest TFR among all states of India; there has to be a new focus on financial allocations to health and education (especially for girls and women), with reproductive health being prioritized, a target the Bihar government needs to set as part of 'Saat-Nischay'. In economic policy, the focus should be on structural change, with emphasis on the advancement of agricultural, infrastructure development and Industrial growth. Gross Domestic Product growth based on services seems to be running out of steam. The priority should be to sustain public investment and growth of the infrastructure sector. It is very important to absorb poorly skilled workers from agriculture which workers seek to exit. The next growth area that the Government of Bihar must focus on is manufacturing, which requires a more comprehensive manufacturing strategy than Bihar's current Industrial Policy, based on promoting MSME, to generate jobs more rapidly in the private sector. Bihar's agriculture which employs nearly half the workforce also has one of the lowest productivity among India's states. Raising agricultural productivity would need to be part of the policy package required to generate non-farm employment in Bihar, as that would raise demand for non-farm products. Prioritizing Jal-Jungle-Jameen-Janwaar-Jalvayu strategy will enhance work opportunities in agriculture and allied activities. It is critical that MGNREGA receives more attention, not just to absorb excess labour in rural areas, but to provide alternative employment to women who comprise half of the MGNREGA workforce. Bihar's Caste Survey can be used to direct inclusive development. The paper analyses the incomes of sub-castes, based on CMIE data. Overall, the paper attempts to lay out a roadmap for promoting employment, generating income and transforming the agrarian economy. Bihar with the largest number of young population needs to come out of the low income trap before India's demographic dividend runs out by 2040.

## **Governance of Public Procurement in India: A Legal Analysis of the Procurement Policy, Scope of Judicial Review, and Approach of the Constitutional Courts towards Interpretation of Tender Documents**

**Ravindra Kumar Singh**, Professor of Law, Gujarat National Law University, Gandhinagar, Gujarat

Public procurement is one of the most vital aspects of the governance in any country. In this crucial facet, upholding the utmost standards of transparency, integrity and public accountability — go on a long way to suggest the 'level' of good governance. With the expanding dimensions of the concept of 'welfare-state', the amplitude of public procurement has also been increasingly

mounting. As public procurement is acquisition of goods, services, works or a combination thereof by a public authority utilising public funds, therefore, public is unwaveringly affected by such procurement. It is the constitutional mandate to conform to the principles of equality, fairness, fair-play in action, justness, non-discrimination and reasonableness — in every action of the State, whether it is legislative in nature or executive and administrative. In India, public procurement has to be made in compliance with the norms of the Constitution; as also in conformity with the statutory law, public policy, rules, regulations, authorised guidelines and manuals, as notified by the State. If there is any violation of the principles of public law in the matter of award of contract by the public authority, then such a decision will be subject to the judicial review of the writ court. At the same time, it is also correspondingly essential to confer the necessary leeway and pliability to the executive authorities so that they can discharge their constitutional and statutory duties towards the society and people efficiently and in a timely manner. Thus, the law envisages a nice balance to be struck between the ‘much-needed flexibility’ and the ‘indispensable accountability’ in the matter of public procurement. This raises legal questions regarding the extent of the much-needed flexibility and the scope of judicial review in the matter of public procurement, i.e. in what matters of public procurement the court in the exercise of its writ jurisdiction entertains a writ petition and also that how the court interprets the tender documents for resolving the disputes so as to uphold the principles of accountability in such matters. This paper, therefore, aims to address the following four research questions: What is the law and policy governing public procurement in India? What administrative decisions relating to public procurement can be reviewed by the constitutional court in exercise of its writ jurisdiction? What is the current position of law as regards the scope of judicial review in public procurement? What are the principles and rules of interpretation of contracts, in particular interpretation of tender documents in contractual disputes? The *first section* of this paper introduces the theme of this paper. The *second section* provides an overview of the law, policy and practice relating to public procurement. The *third section* analyses the considered policies adopted by India towards infusing the elements of transparency, integrity and public accountability in relation to public procurement. The *fourth section* examines the scope of judicial review, and approach of the constitutional courts towards interpretation of tender documents. Finally, the *last section* concludes the discussion.

## **The Multifaceted Nature of Crisis: Insights from Talakanpada Village, Bhadrak District, Odisha During the COVID-19 Pandemic**

**Ravindra Nath Mahto**, Ph.D. Scholar, Jawaharlal Nehru University, New Delhi

**Rasmita Das**, Ph.D. Scholar, Jawaharlal Nehru University, New Delhi

None of us who have seen COVID-19 in society can forget the devastation it has caused. The way we saw it as a threat to life all over the world, the way we experienced social distancing in a strict way and the way we locked ourselves inside our homes either by law or our own fear. All these experiences were absolutely new and frightening in human history, with which the global

