

**AGENDA FOR THE TWELFTH MEETING OF THE
WORKING GROUP ON ON-FARM IRRIGATION SYSTEMS (WG-ON-FARM)
New Delhi, India
08 December 2009: 09.30-13.15 hours
Theme: On-Farm**

Year of Establishment: 1998**Completion of the Mandate: 2014****Mandate:**

- To promote on-farm irrigation as part of integrated water resources management, and
- To promote sustainable efficient approaches for on-farm irrigation.

Members: (1) Vice President Hon. Felix B. Reinders, Chairman, 2004 (South Africa, 1998); (2) Vice President Prof. Peter Kovalenko, Vice Chairman, 2005 (Ukraine, 2001); (3) Mr. Stephen Mills, Secretary (Australia, 2001); (4) Vice President Hon. F. Ligetvari (Hungary, 1998); (5) Dr. H. Sourell (Germany, 1999); (6) Dr. Kim Sun-Joo (Korea, 1999); (7) Mr. Yeh Shu-Shr (Chinese Taipei, 1999); (8) Mr. P. Ruelle (France, 1999); (9) Prof. Pedro Liao de Sousa (Portugal, 1999); (10) Mr. J. Dunn (UK, 2002); (11) Mr. Yan Guanyu (China, 2002); (12) Mr. M.S. Bala (Nigeria, 2002); (13) Vice President Hon. J.A. Ortiz Fdz.- Urrutia (Spain, 2003); (14) Mr. Graziano Ghinassi (Italy, 2004); (15) Prof. Y. Nakano (Japan, 2004); (16) Dr. A.K. Randev (India, 2005); (17) Mr. Hassan Shantia (Iran, 2006); (18) Mr. Mohan Reddy Junna (USA, 2007); (19) Dr. Abraham Mehari Haile (The Netherlands, 2008); and (20) Secretary General, ICID.

Permanent Observers: (i) Mr. B. Molle (ISO) and (ii) FAO Representative.

Item 1 : Confirmation of the minutes of the 11th meeting of the Working Group held at Lahore

The minutes of the 11th meeting of the group held at Lahore in October 2008 will be confirmed.

Item 2 : Tenure and review of membership of the Working Group**2.1 Tenure of the Working Group**

At Lahore, the IEC accepted the WG's new mandate and the proposal to extend its tenure up to 2014. The new mandate is as follows:

- To promote on-farm irrigation as part of integrated water resources management, and
- To promote sustainable efficient approaches for on-farm irrigation.

2.2 Membership

The Central Office has received new nominations/ replacement for the WG membership as follows:

- Dr. Koji Inosako (*in place of Prof. Dr. Yoshisuke Nakano*) by Japanese National Committee (JNC-ICID)
- Prof. Dr. Rai Niaz Ahmed by Pakistan National Committee (PANCID)

CVs of the above nominees will be tabled at the meeting for consideration.

The Kazakhstan National Committee (KAZCID) had nominated Mr. Tauipbaev Sultanbek Tauipbaevich in 2007. However, as Mr. Tauipbaevich did not attend the Sacramento and Lahore meetings, his nomination was deferred by the Group. As advised by the Group at the Lahore meeting, the Central Office has written to KAZCID to either re-nominate Mr. Tauipbaevich or send a fresh nomination for the membership. Response is awaited.

Mr. M.S. Bala (Nigeria) and Prof. Pedro Liao de Sousa (Portugal) have not attended the meetings of the group since last three years i.e. 2006, 2007 and 2008. According to ICID by-law 3.1.7, the Central Office has written to the Nigerian National Committee (NINCID) and Portugal National Committee (PNCID) to send fresh nominations (to replace them) for the membership. The WG may like to take a view.

Attendance of members at the meetings held in 2007 and 2008 will be tabled at the meeting.

A. CONTINUING ITEMS

Item 3 : To review the progress in preparation of documents

3.1 Paper on “Improvement of the On-farm Irrigation Systems Using Simple Water Control, Measuring and Application Devices”

Mr. Stephen Mills (ANCID/ IAL) in 2006 had volunteered to prepare “Improvement of the On-Farm Irrigation Systems using Simple Water Control, Measuring and Application Devices”. As Mr. Mills or ANCID representative was not present at the Lahore meeting, the item was deferred until the 12th meeting. As advised by WG, Central Office has written to Mr. Mills to expedite preparation of the draft paper and circulate it amongst members for comments/ observation. Response from Mr. Mills is awaited.

