

AVARD

ASSOCIATION OF VOLUNTARY AGENCIES FOR RURAL DEVELOPM

11th November 2008

WORLD WATER COUNCIL
SECRETARIAT OF THE KING HASSAN II GREAT WORLD WATER PRIZE
ESPACE GAYMARD
2-4 PLACE D ARVIEUX
13002 MARSEILLE
FRANCE

SUB: NOMINATION OF Mr. ANAND PRAKASH TIWARI FOR WATER PRIZE

Dear sirs,

I, as the President of Association of Voluntary Agencies for Rural Development (AVARD), a not-for-profit organization dedicated to the cause of rural development including interventions in water, sanitation and environmental sectors, hereby nominate **Mr Anand Prakash Tiwari** for the above Prize.

Mr. Tiwari, a brilliant scholar, advocates decentralization as the essence for alternate developmental model with experimental application to the sectors of water and sanitation. His research and fieldwork focusing on reforming institutions and delivery mechanisms has been carried out in various States of India.

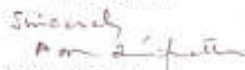
There is no set solution to the problem of designing water sector reforms in India due to the existing socio-economic characteristics, legal and regulatory framework. It is necessary to consider the peculiarities of the political system, socio-economic conditions and endowments of each region. The challenge, therefore, is to develop a systematic framework for structuring a generic institutional governance for water sector. His model of reforms in the area of water resources, conservation and institutions has provided direction to governance systems and capacity building on water conservation by grass root institutions such as Panchayats and NGOs for overcoming the growing water crises in cities, towns and villages of various water starved developing regions with scalability and replication potential in developing countries.

His grass root research has wide ramifications as regards improvement in water delivery and resource management through peoples' partnerships in conservation and management of water resources in the villages as well. During the last three years of experimentation in various water starved regions, he has tried to revitalize the traditional water harvesting structures and generate mass awareness through demonstrations and capacity building initiatives on water conservation.

I, therefore, strongly recommend him for the Prize.

A duly filled in Nomination Form along with letters of two referees - Dr Mahavir, Professor, School of Planning and Architecture and General Secretary, Vision Foundation, is enclosed, besides a brief CV, publication record and media coverage of the nominee with photographs highlighting his major achievements.

With kind regards,



(P.M. Tripathi)
President

Encl. ama.

Dr. Mahavir
Professor of Planning

Ref. I/M/PP/SPA

November 5, 2008

RECOMMENDATION FOR MR A. P. TIWARI

I know Mr. Anand Prakash Tiwari as a public policy scholar working in the field of water and environmental issues in the National Capital Delhi, India. I had various interactions with him both as a scholar and as a professional on various platforms and as a visiting faculty at the School of Planning and Architecture, new Delhi. All my past interactions with him have put me in a position to comment on his scholastic, commitment and professional capabilities.

Mr. A. P. Tiwari, is an Environmental Engineer-cum-Planner and his Doctoral work is focusing on water and infrastructure reforms. His doctoral dissertation focusing on institutions and delivery mechanisms has been carried out at The Energy and Resource Institute (TERI) headed by the Noble laureate Dr R. K. Pachauri, Chairperson of IPCC. He has widely presented and published his research work both in India and abroad. During the last three years he has created an international debate in various forums of European Union, Berlin Conference on Human Dimensions, World Water Assessment Programme (WWAP) Barcelona, International Environmental Law Research Center (IELRC) Geneva, Sustainability Development Research Network (SDRN), London advocating realignment of governance and institutional systems through a mix of Public-Private-People partnerships. He advocates shifting the focus on governance reforms reducing technical losses for sustainability in resource use.

He has handled various portfolios pertaining to Urban Environmental Infrastructure at various positions and has professional experience of over 18 years in the sector handling a priority programme on Urban Renewal Mission of the Govt. of India and has strongly advocated for introduction of water reforms, conservation and reuse of water. During the course of my interactions, I have found him leading movements committed to the social and environmental cause of water and leadership qualities with grasp on technical and micro issues of developmental governance.

His dedication to the cause of water and environment is unparalleled. I strongly recommend him for the King Hassan II Great World Water Prize - 2009.


