



तकनीकी पत्रिका विषय-सूची

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Vol.3 No.9, September, 2019

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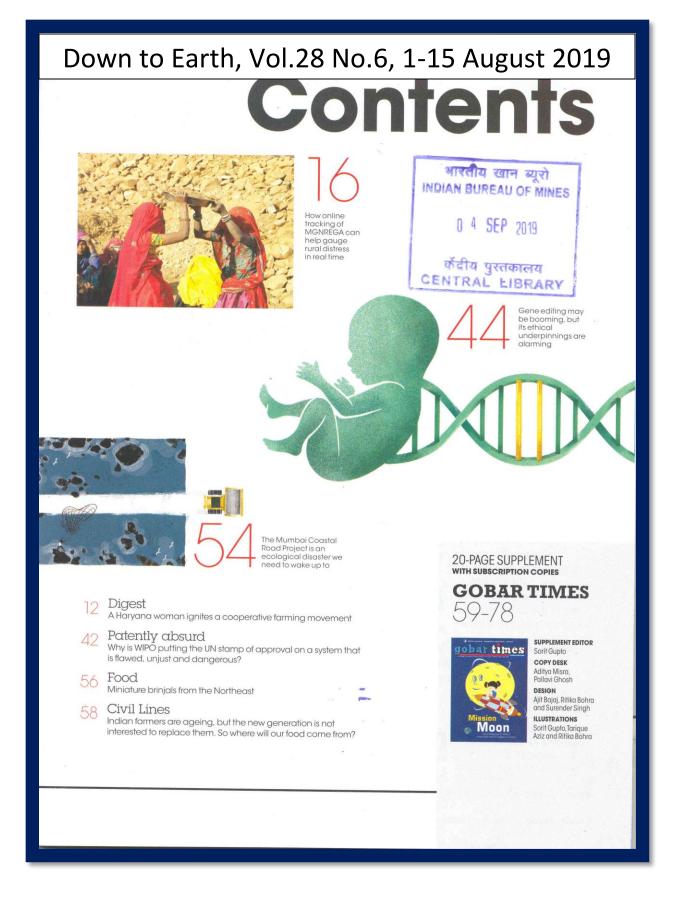
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<u>I N D E X</u>

<u>S.No</u>	<u>Title</u>	Page No
1)	Down to Earth	3-6
2)	Economic & Political Weekly	7-12
3)	Iron & Steel Review	13-14
4)	Journal of Mines Metals & Fuels	15
5)	Minerals & Metals Review	16
6)	Mining Engineering	17-22
7)	Mining Magazine	23
6)	The Indian Mining & Engineering Journal	24



Down to Earth, Vol.28 No.6, 1-15 August 2019

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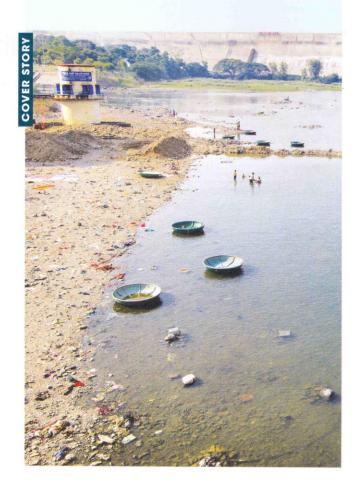
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DownToEarth



Changing Cauvery Tracking the river from its source to the mouth

Debate

33

Should new constructions be banned in Bengaluru to tackle water scarcity?

River basins How deforestation, urbanisation, illegal mining has battered India's river basins

Flood check

Had India and Nepal exchanged information, the scale of destruction would have minimised

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Down to Earth, Vol.28 No.7,16-31 August 2019 **Down To Earth** Founded in 1992 to arm you with knowledge critical to shaping a better world COVER STORY FOUNDER EDITOR Anil Agarwal **EDITOR** Sunita Narain MANAGING EDITOR **Richard Mahapatra** ASSOCIATE EDITORS Vibha Varshney, SS Jeevan Deepan Joshi, Snigdha Das, Sonalika Sinha (Copy), Arnab Pratim Dutta (Multimedia) भार **CREATIVE DIRECTOR** Aiit Baiai खान ब्यूरो **GRAPHIC EDITOR** Sorit Gupto INDIAN FAU OF MINES REPORTING TEAM Jitendra, Kundan Pandey, Ishan Kukreti, Akshit Sanaomla, Meenakshisushma, Banjot Kaur, Shagun Kapil SEP 2019 COPY DESK Aditya Misra, Rajit Sengupta, 0 Deepanwita Gita Niyogi **DESIGN TEAM** Chaitanya Chandan, Sanjit Kumar, Shri Krishan, Vijayendra Pratap Singh, Tarique Aziz, Ritika Bohra व गाः पुस्तकालय PHOTOGRAPHER Vikas Choudhary CENTRAL LIBRARY PHOTO LIBRARY Anil Kumar PRODUCTION Rakesh Shrivastava, Gundhar Das WEB EDITORS Joyjeet Das, Rajat Ghai, Isha Bajpai, Rachel V Thomas TECH SUPPORT Rajendra Rawat, Jaidev Sharma MULTIMEDIA Srikant Chaudhary, Sunny Gautam, Adithvan PC INFORMATION AND RESEARCH SUPPORT Kiran Pandey, Susan Chacko, Madhumita Paul, Sheeja Nair, Dhanbir Thapliyal, Lalit Maurya, Dayanidhi Mishra CONSULTING EDITORS Chandra Bhushan, Anumita Roychowdhury Digest Vol 28, No 7; Total No of Pages: 60 The woman who fought Editorial, subscriptions and advertisements: the timber mafia and Society for Environmental Communications, reclaimed forest hills 41, Tughlakabad Institutional Area, New Delhi 110 062, 18 RTI Phone: 91-11-40616000, 29955124, The Union government 29956110,29956394,29956399 Fax:91-11-29955879. weakens the only law that Email:editor@downtoearth.org.in stood for transparency © 2019 Society for Environmental Communications. All rights reserved throughout the world. Reproduction in any manne 22 US elections is prohibited. Printed and published by Richard Mahapatra on behalf of Society for Environmental Communications. Printed at Climate change and International Print-o-Pac Limited, B-204, 205, Okhla Industrial the Democrats Area, Phase I, New Delhi-110020, India, and published at 41. Tuahlakabad Institutional Area, New Delhi 110 062. 24 Quarantine To subscribe, sms 'dte Subscribe' to 56070 Non-functional labs, staff or visit www.downtoearth.org.in/subscribe crunch and corruption has FOR ADVERTISEMENTS Jyoti Ghosh made India vulnerable to jghosh@cseindia.org invasive alien species FOR SUBSCRIPTIONS K C R Raja, raja@cseindia.org Why is the state 28 Vitamin B12 oftechnical education in A large number of Indians are India in such a **DownToEarth** unaware they are deficient. pathetic state? And the vitamin is only found DROPOUT in animal and dairy foods 42 Sex ratio Haryana achieves gender equality in just a decade Cover design: Ajit Bajaj; Cover illustration: Tarique Aziz 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.



