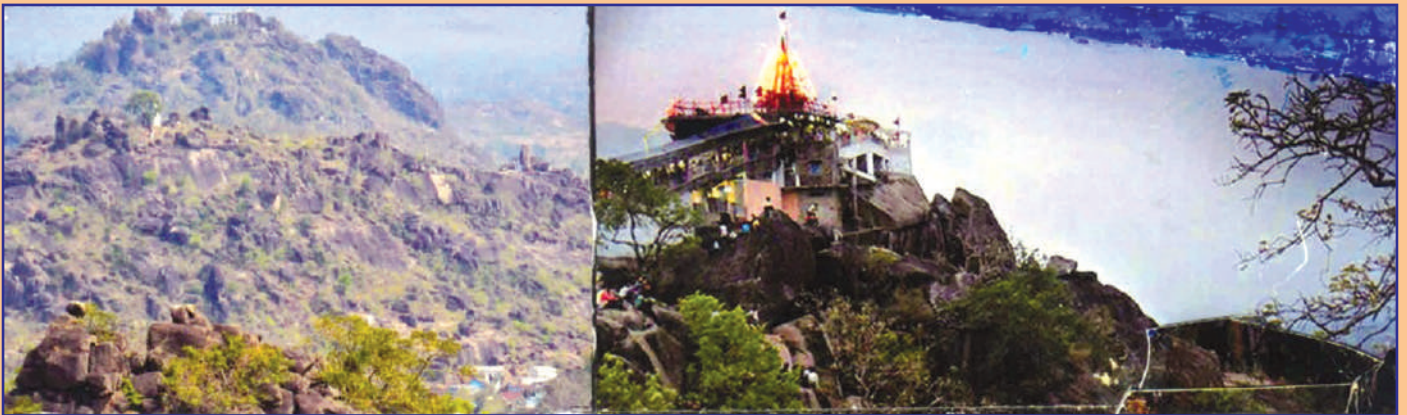


Researches
in
GRANITES OF INDIA
(BASIC EARTH SCIENCE SERIES)
VOL - I
(Genesis, Mineralization and Economics)
A Review of Researches Carried out by Hon.

Prof. (Dr.) D.P. KUIITY



REVIEWER

Prof. (Dr.) U.C. SINGH

Formerly Head, SOS in Earth Science,
Jiwaji University, GWALIOR (M.P.)

