

Volume No.2

Issue No. 10



Deshbandhu College Library

Current Awareness Service

Current Contents

October 2023



Contents

S. No.	Journals/Magazine	Volume/Issue no.	Page no.
1.	Down to Earth	Vol.32 No.10	1
2.	Down to Earth	Vol.32 No. 11	2
3.	Economic and political Weekly	Vol.LVIII No.40	3
4.	Economic and political weekly	Vol.LVIII No.41	4
5.	Economic and political weekly	Vol.LVIII No.42	5
6.	Economic and political weekly	Vol.LVIII No.43	6
7.	कुरुक्षेत्र	Vol.69 No.12	7
8.	Kuruksheetra	Vol.71 No.12	8
9.	Yojana	Vol.67 No.10	9
10.	योजना	Vol.67 No.10	10

DownToEarth

Founded in 1992 to arm you with knowledge critical to shaping a better world

FOUNDER EDITOR Anil Agarwal

EDITOR Sunita Narain

MANAGING EDITOR Richard Mahapatra

CHIEF COPY EDITOR Snigdha Das

ASSOCIATE EDITORS Aditya Misra, Rajit Sengupta

SENIOR CREATIVE DIRECTOR Aji Bajaj

SUPPLEMENT EDITOR Souparno Banerjee

CHIEF CARTOONIST Sorit Gupta

REPORTING TEAM Shagun, Akshit Sangomla, Pulaha Roy, Rohini Krishnamurthy, Zumbish, Seema Prasad, Himanshu N

SUB EDITOR Dakshiani Palicha

WEB EDITORS Rajat Ghai, Preetha Banerjee, Nandita Banerji, Arya Rahini

DESIGN TEAM Chaitanya Chandan (Art Editor), Ritika Bohra (Assistant Art Editor), Tarun Sehgal (Senior Designer), Yogendra Anand (Illustrator), Shri Krishan

PHOTO EDITOR Vikas Choudhary

PHOTO LIBRARY Anil Kumar

PRODUCTION Rakesh Shrivastava, Gundhar Das

TECH SUPPORT Rajendra Rawat, Jaidev Sharma

MULTIMEDIA Joel Michael, Aishwarya Iyer, Sunny Gautam, Michun Vijayan

INFORMATION AND RESEARCH SUPPORT Kiran Pandey, Susan Chacko, Madhumita Paul, Sheeja Nair, Lalit Maurya, Dayanidhi Mishra

CONSULTING EDITORS Anumita Roychowdhury, Vibha Varshney

Vol 32, No 10; Total No of Pages: 60

Editorial, subscriptions and advertisements:
Society for Environmental Communications,
41, Tughlakabad Institutional Area, New Delhi 110 062.

Phone: 91-11-40616000, 29955124,
29956110, 29956394, 29956399 | Fax: 91-11-29955879,
Email: editor@downtoearth.org.in

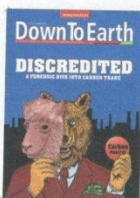
© 2023 Society for Environmental Communications.
All rights reserved throughout the world. Reproduction
in any manner is prohibited. Printed and published by
Richard Mahapatra on behalf of Society for Environmental
Communications. Printed at Vibha Press Pvt. Ltd., C-66/3,
Okhla Industrial Area, Phase-II, New Delhi-110020 and
published at 41, Tughlakabad Institutional Area,
New Delhi 110 062.

To subscribe, sms 'dte Subscribe' to 56070
or visit www.downtoearth.org.in/subscribe

FOR ADVERTISEMENTS Jyoti Ghosh
jghosh@cseindia.org

FOR SUBSCRIPTIONS
KCR.Raja.raja@cseindia.org

Down To Earth does not endorse the content of
advertisements printed in the magazine. All disputes
are subject to the exclusive jurisdiction of competent
courts and forums in Delhi/New Delhi only.

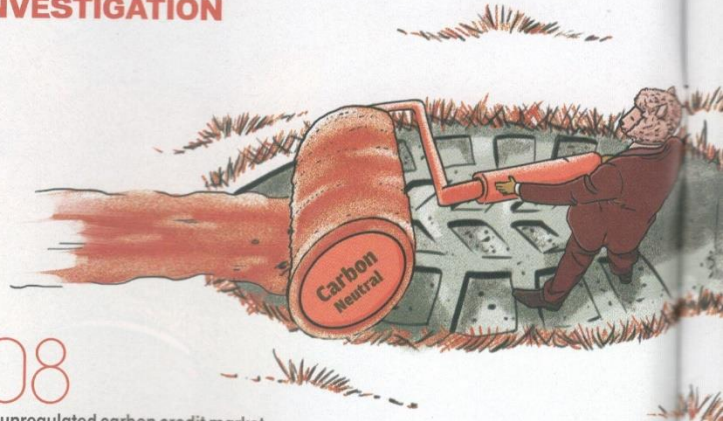


Cover design
Aji Bajaj

Cover illustration
Yogendra Anand

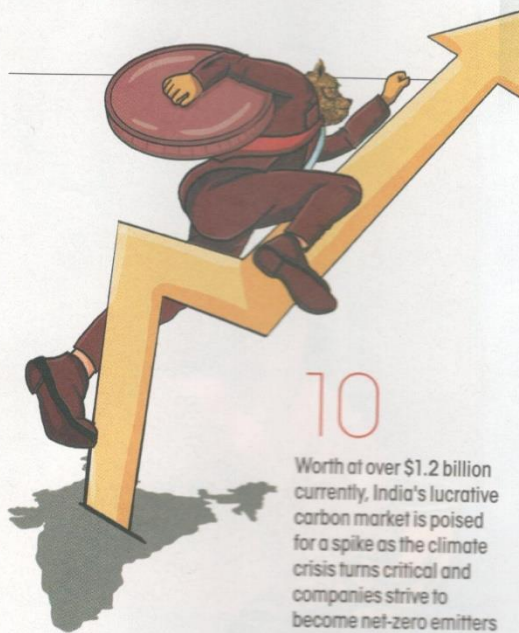
Contents

INVESTIGATION



08

An unregulated carbon credit market has emerged to combat climate change over the past decade, with projects spread across the world. But its success and workings are shrouded in mystery at best and completely opaque at worst