population was facing and this continued for a very long time. This pandemic has created a different scene in the entire world. For example, in India, a poignant and difficult to accept situation was witnessed with the migrant workers during the pandemic, as millions of migrant workers were forced to return to their homes and took to the roads to walk thousands of kilometres. Numerous studies conducted during and after the pandemic attempted to project various aspects of the chaos unleashed on society, whether it was about the current loss of employment and income or its future impact on society, whether it would be able to recover or not, if it can, how long it would take, and so on. During such enquiries, a question came up and I focused myself to do a micro-level study in a deeper manner, which later transformed into a village-level study with some research questions. It started with some basic questions to assess the impact of COVID-19 on the employment status, income profile and livelihood of the people of the village. Then, it moved to the question of challenges faced by them and the measures taken by them and what best can be done to protect them from such emergencies in the future. The study was conducted in Talakanpada village of Bhadrak district of the state of Odisha covering 80 households. Technically, it involved a survey schedule and in-depth interviews, which made it possible to uncover many hidden truths. We found most of the non-agricultural workers in the village were migrant workers, so about 50 percent of them lost their jobs in the lockdown period. As a result, being the only source of income, their income also dropped by more than 50 percent, which also included small businessmen in the village. They were already living on subsistence wages since the pre-covid era and hence, they neither had enough savings nor any kind of asset to compensate for their income loss. Such a drastic drop in income has left only one way for them to support their livelihood, which is to borrow. But more than 90 percent have no access to formal institutions and have borrowed money at high-interest rates from informal moneylenders. The additional monetary burden in the form of higher interest rates trapped people in vicious cycle which can be seen as double whammy for these labourers with the income loss due to the lockdown period. In parallel, the study sought to assess how households managed the crisis and the psychological struggles they encountered.

## **Tracing and Forecasting the Locus of Sex Ratio and Its Socio-Economic Correlates in 20th and 21st Century India: A Multilevel, Longitudinal Study**

**Rohan Kanti Khan**, Assistant Professor, Maulana Abul Kalam Azad University of Technology, Haringhata, West Bengal

**Sukhendu Samajdar**, Professor, Maulana Abul Kalam Azad University of Technology, West Bengal

**Sushovon Jana**, Assistant Professor, Maulana Abul Kalam Azad University of Technology, West Bengal

The sex ratio, a key demographic indicator, reflects the proportion of females to males within a population and is a starkest indicator of sexual discrimination practiced in society. It reveals an

attitude ingrained in the social psyche that manifests as profoundly inhumane behaviour which, ironically, is adopted as custom and perceived and practiced as normal by members of that society. The concerns deepen with the empirical observation that scientific and technological development and urbanization- the hallmark of modern civilization- tilts the sex ratio even more against the girl child instead of working to set it right. India, home to around 20% of the global population, exemplifies this issue with its significantly skewed sex ratio. While recent census data show slight improvements, it is far too early to consider the problem resolved, hence this study. Using the Indian Census data and the National Family Health Survey (NFHS-5), this study provides a comprehensive analysis of the sex ratio in India. It situates the issue within a global context by comparing it with selected countries and offers an overview of the sex ratio at the national level, as well as within Indian states and Union Territories (UTs), followed by an analysis of regional variations over the past century. The study explores geographical differences using the Government of India's regional classification and includes a district-level analysis, classifying districts based on sex ratio trends. In the absence of recent census data, a forecast of future sex ratios is attempted. Finally, this study attempts to develop a conceptual framework capable of offering plausible explanations for the empirical observations, as the expected correlations between certain socioeconomic indicators and the sex ratio are neither uniform, self-explanatory, nor intuitively predictable. This paper reveals that how sex ratio reflects societal attitudes, whether enlightened or prejudiced, and how these attitudes are influenced by tradition, legislation, and economic conditions. It argues that while liberating the mind is necessary for improving social indicators like women's literacy and child marriage, it is insufficient without addressing economic empowerment. The text warns against assuming that improving one social indicator, like sex ratio, will automatically improve others, such as reducing child marriage, as these relationships can be counterintuitive. The eastern region of India, with its high rates of child marriage and low women's literacy, is highlighted as a critical area needing targeted intervention.

## **Ecofeminism: A Portrayal of Humanism in the Text 'Nectar in Sieve'**

**Rupa Sarkar**, Associate Professor, Department of English, ARKA JAIN University,  
Jharkhand

It is all understood that how humans are connected to everything on earth and that shall help all to revive the planet and stop exploiting people, animals and nature for any commercial-monetary profit or pleasure. *Nectar in a Sieve*, a novel by Kamala Markandaya, offers a profound lens through which ecofeminism can be explored. Ecofeminism, as a movement, connects the exploitation of women with the degradation of the environment, often examining how both are linked in patriarchal, capitalist systems. In *Nectar in a Sieve*, the protagonist Rukmani's life is deeply connected to the land. She, like many rural women in agrarian societies, depends on the earth for survival. Her experiences reflect the struggles of peasant women in a society dominated by