CHIEF EDITOR

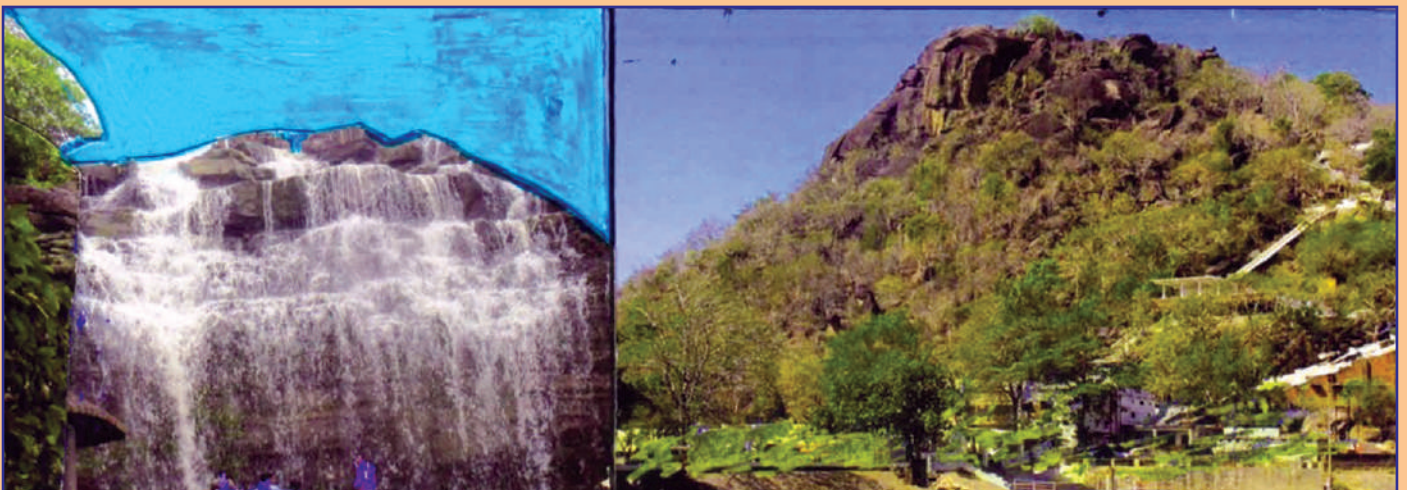
Prof. (Dr.) S.S. BHADAURIA

Head, Deptt. of Geology,
Govt. NPG College of Science
(Pt. RSU) Raipur C.G.

Editor

Dr. H.D. DIWAN

(Remote Sensing) M.Tech (NIT), PhD.
PGDRS, IIRS (Dehra Dun)



Researches
in
GRANITES OF INDIA
(BASIC EARTH SCIENCE SERIES)
(Genesis, Mineralization and Economics)

A Review of Researches Carried out by Hon.
Prof. (Dr.) D.P. KUIITY

VOL – I

Reviewer (Dr.) U.C. Singh Formerly Head SOS in Earth Science Jiwaji University Gwalior (M.P.)	Chief Editor Prof. (Dr.) S.S. Bhadauria Head, Deptt. of Geology Govt. NPG College of Science (Pt. RSU) Raipur (C.G.)
---	--

Editor
Dr. H.D. DIWAN
(Remote Sensing) M.Tech, (NIT), PhD.
PGDRS, IIRS (Dehra Dun)
M.A. (History), CDM, CHR (IGNOU), New Delhi



Publisher :
Aditi Publication, Raipur, Chhattisgarh, INDIA

GRANITES OF INDIA
(BASIC EARTH SCIENCE SERIES)
(Genesis, Mineralization and Economics)

Year: **2023**
Edition - **01**

Editor
Dr. H. D. Diwan
Raipur, Chhattisgarh, INDIA

ISBN : **978-93-92568-59-6**

Copyright© All Rights Reserved

No parts of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of original Editor.

Price : Rs. **6250/-**

Publisher & Printed by:

Aditi Publication,

Opp. New Panchajanya Vidya Mandir, Near Tiranga Chowk,
Kushalpur, Raipur, Chhattisgarh, INDIA

+91 9425210308

Dedicated
To
Aditi Nandan-Kashyap Nandan
Lord Surya Narayan
“तमसो मा ज्योतिर्गमय”

FOREWORD (Reviewer - Perception)

Prof. (Dr.) U.C. SINGH
Formerly, Head, S.O.S.
in Earth Science,
Jiwaji University (M.P.)



In the Cratonic regions of continents the Granite and Granitoid Rocks have their own importance as the super imposing crustal rocks and metallic mineral resources. The volume incorporates the researches carried out by Prof. (Dr.) D.P. Kuity, during his Academic Programmes and Research Projects assigned by various National and State Govt. organizations viz. UGC, CSIR, CGCOST etc. in the field of Tectono – Lithological – Geochemical Variations in Granitic Terrain including Archaean TTG and Granitic Green stone Terrains particularly south of Central Indian Tectonic Zone (CITZ) from the Bastar Granite to North of CITZ – Singhbhum Granites, Saphatola, Gaya, Bihar. The Petro chemistry, Origin and evolution of Granitic massifs have been elaborated with metallic mineralization in structurally controlled magmatic suits. The Archaean – Proterozoic Transition (APT) nature of Central India Dongargarh and Malanjkhanda Granitic rock massif Batholithic Boss and Pendant (roof) establishes the Granitic Gneissic complex. The economic Tin ore minerals (cassiterites) and the Commercial Grade Granites have also been briefly described. The interception of cassiterite Tin ore deposits mineralization and polymetallic minerals of strategic importance embedded in the host rocks. The volume contains useful data interpretation of Geochemistry and Mineral Deposits are useful for the students, professionals and researchers related to this field.

