## B. RAVI KUMAR **PILLAI**

PH.D. (MGMT.), M.B.A. (FIN.), M.TECH. (STR. ENG.), B.TECH. (CIVIL)

Professor of Practice

International Centre of Excellence for Dams

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### **CURRICULUM VITAE**

## 1 CAREER OBJECTIVE

To leverage technical and managerial strengths acquired over 37 years of professional career in aligning the management of dams and related infrastructure with the safe and sustainable development, focusing on:

- Integrated planning enhancing benefits and minimizing risks
- Environmentally and financially sustainable infrastructure
- Impacts of climate change, and climate resilient solutions
- Stakeholder oriented institutional strengthening

## 2 AREAS OF EXPERTISE

- a) Specialization in dams and water resources sector:
  - (i) Planning & designing of dam based solutions for water stress
  - (ii) Dam inspections, investigation of distress, inquiry of failures
  - (iii) Safety assessment, emergency planning & disaster management
  - (iv) Design & execution of interventions for dam rehabilitation
  - (v) Institutionalization of risk based dam safety management
  - (vi) International best practices, constitutional/ statutory aspects
  - (vii) Climate change impacts, and Climate resilient infrastructure
  - (viii) Financial sustainability of irrigation and hydropower projects
  - (ix) Management of multistate projects, international ramifications
  - (x) Water sharing disputes, environmental impacts, R&R issues
  - (xi) Participatory irrigation management (PIM)
  - (xii) Integrated river basin management
  - (xiii) Bridging knowledge gap, dissemination, and training
  - (xiv) Adept in structural/hydro-mechanical/geotechnical engineering
  - (xv) Adept in hydrology/hydraulics/investigation/instrumentation
- b) Management related specialization:
  - (i) Risk management, Policy planning and Strategies
  - (ii) Project management including Contract management
  - (iii) Financial management including Viability analysis
  - (iv) Human resource management including Capacity building
  - (v) Stakeholder management including Conflict management
  - (vi) Organizational development, and Change management
  - (vii) Adept in Computer Programming, and leveraging of IT tools
  - (viii) Adept in Negotiations, Management discussions, and Trainings

### c) Notable achievements:

- (i) Legislation of the 'Central Dam Safety Act (2021) of India'.
- (ii) Formulation and execution of the World Bank funded 'Dam Rehabilitation & Improvement Project (DRIP)'.
- (iii) Conceptualization and streamlining of the annual '*National Dam Safety Conference*'; Organizing of first three conferences.
- (iv) Works of dam construction; Monitoring of ongoing projects; Investigation/ appraisal of new dams; Structural & hydrological studies of dams; Safety inspection and Retrofitting of dams.
- (v) Promotion of people inclusive dam safety; Collaboration with dam owners/ academicians / technology providers/ industries.
- (vi) Nation-wide dam safety institutional strengthening.

(Details of the broad-areas of experience given in **Annexure-I**)

# 3 RESEARCH & DEVELOPMENT

- a) Investigations and Finite Element Method (F.E.M.) based studies of dam distress, and proposals on remedial actions, for: (i) unusual behaviour and distress condition in Idukky Arch Dam; (ii) thermal cracks in Konar Dam.
- b) Developed the tool for *Integrated River Basin Evaluation (IRBE)* as a framework for measuring impact of water resource development and management in basin parts, and assimilating these measures to assess overall impact at the larger river basin level. The framework published by the World Bank as *SAWI* Discussion Note is meant for bringing synergy in River Basin Management (RBM) between cobasin states and/or countries.
- c) Designed a heuristic *Stakeholder Model* to categorize stakeholders along the lines of beneficial and adverse effects, and gauge their capacity to influence changes in the course of project development. It serves as a powerful tool for the investigation, prognostication, redressal, and management of stakeholder issues.