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0 4 SEP 2019

EDITORIALS

- . कोंदीय पुरतकालय An III-advised Policy
- Amended RTI vs Participatory Democracy
- Mirage of Zero Budget Farming

FROM THE EDITOR'S DESK

Ideal Specimen of Democracy

LAW & SOCIETY

The True Dangers of the RTI (Amendment) Bill

STRATEGIC AFFAIRS

Fourth Industrial Revolution

COMMENTARY

- Protected Area Management in Sariska
- Draft Emigration Bill, 2019: The Missing Links

BOOK REVIEWS

- Partitions of the Heart: Unmaking the Idea of India
- Denial and Deprivation: Indian Muslims after the Sachar Committee and Ranganath Misra Commission Reports

PERSPECTIVES

- An Academic's Response: Draft National Education Policy, 2019
- Unmoved by Stability: Capital Formation in the Modi Economy

SPECIAL ARTICLES

- Elementary Education in 19th-century Bengal
- Achieving Universal Health Coverage in India
- The Tightening Ideational Regimentation of China's Higher Education System

NOTES

 Neighbourhood-scale Residential Segregation in Indian Metros

CURRENT STATISTICS

The draft National Education Policy, 2019 will bring greater external interference in all aspects of the functioning of educational institutions, undermining its stated goal of providing autonomy to them. page 28

Too Much of a Good Thing

The government appears to have misjudged the impact of its macroeconomic policies and has omitted the expansion of public investment. page 33

Evidence of Segregation

Using enumeration block-level census data from 2011 for five major cities, how patterns of caste-based urban residential segregation operate in India is examined. page 64

Indian Migrants Abroad

An assessment of the institutional framework of emigration in India and how the 2019 draft bill aims to manage the world's largest emigrant population page 19

The Big Cats of Sariska

The string of tiger deaths in the Sariska Tiger Reserve points to the need for attending to the chronic problems around protected area management in India. page 15

Economic & Political Weekly, Vol.54 No.30, 27 July 2019

The True Dangers of the RTI (Amendment) Bill

10 The Right to Information Act, 2005 has caused controversy around the Central Information Commission being weakened, arising not purely because of the text of the law, but the absence of proper justification for the amendments. — Alok Prasanna Kumar

Fourth Industrial Revolution

12 The technology-driven revolution is fundamentally affecting the relationship between capital and labour, driving right-wing populism across the globe, while the left has remained a laggard. — Atul Bhardwaj

Challenges for Protected Area Management in Sariska

Both the immediate and long-term causes of tiger mortality in Sariska, particularly in the context of the larger challenges surrounding protected area management in India, are explored. — Ghazala Shahabuddin

Draft Emigration Bill, 2019: The Missing Links

19 For the draft Emigration Bill, 2019 to be truly effective, it needs a rights-based approach inclusive of all Indian migrants abroad. — S Irudaya Rajan, Varun Aggarwal & Priyansha Singh

An Academic's Response: Draft National Education Policy, 2019

28 The acceptance of the draft National Education Policy in its current form may prove disastrous with the increased political control over and undermining of the autonomy of educational institutions. — Rowena Robinson

Unmoved by Stability: Capital Formation in the Modi Economy

33 The Narendra Modi government actively pursued macroeconomic stability and a business-friendly regulatory framework, but the investment rate of the economy has actually slid. — Pulapre Balakrishnan

Elementary Education in 19th-century Bengal

37 In order to analyse the educational policy of 19th-century Bengal, the changing notions of British imperialism and the educational development of contemporary Britain should be studied and evaluated critically.
— Sweta Dey

Achieving Universal Health Coverage in India

45 A practical framework is presented to determine an essential health package, considering coverage and equity perspectives for service delivery, financial protection and morbidity burden in the population. — Shankar Prinja, Atul Sharma, Indrani Gupta, Samik Chowdhury & Mayur Trivedi

China's Higher Education System

55 The operation of the contrary forces of diffusion and control in China's higher education system is critically examined, highlighting the distinctiveness of China's internationalisation of higher education. — Romi Jain

Neighbourhood-scale Residential Segregation

64 Using enumeration block-level census data from 2011 for five major cities in India—Bengaluru, Chennai, Delhi, Kolkata, and Mumbai—it is shown how patterns of caste-based urban residential segregation operate in contemporary India. — Naveen Bharathi, Deepak Malghan & Andaleeb Rahman

EDITORIALS

Amended RTI vs Participatory Democracy	7
Mirage of Zero Budget Farming	8

FROM THE EDITOR'S DESK

Ideal Specimen	of	Democracy

FROM 50 YEARS AGO

LAW & SOCIETY

The True Dangers of the RTI (Amendment) Bill —Alok Prasanna Kumar......

