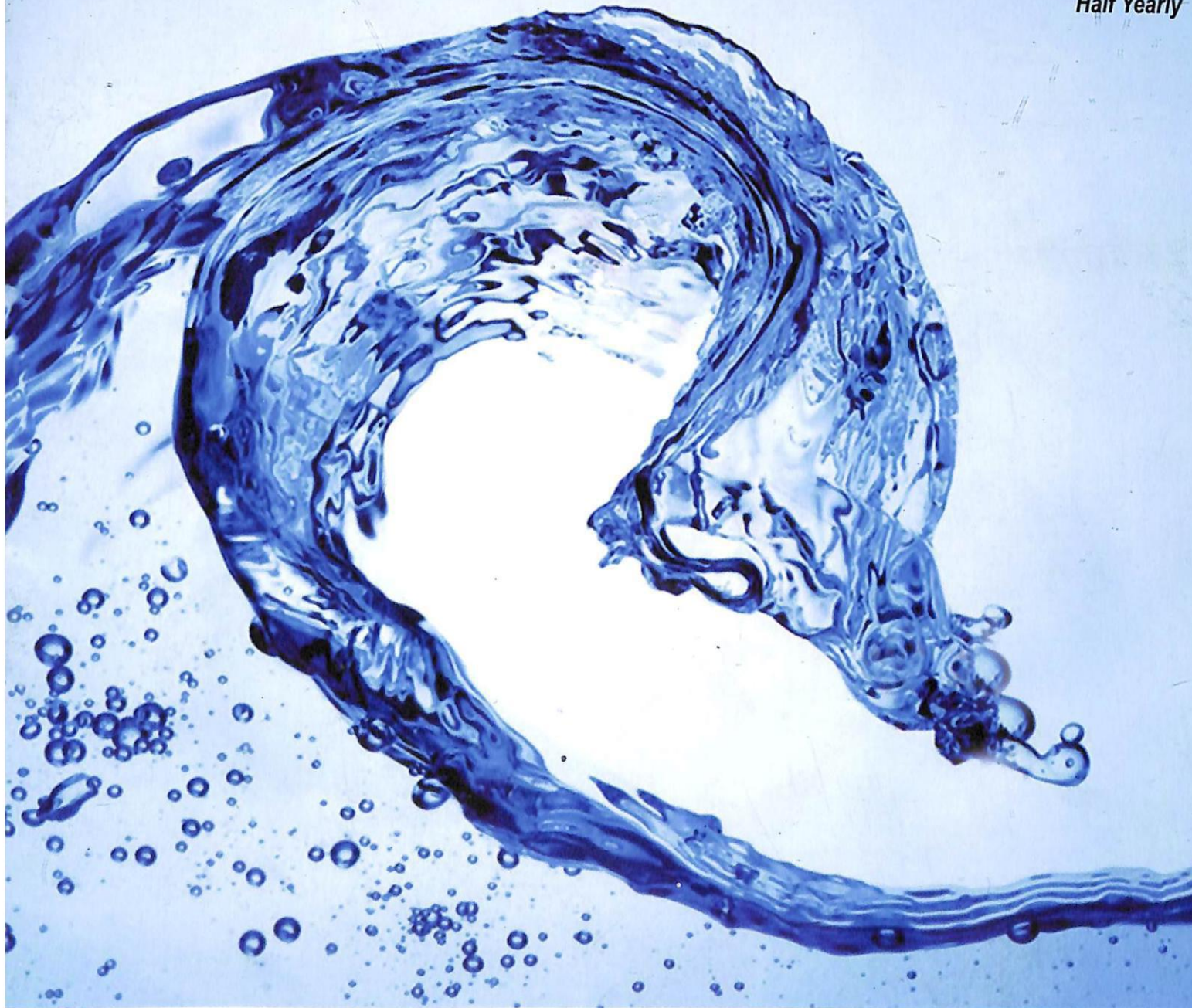


ISSN 2278-8395 (Print)
ISSN 2278-8409 (Online)

