

WATER COMMUNICATION

ANALYSIS OF STRATEGIES AND CAMPAIGNS FROM THE WATER SECTOR

EDITED BY CÉLINE HERVÉ-BAZIN

Water Communication

Analysis of Strategies and Campaigns from the Water Sector

Dr. Céline Hervé-Bazin



Published by

IWA Publishing Alliance House 12 Caxton Street London SW1H 0QS, UK

Telephone: +44 (0)20 7654 5500 Fax: +44 (0)20 7654 5555 Email: publications@iwap.co.uk Web: www.iwapublishing.com

First published 2014 © 2014 IWA Publishing

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the UK Copyright, Designs and Patents Act (1998), no part of this publication may be reproduced, stored or transmitted in any form or by any means, without the prior permission in writing of the publisher, or, in the case of photographic reproduction, in accordance with the terms of licenses issued by the Copyright Licensing Agency in the UK, or in accordance with the terms of licenses issued by the appropriate reproduction rights organization outside the UK. Enquiries concerning reproduction outside the terms stated here should be sent to IWA Publishing at the address printed above.

The publisher makes no representation, express or implied, with regard to the accuracy of the information contained in this book and cannot accept any legal responsibility or liability for errors or omissions that may be made.

Disclaimer

The information provided and the opinions given in this publication are not necessarily those of IWA and should not be acted upon without independent consideration and professional advice. IWA and the Author will not accept responsibility for any loss or damage suffered by any person acting or refraining from acting upon any material contained in this publication.

British Library Cataloguing in Publication Data

A CIP catalogue record for this book is available from the British Library

ISBN: 9781780405216 (Paperback) ISBN: 9781780405223 (eBook)

About the authors

Lead Author

Dr. Céline Hervé-Bazin (France)

Since 2005, Céline has specialised in water from a communication science approach. She conducts research projects on water and women; scientific mediation, EU funded projects and knowledge and citizens and water stakeholders' perceptions. She works as a consultant in communication and has conducted several campaigns and projects for organisations from the water sector in print format as well as via TV production and Internet. She teaches communication at the CELSA, School of Communication at the University of Sorbonne.

http://celinehervebazin.wordpress.com Contact: celinehervebazin@gmail.com

Contributors (alphabetical order)

Patricia Bakir (Jordan/United States of America)

Patricia Hotchkiss Bakir is an independent consultant specializing in institutional and communication aspects of water/environmental sector development and management. She has conducted institutional assessments and developed communication and stakeholder consultation plans on a range of projects including water utility management, water reuse, water privatization and participatory irrigation management. She is a member of the Leadership Team of the International Water Association Public and Customer Communication Specialist Group.

Alex Bielak (Canada)

Dr. Alex Bielak is an internationally-recognized, award-winning Knowledge Translation and Brokering authority and has delivered a variety of successful communications campaigns and broadly-adopted initiatives to link science with policy development. He has extensive experience in the water sector: Dr. Bielak was Senior Research Fellow and Knowledge Broker with the United Nations University Institute for Water, Environment and Health, and served as Senior Advisor to the Chair of UN-Water. He worked at senior levels in various NGOs and Canadian provincial and federal departments, and at the National Water Research Institute: Alex remains affiliated with the two leading water research groups in Canada (member of the Canadian Water Network Watershed Research Consortium Management Committee, and expert reviewer on Knowledge Application, and Honorary Member of the Canadian Rivers Institute). An Adjunct Professor in the Department of Communication Studies and Multi-Media at McMaster University, he recently founded his own company, *Alex Bielak Communications*. While he likes a nice cool glass of water, he sometimes prefers a good Pinot. (www.linkedin.com/in/alexbielak)

Kajsa E. Dalrymple (USA)

Kajsa E. Dalrymple is an Assistant Professor in the School of Journalism and Mass Communication and a faculty associate of the Water Sustainability Initiative at the University of Iowa. Her research focuses on the intersection between science, communication, and public policy. She has worked closely with both state and governmental officials and Extension efforts to help facilitate campaign development dealing with environmental conservation and assess the behavioral impact of prosocial marketing campaigns.