3.2 A Paper on “Micro irrigation for Smallholders and Greenhouses”

The final version of the paper “Micro irrigation for smallholders and greenhouses” prepared by Prof. Y. Nakano (Japan) was tabled at the Lahore meeting. The Group suggested that the paper may be published by ICID after its final review. Mr. Felix Reinders, Chairman had volunteered to assist the review process.

The Chairman may like to apprise the progress at the meeting.

Item 4 : Liaison with the ISO/TC23/SC18

Central Office has circulated various ISO/TC23/SC18 documents among WG members as and when received from its Secretariat. A joint ISO/CEN/ICID Hand Book on “Irrigation Equipment Standards” was under preparation for quite some time. Mr. Bruno Molle (France) and Ms. Ronit Golovaty (Israel) had provided their contribution/ assisted in preparation of the document to the SC18 Secretariat. However, there was no tangible progress in preparation of the document. The Group may like to take a view in bringing out this document.

The 27th meeting of the ISO/TC23/SC18 was held in November 2008 at Anaheim, California, USA. The Secretariat of ISO/TC 23/SC18 has informed that the 28th meeting of SC18 will be held during 26-31 October 2009 at Mexico. As there is no member from Mexico on WG-ON-FARM, the Central Office in consultation with the Chairman, requested the Mexican National Committee (MXCID) to depute a professional to represent the Group at the meeting. Response is awaited.

Dr. Helen Atarot, Director, Standardization Division, ISO/TC 23/SC18 had conveyed the sad demise of Mr. Israel Silberstein on 12 December 2008. Mr. Silberstein was founder Chairman of ISO/TC 23/SC18 and instrumental in bringing out the SC18 to a very high level. Numerous standards were developed under his leadership, which were of great importance in sustainable development of mechanized irrigation world over. ICID, in particular Working Group on On-Farm Irrigation Systems (WG-ON-FARM), was honoured to have closely worked with Mr. Silberstein.

It was also communicated by Dr. Atarot that Mr. Allen Detric who was one of the leading members of the SC 18, passed away on 14 January 2009 in an accident. He was a great asset to the SC18. The WG-ON FARM has provided valuable inputs to Dr. Detric in preparation of standards for surface irrigation equipments during 2007-08.

The Central Office had informed WG members about the passing away of Mr. Israel Silberstein and Mr. Allen Detric above professionals and had conveyed condolence messages to the SC18 Secretariat on their behalf. May the departed Souls rest in peace!

Item 5 : Survey of World-wide Usage of Micro and Sprinkler Irrigation**5.1 Datasheet on Sprinkler and Micro Irrigated Areas in ICID Member Countries**

Central Office has been compiling data related to sprinkler and micro irrigated areas in ICID member countries since 2002. As per the latest statistical information worldwide about 32 million ha are under sprinkler irrigation and about 8 million ha are under micro irrigation. The latest data sheet of the micro and sprinkler irrigated areas in ICID member countries will be circulated in the meeting.

Central Office is grateful to all those National Committees for providing the data updates and request to continue sending latest data as and when available, for the benefit of all.

5.2 Survey of World-wide Usage of Sprinkler and Micro irrigation

A revised and abridged version of the questionnaire "Survey of world-wide usage of sprinkler and micro irrigation" was prepared by the Central Office. This version was approved by the Group at the Sacramento meeting. The questionnaire contains information related to major crops irrigated, water saving achieved, area under green houses, use of fertilizers, use of poor quality waters, subsidies provided by government, cost of installation, energy requirement, besides the area coverage under sprinkler and micro irrigation. So far, National Committees of Finland (FINCID), Germany (GECID), Hungary (HUCID), Iran (IRNCID), Israel (ISCID) and Italy (ITAL-ICID) have provided the filled-in questionnaire (*partially or fully*).