STRATEGIC AFFAIRS

Fourth Industrial Revolution: Decay of Liberalism and Withering Away of the Left —Atul Bhardwaj12

COMMENTARY

The Tiger's Last Stand: Challenges for Protected Area Management in Sariska

- —S Irudaya Rajan, Varun Aggarwal, Priyansha Singh19

BOOK REVIEWS

Partitions of the Heart: Unmaking the Idea of India—Hate, Love and Secularism —Vidyadhar Date......23

Denial and Deprivation: Indian Muslims after the Sachar Committee and Ranganath Misra Commission Reports—New Light on Deprivation of Muslims in India

.25

—Abdul Shaban

An Academic's Response: Draft National Education Policy, 2019 —*Rowena Robinson*..... Unmoved by Stability: Capital Formation in the Modi Economy

SPECIAL ARTICLES

Elementary Education in 19th-century Bengal: Education Policy of the British —Sweta Dey.....

NOTES

Neighbourhood-scale Residential Segregation in Indian Metros —Naveen Bharathi, Deepak Malghan — 2000

Andaleeb Rahmandian BUREAU OF MINES

CURRENT STATISTICS

-Romi Jain

APPOINTMENTS/PROGRAMMES SEP 2019

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Economic & Political Weekly, Vol.54 No.31, 3 August 2019 omic&Po

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EDITORIALS

- Declining Fertility and Demographic Dividend
- The Crumbling Mortar of BRICS

FROM THE EDITOR'S DESK

SAMEEKSHA TRUST PUBLICATION

Small Voices of Democracy

COMMENTARY

- BJP's Southern Comfort: Success in Karnataka
- Single-party Dominance in Rajasthan
- A New Trajectory of Politics in West Bengal
- Failure of the Mahagathbandhan
- Dravidian Identity Politics in Tamil Nadu

BOOK REVIEWS

- Violence and Non-Violence across Time: History, Religion and Culture
- Gandhi and Philosophy: On Theological Anti-Politics

PERSPECTIVES

HRIDAY in Amravathi

SPECIAL ARTICLES

- Inmigrant and Local Labourers in the Construction Sector of Kerala
- Utilisation of Maternal Healthcare Services in Bihar?
- Redesigning the Fiscal Transfer System in India

DISCUSSION

- What Eventually Emerged from the Emergency? A Reply to Gyan Prakash
- Reading and Misreading Marx

CURRENT STATISTICS

POSTSCRIPT

CENTRAL LIBRARY **Fiscal Transfers to States**

Analyses of the design and implementation aspects of general and specific purpose transfers underline the importance of intergovernmental transfers, especially for welfare schemes in low-income states. page 52

Galweeki

N 4 SEP 2019

केंद्रीय पुस्तकालय

Labour Market of Kerala

A micro-level study explains the wage decomposition factors related to the wage gap between inmigrant and local labourers in the construction sector of Kerala. page 35

Maternal Healthcare in Bihar

A critical evaluation of how far the National Health Mission has affected the utilisation of maternal healthcare services based on NSSO data page 44

Gandhi and Non-violence

Two reviews assess books on Gandhi and philosophy and the philosophical understanding of violence and non-violence across time and history. pages 26, 28



Five articles examine the results of the Lok Sabha elections in Uttar Pradesh, Rajasthan, Tamil Nadu, West Bengal and Karnataka. page 10 onwards

Economic & Political Weekly, Vol.54 No.31, 3 August 2019

BJP's Southern Comfort: Success in Karnataka

10 Caste calculus and ground-level chemistry had an adverse impact on the Congress–Janata Dal (Secular) alliance and led to the Bharatiya Janata Party recording its best ever victory in Karnataka. — Sandeep Shastri, Veena Devi

Moving towards Single-party Dominance in Rajasthan

3 The recent sweep by the Bharatiya Janata Party in the Lok Sabha elections from Rajasthan is located in the wider context of the electoral politics of the state. — Sanjay Lodha, Nidhi Jain

A New Trajectory of Politics in West Bengal

16 The National Election Study 2019 data is used to explain the rise of the Bharatiya Janata Party in West Bengal and the eclipse of the Congress and the Left Front. — Jyotiprasad Chatterjee, Suprio Basu

Failure of the Mahagathbandhan

21 In the 2019 Lok Sabha elections in Uttar Pradesh, the Samajwadi Party, Bahujan Samaj Party and Rashtriya Lok Dal's alliance took on the challenge against the domination of the Bharatiya Janata Party. — Mirza Asmer Beg, Shashikant Pandey & Sudhir Khare

Reinforcing Dravidian Identity Politics in Tamil Nadu

24 The Lok Sabha election results in some ways indicate the reassertion of Dravidian identities and the key role of the Dravidian parties in the politics of Tamil Nadu. — P Ramajayam

Community-led, Heritage-linked Development

31 While the Andhra Pradesh government's efforts to build a new capital city, Amaravati, is in national focus, a government scheme to preserve a nearby village's heritage is floundering. — Anubhav Pradhan

Wage Differences between the Inmigrant and Local Labourers

The wage determinants of inmigrant and local labourers in Kerala's construction sector exhibit varied intensity in influencing their wage and wage gap, necessitating a revisit of labour laws and wage policies.
— K C Baiju, Shamna T C

Utilisation of Maternal Healthcare Services in Bihar

44 Based on National Sample Survey Office data, the impact of the National Health Mission on improving utilisation of maternal healthcare services in Bihar is critically evaluated. — Saswata Ghosh, Zakir Husain

Redesigning the Fiscal Transfer System in India

52 With an overwhelming proportion of the poor living in low-income states, the provision of comparable levels of basic social services and physical infrastructure is important to ensure balance and stability in the Indian federation. — M Govinda Rao

What Eventually Emerged from the Emergency?

61 The reviewer of Gyan Prakash's book Emergency Chronicles: Indira Gandhi and Democracy's Turning Point replies to the author's disagreements with his review ("A Road Map of Change in Democracy," EPW, 22 June 2019). — Arvind Rajagopal

Reading and Misreading Marx: A Review of a Review

64 A response to "The Other Marx" (Murzban Jal, EPW, 26 January 2019), a review of the book Marx at the Margins: On Nationalism, Ethnicity, and Non-Western Societies (2010) by Kevin Anderson — Aakanksha Baruah, Sheena Jain

Postscript

69 Shashi Kumar on Girish Karnad as the insider–outsider in the literary world of Kannada; M S Prabhakara remembers his intermittent interactions with Girish Karnad over the years; Rebecca Gonsalvez on the travails of commuting in Mumbai; and Last Lines by Ponnappa.