10

Worth at over \$1.2 billion currently, India's lucrative carbon market is poised for a spike as the climate crisis turns critical and companies strive to become net-zero emitters



DownToEarth

Founded in 1992 to arm you with knowledge critical to shaping a better world

FOUNDER EDITOR Anil Agarwal

EDITOR Sunita Narain

MANAGING EDITOR Richard Mahapatra

CHIEF COPY EDITOR Snigdha Das

ASSOCIATE EDITORS Aditya Misra, Rajit Sengupta

SENIOR CREATIVE DIRECTOR Ajit Bajaj

SUPPLEMENT EDITOR Souparno Banerjee

CHIEF CARTOONIST Sorit Gupta

REPORTING TEAM Shagun, Akshit Sangomla, Pulaha Roy, Rohini Krishnamurthy, Zumbish, Seema Prasad, Himanshu N

SUB EDITOR Dakshiani Palicha

WEB EDITORS Rajat Ghai, Preetha Banerjee, Nandita Banerji, Arya Rohini

DESIGN TEAM Chaitanya Chandan (Art Editor), Ritika Bohra (Assistant Art Editor), Tarun Sehgal (Senior Designer), Yogendra Anand (Illustrator), Shri Krishan

PHOTO EDITOR Vikas Choudhary

PRODUCTION Rakesh Shrivastava, Gundhar Das

TECH SUPPORT Rajendra Rawal, Jaidev Sharma

MULTIMEDIA Joel Michael, Sunny Gautam, Midhun Vijayan

INFORMATION AND RESEARCH SUPPORT Kiran Pandey, Susan Chacko, Madhumita Paul, Sheeja Nair, Lalit Maurya, Dayanidhi Mishra

CONSULTING EDITORS Anumita Roychowdhury, Viha Varshney

Vol 32, No 11; Total No of Pages: 60

Editorial, subscriptions and advertisements:
Society for Environmental Communications,
41, Tughlakabad Institutional Area, New Delhi 110 062,
Phone: 91-11-40616000, 29955124,
29956110, 29956394, 29956399 | Fax: 91-11-29955879,
Email: editor@downtoearth.org.in

© 2023 Society for Environmental Communications.
All rights reserved throughout the world. Reproduction
in any manner is prohibited. Printed and published by
Richard Mahapatra on behalf of Society for Environmental
Communications. Printed at Viba Press Pvt. Ltd., C-66/3,
Okhla Industrial Area, Phase-II, New Delhi-110020 and
published at 41, Tughlakabad Institutional Area,
New Delhi 110 062.

To subscribe, sms 'dte Subscribe' to 56070
or visit www.downtoearth.org.in/subscribe

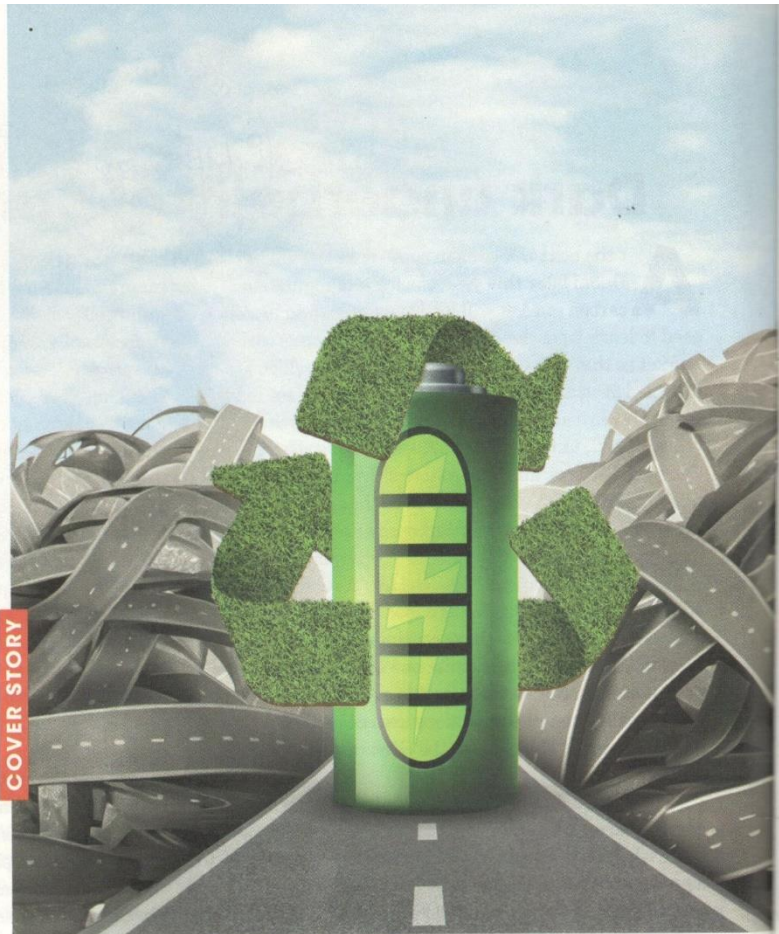
FOR ADVERTISEMENTS Jyoti Ghosh
jghosh@cseindia.org

FOR SUBSCRIPTIONS
K C R Raja, raja@cseindia.org



Cover design: Ajit Bajaj

Down To Earth does not endorse the content of advertisements printed in the magazine. All disputes are subject to the exclusive jurisdiction of competent courts and forums in Delhi/New Delhi only.



