MINUTES OF THE 2nd MEETING OF THE WORKING GROUP ON SUSTAINABLE DEVELOPMENT OF TIDAL AREAS (WG-SDTA)

05 September 2019: 09:00-10:30 hours (Session-I)
05 September 2019: 11:15-13:15 hours (Session-II)
Bali, Indonesia

Strategy Theme: Basin

Presented by the Chairman

Year of Establishment: 2017 **Extended the completion of the Mandate: 2023**

Mandate:

(a) To understand the existing and potential challenges and opportunities of tidal areas for now and the future by figuring out underlying issues;

(b) To raise awareness of the increasing risk on tidal areas due to global climate change and stimulate interdisciplinary discussions on impacts, mitigation, and adaptation

(c) To enhance survey, design techniques, and monitoring and management programs for the irrigation and drainage facilities, and apply to collect information about the tidal area environment around the world;

(d) To identify sustainable development and management options in tidal areas, and find a balance between the conservation and development of tidal areas with acknowledgement of ecosystem services;

(e) To join the international dialogues and organize international conferences and short courses to promote interdisciplinary and participatory land and water planning and management in tidal areas;

(f) To collaborate with other related working groups actively, and to exchange relevant experiences amongst NCs and support for developing, and least developed countries.

Members Present: (1) Dr. Ruey-Chy Kao, Chairman (Chinese Taipei); (2) Dr. Nor Hisham M. Ghazali, Secretary (Malaysia); (3) Dr. Hsiao-Wen Wang (Chinese Taipei) represented by Adrienne Dodd; (4) Prof Budi Santoso Wignyosukarto (Indonesia); (5) Dr. Jeongryeol Jang (Korea); (6) Prof Zhang Zhan-Yu (China); (7) Dr. Ikuo Yoshinaga (Japan); and (8) Dr. Vijay K. Labhsetwar, (India).

Observers: (1) Jae-Sang Jung (Korea); (2) Jung-Hsing Tsai (Chinese Taipei); (3) Ching-Feng Ding (Chinese Taipei); (4) Jalal Aboolhassani (Iran); (5) Iwan Nursyirwan (Indonesia); (6) Momon S. (Indonesia); (7) Shinsuke Ota (Japan); (8) Naoki Hayashida (Japan); (9) Made (Indonesia); (10) I Putu Abdi Rio Wisesa (Indonesia); (11) Mawiti Infantri Y. (Indonesia); (12) Mamoku Watanabe; (13) Atty. Ailyne C. Agtuca-Selda (Philippines); and (14) PH Bart Schultz (The Netherlands)

Website: http://wg-sdta.icidonline.org

WG-SDTA Minutes Item 1: Introduction of new Working Group

1. The WG Chair Dr. Ruey-Chy Kao (Chinese Taipei) welcomed all the members and participants. WG Chair introduced what presentations would occur during the WG-SDTA meeting.

2. WG Chair Dr. Kao briefed on the new mandate of the WG (as above) and various activities of the Group with his presentation i.e. “The latest status of WG-SDTA”.

3. WG Chair presented four recommendations for sustainable management of coastal areas as:

(a) Need to find balance between development and conservation through including updated professional techniques, public monitoring data, as well as stakeholder communication.

(b) In order to reduce the loss of property and lives, constructing intelligent flood control systems would be a solution by integrating the rainfall information in upstream catchments, the waterway monitoring systems of middle/ downstream and the potential flood simulation and tidal level prediction model of downstream.

(c) Avoid problems such as land subsidence and flooding caused by bad management (over pumping ground water and allowing drainage systems to become outdated and dilapidated) by utilizing modern technologies like Cyber-Physic System (CPS) and IOT.