No.31, 3 August 2019
Declining Fertility and Demographic Dividend 7
The Crumbling Mortar of BRICS8
FROM THE EDITOR'S DESK
Small Voices of Democracy9
FROM 50 YEARS AGO9
COMMENTARY BJP's Southern Comfort: Success in Karnataka —Sandeep Shastri, Veena Devi10
Moving towards Single-party Dominance in Rajasthan—Sanjay Lodha, Nidhi Jain13
A New Trajectory of Politics in West Bengal —Jyotiprasad Chatterjee, Suprio Basu
Failure of the Mahagathbandhan
—Mirza Asmer Beg, Shashikant Pandey, Sudhir Khare
Verdict 2019: Reinforcing Dravidian Identity Politics in Tamil Nadu—P Ramajayam24
BOOK REVIEWS
Violence and Non-Violence across Time: History, Religion and Culture—Interweaving Violence and Non-violence
—Anirudh Deshpande26
Gandhi and Philosophy: On Theological Anti-Politics—Gandhi in the Company of Western Philosophers—A Raghuramaraju28
PERSPECTIVES
HRIDAY in Amravathi: Community-led, Heritage-linked Development
—Anubhav Pradhan
SPECIAL ARTICLES Determinants of Wage Differences between
the Inmigrant and Local Labourers in the
Construction Sector of Kerala —K C Baiju, Shamna T C35
Has the National Health Mission Improved Utilisation of Maternal Healthcare Services
in Bihar?—Saswata Ghosh, Zakir Husain44 Redesigning the Fiscal Transfer System in India
—M Govinda Rao 52
DISCUSSION
What Eventually Emerged from the Emergency? A Reply to Gyan Prakash
—Arvind Rajagopal61 Reading and Misreading Marx: A Review of a
Review—Aakanksha Baruah, Sheena Jain 64
current statistics
POSTSCRIPT
The Literary 'Insider–Outsider' of Karnataka —Shashi Kumar (69), Girish Karnad:
In Remembrance—M S Prabhakara (70),
The Daily Swayamvara: A Commuter's Quandary —Rebecca Goldande (92) BUREAU OF MINES
Last Lines (72)
APPOINTMENTS/PROGRAMMES SEP 2019
LETTERS
योंद्रीय पुस्तकालय CENTRAL LIBRARY
and the state of t

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0 4 SEP 2019



EDITORIALS

योदीय पुराकालय Resolving Data Asymmetry CENTRAL LISRA

The Value of Federalism Designating Individuals as Terrorists

FROM THE EDITOR'S DESK

The Idea of 'Second Thought' and Article 370

ALTERNATIVE STANDPOINT

A Blinkered View of Humanities Education?

HT PAREKH FINANCE COLUMN

A Rate Cut That Failed to Please

COMMENTARY

- Mumbai's Dilapidated Buildings
- The 2019 Lok Sabha Verdict
- Goa 2019: Sway of Regional Factors
- Voter Preference for YSRCP
- BJP's Sweeping Electoral Victory in Haryana And more

BOOK REVIEWS

- Labour Law Reforms in India
- Sedition in Liberal Democracies

PERSPECTIVES

- Food Subsidy in Cash or Kind?
- In Quest of Inclusive Growth

SPECIAL ARTICLES

- Seva in the Neo-liberal Development Regime
- From Mobile Access to Use
- Tax Effort of Panchayats in India

DISCUSSION

Reading Electoral Outcomes through the Optic of Caste

CURRENT STATISTICS

India needs to develop a vast data repository and tools capable of going to the most granular level in order to support follow-up actions on policy. page 44

Who Are We Really Teaching?

The draft National Education Policy, 2019 fails to understand the nature of the humanities and the needs of most students studying in this stream. page 10

Digital Divide and Disparity

Micro-level data on mobile phone usage are examined to highlight how socio-demographic characteristics influence engagement with the various features of mobile phones. page 60

Local Tax Collection

An analysis of vertical transfers suggests a number of ways for the government to provide more incentives for increasing the low level of tax collection by panchayats. page 68



Post-poll surveys in Maharashtra, Andhra Pradesh, Goa, Delhi and Haryana offer insights on the 2019 election results. page 17 onwards

Economic & Political Weekly, Vol.54 No.32, 10 August 2019

A Blinkered View of Humanities Education?

The promotion of a liberal arts curriculum by the draft National Education 10 Policy, 2019 needs clarity on how humanities education differs from science education. - Sundar Sarukkai

A Rate Cut That Failed to Please

The United States Federal Reserve decision to cut short its cycle of interest 13 rate increases and reduce rates is likely to restore an environment of excess and cheap liquidity. — C P Chandrasekhar

Mumbai's Dilapidated Buildings

The situation of "dilapidated buildings" in Mumbai is examined in the context of every monsoon season bringing news of buildings collapsing in the city. Chandrashekhar Khandekar

Goa 2019 Verdict: Sway of Regional Factors

Unlike in 2014, the outcome of the 2019 polls was significantly influenced by 10 regional considerations. — Alaknanda Shringare

Elections in Andhra Pradesh: Voter Preference for YSRCP

The Yuvajana Sramika Rythu Congress Party's victory can be attributed to 21 the padayatra, consistency in the stand for special category status, promise to implement welfare schemes, and its effective campaign. - E Venkatesu

BJP's Sweeping Electoral Victory in Haryana

24 The 2019 Lok Sabha elections in Harvana rendered dynastic politics ineffective, and the Bharatiya Janata Party was accepted across socio-demographic indicators. — Kushal Pal, Jyoti Mishra

What Swayed the Delhi Voters towards BJP?