COVER STORY

26

The success of India's EV revolution will depend on its ability to handle battery waste

10 Digest

In a slum area of Delhi, women work to improve their food, nutritional security

13 Obituary

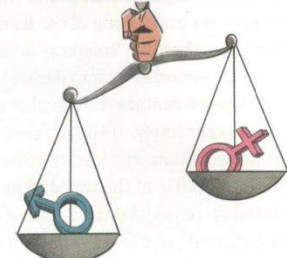
M S Swaminathan, a legend who will continue to live on

14 Universal basic income

Pilots across states indicate that the concept can improve quality of life

20 Gir cow

India's programme to promote indigenous cow breeds could backfire



22 Sex ratio

Haryana's improved statistics declining again in recent years

48 Patently Absurd

Proposed amendments undermine India's patent rules

58 Civil Lines

Food price volatility brings huge profits for agri-corporations

Gender Justice and Its Impediments

7 Public support for the protesting nuns in Kerala signals hope for the cause of gender justice.

How to Believe Women

8 Women speak out as they reclaim not only their strength, but also their knowledge.

High Time to End Tuberculosis

8 The time to act is now if we want to eradicate tuberculosis by 2030.

The Call for a National Code of Conduct

10 What are the resources and concerns that can contribute to a substantive ethical code for the political class from the experience of the working of parliamentary democracy in India? — *Valerian Rodrigues*

Rethinking India's Employment Data Architecture

14 Given that employment is dominated by low-wage and low-productivity jobs in the unorganised sector, a revamp of the employment data architecture will only deflect attention from the enormity of the employment challenge. — *Radhicka Kapoor*

Identifying the 'Poor' and 'Backward'

17 The various aspects involved in identifying the "poor" and "backward" in India for the purpose of targeted public policies are examined. — *Rohit Mutatkar*

Impact beyond Tax Theory

20 A tribute to the Nobel Prize-winning economist James Mirlees (1936–2018). — *Amiya Kumar Bagchi*

The Role of Teacher Education Programmes

27 Teacher education programmes are critical in influencing notions of citizenship, either by reinforcing the prevalent notions or in expanding the horizons within which citizenship is understood and practised. — *Seema Sarohe*

Marx at 200: Beyond Capital and Class Alone

33 As we mark Karl Marx's 200th birth anniversary, we find that in his last, still partially unpublished writings, he turns his gaze Eastward and Southward as he envisions an alliance between non-working-class strata in these regions and the Western European working class. — *Kevin B Anderson*

The Hope and Dilemma of the Urban Poor

40 Many slum households face the dilemma between opting for better and more secure living conditions, and losing some of the advantages of living in a slum and the possibility of a free home. — *Padmini Ram, Barrie Needham*

Enhancing Affordable Pharmaceutical Healthcare

46 As India strives to balance the need to provide affordable healthcare with a thriving market for a competitive pharmaceutical industry, the nexus between compulsory licensing, competition law and patent law merits closer examination. — *Natasha Nayak*

Estimates of Tobacco-dependent Employment in India

56 While the central government's demand-side measures for tobacco control seem effective, curbing the supply of tobacco and providing alternative vocations to tobacco-dependent workers is necessary. — *Nayanatara S Nayak*

EDITORIALS

Gender Justice and Its Impediments.....7
 How to Believe Women 8
 High Time to End Tuberculosis 8

FROM 50 YEARS AGO9

COMMENTARY

The Call for a National Code of Conduct
 —*Valerian Rodrigues*10
 Rethinking India's Employment
 Data Architecture
 —*Radhicka Kapoor* 14
 Identifying the 'Poor' and 'Backward'
 —*Rohit Mutatkar* 17
 Impact beyond Tax Theory:
 James Mirlees (1936–2018)
 —*Amiya Kumar Bagchi*20

BOOK REVIEWS

Shadow States: India, China and the Himalayas, 1910–62—Himalayan Borderlands and India–China Relations
 —*Paul McGarr*23
First Citizens: Studies on Adivasis, Tribals, and Indigenous Peoples in India—State Policy and Adivasi Resistance in Contemporary India
 —*Indra Munshi*24

PERSPECTIVES

The Role of Teacher Education Programmes
 —*Seema Sarohe*27

MARX BICENTENNIAL

Marx at 200: Beyond Capital and Class Alone
 —*Kevin B Anderson*33

SPECIAL ARTICLES

The Hope and Dilemma of the Urban Poor
 —*Padmini Ram, Barrie Needham* 40
 Enhancing Affordable Pharmaceutical
 Healthcare: Possibilities in Indian Competition
 Law Regime
 —*Natasha Nayak*48

NOTES

Estimates of Tobacco-dependent Employment
 in India
 —*Nayanatara S Nayak*58

CURRENT STATISTICS63

**APPOINTMENTS/PROGRAMMES
 ANNOUNCEMENTS 65**

LETTERS4

The Future of the IMF

10 Are our international financial institutions fit for the future? This is a question being asked at the annual meeting of the International Monetary Fund in Marrakesh. — *Avinash Persaud*

Today's Mainstream Economics

12 The contrast between productive and unproductive economic activity was central to 19th-century classical economics. — *Michael Hudson*

The RBI's Trilemma Choice

17 The Reserve Bank of India has to choose between the three corners of the impossible trinity, that is, free capital flows, monetary policy independence, and exchange rate stability. — *Aariya Sen, Amaresh Samantaraya & Rudra Sensarma*

Abolishing Torture

23 The normalisation of torture among law students to the extent of justification prompts the need for it to become a subject matter of inquiry. — *Arjeet Ghosh*

Global EV Adoption and India's GVC Exports

25 India's impressive performance in automotive global value chains is being challenged by the electric mobility revolution worldwide. — *Deeparghya Mukherjee, Ankita Dash*

A Liberal Guide to Content Regulation

35 How social media platforms provide a forum to foster political liberty and are hence useful from the liberal standpoint are demonstrated in this article. In order to ensure that they continue to act as platforms that serve to enrich liberal goals, regulation of the content posted on social media platforms is a responsibility that must be bestowed upon the right actors. — *Ishika Garg*

FDI Inflows and Emerging Market Economies

41 Empirical evidence explaining foreign direct investment inflows into big emerging markets from 2000 to 2018 is investigated by unitising the econometric methods like panel unit root tests, panel cointegration tests, and panel estimation with the generalised method of moments. Causal effects are also checked for each of these variables. — *Ishita Ghoshal, Ishita Ghosh, Uday Sinha & Saylee Jog*

Growth of Informal Sector Enterprises

49 Factors that contribute to the growth status of informal enterprises in India are explored using data on the unincorporated non-agricultural enterprises from the National Sample Survey Office. A multinomial logit regression is undertaken to determine the growth status of these enterprises. — *Ruchi Kumari, Meghna Dutta*

Role of Banks in Promoting Risky Financial Assets

56 Using propensity score matching to address sample selection bias, we find that the presence of a bank branch within a reachable distance of 5 km has a significantly positive effect on household investment in risky financial assets. Specifically, for every 1,000 households, two households would have invested in risky assets if a bank branch is available within this range. — *Devendra Kumar, Yang Chengyu*

