

CURRICULUM VITAE

OF

Dr. KAPIL DEV SHARMA

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**CURRICULUM VITAE
OF
Dr. KAPIL DEV SHARMA**

1. Personal Data

Name : KAPIL DEV SHARMA
Designation : Technical Expert (Water Management)
Affiliation : National Rain-fed Area Authority
Government of India
NASC Complex, DP Shastri Marg, Pusa
New Delhi 110012
India
Date of birth : **19 November 1950**
Place of birth : Kolkata, West Bengal, India
Nationality : Indian
TOEFL (paper) : 583
Health : Excellent
Marital Status : Married

2.1 Educational Qualifications

B.E. Agricultural Engineering with emphasis on Soil and Water Conservation Engineering. Over all Grade Point Average 3.32 out of 4.00. College of Technology and Agricultural Engineering, Udaipur, India, June 1973.

Thesis: Threshing studies on pulse and oil seed crops. Directed by Dr. R.S. Devnani, Professor of Farm Machinery and Power.

M.E. Soil and Water Conservation Engineering. Over all Grade Point Average 8.62 out of 10.00. College of Technology and Agricultural Engineering, Udaipur, India, May 1985.

Thesis: Upland erosion in a humid steep hill basin. Directed by Professor J.F. Correia, Head of Soil and Water Engineering.

Ph.D. Civil Engineering with specialisation in Hydrology and Water Resources Engineering. Over all Grade Point Average 10.00 out of 10.00. Indian Institute of Technology, Bombay, India, July 1992.

Thesis: Runoff and sediment transport in an arid zone drainage basin. Directed by Dr. J.S.R.Murthy, Professor of Civil Engineering, Indian Institute of Technology, Bombay and Dr. R.P.Dhir, Principal Scientist, Central Arid Zone Research Institute, Jodhpur.

Post-Doctorate in Satellite Hydrology. DLO - The Winand Staring Centre for Integrated Land, Soil and Water Research, Wageningen, the Netherlands, August 1993.

Project: Distributed numerical modelling of runoff and soil erosion using Thematic Mapper data and GIS. Counterpart Scientist - Dr. M.Menenti, Head, Department of Water Management in Arid Regions, DLO - The Winand Staring Centre for Integrated Land, Soil and Water Research, Wageningen, the Netherlands.

2.2 Training

1. Management and Social Aspects under NWDPR (WARASA – JAN SAHBHAGITA), July 7-11, 2003, National Institute of Agricultural Extension Management, Hyderabad, India.
2. A System for Storage, Processing and Retrieval of Hydro-meteorological Data (HYMOS), March 2-6, 1992, National Institute of Hydrology, Roorkee, India.
3. Digital Image Analysis, May 2-14, 1988, Regional Remote Sensing Service Centre, Jodhpur, India.
4. Use of Plastics in Minor Irrigation and Water Management, September 13-24, 1982, Indian Agricultural Research Institute, New Delhi, India.
5. Foundation Course in Agricultural Research Management, 20 December 1976-19 March 1977, National Academy of Agricultural Research Management, Hyderabad, India.

3. Research Areas

Arid zone hydrology, numerical modelling of hydrological processes, satellite hydrology, soil erosion prediction and control, soil and water conservation engineering, sediment transport and deposition, rainwater harvesting and runoff farming, water resources development, watershed management, drought management, rehabilitation of degraded lands, etc.

4. Publication

Research Journals - Foreign	62
Research Journals - Indian	63
Books	13
Book Chapters, Bulletins, Reports, etc.	83
Conference, Seminar, Symposium, Workshop Proceedings	98
Popular Journals	08
Total	327

5. Professional Experience

5.1 Regular Employment

5/2008 – Continue

National Rainfed Area Authority, New Delhi, India; Technical Expert (Water Management)

The responsibilities include policy making and planning, convergence, technical guidance/advise, monitoring and evaluation of water management programs and schemes for (1) enhancing water productivity, (2) improving water use efficiency in varying quality water, (3) recycling of industrial and domestic effluents, (4) groundwater utilization, (5) economic evaluation of water use and systems of application, etc. in the rainfed regions of India.

