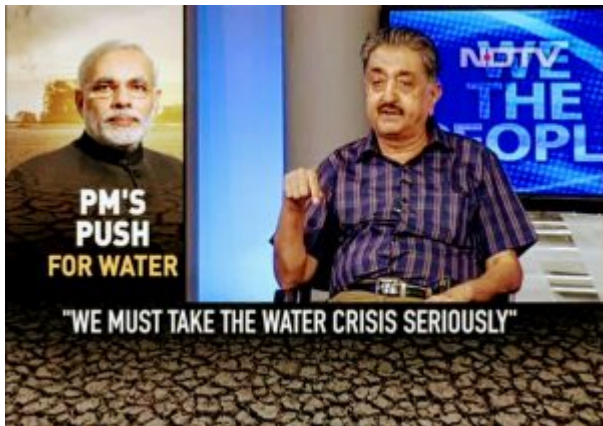


# Manohar Khushalani: Water and Environmental Profile



Prof. Manohar Khushalani one of the well known Environmentalists of India in a National TV Program

More on Manohar Khushalani –

Brief Profile

Actor/Director Profile

**Er. Manohar Khushalani** has designed dams and hydraulic structures for the Government of India. He is a programmer and has developed Engineering design software in Fortran. He is a co-author of **Irrigation Practice & Design (Vol 1 to 5 – 1500 pages)** published by *Oxford & IBH* and sponsored by *National Book Trust*. He has been a **Director**, Environment and Sociology, at the **National Water Academy**, Khadakwasla and **Director**, **Environment Management Directorate**, Central Water Commission and **Member Secretary**, **National Environmental Monitoring Committee for River Valley Projects**. He was also **Director of Instrumentation Directorate** in the **Dam Safety Organisation**. **Dy. Director Concrete and Masonry Dams Directorate and Hydraulic Gates and Control Structure Directorate**. He was **Chief General Manager and Head of Water Resources** at **Scott Wilson** and is an accredited consultant with numerous other organizations

Having been in Design & Research Wing of Central water

Commission he has been involved in a humongous number of Water Resources projects. The following is a list of projects he has dealt with in some capacity or the other:

**Manohar Khushalani: NOTABLE PROJECTS on WATER RESOURCES**

- Agra Barrage (UP)
- Anoopgarh Mini H.E. PROJECT – PH.I & II(Rajasthan)
- Bengali Dam Project (Orissa)
- Bethali Irrigation Project (Rajasthan)
- Bina Multipurpose Project (MP)
- Bisalpur Irrigation Project (Rajasthan)
- Chhapi Irrigation Project (Rajasthan)
- Deogaon Barrage (Orissa)
- Daulatpura Weir (Gujarat)
- Designs of Spillway bridge, Indravati and Muran Dams
- Dhumkar Project (J&K)
- Dihang Dam Project
- Dihang Multi Purpose Project (Arunachal Pradesh)
- Dudhi Irrigation Project (MP)
- Gulab Sagar Project (MP)
- Gulabsagar Mahan Project (MP)
- Hathnikund Barrage (Haryana)
- Igo Mercelong Project (J&K)
- Indira Sagar Project MP
- Indravati Dam (Orissa)
- Jahangirpuri Outfall (Delhi)
- Kargil Mini Hydel Project (J&K)
- Kopili H.E. Project (Assam) Ph-II
- Lower Wardha Project (Maharashtra)
- Marpochoo Micro Hydel Scheme
- Muran Dam (Orissa),
- Najafgarh Drain (Delhi)
- North Koel H.E. Project
- Ottu Weir (Haryana)
- Panchana Dam
- Panchet Tail Pool dam (DVC)

- Parvati Dam (Rajasthan)
- Pathrala Barrage (Haryana)
- Rajghat Dam (MP)
- Ranganadi H.E. Project (Arunachal Pradesh)
- Ravi Canal, Gambhir Dam (MP)
- Salal HE Project (J&K)
- Salma Project (Afghanistan)
- Sardar Sarovar HE Project (Gujarat)
- Sedawgi Project (Myanmar)
- Sewa Hydel Project (J&K)
- Shakar Chiktan Project (J&K)
- Sisri Project (Arunachal Pradesh)
- Sindol H.E. Project (Orissa)
- Som Kamla Amba Irrigation Project (Rajasthan)
- Suratgarh Mini Hydel Project (Rajasthan)
- Tail Pool Dam – (PAN-CHET) (Damodar Valley Corporation)
- Tapar Dam (Gujarat)
- Tehri Dam (Uttaranchal)
- Upper Indravati Project, Orissa
- Upper Kolab Project (Orissa)
- Upper Sindh HE Project (J&K)
- Wazirabad Barrage (Delhi)