## 4 INFORMATION TECHNOLOGY

- a) Conceptualized, developed and implemented the 'Dam Health and Rehabilitation Monitoring Application (DHARMA)' as a web-based software with decentralized controls. The software enables multilateral collaboration of all dam owning/ operating/ maintaining agencies in creating and managing the nation-wide inventory of India's dam assets and the dam health data.
- b) Developed Computer Aided Design tools for: (i) F.E.M. solution, (ii) various types of Dam Gates, (iii) Spillway Bridge.
- c) Developed Command Area Development & Water Management (CADWM) portal with comprehensive management/ stakeholder information, and tools for online processing of Central Assistance.

# 5 TEACHING & TRAINING

- Faculty for organizations and academic institutes, including: Indian Institute of Management (Ahmedabad), BITS (Pilani), NIT (Calicut).
- Visiting faculty for MBA in MS University, Baroda.

(Details of the teaching & training experience given in **Annexure-II**)

## 6 ACADEMIC CREDENTIALS

Distinguished qualifications in engineering and management fields from reputed institutions:

Degree	Institute & University	Year	Discipline/	GPA/Marks	Rank
			Specialization	(Maximum)	
Ph.D.	Faculty of Management	2005	Management	Research area:	
	Studies, The Maharaja			Stakeholders' Paradigm for	
	Sayajirao University of Baroda			Management –	-Study of
				Sardar Sarova	r Project
M.B.A.	Faculty of Management	2000	Finance	4.84 (6)	4 <sup>th</sup> rank
	Studies, The Maharaja				
	Sayajirao University of Baroda				
M.Tech.	Indian Institute of Technology,	1993	Structural	9.38 (10)	1st rank
	Delhi		Engineering		
B.Tech.	Regional Engineering College,	1986	Civil	6571 (7750)	University
	Calicut University (presently,		Engineering		1st rank
	National Institute of				
	Technology – Calicut)				

## 7 EMPLOYMENT DETAILS

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/ · v	vears of exp	erience	1n	leadershir	nosifions	inder sev	ven distinct	national-leve	1 organizations:
51	years or exp	CITCHEC	111	readership	position	under se	ven ansumer	national icvc	i oi gainizations.

Organization	Designation	Period	Responsibility	
Indian Institute of	Professor of	01-04-2024	Teaching, Research and sponsored	
Technology Roorkee	Practice	onwards	projects in the International Centre of	
			Excellence for Dams (ICED).	
Central Water	Chief	12-12-2022	Administration, training & financial	
Commission	Engineer	to	matters of CWC with about 3100	
(Delhi)	(HRM)	29-02-2024	regular staff (including 760 Group-A	
			officers) and 1700 work-charged staff.	
Krishna River	Member	01-09-2021	Resolution of interstate conflict, water	
Management Board		to	regulation, and management of	
(Hyderabad)		11-12-2022	common dams of AP and Telangana.	
Ministry of Jal Shakti	Commissioner	31-08-2016	Implementation of central scheme for	
(Delhi)		to	command area development across all	
		31-08-2021	States.	
Central Water	Director	29-04-2005	Drafting and legislation of the Dam	
Commission		to	Safety Bill; Project Director of World	
(Delhi)		30-08-2016	Bank funded DRIP scheme.	
Sardar Sarovar	Assistant	02-12-1998	Project management of dam and	
Constr. Advisory	Secretary	to	hydropower complex of Sardar	
Committee (Baroda)		28-04-2005	Sarovar Project (SSP).	
Narmada Control	Deputy	02-12-1994	Resettlement & rehabilitation,	
Authority	Director	to	environmental mitigation, court cases,	
(Baroda)		01-12-1998	and inter-state aspects of SSP.	
Central Water	Assistant	05-06-1989	Computational analysis and structural	
Commission	Director	To	design of dams and appurtenant	
(Delhi)		30-11-1994	structures; software management.	
National Hydro-	Probationary	05-10-1987	Construction works at dam site of Dul-	
electric Power Corp. Executive		to	Hasti Hydro Electric Project in	
Ltd. (J&K)		03-06-1989	Kishtwar (Jammu & Kashmir).	