EDITORIAL

Meeting the Goals of the Paris Agreement..... 7

COMMENT

Sickness within the Public Health System..... 8

FROM 25 AND 50 YEARS AGO..... 9

HT PAREKH FINANCE COLUMN

The Future of the International Monetary Fund — *Avinash Persaud* 10

COMMENTARY

Today's Mainstream Economics Is Science Fiction, Not Science — *Michael Hudson* 12

The Reserve Bank of India's Trilemma Choice: A Tale of Five Governors — *Aariya Sen, Amaresh Samantaraya, Rudra Sensarma* 17

Abolishing Torture: Notes from a Law Classroom — *Arjeet Ghosh* 23

Can Increasing Global EV Adoption Threaten India's Growing Auto GVC Exports? — *Deeparghya Mukherjee, Ankita Dash* 25

BOOK REVIEWS

Discourses on Corruption: Interdisciplinary and Intercultural Perspectives—Intriguing Issues in the Corruption Discourse and Challenges of Governance — *Suman Nath* 29

Colossus: The Anatomy of Delhi—'What Is Delhi?' Search for a Comprehensive Answer — *Sohail Hashmi* 31

PERSPECTIVES

A Liberal Guide to Content Regulation on Social Media — *Ishika Garg* 35

SPECIAL ARTICLES

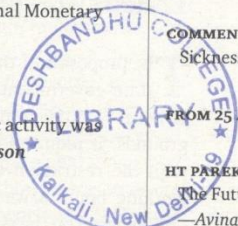
FDI Inflows into Select Emerging Market Economies: A Macroeconomic Investigation Using Panel Techniques — *Ishita Ghoshal, Ishita Ghosh, Uday Sinha, Saylee Jog* 41

Growth of Informal Sector Enterprises in India: An Empirical Study of the Key Drivers — *Ruchi Kumari, Meghna Dutta* 49

Role of Banks in Promoting Risky Financial Assets — *Devendra Kumar, Yang Chengyu* 56

CURRENT STATISTICS 64

LETTERS 4



Delimitation and Reservation

10 The Bihar Caste-based Survey and the constitutional amendment guaranteeing reservation for women in Parliament once again bring the question of delimitation to the fore. — *Alok Prasanna Kumar*

Decelerating Farmers' Incomes

13 Caught in the "Hindu rate of growth," farmers' income growth has decelerated in recent years. It is possible to break free from this by implementing policy correctives. — *A Narayanamoorthy, Chandra S Nuthalapati*

Reasonable Accommodation under the RPwD Act

18 The Rights of Persons with Disabilities Act, 2016 defines "reasonable accommodation" for disability inclusion, but its ambiguity regarding 21 impairments raises concerns. — *Shrabanti Sen*

The Calling of Regeneration

22 Situated at the intersection of sociology, economics, philosophy, and ethics, this article illuminates the urgent choices facing society amid stark global challenges such as poverty and misinformation. — *Ahmet Öncü*

Challenges in Implementing NCTE's ITEP

27 The article explores the recommendations put forth for teacher education programmes in the National Education Policy 2020. — *Preeti Manani, Narendra Kumar*

Uneven Gains and Bottom-50 Districts

34 Districts, rather than states, are variously forward and backward in education. People are mired in low-level education traps in a group of bottom-50 districts, which straddle state boundaries and are spread across the country. How much progress is made in the next generation will be determined by what happens in these lagging districts. Local innovation rather than standardised solutions will be required. — *Anirudh Krishna, Sekhar Bonu*

The Dynamics of Caste as Cultural and Social Capital

46 The role of social and cultural capital in reproducing caste hierarchies and shaping the capabilities and functioning of different caste groups in percussion arts in Kerala is examined. Emphasising the artists' lived experiences of caste discrimination in the field of performing arts, the interviews elaborate upon the role of caste status in maintaining power and domination of the "upper"-caste artists. — *Divya Pradeep, Prahladan Nandkishor*

The Making of Slums

53 The rationality and discourse that legitimises state actions regarding slums are investigated, thereby uncovering how slums are discursively produced. The question-hour debates of the upper house of the Indian Parliament from 1953 to 2014 are analysed for this purpose, along with an examination of slum-related policies and legislations. — *Nipesh Narayanan*

Postscript

63 *V K Karthika* on how Bharatanatyam allowed Narthaki Natraj to articulate her true self; *Rajat Sebastian* on whether AI "photography" can produce actual photographs; *Vidyasagar Sharma* on *Mrs Chatterjee vs Norway* and its challenge to White, Western childcare norms; and Last Lines by *Ponnappa*.

EDITORIALS

Internationalisation of the Rupee7
Global Health Check.....8

FROM 25 AND 50 YEARS AGO.....9

LAW & SOCIETY

Delimitation and Reservation
—*Alok Prasanna Kumar* 10

COMMENTARY

Decelerating Farmers' Incomes: New Evidence from SAS Data and Ways Forward
—*A Narayanamoorthy, Chandra S Nuthalapati*13
Scrutinising Reasonable Accommodation under the RPwD Act, 2016
—*Shrabanti Sen*18
The Calling of Regeneration: Decoupling Innovation from Creative Destruction
—*Ahmet Öncü* 22
Challenges in Implementing NCTE's ITEP
—*Preeti Manani, Narendra Kumar*..... 27

BOOK REVIEWS

Capturing Caste in Law: The Legal Regulation of Caste Discrimination—Legislating against Caste
—*Hugo Gorringe*30
The World in Words: Travel Writing and the Global Imagination in Muslim South Asia—Class, Gender, Race, and Muslimness in the Production of Muslim South Asia's Safarnama
—*Ambreen Agha*31

SPECIAL ARTICLES

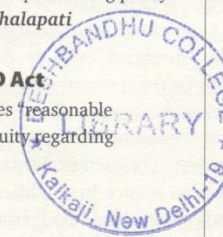
Uneven Gains and Bottom-50 Districts: Intergenerational Educational Mobility in India
—*Anirudh Krishna, Sekhar Bonu* 34
From Resources to Functionings: The Dynamics of Caste as Cultural and Social Capital
—*Divya Pradeep, Prahladan Nandkishor* 46
The Making of Slums: An Analysis of Indian Parliamentary Debates from 1953 to 2014
—*Nipesh Narayanan* 53

