

PROFILE



Name : A.R. Shivakumar

Occupation : Researcher and Technology Promoter
Designation : Principal Scientific Officer.
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Date of birth & Place : 01.07.1959, Ammanaghatta, Gubbi tq.

Education: : Bachelor of Engineering in Mechanical Engineering, securing 1st class with distinction from *Mysore University*

Post Graduate in Business Management from *Bharathiya Vidya Bhavan*.

Financial Management Proficiency Programme under Continuing Education Course with overall performance of 'Very Good' from *Indian Institute of Science, Bangalore*.

Featured in : **Forbes**^{INDIA}, **TIME**, **business today**
for the Innovations and contribution to the society on promotion of water conservation and Rainwater Harvesting.

Experience :

Karnataka State Council for Science and Technology (Service 35 Years)

Project Assistant	26.11.1981 to 24.09.1983	2 years
Fellow	24.09.1983 to 01.10.1993	10 years
Senior Fellow	Since 01.10.1993	

International Energy Initiative (Asia office)

Programme Executive	01.07.1994 to 30.06.2000	6 years
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Indo Norwegian Environment Programme

Programme Manager	01.07.2000 to 29.02.2004	4 years
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Karnataka State Council for Science and Technology

Executive Secretary I/C	09.07.2007 to 05.05.2010	3 years
Principal Investigator - RWH	01.03.2004 to 30.12.2016	12 years
Principal Scientific Officer	Since 01.01.2017	

Projects and Programmes carried out:

1. Trainers' Training programme on 'sustainable rainwater harvesting and ground water recharge in developing countries – HRD and Technology Transfer, Hotel Atria, Bangalore
 2. Lake 2008: Conservation and Management of River and Lake Ecosystems – Symposium
 3. Rapid Urbanisation and Resiliency of Water Resources - Indo-US Joint Research Workshop
 4. Inventory of existing technologies for Biomass gasification
 5. Rainwater Harvesting Programme for Bangalore – INEP
 6. Rainwater Harvesting Programme for Tumkur – DST GOI
 7. Rainwater Harvesting Programme for Karnataka – RDPR GOK
 8. Solar Thermal Programme
 9. Biomass Gasification Programme
 10. Bacteria Free Water for Drinking by Silver Treatment (BFDST)
- **And many more**

Currently associated project / programmes:

1. Rainwater Harvesting (RWH) Cell at KSCST
2. "WASH" – Eco-Water Literacy Campaign – Karnataka
3. "RWH Help Desk" - Support Network – Rainwater Harvesting, Ground Water Recharge and Water Management Programme for Bangalore City
4. UNESCO RWH Project "RWH Advisor" web and Mobile app.

List of publications & reports - 36

1. A training programme for small-scale manufacturers of renewable energy devices in India
Energy for Sustainable Development, Volume 1, No.6, March 1995.
By: A.R. Shivakumar.
2. A Value addition to a modern house design: an integrated domestic Solar Water Heater
Energy for Sustainable Development, Volume 3, No.1, May 1996.
By: A.R. Shivakumar.
3. Attempting to fulfil rural energy needs with community participation
Energy for Sustainable Development, Volume 3, No.1, May 1996.
By: A.R. Shivakumar.
4. Rapid appraisal of Renewable Energy in Karnataka
A study on the potentials for product innovation
By: A.R. Shivakumar (KSCST), Erik Baumann and Bob Schulte (TOOL).
5. Large-scale Dissemination of Solar Water Heaters to Reduce Electrical Energy and Power for Water Heating – An Implementation Package with special reference to Karnataka
By: A.R. Shivakumar, Sudhir Chella Rajan and Amulya K.N. Reddy.
6. Implementation of Rural Energy and Water Supply Utilities (REWSUs)
By: A.R. Shivakumar, Sudhir Chella Rajan and Amulya K.N. Reddy.
7. Power Situation and Renewable Energy Role in Karnataka
By: A.R. Shivakumar.
8. Wood gasifier (Kannada publication)
Vignana Veenu, 5th Karnataka science congress, Belgaum, October 1993, Publisher - Karnataka Rajya Vignana Parishath