10/2003 – 4/2008

National Institute of Hydrology, Roorkee, India; Director

The responsibilities include (1) chief executive and overall in-charge of the Institute, (2) representing on various high-level committees constituted by different ministries in the capacity of Head of Department, (3) appointing authority for group B, C and D staff, (4) developing and managing a perspective plan for the Institute, (5) provide scientific leadership to the diverse R & D groups, (6) management of day-to-day

operations including human resource management, (7) promoting inter-institutional and inter-agency R & D programmes and missions, (8) negotiating and acquiring R & D grants / contracts, and (9) networking and building linkages with stakeholders and users.

11/2000 – 9/2003

Central Research Institute for Dryland Agriculture, Hyderabad, India; Principal Scientist (SWCE) and Head, Division of Resource Management

The academic assignment included (1) conducting research on various aspects of (a) hydrology, (b) hydraulics, (c) water resources engineering, (d) soil erosion and sediment transport, (e) soil and water conservation engineering, (f) remote sensing and geographic information systems, (g) rehabilitation of degraded environments, (h) alternative land use planning, and (i) drought management; (2) directing graduate and post-graduate student thesis; and (3) imparting practical training to graduate and post-graduate students.

The administrative and management assignment included supervision of scientific, technical and supporting staff in the division; guiding research programmes on resource management; compilation and editing of scientific reports; and evaluation and management of World Bank-NATP Projects under Rainfed-Agro-ecosystem in India.

7/1998 – 10/2000

Central Arid Zone Research Institute, Jodhpur, India; Principal Hydrologist.

The academic assignment included (1) conducting research on various aspects of (a) hydrology, (b) hydraulics, (c) water resources engineering, (d) soil erosion and sediment transport, (e) soil and water conservation engineering, (f) remote sensing and geographic information systems, (g) combating desertification, (h) rehabilitation of degraded environments, and (i) drought management; (2) directing graduate and post-graduate student thesis; and (3) imparting practical training to graduate students.

The administrative and management assignment included supervision of scientific, technical and supporting staff in the hydrology section, and compilation and editing of scientific reports.

4/1986 – 6/1998

Central Arid Zone Research Institute, Jodhpur, India; Senior Hydrologist.

The academic assignment included (1) conducting research on various aspects of (a) hydrology, (b) hydraulics, (c) water resources engineering, (d) soil erosion and sediment transport, (e) soil and water conservation engineering, (f) remote sensing and geographic information systems, and (g) rehabilitation of degraded environments; (2) directing graduate and post-graduate student thesis; and (3) imparting practical training to graduate students.

The administrative and management assignment included supervision of scientific, technical and supporting staff in the hydrology section, and compilation and editing of scientific reports.

3/1982 - 3/1986

ICAR Research Complex for N.E.H. Region, Shillong, India; Agricultural/Civil Engineer.

The academic assignment included conducting research on various aspects of (a) hydrology, (b) hydraulics, (c) drainage (d) irrigation, and (e) alternate energy sources.

10/1976 - 2/1982

Central Arid Zone Research Institute, Jodhpur, India; Junior Hydrologist.

The assignment included conducting research on various aspects of (a) hydrology, (b) hydraulics, (c) water resources engineering, and (d) soil and water conservation engineering.

8/1973 - 9/1976

Soil Conservation Department, Government of Rajasthan, India; Junior Engineer.

The assignment included (a) design and supervision of various land development programmes such as land levelling, lining of water courses, etc., and (b) design and supervision of various soil and water conservation structures.

5.2 Visiting Appointments

7/1992

Indian National Science Academy (INSA) Visiting Scientist in Soil Erosion Research, Two Weeks, Chinese Academy of Sciences, Chengdu, China.