## 8 PRESENT PAY

Pay Matrix Level: HAG, Level 15(182200-224100); Basic Pay:Rs.224100

## 9 INTERNATIONAL EXPOSURE

- Professional association with World Bank, ADB, JICA, US Bureau of Reclamation, Japan Water Agency, International Committee on Large Dams, and International Committee on Irrigation & Drainage.
- Bilateral Cooperation with European Union, Australia, Morocco, and Saudi Arabia.
- Delegation/ training visits:

Country of Visit	Period	Area of Exposure
Japan	14-06-2015 to	Dam safety & management
	19-06-2015	measures related to seismic
		hazards
USA	06-06-2016 to	Training (by USBR) on
	17-06-2016	Dam safety and reservoir
		management
Germany	5-11-2017 to	Participation in COP-23 at
	10-11-2017	Bonn, Germany
South Korea	11-11-2018 to	Training (by NIEHRD) on
	21-11-2018	Environmental technology
		with focus on water mgmt.
Morocco	18-06-2019 to	Cooperation on institutional
	21-06-2019	capacity (as leader of
		Indian delegation)

# 10 PAPERS & PUBLICATIONS

Over 30 published papers, including papers in refereed journals.

(Details of the important papers and publications given in Annexure-III)

## 11 OTHER SKILLS AND TRAITS

- Highly skilled in verbal and written communication.
- Fluent in English, Hindi, and Malayalam languages.
- Skilled in presentations and interactive engagement of the audience.
- Self-motivated, result-oriented, sociable and networked.
- Ability to lead and work in teams for time-bound goals.
- Fitness conscious with high level of perseverance.
- Attentive towards nature based solutions, least disruptions to flora/ fauna and topography, meeting needs of the local population, aesthetics in construction, and promotion of dam tourism.
- Strong commitment for the protection of environment.
- Orientated for building strong stakeholder relationships.
- Eye for the innovative water solutions for complex issues of population pressure, socio-political setup, and climate change.
- Proficient in establishing collaborative alliances cutting across boundaries of disciplines and organizations.
- Passion for travelling and exploration of remote dam locations.
- Adapt in handling complexities of change management process.
- Wide exposure of working in multi-cultural environment and partnering with multitude of organizations: state/ central departments, public sector undertakings, academic/ research institutes, multilateral agencies, private companies, philanthropists, NGOs, civil societies, farmers group etc.
- Proven ability for negotiating multiple stakeholders with diverging viewpoints – leveraging strength of knowledge, courage of conviction, drive for results, and establishing win-win possibilities.

#### 12 FAMILY

- Spouse is Chief General Manager in Indian Oil Corporation Ltd.
- Two sons, presently working/studying in US.

Roorkee 10<sup>th</sup> April, 2024

(B. Ravi Kumar Pillai, Ph.D.)