The review of research works of Faculty member of an University is a tedious and, painstaking task as well as congestive too, but it could come over in a easy mode of conversation and presentation efforts made by my research students the Chief Editor (Dr.) S.S. Bhadauria and Editor Dr. H.D. DIWAN.

The output of volume BES Series I, might be beneficial for researches of forth coming geo science workers.



Prof. (Dr.) U.C. SINGH
(Reviewer Vol. I)
BES Series

CONTENTS

	PREFACE	
	CHAPTERS	
I.	INTRODUCTION	1-37
II.	GRANITES OF CENTRAL INDIA	38-58
III.	EVOLUTION OF DONGARGARH GRANITES	59-84
IV.	GENESIS OF BASTAR GRANITOIDS	85-112
V.	GRANITES AND PEGMATITES OF BIHAR	113-135
VI.	TIN MINERALIZATION	136-173
VII.	ECONOMIC ASPECTS OF GRANITE TRADE IN INDIA	174-186
	REFERENCES	i-xv

PREFACE

Researches in Granites of India, Vol. I, Edition 2023, intend to present the field investigations, of rocks, observations and findings in the long tenure of field work with various academic programmes of knowledge, pioneered by Prof. D.P. Kuity, an eminent Petrologist now permitted Intellectual Property Rights (IPR) and assigned the Editor to bring out the extract of findings for readers usage and benefits. A concise and perspective view has been made in the Edition with giving proper illustrations to understand the Granitic Terrain in a scientific and collaborative sense of the resources. The central region of India, comprises Maharashtra, Madhya Pradesh, and Chhattisgarh has its own importance in the field of Petrology due to presence of CIS. The evolution of Dongargarh granites has been a controversial matter in the mode of emplacement but it is now believed by establishment of new searches as Batholithic intrusion with basic and stocks emplacement of Granite massifs. To achieve the geological objectives like identification, demarcation and associated mineralization with igneous activity, the regional studies carried out during research tasks in a vast track of granites. It has been mapped in detailed geological investigation of potential zones by large scale RF 1:10,000 & 1:25,000. The Granites are widely distributed in the different

continents as major plutonic mode of igneous origin, constituted as basement rock. Origin of a particular granite is always a debatable matter because it shows coarse grained characters. The process of granitization is also put forward for the origin of granites & granitic rocks. The term granite has been used to designate any granular plutonic rock which may include granites, syenites, monzonites, granodiorites, gabbro etc. Genesis of Bastar Granites lies its importance due to rich in mineralized belts in cratonic shield segment of Earth's crust. The tectonic and structural feature controls the valuable mineralized zones. It is incorporated in the present context of work to interpret the quantification of major elements and chemical variations exists in Pegmatites and associated rocks of Hazaribag, Granites of Gaya, Bihar, and Malanjkhand, M.P. It is envisaged the trend of economic aspects & trading utilization of raw materials for future demand of resources.