3/1993 – 8/1993

European Economic Community (EEC) Visiting Scientist in Satellite Hydrology, DLO-The Winand Staring Centre for Integrated Land, Soil and Water Research, Wageningen, The Netherlands.

5.3 Supervision of Theses and Research Projects

The following students were advised and their theses/research projects directed:

1. Mr. B.S. Deora, M.Tech. (Soil and Water Conservation Engineering), October 1987. Optimal design of water harvesting micro-catchments. M.Tech. Thesis, Indian Institute of Technology, Kharagpur, India.
2. Mr. R.K. Pandey, M.E. (Soil and Water Conservation Engineering), January 1988. Rainfall - runoff and stream water quality relationships in the Upper Luni Catchment in the Western Rajasthan. M.E. Thesis, College of Technology and Agricultural Engineering, Udaipur, India.
3. Mr. A. Goyal, M.E. (Irrigation Water Management), April 1993. Simulation of changes in ephemeral channel characteristics through satellite data and numerical model. M.E. Thesis, College of Technology and Agricultural Engineering, Udaipur, India.
4. Mr. M. Wilborts, M.Sc. (Land and Water Management), June 1995. Modelling the effectiveness of contour vegetative barriers on soil moisture storage in the arid lands of Rajasthan, India. M.Sc. Thesis, International Agricultural College, Velp, the Netherlands.
5. Mr. K.K. Gupta, M.Sc. (Management of Natural Resources and Sustainable Agriculture), June 1996. Development of water harvesting strategy for a semi-arid area of Rajasthan using Geographical Information System (GIS). M.Sc. Thesis, Agricultural University of Norway, As, Norway.

5.4 Refereeing

(i) Serve as peer reviewer of scientific papers submitted for publication to:

1. Australian Journal of Agricultural Research, Australia
2. Australian Journal of Soil Research, Australia

3. Ecology and Society, U.K.
4. Environmental Modelling and Software, the Netherlands
5. Journal of Environmental Management, the Netherlands.
6. Hydrological Sciences Journal, U.K.
7. Land Degradation and Development, U.K.
8. Journal of Cleaner Production, U.K.
9. Journal of Energy in South Africa, South Africa.
10. Water Research, U.K.
11. Annals of Arid Zone, India
12. Current Science, India.
13. Journal of Agricultural Engineering, India
14. Indian Journal of Soil Conservation
15. Hydrology Journal of IAH, India
16. Journal of Rural Development, India
17. Indian Journal of Dryland Agricultural Research and Development

(ii) Serve as a peer reviewer for research proposals submitted to Department of Science and Technology (India), Indian National Committee on Hydrology, National Agricultural Technology Project, Council of Scientific and Industrial Research, Ministry of Environment and Forestry, Department of Science and Technology and various National and State agencies

(iii) Papers submitted to various symposia and conferences.

