

A. N. Kholsa Lecture Series

Department of WRDM organized A.N. Khosla Memorial Lecture Series in the memory of Padma Vibhushan Dr. A.N. Khosla on "River Water Disputes" by Prof. K.G. Ranga Raju on August 19, 2019, IIT Roorkee.

The Department of Water Resources Development and Management was established in 1955 as a training center in water resources development for Asia, Africa, and the Far East countries. The center was established at the University of Roorkee on November 25, 1955, and was founded by Dr. A N Khosla. The initiative to develop this center came from Dr. P.S. Lokanathan, Executive Secretary of ECAFE, and Dr. Shen-Yi, Chairman of the Flood Control Division of ECAFE. They have been in constant consultations since 1951 with Dr. A.N. Khosla, then Chairman, Central Water and Power Commission, and later Vice-Chancellor of Roorkee University. It was finally decided to establish, with the help of the Government of India, a Water Resources Development Training Centre (referred to as WRDTC) at Roorkee, as an integral part of the University of Roorkee.

The first course started on April 02, 1956, and was completed on March 31, 1957. The department has contributed substantially to building various water resources projects in India like Bhakra, Hirakund, Idduki, Indira Sagar, Kota Barrage, and Tehri dam. The faculties of this department have achieved the highest positions in the country and have been well recognized at the National & International levels.

Therefore, the endowment lecture series has been initiated in honor of Dr. A N Khosla, the founder-director of this department. Dr. Ajudhia Nath Khosla was a well-known civil engineer turned politician. He was the Chairman of the Central Waterways Irrigation and Navigation Commission (Now Central Water Commission) of India. Dr. A N Khosla worked as Vice-Chancellor of the University of Roorkee from 1954 to 1959. He was awarded the Padma Bhushan in 1954 and the Padma Vibhushan in 1977. He was a member of the Rajya Sabha and was the 11th Governor of Odisha.


As an engineer, Er. A N Khosla served in the following prestigious positions :

- He was appointed as the first Chairman of the newly constituted Central Waterways, Irrigation and Navigation Commission (Now known as Central Water Commission) in 1945.
- He established the Central Water and Power Station at Khadakvasla (earlier known as Poona Research Station)
- He was instrumental in the construction of Bhakra Dam and later served as Chairman of the board of Consultants of Bhakra Control Board until its commissioning in 1963.
- He undertook planning, design, and construction of Hirakud Dam, a major Water Resources Project in India.


- He was the president of the Indian National Science Academy during 1961-62.
- He was instrumental in bringing about several agreements on negotiations for Indus Water Dispute with Pakistan.
- As an educationist, he was the first Indian Vice-Chancellor of the Thomason College of Civil Engineering (later renamed as the University of Roorkee and now the IIT Roorkee).
- He was the founder of two specialized engineering departments, i.e., The Water Resources Development Training Centre and the School of Research and Training in Earthquake Engineering, which have made the UoR internationally well-known.

Recognizing his contributions, the UoR Conferred the honorary D.Sc. Degree to him in 1959. He was also awarded D.Sc degrees (Honoris Causa) by Rensselaer Polytechnic Institute, USA, and various universities such as the University of Punjab, Sambalpur University OUAT, Bhuvneshwar, Jadavpur University, and IIT Delhi. The government of India recognized his contributions and awarded him the most prestigious Shanti Swarup Bhatnagar Prize in 1974. He completed his life in 1984.

