



Government of Nepal
Ministry of Irrigation
Department of Irrigation

FIRST ANNOUNCEMENT

and

Call for Papers



8TH ASIAN REGIONAL CONFERENCE (ARC)

ON

“Irrigation in Support of an Evergreen Revolution”

Organized by

Nepal National Committee on Irrigation and Drainage (NENCID)
Department of Irrigation, Ministry of Irrigation, Government of Nepal

2-4 May, 2018
Kathmandu, Nepal

INVITATION



Five most populous countries (China, India, Indonesia, Pakistan, and Bangladesh) out of the top 10 in the world are from Asia accounting for 45% of the world population. About 70% of the world's irrigated area is in Asia and more than 80 percent of water withdrawals are used for irrigation. Eight countries (India, China, Pakistan, Iran, Indonesia, Thailand, Turkey and Bangladesh) account for 82% of the total irrigated land in Asia. The first Green Revolution that ICID had the pleasure of supporting, has made Asian countries not only self-sufficient in food but they are also exporting food and fibre. To feed the ever increasing population, we need to find ways to increase the productivity of irrigation to produce the food, fibre and fuel needed for tomorrow's population. We need an 'Evergreen Revolution'.

Nepal is one of the earliest members, joining ICID in 1973 and is very active both nationally and internationally in the fields of irrigation and drainage. Members of NENCID play a prominent role in the management and leadership of ICID, serving as Office-Bearers and workbody members. I am extremely pleased that the Nepalese National Committee on Irrigation and Drainage (NENCID) will be hosting the 8th Asian Regional Conference in the Himalayan destination of Kathmandu.

On behalf of the International Commission on Irrigation and Drainage (ICID), I invite you to the Eight Asian Regional Conference of ICID to be held from 2-4 May 2018 at Kathmandu, Nepal. The theme of the Regional Conference is "***Irrigation in support of an evergreen revolution***". The topics covered would address the challenges to increase agriculture productivity in order to ensure food security for the present and future population in the Asian region. Experts from the region and beyond would have an opportunity to discuss and contribute to a upcoming evergreen revolution that is the need of the hour to ensure food security in Asia.

Nepal is a landlocked central Himalayan country in South Asia possessing eight of the ten highest mountains in the world. Nepal is a hotspot destination for mountaineers, rock climbers and people seeking adventure. Mount Everest, the highest mountain peak in the world, is located in Nepal. Mountaineering and other types of adventure tourism and ecotourism are important attractions for visitors. The world heritage site Lumbini, birthplace of Gautama Buddha, is located in the south of the West region of Nepal. Nepal is beckoning you!

I am confident that your presence at the 8th Asian Regional Conference will not only prove technically highly rewarding, provide you an opportunity to closely interact with several hundred delegates, but will also present opportunity for enjoying the rich natural beauty.

I look forward to welcoming you at Kathmandu.

Dr. Saeed Nairizi
President
International Commission on Irrigation and Drainage (ICID)

INVITATION



On behalf of NENCID, it is my great pleasure to invite you to the 8th Asian Regional Conference (ARC) being organized on 2-4 May 2018 in Kathmandu, the capital city of Nepal.

The theme of the international conference is “Irrigation in Support of an Evergreen Revolution”. One of Nepal’s strengths in irrigation sector is her numerous self-sustaining traditional farmer managed irrigation systems (FMISs), which cover more than 60% of country’s surface irrigated area. On irrigation management, these FMISs have much to add to our learning. Nepali farmers have now been institutionally established as partners in a sustainable irrigation development endeavour to meet the goal of green revolution.

I am sure your participation in the irrigation forum will be very effective, as you will have, on one hand, the opportunity to visit and learn about some of the best management practices in the FMISs of hills and valleys of the country, and on the other hand, every participant in various (sub) thematic sessions will help enrich knowledge on the topic.

Visiting Kathmandu to attend the conference will also provide you a unique opportunity to put yourself amidst the city’s rich culture and a number of heritage sites, and scenic mountainous landscape. A short ride toward any direction from the city will take you to age-old irrigated farm terraces, which apart from being a beauty in itself, offers you observation sites for the first-hand experience.

I am eagerly looking forward to seeing you in Kathmandu in the beginning of May 2018.

Rajendra Prasad Adhikari
Chairperson
Nepal National Chapter on Irrigation and Drainage (NENCID)

1. BACKGROUND

The global population is expected to grow from current 7.4 billion to 9.1 billion by 2050. The proportion of population living in rural areas, in contrast, is expected to decline globally from current 3.4 billion people (or 45% of the population) to 3.1 billion (or 34% of the population) by the mid-century. In contrast to the global scenario, developing countries have about 75% of population living in rural areas, who are dependent on and continue to depend on agriculture for their livelihood. Furthermore, growing trend in urbanization may bring up the need of urban irrigation in near to mid future. This perspective, therefore, should also be reflected in irrigation planning in developing countries.