## **PART I Water and Environment**

### **COMPETENCY COVERS (Technical)**

- Environment management & sociological aspects of water
- Hydraulic gates & structures design drawings specifications of fixed wheel gates, sliding gates, radial gates, gate bridges, hoists, etc.
- Dams – Concrete & Masonry / Earth & Rockfill – design, drawings, specifications of masonry & concrete dams, spillways, spillway bridges, piers, retaining walls, energy dissipation, foundation treatment, etc.
- Barrages design, drawings, specifications of barrages with gravity & raft foundations, undersluices, spillways, piers, bridges, protection works, siphons,

etc.

- Instrumentation in Hydraulic structures to monitor their safety and behaviour.
- Software Development and Programming
- Teaching in a broad range: Civil and Mechanical Engineering, Water, Environment, Management, Personality Building, Theatre, Animation, Media and Journalism etc

### **COMPETENCY COVERS (Computer Programming & Applications)**

- In Fortran & Basic indigenously developed the following engineering design software which reduced the man hours that CWC engineers spent in designing the Dams
  - Stability analysis of Non Overflow Dam
  - Stability analysis of Overflow Dam
  - Dynamic analysis of a Dam by Chopra's Method
  - Upgraded in-house programs on Hydraulic Gate Design, Barrage Raft Design, & Flood Routing
- Have also had a good working knowledge of Low & High End & Main frame software such as:
  - Nastran (NASA) for 3D Structural Modelling & Finite Element Analysis
  - I-DEAS (***I**ntegrated**D**esign and **E**ngineering **A**nalysis **S**oftware*) for 3D Structural Modelling & Finite Element Analysis
  - Staad Pro for Design of Concrete & Steel Structures
  - PAFEC PC DOGS CAD (Design Office Drawings System)
  - SESAM 80 (Super Element Structural Analysis Modules) on HP Mainframe
  - Autocad, 3ds Max and Maya for 2D/3D Modelling and Animation
  - Frontpage for Web Design
  - Photoshop, Gimp, Inkscape and Fireworks for Graphics
  - Pagemaker for DTP
  - MS Projects for Project Management

## EDUCATIONAL COURSES & SELF ENRICHMENT

**EDUCATION: B.E. (Civil), BITS, Pilani**

## CERTIFICATE COURSES

2006 Management Development  
National Water Academy, Khadakwasla

2005                      Trainer in Theatre & Culture of  
Civilisations            UNESCO, International Theatre Institute

2002/03      Visual Basic      Software Technology Group  
International Ltd., Delhi

2001 FEM & 3D Modelling  
IIT, Delhi

1983            Finite Element Analysis  
                 IIT, Delhi

1982                  Film Appreciation  
    Film & Television Institute of  
India, Pune

## PARTICIPATION IN TRAINING PROGRAMS & SYMPOSIUMS

- Refreshers Course on Hydraulic Gates & Control Structures, held at CWC from 20<sup>th</sup> Jan'76 – 7<sup>th</sup> Feb'76.
- Short Term Course on Finite Element Method of Analysis organised by Civil Engineering Dept. , I.I.T, Delhi from 21<sup>st</sup> Jun'82 to 31<sup>st</sup> Jul'82.
- Course on Numerical Analysis & Computer Programming, held at CWC from 31<sup>st</sup> Aug'82 to 21<sup>st</sup> Sep'82.
- Short 5 day Course on:
  - Time Sharing & File Management System on NIC's NEC SYS 1000 in May 1986
  - Introduction to PCs at NIC in 1987