The Bharativa Janata Party was able to win all seats in Delhi due to Delhi 27 voters' gravitation towards it in Lok Sabha polls and the satisfaction with its governance at the centre among all segments of society. - Biswajit Mohanty

BJP Replaces the Congress in Maharashtra

29 The political dominance of the Bharatiya Janata Party is deciphered and the prospects of the state politics in the context of the upcoming state assembly elections in Maharashtra are analysed. – Rajeshwari Deshpande, Nitin Birmal

Food Subsidy in Cash or Kind? The Wrong Debate

Only a well-designed empirical test of the alternative modes of subsidy will help ascertain the preferred shape of the public distribution system for a particular state or district. — Anirudh Krishna, Tushar Agrawal

In Quest of Inclusive Growth

The feasibility of a new multidisciplinary framework for organising economic 44 data in the quest of a paradigm inclusive growth is explored. -RBBarman

Groundwater, Gurus, and Governmentality

The state-international bodies-MNC-religion complex has regimented a 51 large population in an all-pervasive governmentality. — Srirupa Bhattacharva

From Mobile Access to Use: Feature-level Digital Divides

60 The use of mobile phones is examined using micro-level data to highlight how the socio-demographic characteristics influence engagement with the various features of mobile phones. - Jang Bahadur Singh, M Vimalkumar

Fiscal Grants and Tax Effort of Panchayats

The impact of restricted and unrestricted fiscal grants on tax effort of 68 panchayats is examined using nationally representative panel data on finances. — Raghbendra Jha, Hari K Nagarajan & Anirudh Tagat

Reading Electoral Outcomes through the Optic of Caste

A response to "Caste and Electoral Outcomes: Misreading Hierarchy and the Illusion of Numbers" by Dipankar Gupta (EPW, 22 June 2019) – Vishesh Pratap Gurjar

10.52, 10 August 2015
EDITORIALS
The Value of Federalism
Designating Individuals as Terrorists
FROM THE EDITOR'S DESK
The Idea of 'Second Thought' and Article 3709
FROM 50 YEARS AGO9
ALTERNATIVE STANDPOINT A Blinkered View of Humanities Education? —Sundar Sarukkai
HT PAREKH FINANCE COLUMN A Rate Cut That Failed to Please
—C P Chandrasekhar13
COMMENTARY Mumbai's Dilapidated Buildings —Chandrashekhar Khandekar
BOOK REVIEWS
Labour Law Reforms in India: All in the Name of Jobs—Unpacking the Motives of Neo-liberal Regimes—D Narasimha Reddy
PERSPECTIVES
Food Subsidy in Cash or Kind? The Wrong Debate —Anirudh Krishna, Tushar Agrawal39
In Quest of Inclusive Growth— <i>R B Barman</i> 44
SPECIAL ARTICLES Groundwater, Gurus, and Governmentality: Seva in the Neo-liberal Development Regime in India—Srirupa Bhattacharya
Restricted and Unrestricted Fiscal Grants and Tax Effort of Panchayats in India
—Raghbendra Jha, Hari K Nagarajan, Anirudh Tagat
DISCUSSION
Why Caste Matters Reading Electrical Outcomes through the Optic of Caste —Vishesh Photop Gubur EUR EAU OF MINES
CURBENT STATISTICS

APPOINTMENTS/PROGRAMMESEP 2019 ANNOUNCEMENTS ... LETTERS

CENTRAL

योंदीय प्रतकालय

BRARV

12

Iron & Steel Review, Vol.63 No.2, July 2019

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21 Steel in Infrastructure

Usage of steel in India's

National Trends

Special Feature

34 Cover: SMS group

infrastructure projects

SAIL to establish second steel plant in Odisha

Current events and latest developments in Indian steel &

allied industries **Global Trends**

42 Hyundai Steel places a follow-up order with SMS group Latest news and updates on iron &

CUS

steel industry across the globe भारतीय खान ब्यरो F

54 · * * * 12-13 .

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New Approach to Designing **Combustion Systems for** Modern Industrial Furnaces

Danieli Centro Combustion's innovations for higher efficiency in industrial furnaces



Steel Market

58

Analysis of Indian Steel Market April & May 2019

Performance of Indian steel industry in April & May, FY 2019-2

Market & Product

70

Demand for plating on plastic set to increase over the next five years

XRF analysis is the perfect thickness measurement technique for decorative plating on plastic

Company News

73

SMS group reaches operational and financial targets in 2018

SMS group announces its annual report in METEC 2019 trade fair



Iron & Steel Review, Vol.63 No.2, July 2019

Features

Steel Technology

79

Rapid Dephosphorisation of Acid Induction Melted Steel

How to reduce phosphorus from steel melted in an acid lined induction furnace

Refractory

88

Wear Mechanism of Alumina Spinel Brick in Steel Ladle for Aluminium Killed Steel

The corrosion mechanism of alumina spinel brick with varying lime to alumina ratio has been discussed here

Post Show Report

98

GMTN 2019 – A Mega Success

Highlights of GMTN 2019 held at Düsseldorf, Germany from June 25th to 29th

Upcoming Events

104

Upcoming Business Events/ Exhibitions/Trade Fairs in India and around the world

Statistics

105

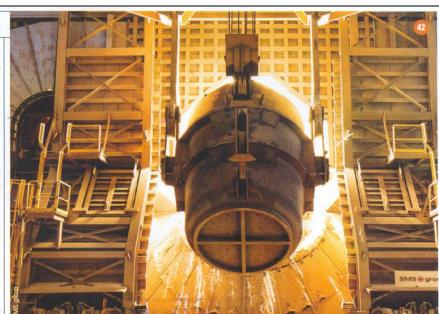
World Crude Steel & Iron Production - May 2019