Sara Dolnicar (Australia)

Sara Dolnicar is a Research Professor in the Faculty of Business, Economics and Law at the University of Queensland. One of Sara's key research areas is the assessment and improvement of measures in the social sciences. She has primarily applied her work to tourism and social marketing (public acceptance of water from alternative sources, environmental volunteering and foster care). Since 2008 Sara has – jointly with Dr. Anna Hurlimann from the University of Melbourne – worked on a Australian Research Council funded project focusing specifically on beliefs the general public holds about water from alternative sources as well as water conservation, what the public's acceptance levels are of those options and how their beliefs and behaviors can be modified to be more open minded towards methods of helping countries secure a guaranteed water supply for the future.

Brita Forssberg (Sweden)

Manager of Communications at the Stockholm Water Company until 2005, Brita has been working to build the awareness and education of people in Stockholm on their active role in preserving the quality of their water and wastewater services. The results were regularly monitored and proved to be quite effective. She was the Chair of the IWA Specialist Group on Public and Customer Communications until 2012 and earlier Vice Chair of the same group until 2005. From 2006 until 2013, she was the Secretary of IWA Sverige, the Swedish National Committee. She holds a BA in languages and pedagogy at the University of Stockholm and studies of economics at the Stockholm School of Economics.

Beatriz Medina (Spain)

Beatriz Medina is a specialist in Environmental Communication based in Barcelona with AMPHOS21, an international consultancy. She has worked on numerous projects in communication and environmental science including Water Research to Market (LIFE+) and WaterDiss2.0 (FP7). She is experienced in developing methodologies to improve the effectiveness of the Science/Policy interface (knowledge brokerage) in the water sector. Her areas of expertise include analysis of environmental policy-making, public perception and design of methodologies in communication and general public involvement. She also has experience in water management and resource efficiency.

Fredrick Mugira (Uganda)

Fredrick Mugira is a multiple award-winning journalist with over 13 years of wide-ranging experience working in Uganda, pan-African and international media, and over five years' experience in training of journalists. His journalism career has concentrated on investigating and reporting stories on rural WASH issues. He has both a Master's Degree and Post-Masters Certificate in Communication for Development. He heads Water Journalists Africa - the network of journalists in Africa who report on water and sanitation. He is also the ambassador for the Netherlands based The Water Channel.

Isaac Nyengue Bahanak (Cameroun)

Isaac graduated from the National School of Agro-Industrial Sciences (ENSAI), which trains the industrial engineers. In 2006, he founded Synergy Youth and Development (SYJEDE) that aims at achieving the Millennium Development Goals, particularly, access to clean drinking water. In 2011, he created a Green Technologies SARL, an engineering consultancy firm. He is currently working at the GIZ Cameroon as junior expert to support and implement the COMIFAC project for environmental and forest protection.

Philippe Quevauviller (France)

Philippe has been a researcher in oceanography and environmental chemistry before joining the European Commission, firstly at the Directorate-General for Research in the area of measurements and testing, then successively at the Directorate-General for Environment where he was in charge of EU water policy, back to Research and Innovation in the area of climate change and natural hazards, and now, Enterprise and Industry where he is in charge of research programming in the area of security. He is author or co-author of about 240 articles published in the international peer-reviewed literature, 50 book chapters and 60 reports; he is editor or co-editor of 27 special issues of scientific journals and 15 books, editor of two book series, and author or co-author of 6 books. He is also Associate Professor at the Vrije Universiteit Brussels (VUB) in the area of integrated water resource management.

Manjunath Sadashiva (India)

Over the last 23 years, Dr. Manjunath Sadashiva has worked in various volunteering and professional roles as a street children educator, citizen activist, visiting lecturer, trainer, manager, consultant and researcher. Two of his main professional interest areas are civic, political and environmental education, and democracy, civil society and participatory governance. He cofounded CMCA programme in the year 2000 and has been its full time Director since 2011. Prior to this, he was lead consultant on participatory governance to CIVICUS: World Alliance for Citizen Participation, Johannesberg, South Africa.

Lis Stedman (United Kingdom)

Lis is an associate editor of Water 21 magazine and was editor of Water Bulletin magazine. Over the years she has written for Water and Wastewater International, WET News, Edie.net and various other water sector and more general environmental titles. She is particularly recognized for her skills in writing technical challenges translated into universally accessible wording.

