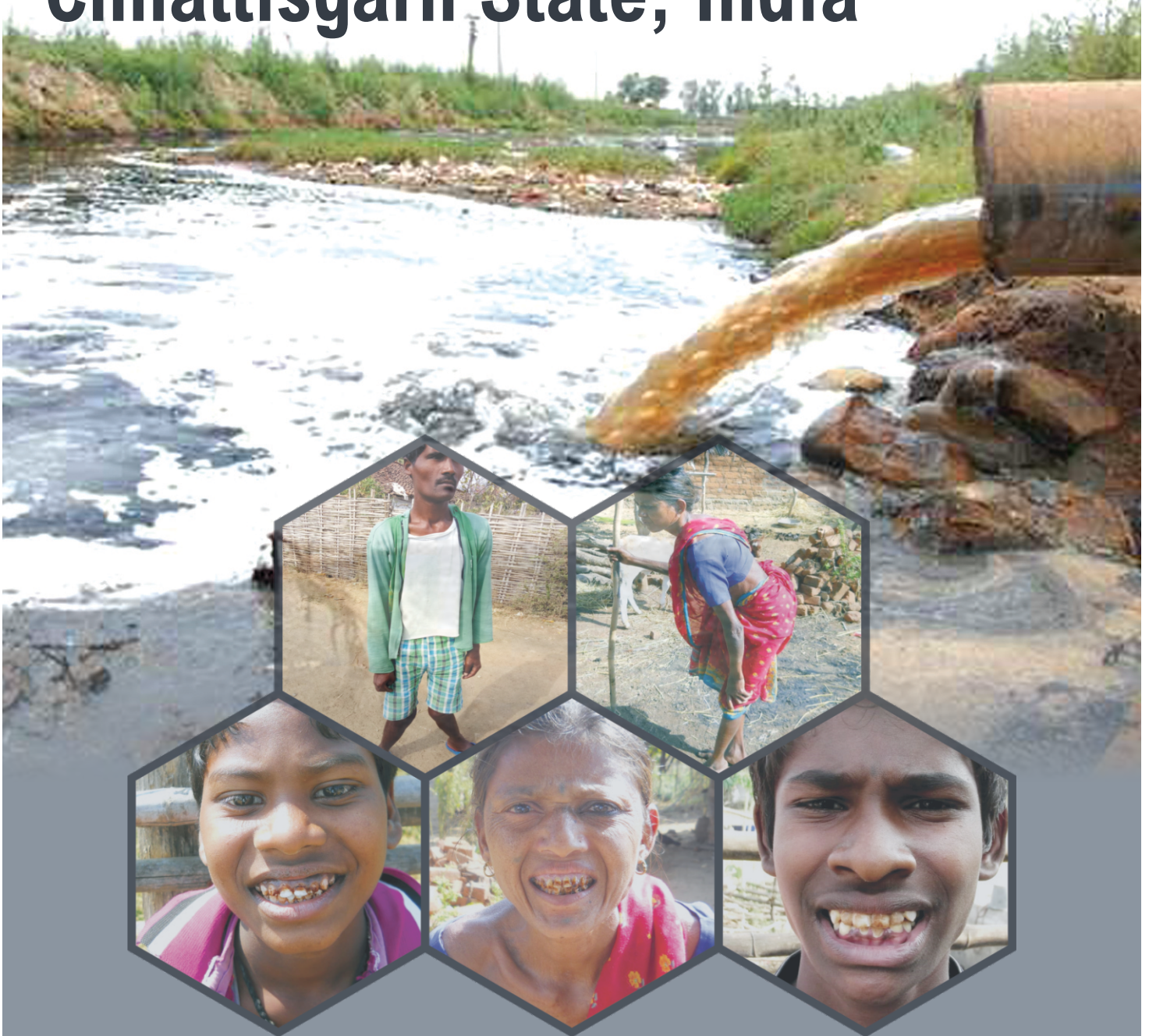


ISBN : 978-93-92568-10-7

# Fluoride Contamination in Groundwater of Bastar Region Chhattisgarh State, India



Dr. Korsu Munna ● Dr. Rajeeva Guhey

**Fluoride  
Contamination in  
Groundwater of Bastar  
Region Chhattisgarh  
State, India**

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Aditi Publication

Publisher :