colonialism, industrialization, and patriarchal norms. This relationship between women and nature is central to ecofeminist theory, which argues that the exploitation of women and the environment often occurs in parallel. Literature begins to take into account the relation between man and nature. Therefore ecocriticism appears as a worldwide emergent movement that attracts readers' attention to issues human beings need to be thinking about. This paper aims to study Kamala Markandaya's *Nectar in a Sieve* in the light of ecocriticism. Furthermore, this paper attempts to understand the concept of ecocriticism and analyze the importance of ecocriticism in literature. It would shed ample light on how Markandaya portrays the interdependence of man and nature in *Nectar in a Sieve*. Markandaya raises her voice against the exploitation of nature due to industrialization through her protagonist Rukmani. In *Nectar in a Sieve*, the ecofeminist lens allows for an analysis of how women's struggles are often linked to environmental degradation. The novel portrays how both women and nature are devalued and exploited in a patriarchal and capitalist society, yet it also emphasizes the resilience and strength of women like Rukmani, who continue to fight for survival in the face of overwhelming odds. This novel is a powerful example of how literature can reflect ecofeminist concerns and highlight the inter connectedness of gender, nature, and social justice.

## **An Analytical Study about the Fiscal Positions and Extent of Government Debt in North Eastern States of India**

**Rupjyoti Bordoloi**, Assistant Professor, Rabindranath Tagore University, Hojai, Assam

**Abstract:** The North-Eastern part of India covers an area of 2,62,179 sq. km. constituting 7.98 percent of the country's total geographical area constitutes eight states, viz., Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. This region has shared long international border with foreign countries like China, Tibet, Nepal, Myanmar and Bangladesh. The present study tries to examine the financial positions of all the North Eastern states from 2015-16 to 2021-22. States fiscal position has been examine through the trends of growth of net state domestic products, revenue and capital expenditure pattern, fiscal deficit positions, total liabilities, and internal debt ratio to the Gross State Domestic Product. The analysis is based on secondary data published by authentic organizations. Cross-tabulation, bar diagrams, graphs, and other descriptive statistical methods have been applied to analyze the data. It has observed that the average amount of revenue expenditure is more than capital expenditure in all the states during 2015-16 to 2021-22. It has found that more populated states like Assam and Tripura have incurred greater revenue expenditure than the least populated states Sikkim. The growing fiscal imbalances are common among the states. It has found that during 2022-23 all the states had suffered the highest fiscal imbalances. We have observed that all the states of the region has incurred greater amount of debt and liability growth percentage than the growth rates of state domestic product. Meghalaya has recorded the least percentage of economic growth and highest amount of internal debt and liabilities. It has found that the internal debt and total liabilities are more in Assam and

Arunachal Pradesh. The debt sustainability analysis during the last seven years (2015-16 to 2021-22) shows that Nagaland has highest average Debt-SGDP ratio but the internal debt growth rates is more in Meghalaya from 16% to 26% within that period. It has found that all states have faced higher total liabilities to SGDP ratio. But among the states Nagaland (48%) and Arunachal Pradesh (40%) have achieved greater than the recommended ratio of 15<sup>th</sup> Finance Commission of India.

## **On the Development of National Evaluation Capacities: Evidence from Karnataka, India**

**S Madheswaran**, Professor and Head, Centre for Economic Studies and Policy,  
Institute for Social and Economic Change, Bengaluru, Karnataka

**Gowri Prasad. K**, Ph.D. Scholar, Centre for Economic Studies and Policy, Institute for  
Social and Economic Change, Bengaluru, Karnataka

Policy is quite extensive and arduous process. As noted in the previous units, the policy process encompasses of several fundamental stages. It unfolds with the identification of problems and issues for policies, chalking out various solutions and alternatives, analysing and comparing the potential alternatives, selecting the best possible. Further, it delves into transforming them into concrete forms as ‘policies’, and implementing them effectively, and ultimately appraising their outcomes and impact. In this process, policy evaluation plays a significant role. A realigned emphasis on the policy process to a renewed awareness and sensitivity to the importance of those value-choices, which shape public priorities and commitments to governmental action. During the mid and latter half of the twentieth century, there was a pronounced focus on evaluative studies by the adaptation of advanced methodologies, use of scientific methods, inter-disciplinary approaches and use of electronic data processing systems. Many observers of the functioning of government often consider that policies may be improved upon and inefficiencies and mismanagement can be addressed through scientific policy evaluation. However, a viable evaluation of policies and action is a difficult exercise in itself. Sometimes it is fraught with political implications.

In the light of the established background and drawing two decades of experience in designing monitoring and evaluation systems in different regions of the world and in promoting the development of state capabilities for monitoring and evaluation. The paper addresses the development of supportive framework for enhancing evaluation capacity building at the national level. Further, a surge in public expenditure driven by economic growth has taken place in Karnataka State, southern part of India, which has subsequently led to an escalating demand for monitoring and evaluation (M&E) and performance management from government, program implementers, international donor organizations, and civil society at large. There is evidence that key macroeconomic policy makers (ministries of finance and planning) are also concerned about effectiveness of the policy outlays and better outcomes from public investments. In the light of these imperatives, the Karnataka government has undertaken initiatives to enhance the monitoring and evaluation environment. The government is making strides towards a state-wide M&E system

to establish more firmly an institutionalized setting for continuous results-based M&E activities tied to planning, budget decision making, and accountability. Subsequently, a performance management system was instituted for the government in 2010, and state government by assimilating its approaches. An outcome-budgeting requirement is in place, at least for the major schemes of the government's ministries. However, major challenges persist, which also suggest what needs to be done. Despite the surge in management information system (MIS) and evaluation activity, the question remains: Are evaluations utilized in reforming programs and policy modifications?