Indian Steel Market & Prices -May 2019



ISW Steel

Jaypee Cardan Shafts



8	Advertis	ers' Index
	INDIAN BUREAU OF MI	WER
A		K
ABB	0 1 000 0019	KELK
A. R. Group of Industries	0 4 SEP 2019	KOCKS
		KME Germany
Aman Machine Tools Pvt	Ltd	M
Andritz FBB GmbH	Ltd	
ARB Bearing Ltd	CENTRAL LIG109	Maxis Motion (
C	Contraction and the	N
Creative Carbon Pvt. Ltd.		Nuhydro Auton
D		NMDC Limited
Danieli		0
		Orind Special R
	LimitedSecond Cover	SP 3 4 43
E		P. P. Rolling Mil
Electrotherm (India) Lim	ited13	Preet Group
	Pvt. Ltd	R
G		Refratechnik
	rt, Ltd.,	RHI India Privat
H	, cu,	S
	ers Pvt. Ltd	Subscription Fo
		SMS group
		SEW Eurodrive
		Seminar Ad (M
	ng & Technology of Hot Blast Stove	Seminar Ad (W
		Siempelkamp.
1		T
Indiana Machine Tools	10	TMEIC
		TRL Krosaki Ref
	ate Limited	Tata Hitachi Co
		U
J		UGI Engineerin

26	
K	
KELK	
KOCKS	
KME Germany GmbH & Co. KG	45
Mand and an an and the state	
Mipalloy Nomura Plating Company LLP	
Maxis Motion Controls Pvt. Ltd.	
Next,	
Nuhydro Automation Products	14
NMDC Limited	
0	
Orind Special Refractories (P) Ltd.	99
P : 1	
P. P. Rolling Mills Mfg. Co. Pvt. Ltd	
Preet Group	
R	
Refratechnik	
RHI India Private Limited	
S	
Subscription Form	
SMS group	Cover & Gate Fold
SEW Eurodrive	
Seminar Ad (Messe Düsseldorf)	76
Seminar Ad (World of Metal)	
Siempelkamp	
T	
TMEIC	67
TRL Krosaki Refractories Limited	
Tata Hitachi Construction Machinery Company Private Li	
UGI Engineering Works Pvt. Ltd	
Z	
Zumbach	97

..11

.41

Journal of Mine	es Metals & Fuels, Vol.67 No.6, Jur	ne 2019
		÷ .
JOURNA	LOF MINES, METALS & FUELS	and the second
INCO	RPORATING INDIAN MINING JOURNAL (II ISSN 0022-2755) (FOUNDED BY LATE P.K. MENON)	। खान ब्यूरो REAU OF MINES
	Editor: P. K. CH	
Joint Publishers:		JC1 2019
Books & Journals Pvt. Ltd.	67 Vol.67, No.6, JUNE 2019	
	CONTENTS CENTRAL	पुस्तकालय - LIBRARY
& Engineering Technology	-	LIBRARY
Association (IIETA)	Dynamic simulation approach to assess influence of charging parameters	
Edtorial Advisory Board	on blast induced vibration by Vivek K Himanshu, M. P. Roy, A K Mishra, Rajeshwar Mishra	
Prof. R.N. Singh Prof. Dr. Uday kumar	and P. K. Singh	299
Prof. Dr. Abdolhadi Ghazvinian	Algorithm for automated design of homogeneous slopes in open pit mines	
Prof. Dr. Jayanta Bhattacharyya R.P. Ritolia	using limit equilibrium method	
K.F. Khoha	by Manas Mukhopadhyay and Phalguni Sen	307
Editorial & Business Offices:	Estimation of in-situ stress - experiemtnal trials on kaiser effect and	
Moon Plaza	hydrofracturing tests	211
2A, 2nd Floor	by Singam Jayanthu	311
62 Lenin Sarani, Taltala KOLKATA 700 013	Symmetrical component analysis of an unbalanced mine power distribution	
KOLKATA 700 015	system in b ² -spice	316
Mobiles :	<i>by Anup K. Tripathi</i>	510
+91 9239384829	Machine performance index (MPI): a method to evaluate the performance of mining dumper	
+91 8479919829	by Pawan Kumar Yadav, Suprakash Gupta and Deepak Kumar	320
E-mail:	Statistical analysis of species interaction and optimization of copper	
bnjournals@gmail.com	flotation process	
pradipchanda@yahoo.co.uk	by Silpa Sweta Jena, Abhyarthana Pattanaik and R.Venugopal	326
web: www.jmmf.info	Process mineralogy characteristics and titanium preconcentration of	
	Panxi vanadium-titanium magnetite tailings	
Registered Office : Books & Journals Pvt. Ltd.	by Yang Peng, Junhui Xiao, Yushu Zhang, Chao Chen, Wei Ding, Qiang Wu, Guanjie Liang and Wenxiao Huang	332
62 Lenin Sarani,	Recovery of iron minerals from low-grade iron ore tailings by conducting	
Taltala	beneficiation studies using hydrocyclone	
Kolkata 700 013	by P. Muthaimanoj and Sudipta Mukhopadhyay	339
ANNUAL SUBSCRIPTION	Enlist as a subscriber to :	
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]

Minerals & Metals Review, Vol.45 No 8, August 2019

WIRTH BUREA

ILUIILU

- 05 Market Report
- 16 Policy View

AD duty likely on Al and Zn coated flat products from 3 nations

17 In Coversation "FTAs are a very complex situation"

23 Aluminium

Automobile sector slowdown to affect global aluminium consumption in CY2019

India's Al output growth to slow thanks to soft LME prices

The dilemma of aluminium beverage can production & marketing in India

Indian aluminium industry-outlook and challenges ahead

39 Demand-Supply

Deficit in global Al market likely OECD finds excess global aluminium capacity a 'genuine concern'

41 Global View

Despite stimulus measures China's Al sector facing downturn

42 Scrap Review

China's scrap Al import restriction may hamper alloy exports

Aluminium scrap is becoming more and more valuable

 46 Corporate Update Jaya Hind Industries forays into large aluminum structural components
 47 Perspective

2019

पुरतकालम् । धाराहरू

Its renaissance time for Indian foundries

- 51 Techno Trend Transformed red mud for better mining waste management
 - **Digitisation** The future of aluminium smelting hinges on digital transformation