Acknowledgements

I would like to express my deepest recognition to the contributors of this book. I highly appreciate the time they dedicated to sharing their views or summarizing their scientific work and experience with water. They expressed their honour of taking part to this adventure when it should be reversed: what an honour to have them writing for this initiative. I thank you all for your dedication, your amazing work and your encouraging words about this project. I would like to thank my patient readers: Brita Forssberg, Maja Hodzic, Louise Hoogenhoot and Kyle Schneider. I would like to express my deepest recognition and sincere "merci" to Alex Bielak for his advice, understanding and time he dedicated to this project, it's been most helpful and encouraging.

I also take this opportunity to thank all the water professionals and citizens I questioned endlessly about their work and who are always keen on helping my research. Most of you are listed in the methodology (see Annex) but to those who didn't contribute directly to this work, rather having already participated to my other research projects, I'd like to thank you again for your dedication and answers about communication and water.

Preface

By Dr. Céline Hervé-Bazin

Water is life. Water is a right. Water is the oil of the 21st century. Universally, water is considered to be the most vital resource shared by humans, etc. These statements are consensual; they represent the most repeated discourses about water. Despite such common shared beliefs and public awareness about the importance of water, the world faces many kinds of water crises. Additionally, many water professionals consider the public has insufficient understanding of key, current water challenges, the reality of the water cycle and its technical requirements, its complex legal system or pricing. The long chain of impacts from our water consumption is clearly not fully understood. Many false beliefs circulate about water, leading to misunderstanding, fear, rejection, immobility, and misgovernance, etc..

Today, many hope communication can provide a solution. Information and Communication Sciences are a relatively new domain, particularly Environmental Communication, which has risen to prominence in the last decade or two.

This book provides an initial overview of the scope of Water Communication, by examining who communicates, and on what topics. I decided to organize our work based on geographical divisions. The approach is divided into the International, Global, National/Regional, and Local/community level. This choice is based on the fundamental characteristic of water as a local resource. Water is considered both a human value and a territorial resource. This scaled approach affords the opportunity to analyse the influence of different spheres, actors – organizations and target groups – and communities. As such, this book doesn't address the specific needs of communication by topic e.g. drinking water quality; water quantity; surface, ground, reclaimed, reused, recycled, purified waters; water governance; water rights e.g. legislation, directives, standards; etc. Many guides and scientific works have already been developed in these areas and we have provided some pertinent references related to those topics.

I hope this book will help you in your work, particularly to consider the impacts of your work and how to communicate it as you interact with different audiences. I provide two key elements to water sector professionals

- A select panorama of water campaigns mentioning target groups, tools and scale. (See Annex 4).
- A reflection about developing communication campaigns on water to assist your strategic choices in a globalized environment. Today, there are many contradictory messages and campaigns on water. By considering different messages, communication tendencies and resemblances, we want to help water professionals to understand how contradictory messages and campaigns can bring confusion and misunderstanding on water challenges today.

On a more personal level, I am attempting to set up a "communication water research group": Communicators in the water sector are a distinct minority when contrasted with what many consider the traditional composition of the water sector. This book represents a step towards greater visibility and integration of communication approaches with social and economic research in the water sector. Ultimately, I want

to encourage more research, funding and integration of communication and social sciences in water management projects globally.

This book represents a first step in broaching such discussions. It requires further contributions, research and enhanced analysis of what has been done before. This work is based on my experience and therefore, referring to many examples from France. I am aware of the limits of this work but it will hopefully serve to identify research needs for more research on Water Communication. (See Annex 1 on methodology and reference material)

Please, feel free to contact us to share your views on this initiative.

Editorial concerns

This book provides several reproductions of logos and advertisements for the purpose of research and to support our description. Our objective was to give examples of existing campaigns about water management, not to use them for advertisements purposes or in a negative context and impacts. We did our best to gain the authorisations but despite our efforts some materials might be reproduced without appropriate consent. Please don't hesitate to contact us so that we can provide adequate corrections and amendments in future editions. Contact: celinehervebazin@gmail.com

Foreword to "Water Communication"

By Alex T. Bielak PhD

Founder and Chief Knowledge Broker, Alex Bielak Communications

With a number of interesting book projects and other initiatives already under her belt, Dr. Céline Hervé-Bazin has drawn on her burgeoning network of contacts in the "water world" to help supplement this treatise on water communications. Though I frankly doubt anyone would have been able to resist an invitation from this dynamic and persuasive communicator, it was nonetheless an honour to have been asked by her to provide the Foreword to such a broad-ranging work.