As this activity is not taking further momentum, the Chairman at the Lahore meeting urged all members' input and assistance in finalizing/ revising the questionnaire, so as to make it more 'user friendly'. Accordingly, the Central Office circulated the questionnaire among WG members in January 2009 with a request to provide their inputs/ suggestions. In response, Dr. Yoshisuke Nakano (Japan) had indicated interest to extend his assistance. Response from other members is yet to be received. The questionnaire will be circulated at the meeting.

Item 6 : Webpage of the Workbody

The Working Group's webpage <http://www.wg-on-farm.icidonline.org/> has been updated and is fully functional. At Lahore, the Chairman had requested all members to visit the webpage and provide additional information (books, manuals, technical papers, proceedings of the national workshops, interesting pictures, new software, useful links etc.). Members are encouraged to provide their contribution to the Chairman/ Central Office for posting on the webpage.

Item 7 : 8th International Micro irrigation Congress (8 IMIC), 2011, Tehran

At Lahore, the 59th IEC, upon recommendation of the PCTA approved the hosting of 8th International Micro Irrigation Congress (IMIC) by IRNCID along with the 21st Congress scheduled to be held at Tehran, Iran from 15-23 October 2011.

Subsequently, the Iranian National Committee (IRNCID) prepared a draft 'Write-up' for the 8th IMIC and sent to the Central Office for finalizing it. The proposed theme of the Congress is "Innovation in Technology and Management of Micro irrigation for Enhanced Crop and Water Productivity". The Central Office circulated the draft write-up as received from IRNCID to the members of the WG for their suggestions/ inputs. A comparative statement about the theme/ sub-themes was prepared by the Central Office and was circulated among the members (**Annex 1**) for their ready reference. In response, some valuable suggestions were received from Mr. Bruno Molle (France), VPH Dr. Jose A. Ortiz Fdz.-Urrutia (Spain) and VPH Dr. Saeed Nairizi (Iran). The revised draft version of the write-up was then sent to Chairman and members of PCTA for approval. The updated version of the write-up is shown as **Annex 2**.

IRNCID representative will apprise latest developments in preparation of the 8 IMIC.

Item 8 : Work plan of the Group

At the Lahore meeting, the Group discussed and approved the work plan up to 2011. The draft work plan is shown as **Annex 3**. The Group may like to add/ modify and update the work plan during the meeting.

Item 9 : Workshop/ Special Session on Micro irrigation

At the Lahore meeting, the representatives of Pakistan National Committee (PANCID) and Indian National Committee (INCID) had expressed the need to hold workshops on micro irrigation in their countries. The WG agreed to facilitate such workshops provided the initiative is mooted by the respective National Committees.

As a follow-up, the INCID in consultation with the Chairman Felix Reinders has planned to organize a 'Special Session on Micro irrigation' on the sidelines of the 60th IEC and 5th Asian Regional Conference. The half-day Session will be held in the afternoon of 8 December 2009. A brief write-up about the session is shown as **Annex 4**. All members are requested to attend and contribute to the session.

INCID representative will apprise updates about the session at the meeting.

Item 10 : Upgrading/ modernization of surface irrigation systems

At the Lahore Congress, VPH Dr. S. Nairizi, Strategy Theme Leader made a very impressive presentation on "On-Farm". He urged the WG to devote more attention to surface irrigation and advised to focus on improvement in traditional surface irrigation systems and management of small irrigation schemes in the new mandate of the Working Group. An abridged version of the presentation was given of the printed minutes of 59th IEC meeting (*refer Annex, pp 27-29*). All members are requested to peruse the Annex.

During the Lahore meeting, the Group suggested to prepare a comprehensive book on "Soil and Water Management in Surface Irrigation Systems". Modernization could be one of the components of the book. It was proposed to prepare the draft chapters/ papers for the book by 2010. Representatives from USCID and ANCID/IAL already had volunteered in Sacramento to supply some information on upgrading/ modernization of surface irrigation systems which may be considered for inclusion in the proposed book.

As suggested by the Group, the Central Office has written to Prof. Mohan Reddy Junna (USA), Mr. Stephen Mills (Australia) and Mr. James Ayars (USA) to contribute by way of providing their valuable suggestions on the topics of the proposed book. In response, Prof. Reddy has agreed to assist in the task. An article "Modernizing surface irrigation systems in USA" written by Dr. James E. Ayars has been brought out in the ICID Newsletter 2009/3.

