

**MINUTES OF THE VIRTUAL 5TH MEETING OF THE
WORKING GROUP ON ENVIRONMENT (WG-ENV)**

22 October 2020, 12:30 hours (IST)

Strategy Theme: Basin

Presented by the Chair

Year of Establishment: 2015

Completion of the Mandate: 2021

Mandate: (a) To provide guidance to policy makers, planners, designers, and managers in the irrigation and drainage sector on the following environmental aspects of irrigation and drainage systems: (i) physical, (ii) chemical, (iii) ecological, (iv) socio-economic, and (v) cultural; (b) To address concerns to the effects on local, regional and global common goods, such as climate, biodiversity and human health; (c) To work towards the management of a sustainable environment, through adapted practices, adequate policies and institutions, maximizing positive and minimizing adverse effects of irrigation and drainage systems.

Members present: (1) Vice Chair Dr. Michael van der Laan (South Africa), (2) Secretary Dr (Ms.) Seija Virtanen (Finland), (3) Dr. Yutaka Matsuno (Japan); (4) Prof. (Ms.) Eunmi Hong (Korea, Republic of); (5) Dr. Kwang-Sik Yoon (Korea, Republic of); (6) Ir. Mohd Azmi Ismail (Malaysia); (8) Dr. (Ms.) Aynur Fayrap (Turkey); (9) Dr. Ming-Kai Hsieh (Chinese Taipei); (10) Secretary General represented by Er. B.A. Chivate, Director (Technical), ICID (India).

Observer: Ms. Atsuko Akita (Japan)

Website: http://icid-ciid.org/inner_page/108

WG-ENV Minutes Item 1: Action taken report by Vice Chair

1. Vice Chair Dr. Michael van der Laan welcomed members and presented a brief report on the actions taken on the decisions and proposals of the working group at its last meeting held at Bali in September 2019.

2. The group noted the non-attendance, non-participation, no communication of Dr. Choi, Joong-Dae (Korea, Republic of), Dr. Muhammad Basharat Chaudhry (Pakistan), Dr. Mohammad Samiul Ahsan Talucder (Bangladesh), Eng. (Ms.) P.M. Jayadeera (Sri Lanka) during last two-years and considered about the discontinuation of their membership (as per *ICID By-law 3.5*). However, the group agreed to postpone the discontinuation to the next meeting due to exceptional situation of COVID-19 pandemic during 2020. The Japanese National Committee (JNCID) has informed that Prof. Dr. Nobumasa Hacho (Japan) has stepped down from the membership of the group and the members thanked for his active contribution to the activities during the period.

3. The group reviewed the nominations of Dr. Yutaka Matsuno (Japan) and Dr. Kwang-Sik Yoon (Korea, Republic of) and accepted them as members of the group. The Italian National Committee (ITAL-ICID) has nominated Dr. Giulio Castelli for the membership of the group and the group accepted him as Provisional Member as he did not attend the meeting. The group warmly welcomed them into the group. Membership status is given in **Annex 3 (Page 43)**.

WG-ENV Minutes Item 2: Road Map to ICID Vision 2030 – Status of future activities of the group

4. During virtual meeting, the group reviewed and updated the document keeping in view the mandate and availability of resources for achieving various activities (refer **Annex 1**). Vice Chair briefed the members on the present situation of the review of the paper.

WG-ENV Minutes Item 2.1: Publications of the working group

5. Vice Chair presented the draft content of the review paper comprising the case studies concerning the “*Positive Ecosystem Services from Irrigation and Drainage Systems*” (**Annex 2**). The group widely discussed the content and accepted the content. The members were willing to contribute to the paper and be authors for the different sections and case studies. Vice Chair also invited members of group (including those who could not attend the Zoom meeting) to suggest a new case study, if they wish so. It was decided that the paper may be further developed into ICID technical paper and/or uploaded on the WG website.

6. It was decided that the writings of case studies (about 400-500 words) will be delivered to Vice Chair by end of February 2021. Thereafter, the sections will be circulated among the authors in March 2021. In April 2021, a WebEx meeting of WG-ENV will be organized for discussion wherein authors will prepare and present a short PowerPoint presentation of their case study to other members of the WG.

7. It was also agreed that final section of the manuscript will be an important synthesis and discussion, exploring key recommendations of the WG to make to the international community. Vice Chair further suggested that due to journal specifications, space may be limited to the most relevant examples or possibilities (refer <https://onlinelibrary.wiley.com/page/journal/15310361/homepage/forauthors.html>).

WG-ENV Minutes Item 3: Updating Multilingual Technical Dictionary (MTD)

8. Prof. Hatcho had volunteered to update the terms of Multilingual Technical Dictionary (MTD) related to the activities of the WG-ENV and submitted the updated terms to the members for their suggestions. Since Prof. Hatcho has stepped down from the membership of the group, the issue of updating MTD was postponed to the next meeting.

WG-ENV Minutes Item 4: Workshop to be organized by the working group

9. Due to COVID-19 pandemic, the group suggested that the next meeting will be organized through WebEx by the end of April 2021. In that WebEx Meeting, the organization of future workshop will be discussed.

