

SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)



**SAARC ENERGY CENTRE
ISLAMABAD**

THE REPORT

Program Activity: PRG-119/2017/PETREN



July 2017

SAARC Energy Centre
697, Street 43, Sector E-11/4, NPF,
Islamabad, Pakistan
www.saarcenergy.org



SEC Program Activity (PRG-119/2017/PETREN)

SAARC Regional Consultation Meeting on
**“Water, Energy and Food (WEF) Nexus-a *basis*
for sustainable agricultural development”.**

Thimphu, Bhutan | 03 – 06 July 2017



Group Photo: Water, Energy and Food Nexus

The Report

1. Introduction

SAARC Energy Centre (SEC), Islamabad jointly with SAARC Agriculture Centre (SAC), Dhaka organized a four-day regional expert consultation meeting on **Water, Energy and Food (WEF) Nexus** in Thimphu, Bhutan on 03 – 06 July 2017. The meeting was arranged at Hotel Ariya in collaboration with the Ministry of Agriculture and Forest, Bhutan as the Collaborating Partner (copy of the Meeting Agenda is available at Annexure I).

SEC especially envisaged this regional consultation meeting under its thematic programme area on “Integrated Assessment of Energy, Transport and Environment” (PETREN), aiming to exchange information on the best-policy practices in Water-Energy-Food to harmonize the policies in SAARC region and prepare strategic policy brief for regional integration of WEF Nexus for submission to SAARC Summit and Regional Forums

2. Participation

A total of 55 delegates from i) SAARC Member States Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka; ii) distinguished Consultants from International Water Management Institute (IWMI), India & Sri Lanka, iii) International Centre for Integrated Mountain Development (ICIMOD), Bangladesh, Pakistan & Nepal, iv) International Food Policy Research Institute (IFPRI), India and v) DFAT-Australia attended this training workshop (participant list is available at Annexure II). The meeting attracted an overwhelming participation from the host Member State Bhutan; Bhutanese delegates, dominated by SEC’s Knowledge Partner for this event i.e. Ministry of Agriculture and Forest (MoAF), Bhutan followed by delegates from Policy and Planning Division, MoAF, Bhutan.

3. Major Aspects Covered

Water, Energy and Food (WEF) consultation meeting focused on a framework for better understanding of the interdependencies of the food, water, and energy sectors and linkages between upstream and downstream countries as well as better insights into how to address WEF related challenges by maximizing synergies and managing trade-offs in the SAARC region. The distinguished consultants discussed about each component of the nexus, fundamentals to human life and wellbeing; understanding of the connections among these components, promote efficiency in their use, greater equity in their distribution, and greater national security for the resource-stressed countries in the region. The consultation meeting outlined a brief idea on how WEF Nexus can be approached as a useful tool in pursuit of meeting on Sustainable Development Goals and has a important role to play in the realization of the SDGs, especially the SDG-1 about ending poverty, SDG-2 about food security, SDG-6 about water & sanitation, SDG-7 about energy and SDG-13 about combating climate change along with the objectives envisaged in the Paris Agreement on Climate Change adopted in December 2015. This reinforces the fact that WEF nexus is imperative for SAARC Region in ensuring all-round growth and speedy realization of the SDGs.

The eminent consultants also gave emphasize on how to:

- Harmonize policies on water, energy and food sectors, keeping in view the inter-relatedness and interdependencies of resources across both sectors and scales, upstream and downstream, as well as the role of regional ecosystems in long-term security of water, energy, and food in the region.
- Introduce regulatory mechanism for managing demand for water and energy and launch incentives for judicious use of water and energy for food production.
- Address issues related to trans-boundary water-sharing to pave way for better cooperation

in implementing WEF nexus approach.

- Develop capacities and skills on conservation and judicious use of natural resources and improve their livelihoods in trans-boundary river systems.

The consultation meeting started with the Inaugural session chaired by Mr. Dasho Rinzin Dorji, Secretary, Ministry of Agriculture and Forest, Government of Bhutan, followed by seven technical sessions and field visit. The event was concluded with the Valedictory Session on third day of the event i.e. 5th July 2017, chaired by Mr. Dasho Rinzin Dorji, Secretary, Ministry of Agriculture and Forest, Government of Bhutan.