- By: A.R. Shivakumar.
9. Rural Energy and Water Supply Utilities an Overview of the Implementation Package
By: A.R. Shivakumar, Sudhir Chella Rajan and Amulya K.N.Reddy.
10. “Rainwater - Kids club” Open Sesame, Deccan Herald, English daily, August 23, 2003.
By: A.R. Shivakumar.
11. [Amruthavarshini](#) – A guide for Rainwater Harvesting (Kannada and English)
March 2005, Publisher - Karnataka State Council for Science & Technology
By: A.R. Shivakumar.
12. Rainwater Harvesting - Bangalore Experience
- “S&T Interventions in addressing problems of contamination of drinking water and water scarcity” Hyderabad, November 09 – 10, 2005.
 - “Water 2006” International conference on water issues, Auckland, New Zealand, August 01 – 04, 2006.
- By: A.R. Shivakumar.
13. Bangalore to Bijapura – Ten success stories on RWH (Kannada Publication)
“Karnataka Vikasa” February 2006, Monthly Magazine of Rural Development and Panchayat Raj Department, Government of Karnataka.
By: A.R. Shivakumar.
14. “Nanu mathu neeru nadedubanda daree” – A story on traditional water supply and RWH (Kannada Publication)
“Karnataka Vikasa” April 2006, Monthly Magazine of Rural Development and Panchayat Raj Department, Government of Karnataka.
By: A.R. Shivakumar.
15. “Haleya nenapu” – A story on self reliant water supply and RWH (Kannada Publication)
“Karnataka Vikasa” May 2006, Monthly Magazine of Rural Development and Panchayat Raj Department, Government of Karnataka.
By: A.R. Shivakumar.
16. “Vidana Soudadalli Maleneera Suggi” – Rainwater Harvesting in Vidhana Soudha (Kannada Publication)
“Karnataka Vikasa” June 2006, Monthly Magazine of Rural Development and Panchayat Raj Department, Government of Karnataka.
By: A.R. Shivakumar.
17. “Suvarna Jala” – Rainwater Harvesting in Rural Schools of Karnataka (Kannada Publication)
“Karnataka Vikasa” August 2006, Monthly Magazine of Rural Development and Panchayat Raj Department, Government of Karnataka.
By: A.R. Shivakumar.
18. [“World’s largest rainwater harvesting project in Karnataka”](#)
“Current Science” VOL. 92, NO. 2, 25 JANUARY 2007
By: A.R. Shivakumar.
19. “Institution - Karnataka State Council for Science and Technology”
“City Manager” VOL. 11, NO. 1, Apr - June 2006 A quality newsletter from the City Managers’ Association, Karnataka.
By: A.R. Shivakumar.
20. “When the well’s dry, we know the worth of water”
“Deccan Herald” Spectrum Tuesday, April 10,2007
By: A.R. Shivakumar.
21. “Namma Chavani Namma Neeru” – Rainwater Harvesting (Kannada Publication)