5.5 Professional Service

- ❖ **Organizer**, International Brain Storming Session ‘Impact of Climate Change on Water Resources and Adaptation Strategies’, Ministry of Water Resources, April 2008.
- ❖ **Chairman**, National Symposium, ‘Role of Water Resources in the Continuing Development of India (in Hindi)’, MHA, MOEF, THDC & CSIR, September 2007.
- ❖ **Coordinator**, Training Course, ‘Sustainable Groundwater Management in Arid and Semi-arid Regions’, Rajasthan Groundwater Department, April-May 2007.
- ❖ **Chairman**, National Symposium, ‘Groundwater Governance: Ownership of Groundwater and its Pricing’, Planning Commission, REC, NABARD, DST, CSIR, ONGC & INCOH, November 2006.
- ❖ **Coordinator**, Short Course, ‘Probable Maximum Flood Estimation’, AP Irrigation Department, May-June 2006.
- ❖ **Organizer**, International Workshop, ‘Impacts of Reforestation of Degraded Land on Landscape Hydrology in the Asian Region’, UNESCO, ICAR, CSIR, DST & INCOH, March 2006.
- ❖ **Chairman**, National Seminar, ‘Hydrological Aspects of Rejuvenation of Urban Lakes’, MOEF, CSIR, DST & INCOH, October 2005.
- ❖ **Organizer**, International ‘G-WADI Modeling’ Workshop and Regional Meeting, UNESCO, DFID, INCOH & IITR, February-March 2005.
- ❖ **Organizer**, International Workshop, ‘Creating Synergy for Groundwater Research and Management’, IWMI-ITP, February 2005.
- ❖ **Chairman**, National Symposium, ‘Water Quality’, INCOH & CPCB, November 2004.
- ❖ **Chairman**, National Seminar, ‘Forest, Water and People’, UNESCO Delhi Office, July 2004.
- ❖ **Coordinator**, Interactive Workshop ‘Water Conservation’, DST, April 2004.
- ❖ **Coordinator**, Brainstorming Session, ‘Hydrology of Glacierized Basins’, DST, March 2004.
- ❖ **Coordinator**, Short Course, ‘Groundwater Assessment and Modelling’, UP Groundwater Department, February 2004.
- ❖ **Director**, Winter School, ‘System Analysis Techniques and Computer Applications in Water Resources Management’, INCOH & IIT Roorkee, January 2004.

- ❖ **Chairman**, National Seminar, 'Future Challenges in Water Resources Sector (in Hindi)', MOWR, December 2003.
- ❖ **Director**, Winter School, 'Basic Surface Water Data Processing using HYMOS', The World Bank, 8-22 October 2003.
- ❖ **Director**, Summer School, 'Drought Management', ICAR, 06-26 May 2003.
- ❖ **Director**, Summer School, 'Land Use Diversification', ICAR, 15 April-05 May 2002.
- ❖ **Organizer**, Launching Workshop of NATP Project, 'Develop Techniques for Management of Gypsiferous and Impeded Soils of Arid Areas', ICAR, December 1999.
- ❖ **Organizer**, Brainstorming Session, 'Groundwater Modelling' DST, October 1999.
- ❖ **Director**, Short Course, 'Integrated Watershed Management in Arid Regions for Sustainable Production', ICAR, June 1998.
- ❖ **Organizer**, National Launching Workshop of DST, GOI sponsored research project, 'Hydrology of Small Watersheds', December 1997.
- ❖ **Director**, 14 training courses sponsored by State Govt. for developmental personnel.
- ❖ **Delivered**, lectures in 62 training courses during 1993-2003.
- ❖ **Guide**, M.E./M.Tech. Theses/Research Projects of students from **India** (3) and **abroad** (2; Netherlands and Norway).
- ❖ **Trainer**, 30 / 45 day on-the job training to B.E./M.Tech. Students (8-10 students every year).

5.6 Other Important Assignments

1. Head of Unit, ARIS, CRIDA, Hyderabad.
2. Officer-in-Charge, Works, CRIDA, Hyderabad.
3. Chairman of two Technical Sessions, International Conference, 'Hydrology in a Changing Environment' held during 6-10 July 1998 at Exeter, UK.
4. Member, Editorial Board of Research Journal 'Annals of Arid Zone', India.
5. Member, Scientific Committee for Perspective Plan-2020, CAZRI, India.

6. Awards, Honours and Recognition

6.1 Awards

1. Scholarship award for scholastic achievement during 1968 - 1973.
2. ICAR team research award in NRM for the biennial 1983 - 1984.
3. Gold Medal award for first position in M.E. degree, 1985.
4. Marie Curie bursary award for 6 months in Satellite Hydrology by European Commission during 1993.
5. Medal award for best research on Flash Floods awarded by the Central Board of Irrigation and Power, Govt. of India, New Delhi, 1992-1993.
6. National Hydrology Award for the biennium 1995-96, instituted by the Ministry of Water Resources, Government of India, New Delhi for outstanding contribution in the field of Operational Hydrology.
6. Appreciation award by the Bureau of Land Management, United States Department of the Interior for outstanding oral presentation (the hydrological indicators of desertification) at the International Symposium and Workshop entitled "Combating Desertification: Connecting Science with Community Action", 12-16 May 1997, Tucson, Arizona, U.S.A.
7. Recognition Award for the biennium 2003-04, instituted by the National Academy of Agricultural Sciences, New Delhi for outstanding contribution to Agricultural Engineering and Technology.