CURRENT STATISTICS60

POSTSCRIPT

Transcending Gender Boundaries, Altering Power Structures
—*V K Karthika* (63),
Redefining Photography in the Era of Artificial Intelligence
—*Rajat Sebastian* (64),
Mrs Chatterjee vs Norway: An Epistemological Challenge to Childcare Norms
—*Vidyasagar Sharma* (65),
Last Lines (66)

LETTERS4



India–Africa in G21

10 The inclusion of the African Union under India's G20 presidency has brought the challenges of the global South to the forefront. — *Ashok Gulati, Shyma Jose*

Addressing Disruptions in Education

15 This article reveals how technology facilitated educational continuity for children from marginalised groups in Haryana and Jharkhand during the COVID-19 pandemic. — *Tanuka Endow, Balwant S Mehta*

The IT Amendment Rules, 2023

19 The use of vague and broad wording raises concerns over the chilling effect of these rules on the right to freedom of speech and expression. — *Hemendra Singh*

M S Swaminathan (1925–2023)

21 The best way to honour M S Swaminathan and his rich legacy is by continuing his unfinished mission of eradicating malnutrition with more determination and vigour. — *R V Bhavani*

Review of Rural Affairs

30 Five papers historically, conceptually, and empirically analyse the role of science and technology in increasing food production in India as well as positioning Indian agriculture in the era of climate change. — *R Ramakumar*

Public Agricultural Science and Yield Barriers in Foodgrains

33 A descriptive analysis of the building of a national agricultural research system and its role in increasing the yield and production of foodgrains in India between the 1950s and the contemporary period is presented in this paper. — *R Ramakumar*

Hybrid Mustard and Biotechnology

47 Establishing a hybrid seed production system through the government's approval is a breakthrough, and several new hybrids with higher yields might follow in the next few years that can lead to a turnaround in mustard production. — *Chandra S Nuthalapati, David Zilberman, Matin Qaim & Prabhu Pingali*

'Alternative' Approaches to Sustainable Agriculture

55 The sustainable development framework of the United Nations presents the possibility to orient and expand the ends and means of sustainable agriculture and build consensus around it. The approach of alternative agriculture that has grown in the last few decades prevents this consensus building. — *Sandipan Baksi*

Agriculture in the Global Climate Policy Regime

64 The emphasis on mitigation is an extension of the strategy of developed countries to transfer the responsibility of deep emission reductions to developing countries in the context of the failure of the former to undertake deep emission reductions in the decades following the establishment of the United Nations Framework Convention on Climate Change. — *Goutham R*

Greenhouse Gas Mitigation and Carbon Markets

71 The prospects for the continued extension of the broader effort at greenhouse gas mitigation and the specific effort of carbon markets in India are assessed along multiple axes. The global experience of mitigation and carbon markets in agriculture in the global North are also critically analysed. — *T Jayaraman, K Aparajay, Charu Chandra Devshali & Sreeja Jaiswal*

EDITORIAL

Need for an Immediate Ceasefire in Gaza 7

COMMENT

The Supreme Court's Marriage Equality Verdict ... 8

FROM 25 AND 50 YEARS AGO 9

COMMENTARY

India–Africa in G21:
The Challenge of Nutrition Security
— *Ashok Gulati, Shyma Jose* 10

Use of Technology in Addressing Disruptions
in Education
— *Tanuka Endow, Balwant S Mehta* 15

The IT Amendment Rules, 2023:
Censorship in the Guise of Fact-checking
— *Hemendra Singh* 19

Recalling the Contributions of
M S Swaminathan (1925–2023)
— *R V Bhavani* 21

BOOK REVIEWS

*Between Freedom and Unfreedom: The Press in
Independent India—Reading Press Freedom
through Constitutional and Legal History*
— *Aritra Majumdar* 25

*Land, Guns, Caste, Woman: The Memoir of a
Lapsed Revolutionary—Mirror and the Lamp*
— *Ammel Sharon* 27

REVIEW OF RURAL AFFAIRS

Science, Technology and Agriculture
— *R Ramakumar* 30
Public Agricultural Science and Yield Barriers in
Foodgrains: A Long View on the Indian Experience
— *R Ramakumar* 33

Hybrid Mustard and Biotechnology:
Pathways for Doubling Farmers' Incomes
and Nutritional Security
— *Chandra S Nuthalapati, David Zilberman,
Matin Qaim, Prabhu Pingali* 47

Dampening Sustainability: A Critical Review
of the 'Alternative' Approaches to
Sustainable Agriculture
— *Sandipan Baksi* 55

The Changing Role of Agriculture in
the Global Climate Policy Regime
— *Goutham R* 64

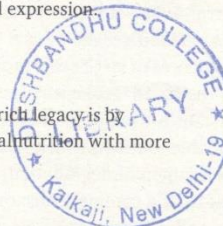
Greenhouse Gas Mitigation and Carbon Markets
in Indian Agriculture: An *Ex Ante* Critical Review
— *T Jayaraman, K Aparajay,
Charu Chandra Devshali, Sreeja Jaiswal* 71

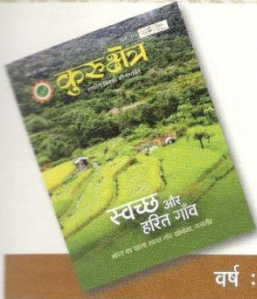
CURRENT STATISTICS 80

APPOINTMENTS/PROGRAMMES

ANNOUNCEMENTS 82

LETTERS 4





कुरुक्षेत्र

ग्रामीण विकास को समर्पित



वर्ष : 69 ★ मासिक अंक : 12 ★ पृष्ठ : 56 ★ आश्विन-कार्तिक 1945 ★ अक्टूबर 2023

प्रधान संपादक : कुलश्रेष्ठ कमल
वरिष्ठ संपादक : ललिता स्वराना
संयुक्त निदेशक (उत्पादन) : डी.के.सी. हृदयनाथ
आवरण : राजिन्द्र कुमार
सज्जा : मनोज कुमार
संपादकीय कार्यालय
कमरा नं. 655, प्रकाशन विभाग, सूचना भवन,
सी.जी.ओ. कॉम्प्लेक्स, लोधी रोड,
नई दिल्ली-110003
ई-मेल : kuru.hindi@gmail.com
वेबसाइट : publicationsdivision.nic.in
@publicationsdivision
@DPD_India
@dpd_India