(Mahavir)

05-11-2008

King Hassan II Great World Water Prize - 2009

NOMINATION FORM

I. Nominator Information

Candidates must be nominated by two individuals and/or organizations.

Nominator #1

- Name : P. M. TRIPATHI
- Position : PRESIDENT
- Organization : ASSOCIATION OF VOLUNTARY AGENCIES FOR RURAL DEVELOPMENT (AVARD), 5 FF INSTITUTIONAL AREA DEEN DAYAL UPADHYAY MARG, NEW DELHI -11002 INDIA
- Telephone : +91 11 23234690 Fax : 91 11 232532501
- E-mail : avard@del3.vsnl.net.in & avard@bol.net.in

DATE: 05 November 2008

SIGNATURE: P. M. Tripathi

OFFICIAL SEAL:

President
Association of Voluntary Agencies
for Rural Development (Avard),
5, Deendayal Upadhyay Marg,
New Delhi-110002

Nominator #2

- Name : PROFESSOR Dr. MAHAVIR
- Position : PROFESSOR IN PHYSICAL PLANNING
- Organization : SCHOOL OF PLANNING AND ARCHITECTURE (UNIVERSITY)
- Address : 4, BLOCK B, I P ESTATE NEW DELHI -110002
- Telephone : 91-11-23702378 Fax : 91-11-23702383
- E-mail : mahavir57@yahoo.com

DATE: 5 Nov 2008

SIGNATURE:

OFFICIAL SEAL:

2. Nominee Information

We wish to nominate:

- Name : ANAND PRAKASH TIWARI
- Position : ASSISTANT CHIEF (INFRASTRUCTURE)
- Organization : HOUSING AND URBAN DEVELOPMENT CORPORATION
- Address : INDIA HABITAT CENTRE, LODHL ESTATE
NEW DELHI - 110003
- Telephone : 91-11 2462 7094 Fax : _____
- E-mail : apltiwari20767@gmail.com

3. Please attach

- Nominee's curriculum vitae,
- A summary document (up to 2000 words) reviewing the work and achievements of the Nominee, demonstrating the reasons why the Nominee's accomplishments should be considered as an outstanding contribution to the field of cooperation and sound management in the development and use of water resources.
- Two letters of reference supporting the candidacy.
- Any document containing the opinion of others on the nominee's accomplishments.

4. Closing date for acceptance of nomination is 15 October 2008.

Nomination documents should be sent to World Water Council's mailing address as indicated below. However, the Nomination Form may also be sent by fax or by e-mail.

If you wish to request more information, you may use the same address and numbers:

World Water Council
Secretariat of the King Hassan II Great World Water Prize
Espace Gaymard
2-4 Place d'Arvieux
13002 Marseille - France

Tel. (33) 04 91 99 41 00 - Fax. (33) 04 91 99 41 01
E-mail: hassan2@worldwatercouncil.org

CURRICULUM VITAE

NAME	ANAND PRAKASH TIWARI
DATE OF BIRTH	July 20, 1967 (Age 41 years)
POSTAL ADDRESS	14/105 Vasundhara, Ghaziabad Uttar Pradesh, INDIA – 201010
TELE PHONE	Off: 91-11-24648160/24651165 Ext. 4019. Fax: 91-11-24635317 Res. : 91-0120-4378140 Mobile: 09910220793 E-mail: apitiwari20767@gmail.com
EDUCATIONAL QUALIFICATION	PhD in Infrastructure and water sector institutional reforms from The Energy and Resources Institute (TERI) University, India Habitat Center New Delhi. Oral defence waived. Master's in Planning from Center for Environmental Planning and Technology, Ahmedabad, INDIA. Specialization: Public Health Engineering, Environmental Management. B.E. Civil Engineering from Delhi College of Engineering, Delhi University. Specialization: Project Management.
PROFESSIONAL AFFILIATIONS	Associate Member of International Water Association, UK Associate Member of Indian Society for Ecological Economics Associate Member of Institution of Engineers of India. Associate Member of Institute of Town Planners of India.
PROFESSIONAL EXPERIENCE	Total Work Experience of 18years in Infrastructure Sectors of water and sanitation at the grassroots, Village, Municipality and government level.
TRAINING/ACADEMIC EXPERIENCE	Lectures on Infrastructure Policy and Urban planning at SPA-DELHI, Training of Trainers and lectures on Management for water, Training International participants and grassroot functionaries in India on water and sanitation
SOCIAL ACTIVISM	HONRARY TECHNICAL ADVISER TO NOT FOR PROFIT ORGANISATIONS: ALL INDIA PANCHAYAT PARISHAD (NGO), BRIJ KSHETRA UTHAN SAMITI (NGO) VISION FOUNDATION (TRUST)
COUNTRIES VISITED ON OFFICIAL/RESEARCH MISSIONS	U.K., France, Germany, Spain, Japan, Indonesia, Netherlands, Belgium, Switzerland, Finland, Macao, China

