

GEOGRAPHY AS A DISCIPLINE

Opportunities & Challenges

Dr. Md Ismail

Prof. Azizur Rahman Siddiqui

Chhahir Ali Miah



GEOGRAPHY AS A DISCIPLINE

Opportunities & Challenges

Editors

Dr. Md Ismail

Prof. Azizur Rahman Siddiqui

Chhahir Ali Miah

R K BOOKS
New Delhi (India)

Geography as a Discipline: Opportunities & Challenges

Editors : Dr. Md. Ismail, Prof. Azizur Rahman Siddiqui & Chhahir Ali

© Editors, 2022

Price : 2250/-

ISBN : 978-81-956639-1-0

First Edition: 2022

All right reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or otherwise, without written permission from the publisher and the Editors.

Published by :

R K BOOKS

4286/3, Ansari Road, Daryaganj,

New Delhi-110002

Tel.: 011-42632022, 45524927, 43573862

(M) 9315633085, 8130867003 / 9971774056

E-mail: rkbooks2004@yahoo.in, rkbooksgeo@gmail.com

Laser Typeset by

GRS Graphics

(M) 9968281826

Printed by

Nice Printing Press

Contents

<i>Preface & Acknowledgments</i>	<i>xi</i>
<i>List of Contributors</i>	<i>xv</i>
SECTION – 1: GEOGRAPHY AS A DISCIPLINE	
1. Opportunities and Challenges of Geography in Government and Non-Government Services <i>Md Ismail & Rimpa Saha</i>	3
2. Emerging Sustainable Geography: A Combination of Identity and Crisis <i>Tapas Pal</i>	18
3. Geography as a Discipline: Opportunities and Challenges Special Focus to India <i>Monalisa Nath</i>	24
4. Geography as a Discipline: Challenges and Opportunities in Brazil <i>Tatiana De Souza Leite Garcia</i>	34
5. Geography: Its Holistic Nature and Learning Challenges <i>Shreyasi Nandi</i>	47
6. Scope and Challenges of the Geographers in the Contemporary World: A Practical Approach <i>Sanat Kumar Purkait</i>	53
7. Geography: Significance and Relevance in Present Scenario <i>Sumon Kumar Das</i>	62
8. Geography as a Pedagogical Approaches of Teaching Practices at Secondary Level <i>Debasish Sarkar</i>	68
9. Aspects of Teaching and Learning Geoeconomics in a Meaningful Context <i>Nicoleta Vasilcouschi</i>	74

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 10. Availability of Teaching Learning Materials for Geography Education in the Elementary Schools with Special Reference to Jorhat District of Assam, India
<i>Mridul Kumar Borah and Minakshi P. Hazarika</i> | 80 |
| 11. Competition in Geography Compared to the Other Disciplines: Especially Focus on Education, Sociology and Psychology
<i>Md Asadullah</i> | 90 |
| 12. Geography in and Around the Shadow Lines
<i>Anisha Kaul & Satya Prakash Prasad</i> | 98 |
| 13. Scope and Significance of the Geography in the Present Context
<i>Panamita Santra</i> | 105 |
| 14. Why Pursue a Career in Geography?
<i>Supriyo Halder and Sandip Mondal</i> | 114 |
| 15. Change Detection in Hydrological Time Series Data
<i>Rupak Kumar Paul</i> | 131 |

SECTION – 2: GEOGRAPHY : THE PHYSICAL ASPECTS

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 16. Geological Investigation and Landslide Mitigation: Tlungvel Quarry
<i>Lalchhanhima, K.S Rao, Lalbiakmawia, & Laltlankima</i> | 167 |
| 17. Global Warming and Pollution of Nature are Caused the Demand of a Large Number of People on the Quality of Life
<i>Sattyaabrata Roy</i> | 173 |
| 18. Impacts of Forest Cover Change on Stream Flow with Reference to the Performance of Terrace Rice in North East India
<i>Tumtin Sonmang Koren</i> | 181 |
| 19. Multivariate Analysis in Management and Planning of Fire Hazards in the KMC Area, West Bengal, India
<i>Sandip Ghosh and Dr. Ashis Kumar Sen</i> | 201 |

SECTION – 3: GEOGRAPHY : THE SOCIO-ECONOMIC ASPECTS

- | | |
|----------------------------------------------------------------------------------------------------------|-----|
| 20. Demographic Profile of the Rohingyas in the Camps of Bangladesh: A Study
<i>Priyadarshini Sen</i> | 229 |
|----------------------------------------------------------------------------------------------------------|-----|

-
21. Levels of Socio-Economic Status of Female-Headed Households in Rural Haryana 241
K.V. Chamar and Seema Sharma
22. Handlooms for Subsistence and Rural Development—Its Challenges in Today’s Scenario: A Case Study in Dhaniyakhali and Samaspur Village, Hoogly 255
Mst Tania Parveen
23. Impact of Covid-19 Crisis on Informal Workers in India 265
Anurupa Saha
24. Post Globalization Urban Growth and Land-Use Change: A Case of Kolkata Metropolitan Area 277
Amanat Ali
25. Present and Future Scenario of Jute Cultivation in West Bengal and Shifting Nature of Cultivable Land from Jute to Food Crops: A Case Study of Manirampur Village, Hooghly, West Bengal 288
Amar Nath
26. Regional Disparities in the Level of Socio-Economic Development: A Block Level Study of The Sundarban Region in West Bengal, India 299
Bholanath Das
27. Pandemic Outbreak: Environmental Education As A Key Strand for Sustainable Development 311
Urna Bhattacharjee
28. Geographical and Socio Impact-Combination of Oriental and Company Painting in Kalighat 319
Chandrima Das
29. Trend and Types of Rural-Rural Migration in West Bengal: A Decadal Analysis 328
Dr. Nafisa Banu

Change Detection in Hydrological Time Series Data

Rupak Kumar Paul

Abstract: Scientists are accustomed to use statistical tools and techniques to detect change in hydrological time series, but these available techniques are not the panacea for resolving such issues since the concerned techniques provide expressions of probability and not certainty. For instance, the change in annual discharge has been detected for long term dataset but this change might not be due to alteration of any one or more components – like land use land cover, or climate or change in agri-technology – of the system in basin scale, rather it happened due to change in methodology of concerned data generation or shifting of gauge station etc. So, there is always the chance to detect change while it is not there in reality as the statistics merely provide the evidence, not the proof. Until and unless geographical knowledge is used to substantiate the outcome of statistical analysis, the result of change detection cannot be justified. Moreover, different methods identify different change points for the same time series. So, very often more than one method of change detection is required to be applied and ultimate decision making becomes subjective depending on the geographical condition of the basin. So, one should be very cautious about the applicability of the available tests when these are being applied to detect any change in hydrological time series. Here, an attempt has been made to make a documentation of these statistical tests along with a brief discussion on the applicability of each.

Introduction

Trend detection is one of the key components of hydrological study as natural system is rarely proved to be stationary in the long run, although