Informed by the lessons derived from the past experiences in developing Karnataka State capacity for evaluation and Monitoring through setting up Karnataka Evaluation Authority, first independent evaluation authority in India. The paper presents a conceptual scheme and discusses ways to support the development of national evaluation capacity. Additionally, the paper tackles some underlying assumptions of this practice, identifying its consequences and pointing out at ways to overcome them.

## **Imagining Sustainable Agriculture in Viksit Bharat @2047**

**S P Singh**, Professor, Department of Humanities & Social Sciences, Indian Institute of Technology Roorkee, Uttarakhand

The Viksit Bharat Vision emphasizes economic growth, resilience, inclusivity, environmental sustainability, social progress, and effective governance. It is grounded on four pillars: Youths, Poor, Women and Farmers. Strengthening these pillars is expected to make the development process more inclusive, sustainable and equitable. In the next two decades, India has a window of demographic dividend because of the youth bulge, with women a major chunk of youths due to improving sex ratio, justifying the relevance of women as one of the pillars. Similarly, focusing on poverty alleviation and improving farmers' income and well-being is crucial for making India a developed nation. Currently, agriculture employs about 45% of the total workforce but contributes less than 18% to the total GDP. Since majority of poor people are small and marginal farmers, and agricultural labour, unless agriculture is developed and workforce dependence on it is reduced by generating productive employment outside the agriculture, the vision of "Viksit and Samavasi' Bharat cannot be realized. It is in this context that this paper discusses the current status of agriculture growth and farmers' income; identifies its key challenges to be addressed to ensure its significant contribution to Viksit Bharat; key challenges of agriculture sustainability and farmers' income; envisioning the role of intelligent technologies and extension services in climate-smart sustainable agriculture development; and finally, identifies priority areas to realize the vision of developed agriculture by 2047. Although, by 2047, in relative terms, agriculture share in GDP and employment is likely to decline further, its development is a must to reduce poverty, achieve several SDGs (including food and nutritional security), raise farmer income and bring inclusivity in the Viksit Bharat. The paper, among others, finds marginalization and scalability of farm operations;

feminization, ageing, and knowledge-deficit; low public investment and rising input subsidies; inadequate agro-processing, high post-harvest losses and inefficient supply and value chains; low level of technological penetration and R&D investment; low level of farm sustainability, efficiency, and productivity; climate change vulnerability and incompatibility of public extension services deal with it; inadequate diversification; and lack of export competitiveness as the major challenges. The paper argues that the issues of agriculture sustainability (economic, environmental and social) may be addressed through the removal of agriculture ageing and knowledge-deficit, instituting the demand-driven technology-enabled framework for extension services, skill-mapping for different farm activities and adoption of the cluster approach in organic/natural farming; promotion of farmers' collectives, agri-tech start-ups and marketing channels and value chain; climate-smart farm practices; development of multi-layer and urban farming; ecological integration of surface and ground water; promotion of shared and platform economy models in agriculture; effective farmers' risk protection to promote high-value agro-products and gradually moving away from environment-damaging input subsidies to the direct payment system, which is consistent with the WTO provisions.

## **Literacy, Employment, and Gender: Quantitative Insights into Awareness of Financial Inclusion Scheme**

**Saloni Singh**, Ph.D. Research Scholar, Patliputra University, Patna

In today's rapidly advancing world, there is a paradoxical situation where immense progress in fields like electronics, telecommunications, healthcare, and banking coexists with growing disparities and exclusion. This research addresses this dichotomy by exploring the concept of Financial Inclusion, particularly through the Pradhan Mantri Jan Dhan Yojana (PMJDY) in India. PMJDY, launched in August 2014, aims to provide comprehensive financial services, including savings accounts, credit, remittance facilities, insurance, and pensions, to the unbanked and underbanked populations. This study investigates the awareness levels of PMJDY benefits among account holders, with a focus on disparities between literate and illiterate individuals and a comparative analysis based on gender and working status.

The primary objectives of this study are to assess the level of awareness among PMJDY account holders regarding the scheme's benefits and to examine the disparities in awareness between literate and illiterate holders, as well as the impact of working status on awareness among illiterate individuals. The study is guided by two hypotheses: (1) there is no significant difference in the mean level of awareness between literate and illiterate PMJDY account holders, and (2) there is no significant difference in the mean level of awareness among illiterate account holders based on their working status.

The research was conducted in Patna district, Bihar, employing a descriptive and exploratory methodology. Data was collected from both primary (questionnaires and interviews) and secondary sources (books, journals, websites, newspapers, and official reports). A purposive sampling method

was used to select 400 respondents, equally divided between literate and illiterate individuals. These respondents were engaged in various occupations, including salaried positions, business ventures, and unemployed categories. Statistical tools such as percentages, arithmetic mean, standard deviation, and T-Test were utilized for hypothesis testing.