Clearly IWA Publishing recognizes the significance of this topic: to understand why I consider this book important, readers need some background. I hope they will indulge the diversion from a straightforward foreword, and find my narrative both informative and helpful in understanding my enthusiasm for Céline's efforts.

Water permeated my life in many ways. Before I moved to *Waterdown* in Ontario, I lived in *Fall River* Nova Scotia. By the time this book is published we will likely be in the process of moving to the City of *Waterloo!* During undergrad studies in the seventies in Britain, my first work-term experience was with the East Suffolk and Norfolk *Water* Authority, and my second with The *Water* Research Centre in Stevenage.

My PhD thesis was on the salmon of the Quebec North Shore. I've had jobs with the National Water Research Institute at the Canada Centre for Inland Waters, as well as with the United Nations University Institute for Water, Environment and Health. I remain closely involved with the Canadian Rivers Institute and the Canadian Water Network,

So, I'm passionate about water and communications, and have had the good fortune to have worked, sometimes at relatively senior levels, on water-related issues with: Academe, NGOs, Foundations, Provincial and Federal Governments, the United Nations, and now, having founded my own communications company, the private sector. (Looking at it another way, I suppose I had a fairly short attention span when it came to jobs!)

You get the picture; it seems like it was meant to be. I always knew I wanted a career dedicated to water-related resource issues, but it is only with the ability to look in the rear-view mirror that I've come to recognize the common filament in my professional life was always communication.

My first work term in the seventies involved working with a commercial eel fisherman, water bailiffs, Senior Water Authority staff, the public and an English Lord. For someone not yet twenty years old, it was quite the crash course in tailoring messages!

Writing this foreword I've come to realize that this early experience was but the harbinger of what was to come. As the years passed, I found myself negotiating one-on-one with a First Nations Chief on an island in a remote river in Quebec for the return of PhD thesis samples taken during a tense occupation of a sportsfishing camp; persuading the Vice-President of an airline company of the importance of my studies to his business and the absolute necessity of giving me free passage when they had space aboard their planes; developing a series of public service announcements about salmon conservation, aired on major

networks and featuring sports superstars (the eighties); and bringing together various constituencies when effecting major changes to fisheries and river management regulations (the nineties).

Later yet, in the first decade of the 21st century and working with an excellent and motivated team, I was privileged to help bridge science-policy gaps leading to major policy file changes via a series of Canadian Council of Ministers of the Environment-sponsored water-issue workshops, and develop broadly-adopted, science-policy linking tools.

The culmination of my official career was the conception of the KStar (K*) initiative and – as a United Nations staffer, in bringing the world's leaders in Knowledge Translation, Brokering and Mobilization together for the first time in 2011. I co-authored an analysis of the language of water in UN resolutions, help shape the communications strategy of the UN University as a whole to include consideration of knowledge brokering for the first time, and was also privileged to serve as the senior adviser to the Chair of UN Water.

It was not all roses along the way. At one stage I was asked to take on the job of raising the profile of the National Water Research Institute, Canada's largest freshwater aquatic institution. Between 2001 and 2005 my team did that systematically and successfully, to the point that we "owned" the top-ranked search term for the term "water research" on Google worldwide. The Institute garnered an U.N. "Science & Public Awareness Award" presented to the "...institution that has performed the greatest service to public awareness of fresh water issues in Canada through leadership in shared scientific research".

Despite achieving such extraordinary branding and recognition, and for reasons that are unclear to this day, but might make for a great episode of the classic British Comedy "Yes Minister," the NWRI moniker and distinctive bilingual logo were abandoned. During a chaotic re-organization NWRI was subsumed into, I hate to say it, the anodyne and bureaucratic-sounding "Water Science and Technology Directorate."

Vestiges of the old name still linger on the Internet because the quality of the scientists and their science was esteemed worldwide, but a California-based NWRI happily moved in to occupy the void as promotion of the Canadian institution was actively discouraged. Any marketer will tell you that the value of the brand that was essentially given away was inestimable, and you have only to look at the importance given to identity and water campaigns in Céline's book to understand why so many of us are still perplexed, not to say outright mad, at what happened.