- “Janapada” June 2007, Monthly Magazine of Information Department, Government of Karnataka.
By: A.R. Shivakumar.
22. “Maleneerina Suggi” – Rainwater Harvesting (Kannada Publication)
“Yojana” June 2007, Monthly Magazine of Ministry of Information and Publicity, Government of India.
By: A.R. Shivakumar.
23. “Ani Aniuu Anthargangeyagali” – Ground Water Recharge (Kannada Publication)
“Janapada” July 2007, Monthly Magazine of Information Department, Government of Karnataka.
By: A.R. Shivakumar.
24. Revelation in Bangalore Water Supply:
“A Sustainable Water Management Strategy for Emerging Greater Bangalore”
Paper presented at the Government of Karnataka Workshop “Agenda for Bangalore Infrastructure Development” (ABIDe), NIAS, IISc Campus, on 28th June, 2008.
By: A.R. Shivakumar.
25. Inventory of Existing Technologies on Biomass Gasification – A Status Report 2008, Department of Science and Industrial Research, Government of India.
By: A.R. Shivakumar, S.N. Jayaram and S.C. Rajashekar
26. “Energy Efficiency at Home – Concept of Sustainable Living”
Paper presented at the Workshop “Design beyond Sustainability 08” Centre for Green Building Materials & Technology and KSCST, 7th - 10th Dec, 2008.
By: A.R. Shivakumar.
27. “Impact of Urbanization on Water Supply – Centralized Supply versus Sustainable Decentralized Model in Bangalore Context”
Paper presented at the Workshop “US – India Collaboration on Rapid Urbanization and its Resilience” IISc Campus, 14th - 19th Dec, 2008.
By: A.R. Shivakumar.
28. “A Sustainable Water Management Strategy for Emerging Metros in India”
‘A Case Study of Bangalore’
Paper presented at the “National Conference on Urban Water Management – Challenges and Options” Dec. 13-15 2009, Bangalore, India.
By: A.R. Shivakumar.
29. “Rainwater Harvesting and its Initiatives in Bangalore”
Paper presented at the “National Seminar organized by Environment Association of Bangalore, ISRO at NIAS” on June 12th 2010, Bangalore, India.
By: A.R. Shivakumar.
30. “Rainwater Harvesting (RWH) project to generate sustainable solutions for drinking water and create local employment in Karnataka - India”
Paper presented at the International Workshop on “Application of Science and Technology for Occupational Village Development”, 2-5 Aug 2010, Hanoi, Vietnam.
By: A.R. Shivakumar.
31. “Urban Water Supply Management through Rainwater Harvesting - Bangalore Initiative”
Paper presented at the “Cistup @ Cistup 2010 Conference on Infrastructure, Sustainable Transportation and Urban Planning”, 18 – 20 October, 2010, Bangalore, India.
By: A.R. Shivakumar.
32. Go Green - “Water Guardian” Series of articles on water conservation, every Monday

Published in the National Daily news paper “Deccan Herald” DHiE Student Edition, from July 25, 2011 – **Thirty issues**

By: A.R. Shivakumar.

33. State-of-the-Art Report on “Sustainable Rainwater Harvesting and Ground Water Recharge in Developing Countries” HRD and Technology
Published by Daya Publishing House for Center for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre)
By: Tanuja N. Ariyanda, A.R. Shivakumar, Vasant Takalkar
34. [“Closing the tap on Bangalore’s leaky water”](#)
Published by The Alternative, 10 April 2013
By: A.R. Shivakumar.
35. “RWH: Beyond legislation to Self Sustainable Urban Water Management”
Paper presented at the National Programme on “Urban Governance Reforms” 22 - 24 July 2013 at Administrative Staff College of India, Bella Vista, Hyderabad
By: A.R. Shivakumar.
36. A Comparative Study of Water Supply Systems of Sydney, Australia and Bangalore, India "A Case of a Decentralised Water Supply System and its Economic Analysis".
Published in Journal of Indian Water Works association April - June 2016
By: Dharmappa Hagare, Olumide Bhadmus-Ladi, A.R. Shivakumar, Mohan Kumar and M.N. Thippeswamy.

EQUIPMENTS / PROCESS DEVELOPED - 9

1. Raspodar Machine
2. Integrated Solar Water Heating System
3. Low Wattage High Efficiency Electric Water Heater (Patent Regd. by NIF)
4. Coconut Frond Shredder [Patent No. IN 208703](#)
5. PopUp filter for Rainwater Harvesting [Patent No. IN 248841](#)
6. Water Treatment for Bacteriological Contamination using Silver metal
(Under consideration for [Patent 409/che/2005](#))
7. First Flush Lock and Diverter for Rainwater Harvesting
(Under consideration for [Patent 2317/che/2007](#))
8. Air-core Reinforced Soap
(Under consideration for [Patent 2000/che/2011](#))
9. NewsPaperRole for Dining Table
(Under consideration for [Patent 2303/che/2013](#))
10. RoofWater Filter
(Under consideration for [Patent 3211/che/2015](#))

LECTURES, PRESENTATION & PROGRAMMES - 250

(Outreach Activities – PPT, TV, Radio etc.)