The Group will discuss and work out an action plan for preparing the book.

Item 11 : Nomination of WG for the 3rd Best Performing Workbody Award (BPWA)

At the Lahore meeting, the Group suggested to submit its candidature for the 3rd BPWA to be given at the time of the 21st Congress scheduled to be held in Tehran, Iran in 2011 and requested the Chairman to initiate the necessary preparatory actions towards nomination.

The Chairman may like to apprise.

Item 12 : Any other business

INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE (ICID)
MICRO IRRIGATION CONGRESSES (IMIC)

Comparative statement

| | 8 th IMIC | 7 th IMIC | 6 th IMIC |
|-------------------------|--|---|--|
| ICID event | 62 nd IEC and 21 st Congress, October 2011, Iran | 57 th IEC, 3 rd Asian Regional Conference, September 2006, Malaysia | 51 st IEC, October 2000, South Africa |
| Venue | Tehran | Kuala Lumpur | Cape Town |
| Duration of IMIC | 3 days (18-19-23 October) – now proposed | 3 days (13-15 September) | 3 days (24-26 October) |
| Theme | Innovation in Technology and Management of Micro-irrigation for crop Production Enhancement | Advances in Micro irrigation for Optimum Crop Production and Resource Conservation | Micro irrigation technology for developing agriculture |
| Objectives* | <ul style="list-style-type: none"> To raise farmer's capacity to use and operate by themselves modern micro-irrigation equipments and technologies of previous generation(s). To create reliable advisory bodies or extension agencies to effectively help farmers to choose the micro irrigation equipment that most fits to effectively increase their crop yields. To encourage farmers' meetings to exchange knowledge and experiences on their micro irrigation equipments to compare their respective adaptation potential to plants phenology in order to increase crop yields and give hints to the farmers to improve their systems or technologies. To set bridges for the transfer of research findings on technology innovations to the farmers so that they can take advantage of such outcomes to increase crop productions. | <ul style="list-style-type: none"> To familiarize with worldwide usage of micro irrigation and related problems To disseminate new research findings on micro irrigation technologies To share micro irrigation experiences from all over the world. | <p>To find solutions to questions regarding-</p> <ul style="list-style-type: none"> the manageability of systems; the place and role of micro irrigation in developing agriculture; the application of advanced technologies in developing agriculture; and the understanding and input by high-tech researchers of the needs of developing agriculture in order to adapt their technologies |

| | 8th IMIC | 7th IIMIC | 6th IMIC |
|--------------------|--|---|--|
| Sub-Themes* | <ul style="list-style-type: none"> • Best management practices; • Subsurface micro-irrigation; • Low cost and low energy consumption; • Automation in micro-irrigation; • Micro-irrigation in greenhouses; • Micro-irrigation in small scale farms/ orchards; • Low quality water use in micro-irrigation; • Modeling and decision support system in micro-irrigation; • Operation and maintenance of micro-irrigation; • Large scale micro-irrigation management for smallholder; • Socio-economical and performance assessment of micro-irrigation systems. | <ul style="list-style-type: none"> • Research and Development for Crop Production and Resource Conservation • Capacity Building, Education and Training • Institutional/ Policy Issues • Grower Experience in Use of Advanced and Modernized Micro Irrigation Systems • Industry Experience in Promoting adoption of Micro Irrigation • Crop Water and Nutrient Requirements under Micro Irrigation • Nutrients and Chemical Management (Fertigation and Chemigation) • System Design, Installation and Maintenance (Drip, Trickle, Microsprayer, Microsprinkler, Microjet, Porous pipes, sub-surface drip irrigation) • Modelling and Decision Support Systems • Economics (Orchards, Field Crops, Landscapes, Greenhouses) • Best Management Practices | <ul style="list-style-type: none"> • Irrigation Management • Economic Feasibility • Appropriate Technology and Developing Irrigation: Gender, Social and Training Aspects • Soil Environment • Environmental Impact • Crop Water Use • Technical Development and Application • Regional/ Country Experiences |

* The objectives and sub-themes for the 8 IMIC given here are as suggested by WG members. The final version is shown in Annex 2.