- Computer Aided Drafting using D0GS software at NIC from 14<sup>th</sup> – 18<sup>th</sup> March 1988.
- Indian Geotechnical Conference – 1997, conducted by IGS, Vadodra. Chapter, held at M.S. University, Vadodra, from 17th to 21st December 1997.
- Underwent training in World Bank's Transfer of Technology Program conducted in New Delhi by M/s Harza, USA, on the following topics during 1998.
  - Civil Structures (2 weeks)
  - Hydraulic Transients (2 weeks)
  - Rock Mechanics (2 weeks)
  - Advanced Structural Analysis by FEM (4 weeks)
- Training Course on Geological Investigation and Foundation Treatment of River Valley Projects from 7th to 11th August 2000 at CWC.
- Joint R&D Session of INCH & INCOH at CSMRS, Delhi, on 24th & 25th October 2002.
- Advance Training in Ideas Software conducted by DesignTech Systems Pvt. Ltd., Gurgaon, from 23rd to 30th January 2003.
- National Seminar on Dam Safety organised by NHPC and Naptha Jhakri Power Corporation at Grand Hotel, Delhi on 24th April, 2002
- Seminar on Enviromnment at DY Patil Colloege, Chinchwad in 2004
- Co-Chairperson for workshop on 'Water Quality' held at NWA in 2006
- Participated in Management Development Program held at NWA, Pune in 2006
- Attended Meetings of:
  - INCH and INCOH as a delegate and was a reporter in one of the special session at CSMRS, Delhi.
  - IT enabling group, MOWR at CWPRS, Pune in 2001
- Took **Training in**
  - Use of HP-9350-330 and Unix from 21st to 23rd February 1989 at CWC

- Advanced Analysis using Finite Element Techniques at IIT, Delhi from 20th November to 8th December 2001.
- Win2K Server at CDAC, Hauz Khas in Feb-March 2003
- Visual Basic by STG International Ltd., New Delhi from 15th to 22nd January 2003.
- Attended **Technical Lectures** conducted by:
  - Indian Geotechnical Society (Delhi Chapter) conducted at CSMRS 2007-2008.
  - Sankalp (CWC Chapter) on following topics during 2007-2008.
    - Working Stress vs Limit State Past Practices and Future Challenges in C.W.C.
    - Failure of Penstock at Godavri Lift Irrigation Project (A.P.)
    - Dam Safety Paradigm of India
    - Lateral Thinking
    - Issues and Challenges of Water Resources Sector of India
- Attended **National Workshop on sustainable sanitation** 19, 20 May'08 – New Delhi. Conducted by Ministry of Rural Development.
- Attended one day Workshop on **Floating Powerhouse** conducted by M/s K.S. Hypersonic in October 2008
- Attended **International Conference on Food Security in SAARC** in March, 2009 held at India Habitat Center , New Delhi
- Participated in '**Open Frame 2009**' on Gender, Politics, Conflict and Peace conducted by Public Service Broadcasting Trust in partnership with Prasar Bharti 11-17 September 2009.
- Attended 1<sup>st</sup> Habitat Summit on 'Alternate Urban Futures for India' September 24-26
- Attended '**National Conference on Cost Effective Sustainable Sanitation – An Indian Experience**' at India Habitat Center from June 28<sup>th</sup> to 30<sup>th</sup> 2010

- Seminar on **‘Implications of Infrastructure Development In Tibet’** on Thursday, 22 July 2010 at Centre for Land Warfare Studies (CLAWS)
- **‘Opportunities for Global Partnership between India and Japan–Infrastructure, the Environment, and Finance’** organized by ICRIER in collaboration with JBIC on 13-14 September, 2010 at Claridges Hotel, New Delhi
- International conference on **‘International Cooperation in Times of Global Crisis: Views from G20 Countries’** on 16 September, 2010 at India Habitat Center
- Participated in ICRIER’s **‘Strategic & Economic Capacity Building Programme – Advance Briefing on Critical, Strategic & Economic Issues’** held at IHC from November 8 to 20, 2010 and **Chaired** the session on **Hydro Power**
- International Water Convention of India Water Forum (IWF) on **‘Water Security and Climate Change: Challenges and Opportunities’** at India Habitat Centre, New Delhi from 13-15 April 2011.
- Third annual international conference on **“Global Cooperation for Sustainable Growth and Development: Views from G20 Countries”** organized by ICRIER and its partner organizations on September 13-14, 2011 at the Gulmohar Hall of India Habitat Centre
- Fourth Dr. B. Lall Memorial Lecture on **“Duty of Care and Ethical Issues in Finance”** delivered by Prof. David Vines, Professor of Economics and Fellow, Balliol College, Oxford University, on September 15, 2011 at Gulmohar Hall, India Habitat Centre
- Participated in ICRIER’s **‘Strategic & Economic Capacity Building Programme – Advance Briefing on Critical, Strategic & Economic Issues’** held at IHC



from Oct 31<sup>st</sup> to Nov 12<sup>th</sup> 2011 and **Chaired** the sessions on:

- **Responding to Climate Change; the State of Play in International Negotiations**
- **Dangers of Protectionism: The current status of the multilateral trade regime, and scenarios for future evolution, bilateralism and regionalism as alternatives**