PAPERS PRESENTED ABROAD - 5

1. International Symposium “Participatory Technology Development” Innovation through dialogue
Amsterdam, The Netherlands, December 10 – 17, 1993.
2. International Workshop on the “Design, Performance and Marketability of Biogas Systems”
University of Ruhuna, Sri Lanka, May 10 – 14, 1999.
3. International conference “Water 2006” on water issues
Auckland, New Zealand, August 01 – 04, 2006.

4. International Exposure Visit to Israel “Technion Institute of Technology”
Haifa, Israel, November 01 – 06, 2009.
5. International Workshop on the “Application of Science and Technology for Occupational Village Development”
Hanoi, Vietnam, August 02 – 05, 2010.

AWARDS:

Recipient of

“NATIONAL AWARD FOR INVENTION OF THE HIGH EFFICIENCY LOW WATTAGE ELECTRIC WATER HEATER”

Awarded by the union government of India
Department of science and technology, for the year 2001

“CITIZEN EXTRAORDINARY – VOCATIONAL EXCELLENCE”

Awarded by the Rotary International, for the year 2007

“INDEPENDENCE DAY AWARD FOR MERITORIOUS ACHIEVEMENT”

Awarded by His Excellency the Governor of Karnataka, for the year 2007

“KEMPEGOWDA AWARD”

Awarded by Bruhath Bangalore Mahanagara Palike, for the year 2011

“INNOVATION AWARD AMMULYA 2012 FOR TWO PATENTS: IN 248841 and 2000/CHE/2011”

Awarded by the Governor of Karnataka Innovation Council

Designed and built “Sourabha” an “Eco friendly Home” in Bangalore – House having Rainwater Harvesting for all its needs, solar energy for water heating, lighting and thermal comforts inside the house, vermicompost of household organic waste etc.

Researched on various techniques of Rainwater Harvesting (RWH) over a decade and successfully implemented Rainwater projects under various Government and Foreign assisted programmes.

Design, plan and execution of Rainwater Harvesting projects for the following landmark buildings in Karnataka:

Vidhana Soudha, High Court, GPO, Rajajinagar Fire Station, Kidwai Memorial Hospital, Gandhi Krishi Vignana Kendra, Kengeri Beedi Workers Housing, Bangalore Mahanagara Palike Head Office, BWSSB Buildings, etc.

Associated as planner and technology provider for the following major programmes in Karnataka :

Rural Development and Panchayat Raj Government of Karnataka - Rainwater Harvesting Project in 23,000 Government Schools in rural Karnataka.

Rajeev Gandhi Housing Corporation, Navagrama Projects.

Rainwater Harvesting Resource Center at Mahathma Gandhi Regional Institute for Rural Energy and Development

RWH Resource Centers at Nirmithi Kendras at 27 districts of Karnataka.



Over 300 RWH projects planned for Private and public sector organizations:


 Hindustan Unilever Limited Hindustan Unilever Limited, Uttar Pradesh, Tamilnadu and Karnataka.

 **BOSCH** Bosch Ltd.,  St. Johns Medical College and Hospital, Bangalore.

 GE Global Research John F Welch Technology Center, Bangalore.


 **CIPLA** India Ltd.,  **BMS** College of Engineering Bangalore.



 Bangalore Metro Rail Corporation.  **THE ART OF LIVING** Art of Living, Bangalore.

 Central Manufacturing Technology Institute (CMTI), Bangalore.

 Indo American Hybreed Seeds Ltd, Bangalore and Hyderabad.

 **FRLHT**, Yelahanka, Bangalore.  **Arvind** Mills ltd., Bangalore.

 **KARNATAKA ANTIBIOTICS & PHARMACEUTICALS LIMITED** Karnataka Antibiotics and Pharmaceuticals ltd., Bangalore.

 Intel Technologies India Ltd., Bangalore.  **BWSSB** Bangalore Water Board.

 Indian Institute of Science.  Bangalore Metropolitan Transport Corporation.

 **Bata** Bata India Ltd, Bangalore.