8th INTERNATIONAL MICRO IRRIGATION CONGRESS
18-19 October 2011, Tehran, Iran**(Draft write-up)****Theme: Innovation in Technology and Management of Micro irrigation for Enhanced Crop and Water Productivity****Introduction**

Global demand for food is likely to double in the next 25 to 30 years mainly due to population growth and change of diet. Many countries are endeavoring to achieve food security at a national level. A major portion of this new food demand would be fulfilled from irrigated agriculture. However, further expansion of irrigated lands is ironically limited by freshwater availability particularly in arid and semi-arid regions. Micro-irrigation has shown a promise to tackle such a complex and multivariable situation, by allowing higher water use efficiency, minimizing non-beneficial losses of water, reduced energy requirements for operation, and improved agro-technical practices.

Water quality is another impeding factor which has to be taken into account for further development of irrigated agriculture. Micro irrigation has demonstrated a better compatibility to use poor/ low quality waters by way of flexibility and better performance compared to other irrigation methods. However there are several bottlenecks associated with further expansion micro-irrigation which need to be reviewed and dealt with. Concerns such as adaptability to varied soil and water quality, lowering of maintenance costs, increasing of life duration of field distribution systems, innovation in technology to reduce capital costs, and developing crop specific management practices, etc. are a few, to be listed in this regard which may have to be addressed.

Objectives

The objectives of the Congress are as follows:

- To share experiences in the use of new technologies and best management practices in drip, micro-sprinkler, and other localized irrigation systems.
- To review the status of use of micro irrigation for smallholders;
- To understand socio-economic and technological factors impeding expansion of drip and micro-sprinkler irrigation area.

Sub-themes:

The 8th International Congress on micro irrigation invites and welcomes experts, irrigation managers, researchers, government and private agencies, farmers, technicians and students to contribute with their knowledge and experiences, by submitting papers on the following topics:

- Best management practices/ success stories of micro irrigation adoption;
 - Lessons learnt from failures in upscaling micro irrigation
 - Developments in Subsurface micro-irrigation;
 - Low cost and low energy consuming irrigation systems;
 - Automation in micro irrigation;
 - Micro irrigation in greenhouses;
 - Micro-irrigation for small scale farms;
 - Use of low quality waters in micro-irrigation;
 - Modeling, design and decision support system in micro-irrigation;
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- Advances in operation and cost effective maintenance of micro-irrigation systems;
- Management and cost of micro-irrigation for large farms;
- Efficiency and productivity in micro irrigation systems
- Socio-economic consequences of the conversion of traditional systems to micro irrigation systems
- Analysis of long term sustainability of micro irrigation systems
- Technical performance and quality assessment of micro-irrigation systems.
- LCA (Life Cycle Analysis) applied to micro irrigation

WORKING GROUP ON ON-FARM IRRIGATION SYSTEMS (WG-ON-FARM)**Draft Work Plan (2009-11)**

| 2009 | 2010 | 2011 |
|---|---|---|
| Paper on "Improvement of the on-farm irrigation system using simple water control, measuring and application devices" to be developed by Stephen Mills, Australia | | 8 th International Micro irrigation Congress by IRNCID during 15-23 October 2011 in Tehran. |
| Paper on "Micro Irrigation for Smallholders and Greenhouses" to be reviewed and ready for publication. | Translating of Manual "Performance Evaluation of Sprinkler and Drip Irrigation Systems" in the Persian language by IRNCID | Release of Persian version of the publication "Manual on Performance Evaluation of Sprinkler and Drip Irrigation Systems" by IRNCID |
| An abridged questionnaire on "Survey of world-wide usage of sprinkler and micro irrigation" to be finalized and ready for circulation to NCs. | National Committees to fill-up and send the questionnaire to the Central Office. | National Committees to fill-up and send the questionnaire to the Central Office. |
| Paper on "Field Water Management and Soil Water Conservation under Spate Irrigation" to be prepared by Abraham Mehari Haile (The Netherlands). | | |
| Updating of datasheet on "Sprinkler and micro irrigated areas in ICID member countries". | Updating of datasheet on "Sprinkler and micro irrigated areas in ICID member countries". | Updating of datasheet on "Sprinkler and micro irrigated areas in ICID member countries". |
| Updating of webpage | Updating of webpage | Updating of webpage |