कुरुक्षेत्र सदस्यता शुल्क
वार्षिक साधारण डाक: ₹ 230
ट्रैकिंग सुविधा के साथ : ₹ 434

नोट : सदस्यता शुल्क जमा करने के बाद पत्रिका प्राप्त होने में कम से कम 8 सप्ताह का समय लगता है।

पत्रिका ऑनलाइन खरीदने के लिए bharatkash.gov.in/product पर तथा ई-पुस्तकों के लिए Google play या Amazon पर लॉग-इन करें।

कुरुक्षेत्र की सदस्यता की जानकारी लेने, एजेंसी संबंधी सूचना तथा विज्ञापन छपवाने के लिए संपर्क करें-

अभिषेक चतुर्वेदी, संपादक, पत्रिका एकांश
प्रकाशन विभाग, कमरा सं. 779, सातवां तल,
सूचना भवन, सीजीओ परिसर,
लोधी रोड, नयी दिल्ली-110003

पत्रिका न मिलने की शिकायत हेतु ई-मेल : pdjucir@gmail.com या दूरभाष: 011-24367453 पर संपर्क करें।

कुरुक्षेत्र में प्रकाशित लेखों में व्यक्ति विचार लेखकों के अपने हैं। यह आवश्यक नहीं कि सरकारी दृष्टिकोण भी वही हो। पाठकों से आग्रह है कि कंरियर मार्गदर्शक किताबों/संस्थानों के बारे में विज्ञापनों में किए गए दावों की जांच कर लें। पत्रिका में प्रकाशित विज्ञापनों की विषय-वस्तु के लिए 'कुरुक्षेत्र' उत्तरदायी नहीं है।

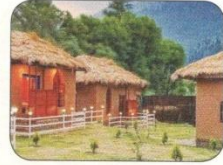
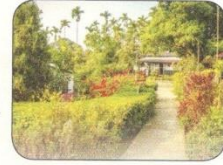
अक्टूबर 2023



स्वच्छ एवं हरित गाँव

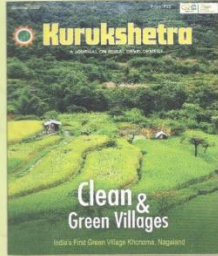
इस अंक में

हरित एवं स्वच्छ ग्रामीण भारत के लिए विज्ञान	5
-गिरिराज सिंह	
भारतीय गाँवों के हरित आवरण का संरक्षण	11
-प्रो. वीरेंद्र कुमार पॉल	
ग्रामीण भारत हरित विकास की ओर	15
-हरवीन कौर	
हरित गाँव : नए भारत की नई पहचान	21
-मंजुला वाधवा	
कृषि पारिस्थितिकीय दृष्टिकोण	30
-नीलम पटेल, तनु सेठी, अथिरा एस	
हरे-भरे गाँवों के लिए जल का महत्व	35
-सुनील कुमार अरोड़ा	
समावेशी विकास के लिए एकीकृत सौर ग्राम योजना	41
-भावना त्यागी, आर्यदीप्ता जेना, मुकेश प्रसाद	
कृषि अपशिष्ट प्रबंधन	45
-वीरेंद्र कुमार	
हरित पहल से ग्रामीण अर्थव्यवस्था को मजबूती	51
-हरेन्द्र राज गौतम	



प्रकाशन विभाग के विक्रय केंद्र

नई दिल्ली	पुस्तक दीर्घा, सूचना भवन, सीजीओ कॉम्प्लेक्स, लोधी रोड	110003	011-24367260
दिल्ली	हाल सं. 196, पुराना सचिवालय	110054	011-23890205
नवी मुंबई	701, सी-विंग, सातवीं मंजिल, केंद्रीय सदन, बेलपुर	400614	022-27570686
कोलकाता	8, एसएलनेड ईस्ट	700069	033-22488030
चेन्नई	'ए' विंग, राजाजी भवन, बसंत नगर	600090	044-24917673
तिरुअनंतपुरम	प्रेस रोड, नई गवर्नमेंट प्रेस के निकट	695001	0471-2330650
हैदराबाद	कमरा सं. 204, दूसरा तल, सीजीओ टावर, कवादिगुडा सिकंदराबाद	500080	040-27535383
बैंगलुरु	फर्स्ट फ्लोर, 'एफ' विंग, केंद्रीय सचदर, कोरामंगला	560034	080-25537244
पटना	बिहार राज्य कोऑपरेटिव बैंक भवन, अशोक राजपथ	800004	0612-2683407
लखनऊ	हॉल सं-1, दूसरा तल, केंद्रीय भवन, क्षेत्र-ए, अलीगंज	226024	0522-2325455
अहमदाबाद	4-सी, नैण्ड्युन टॉवर, चौथी मंजिल, एचपी पेट्रोल पंप के निकट, नेहरू ब्रिज कानेर, आश्रम रोड, अहमदाबाद	380009	079-26588669



CHIEF EDITOR
Manogyan Rani Pal

EDITOR
Shiela Chaudhary

JOINT DIRECTOR (PRODUCTION)
D.K.C. Hrudhainath

COVER DESIGN
Neeraj Ridlaan

EDITORIAL OFFICE
Room No. 653,
Publications Division,
Soochna Bhawan, C.G.O. Complex,
Lodhi Road, New Delhi-110003
Phone : 011-24362859
Email : kurukshetrajournal@gmail.com

For Subscription Enquiries,
Grievances, Renewals and Agency
Information, Please Contact:

Journals Unit
Publications Division, Room No. 779,
Soochna Bhawan, C.G.O. Complex,
Lodhi Road, New Delhi-110 003
(Monday-Friday, 9:30 AM-6:00 PM)
Phone : 24367453, FAX: 24365610
Email : pdjucir@gmail.com
Website : publicationsdivision.nic.in

@publicationsdivision

@DPD_India

@dpd_India

For Online Sale, please log on to
bharatkosh.gov.in/product, and for
e-books, please visit [Google Play](https://play.google.com/store/apps/details?id=com.kurukshetra)
or [Amazon](https://www.amazon.com).