59 New Applications

57

Lightweighting electric vehicles to propel aluminium growth

Lightweight construction, the biggest challenge for automotive sector

65 Sustainability Corner

BHP unveils five-year US\$400m climate investment programme

66 Statistics



Minerals & Metals Review - August 2019 4

Mining Engineering, Vol.71 No.2, February 2019



OFFICIAL PUBLICATION OF SME www.miningengineeringmagazine.com

> FEBRUARY 2019 VOL. 71 NO. 2



Feature Articles

- 20 Using slope design fundamentals and technology for slope steeping on a final wall at the Goldstrike openpit Jeff Mattern
- 25 **AEMA celebrates sage grouse ruling:** 124th Annual Meeting marks time of change William Gleason
- 28 Arizona Conference continues to foster camaraderie in the Southwest; hosts Developing Diversity in Mining workshop Chee Theng
- 33 New KGV design opens the door to improved efficiency for slurry valves Michael Prince

Technical Paper Abstracts from

Mining, Metallurgy & Exploration

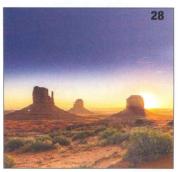
(peer-reviewed and approved)

A century of research leading to understanding the scientific basis of selective mineral flotation and design of flotation 39 collectors by Douglas W. Fuerstenau and Pradip

- Effect of **ζ-potentials on bubble-particle interactions** 41 by Kaiwu Huang and Roe-Hoan Yoon
- 42 Breakage behavior of guartz under compression in a piston die by Abdel-Zaher M. Abouzeid, A.A.S. Seifelnassr, G. Zain and Y.S. Mustafa
- 43 **Recent advances in studying colloidal interactions** in mineral processing by Z. Xu, Z. Li and Q. Liu
- Linear circuit analysis: A tool for addressing challenges and identifying opportunities in process circuit design 45 by Aaron Noble, Gerald H. Luttrell and Seyed Hassan Amini
- 46 The influence of polysaccharides on film stability and bubble attachment at the talc surface by Venkata Atluri, Yuesheng Gao, Xuming Wang, Lei Pan and Jan D. Miller
- 48 Effect of anions on the solubility of rare earth element-bearing minerals in acids by Kenneth N. Han

2 FEBRUARY 2019 Mining engineering





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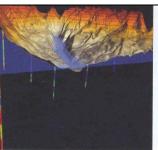
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Mining Engineering, Vol.71 No.2, February 2019



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> FEBRUARY 2019 VOL. 71 NO. 2



Roleman Mars

SME News

- 51 **SME Distinguished Members**
- 52 **SME Foundation**
- 54 **SME Presidential Citations**
- 55 **SME Division Awards**
- 62 **Fine Grind**
- 63 **Safety Share**
- 64 **Local Section News**
- 65 **Minerals Education Coalition**
- 66 **Obituary**

Departments

- **6** President's Page
- 8 Politics of Mining
- 10 **Industry Newswatch**
- 50 **Coming Events**
- 68 **New Products**
- 70 **Media Review**
- 71 **Classifieds**
- 72 **Index of Advertisers**
- 73 Web Directory
- 74
- **Professional Services**

This month exclusively on

80 **Drift of Things**

केंद्रीय पुस्तकालय

MiningEngineeringMagazine.c CENTRAL LIBRARY A summary of the 2018 SME Twin Cities Annual Conference

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In This Issue

Association celebrated a victory in a recent court ruling concerning sage grouse. ME's Bill Gleason e

on page 25. The SME Arizona Conference, held in Tucson, AZ in December, attracted about 550 attendees. Particularly interesting

was the accompanying workshop on diversity in mining. **ME's** Chee Theng was there, page 28. Gover photo courtesy of Bairrick Gold.



Mining Engineering, Vol.71 No.3, March 2019

engineering

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SME News

- **57 SME Foundation**
- **58** Personal News
- **59 Student Chapters**
- **60 SME Awards**
- **61 Fine Grind**
- 64 Membership
- 65 **Minerals Education Coalition**

MARCH 2019

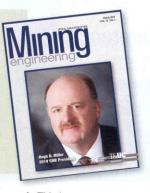
VOL. 71 NO. 3

66 Obituary

Departments

- 6 Politics of Mining
- **Industry Newswatch** 8
- 16 **President's Page**
- 54 New Products
- 56 Coming Events
- 67 Classifieds
- 68 Web Directory
- 69 **Professional Services**
- 75 **Index of Advertisers**
- 76 **Drift of Things**

MARCH 2019 Mining engineering



In This Issue

Hugh B. Miller was installed as the 2019 SME president during the Society's Annual Conference and Expo in Denver, CO last month. In his president's interview on pag 16, Miller describes his path to the mining industry and to his current position at the Colorado School of Mines. Miller also talks about his involvement with SME, his views on the state of the mining industry and the goals he has for his term as president of the Society. The global coal industry is facing rapid changes and challenges. Ruhr, Germany has a long history of coal mining that is coming to an end. On page 20 Christina Suarez and her coauthors

to the changes taking place in Germany INDIAN BUREAU OF MIN

0 4 SEP 2019

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Mining Engineering, Vol.71 No.4, April 2019



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APRIL 2019 VOL. 71 NO. 4

Feature Articles

- **16** Slope steepening investigations for the Valley Pit at the Teck Highland Valley copper mine using presplit blasting Mathieu Veillette, Nick Rose and Matthew King
- **31** PDAC attracts more than 25,000 people; Canadian government shows its support for mining William Gleason
- **34** Managing tailings influenced ground water at the Butte Superfund site R.D. Williams

Technical Paper Abstracts from

Mining, Metallurgy & Exploration (peer-reviewed and approved)

- 41 A critical overview of dithiophosphinate and dithiophosphate interactions with base metal sulfides and precious metals by Napoleon Tercero, D.R. Nagaraj and Raymond Farinato
- **43** Selective extraction of rare earth elements from monazite ores with high iron content by Leandro Augusto Viana Teixeira, Ruberlan Gomes Silva, Angela Avelar, Daniel Majuste and Virginia S.T. Ciminelli
- **45** A comparative assessment on the effect of different supplemental iron sources on the bio-dissolution of Zn, Pb, Cd and As from a high-grade Zn-Pb ore by Sina Ghassa, Hadi Abdollahi, Elham Najafi, Zohreh Boroumand, Sandeep Panda and Ata Akcil
- **46 Effect of operating parameters on the breakage process of calcite in a stirred media mill** by Diler Katircioglu-Bayel, Safak Gokhan Ozkan and Oner Yusuf Toraman
- **48** Iron ore concentrate particle size controlling through application of microwave at the HPGR feed by Maycon Athayde and Maurício Covcevich Bagatini
- 50 Simulation of material transport in a SAG mill with different geometric lifter and pulp lifter attributes using DEM by Alejandro Gutiérrez, David Ahues, Felipe González and Paola Merino