4. Outcomes of the Meeting

- Documentation of lessons (successful and unsuccessful) on integration of WEF policies of the region and abroad.
- Identification of priority areas of interventions through the regional initiatives.
- Policy brief/recommendation on WEF Nexus.

5. Recommendations (Draft)

Based on given recommendations by the distinguished delegates during the 3-day meeting on “**SAARC Regional Expert Consultation Meeting on Water-Energy-Food Nexus**”, the following recommendations (Category1 & 2) are summarized and produced in the closing session of meeting. The recommendations are categorized in two parts under Policy and Research & Collaboration/Linkages. These recommendations are underway to submit to SAARC Summit and Regional Forums.

Category1: Policy Recommendations

- Establish Policy Framework On WEF-Nexus Including Ground Water In The SAARC Region for equitable sharing and broadening the horizon of benefit
- Establish SAARC Water Center/ Water Management Centre
- To integrate the policy tools/mechanism to strengthened the WEF Nexus.
- To enhance the regional cooperation of water right/resource/share.
- Create “One Window Services” to coordinate WEF Nexus interconnections. (Like special economic zones/export processing zones)
- To enhance the road/rail transportation/connectivity to strengthened the food security and reduce the energy use.
- Develop regional institutions under the aegis of SAARC for transboundary resource management (eg – water drainage data, food surplus/shortage data)

Category2: Research and collaboration/linkages

- Establish the mathematical Model for WEF Nexus for forecasting and decision support.
- To consider Land and Social aspect to address WEF Nexus.

- To conduct the study of spring-water of SAARC region (w.r.t climate change & natural disaster)
- To give emphasize on Renewable Energy (RE) for promoting WEF nexus interconnections.
- To give incentives to the PPP/NGOs to create awareness & promotion of using sustainable RE.
- Promote people to people and business to business linkages.
- To introduce and promote of alternative and efficient crop production technologies (e.g Hydroponic in the area where unavailability of fertile land and water shortage)
- To find out the way forward for optimal use of surface water to minimize over exploitation of ground water.
- Inclusion of WEF nexus in the curriculum of technical universities in SAARC region.
- Establish multi-stakeholder platforms in the region for WEF nexus dialogue amongst policy maker/scientists/stakeholders
- Strengthen institutional linkages for research collaboration/technology transfer/capacity building/exchange of data & information

6. Closing Dinner

SAARC Energy Centre (SEC) and SAARC Agriculture Centre (SAC) hosted closing dinner on Wednesday, 5th July 2017 for the meeting delegates providing an informal opportunity for close interaction and networking. Two Member of Parliaments (MP) from National Assembly of Bhutan, a number of dignitaries from Division of Policy & Planning, MoAF, Government of Bhutan, along with technocrats joined on this occasion.

Annexure I

SAARC Regional Consultation Meeting Program
“Water-Energy-Food Nexus- A basis for sustainable agricultural development”
 Thimphu, Bhutan | 03 – 05 July 2017

Day 1 (3/7/2017)**Inaugural Session**

8:30	Registration	PPD-MoAF
9:00	Arrival of Chief Guest and Dignitaries	To be received by Dr. Shoiab, Dr. Golam, Mr. Kencho, and Dr. Tayan
9:15	Marchang	PPD-MoAF
9:30	Welcome Remarks (Purpose and objectives of the meeting)	Dr. Tayan Gurung, Senior Program Specialist (NRM), SAARC Agri Centre
9:35	Keynote remarks on Energy Sector in South Asia vis-à-vis WEF Nexus	Dr. Shoiab, Deputy Director (Coordination), SAARC Energy Centre
9:40	Keynote remarks on Water-Energy-Food Nexus in South Asia	Dr. Golam, Theme Leader, Livelihood, ICIMOD
9:45	Inaugural Address by the Chief Guest	Dasho Rinzin Dorji, Secretary, Ministry of Agriculture and Forests, Bhutan
9:55	Vote of Thanks	Mr. Kencho Thinlay, Chief Planning Officer, Policy and Planning Division, MoAF, Bhutan
10:00	Group Photo and Tea Break	ICS-MoAF