## **BROAD AREAS OF EXPERIENCE**

- (a) Enactment of Central Dam Safety Act (2021) of India: Instrumental in formulating and steering the bill through a long process of deliberation with the State Governments, Department of Water Resources, Ministry of Law & Justice, Parliamentary Standing Committee etc. The Bill aiming for the prevention of dam failure safeguarding life and property of the people and the environment was passed by both houses of the Parliament leading to enactment of the Dam Safety Act (2021).
- (b) Dam Rehabilitation and Improvement Project (DRIP): Formulation and implementation of the World Bank funded Dam Rehabilitation and Improvement Project (DRIP). As Project Director, addressed holistically the issues of dam safety and rehabilitation, including: structural integrity, surveillance and maintenance, instrumentation and monitoring, design intrinsic risks, natural hazard risks, emergency and operational planning, environmental management plan, environmental and social management framework, dam health data, proposal reviews through Project Screening Template, contract approvals as per Bank thresholds, project monitoring and audits etc. Adequate provisions were also made for the capacity building of dam owning agencies as well as strengthening the capacity of premier academic institutes. Successful implementation of the ~US\$M 437.5 Project, covering 237 dams across 7 States of India, has now translated in continuing of the DRIP (under Phase-II and Phase-III) covering 736 dams across 19 States.
- (c) <u>Dam Safety:</u> (i) Dam safety inspection of over 300 dams, identification of deficiencies in dam O&M, detection/ analysis of dam distress, and recommendations on remedial measures; (ii) integrated dam break analysis of Indira Sagar and Omkareshwar Projects in Madya Pradesh; (iii) Emergency Action Plans of Indira Sagar and Omkareshwar Projects (MP) and Ukai project (Gujarat); (iv) clearance of Seismic parameter studies of several upcoming dam projects; (v) Crisis Management Plan of Ministry of Water Resources; (vi) guidelines for seismic parameter studies (vii) guidelines for emergency action plan; (viii) study of the failure of Gararda dam in Rajasthan; (ix) study of the failure of radial gate of Pulichintala dam in Andhra Pradesh.
- (d) <u>Hydrology & Hydraulics:</u> (i) Design flood review of about 190 dams; (ii) backwater studies of SSP (Gujarat), Pollavaran project (AP), Neilla HE Project (Punjab) and Demwe HE Project (Arunachal Pradesh); (iii) power availability studies for truncated scenarios of Sardar Sarovar Project (SSP) dam (Gujarat); (iv) RTDAS (Real Time Data Acquisition System) implementation in Narmada basin; (v) operation of Telemetry at 18 stations under Krishna River Management Board (KRMB); (vi) Glacial Lake Outburst Flood (GLOF) study of Saptkosi & San koshi Projects in Nepal, Lower Siang HE Project and Demwe HE Project in Arunachal Pradesh; (vii) breach study of the landslide blockage on Brahmaputra river; (viii) optimization of flood routing options for revised design flood of Hirakud dam.
- (e) <u>Structural Designs:</u> (i) Design of miscellaneous types of gates, hoists and supporting structure for a number of North-Eastern projects; (ii) F.E.M. analysis for special studies of dam, powerhouse cavern, penstocks etc.; (iii) F.E.M. analysis for Idukky arch dam; (iv) planning and design of additional spillway for Hirakud dam (Odisha) with integration of tourism; (v) layout and design of Garudeshwar weir; (vi) study of stilling basin damages and remedial measures for truncated height of SSP dam; (vii) design of bridge, building, tunnels etc. at dam site of Dulhasti H.E. Project.
- (f) <u>Dam Construction:</u> (i) Construction activities of dam blocks, spillways, stilling basin, sluices & spillway gates, instrumentation etc. for main dam of Sardar Sarovar Project (SSP); (ii) preconstruction activities such as diversion channel, foundation excavation, stabilization of slope etc. for Dulhasti HE Project Dam; (iii) investigations for Garudeshwar Weir of SSP; (iv) appraisal of several projects in respect of foundation and geotechnical investigations.