NDC - WWC JOURNAL

Vol. 3 • No. 1 • January 2014
Half Yearly

NEW DELHI CENTRE
World Water Council



NEW DELHI CENTRE - WORLD WATER COUNCIL

CBIP Building, Malcha Marg, Chanakyapuri, New Delhi - 110 021

Ph. : 91-11-2611 5984/2611 6567, Fax : 91-11-2611 6347

E-mail : cbip@cbip.org; Web: <http://www.cbip.org>



SUBSCRIBED



World Water Council
NEW DELHI CENTRE

NDC-WWC JOURNAL

Volume 3, No. 1

January 2014

EDITORIAL BOARD	CONTENTS	
<ul style="list-style-type: none"> • Mr. M. Gopalakrishnan, Hon. Secretary General, ICID and President, NDC-WWC • Mr. M.S. Menon, Former Chief Engineer, CWC • Dr. A.K. Singh, Vice Chancellor, Rajmata Vijayaraje Sindhya University and Vice President, NDC-WWC • Dr. P.B.S. Sarma, Former Project Director, WTC, IARI <p>Editors</p> <ul style="list-style-type: none"> • Mr. V.K. Kanjlia, Secretary General, NDC-WWC and Secretary, CBIP • Mr. A.C. Gupta, Director – Water Resources, CBIP <p>Associate Editor</p> <ul style="list-style-type: none"> • Mr. Sunil Sharma, Sr. Manager, CBIP 		Page
	From The President's Desk	2
	Editorial	4
	Articles	
	• Technologies in Irrigated Agriculture : Costs and Benefits – <i>Prof. Chandra Madramootoo & Er. M. Gopalakrishnan</i>	5
	• Technology Search for Water and Energy : Road Ahead for India – <i>L.V. Kumar</i>	21
	• Prioritization of Groundwater Monitoring Sites Using Cross - Correlation Analysis – <i>Gopal Krishan, A.K. Lohani, M.S. Rao and C.P. Kumar</i>	28
	• Securing the Future of India's "Water, Energy and Food" – <i>Dr. Naresh Devineni & Dr. Shama Perveen</i>	32
	Brainstorming Session on Participatory Irrigation Management	35
	• Forthcoming Events	39
• WWC News	40	

ABOUT JOURNAL

The New Delhi Centre of World Water Council, a multi-stakeholder platform was established in 2001 on the initiative of renowned water specialists and national organizations, in response to an increasing concern about water sector issues from the Asia region community. The centre was established "to promote awareness, build political commitment and trigger action on critical water issues at all levels, including the highest decision-making level, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth."

Published half yearly, the NDC-WWC journal focuses on the increasing concern on water policy issues of Indian community. Experiences gained from many water sector reforms being carried-out in different states are disseminated to all concerned.

The journal provides an effective vehicle for the improved national exchange of information on developments in water sector - and the experience gained there of - and is strongly committed to publishing papers on the interdisciplinary aspects of water sector policy issues including reforms etc.

All communications to be addressed to :

Secretary General

New Delhi Centre - World Water Council, CBIP Building, Malcha Marg, Chanakyapuri, New Delhi – 110 021

Ph. : 91-11-2611 5984/2611 6567, Fax : 91-11-2611 6347 E-mail : cbip@cbip.org; Web: http://www.cbip.org



World Water Council
NEW DELHI CENTRE



NDC-WWC JOURNAL

Volume 3, No. 2

July 2014

EDITORIAL BOARD	CONTENTS	Page
<ul style="list-style-type: none"> • Mr. M. Gopalakrishnan, Hon. Secretary General, ICID and President, NDC-WWC • Mr. M.S. Menon, Former Chief Engineer, CWC • Dr. A.K. Singh, Vice Chancellor, Rajmata Vijayaraje Sindhya University and Vice President, NDC-WWC • Dr. P.B.S. Sarma, Former Project Director, WTC, IARI <p>Editors</p> <ul style="list-style-type: none"> • Mr. V.K. Kanjlia, Secretary General, NDC-WWC and Secretary, CBIP • Mr. A.C. Gupta, Treasurer, NDC-WWC and Director – Water Resources, CBIP <p>Associate Editor</p> <ul style="list-style-type: none"> • Mr. Sunil Sharma, Sr. Manager, CBIP 	<p>From The President's Desk</p> <p>Editorial</p> <p>Articles</p> <ul style="list-style-type: none"> • Groundwater Resources in Bist-Doab Region, Punjab, India - An Overview – <i>Gopal Krishan, M.S. Rao, P. Purushothaman, Y.S. Rawat, C.P. Kumar, S. Gupta, A.K. Bhatia, S. Marwah, Y.B. Kaushik, M.P. Angurala and G.P. Singh</i> • Himalayan River Systems, Biodiversity and Rural Development – <i>L.v. Kumar</i> • Old Dam Fuels Inter-state Distrust – <i>M.S. Menon</i> • Rivers, Energy Sources and Water Quality – <i>L.V. Kumar</i> • Pollution Considerations in Siting Industries /Urban Habitats, Saving Rivers/ Ganga River • A River Runs Through It – <i>M.S. Menon</i> • Forthcoming Events • WWC News 	<p>2</p> <p>4</p> <p>6</p> <p>14</p> <p>24</p> <p>25</p> <p>31</p> <p>35</p> <p>36</p> <p>37</p>

ABOUT JOURNAL

The New Delhi Centre of World Water Council, a multi-stakeholder platform was established in 2001 on the initiative of renowned water specialists and national organizations, in response to an increasing concern about water sector issues from the Asia region community. The centre was established "to promote awareness, build political commitment and trigger action on critical water issues at all levels, including the highest decision-making level, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth."