Technical Session I- Country Paper - Member States

Chairperson	Mr. Jamil Ahmad, Joint Secretary, Ministry of National Food Security and Research, Islamabad.	
Rapporteur	Mr. Mohibur Rahman, Research Fellow-SEC and Mr. Ahsan Javed, Research Fellow-SEC	
11:00	Water-energy-food nexus – a basis for sustainable agriculture in Afghanistan	Afghanistan.
11:20	Water-energy-food nexus – a basis for sustainable agriculture in Bangladesh	Mr. Md. Hemayet Hussain, Joint Secretary, Ministry of Agriculture, Bangladesh
11:40	Water-energy-food nexus – a basis for sustainable agriculture in Bhutan	Ms. Kinlay Tshering, Director, Agriculture, Bhutan
12:20	Water-energy-food nexus – a basis for sustainable agriculture in India	Dr. SK Ambast, Director, ICAR-IIWM, India.
12:40	Discussion	
01:00	Lunch Break	

Technical Session II- Country Paper - Member States

Chairperson Dr. Aditi Mukherji, Theme Leader-ICIMOD

Rapporteur Mr. Mohibur Rahman, Research Fellow-SEC and Mr. Ahsan Javed, Research Fellow-SEC

2:00	Water-energy-food nexus – a basis for sustainable agriculture in Maldives	Mr. Ali Amir, Director, Ministry of Fisheries and Agriculture, Maldives
2:20	Water-energy-food nexus – a basis for sustainable agriculture in Nepal	Mr. Bashu Dev Lohanee, DDG, Department of Irrigation, Nepal.
2:40	Water-energy-food nexus – a basis for sustainable agriculture in Pakistan	Mr. Sajjad Haider Yaldram, Deputy Secretary, Ministry of Water and Power, Pakistan
3:00	Water-energy-food nexus – a basis for sustainable agriculture in Sri Lanka	K.M.A.Kendaragama Principal Agriculture Scientist (NRM), Sri Lanka.
3:30	Tea Break	

Technical Session III- Keynote papers on Policies

Chairperson: Dr. Shoiab, Deputy Director (Coordination), SAARC Energy Centre

Rapporteur Mr. Mohibur, SEC and Mr. Jamyang, PPD, MoAF

4:00	Managing the Food- energy-water Nexus for achieving the SDGs in SAARC Region	Dr. Golam Rasul, ICIMOD
4:20	Water security in Bhutan: A Strategic direction	Tenzin Wangmo, Chief Environment Officer, NEC, Bhutan (TBC)
4:40	Sustainable Water management from the perspective of W-E-F Nexus in SAARC Region – IWMI	Dr. Alok Sikka, IWMI
5:00	Discussion	

End of Day 1

Day 2 (4/7/2017)**Technical Session IV- Invited papers on Energy**

Chairperson Dr. Sucharita Sen, Executive Director, SaciWATERS, India (TBC)

Rapporteur Mr. Mohibur Rahaman, SEC and Mr. Ram Gopal Lageju, SEC

9:00	SAARC Energy Centre – Paper 1, Mr. Ram Gopal Lageju	SEC
9:20	Renewable energy in Water-Energy-Food Nexus in South Asia	Dr. Aditi Mukherji, ICIMOD

9:40	SAARC Energy Centre – Paper 2, Mr. Ahsan Javed	SEC
10:00	Tea Break	

Technical Session V- Gender, Education and Climate change

Chairperson Mr. Hemayet Hussain, Joint Secretary, Ministry of Agriculture, Bangladesh.