The study on the Pradhan Mantri Jan Dhan Yojana (PMJDY) revealed that the most widely recognized benefits were zero balance accounts and Direct Benefit Transfer (DBT), with awareness levels of 98% and 97.33%, respectively. However, only 14.67% were aware of the overdraft facility. It was found that 69.33% of respondents were reasonably aware of 4-6 PMJDY features, while only 9.33% were completely aware of all seven. Surprisingly, illiterate respondents (85.33%) showed higher awareness than literate ones (72.00%), and illiterate females had higher awareness than their male counterparts. Additionally, working illiterate individuals exhibited significantly higher awareness (90%) than their non-working peers (20%). Hypothesis testing confirmed no significant difference in awareness levels between literate and illiterate account holders but found a significant difference based on working status among illiterate individuals.

## **Interrelationships between School Infrastructure and Students' Performance: An Empirical Study of Physical and Human Inputs in Selected Districts of West Bengal**

**Samir Kumer Das**, Assistant Professor, University of Petroleum and Energy Studies (UPES), Dehradun, Uttarakhand

The present study seeks to examine the causality between school inputs and educational performance at the secondary level on the basis of an empirical survey of 12 schools selected from 4 districts of West Bengal. Thus, it undertakes an investigation in to the impact of physical and human resources infrastructure as available in rural, urban and municipal corporation schools on the average performance level of students.

The study selects 4 districts (Birbhum, Bankura, Burdwan and Paschim Medinipur) from the state of West Bengal, out of which a total of 12 Bengali medium Higher Secondary schools have been selected purposively to collect primary data both on students' performance and on school characteristics by categorising them according to their location in the Panchayat, Municipal and Municipal corporation areas. Students have been randomly sampled by taking 30 students of the XI<sup>th</sup> standard, from each of the selected schools. This adds up to total sample coverage of 360 students who constitute the units of study. The High School results of the students have been taken as a measure of their educational performance. Various relationship tables and diagrams are considered together with a multiple regression model to study the interrelationship between school infrastructure and students' performance.

Results of the study indicate a more or less satisfactory state of the outward physical infrastructure available in the schools though with a poor qualitative structure of internal resources

such as libraries and laboratories. There is also a serious demand-supply gap in case of modern and sophisticated aids like computers. However, the student-teacher ratio and student-classroom ratio points to more or less reasonable levels so that the 'space congestion' constraints in education appeared to be non-operative in the surveyed schools. The teaching experience and academic profiles of the teachers are also impressive on the surface but the study suggests that these prerequisites may not themselves suffice to raise the academic standards. In fact no perceptible association between physical school inputs and average result levels is evident. Contrary to this, human resources apparently and relatively have a much significant implication for the performance level. While there are resources crunch to improving the physical infrastructure and manpower qualities, better results might be achieved through enhancing the 'emotional intelligence' of the teachers, something that appears to be ultimately instrumental in uplifting the educational environment and standards.

While the significance of school infrastructural resources can hardly be denied in the process of development of education, it is equally important to examine the impact of factors other than these on the school performance levels. A large number of socio-demographic and economic variables are likely to influence the educational processes and their yields to variable degrees. Thus, a study based on the methods of Principal Component Analysis (PCA) might be taken up for further investigation to reveal the nature of the really impacting factors. Also, in order to approach the issue more objectively the supply side factors of education including an in-depth analysis of the problems confronting the teachers appear to be equally important.

## **Socio-Economic Status and Learning Outcome Trajectories of EWS Students in Private Schools**

**Sathvika Prakash A**, Student, Madras School of Economics, Chennai, Tamil Nadu

The Right to Education Act, 2009 under the Eighty-Sixth constitutional amendment provides compulsory education for all children between the ages of 6 to fourteen years as a fundamental right. Section 12(1)(c) of this Act mandates all private schools in India to admit at least 25% of EWS (Economically Weaker Section) and marginalised students in each class in hopes of bridging the social gap between the economically disadvantaged and endowed students through education. Are these recent developments in public policy surrounding educational reforms such as; The Right of Children to Free and Compulsory Education Act 2009 and the New Education Policy, 2020, signalling the premature privatisation of education or what can be perceived as a premature liberal model of education a blessing in disguise?

To find answers to this bigger question, this research paper asks the first crucial question; *Are EWS and Marginalised students getting the best of what the Right to Education Act, 2009 offers?* This paper answers the question posed via an empirical analysis. The empirical testing has been conducted to ascertain if there has been parity of learning outcome achievement by EWS students alongside their much wealthier competitors. The empirical analysis aids in 1) Identifying if the EWS quota

students are performing worse (on average) compared to the regular students in private schools and 2) Observing if there had been a convergence of learning outcomes between non-EWS and EWS students.