First Lecture in this series by Prof. K.G. Ranga Raju



Department of Water Resources Development & Management
*introduces the **A N Khosla Memorial Lecture Series***
*in the memory of **Padma Vibhushan Dr. A N Khosla***




Date: 19th August, 2019 (Monday) Time: 04.00 PM, Venue: O P Jain Auditorium, Deptt. of Civil Engineering, IIT Roorkee

- Founder Director of Water Resources Development & Training Centre (WRDTC)
- First Indian Vice Chancellor of University of Roorkee
- Founder Chairman of Central Water Commission (CWC), Central Water & Power Research Station (CWPRS)
- Instrumental in Indus Treaty, Construction of Bhakra and Hirakund Dams
- Padma Bhushan (1954) and Padma Vibhushan (1977)
- 11th Governor of Odisha

RIVER WATER DISPUTES

Water is one of the most important natural resources that plays a major role in sustainable development. River basins do not recognize the man-made administrative boundaries. In order to have effective and best utilization of water resources, it is desired to share the river basin water among the man-made boundaries on a reasonable basis without causing significant harm to others in a spirit of goodwill, friendship and cooperation. The speaker has been fortunate to have been associated with the conflict resolution of some of the River water disputes at the National and International levels. Resolution of such disputes involves addressing technical and legal issues apart from understanding the political implications. The present talk focusses four such disputes, which are: Varuna Canal-an Inter-district dispute, Krishna River-An Interstate dispute, Baglihar and Kishenganga Dam-International Disputes between India and Pakistan. The two International Disputes needed to be resolved within the ambit of the Indus Waters Treaty. The talk will focus on the issue, approach for resolution and the end result.


Brief Bio of Prof. K G Ranga Raju



(1892-1984)

Prof. K.G. Ranga Raju born on 8th July 1942 is an outstanding teacher and researcher, who did his B.E. (Civil) from Mysore University, Masters and Ph.D. from the University of Roorkee, Roorkee in 1963 and 1967. He was the Deputy Director at IIT Roorkee and has held several positions such as Head of the Civil Engineering Department, Dean of Academics Affairs, Dean of Student Welfare, and Pro Vice Chancellor of the University of Roorkee. He is the recipient of Arthur Thomas Ippen Award of IAHR (1985), CBIP Golden Jubilee Award (1994), Khosla International Award (2000), Outstanding Teacher Award (2004) and Life Time Achievement Award of Indian Society of Hydraulics. Prof. Ranga Raju was member of the various National and International level expert committees. He was member of the Indian delegation which presented the India's case in the Baglihar Dam Dispute and Kishenganga Arbitration with Pakistan at international level. He was also the advisor to the Govt. of Karnataka in Cauvery, Krishna and Mahadayi Water disputes and acted as advisor to Govt. of Andhra Pradesh and Haryana for resolving various water disputes. He has guided several research scholars and published more than 170 papers in different journals and has written 2 famous books on Flow Through Open Channels and Mechanics of Sediment Transportation and Alluvial Stream Problems

Second Lecture in this series by Er. M. Gopalakrishnan




Department of Water Resources Development & Management

2nd A N Khosla Endowment Lecture

in the memory of **Padma Vibhushan Dr. A N Khosla**

Date: December 16, 2020; Time: 4:00 PM through Webex



(1892-1984)

- * **Founder Director of Water Resources Development & Training Centre (WRDTC)**
- * **First Indian Vice Chancellor of University of Roorkee**
- * **Founder Chairman of Central Water Commission, Central Water & Power Research Station**
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- * **Padma Vibhushan (1977) and Padma Bhushan (1954)**
- * **14th Governor of Odisha**

A New Vision for System of Water Governance in India


A numbers of judgments by the Hon'ble Supreme Court of India in recent times call upon the States to conserve and preserve water resources and share it to other co-riparian, given the acute shortage of surface water and river flows, and the decline in ground water level. Increasingly, it is felt that the existing legislations on water are inadequate in meeting the aspirations of the States; and, a new legislation that enable the States which share river basins should be brought in by the Centre. And, it would be expedient in the public interest that the Central Government take under its control the regulation and development of inter-State rivers and river valleys to the extent required, to enable optimal Water Management.

About the Speaker -

Er. M. Gopalakrishnan FNAE, Hon Fellow AWRE, FIE (Ind), ME Hons WRD, UoR.