Rapporteur Mr. Mohibur Rahaman and Mr. Jamyang Phuntsho

10:30	Water-Energy-Food Nexus in South Asia – from the perspective of climate change	Dr. Muhammad Zulfiqar, Director, Climate Change Center, University of Agriculture, Peshawar, Pakistan.
10:50	Gender perspective in Water-Energy-Food nexus in South Asia	Dr. Sucharita Sen, Executive Director, SaciWATERS, India
11:20	Higher Education and Research on W-E-F Nexus in the HUC	Dr. Mohammad Abu Taiyeb Chowdhury, Professor, Geography and Environmental Studies, University of Chittagong, Bangladesh.
11:40	Discussion	
12:00	Briefing on the group work by Mohibur Rahman	SEC
12:30	Lunch	

Technical Session VI-Regional cooperation for W-E-F Nexus security (Facilitated by ICIMOD, IFPRI, SEC, and SAC)

2:00	Keynote paper 1: Governance of Water-Energy-Food Nexus in South Asia including lessons from Greater Mekong and Australia	Dr John Dore, Senior Water Resources Specialist, Department of Foreign Affairs and Trade. Australian Embassy, Thailand.
	Keynote paper 2: Regional cooperation for strengthening water-energy-food security in South Asia	Dr. Golam Rasul, ICIMOD
2:20	Group work (3 groups) - Briefing and Moderation	SAC/SEC/ICIMOD
2:30-5:30	Group 1: What are the challenges/constraints in regional cooperation for W-E-F Nexus security	
	Group 2: What are the opportunities for promoting regional cooperation for W-E-F Nexus security	
	Group 1a and 2a: How can we address the challenges and harness the opportunities for regional cooperation for W-E-F Nexus security	

Day 3 (5/7/2017)

9:00 Presentation by the 3 Groups (10 minutes each+5 minutes for discussion)

9:45 Tea Break

Technical Session VII-Leadership Panel: Science-Policy dialogue for regional cooperation in WEF Nexus (*Facilitated by SAC, SEC, ICIMOD*)

10:15 **Panelist:** Policy Maker and Expert from SAARC ICIMOD/SEC/SAC
to Countries, (*Moderated session*) - **Water–energy–food**
12:15 **nexus and sustainable development: Policy**
mainstreaming

- | | |
|---|---|
| 1. Mr. Jamil Ahmad, Joint Secretary, Ministry of National Food Security and Research, Pakistan [Food Security] | Moderator: <i>Dr. Golam and Dr. Tayan</i> |
| 2. Mr. Dophu Dukpa (MP), Chairperson, Environment and Urban Development Committee, National Assembly of Bhutan [Environment and Natural Resources] | |
| 3. Mr. Yogesh Tamang (MP), Chairperson, Good Governance Committee, National Assembly of Bhutan [Governance] | |
| 4. Dr. Sunil Kumar Ambast, Director, Indian Institute of Water Management [Water-Research] | |
| 5. Dr. Aditi Mukherji, Theme Leader, Water and Air, ICIMOD [Energy] | |
| 6. Dr. Chubamenla Jamir, Assistant Professor, HUC [Education] | |

Closing Session

12:20	Presentation of the Draft Recommendations	Mr. Mohibur Rahman, Rapporteur (SEC)
12:30	Remarks by the Participants	(3 Participants delivered)
12:35	Remarks by the Chief Guest	H.E Yeshe Dorji, Minister, Ministry of Agriculture and Forests, Bhutan
12:45	Vote of Thanks –	Deputy Director, SAARC Energy Centre
1:00	Lunch Break	
2:30	Field visit in Thimphu/Paro	

Day 4 Field visit and Delegates return to their home country
(6/7/17)

Organizing Committee

- | | |
|--|--|
| 1. SAARC Agriculture Centre -
(Coordinator) | Dr. Tayan Raj Gurung , Senior Program Specialist (NRM), SAC, Dhaka, Bangladesh.
tayangurung@yahoo.com +880-1966184916
(Bangladesh) +975-17611961 (In Bhutan) |
|--|--|