60TH IEC MEETING AND 5TH ASIAN REGIONAL CONFERENCE, NEW DELHI**WORKING GROUP ON ON-FARM IRRIGATION SYSTEMS (WG-ON-FARM)****SPECIAL SESSION ON MICRO IRRIGATION****New Delhi, India****8 December 2009: 14.15-18.00 hours****Introduction**

Rapidly increasing world population needs more food, fuel and fibre. In many countries, specially arid and semi-arid, most land and water resources have already been committed to various uses and the competition for the freshwater resources are intensifying. Water scarcity is projected to escalate considerably in coming decades due to factors such as population increase, changing life styles, and climate change. Agriculture is the largest user of freshwater world over. This is especially applicable in the fast growing economies such as China, India, Mexico, etc. In these countries, there is a stiff competition for water for irrigation with other sectors – industrial and domestic. It is therefore of critical importance to use the irrigation water as efficiently as possible. Fortunately, technologies ranging from high-tech to simple and affordable to use irrigation water efficiently are now available. Micro irrigation has been proven as one of the most efficient technologies for crop irrigation with application efficiency as high as 95%.

Presently, worldwide about 8 million ha are under micro irrigation. There are various types of micro irrigation systems ranging from localized drip irrigation to low pressure- low discharge micro sprinklers. ICID's Working Group on On-Farm Irrigation Systems (WG-ON-FARM) has been actively engaged in promoting the modern on-farm irrigation technologies in different regions of the world through exchange of knowledge and networking.

India having the largest irrigated area in the world has embarked upon adoption of modern irrigation technologies for increasing water use efficiency in agriculture. India's diversion of freshwater for irrigation are about 541 billion cubic meters (BCM) covering a gross irrigated area of 87 million ha. However, due to fast growing demand for other sectors and also to increase the crop productivity, the Government of India since over two and half decades has encouraged on adoption of micro and sprinkler irrigation technologies where appropriate, all across the country. Presently, about 1.33 million ha are under micro irrigation placing India at the second position in the world.

The Indian National Committee on Irrigation and Drainage (INCID) in close cooperation with the National Committee on Use of Plastic in Horticulture (NCPAH) of the Ministry of Agriculture, Indian Society of Agricultural Engineers (ASAE), and leading Irrigation Equipment Manufacturers - with overall guidance of the WG-ON-FARM will organize a half-day session on micro irrigation on 8th December on sidelines of the ICID's 60th International Executive Council (IEC) meetings and 5th Asian Regional Conference (ARC) at New Delhi.

Objective

The main objective of the special session is to highlight the recent developments in micro irrigation in major irrigation countries, particularly in India and to share and learn from each others experiences for sustainable expansion of the technology.

Outline

The half-day session will consist of a keynote speech and presentations by invited speakers from India [**National Committee on Plasticulture Applications in Horticulture** (NCPAH), Andhra Pradesh Micro Irrigation Projects (APMIP)] and other countries (China, Israel, USA) followed by panel discussions. Presenters are expected to be from the government, academia and the manufacturing sectors, and farming community. Experts from Spain, South Africa, Australia, Iran besides India have confirmed their interest to take part in the panel discussion.

Organizing Committee

- Chair : Mr. Felix B. Reinders (South Africa), Chairman, ICID WG-ON-FARM
Co-Chair : Mr. Ajit Jain, Managing Director, Jain Irrigation Systems Limited, Jalgaon, India
Coordinator : Dr. T.B.S. Rajput, Project Director, Water Technology Center, IARI, New Delhi
Joint Coordinator : Dr. S.A. Kulkarni, Executive Secretary, ICID, New Delhi

There is no separate registration fee for the Special Session; however, participants must register for the 60th IEC and 5th ARC. Contact: Dr. T.B.S. Rajput, Project Director, Water Technology Centre (WTC), IARI, New Delhi, e-mail: <tbsraj@iari.res.in; ncpah@ncpahindia.com>