It is estimated that overall food production would require to be raised by some 70% between 2005/07 and 2050. In case of developing nations, the food production needs to be doubled to feed the growing population. Depletion and degradation of land and water resources is posing serious challenges to producing enough food and other agricultural products to sustain livelihoods and meet the needs of both rural and urban populations. Since increased food production will have to come from the same limited land and water resources, the focus will have to be on increasing agricultural and water productivity with efficient and optimal use of available resources. This will require adoption of improved agriculture practices, bringing more area under irrigation along with modernisation of existing irrigation systems, institutional reforms and strengthening of irrigated agriculture. In this connection, the role of more enabled water users' institutions (WUIs) in meeting increasing demands in the face of more competitive and volatile markets and increasing (frequencies and intensities) extreme events induced by climate change will be crucial.

In Asia, since the majority of the population still lives in rural areas, it is likely that rural transformation and development will be a powerful engine of sustainable development and improving the resilience of rural households to cope with emerging challenges. For this purpose, four key issues need to be taken into account: i) leveraging the rural-urban nexus for development; ii) promoting an empowerment agenda for rural livelihoods; iii) investing in middle and large-scale farming, as well as in small scale irrigation for smallholder family agriculture; and iv) promoting the resilience of poor rural households. Access to irrigation and drainage will play a significant role to enable more resilient household income for farmers, especially the smallholder farmers, since reliable access to water for crops can reduce vulnerability to drought, increase the farm yields, and provide a mechanism for the utilization of improved inputs leading to evergreen sustainable development.

2. THE 8TH ASIAN REGIONAL CONFERENCE

International Commission on Irrigation and Drainage (ICID) organizes regional conferences at four regions of the world – Asian Region, European Region, African Region, and Pan-American Region. The Asian Regional Conference (ARC) was started with the first one held during 16-21 September, 2001 in Seoul South Korea. The second to seventh ARCs were held in 2004 (Echuca, Australia), 2006 (Kuala Lumpur, Malaysia), 2007 (Iran), 2009 (New Delhi, India), 2010 (Yogyakarta, Indonesia) and 2012 (Adelaide, Australia). The 8TH ARC will be

hosted by Nepal National Committee of ICID (NENCID) during 2-4 May 2018 in Kathmandu, Nepal.

Nepal is mainly a hilly country with a present population of about 28.89 million that is expected to grow to 36 million by 2050. About 66% of Nepal's population is presently employed in the agriculture and forestry sector, accounting for 35% of the GDP, reflecting importance of the agriculture sector for the development of Nepal's economy. Out of the total of 14.718-million-hectare area of the country, only 2.641 million hectares is arable and 1.766 million hectare of land is irrigable. Around 76% of the irrigable land lies in the Terai region.

Nepal has a long history of irrigated agriculture, mainly through farmer managed irrigation systems (FMIS). These systems have played a major role in contributing to the evolution and development of irrigated agriculture in Nepal. About 75% of the total irrigated area is under these FMISs which are managed by farmers on self-help basis, whereas the agency managed irrigation systems (AMIS) irrigate the remainder. However, water use efficiency and agricultural productivity remain low in both the traditional farmer-managed schemes and the large public irrigation systems. The major impediments to increasing agricultural productivity in Nepal include the lack of year-round irrigation, unavailability of inputs such as quality seeds and fertilizers, pest complex, and lack of sufficient access to advisory services and marketing.

The development of irrigated agriculture in Nepal is plagued with a number of challenges. These include old infrastructure and poor performances of the existing irrigation systems; poor system efficiency and under-utilization of canal water; weak institutional capacity; weak linkages between agriculture and irrigation; problem of cost recovery in government irrigation schemes; and high capital cost requirements for physical infrastructure development; among others. In addition, Nepal is also highly vulnerable to extreme climatic events of droughts and floods that impact significantly on the agriculture sector. In fact, most of the countries of the Asian region are confronted with similar common problems in varying degree across the agriculture sector.

3. THEME AND SUB-THEMES

Considering the need to address the aforementioned challenges to increase agriculture productivity for ensuring food security for the present and future population in the Asian region, the 8TH ARC will focus on the theme of "***Irrigation in Support of an Evergreen Revolution***". There are following four sub-themes under the theme.

- I. ***Enabling small holders' capacity to obviate farmers' distress***: enhancing access to appropriate technology and non-conventional banking services; promoting asset management of small holders'; innovative and workable financing mechanisms; addressing to low productivity and market uncertainty; legal and institutional arrangements for collective farming of small holders' organization; etc.
- II. ***Coping with recurring droughts and floods in the context of climate change***: characterizing climate variability/change and climatic extremes; climate change impacts on water availability and demand; issues/challenges of land and water

management; developing resilience to climatic variability and extreme events; crop insurance; etc.