## **Assessing the Self-Help Groups Financial Performance and Sustainability: Evidence from Sikkim**

**Shanti Tamang**, Research Scholar, Visva Bharati University, Santiniketan, West Bengal

**Soumyadip Chattopadhyay**, Associate Professor, Visva Bharati University, Santiniketan, West Bengal

Over the last three decades, microfinance-led programmes have consistently been prioritised in India by successive governments for poverty alleviation and womens empowerment through Self-Help Group (SHG) model. SHG is a voluntary association of 10-20 individuals; generally, women with similar socio-economic backgrounds, meet regularly to save money in a joint account and provide mutual support to address their financial needs. For the long- term impact and effectiveness of empowering communities and alleviating poverty, the sustainability of SHG is crucial. The sustainability of SHG is the ability to operate continuously and achieve microfinance objectives without relying on donor support. Thus, it depends on the availability of financial resources and their appropriate utilisation. So, this paper assesses the sustainability of SHGs in Sikkim, India, in terms of their financial performance and identifies the factors that determine their sustainability.

This paper is based on a survey of 80 SHGs from all four districts of Sikkim, selected through a multistage sampling approach and classified into government-supported SHGs receiving active financial support and non-government -supported SHGs operating independently. The performance of SHGs was assessed on key four key indicators: savings performance, credit performance, repayment performance, and income-generating activities performance. The multistage principal component analysis constructs a composite performance index for SHGs, and SHGs are then ranked accordingly, with higher indices indicating better ranks. A multivariate regression model is used to assess the factors that determine sustainability of SHGs.

Our analysis shows that non-government- supported SHGs have better practices for saving and repaying credit than government -supported SHGs due to the latter's excessive reliance on external financial support and ineffective resource management. Our regression results suggest that the productive use of credit, attendance or initiation of community projects, and non-financial support such as capacity building and training programmes significantly improve the financial performance and sustainability of SHGs. However, regardless of repayment obligations, financial support impedes financial performance and negatively impacts the sustainability of SHGs, resulting in apathy and diminished endeavours to generate internal resources.

So, this study argues for encouraging productive credit utilisation and internal resource generation, provision of non-financial support, and involvement in community projects to improve the financial performance and sustainability of SHGs.

## **A Comparative Analysis and Overview of Selected Nutrition Policies from India and South Africa**

**Sheetal Bhoola**, University of Zululand, South Africa

**Dasarath Chetty**, Durban University of Technology, South Africa

One of the most significant public health challenges across developing countries around the world is continual malnutrition which impacts the survival, growth and development of children in India and South Africa. To address the struggle, numerous “feeding schemes” have been implemented in India and South Africa with a primary aim to improve the nutritional intake of children in these countries. The challenges lie in both the Indian and South African government’s capacity to effectively implement the programmes despite the policies being inclusive, appropriate and relevant to the country’s economic and social circumstances. Reports and studies alike describe which programmes have failed and indicate that the reasons are wide and varied. The study aims to indicate how participatory approaches aid policy development and implementation processes. Participatory approaches to policy development are better able to prescribe the guidelines and methodological approaches necessary to meet both long- and short-term objectives and allow all stakeholders to be involved in the planning and implementation process. Policies that will be compared and critiqued in this qualitative desktop study are the Indian National Program of Nutritional Support to Primary Education; The Indian Integrated Child Development Services Scheme; The South African Strategic Plan for the Prevention and Control of Non-communicable Diseases, 2013–17; and The South African National Policy on Food and Nutrition Security, 2014. The comparative analytical approach generates recommendations that may contribute towards the improvement of Indian and South African policies and its implementation. The need for policy development to incorporate participatory paradigms is highlighted in this study.

## **Role of Self-Governance within Community Organization in Shaping Sustainable Livelihood Options for Women: A Study of SHG Cluster Cooperatives in West Bengal**

**Soumik Sarkar**, Research Scholar, University of Kalyani, Halisahar, West Bengal

**Tapati Bhadra Banerjee**, Assistant Professor, University of Kalyani, Halisahar, West Bengal

Community organizations play important roles in creating scopes in order to support the process of generation of sustainable livelihood by assuring long-term survival and resilience for the communities. As an integral part of the overall development process of society, women should also be essentially entitled to access sustainable opportunities for their livelihood. Despite of being the

indispensable other half of society the particularly women of rural areas still have limited scope to explore the livelihood opportunities by themselves. A self-governed community organization can provide necessary supports to women in terms of accessing networks, resources, and skills that can improve their scopes for a living. Self-help groups (SHGs) have been emerged as a platform for women through whom female members of the community can explore the opportunity of better community bonding which also helps to broaden to attend better social economic security for rural women within their natural environment. A cluster of SHGs fosters immense potential to become a community organization with time.