6.2 International Honours and Recognition

1. Member, International Association of Hydrological Sciences (IAHS) since 1992 (# 1759).
2. Member, ICID (International Commission on Irrigation and Drainage) Working Group on Highly Water Stressed Areas since April 1997.
3. Founding Member, Global Network on Water Resources Management in Arid and Semi-arid Zones (G-WADI), International Hydrological Programme (IHP), UNESCO, Paris since April 2003.
4. Member, Scientific Steering Group of the Global Energy and Water Cycle Experiment (GEWEX), WCRP, WMO, Geneva since June 2004.
5. Chair, WG VIII.7: Water Resources Security and Management of ISPRS (International Society of Photogrammetry and Remote Sensing) Technical Commission on Remote Sensing Applications and Policies, France since January 2005.
6. Member, G-WADI Steering Committee, IHP-UNESCO, Paris since February 2005.
7. Honorary Member, Arab Healthy Water Association, Egypt since July 2007.
8. Editor, Hydrology Research (UK) since January 2008.

6.3 National Honours and Recognition

1. College merit for 1970 - 1971.
2. College merit for 1971 - 1972.
3. Fellow, National Academy of Agricultural Sciences (NAAS), India since January 1998.
4. Member, Expert Group on Groundwater Modelling, Department of Science and Technology, New Delhi since May 1999
5. Member, Institute Management Committee, Central Arid Zone Research Institute, Jodhpur since June 2001.
6. Executive Member, Indian National Committee for IHP-UNESCO since October 2003.
7. Member, Advisory Committee of WRDTC, Indian Institute of Technology Roorkee since October 2003.
8. Member, Executive Board of Indian Geographical Committee of the International Water Resources Association – India (IGC-IWRA), New Delhi, India since May 2004.
9. Member, Technical Advisory Group for developing sustainability indicators on land-related issues for India, Tata Energy and Resources Institute (TERI), New Delhi, India since August 2004.
10. Member, Research Advisory Committee, Central Soil and Water Conservation Research and Training Institute, Dehradun since August 2004.
11. Area Coordinator-Hydrology, ILTP (Integrated Long Term Programme on Cooperation in Science and Technology between India and Russia) since August 2004.
12. Executive Vice-President, Indian Association of Hydrologists since September 2004.
13. Member, Project Advisory Committee (PAC) in the area of Earth Sciences for the International Cooperation Division of DST, Govt. of India since January 2005.
14. Chair, WRD 10: Lakes and Reservoirs, Bureau of Indian Standards, Delhi since April 2005.
15. Member, Sectoral Group on Water: Resources and Technology, CSIR since May 2006.
16. Honorary Visiting Professor, Department of Hydrology, Indian Institute of Technology Roorkee since November 2006.
17. Member, core group for Finalization of Guidelines on Sustainability of Drinking Water Supply Schemes, Ministry of Rural Development, Govt. of India since April 2007.
18. Member, Expert Committee on Natural Resources Data Management System (NRDMS) Programme, Department of Science and Technology, Govt. of India since April 2007.
19. Indian Coordinator, Indo-French Institute on Water Technology since November 2007.
20. Member, Indian National Committee for India-International Institute of Applied Systems Analysis (IIASA) Programme implemented by TIFAC, New Delhi since March 2008.