Achievements

Assistant Chief Infrastructure Officer at Housing & Urban Development Corporation Ltd. HUDCO (A techno financial institution for human habitat of the Government), India Habitat Centre, HUDCO Block, 1st Floor, Lodhi Estate, New Delhi, India. The specific professional missions accomplished during his career are:

- A team member of Mission implementing, Urban Renewal Mission, a 7 Year National Program Of Government Of India (2005-2012) for Environmental Infrastructure Improvement in 5000 Urban Centers, lead the Technical Appraisal and Monitoring of Environmental Infrastructure projects (Water Supply, Sewerage, Drainage, Solid waste) from Engineering, Planning and Environmental perspective. He was actively involved in implementation of a National Program of Low Cost Sanitation (1995-2000) in Project appraisal and project monitoring, implemented policies to bring Environmental sustainability, decentralization of services and developed scalable and replicable models alternatives for sustainable development.
- Integrated project life-cycle concepts in Environmental Infrastructure mainly water supply, sanitation, and solid waste management sector with implementing agencies and grassroot agencies.
- Edited newsletter "VIKAS BHARTI", a quarterly magazine dealing with policy and experience sharing among stakeholders.
- Conducted training program for capacity building of Municipal Officers and grassroot functionaries in India on water and development issues.
- Established network with external agencies like NCR Planning Board, Planning Commission and other International Agencies like USAID, UNDP and academic institutions/NGO's.
- Technical Member of the Project Approval Committee and Project Appraisal Committee for sanctioning industrial growth center projects for the Department of Industrial Promotion, Ministry of Industry, and Government of India during the period 1997-1999.
- Technical Member of the Coordination Committee for implementation of integrated program on low cost sanitation, Ministry of Urban Affairs and Poverty Alleviation during the period 1995-2000.
- Technical Member of Indian delegation to France for setting of Water Management Institute in partnership with Government of France and Department of Science and Technology of Government of India.

□ TECHNICAL ADVISER TO GRASSROOT NGO (ALL INDIA PANCHAYAT PARISHAD, VISION FOUNDATION, BRIJ KSHETRA UTHAN SAMITI IN THE FIELD OF WATER, ENVIRONMENT AND PUBLIC POLICY. Technical interventions based on site-specific realities had wide ramifications in improvement of the water harvesting, water conservation, delivery, resource management incorporating people partnerships in various villages and municipalities.

PUBLICATION/PAPERS on RESEARCH WORK:

1. Tiwari A P. 2008 "Redesigning Institutions and Governance Systems for Urban Water Demand Management: Case of Developing City Delhi, India." Paper presented in 2nd International symposium on food and water sustainability AT Macao, China on 7th-8th Oct 2008 sponsored by Govt of Japan.

2. Tiwari A P. 2008 "Redesigning institutions and governance systems for water sustainability: Case of developing city Delhi" IHDP Conference on long term policies: Governing social ecological change being Organized by the Socio Ecological Research Center, Berlin in Berlin on 22-23 Feb., 2008.

3. Tiwari A P. 2007 "Life Cycle Analysis and Sustainability in Resource use: A case for Governance reforms in water delivery in Delhi, India " CALCAS Workshop entitled Life Cycle Analysis And Water Sector Governance Reforms Organized by the Free University Berlin in Brussels 27-28 September 2007.