Subscription
1 Year : ₹ 230

Kurukshetra seeks to carry the message of
Rural Development to all people. It serves as
a forum for free, frank and serious discussion
on the problems of Rural Development with
special focus on Rural Uplift.

The views expressed by the authors in the
articles are their own. They do not necessarily
reflect the views of the Government or the
organisations they work for.

The readers are requested to verify the claims
in the advertisements regarding career
guidance books/institutions. Kurukshetra
does not own responsibility. Maps used are
for illustration & study purpose and may not
strictly conform to the official map. Images,
graphics and illustrations, wherever used, are
mostly sourced from government channels
and are indicative in nature. Final Editing
rights will vest with Kurukshetra Team.



Kurukshetra

A Journal on Rural Development

Vol. 71 | No. 12 | Pages 56 | October 2023

Contents

Vision for Green and Clean Rural India

Giriraj Singh

5

Preserving the Green Cover of Indian Villages

Virendra Kumar Paul

12

Integrated Solar Village Scheme for Inclusive Development

Bhawna Tyagi
Aryadipta Jena
Mukesh Prasad

18

Crop Residue Management Challenges and Opportunities

Jagdeep Saxena

23

Water for Clean and Green Village

Suneel Kumar Arora

31

Leveraging Agroecological Approaches for Clean and Green Villages

Neelam Patel
Tanu Sethi
Athira S.

37

Harnessing the Power of Digital Technology for Greener Villages

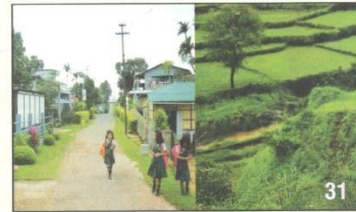
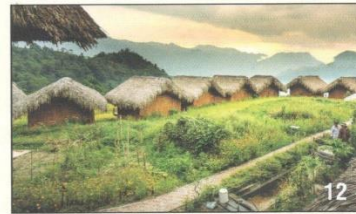
Balendu Sharma Dadhich

44

Strengthening Rural Economy with Clean and Green Initiatives

Harender Raj Gautam

50



Sales Emporia : • **Delhi** - BM (I/c), Publications Division, CGO Complex, Soochna Bhawan, Lodhi Road, New Delhi-110003 (011-24365609); Hall No. 196, Old Secretariat, Delhi 110054 (011-23890205) • **Kolkata** - 8, Esplanade East, Kolkata-700069 (033-22482576) • **Mumbai** - 701, C-Wing, 7th Floor, Kendriya Sadan, Belapur, Navi Mumbai-400614 (022-27570686) • **Chennai** - 'A' Wing, Rajaji Bhawan, Besant Nagar, Chennai - 600090 (044-24917673) • **Thiruvananthapuram** - Press Road, Near Govt. Press, Thiruvananthapuram - 6950001 (0471-2330650) • **Hyderabad** - Room No. 204, 2nd Floor, C.G.O. Towers, Kavadiyiguda, Hyderabad-500080 (040-27535383) • **Bengaluru** - Floor, 'F' Wing, Kendriya Sadan, Koramangala, Bengaluru - 560034 (080-25537244) • **Patna** - Bihar State Co-operative, Bank Building, Ashoka Rajpath, Patna-800004 (0612-2675823) • **Lucknow** - Hall No. 1, 2nd Floor, Kendriya Bhawan, sector - H, Aliganj, Lucknow - 226024 (0522-2325455) • **Ahmedabad** - Sales Unit, Publications Division, 4-C, Neptune Tower, 4th Floor, Nr HP Petrol Pump, Nehru Bridge Corner, Ashram Road, Ahmedabad Gujarat -380009 (079-26588669)

OCTOBER 2023

Volume-67
No. 10



YOJANA

Since 1957 A DEVELOPMENT MONTHLY

Let noble thoughts come to us from all sides.
Rig Veda

CHIEF EDITOR
MANOYAN RANI PAL

EDITOR
SHUCHITA CHATURVEDI

OUR REPRESENTATIVES

Ahmedabad: Sumanben A Machhar, Bengaluru: Yashwant Shehna, Bhubaneswar: Itishree Singh Rathaur, Chennai: Sanjay Ghosh, Guwahati: Maruf Alam, Hyderabad: Krishna Vandana P, Jalandhar: Gagandeep Kaur Devgan, Kolkata: Sumita Chakraborty, Mumbai: Sangeeta Godbole, Thiruvananthapuram: Sudha S Namboothiry.

JOINT DIRECTOR, PRODUCTION
D K C HRUDHAINATH

COVER DESIGN
BINDU VERMA

Yojana (English): Room No. 647, Soochna Bhawan, CGO Complex, Lodhi Road, New Delhi-110 003. E-mail (Editorial): sec-yojanaeng-moib@gov.in

YOJANA, a development monthly published since 1957, is a theme-based journal providing in-depth analyses and views on socio-economic issues in the broader framework of government policies. Although published by the Ministry of Information and Broadcasting, YOJANA is not restricted to expressing the official point of view.

DISCLAIMER

- The views expressed in various articles are those of the authors and they do not necessarily reflect the views of the Government or the organisation/s they work for.
- Maps/flags used in the articles are only indicative and they do not reflect the political map or legal representation of the flag of India/any other country.
- The infographics/figures are provided by the authors through their reliable sources and YOJANA claims no responsibility for the same.
- Images, graphics and illustrations, wherever used, are mostly sourced from government channels and are indicative in nature.
- YOJANA does not own responsibility regarding the contents of the advertisements. The readers are requested to verify the claims made in the advertisements regarding courses, career-guidance books or institutions.
- YOJANA doesn't endorse or promote any brands or private entities presented as case studies in any of the articles.

SUBSCRIPTION/GRIEVANCES

Email: pdjucir@gmail.com
Phone: 011-24367453
(Monday-Friday, 9:30 am- 6:00 pm)

Postal Address: Abhishek Chaturvedi, Editor, Journals Unit, Publications Division, Room No. 779, Soochna Bhawan, CGO Complex, Lodhi Road, New Delhi-110 003.