- (g) <u>H.E. Powerhouse Construction:</u> (i) Civil works of underground powerhouse cavern and electrical works of six units of the 1200 MW river bed powerhouse of SSP, including commissioning of its first two units; (ii) Commissioning and maintenance of five units of 250 MW canal head powerhouse of SSP; (iii) commissioning of 400 KV GIS switchyard and transmission lines of SSP powerhouse; (iv) initial HRT and gate-shaft tunnelling works of Dulhasti HE Project; (v) civil/electrical works coordination, scheduling, & safety issues in powerhouse construction.
- (h) <u>Canal Construction:</u> (i) Works of excavation, concrete lining, cross drainage structure, cross-regulators, off-take structures, escapes etc. of the first phase of Narmada main canal (up to 144 km) and branch canals; (ii) canal automation studies for Sardar Sarovar Project (SSP) command; (iii) construction and commissioning of irrigation bye-pass tunnel of SSP; (iv) canal breach and special design problems.
- (i) Estimation & Contracts: (i) Estimation, preparation of tender document, and finalization of a number of ICB (International Contract Bids) and NCB (National Contract Bids) contracts for civil as well as electrical works of Sardar Sarovar Project; (ii) contracts for hardware/ software procurement, maintenance services; (iii) hiring of consultants for World Bank funded Hydrology Project; (iv) hiring of engineering & management consultant for DRIP; (v) NCB contracts of DRIP dams with costs exceeding Rs. 5 crores; (vi) resolution of old contractual issues for the Telemetry of KRMB.
- (j) Financial Management: (i) Financial Viability Study of SSP power component; (ii) fund mobilization for SSP; (iii) financing plan for power component of SSP; (iv) booking/ auditing of SSP expenditure; (v) implementation of CWC's IT scheme under X<sup>th</sup> and XI<sup>th</sup> Plans; (vi) negotiations, approval and implementation of Rs. 2,100 crore World Bank funded Dam Rehabilitation & Improvement Project involving multiple project implementing agencies; (vii) Central assistance (@50%) for 87 ongoing CADWM projects with total estimated cost of Rs. 18,000 Crores; (viii) formulation of new plan scheme (ISBIG) for completion of balance CADWM works in 317 projects of 24 States at total cost of Rs. 61,000 Crores with Central share of Rs. 38,000 Crores; (ix) financial assessment for taking over of Srisailam and Nagarjuna Sagar Projects by KRMB.
- (k) Environmental Management: (i) Compensatory afforestation, catchment area treatment, minimum downstream flows etc in SSP; (ii) canal-side water logging, command area development & conjunctive use of water; (iii) cost of forest area, and charging of Net Present Value (NPV) of forestland presentation before expert committee constituted by Supreme Court; (iv) environment and social assessment studies and formulation of environment and social management framework for Dam Rehabilitation & Improvement Project; (v) participated in United Nations Climate Change Conference (COP 23) at Bonn, Germany.
- (1) Stakeholder Management: (i) Resettlement and Rehabilitation (R&R) of project affected persons of SSP; (ii) activism by NBA and other national & international NGOs against SSP; (iii) issues of (Narmada) canal affected people; (iv) agitation on design of Kuchh Branch Canal; (v) setting up of VSA Committees for participatory irrigation management; (vi) litigations against SSP in Supreme Court of India; (vii) managing of multiple stakeholders, including academic and research institutes, in Dam Rehabilitation & Improvement Project; (viii) conceptualization and organization of annual Dam Safety Conferences in different States partnering with State water resource departments, academic institutions, and technology providers; (ix) varied aspects of participatory irrigation management, including engagement of social facilitators for capacity building of farmers and WUAs; (x) reviving of the IndiaNPIM Society.
- (m) <u>Information Technology & Computer Proficiency:</u> (i) development of CADWM-IS portal with online processing of central assistance; (ii) development of 'Dam Health And Rehabilitation Monitoring Application (DHARMA); (iii) development of software for analysis and design of

- various types of gates, spillway bridge etc; (iv) supervised development of CWC-Intranet and other custom-made software; (v) application of numerous CAD/ CAE software, including F.E.M. Software IDEAS and ABAQUS; (vi) well versed with programming language (Fortran/ C/ Pascal/ VB), miscellaneous application software and different platforms.
- (n) <u>Integrated River Basin Management:</u> (i) Issues of integrated water resources management in Narmada river basin; (ii) in-depth exposure and understanding of numerous interstate river basin conflicts; (iii) performance issues of River Basin Organizations (RBOs); (iv) basin level planning and management of water resources in North Eastern region; (v) development of framework for the Integrated River Basin Evaluation (IRBE).
- (o) Command Area Development: (i) Head of Command Area Development & Water Management (CADWM) Wing of Ministry of Jal Shakti, Govt. of India; (ii) paradigm shift in implementation of CADWM program bringing focus on participatory irrigation management; (iii) promotion of underground pipeline network for sustainable CAD intervention; (iv) extensive use of IT tools for creation of robust MIS, geo-tagging of outlet, online processing of central assistance, tracking compliance of field-inspection observations, development of Water Users Association (WUA) database, and PIM module with value-added information for farmers; (v) formulation of a new Incentivization Scheme for Bridging Irrigation Gap (ISBIG) with added features for reuse of waste water, conjunctive use of groundwater, increased micro-irrigation, solar power for irrigation, automation for introducing control and measurement, and reorientation of Water & Land Management Institutes (WALMIs) for deeper penetration of water education.
- (p) Interstate Conflicts: (i) Handling of cost sharing disputes on Sardar Sarovar Project (SSP); (ii) conflict on the construction of bye-pass tunnel of SSP; (iii) dispute on works of Mullaperiyar dam and filling of reservoir; (iv) resolution of long-pending issue of sharing of O&M costs of Bansagar Project between States of MP, UP, and Bihar; (v) handling of dispute on sharing of water and construction of new projects on river Krishna between AP and Telangana under KRMB; (vi) handling of issues of reservoir management, power generation, and irrigation releases on common-pool projects of AP and Telangana; (vii) negotiations leading to approval by Board for the prioritized handing-over of Srisailam and Nagarjuna Sagar Projects to KRMB.
- (q) Organizational Development: (i) Chaired/ steered several committees and teams for examination and resolution of complex technical and managerial problems; (ii) worked for transparent stakeholder oriented institutional development; (iii) participated in interview/ recruitment boards; (iv) drafted training policy and career progression policy for CWES cadre; (v) developed KRMB's road-map, including human resources and financial management, for taking-over of Srisailam and Nagarjuna Sagar Project.