#### **CORE GROUP in CWC HYDRAULIC GATES & CONCRETE & MASONRY DAMS**

Projects undertaken: 2D & 3D FEM Analysis of Indravati Dam at NIC,

3d FEM analysis at CWC of:

Bethali Dam, Tala Dam & Ranganadi Dam piers

#### **MEMBERSHIP OF PROFESSIONAL BODIES / CORE GROUPS / COMMITTEES**

- Indian Geotechnical Society 8 Indian Society of Rock Mechanics & Tunnelling Technology
- Indian Environmental Society 8 Indian Water Resources Society
- Canal Automation 8 Hydraulic Gates
- Finite Element Method of Analysis 8 Instrumentation of Dams
- IT enabling Group, MOWR 8 Instrumentation Review Committee, Ranjit Sagar Dam
- Experts Group, Rihand Dam

#### **Expertise in:**

- Strategy Planning & Execution 8 Policy & Decision Making
- Establishing & Re-engineering Set ups 8 Spearheading Operations
- Managing Multinational / Corporate relationships 8 Policy Research

Spearheaded operations, **Recognized & known in the Indian**

**industry** for many innovative concepts, strategic approach and industry benchmarking over the years. Successful completion of several projects, some of them are as follows:

- Sedawgi Project (Myanmar) 8Shakar Chiktan Project (J&K)
- Salal Dam (J&K) 8Panchet Tail Pool Dam (DVC)
- Indravati Project (Orissa) 8Tala Project (Bhutan)
- Kargil Mini Hydel Project (J&K)
- Igo Mercelong Project (J&K)
- Tehri Dam (Uttarakhand)

(see the detailed list further into the document)

Significantly contributed to the **Design of Dams, Dam Safety, Hydraulic Structures, Irrigation and Power Projects, Water Conservation and Environmental Issues, Hydraulic gates & structures designs**. Ensured excellence through **up-gradation of facilities** to revive **international service standards**. Blessed with practical & focused approach to achieve organisation goals & coupled with inter personal & communication, analytical & presentation skills. Committed to creating awareness and administering experience enriched knowledge to upcoming engineers and professionals.

As a co-author penned down **“Irrigation Practice & Design”** in 5 volumes published by Oxford & IBH and sponsored by the National Book Trust

## **CAREER SPAN COVERS**

### **WATER & ENVIRONMENT**

**Formerly  
Consultant**

**Senior**

**ICRIER (Indian Council for Research in International  
Economic Relations)**

**Advisor**

**Scott Wilson India Pvt. Ltd., New Delhi**

**Joint Advisor**

**Central Board of Irrigation & Power,  
Chanakyapuri, New Delhi – 21**

**Chief General Manager, Water Resource  
Head HR & Administration  
Scott Wilson India Pvt. Ltd., New Delhi**

**Association with Indian Govt. (over 35 yrs)**

**May '71 – Dec '06**

**Director:**

**Environment Management Directorate: Central Water Commission &  
Member**

**Secretary, National Environmental Monitoring  
Committee for River Valley Project,**

**Director: Environment & Sociology National Water Academy, Pune**

**Director: Instrumentation, Dam Safety Organisation, CWC**

**ADDITIONAL CHARGES MANAGED IN CWC / Scott Wilson**

- Deputy Director, Concrete & Masonry Dams
- Deputy Director, Hydraulic Gates Design
- Director, Environment Impact Assessment
- Director, Dam Safety Rehabilitation
- Director, Foundation Engineering
- Director, Software Management
- CGM, Head HR & Administration (Scott Wilson)

**Before Joining Indian Govt.**

**Aug '68 – May '71**

**Consultant,**

**SRC Ltd, Tappar Dam for Kandla Port, Clerk of Works, Kothari &  
Associates / Mehta Gandhi and associates**

**ACCREDITATIONS & CONSULTANCIES (Water)**

**Advisor, Scott Wilson India Pvt. Ltd., New Delhi**

**Consultant, Water & Power Consultancy Services. Gurgaon**

**Consultant, Synergics Hydro (India) Pvt. Ltd. Noida – 201301,  
India**

**Senior Consultant, Institute of Geoinformatics**

**S 205 IIInd Floor, Raksha Towers, Chunabhatti Main Road  
Bhopal  
– 462016, India**

**Visiting Faculty. Central**

**Board of Irrigation & Power,  
Chanakyapuri, New Delhi – 21  
(Continued to Teach after resigning as Jt. Advisor)**

**More on Manohar Khushalani –  
Brief Profile  
Actor/Director Profile**