- | | | | |
|----|---|---|--|
| 2. | SAARC Energy Centre | - | Dr. Shoiab Ahmad, Deputy Director |
| 3. | ICIMOD | - | Dr. Golam Rasul , Theme Leader, Livelihoods. ICIMOD. Golam.Rasul@icimod.org |
| 4. | SAARC Energy Centre | - | Mr. Mohibur Rahman , Research Fellow, SEC-Islamabad, Pakistan. rftt@saarcenergy.org |
| 5. | MoAF-Bhutan
<i>(Link Institution)</i> | - | Mr. Kencho Thinlay , Chief Planning Officer, Policy & Planning Division, Ministry of Agriculture & Forests, Tashichhodzong, Thimphu. Bhutan. |
| 6. | MoAF-Bhutan
<i>(Local Facilitator)</i> | - | Mr. Jamyang P Rabten , Policy & Planning Division, Ministry of Agriculture & Forests, Tashichhodzong, Thimphu. Bhutan. jphuntsho@moaf.gov.bt |

Rapporteur: **Mr. Mohibur Rahman, SEC**, Mr. Ram Gopal Lageju, Research Fellow, SEC-Islamabad, and Mr. Jamyang Phuntsho, PPD, Mr. Ahsan Javed, Research Fellow (RE)

**Participants for the SAARC Meeting on WEF,
Jointly organized by SAC-PPD/MOAF-ICIMOD-SEC during 3-5 July 2017 in Thimphu, Bhutan**

No	Country	Name and Address
A	Focal Points from SAARC Member States	
1.	Bangladesh	Mr. Md. Hemayet Hussain, Joint Secretary, Ministry of Agriculture, Bangladesh Secretariat, Dhaka, Bangladesh. +8801711784979. mhh1863@gmail.com
2.		Dr. Mohd. Sher Ali, Deputy Secretary, MoPEMR. Sherali93@yahoo.com
3.	Bhutan	Ms. Kinlay Tshering, Director, Department of Agriculture, Thimphu, Bhutan. kinlaytshering@moaf.gov.bt
4.	India	Dr. SK Ambast, Director, ICAR-Indian Institute of Water Management, Bhubaneswar, Odisha, India. +916742300060. director.iwm@icar.gov.in
5.	Maldives	Mr. Ali Amir, Director, Ministry of Fisheries and Agriculture, Male, Maldives. ali.amir@fishagri.gov.mv
6.	Nepal	Ms. Niru Dahal, Program Director, Directorate of Agricultural Extension, Ministry of Agricultural Development, Kathmandu, Nepal.
7.		Mr Sagar Raj Goutam, Senior Divisional Engineer, Energy, Nepal sagar_goutam@yahoo.com
8.	Pakistan	Mr. Sajjad Haider Yaldrum, Deputy Secretary, Ministry of Water and Power, Government of Pakistan, Islamabad. yaldramsajjad@yahoo.com
9.		Mr. Jamil Ahmad, Joint Secretary, Ministry of National Food Security and Research, Islamabad. Jamil254@hotmail.com
10.	Sri Lanka	Mr. KMA Kendaragama. Deputy Director, Department of Agriculture, Sri Lanka. +94779436475. kendarag@sltnet.lk
		Mr. Chamila Jayasekera, Director (Technical), Ministry of Power and Renewable Energy, Sri Lanka
B.	ICIMOD officials and ICIMOD supported participants from the region	
11.	ICIMOD	Dr. Aditi Mukherji, Theme Leader, Water and Air, ICIMOD, Kathmandu, Nepal, aditi.mukherji@icimod.org
12.	ICIMOD	Dr. Golam Rasul, Theme Leader, Livelihood, ICIMOD, GPO Box 3226, Kathmandu, Nepal, Tel: +977 golam.rasul@icimod.org
13.	ICIMOD	Mr. Bashu Dev Lohane, Deputy Director General, Department of Irrigation, Government of Nepal, Jawalakhel, Lalitpur, Nepal Mobile: 9841277760. lohanibasud@yahoo.com
14.	ICIMOD	Dr. Sucharita Sen, Executive Director, SaciWATERS, Hyderabad, India. sucharita@saciwaters.org
15.	ICIMOD-HUC	Dr. Muhammad Zulfikar, Director, Climate Change Center, The University of Agriculture, Peshawar, Pakistan. zulfikar@aup.edu.pk
16.	ICIMOD-HUC	Dr. Mohammad Abu Taiyeb Chowdhury, Department of Geography and Environmental Studies, University of Chittagong Bangladesh. taiyeb.chy@gmail.com
17.	ICIMOD-HUC	Dr. Neeraj N. Joshi, Himalayan College of Agricultural Sciences and Technology, Founder and Adjunct Professor, Nepal. neerajnjoshi@hotmail.com