## TEACHING AND TRAINING EXPERIENCE

## I. Faculty for the programs of different organizations:

(i) National Water Academy (NWA); (ii) Central Board of Irrigation & Power (CBIP); (iii) Aqua Foundation; (iv) National Thermal Power Corporation Ltd. (NTPC); (v) North Eastern Electric Power Corporation Limited (NEEPCO); (vi) Indian Forest Services; (vii) International Committee on Irrigation & Drainage (ICID); and (viii) Departments of State Governments.

## II. Faculty for the programs of academic institutes:

- A. Professor of Practice in the Indian Institute of Technology Roorkee.
- B. Visiting faculty for the M.B.A. Evening Program of M.S. University, Baroda (2001).
- C. Expert sessions in IIMA (2022); BITS-Pilani (2021 & 2022); NIT Calicut (2020).

## III. Key topics of lectures:

- Dam safety, the need for a management rather than an engineering approach
- Legislation of the Dam Safety Act and way forward
- Risk analysis and hazard categorization of dam projects
- Emergency action plan and non-structural measures in dam safety
- Project management issues of centrally and World Bank funded projects
- Inventory management in infrastructure projects
- Learning from failures, an essential step for institutional capacity building
- Effects of climate change and the need for development of resilient infrastructure
- Gestation period of projects and issues of contract management and project costs
- Water resource management in India: strategies and policies
- Stakeholder model for infrastructure projects
- Supply-side and demand-side management for the future water security
- Resolution of river water conflicts through establishment of stakeholder water rights
- Challenges and pathways for participatory irrigation management
- Stakeholder relationship a case study of Sardar Sarovar Project (SSP)
- Limitations of the Interstate Water Disputes Tribunal a case study of Narmada
- State level institutional reforms for sustainable water resources management
- Framework for the integrated river basin evaluation
- Dignity, Responsibility, Integrity, and Professionalism
- Creation of win-win scenario in interstate water issues
- Organizational development and change management
- Human resources development, training policy, and career progression policy

## IV. Workshops & Conferences organized:

- A. National Dam Safety Conference:
  - 1st Conference, 24-25 March, 2015, IIT-Chennai (Tamil Nadu)
  - 2<sup>nd</sup> Conference, 12-13 January, 2016, IISC-Bangalore (Karnataka)
  - 3<sup>rd</sup> Conference, 18-19 February, 2017, IIT-Roorkee (Uttarakhand)
- B. Command Area Development & Water Management Conference:
  - 1st Conference, 13 March, 2018, New Delhi
  - 2<sup>nd</sup> Conference, 28 May, 2019, Ahmedabad (Gujarat)
- C. State level workshops on Dam Rehabilitation & Improvement Project (DRIP) (2012-17)
- D. State level workshops on Participatory Irrigation Management (PIM) (2017-2021)
- E. Online Certificate Course on PIM through National Water Academy (Pune) targeting farmers, Water Users Associations, and State officials.