**Aditi Publication, Raipur, Chhattisgarh, INDIA**

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Bastar Region Chhattisgarh State, India**

Year : **2022**

Edition - **01**

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ISBN : **978-93-92568-10-7**

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Price : Rs. **399/-**

Publisher & Printed by :

**Aditi Publication,**

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

+91 9425210308

## *P*reface

The authors had the idea that the information should be shared in society while conducting their dissertation research on fluoride contamination studies in several areas of the Bastar district. To produce this book, efforts were undertaken with this great idea. The Registrar of Pt. Ravishankar Shukla University, Raipur, who gave permission for the thesis to be published, is gratefully acknowledged by the authors. The authors are also thankful to the Principal, Government Nagarjuna Post Graduate College of Science, Raipur for his constant encouragement and support.

Even when water is plentiful, our country continues to suffer from a lack of water in various regions and water pollution. Contamination has been a persistent issue, particularly in rural regions. We've also observed rural ladies travelling vast distances in the early hours of the morning to bring a few pots of polluted water over their heads. They appear to have no option as well. We all know that water is the elixir of life, and that drinking dirty water causes 80% of health issues. During our assessment, we discovered that there are several pollutants in the water that these impoverished communities drink. They lack information and expertise about the dangers of consuming polluted water. Bacteria pollute surface water in lakes, rivers, ponds, and even wells, causing cholera, typhoid, hepatitis A and E, encephalitis, gastroenteritis, diarrhoea, TB, giardiasis, and jaundice, among other diseases. Apart from the bacterial element, the most

prevalent pollutants in other regions of India include high levels of fluoride. Fluoride damages bones and causes fluorosis; it cripples, discolours teeth, and deforms bones, causing them to become brittle; it causes bow legs in children and adults. Women suffer uterine troubles.

Contamination is a massive challenge that demands devoted individuals, scientific surveys, study, planning, massive finance, and the construction of proper equipment, distribution systems, and maintenance management. It is normally difficult for us to have all of these combinations. This is one of the reasons why so many facilities have been established but are now inactive or dead for one reason or another. Government organisations are trying hard to solve the fluoride contamination in drinking water. The problem is acute in various states of India where the aquifer rocks are of granitic, and metamorphic origin. Apart from Government initiatives, some non-government organisations have also come up to help the villagers. In this category, we must mention the initiative taken by various organisations such as Sri Sathyasai Seva Organisation, India. It is a spiritual organisation and dedicated for village/gram seva. The organisation has constituted a Technology Group for providing simple & permanent techno solutions for enhancing the quality of life of the poor villagers. Their community level success model can be adopted by other states including Chhattisgarh.

Raipur

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Korsa Munna  
Rajeeva Guhey

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## List of Abbreviations and Description

S.No.	Symbols	Description
01	mg/l	Milligram per liter
02	meq/l	Milliequivalent per liter
03	$\mu\text{S/cm}$	Microsiemen per centimeter
04	$^{\circ}\text{C}$	Degree Celsius
05	EC	Electric Conductivity
06	TDS	Total Dissolved Solids
07	$\text{HNO}_3$	Hydrochloric Nitric Acid
08	m	Meter
09	mm	Milli meter
10	Km	Kilometer
11	mbgl	Meter below ground level
12	pm	Picometer
13	DGM	Directorate of Geology and Mining
14	amsl	Above mean sea level
15	CGWB	Central Ground Water Board
16	WHO	World Health Organization
17	IMD	India Meteorological Department
18	ICAR	Indian Council of Agricultural Research



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