7. Professional Membership

1. International Association of Hydrological Sciences
2. Indian Society of Agricultural Engineers
3. Indian Association of Soil and Water Conservationists
4. Indian Society of Remote Sensing
5. Arid Zone Research Association of India (Life)

8. Sponsored Research Grants

Principal Investigator of 41 externally funded International (11) and National (29) research projects. Leading a multidisciplinary team of scientists from Agronomy, Civil Engineering, Climatology, Geohydrology, Geography, Hydrogeology, Hydrology, Plant Ecology, Soil Physics, Soil Chemistry and Agricultural Extension disciplines.

1. **Evaluation of Vegetative Barriers as Soil and Water Conservation Measures in the Arid Region:** This project was funded by Department of Watershed Development and Soil Conservation, Government of Rajasthan, India, for 3 years starting from 1991, for Rs. 1,560,000 (\$ 34,700).
2. **Rehabilitation of Mined Wastelands:** The USDA and USGS funded this project, for 8 years starting from 1991, for Rs. 1,932,000 (\$ 42,900).
3. **Climate Impact on Water Resources and Drylands' Agriculture:** This project was funded by the European Union, for 4 years starting from 1997, for Rs. 1,175,000 (\$ 26,100).
4. **Hydrology of Small Watersheds in Arid Ecosystem:** This project was funded by Department of Science and Technology, Government of India, for 5 years starting from 1997, for Rs. 3,239,000 (\$ 72,000).
5. **Rehabilitation of Lignite Mine Disturbed Area:** This project was funded by Rajasthan State Mineral Development Corporation, India, for 5 years starting from 1998, for Rs. 2,499,000 (\$ 55,500).
6. **Brainstorming Session on Groundwater Modelling:** This project was funded by Department of Science and Technology, Government of India, for 1 year during 1999, for Rs. 351,000 (\$7,800).
7. **Develop techniques for management of gypsiferous and impeded soils of arid areas:** The World Bank funded this project, for 4 years starting from 1999, for Rs. 10,986,000 (\$ 244,100).
8. **Evaluation and improvement of indigenous methods of moisture conservation and runoff management:** The World Bank funded this project, for 3 years starting from 2000, for Rs. 16,233,000 (\$ 360,700).
9. **Spatial and temporal variability of rainfall and runoff in parts of Western Ghats, Kerala:** The UNESCO funded this project, for 2 years starting from 2002, for Rs. 113,750 (\$ 2,530).
10. **Rainfall-runoff-groundwater dynamics in semi-arid regions:** The INCID, New Delhi funded this project, for 3 years starting from 2003, for Rs. 5,435,000 (\$ 120,800).
11. **Area drainage study for expansion of Bhilai Power Project:** The Bhilai Electric Supply Company (NTPC) funded this project, for 3 months starting from 2003, for Rs. 800,000 (\$ 17,800).
12. **Estimation of floods for 10, 20 and 100 year return periods for River Sutlej at Jhakri Gauging Site:** The Jai Prakash Industries funded this project, for 2 weeks starting from 2003, for Rs. 25,000 (\$ 560).
13. **Dam-break flood analysis of Sri Ramsagar and Lower Manair Dams:** The Irrigation and CAD Department, Govt. of Andhra Pradesh funded this project, for 6 months starting from 2003, for Rs. 900,000 (\$ 20,000).
14. **Application of CPSP Model to Pennar and Tapi River Basins:** The ICID funded this project, for 3 months starting from 2004, for Rs. 400,000 (\$ 8,900).
15. **Assessment of groundwater quality in 24 Metropolitan cities:** The Central Pollution Control Board funded this project, for 2 years starting from 2004, for Rs. 2,400,000 (\$ 53,400).