In time I came to recognize that corporate communications in my Department was, then, largely about providing advice and never rocking the boat, rather than actually producing anything original themselves, let alone effecting change. Our group began to define itself by what it was not i.e. it was not performing a "Big-C" (Corporate) communication function.

Eventually—with the evolution of thinking about knowledge translation and brokering—we became defined by what our group actually was: i.e., a "little-c" communications group. We targeted our communications to specific audiences including scientists and decision and policy makers. By mutual agreement with the Big-C folk, we abandoned our previously-successful dealings with the media and the public.

Whereas Big-C dealt with "clients" I banished that word from our lexicon. We worked in partnership with others and I believe that was the foundation of our success, and the trust we built with our major constituencies. And indeed partnership is a term that flows throughout Céline's book,

We were so successful in our work that our mandate was expanded to include wildlife, technology and atmospheric research, where we continued to prosper and gain international recognition. However, with the ascendancy of a conservative government that did not appear to value evidence-based policy or open communication about science, we saw the fruits of good initiatives wither on the vine.

One particularly galling example related to our work with Water Conservation Authorities (CAs) in Ontario (Sheikheldin et al., 2010): It showed senior managers at the CAs were unaware of the volumes of pertinent federal science that could have helped them do their jobs better, and wanted to know more. Our cost-effective suggestions to broker such information were deemed unimportant by managers in the federal system running scared of falling afoul of political masters, or more interested in the bottom line than

ensuring science flowed to those who could actually put it to use. So much for the science-policy interface, and a huge opportunity to have an impact missed.

Staff in the unit ultimately departed, were laid off, or eventually assigned new duties. In a final, ironic twist, in June 2013, my colleagues and I (about half of us were no longer with the Department by then) were pleased to be awarded a prestigious Environment Canada "Citation of Excellence" award in recognition of "outstanding innovation demonstrated in connecting people to science". The award recognized the creation and implementation of "EC Science Alert", a science-policy interface tool and was awarded in "the service to clients" category!

So in the latter part of a career threaded with water resource research and communication about waterrelated issues, I ultimately had the opportunity to reflect and develop my thinking about communications. In a 2008 publication (Bielak et al., 2008), written with colleagues across the world, we said it would be beneficial "to see a broader community of practice established to help bring people together." We proposed "the creation of a regular forum dedicated to knowledge brokering, where the community can meet and exchange information and experiences."

That thought lingered in my mind and led to my developing the global "KStar" (K*) initiative (Shaxson and Bielak, 2012). We ultimately defined K* as "the collective term for the set of functions and processes at the various interfaces between knowledge, practice, and policy. K* improves the ways in which knowledge is shared and applied; improving processes already in place to bring about more effective and sustainable change," and developed a spectrum of K* activities that are all systemically related to each other.

Figure 1 (below) – apart from its relevance to the section on knowledge brokering in Chapter 4 of "Water Communication"—is congruent and dovetails with the thinking in Chapter 1 where Céline provides a "glossary of key concepts to define (water) strategies and campaigns". These are: Awareness, Information, Communication, Knowledge, Mediation and Education, each of which could be neatly super-imposed in the K* Spectrum schematic.

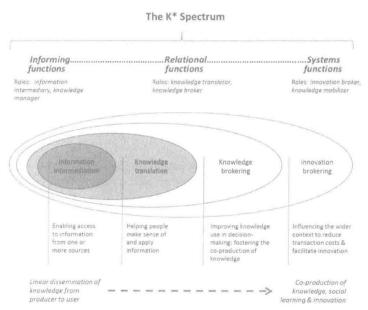


Figure 1 The K* spectrum. There is a spectrum of knowledge sharing activities, which are all systemically related to each other. (Adapted from Shaxson and Bielak et al., 2012. for a publication in submission by Shaxson, Bielak, Yip et al.,).

I freely admit to a bias for little-c communications approaches like knowledge translation, brokering, and mobilization, over Big-C Corporate communications approaches and campaigns, often involving the media. While I recognize the value of both, and that roles and functions can blur depending on organizational context, it seems the lion's share of funding has always been allocated to the latter. I've often argued that the balance needs to shift resources to include more targeted communications involving partners more directly. In my experience – and with notable exceptions like the brilliant work of the Water Supply and Sanitation Collaborative Council (WSSCC) which I've admired and encouraged Céline to include in the book – K* approaches can facilitate innovation and help it flourish, while a Big-C culture may stymie it.