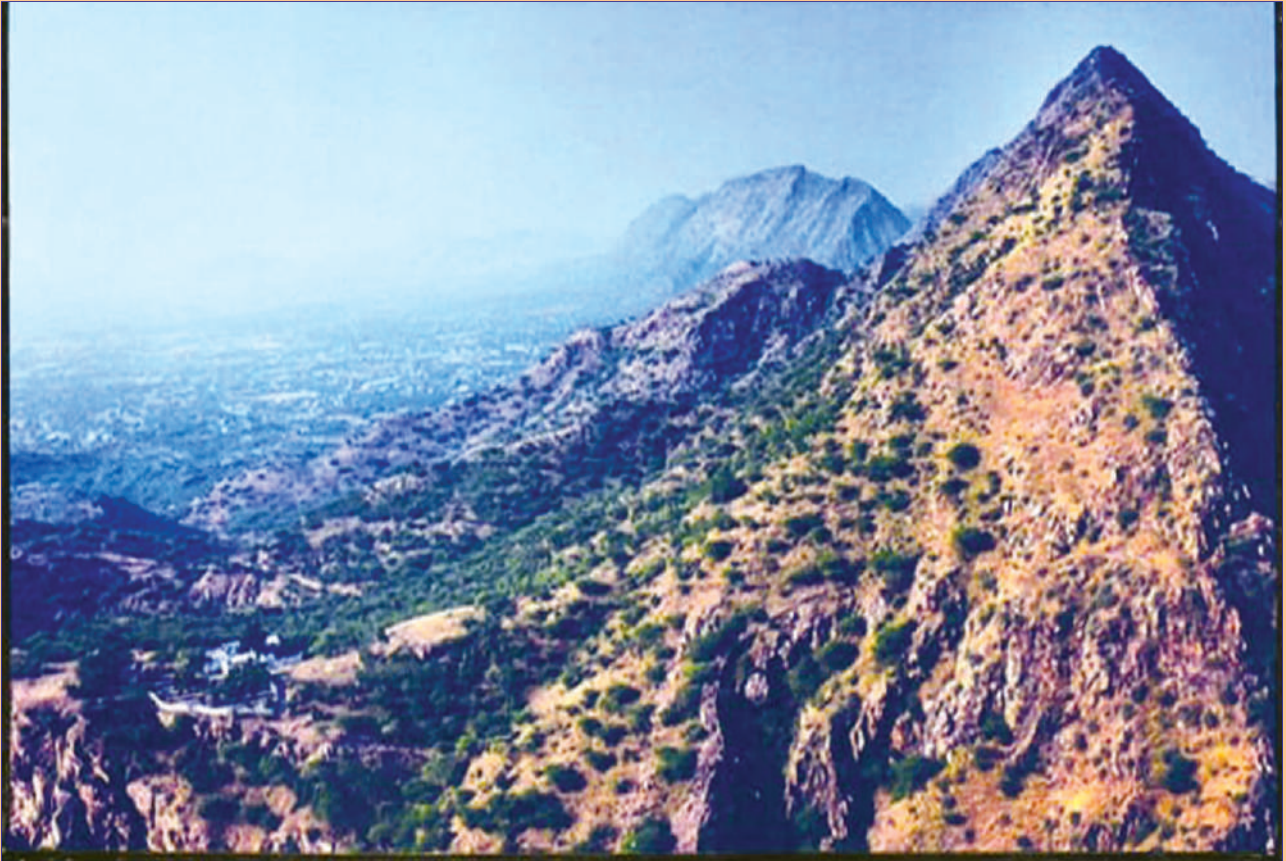
Edition, 2023

EDITOR
Dr. H.D. DIWAN

ACKNOWLEDGEMENTS

The Editor wish to express his deep sense of gratitude to Omnipotent Nature for her kindness.

The Editor is highly thankful to Prof. (Dr.) Durga Pada Kuity and his family members for their constant encouragement and support.



Know about
Prof. (Dr.) S.S. Bhadauria
Head, Deptt. Of Geology,
Govt. NPG College of
Science, (Autonomous)
Raipur, C.G. State, India

Prof. (Dr.) S.S. Bhadauria, M.Tech., Ph.D. is an eminent teacher of Geology and researcher for three decades. He has carried out extensive researches in the field of Granitic Terrains of Bastar Region and a life member of Society and Associations, IAH, IWRS Roorkee etc. He is also a recipient of National Scholarship and Talent, got meritorious positions during his graduation and Post Graduation studies in Pt. RSU., and still continuing participation in Research publications and academic activities at National and international levels. He has published more than 15 research papers in National and 20 in International Research Journals.

ISBN : 978-93-92568-59-6



Aditi Publication

Aditi Publication

Opp. New Panchjanya Vidya Mandir, Near Tiranga Chowk,
Kushalpur, Dist.- Raipur-492001, Chhattisgarh
shodhsamagam1@gmail.com, +91 94252 10308



9 789392 568596

₹ 6250