4. Tiwari A P. 2007. "Creating Enabling conditions for sustained reforms in urban water sector: A case for legal reforms in National Capital Region Of Delhi." Workshop entitled Legal aspects of water sector reforms organized in Geneva from 20-21 April 2007 by International Environmental Law Research Center (IELRC). Geneva, Switzerland.

5. Tiwari A P and Dutta V, 2006. "Customer's choice and preference of water supply institutions: A case of water sector reforms in Delhi, India" Berlin Conference on the Human Dimensions of Global Environmental Change at the Environmental Policy Research Center, November 17 – 19, Berlin, Germany.

6. Tiwari A P. 2006. " Choice and preference of water supply institutions--An exploratory study of stakeholder preferences of water sector reform Delhi, India." Researchers Conference on Water Supply Governance Framework organized by Engineering Without Borders, November 15 – 16, 2006, Barcelona.

7. Dutta V and Tiwari A P. 2005. "Sector Reforms, Regulation and the Challenges of sustainability: Demand side Analysis for Urban Water Utility of Delhi, India" XII World water Congress of IWRA, Water for Sustainable Development – Towards Innovative Solutions, 22–25 November 2005, New Delhi.

8. Dutta V and Tiwari A P. 2005. "Water as an economic good – A framework for valuing environmental externalities for the urban water supply and use" IWA International Conference on Water Economics, Statistics, and Finance, Rethymno, Greece, July 8 – 10, 2005. ISBN 960-88 711-1-5, 9–14

9. Dutta V and Tiwari A P. 2005. "Pricing water - Reflections on the Increasing Block Pricing policy of Delhi's water utility." Indian Buildings Congress, Vigyan Bhavan, New Delhi.

10. Research Poster selected as a finalist in medal category of Sustainability Development and Research Network (SDRN) conference organized by Economic and Social Research Council, U.K 19-20 Sept 2007



Anand Prakash Tiwari, a noted Gandhian scholar advocates philosophy of decentralization as an essence for alternate development model with experimental application to the sectors of water and sanitation. He has a Bachelor in Civil Engineering and Masters in Planning from Centre for Environmental Planning and Technology. An advocate of decentralized Panchayati Raj Institutions has been in forefront in the Water Sector Reforms advocating rebuilding of a new social domain by realignment of institutional and governance mechanisms in the Developing World. Sustainability in resource use through optimum consumption has been his key theme based on experiments conducted on Water arguing for a basic necessity and political good. Gandhian way of decentralization of water planning, usage and management can be institutional answer to the problems of water.

His doctoral dissertation “Choice and Preference of Water Supply institutions: Analysing Expert, Stakeholder and Consumer Preferences for Reforms in developing city of Delhi” focusing on institutions and delivery mechanisms has been carried out at, THE ENERGY AND RESOURCE INSTITUTE (TERI) headed by the Noble laureate Dr R. K. Pachauri chairperson of UNFCCC. He has widely presented and published his research work both in India and abroad. During the last three years he has created an international debate in various forums advocating institutional change through peoplisation of reforms in water sector.

His grassroot research had wide ramifications in improvement of the water delivery, resource management by incorporating people partnerships in conservation and management of water resources. He has tried to revitalize the traditional water both by academic interventions and creating mass awareness through technical interventions in water starved regions of Vidarbha region and Bundelkhand and Brij region of Uttar Pradesh, India.

His major research interest areas are Public Policy & Water Resources and Management.

**CREATING INTERNATIONAL DEBATE
ON WATER INSTITUTIONAL AND
GOVERNANCE REFORMS**

Delivering thematic lecture at Berlin Conference 2006



Felicitation by AOTS, Japan at Yokohoma, Tokyo



Key Speaker at IELRC Conference at Ganeva 2007



Panel discussion on Environmental Technologies at Yokohoma, Tokyo



Member of Indian Science & Technology Delegation to France



Member of Indian Science & Technology Delegation to France



Climate change awareness week at London School of Economics, London



Delivering thematic lecture at Berlin Conference 2008



Delivering thematic lecture at Berlin Conference 2008



Engineering without Borders Conference, Barcelona 2006



Delivering thematic lecture at Second International Food and Water Sustainability Symposium 2008, Macau, China



**GRASS ROOT EXPERIMENTS AND
FIELD WORK**

VISION FOUNDATION, AKOLA



ग्रामीण भागात जलसंधारणाची विविध कामे



गावातील शालेच्या छतावर पडणारे पावसाचे पाणी संकलीत करण्यासाठी शिवकालीण पाणी साहय्यण योजने अंतर्गत कार्य

VISION FOUNDATION, AKOLA



ग्राम पाणी पुरवठा व स्वच्छता समितीला तांत्रिक प्रशिक्षण देणे.