Er. Gopalakrishnan is an alumnus of IIT Roorkee. He obtained Khosla Gold Medal for his ME Hons in 1977 and the University Gold Medal in PG Dip in WRD. He had served Central Water Engineering Services for nearly 36 years & after retirement held the prestigious position of Secretary General, International Commission on Irrigation and Drainage for 9 years. His role to enhance ICID's image with other global organizations like IWMI, ICOLD, FAO, WWAP and Global Water Partnership was commendable. He is well-known to the global community on water with his past links with World Water Council (2004-06) as one of its Governors, representing ICID. He had been contributing to other lead global groups including UN-Water of UNESCO as a member of the Technical Advisory Committee in its inception and helped in shaping successive World Water Development Reports in earlier decade.

He is a recipient of the 'Lifetime Achievement award' from the American Academy of Water Resources Engineers. He was inducted as a Fellow of Indian National Academy of Engineering (FNAE) in 2011. Er. M. Gopalakrishnan had in the recent past, led Indian Water Resources Society as its President and received Lifetime Achievement Awardee in 2017. To strengthen the Energy Division of National Institute of Advanced Studies Bengaluru (NIAS) he was conferred the status of honorary Adjunct Professor of NIAS, Bangalore.



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Live streaming on IIT Roorkee Facebook page
(<https://www.facebook.com/IITRoorkee.ICC/>)

Webinar Link: <https://iitroorkee.webex.com/iitroorkee/onstage/g.php?MTID=e9f2ad06c87beb7ff76975ae18aded0fd>

Meeting number: 158 827 9746 Meeting password: @1234Abcd

Third Lecture in this series by Prof. Asit K. Biswas




Department of Water Resources Development & Management

3rd A N Khosla Endowment Lecture

in the memory of **Padma Vibhushan Dr. A N Khosla**

Date: September 29, 2021; Time: 15:00 (IST) through Webex



(1892-1984)

- * **Founder Director of Water Resources Development & Training Centre (WRDTC)**
- * **First Indian Vice Chancellor of University of Roorkee**
- * **Founder Chairman of Central Water Commission, Central Water & Power Research Station**
- * **Instrumental in Indus Treaty, Construction of Bhakra and Hirakund Dams.**
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Moving India's Water Management from Unsustainable to a Sustainable Path: Opportunities and Challenges


India's water use and management practices have been on an unsustainable path since its independence in 1947. By 2021, the population has risen to 1.4 Billion, and by 2027 is predicted to overtake China. In 1960, about 18% of the population lived in urban areas, which has doubled by now. The GDP was around \$37.03 billion in 1960, reaching an all-time high of \$2,874 trillion by 2019. Sadly, India's water management practices have improved only marginally. The situation has worsened because water institutions have consistently neglected water quality issues. In addition, during the past seven decades, India's policymakers were active only when there were extreme events. Additionally, three versions of the National Water Management Policy were poorly conceived, and at best, represent a wish list.

India is now facing a perfect storm on water management. The latest policies are improvements but still decades behind time and knowledge. Continuous overexploitation of groundwater has meant that the Indo-Gangetic aquifer is the second most depleted in the world. Already one of the most severe issues globally, water pollution will become increasingly more so on current trends. Water management is not rocket science. For example, one institutional reform may solve 60% of water problems in major urban centers within 4-6 years, without any additional cost. The rest, 40%, can be solved within another 4-5 years with the existing levels of funding and capacities. The focus has to shift from improving marginally "business as usual" practices to implementable "business unusual" practices. The lecture will highlight many out-of-the-box solutions to transform India's water management practices from unsustainable to sustainable ones within around one decade. However, for this to happen, solid political support is indispensable. Sadly, there is no sign that this will be forthcoming until a significant water crisis occurs at substantial social and economic costs.