(d) Promote complete management of irrigation, drainage, flood control and underground water by combining newest technologies of ICT, IOT, CPS, and data techniques

4. The members of the WG shared their comments and recommendations as suggested by WG Chair:

(a) Dr. Momon Sodik Imanudin (Indonesia) suggested that new technologies which is necessary to include conservation and habitat types in the plans. It is also important to address salination and sedimentation problems which make maintenance and operation cost very high. Dr. Budi Santoso Wignyosukarto noted that tidal lowlands in the province of Indonesia must consider fresh water supply as well as pollution in drainage from industrial areas.

(b) Dr. Budi Santoso Wignyosukarto (Indonesia) suggested that it is time to develop a Cyber-Physics System (CPS) and construct a description of how to use this as well as other big data systems for coastal management.

5. During the meeting, the WG considered these proposals, as above, in the agenda for 2023. Further discussion on these issues, and how to include them, will occur through email and Web seminar. Dr. Nor Hisham M. Ghazali (Malaysia), Secretary of the group will be responsible for more detailed planning.

6. Nomination of Dr. Surat Thanusin (Thailand) for the membership of WG-SDTA was accepted as a WG member during the meeting. WG welcomed Dr. Surat for the active member in the group. Membership status is given in **Annex 4 (page 27)**.

WG-SDTA Minutes Item 1.1: A brief report of Online/WebEx Meeting of the Group, 29 January 2018

7. WG Chair provided a brief report of Online/WebEx meeting of the WG. Chair urged more members to join these meetings in order to improve efficiency and ability for members to discuss without needing to travel. This makes meetings more accessible to all members.

WG-SDTA Minutes Item 2: ICID Action Plan 2030: Activities on Sustainable Development of Tidal Areas

8. At Bali meeting (2019), the WG reviewed the Action Plan 2030 (Road Map to ICID Vision 2030) based on the new mandate (refer **Annex**). WG members reviewed and agreed to four recommended important topics presented by the Chairman should be focused on the SDTA working group. (*see para 3*).

9. WG Chair suggests WG-SDTA extend the SDTA program for the year 2023 as the WG mandate was extended to 2023 but the program has not yet been updated. Chair invited members to join meeting to review and revise the program. Further discussion can also occur over email and in WebEx Meeting. Timing of the meeting is not yet set but will be announced soon.

WG-SDTA Minutes Item 3: Upcoming WG Events

WG-SDTA Minutes Item 3.1 International Workshop on 'Integrated Development of Tidal Areas – An Exchange of Expertise from Basin Perspective', September 2019 at Bali, Indonesia

10. The International Workshop on Integrated Development of Tidal Areas – An Exchange of Expertise from Basin Perspective' was held on 1st September 2019 at Bali, Indonesia. Following full papers were received from 8 coastal countries, including The Netherlands, Japan, Korea, Chinese Taipei, India, Malaysia, Indonesia and Pakistan:

(a) "Climate change impact on irrigation in Mekong Delta of Vietnam" by Dr. Koji Kitamura (Japan);

(b) "Role of safety standards and land subsidence in sustainable integrated development and management of tidal areas an inventory" by PH Bart Schultz (The Netherlands);

(c) "Seawater Intrusion into a Three-dimensional Groundwater System at a Coastal Low and Intermediate Level Radioactive Waste Disposal Site" by Chansung Oh, Hanyong Um and Jeongryeol Jang;

(d) "Strategies for promoting the sustainable development of land and water resources in the tidal areas of Southwestern Taiwan" by Chung-Feng Ding, Yu-Ching Lin, and Reuy- Chi Kao;

(e) "Water management objectives for second crop cultivation after rice in tidal lowland of type a (a case study on Telang I South Sumatera Indonesia)" by Momon Sodik Imanudin, Yaswan Karimudin and Adang Saf Ahmad;

(f) "A Study of Numerical analysis of hydraulic characteristics in the various type of FISHWAYS" by Choong Hun Shin, Eunchel Jang and Jeong-Ryeol Jang;

(g) "Integrated Tidal Irrigation Management in southern coastal Bangladesh through ECRR- Case Studies of Success in Polder 52/53B (Rangabali)" by GM Akram Hossain Peng & Md. Habibur Rahman;