The same applies in the world of water communication in my view. Billions of dollars have probably been spent on the sorts of flashy public and media campaigns showcased by Céline, but only a fraction of that figure might have been allotted to help broker information among water constituencies like science and policy, industry and communities, north and south, etc.

And that's where the bang for the buck (or Euro) often lies, I suspect, though both little and Big-C practitioners have not done nearly enough to properly consider dissemination strategies before they begin their projects or assess impacts of their efforts once the campaign is over or report published.

It is heartening therefore to see growing emphasis, in Canada, Europe and elsewhere on knowledge mobilization and improving research dissemination and adoption/application. The work of the Canadian Water Network and the European Water Community (e.g. the WaterDiss project) are exemplars in this regard and readers of "Water Communication" would be well served to reflect on such considerations as they peruse it.

Ultimately, you get the picture. I believe I've seen and experienced a fair bit in the water communicationsrelated world. I've had some successes and suffered some knocks. And then I met Céline.

With the fearlessness of youth, she had a big idea, and didn't let its ambitious scope stand in her way as she ploughed ahead. She interviewed dozens of people, conducted surveys via the net, and pulled materials from a variety of sources to write a book, in her second language, no less.

As she says in the preface she ultimately wants "to encourage more research, funding and integration of communication and social sciences in water management projects globally" and the book - often, but unsurprisingly, illustrated with French examples - "represents a first step in broaching such discussions... (and) needs further contributions, research and enhanced analysis of what has been done before."

What I have found stimulating as I've interacted with Céline, providing input on earlier drafts, is the breadth of content and context she's considered: from Plato and Aristotle to Matt Damon and Bono; from individual initiatives to Corporate and Global Communication campaigns; and from water linguistics to the visual branding of water.

The sections in Chapter 3 on water lexicography and the colours of water are original and fascinating, as is her assemblage of water logos, symbols and information about high-powered branding campaigns. One of the truly innovative aspects of her work is the categorization of water as: natural, accessed, an element and drinking water: the super-imposition of various water-related logos on that schematic affords us a new perspective of the scope of activity in the domain.

Clearly, given what I've told you above, I'm glad to see knowledge brokering feature as an important category in Céline's spectrum of water communication, along with: Social Representations of Water: Water Discourses; Water Strategies and Campaigns; and Water Journalism.

I'm also thrilled she wants to convene a water communication research group and my experience with pulling together K* should give her encouragement, despite what might seem like long odds at the outset. Many would agree there is a plethora of overlapping, often useless, and sometimes competing water-related events, campaigns and initiatives world-wide. Some evidence-based, and, dare one say, complementary

thinking on future water events and communications campaigns would be a huge step forward: as would assessment of the effectiveness of such campaigns and information dissemination strategies...

I hope readers are as stimulated as I was to think about different facets of water communication as they read this book. The thoughtful contributions by authors from ten or so nations to this book, and the inclusion of so many references and links, also contribute significantly to making this an important and enjoyable addition to the world's water literature.

I can already see a second, expanded edition as a twinkle in Céline's eye.

Alex Bielak Waterdown, October, 2013

Main Results

Water Communication is a generic association of terms to designate all communication processes related to water as a natural resource (physical good) and a human resource (including services, uses, perceptions and beliefs).

Water Communication is built on a variety of academic disciplines and is at the centre of many scientific contributions. Water Communication can only be defined from various concepts, theories and scientific fields. Water Communication is the result of communication processes and interactions between different actors, discourses and social representations. Many guides provide concrete guidance's to help professionals to set up communication campaigns applied to the water cycle management (see Annex 3).

Water Communication is characterized by:

- A visual identity with the predominance of blue for the colour, the drop for the shape and the wave and circle for the dynamics.
- A limited use of words and linguistics resulting in a focus on water as a chemical and natural resource rather than a resource at the core of the actual civilized society.
- A homogenized rhetoric on water challenges sharing similar codes with Environmental Communication; abundant (often contradictory) references to ethics, responsibilities and public goods with an emphasis placed on uses.
- The three main opposing water discourses which have brought water cycle management to its current state of complexity: the relation to drinking water quality; the relation to water infrastructures; and the relation to Right to Water. These debates highlight oppositions between uses and users.
- The opposition between the messages, senders and historical discourses which have shaped the repetition of standardized campaigns characterised by the repetition of universal slogans: 'water and life', 'water for all', 'water kills', 'water is limited', 'water wars', 'water is a human right'.
- The fragmented nature of the water sector's identified senders: Each group of senders use specific type of discourses, messages and slogans. This culminates in a sphere of contradictory messages where individuals have difficulty in understanding messages, expertise and water ethics.