18.	ICIMOD-HUC	Dr. Chubamenla Jamir, Assistant Professor, Department of Energy and Environment, TERI University, New Delhi, India. chubamenla.jamir@teriuniversity.ac.in
C. Department of Foreign Affairs and Trade. Australian Embassy, Thailand		
19.	DFAT-Australia	Dr John Dore, Senior Water Resources Specialist, Australia's Department of Foreign Affairs and Trade. Australian Embassy, 37 South Sathorn Road, Bangkok, 10120, Thailand. Cell: +66 (0)8 1732-0364. John.Dore@dfat.gov.au
D. International Water Management Institute (IWMI)		
20.	IWMI	Dr. Alok Sikka, Coordinator, IWMI-India, New Delhi, India. A.Sikka@cgiar.org
F. SAARC Energy Centre		
21.	SEC	Dr. Shoaib Ahmad, Deputy Director, SEC. ddcoord@saarcenergy.org
22.	SEC	Mr. Mohibur Rahman, Research Fellow, SEC-Islamabad. rftt@saarcenergy.org
23.	SEC	Mr. Ram Gopal Lageju, Research Fellow, SEC-Islamabad
24.	SEC	Mr. Ahsan Javed, Research Fellow (RE)
G. SAARC Agriculture Centre		
25.	SAC	Dr. Tayan Raj Gurung, Senior Program Specialist (NRM), SAC-Dhaka. tayangurung@yahoo.com

H. Participation from Bhutan		
26.	PPD-MoAF	Mr. Rinzin Dorji, DyCPO, PPD-MoAF
27.		Ms. Tashi Yangzom, Sr. Planning Officer, PPD, MoAF
28.		Mr. Jamyang Phuntsho Rabten, Sr.PO, PPD-MoAF
29.	DoA-MoAF	Mr. Kailash Pradhan, Specialist, DoA
30.		Mr. Karma Tshethar, Chief Engineer, Irrigation Division, DoA
31.		Mr. Kelzang Tenzin, Executive Engineer, DoA
32.		Mrs. Choni Zangmo, Horticulture Officer, DoA
33.		Mr. Sagar Acharya, DoA
34.		Mr. Kinley Tshering, DyCAO, DoA
35.	Department of Power-MoEA	Mr. Satchi Dukpa, Chief Engineer, Department of Renewable Energy, MoEA
36.	NEC	Ms. Tenzin Wangmo, Chief Environment Officer, WRCD, NECS, 975-17113989. Water Resource Coordination Division, NEC, Bhutan. twangmo@nec.gov.bt
37.		Mr. Phuntsho Wangdi, Environment Officer, NEC
38.	RSPN	Mr. Narayan Ghalley, Project Officer, RSPN, Bhutan
39.	BT FEC	Ms. Namgay Dema, Program Officer, BT FEC
40.	MoFA	Ms. Pem S Thinley, Sr. Desk Officer, MFA
41.	National Assembly	Dasho Dophu Dukpa, Chairperson, Environment & Urban Development Committee

42.	National Assembly	Dasho Yogesh Tamang, Chairperson, Good Governance Committee
43.	Water Commission Task Force	Mr. Tashi Wangdi, CAO, DoA, MoAF
44.		Ms. Sonam Choden, WMD, MoAF
45.		Mr. Kelly Dorji, Thimphu Division
46.	AFD	Ms. Dechen Choden, Sr. Accounts Officer, AFD, MoAF
47.	PPD-ICIMOD	Ms. Sonam

Support Staffs from PPD-MoAF, Bhutan

1	ICIMOD-desk staff	
2	ICIMOD-desk staff	
3	Sangay Tenzing	
4		

Brief Pictorial View of the Workshop