16. **Stream flow modelling of Bhagirathi River: Hydrograph separation using isotope geochemistry:** The Department of Atomic Energy, Mumbai funded this project, for 3 years starting from 2004, for Rs. 1,650,000 (\$ 36,700).
17. **Isotopic characteristics of Indian Rivers:** The IAEA, Vienna funded this project, for 1 year starting from 2004, for Rs. 292,500 (\$ 6500).
18. **Isotopic age and composition of stream flow as indicators of groundwater sustainability:** The IAEA, Vienna funded this project, for 4 years starting from 2004, for Rs. 900,000 (\$ 20,000).
19. **Morphological study of the Rivers Ghaghra and Sutlej:** The Central Water Commission, New Delhi funded this project, for 1 year starting from 2004, for Rs. 955,000 (\$ 21,200).
20. **Influence of forest cover on watershed functions:** The UNESCO, Paris funded this project, for 6 months starting from August 2004, for Rs. 225,000 (\$ 5000).
21. **Age, distribution, and groundwater and surface water interaction in different catchments of River Ganga:** The IAEA, Vienna funded this project, for 1 year starting from 2004, for Rs. 225,000 (\$ 5000).
22. **EU-India riverbank filtration network:** The European Union (EU), Brussels funded this project, for 2 years starting from 2005, for Rs. 3,700,000 (\$ 84,000).
23. **Seasonal characterisation of ablation, storage and drainage of melt runoff and simulation of stream flow for the Gangotri glacier:** This project was funded by Department of Science and Technology, Government of India, for 3 years from 2005, for Rs. 2,152,000 (\$ 47,800).
24. **Information directory of organisations working in the area of watershed management:** This project was funded by Department of Science and Technology, Government of India, for 1 year from 2005, for Rs. 450,800 (\$ 10,300).
25. **Integrated hydrological study for sustainable development of two hilly watersheds in Uttaranchal:** This project was funded by Department of Science and Technology, Government of India, for 5 years from 2005, for Rs. 4,847,000 (\$ 110,000).
26. **Design flood estimation for the Bichom and Tenga Dams, Arunachal Pradesh:** The NEEPCO, Shillong funded this project, for 6 months during 2005, for Rs. 80,000 (\$ 2000).
27. **Development of drought vulnerability indices for preparedness and mitigation:** The INCOH, New Delhi funded this project, for 2 years during 2006, for Rs. 14,243,000 (US \$ 320,000).
28. **National programme on isotopic fingerprinting of waters of India:** This project was funded by Department of Science and Technology, Government of India, for 5 years during 2006, for Rs. 6,408,000 (US \$ 142,400).
29. **Surface water-groundwater interaction at selected locations along the Yamuna River in NCT Delhi:** The Upper Yamuna River Board, Government of India funded this project, for 3 years during 2006, for Rs. 792,000 (US \$ 17,600).
30. **PMF Studies for the Pulichintala Irrigation Project, Andhra Pradesh, India:** The State Government of Andhra Pradesh funded this project, for 1 year during 2006, for Rs. 1,500,000 (US \$ 34,000).
31. **Development of non-linear data driven model for flood forecasting for Indian rivers:** This project was funded by Department of Science and Technology, Government of India, for 3 years during 2006, for Rs. 504,000 (US \$ 11,000).
32. **Regional hydrogeological studies around Kasnau-Matasukh Lignite mines, district Nagaur:** The Rajasthan State Mines and Minerals Limited, Government of Rajasthan funded this project for 1 year during 2006-2007 for Rs. 930,000 (US \$ 20,700).
33. **Hydrological studies and multi-reservoir simulation of Ken-Betwa link.** The National Water Development Agency, Government of India funded this project for 1 year during 2006-2007 for Rs. 1,026,000 (US \$ 22,800).
34. **Hydrological studies for Sabarmati River Front Development.** The Sabarmati River Front Development Corporation Limited, Government of Gujarat funded this project for 1 year during 2006-2007 for Rs. 1,020,000 (US \$ 22,700).