ग्रामीण भागात शिद्यकालीन पाणी साठवण योजनेचे कार्य करत असलेल्या ग्राम पाणी पुरवठा व स्वच्छता समितीला तांत्रिक मार्गदर्शन देणे.

VISION FOUNDATION, AKOLA



जी.प. शाळा जामडी (बु.) त. मुर्तीजापुर, जि. अकोला येथील
विनाश्यांना पाणी, स्वच्छता, इत्यादींचे महत्त्व सांगताना संस्थेचे कार्यकर्ते



हॅकसायकल गावांमध्ये जावून पाणी वचलीचे व शिवकालीन पाणी
साठवण योजनेचे महत्त्व समजावून सांगणे.



भारतात सर्वात मोठ्या असलेल्या बुलडाणा अर्बन या पत्रसंस्थेचे
अध्यक्ष मा. श्री. राधेश्यापजी चांडक (भाईजी) यांचे सोबत
सहकार व लोकसहभाग या विषयावर चर्चा

Governance Reforms Using LCA For Sustainability of Resource Use in Urban Water Delivery: A Case of Developing City Delhi, India



Anand. Prakash. Tiwari
 Ph D Candidate, Centre for Regulatory & Policy Research, Department of Policy and Planning, TERI UNIVERSITY, India Habitat Centre, Lodi Road, New Delhi 110 003, INDIA,
 E-mail: aptiwari20767@gmail.com

THEME

- Sustainable use of water has been a growing concern,
- The public sector model has led to excessive wasteful use of water, poor treatment of water sources and an unsustainable demand usage pattern.
- The need to develop flexible institutions to maximize water's use is essential for sustainability sector.
- Institutional reforms are most difficult to implement in the prevailing political economic constraints (Ward, 2002).
- Sustainability and Conservation of resource are the key drivers of reforms in water delivery and management.
- There is sufficient reason to rethink the institutional governance paradigm by incorporating environmental social choice in decision-making.
- The possibility of incorporation of Life Cycle indicators (LCA) in decision-making is studied in a multi criteria frame work.

INDICATORS

Efficiency indicators:

- Quantity,
- Quality
- Reliability of services

Financial aspects:

Adequacy of cost recovery for operation

Equity aspects:

Affordability, equitable access and participation in benefits and

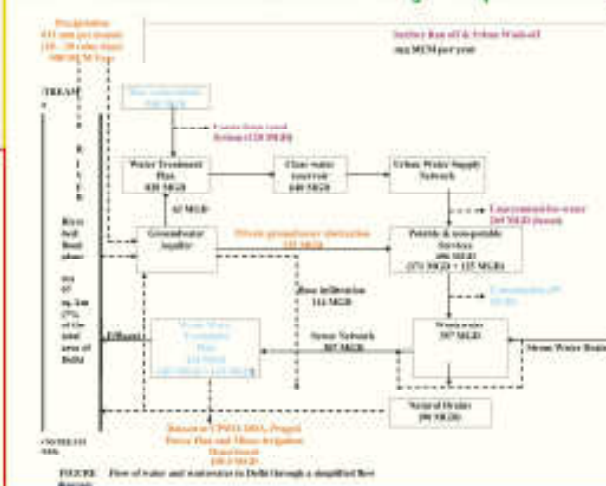
Environmental & Sustainability Indicators:

Financial self-sufficiency and Long term sustainability

CRITERIA

- Improved service (water and sewerage)
 - Quality
 - Reliability
 - Coverage
 - Customer satisfaction
- Study of distribution losses and non revenue water
- Concern for poor and equitable service.
- Efficiency in operations
- Increased future investment and capacity
- Financial self-sufficiency
- Long term sustainability