WG-ENV Minutes Item 5: Any other business

10. Vice Chair thanked all the members for sparing their time and participating in the virtual meeting.



Annex 1 [Item 2]

ROAD MAP TO ICID VISION 2030 – ACTIVITIES OF WORK BODIES

Goals/ Strategies	Activities	Outcomes / Outputs	Milestone for Year 2017	Milestone for Year 2018	Milestone for Year 2019	Milestone for Year 2020	Milestone for Year 2021
Goal A: Enable higher crop productivity with less water and energy							
A6. Strategy: Improving performance of irrigation and drainage systems	6.2 Investigating and documenting positive and negative environmental impacts of irrigation and drainage systems also taking ecosystem services of aquacultures into account.	Guidelines/Case Studies			Structure for review manuscript on ecosystem services of irrigation and drainage	Workshop on ecosystem services of irrigated cropping systems	Published paper on ecosystem services of irrigated cropping systems
	6.6 Improving communication among country members between annual ICID meetings	Online				1 x WebEx meeting	1 x WebEx meeting

(Source: Consultative Group (CG) Report: A Water Secure World Free of Poverty & Hunger: A Road Map to ICID Vision 2030)



Annex 2 [Item 2.1]

**MANUSCRIPT ON “ANALYSIS OF ECOSYSTEM SERVICES PROVIDED BY
IRRIGATED AND CONTROLLED DRAINAGE AGRICULTURE”**

1. Flood control

- (a) Nepal/ Sri Lanka (Colombo). Farmers can sell land for development, infiltration changes though, more flooding. (Prof Charlotte)
- (b) Japan – ‘paddy dam’ Prof Hatcho – poster with calculations (Prof Hatcho) But, denying downstream users access to water?
- (c) Korea – ‘50%’ used for irrigation, but return flows (recoverable fraction)? Responsibility?

2. Water quality enhancement

- (a) South Africa: Filtration of water rich in nitrates e.g. Pretoria Michael
- (b) India – regulatory authority, domestic + industry, but no regulation for environmental flow, recently being recognized, use of fertilizer and pesticides being controlled to maintain WQ (Vinod Tiwari)
- (c) INEP – ecosystem services of paddies Responsibility? Paddy fields – reducing non-point source pollution (Korea)

3. Wastewater re-use

- (a) Germany – use irrigated agriculture as water treatment, wastewater dumped on open field, vegetation growth, farmer approach to use, agriculture now more important than wastewater treatment Responsibility?
- (b) India 30% re-use. Need to buy wastewater re-use certificates >> less pollution, better quality to downstream Responsibility?
- (c) Irrigation with acid mine drainage (Michael) Colorado? High salinity waters
- (d) India open-cast mines, mining closure plan needed, coal mines in remote areas, authorities aren’t managing, mine waters flowing into rivers, various agencies working towards conservation of river.
- (e) South Australia, sandy soils, groundwater 10 000 ppm.
- (f) Policy – control, water permits in a system, wastewater use, Philippines regulation of wastewater use, water quality standards for use in agriculture, opportunities for industry to save water treatment costs by using agricultural instruments.

4. Micro-climate control

- (a) Japan, Tokyo. Urban heat islands, benefits of irrigated surrounding areas, evaporative cooling, can be quantitatively compared to air conditioners. (Prof Hatcho?)
- (b) Real issue? e.g., Olympics – shortening marathons because too hot
- (c) Tuscan – irrigation inside the city – cooling effect (paper to be shared) Responsibility? Korea – 1-degree Celsius difference (paper in Korean) Responsibility?
- (d) Taiwan, Taichung City? Ongoing experiment – drainage from upstream irrigation that is led through the city, steady flow, wind channel, evaporative cooling to cool the city, crowd sourcing of temperature information, more convinced that it works. Responsibility?
- (e) Australia, Perth “everyone loves a lawn” exacerbating groundwater depletion, curious policy decisions, can only irrigate Monday, Wed, Friday, water levels actually dropping faster as irrigating everyday led to more recharge Responsibility?
- (f) India – temp increased in urban areas by 1-2 deg. C, 300 million trees planted, irrigated with treated water, step forward, experiment with water conservation, water + recharge, ‘upliftment’ of water base and environment (Vinod Tiwari)

5. Eco-tourism

- (a) Cape Town wine industry (MvdL)
- (b) Subak in Indonesia e.g., \$10 entrance fee – benefits the environment? Responsibility? Japan paddy tourism
- (c) Australia, Northern Territory – new ecosystems, but overrun by 3 weeds, carp etc. Critical parameters to look at first when designing a system (Richard Creswell)

- (d) Philippines – irrigated area divided into sub-regions, local government >> facilities for eco-tourism
Responsibility?

6. Oasis effect

- (a) More ET, more rainfall, regional scale e.g., modelling taking place in Indus Basin – where should ET ideally take place to result in precipitation in desired area? Responsibility?

7. Services from controlled drainage

- (a) Finland - controlled drainage and sub-irrigation are topical issues concerning the mitigation GHG currently (Seija)

General notes

RC: Two aspects need to be considered simultaneously: (1) how environment enhanced, (2) detriment to environment