They are five main research areas for Water Communication: (1) Social Representations of Water; (2) Water Discourses; (3) Knowledge Brokerage; (4) Water Campaigns; and (5) Water Journalism.

The diversity and volume of discourses highlights the need for further research on communication about water cycle management and social approach in the water sector.

Successful communication on water cycle management should be based on the understanding of the scale, the target groups, wording and visual identity, as well as a thorough long-term vision and strategy employing different types of campaigns. The choice of messages, slogans and discourses is of high importance and requires the analysis and understanding of public perceptions, impacts on public opinion and the further integration of social approaches to water cycle management.

Contents

Abou	ut the A	uthors		b			
Ackr	nowledg	ements		xii			
Prefa	ace			xv			
Fore	word	**********		xvi			
Sum	marv: N	/lain result	ts	xxii			
-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Char	oter 1						
		Vator Cor	nmunicatio	n			
1.1	Information and Communication Sciences, A Short Definition and Glossary 1.1.1 In Short						
1.2	The International Recognition of Water Communication						
1,2	1.2.1 The Role of the UN						
			A Paradigm Shift to Water Management				
			ergence of Research on Water Communication				
			mmary				
1.3	Heritage and Influences of Communication Sciences						
1.0	1.3.1	-		nmunication on the Environment, Sustainability and			
	Resources						
		1.3.1.1		nfluence of Environmental Communication 19			
		1.3.1.2		from Sustainable Development Communication 21			
		1.3.1.3	Other Nati	ural Resources Communications22			
	1.3.2	Other Main Heritages from Communication Sciences					
		1.3.2.1		and Symbols: Water Social and Cultural			
				ations25			
		1.3.2.2		mmunication: From Public to Personal Perceptions 26			
			1.3.2.2.1	The Importance of Water Quality and Combat			
			10000	Against Waterborne Diseases			
			1.3.2.2.2				
			12222	Communication			
			1.3.2.2.3	Drinking Habits, Nutrition and Alimentation			
		1.3.2.3		cation for Development28			
		1.3.2.4		nunication			
		1.3.2.5		Legal Aspects, Political Communication			
		1.3.2.6	_	nmunication, Responsible Communication30			
				The state of the s			

		1.3.2.7 1.3.2.8	Discourses on Cities	30			
	1.3.3	In Summa	ary	31			
	oter 2	Water Co.	mmunication	34			
2.1	From Thermal Cures to Tap Water: Health, Science and Risk Communication From Infrastructures to Societies: Environmental, Development & Public						
2.3	Communication						
0.4	Communication In Summary						
2.4	in Sun	nmary		54			
Chap	ter 3						
			ology To Slogans				
3.1	Water Epistemology						
3.2		-	3				
			Resource				
			esource				
			esource				
	3.2.4 Accessed Water						
3.3			ntity				
	3.3.1	Water Syr	mbols	. 63			
	3.3.2	Water Col	lours	. 66			
	3.3.3	Water Des	sign	. 71			
		3.3.3.1	The Drop	. 71			
		3.3.3.2	The Wave, The Flow and The Vessel	73			
		3.3.3.3	The Circle/The Globe	. 75			
		3.3.3.4	The Human Being	. 75			
		3.3.3.5	The Cycle				
	3.3.4		nography				
3.4			0				
			ife: A Common Good				
			all: Water Access; Sanitation for all: Decent Life				
			er Kills Babies, Children and People: Water Quality				
	3.4.4 Every Drop Counts: Water Ethics						
	3.4.5 Water is a Human Right: Water Governance						
			er: Water Scarcity				
			e Blue Gold: Water Economy				
		vvator, Tri	o blac dold. Water Economy	, 01			
Chap		*****		00			
4.1	Survey	on Water	Communication	.83			
	Overview of Research Areas						
			presentations of Water				
	4.2.2	Water Disc	courses	.89			