Flow of water and wastewater in Delhi through a simplified flow diagram



Components of Non-Revenue Water (NRW) IN DELHI CITY

A	B	C	D	E	F	
System Input Volume	Authorized Consumption (60%)	Billed authorized consumption (20%)	Billed meter consumption	14%	Non Revenue water (20%)	
		Unbilled authorized consumption (10%)	Unbilled consumption	1%		
		Unauthorized consumption (30%)	Unauthorized consumption	19%		
	Water losses (40%)	Apparent losses (5%)	Unaccounted consumption	2.5%		
		Real Transmission and Distribution Losses (35%)	Leakage in transmission main	14%		
		Leakage on distribution main and service connections to the point of metering	21%			

- The research uses multi-criteria analysis using life cycle sustainability indicators for achieving a consensus evolving solution amongst all stakeholders.
- Two key comparative assessments were made - a comparison of efficiency, equity and sustainability criteria and a pair wise comparison of delivery mechanisms with varying degree of PSP.
- The primary sources include customer surveys, expert opinions and stakeholder opinion besides semi-structured interviews with resident welfare associations based on proportionate sampling residing in the clusters of Delhi.

Experts and stakeholder views as important attributes modeled through Logit Model using maximum likelihood estimation technique

Variable	Logit	OR	95% CI
Age	0.0000	1.0000	0.9999, 1.0001
Gender	0.0000	1.0000	0.9999, 1.0001
Education	0.0000	1.0000	0.9999, 1.0001
Income	0.0000	1.0000	0.9999, 1.0001
Occupation	0.0000	1.0000	0.9999, 1.0001
Religion	0.0000	1.0000	0.9999, 1.0001
Marital Status	0.0000	1.0000	0.9999, 1.0001
Family Size	0.0000	1.0000	0.9999, 1.0001
Water Quality	0.0000	1.0000	0.9999, 1.0001
Water Quantity	0.0000	1.0000	0.9999, 1.0001
Water Reliability	0.0000	1.0000	0.9999, 1.0001
Water Cost	0.0000	1.0000	0.9999, 1.0001
Water Service	0.0000	1.0000	0.9999, 1.0001
Water Infrastructure	0.0000	1.0000	0.9999, 1.0001
Water Management	0.0000	1.0000	0.9999, 1.0001
Water Policy	0.0000	1.0000	0.9999, 1.0001
Water Regulation	0.0000	1.0000	0.9999, 1.0001
Water Governance	0.0000	1.0000	0.9999, 1.0001
Water Sustainability	0.0000	1.0000	0.9999, 1.0001
Water Security	0.0000	1.0000	0.9999, 1.0001
Water Resilience	0.0000	1.0000	0.9999, 1.0001
Water Adaptability	0.0000	1.0000	0.9999, 1.0001
Water Transformability	0.0000	1.0000	0.9999, 1.0001
Water Robustness	0.0000	1.0000	0.9999, 1.0001
Water Redundancy	0.0000	1.0000	0.9999, 1.0001
Water Diversity	0.0000	1.0000	0.9999, 1.0001
Water Modularity	0.0000	1.0000	0.9999, 1.0001
Water Resilience	0.0000	1.0000	0.9999, 1.0001
Water Adaptability	0.0000	1.0000	0.9999, 1.0001
Water Transformability	0.0000	1.0000	0.9999, 1.0001
Water Robustness	0.0000	1.0000	0.9999, 1.0001
Water Redundancy	0.0000	1.0000	0.9999, 1.0001
Water Diversity	0.0000	1.0000	0.9999, 1.0001
Water Modularity	0.0000	1.0000	0.9999, 1.0001

The empirical results indicate :

- The non-revenue water
 - Unaccounted for water
 - Recycling in resource
- Use are dominant indicators for choice of institution.

The research provides a framework for incorporating stakeholder's opinion for decision making and sustainable policy instruments required for reforms.

POLICY CHOICE

- The empirical results suggest the broad contours and framework of reforms for sustainability of resources and institutions.
- Benchmarking competition incorporating public-private partnership is the model to be experimented in India.
- Attempt to discourage wasteful use and efficiency enhancement by reduction in water losses by systemic change.

PRESS AND MEDIA COVERAGE