After being accredited and registered as cooperatives SHG clusters create more opportunities towards attaining self-governance with in a community group. Self-help Groups (SHGs) are vital community groups formed mostly of women in rural areas that promote savings, mutual help, and participation in revenue-generating activities. These organizations help women build social capital and overcome economic barriers by providing training, loans, and earning opportunities. This assistance allows women to access larger markets for extending their entrepreneurial activities. SHG cluster cooperatives promote sustainable resource management, equitable distribution, collective ownership, and dispute resolution while encouraging an assisting skill development in accordance with government agencies to develop sustainable livelihood possibilities in rural communities and accomplishing better position for women in family and society. Through these networks, women can participate actively in community decision-making, and as a result improving their economic standing and thereby enhancing their overall quality of life.

The overall objective of the present study is to appraise the role of self-governance of women SHG cluster cooperatives of five different blocks in case study mode in shaping the livelihood of women in rural areas of West Bengal.

In the present study, an attempt has been made to find the system of governance and the functioning adopted by the cluster cooperatives to educate local rural women to generate the livelihood in order to raise their income level, increase their economic freedom, and collaborate within their community and with the outer world. Such institutions and their system of governance and mode of functioning make them more confident to take part and influence household and social decisions making. Furthermore, active involvement with such community organizations helps to enhance their self-esteem and social status.

The study end ever to examine the role of the SHG cluster cooperatives under study's in strengthening the socio-economic condition of rural women significantly through improving their access to opportunities and resources to generate their livelihood to make it sustainable.

## **Underemployment: The Burgeoning Crisis that Necessitates Reinforced Governance Structures**

**Srikanth Tekumalla**, Research Scholar, Acharya Nagarjuna University, Guntur, Andhra Pradesh

**Saraswati Raju Iyer**, Professor and Research Director, Department of Sociology & Social Work, Acharya Nagarjuna University, Guntur, Andhra Pradesh

A “Right man in the Right place at a Right time” makes informed decisions, executes wise and finally ensures the success of his organisation or institution. Administrators of establishments whether public sector or corporate sector put constant efforts to bring all the right factors together to keep their organisations abreast of their peers and competitors. This is required not just to sustain but also to deliver superior quality of services to the delight of all the stakeholders. However, placement of the right men at right place is not an easy task all the time. India being a welfare state considers certain obligations to extend employment to one and all irrespective of their backgrounds. The work describes about what is underemployment, types of underemployment, Causes and effects of underemployment and subsequent benefits to both public and private sectors, if addressed. The paper lounds on the obligation of governments reinforce the governance and policies to counter the underemployment in both public and corporate sectors. The Research method followed in this study is qualitative and secondary data considered for the study are the significant works by prominent government and corporate bodies of India.

## **Illuminating Regional Disparities: A Nightlight-Based Assessment of Development Pattern in Jharkhand**

**Tanushree Kundu**, Assistant Professor, Central University of Jharkhand, Ranchi

**Prashant Kumar Arya**, Visiting Fellow, Institute for Human Development, New Delhi

Jharkhand, a state in eastern India, is home to a substantial proportion of tribal population who have historically underwent territorial exclusion and significant socio-economic marginalisation. In recent past, several efforts have been made to promote socio-economic development and improve standard of living in these tribal areas. However, traditional economic data always had its own limitations in capturing the extent of socio-spatial progress in these regions. Nightlight data, captured by satellites, provides a valuable tool for measuring regional economic development and tracking changes over time. This research paper aims to estimate and assess the levels of regional development across all the districts of Jharkhand, with special emphasis on the tribal areas, using Nightlight data. The study will analyse Nightlight data for the period of 2012 and 2021 to assess changes in regional economic development. This study will analyse the intensity of nightlights across all the districts of Jharkhand, including the tribal regions, to measure regional disparities in economic development. The study will utilise statistical analysis and mapping techniques to

visualize the results and identify spatial pockets of improvement and deprivation. The findings will provide insights into the degree of economic development in these tribal areas and highlight areas that require further attention from policymakers. The study is intended to add to the current body of knowledge on regional development and provide a novel approach to measuring progress in tribal regions. The findings may also have practical implications for policymakers and development practitioners working to promote economic growth and improve living standards in these areas.

## **Towards Understanding of Entrepreneurial Ecosystem of Women Entrepreneurs in India**

**Tomo Kawane**, Senior Researcher, Graduate School of Media and Governance, Keio University, Japan

Out of South Asia's 860 million women, 75% of the women are residing in India, while 40% of the lower middle-income countries population resides in India. Women entrepreneurship is a key for stability of the region. With around 90 million workers expected to seek non- farm livelihoods in India between now and 2030, a comprehensive understanding of women entrepreneurs will be one of the key factors to the growth of the Indian economy in the coming years. Since an additional 55 million women projected to join the workforce by 2030, women entrepreneurs will have a significant impact on the Indian economy. In India, the predominantly informal form of micro enterprises has been recognized as the most prominent feature of women entrepreneurship, majority of which are run by sole proprietors. Women-owned enterprises account for only 20% of all enterprises registered in the country.

This study aims to establish an ecosystem approach to understand women entrepreneurs in India. An ecosystem approach could be inclusive and enhance the decision-making capacity of women entrepreneurs who could impact the local economy. The study presents a support framework that could be applicable to the critical stages of women entrepreneurship in India. It aims to contribute to a deeper understanding of women-owned enterprises as a measure to address the risks and enhance their resilience in the local environment. It attempts to provide a constructive perspective on what policy suggestions can be made to support the transformation of informal enterprises into formal and growth oriented.