2 APRIL 2019 Mining engineering





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Mining Engineering, Vol.71 No.4, April 2019

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In This Issue

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The Teck Highland Valley copper

took place near the end of the Phase 8 pushback. Successful

mine, in British Columbia, undertook a program of steepening the slopes at the mine's Valley Pit. The project

slope steepening occurred with the implementation of presplit blasting in 2015 and 2016. The investigation

is explained on page 16. More than 25,000 professionals attended the Prospectors & Developers

Association of Canada convention in March. ME's Bill Gleason was one of

them. One of the featured speakers

was Canadian Prime Minister Justin

Trudeau. Gleason's report begins on page 31. Cover photo of the Valley Pit is courtesy of Teck Highland

SME News

53 Minerals Education Coalition

APRIL 2019

VOL. 71 NO. 4

- 54 Young Leaders
- 55 SME Foundation
- 56 Rock in the Box
- 57 **SME Award Nominations**
- 60 **Personal News**
- 61 **Fine Grind**
- Membership 62

Departments

- 6 President's Page
- 8 Politics of Mining
- 10 Industry Newswatch
- 64 **New Products**
- 66 Coming Events/Short Courses
- **67 Business Profiles**
- 79 Classifieds
- 81 Web Directory
- 82 **Professional Services**
- 88 **Drift of Things**

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4 APRIL 2019 Mining engineering



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INDIAN BUREAU OF

Why are coal miners still getting black lung disease?
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Mining Magazine July, August 2019

"Mining has one of the

worst reputations when

it comes to employees

struggling with

depression"

Back to safety

Miners trapped underground, tailings dam failures, landslides at open pits, explosions at coal mines – the list of recent accidents, safety incidents and catastrophic events at mining operations is sadly not a short one.

While "illegal" artisanal mining activities might not fit into the same category as the above, the death of 43 people at a Glencore subsidiary's copper mine in the Democratic Republic of the Congo in June is still a tragic event that the industry cannot ignore. Mining companies might not be able to keep unauthorised miners safe; however, the operators' approach to security and community outreach can go a long way.

The International Council on Mining and Metals' (ICMM's) most recent benchmarking report on mining safety, which however only covers data from its 27 member companies and on workers officially employed by them, recorded 50 fatalities in 2018, a decrease from 51 in 2017 and 63 in 2016.

In May, when the report was released, ICMM CEO Tom Butler said the organisation and its members were determined to eliminate fatalities

from their operations. Nonetheless, even with the drop from the previous year, it is still 50 deaths too many, and numbers for 2019 will see a sharp increase due to the Brumadinho dam collapse in January.

In 2018, however, the single biggest cause of deaths was from mobile mining equipment. "[This] is why we are exploring collision-avoidance technology in our Innovation for Cleaner, Safer Vehicles programme," Butler noted.

In this issue of Mining Magazine, which is dedi-

cated to subjects related to safety, health and security at mine sites, we also delve further into the topics of collision avoidance (see pages 37-39) in underground mines, as well as fatigue monitoring (pages 41-44), both crucial for keeping operators of heavy machinery safe.

In our workforce wellbeing feature (pages 28-35), we look at health and safety in the workplace from a different angle, focussing on how mining companies are working to improve the mental and physical health of their workers, while simultaneously creating a more a positive corporate culture.

After all, mining, along with the construction sector, has one of the worst reputations when it comes to employees struggling with depression. Long shifts, remote sites and flyin, fly-out (FIFO) arrangements can isolate people, keeping them away from their families and offering a poor work-life balance overall.

According to a study by the US Centers for Disease Control and Prevention, which looked at 22,000 people who died of suicide between 2012-2015, mining, construction and drilling workers have the highest suicide rates. Data from other countries and regions, including from the National Coronial Information System of Australia and New Zealand, suggests a similar trend, with construction and mining labourers again featuring at the top of the list.

In this issue, Willis Towers Watson's Mike Blake gives the following advice: "Employers should not only be looking at how they can support their staff in case of stress and mental ill health, but ... they should also be looking to implement preventative control measures. These involve the establishment of appropriate working cultures to ensure issues are identified and tackled before they develop into more serious, longer-term problems."



NIA KAJASTIE, EDITOR

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CONTENTS

CONTENTS

News

Digital tailings dam models 11 Simulation/optimisation: Safety technology in the spotlight 15

Dperational excellence: Largest-ever' filter press plate

19

22

24

28

41

45

napshot: 1ine magnetism

Mine of the month: Kirkland Lake's Macassa

Workforce wellbeing: Maintaining good health

Collision avoidance: Keeping miners off collision course 37

Fatigue monitoring: Overcoming operator fatigue

Mine rescue: In case of emergency

Cybersecurity: Miners under attack

Contacts

48 dvertiser pro Nes आरतीय खान्मरोप 27

INDIAN BUREAU OF MINES

0 4 SEP 2019

Next issue on greatered Flotation TRAL LIBRARY

Water management Oils and lubricants

COVER

GoldMinds Geoservices' geological team (Merouane Rachidi in the background and Isabelle Höhert in the foreground) carrying out independent orientation underground sampling at the ancient Azegour mine (Mo, Cu, W) for Maya Gold & Silver in Morocco. The site was most intensively mined between 1931 and 1947 and focused on molybdenum and copper, while leaving important mineralisation of tungsten. GMG has the mandate to guide the technical team in order to prepare an independent PEA, after which work will be carried out by Maya's workforce. info@ooldmindsgeoservices.com

www.MinjngMagazine.com July/August 2019