### IMPORTANT PAPERS AND PUBLICATIONS

#### **Publications in SCI Journal:**

1 "Incorporation of Risk Factor in Design Flood Review of Existing Dams", American Journal of Civil Engineering. Vol.5, No.5, September 2017. Page 293-306. doi:10.11648/j.acje.20170505.14.

### **Publications in refereed Non-SCI Journals:**

- 2 "The Stakeholder Model for Water Resource Projects", Vikalpa, Vol.29, No.1. January March 2004. Indian Institute of Management, Ahmadabad.
- 3 "The Water Crisis in India: Need For a Balanced Approach", International Journal of Regulation and Governance, Vol.1, No.2. December 2001. Tata Energy Research Institute, New Delhi.
- 4 "Dam Safety in India-An Overview", Water & Energy International, 2011, Volume: 68, Issue: 11. CBIP, New Delhi.

#### **World Bank Publication:**

5 "Framework for Integrated River Basin Evaluation", SAWI Discussion Note. April 2019. World Bank, Washington, DC.

### **Publications in Proceedings of Seminars/Conferences:**

- 6 "Recourse to Strategic Management through Decentralized Stakeholder Inclusive Water Institutions", 14th Aqua Congress. October, 2020. New Delhi.
- 7 "Course Correction in India's Drive for Sustainable Water Resource Development & Management", 13th Aqua Congress. October, 2019. New Delhi.
- 8 "Institutional Reform in Irrigation Sector for Sustainable Agriculture Water Management, including Water Users' Association", 23rd ICID Congress. 8-14 October, 2017. Mexico.
- 9 "Incorporation of 'Risk Factor' in Design Flood Review of Existing Dams", 3rd National Dam Safety Conference. 16-17 February, 2017. IIT, Roorkee.
- 10 "Quality Management Systems in Central Dam Safety Organization The Journey", 2nd National Dam Safety Conference. January, 2016. IISc, Bangalore.
- 11 "Dam Safety and Climate change Case Study of Hirakud Dam", 2 nd National Dam Safety Conference. January, 2016. IISc, Bangalore.
- 12 "Managing our Water Conservation Assets: Role of Dam Safety", 1st National Dam Safety Conference. March, 2015. IIT, Chennai.
- 13 "Management of Design Flood Issues in Existing Dams under climate Change", ICOLD 82nd Annual Meeting. 2-6 June, 2014. Bali.
- 14 "Dam Rehabilitation and Improvement Project 270 Dams to be Rehabilitated", Hydropower and Dams Asia Conference. 2014. Colombo.
- 15 "Dam Rehabilitation & Improvement Project", Dam India 2013. 22-23 May, 2013. CBIP, N.Delhi.
- 16 "Water Resources Development and Management Need for Shift in India's Policies and Strategies", India Water Week. 2012. New Delhi.
- 17 "Resolution of Water Conflict through Establishment of Rational Water Rights", 4th International R&D Conference on Water and Energy for 21st Century, 28-31 January, 2003. Aurangabad.

## **Book Chapters:**

18 "Computerized Accounting System", Class XII Book. January, 2010. NCERT. New Delhi.

### **Other Publications:**

- 19 "India is water stressed not water scarce", EletseGov Magazine. EletsOnline (https://egov.eletsonline.com/2020/03/india-is-water-stressed-not-waterscarce-dr-b-r-k-pillai/). March 2020. New Delhi.
- Newspaper Interview: Dam Safety Act will bring in unified policies, The Hindu, December 4, 2021 (https://www.thehindu.com/news/national/dam-safety-law-will-evolve-unified-policies-protocols-for-the-entire-country-jal-shakti-ministry-official/article37828051.ece)
- 21 "Neutralising Interstate River Disputes, Overcoming Water Crisis", EletseGov Magazine. EletsOnline(https://egov.eletsonline.com/2022/05/neutralisinginter-state-river-disputes-overcoming-water-crisis/). May 2022. New Delhi.