Please note that it will take at least eight weeks to start your subscription. Kindly raise your queries/grievances about non receipt of the journals only after this period.

IN THIS ISSUE



6 VOYAGE TO STUDY THE EARTH'S SUN

8 CHANDRAYAAN-3 INDIA'S SUCCESSFUL LUNAR MISSION

11 SPACE INFRASTRUCTURE

17 ROAD INFRASTRUCTURE GETTING SMARTER
G Raghuram

23 RAIL INFRASTRUCTURE

35 PORT INFRASTRUCTURE IN GUJARAT
SK Mehta



41 UNITY MALLS
Dr Sajjan Singh Yadav

49 AGRI INFRASTRUCTURE
Kaviarasan K, Saikat Sarkar

57 G20 GLOBAL STARTUP ECOSYSTEM
Dr Neeraj Sinha, Naman Agrawal



REGULARS

C-II DO YOU KNOW?
PM VISHWAKARMA

C-III PM GATISHAKTI NATIONAL MASTER PLAN

UPCOMING ISSUE:

ONE EARTH · ONE FAMILY · ONE FUTURE

Number of pages: 64

Details of the Sales Outlets of the Publications Division on Page 54

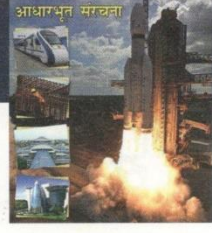
YOJANA is published in Assamese, Bengali, English, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, Telugu, and Urdu.

www.publicationsdivision.nic.in

@DPD_India | @YojanaJournal

@publicationsdivision

@dpd_india



संपादक
डॉ ममता रानी

संपादकीय कार्यालय
648, सूचना भवन, सीजीओ परिसर,
लोदी रोड, नई दिल्ली-110003

संयुक्त निदेशक (उत्पादन)
डी के सी हृदयनाथ

आवरण : बिन्दु वर्मा

योजना का लक्ष्य देश के आर्थिक विकास से सम्बन्धित मुद्दों का सरकारी नीतियों के व्यापक संदर्भ में गहराई से विश्लेषण कर इन पर विमर्श के लिए एक जीवंत मंच उपलब्ध कराना है।

योजना में प्रकाशित लेखों में व्यक्त विचार लेखकों के व्यक्तिगत हैं। जरूरी नहीं कि ये लेखक भारत सरकार के जिन मंत्रालयों, विभागों अथवा संगठनों से संबद्ध हैं, उनका भी यही दृष्टिकोण हो।

योजना में प्रकाशित विज्ञापनों की विषयवस्तु के लिए योजना उत्तरदायी नहीं है।

योजना में प्रकाशित आलेखों में प्रयुक्त मानचित्र व प्रतीक आधिकारिक नहीं हैं, बल्कि सांकेतिक हैं। ये मानचित्र या प्रतीक किसी भी देश का आधिकारिक प्रतिनिधित्व नहीं करते हैं।

योजना लेखकों द्वारा आलेखों के साथ अपने विश्वसनीय स्रोतों से एकत्र कर उपलब्ध कराए गए आंकड़ों/तालिकाओं/इन्फोग्राफिक्स के सम्बन्ध में उत्तरदायी नहीं है। योजना किसी भी लेख में केस स्टडी के रूप में प्रस्तुत किसी भी ब्रांड या निजी संस्थाओं का समर्थन या प्रचार नहीं करती है।

योजना घर मंगाने, शुल्क में छूट के साथ दरों व प्लान की विस्तृत जानकारी के लिए पृष्ठ-52 पर देखें।

योजना की सदस्यता शुल्क जमा करने के बाद पत्रिका प्राप्त होने में कम से कम 8 सप्ताह का समय लगता है। इस अवधि के समाप्त होने के बाद ही योजना प्राप्त न होने की शिकायत करें।

योजना न मिलने की शिकायत या पुराने अंक मंगाने के लिए नीचे दिए गए ई-मेल पर लिखें -
pdjuicir@gmail.com

या संपर्क करें-

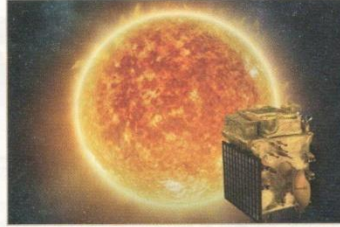
दूरभाष : 011-24367453

(सोमवार से शुक्रवार सभी कार्य दिवस पर
प्रातः 9:30 बजे से शाम 6:00 बजे तक)

योजना की सदस्यता की जानकारी लेने तथा विज्ञापन छापवाने के लिए संपर्क करें-

अभिषेक चतुर्वेदी, संपादक, पत्रिका एकांश
प्रकाशन विभाग, कमरा सं. 779, सातवां तल,
सूचना भवन, सीजीओ परिसर, लोदी रोड,
नयी दिल्ली-110003

इस अंक में...



6 पृथ्वी के सूर्य को समझने की यात्रा

8 भारत का सफल चंद्र मिशन
चंद्रयान-3

11 अंतरिक्ष से जुड़ी बुनियादी सुविधाएं

17 स्मार्ट होती सड़क अवसंरचना
जी रघुराम

23 रेल अवसंरचना

35 गुजरात में बंदरगाह
एस के मेहता



41 यूनिटी मॉल
डॉ सज्जन सिंह यादव

47 कृषि अवसंरचना
कविआरासन के, सैकत सरकार

53 जी20 : वैश्विक स्टार्टअप
पारिस्थितिकी तंत्र
डॉ नीरज सिन्हा, नमन अग्रवाल



स्थायी स्तंभ

C-II क्या आप जानते हैं?
पीएम विश्वकर्म

C-III पीएम गतिशक्ति
राष्ट्रीय मास्टर प्लान

आगामी अंक : वसुधैव कुटुम्बकम्

प्रकाशन विभाग के देशभर में स्थित विक्रय केन्द्रों की सूची के लिए देखें पृ.सं. 58

हिंदी, असमिया, बांग्ला, अंग्रेजी, गुजराती, कन्नड़, मलयालम, तमिल, तेलुगु, मराठी, ओड़िया, पंजाबी तथा उर्दू में एक साथ प्रकाशित।



Prepared and Compiled by

**Dr. Shalender Singh Chauhan
Librarian**

and

Ms. Mahima Pandey