Published half yearly, the NDC-WWC journal focuses on the increasing concern on water policy issues of Indian community. Experiences gained from many water sector reforms being carried-out in different states are disseminated to all concerned.

The journal provides an effective vehicle for the improved national exchange of information on developments in water sector - and the experience gained there of - and is strongly committed to publishing papers on the interdisciplinary aspects of water sector policy issues including reforms etc.

All communications to be addressed to :

Secretary General

New Delhi Centre - World Water Council, CBIP Building, Malcha Marg, Chanakyapuri, New Delhi – 110 021
Ph. : 91-11-2611 5984/2611 6567, Fax : 91-11-2611 6347 E-mail : cbip@cbip.org; Web: http://www.cbip.org



World Water Council
NEW DELHI CENTRE



NDC-WWC JOURNAL

Volume 3, No. 2

July 2014

EDITORIAL BOARD	CONTENTS	Page
<ul style="list-style-type: none"> • Mr. M. Gopalakrishnan, Hon. Secretary General, ICID and President, NDC-WWC • Mr. M.S. Menon, Former Chief Engineer, CWC • Dr. A.K. Singh, Vice Chancellor, Rajmata Vijayaraje Sindhya University and Vice President, NDC-WWC • Dr. P.B.S. Sarma, Former Project Director, WTC, IARI 	<p>From The President's Desk</p> <p>Editorial</p> <p>Articles</p> <ul style="list-style-type: none"> • Groundwater Resources in Bist-Doab Region, Punjab, India - An Overview – <i>Gopal Krishan, M.S. Rao, P. Purushothaman, Y.S. Rawat, C.P. Kumar, S. Gupta, A.K. Bhatia, S. Marwah, Y.B. Kaushik, M.P. Angurala and G.P. Singh</i> • Himalayan River Systems, Biodiversity and Rural Development – <i>L.v. Kumar</i> • Old Dam Fuels Inter-state Distrust – <i>M.S. Menon</i> • Rivers, Energy Sources and Water Quality – <i>L.V. Kumar</i> • Pollution Considerations in Siting Industries /Urban Habitats, Saving Rivers/ Ganga River • A River Runs Through It – <i>M.S. Menon</i> • Forthcoming Events • WWC News 	<p>2</p> <p>4</p> <p>6</p> <p>14</p> <p>24</p> <p>25</p> <p>31</p> <p>35</p> <p>36</p> <p>37</p>
<p>Editors</p> <ul style="list-style-type: none"> • Mr. V.K. Kanjlia, Secretary General, NDC-WWC and Secretary, CBIP • Mr. A.C. Gupta, Treasurer, NDC-WWC and Director – Water Resources, CBIP <p>Associate Editor</p> <ul style="list-style-type: none"> • Mr. Sunil Sharma, Sr. Manager, CBIP 		

ABOUT JOURNAL

The New Delhi Centre of World Water Council, a multi-stakeholder platform was established in 2001 on the initiative of renowned water specialists and national organizations, in response to an increasing concern about water sector issues from the Asia region community. The centre was established "to promote awareness, build political commitment and trigger action on critical water issues at all levels, including the highest decision-making level, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth."

Published half yearly, the NDC-WWC journal focuses on the increasing concern on water policy issues of Indian community. Experiences gained from many water sector reforms being carried-out in different states are disseminated to all concerned.

The journal provides an effective vehicle for the improved national exchange of information on developments in water sector - and the experience gained there of - and is strongly committed to publishing papers on the interdisciplinary aspects of water sector policy issues including reforms etc.

All communications to be addressed to :

Secretary General

New Delhi Centre - World Water Council, CBIP Building, Malcha Marg, Chanakyapuri, New Delhi – 110 021

Ph. : 91-11-2611 5984/2611 6567, Fax : 91-11-2611 6347 E-mail : cbip@cbip.org; Web: <http://www.cbip.org>