35. **Study of glacier contribution in the stream flow of the Bhagirathi River at Loharinag Pala and the Dhauliganga River at Tapovan Vishnugad hydro-electric power project sites and its influence on long-term water sustainability.** The National Thermal Power Corporation, Government of India funded this project for 2 years during 2006 for Rs. 3,097,824 (US \$ 68,900).
36. **Water balance studies of the forested watersheds, Western Ghats, India.** This project was funded by Department of Science and Technology, Government of India, for 3 years during 2007, for Rs. 1,200,000 (US \$ 27,000).
37. **Identification of causes of seepage from the bed/submergence of Jaswant Sagar Dam, Tehsil Bilara, District Jodhpur.** The Water Resources Department, Government of Rajasthan funded this project for 1 year during 2007 for Rs. 975,000 (US \$ 23,780).
38. **Performance evaluation of flood protection and anti-erosion works on the River Ganga.** The Ganga Flood Control Commission, Government of India funded this project for 1 year during 2007 for Rs. 431,000 (US \$ 10,600).
39. **Real-time flood inundation mapping in the Sabarmati Basin.** This project was funded by Department of Science and Technology, Government of India, for 1 year during 2007, for Rs. 1,023,900 (US \$ 25,000).
40. **Comparison of hydrological regime of degraded micro-watersheds having dense oak forest.** The Forest Research Institute, Government of India funded this project for 1 year during 2007 for Rs. 180,000 (US \$ 4,400).
41. **Training course on mountain hydrology.** This project was funded by Department of Science and Technology, Government of India, for 1 year during 2008, for Rs. 500,000 (US \$ 12,500).

9. Visits Abroad

1. The Peoples Republic of China, July 2-15, 1992, International Symposium on Erosion, Debris Flows and Environment in Mountain Regions; Chengdu.
2. The Netherlands, March 1 - August 31, 1993, Post Doctoral Research in Satellite Hydrology; Wageningen.
3. The Federal Republic of Germany, May 3-7, 1993, XVIII General Assembly of the European Geophysical Union; Wiesbaden.
4. The United Kingdom, June 13-18, 1993, the Institute of Hydrology; Wallingford and the University of Exeter; Exeter.
5. The Japan, July 11-23, 1993, IAMAP-IAHS'93 Joint International Conference; Yokohama.
6. The United Kingdom, September 13-17, 1994, International Conference on Integrated River Basin Development; Wallingford.
7. The United Kingdom, July 15-19, 1996, International Symposium on Erosion and Sediment Yield: Global and Regional Perspectives; Exeter.
8. The United States of America, August 12-17, 1996, Fifth International Conference on Desert Development; Lubbock.
9. The Morocco, April 23 - May 3, 1997, 5th Scientific Assembly of the International Association of Hydrological Sciences; Rabat.
10. The United States of America, May 12-16, 1997, International Conference on Combating Desertification: Connecting Science with Community Action; Tucson.
11. The United Kingdom, July 6-10, 1998, International Conference on Hydrology in a Changing Environment; Exeter.
12. The Austria, July 13-17, 1998, International Symposium on Modelling Soil Erosion, Sediment Transport and Closely Related Hydrological Processes; Vienna.
13. The United Kingdom, September 7-15, 1998, The 2nd International Climate and History Conference and the 2nd Co-ordination Meeting of CLIWARDA Project; Norwich.
14. Syria, August 4-6, 2002, Workshop on Desertification, Poverty and Agriculture: Building Livelihoods, Saving Lands; Aleppo.

15. France, April 14-15, 2003, Initiation Meeting of Global Network on Water Resources Management in Arid and Semi-arid Zones (G-WADI); UNESCO, Paris.
16. The United Kingdom, July 12-16, 2004, International Conference on Hydrology: Science and Practice for the 21st Century; London.
17. France, May 26-27, 2005, Consultation on International Hydrological Programme; UNESCO, Paris.
18. The United States of America, June 20-24, 2005, 5th International Scientific Conference on the Global Energy and Water Cycle; Costa Mesa CA.
19. France, November 10-12, 2005, 2nd G-WADI Global Workshop; UNESCO, Paris.
20. Senegal, January 9-13, 2006, 18th Session of the Scientific Steering Group (SSG) for the Global Energy and Water Cycle Experiment (GEWEX); Dakar.
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