- III. **Modernising irrigation systems for better services:** multi-perspective evaluation of irrigation systems; approaches of irrigation system modernization for achieving Sustainable Development Goals (SDGs); innovation and technical advances for water-energy-food security; system automation for efficient/effective management options; institutional reforms of large scale irrigation systems; cases of modernization as an intervention and lessons learnt; mainstreaming modernization process through various reforms; etc.
- IV. **Enabling Water Users Institutions (WUIs) for sustainability of irrigation systems:** performance assessment, enterprising, and sustainability of WUIs; institutional and policy landscape of irrigation/drainage sectors; process and procedure of participatory irrigation development/operation/maintenance in various countries; role of irrigation/farmers/water users' organization in improved irrigation system performance; etc.
- V. **Irrigation, ecosystem services, and aquatic biodiversity:** assessment of trade-offs between and optimization of consumptive uses of water and environmental flows; water-related natural infrastructure and ecosystem services in the water-energy-food nexus; impact of irrigation on water-related ecosystem services; contributions of traditional knowledge and citizen science to understanding and managing irrigation ecosystems; using information from valuation and other assessments in decision-making for long-term ecological sustainability.

4. TARGET PARTICIPANTS

A wide range of participants, including academicians, practitioners, policy makers, research scholars and scientists from Asia and beyond working in irrigation and drainage or closely related field are encouraged to submit abstract. About 500 participants (300 national and 200 international) are expected to attend this conference.

5. PAPER SUBMISSION

The abstract should be submitted electronically as a word file to the following email: nencid@wlink.com.np with a copy to 8ARC@gmail.org. The abstract template and paper submission form can be downloaded from the conference website.

Key dates for the submission and processing of the paper are provided hereunder:

- **Submission of abstract: 01 November 2017**
- **Notification of acceptance: 30 November 2017**
- **Submission of full paper: 01 February 2018**
- **Notification acceptance (oral/poster) for presentation: 01 March 2018**

6. VENUE AND TOURS

The conference will be organized in Kathmandu, Nepal. The venue is considered appropriate from the technical as well as cultural aspects. Kathmandu is the capital city of Nepal located in the Kathmandu Valley. The Valley consists of three main cities of great historic and cultural interest; namely, Kathmandu, Lalitpur (Patan) and Bhaktapur (Bhadgaon). Situated at an altitude of 1,336 meter above the sea level, the Kathmandu Valley covers an area of 580 km². The Valley hosts seven World Heritage Sites declared by the UNESCO in Nepal. It is famous for its scenery, beautiful countryside, ethnic clans, numerous monasteries, stupas and thousands of temples. During the conference, mountain flights will be arranged to experience the spectacular panorama of the Himalayas including Mount Everest.

It is also planned to visit Pokhara valley at the end of the conference. Pokhara is a world renowned place in Nepal in terms of natural beauty and its idyllic scenery as well as its location as a vantage point for offering a magnificent view of the Himalayan mountains. The Pokhara tour will also include a site visit to a traditional hill irrigation system managed by farmers. Kathmandu and Pokhara have a number of good hotels with adequate facilities for organising an international conference to accommodate around 500 participants.

The post-Conference technical tours will be organized during 5-7 May 2018.

Details of the tours will be designed and shared in due course.

7. ORGANIZERS

ICID: The International Commission on Irrigation and Drainage (ICID), established in 1950, is the leading scientific, technical and not-for-profit Non-Governmental Organization (NGO). ICID, through its network of professionals spread across more than a hundred countries, has facilitated sharing of experiences and transfer of water management technology for over half-a-century. ICID supports capacity development, stimulates research and innovation and strives to promote policies and programs to enhance sustainable development of irrigated agriculture through a comprehensive water management framework.

NENCID: Nepal is one of the earliest members, joining ICID in 1973 and is very active both nationally and internationally in the fields of irrigation and drainage. However, Nepal National Committee on Irrigation and Drainage (NENCID) registered formally as a Non-Governmental Organization in 2016. Any individual or institution working in the field of irrigation and drainage can obtain the membership of the committee. The Annual General Meeting held in April 2017, elected a new Executive Committee, which is chaired by the Director General, Department of Irrigation and others officials and members are from government, non-government organizations, academic institutions, etc. The National Committee has been conducting various activities to promote policies and programs to enhance sustainable development of irrigated agriculture and water management related activities in the country. However, it is for the first time, the National Committee, is going to organize an international conference in Nepal.

Department of Irrigation, Government of Nepal: Department of Irrigation (DoI) is a government organization currently under the Ministry of Irrigation (MoI). The department then passed different stages working under different ministries and finally ended up as Department of Irrigation in 1987. The department has a mandate to plan, develop, maintain, operate, manage and monitor different modes of environmentally sustainable and socially acceptable irrigation and drainage systems – from small to larger scale surface systems and from individual to community groundwater schemes. Its ultimate aim is to provide year round irrigation facilities and increase the irrigable area of the country to higher limits. Apart from this the DoI also has to carry out river training activities to protect the floodways, floodplains and agricultural lands in the form of river bank protection such that the loss of properties caused by flooding is reduced.

Other Partners: Other potential partners include USAID, Food and Agriculture Organization (FAO), International Centre for Integrated Mountain Development (ICIMOD), International Water Management Institute (IWMI), World Bank (WB), WWF, etc. More partners are expected to join in due course.

8. CONTACTS

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