This study proposes a comprehensive ecosystem perspective to identify the challenges impending women entrepreneurs' journey. Entrepreneurship is examined as an evolving process, exploring the processes of trade-offs in balancing varied motives and objectives for women to prioritise their choices and affiliations in society to establish their own means of livelihood. The goal of this study is to find resilient factors for women entrepreneurs in India. The life cycle of women as primary caregivers is critically examined by referring to preceding studies on women's entrepreneurship.

Case Example: The study analyses the author's recent fieldwork conducted in Gujarat based on the in-depth interviews of 170 women entrepreneurs. The study is conducted through qualitative

analysis, participant observation, and stakeholder analysis. It highlights the entrepreneurial ecosystem of women to derive their resilient elements to initiate, manage and sustain their businesses. Comparative analysis of rural/urban, informal/formal and food/non-food enterprises are examined to highlight the characteristics of women entrepreneurship in Gujarat.

Entrepreneurship could work as a means of resilience for the local population when alternate sources of income needed to be established urgently. Such situations could have been in the context of climate change as well as during the recent COVID-19 pandemic-induced health hazards. Gender-based analysis and approach could offer a better understanding of the enterprises run by women that could function as measures to counter the risks and challenges they face in local settings. Resilient factors for women entrepreneurs in India are critically analysed. It categorises relevant factors influencing women entrepreneurs as push and pull factors and highlights the current issues of women entrepreneurs.

The study further explores the possibilities of active policy interventions and proposes a new set of considerations for securing sustainable livelihood in Indian society by promoting women entrepreneurship. A policy framework could be suggested to initiate and sustain localised interventions for skilling up concerned women entrepreneurs while paying attention to revitalising the regional economy.

## **The Interplay of Government Policy, Unemployment and Poverty in India: A Review**

**Veerabhadraraih C**, Associate Professor of Law, B.M.S. College of Law, Bangalore, Karnataka

The paper aims to investigate the intricate correlation between government policies, unemployment rates, and poverty levels in India. A comprehensive inquiry will be conducted over the period of this study project in order to achieve this objective. India has a population of about two hundred million individuals that reside below the poverty threshold. Since 1978, the Indian government has been implementing several strategies to mitigate poverty. These schemes have been executed at various levels. These projects are a direct reaction to the prevalent issue that exists, and they are driven by the substantial number of individuals who are residing below the poverty threshold.

As per the World Bank's definition of poverty, a significant proportion of India's population survives on a daily income that is valued at less than \$1.90. A significant proportion of the population falls into the category of individuals living in poverty. It is crucial to acknowledge that a substantial fraction of the population does not belong to this specific descriptive group. As a result, the nation is burdened with a multitude of challenges. The COVID-19 outbreak has led to a substantial increase in the number of individuals living below the poverty line, thus exacerbating the overall situation. This factor has contributed to the deterioration of the current situation. The epidemic has led to a substantial increase in the number of individuals who have fallen below the poverty line. This outbreak has resulted in a substantial increase in the population. Nevertheless,

due to these circumstances, the situation has significantly worsened and become far more perilous than its previous state. The objective of this article is to provide an analysis that examines the influence of government policies in addressing poverty and unemployment. This analysis will be presented to provide an assessment. This paper aims to provide an examination of this nature. The purpose of this article is to emphasize the need of using various methods to eliminate poverty. The research will primarily examine the impact of government actions on addressing poverty. This will be accomplished by directing attention towards the influence that these policies exert.

The objective of this study is to conduct an evaluation of the effectiveness of these initiatives, as well as the influence of unemployment on poverty rates and the involvement of the private sector in the eradication of poverty.









**RIS**  
Research and Information System  
for Developing Countries  
विकासशील देशों की अनुसंधान एवं सूचना प्रणाली



जल शक्ति मंत्रालय  
MINISTRY OF  
**JAL SHAKTI**  
शक्तिसे शक्ति

### Support



## IASSI

The Indian Association of Social Science Institutions (IASSI), established in 1979, is a federal formation of academic bodies (universities and research institutes) that aims to promote and strengthen teaching and research in social sciences. IASSI also publishes a peer-reviewed quarterly journal titled IASSI Quarterly: Contributions to Indian Social Sciences. Presently, IASSI is having more than 300 member-institutions including universities, research institutes, government agencies and national academic associations.

### Conference President

**DR. K. SEETA PRABHU**

Visiting Professor, Institute for Human Development (IHD)  
and Former Head, Human Development Resource Centre, UNDP



### Indian Association of Social Science Institutions (IASSI)

C/o Institute for Human Development

256, 2nd Floor, Okhla Industrial Estate, Phase-III, New Delhi - 110020



91-9599665167



iassi.conference@gmail.com  
iassi79@yahoo.com



<http://www.iassi.org/>



india\_iassi



iassi\_india