Brief Bio of Prof. Asit K. Biswas Distinguished Visiting Professor, University of Glasgow, UK

Prof. Biswas is universally acknowledged as one of the world's leading authorities on water, food, environment, and development-related issues. He holds multiple positions in eminent bodies such as a member of the International Advisory Board, Pictet Asset Management, Geneva; member of the Advisory Board, IIT Kharagpur; and Strategic Advisor, Singapore International Water Week. He has a distinguished career as an academic; senior public official in Canada; advisor and confidant to Presidents, Prime Ministers, and Ministers in 23 countries, six Heads of United Nations Agencies, two Secretaries-General of OECD, several Heads of bilateral aid agencies, and four CEOs or Chairmen of MNCs in Fortune 500 list.

Among his numerous awards are the Crystal Drop and Millennium Prizes of the International Water Resources Association; Walter Huber Prize of the American Society of Civil Engineering; Stockholm Water Prize; "Person of the Year" award from Prime Minister Harper of Canada; and Aragon Environment Prize of Spain. Reuters identified him as "one of the top 10 water trailblazers of the world", while Impeller magazine selected him as a "true global water hero." He founded the International Journal of Water Resources Development and was its Editor-in-Chief for its first 29 years. He has received seven Honorary Doctorates of Technology or Engineering from leading global universities, including Glasgow and the University of Strathclyde. He is the author or editor of 89 books as well. His opinion pieces in various global media are now read by some 1.74 million readers annually worldwide.



WebEx Meeting number: 2642 068 9558 Meeting password: IITWRDM2021

Live streaming on IIT Roorkee YouTube page : <https://www.youtube.com/c/IITRoorkeeOfficialChannel>



Department of Water Resources Development & Management

4th A N Khosla Endowment Lecture

in the memory of Padma Vibhushan Dr. A N Khosla

Date: January 19, 2023; Time: 11:00 AM at O.P Jain Auditorium, IIT Roorkee



(1892-1984)

- * Founder Director of Water Resources Development & Training Centre (WRDTC)
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Promotion of Water Harvesting and Voluntary Afforestation through Traditional Indian Knowledge System

Climate change is causing an increase in the precipitation intensity and a decrease in the number of annual rainy days as well as the average storm duration. The role of vegetation in general and forests in particular, in maintaining ecological balance is well established. Nevertheless, over the past several decades, tree cover is continuously decreasing in substantial parts of the world, mainly due to deforestation caused by human beings. Simultaneously, there is also a steady increase in greenhouse gases in general and carbon dioxide in particular. The main reasons for this phenomenon are the emissions from fossil fuel combustion and/or aerosol generation and/or cement manufacturing. Things have reached such an alarming level wherein the Himalayan Kingdom of Bhutan is the only carbon-negative nation in the world. Even some of the best management practices (BMPs) adopted in Arctic Norway/Alpine Switzerland/ Mediterranean Israel/ Equatorially located Singapore have not helped them to transform into carbon-negative nations so far. Based on the traditional Indian Knowledge System (IKS) on precipitation, it should definitely be possible to combat climate change, at least sporadically, to create additional carbon-neutral and/or carbon-negative nations/ regions.

Brief Bio of Prof. Venkappayya R Desai, Director, IIT Dharwad and Former Dean of Faculty of Engg. and Architecture (FoEA), IIT Kharagpur



Prof. Venkappayya R Desai is an Academician with 33+ years of teaching experience, out of which 27+ years have been at the Indian Institute of Tech, Kharagpur, West Bengal. He obtained his BE (Civil) degree in 1983 from BVB Engg. College, Hubballi, Karnataka; M Tech (HWRE) degree in 1986 from Karnataka Regional Engineering College, Surathkal; Ph.D. in Civil Engineering in 1993 from Clemson University in S Carolina, USA. At the National level, he is now serving as a NAAC Academic Advisory Committee member, as an Executive Committee member for AICTE in New Delhi and Visweswaraya Technological University in Belagavi, Karnataka; as a Board of Governors Member for NITTTR, Kolkata, West Bengal, and IISER, Thiruvananthapuram, Kerala, to name a few.