(h) “Drainmod Model Adaptation for developing recommendations to maintain water table in the tertiary block of tidal lowland reclamations areas (A Case Study in Sugihan Kanan Under Corn Cultivation)” by Momon Sodik Imanudin, Bakri and Suparji;

(i) “Integrated Development of Tidal Areas – An Exchange of Expertise from Basin Perspective (A case study of Indus Basin: Integrated Development of Tidal Area)” by Naseer Ahmad Gillani;

(j) “Participatory Mapping of Ecosystem Services of Coastal Wetlands in Taiwan” by Hsiao-Wen Wang and Adrienne Dodd;

11. In view of above, ten of the papers were presented during the International Workshop of the WG, unfortunately, Engr. Nasir Gillani from Pakistan was unable to attend the workshop. Dr. Nor Hisham M. Ghazali (Malaysia) gave an overview of the presentations during the workshop. The workshop was very successful in allowing young professionals to meet and understand what other researchers in other countries are experiencing in order to broaden each individuals’ understanding. The workshop highlighted the need for more discussion on protection of coastal tidal areas in terms of safety from disasters as well as conservation in order to achieve sustainability.

WG-SDTA Minutes Item 3.2 Short Course titled ‘Tidal Prediction and Typhoon Wave Model’ in December 2019 at Chinese Taipei

12. WG Chair Dr. Ruey-Chy Kao introduced the importance of improving coastal protection through Tidal Prediction and Typhoon Forecasting. WG Chair introduced the proposed workshop titled “Tidal Prediction and Typhoon Wave Model’ to be held in December 2019 at Chinese Taipei and invited all members of the WG. WG Chair highlighted the importance of looking at both safety and conservation for sustainable management of coastal areas.

13. WG Chair Dr. Ruey-Chy Kao suggested that the proposed workshop’s time be changed to spring time, after Lunar New Year. The exact date and time to be decided later.

WG-SDTA Minutes Item 3.3 Side Event on ‘Global challenges of land subsidence in tidal areas and the integrated solutions during WIF3

14. This year, a Side Event on ‘Global challenges of land subsidence in tidal areas and the integrated solutions’ was deferred to a future time.

15. WG Chair informed the members that WG-SDTA needs to focus on addressing issues of land subsidence in coastal areas, and suggested that this working group focuses on: (1) Sharing information and experiences; (2) Addressing methods on how researchers can collaborate with government stakeholders; and (3) Clarify the causes of land subsidence in different regions (erosion, heavy loading, ground water pumping etc.). The comments are as under:

(a) Dr. Momon Sodik Imanudin (Indonesia) proposes a ‘Short Course’ in March 2020 in Indonesia as there is a program working in collaboration with the government.

(b) WG Chair Dr. Kao informed that his research team in Chinese Taipei has many years’ experience working with the government to focus on land subsidence research and action, and agrees it is an important issue for a short course.

(c) Dr. Budi Santoso Wignyosukarto (Indonesia) informed the WG will have a short course focusing on land subsidence.

(d) Dr. Shinsuke Ota (Japan) informed that in Japan major cities had land subsidence issue due to over pumping of ground water. Japan took measures to start irrigation earlier in the year, so the water table can be recovered. There is now also regulation on industry and drinking water pumping.

16. It was decided that Dr. Nor Hisham M. Ghazali, Secretary of the WG will be responsible for proposing the date and time for the future side events.

WG-SDTA Minutes Item 3.4 Web-based seminars and e-Discussions (2019)

17. During the meeting, the WG noted that two Web-meetings were held in 2018 and 2019 and several e-Discussions have been occurred. Further, the WG included Web-based seminars, but these have been put on hold due to changes in the mandate and program schedule. Further, the WG informed that the web-based seminars are in planning process.

WG-SDTA Minutes Item 4: Ground Water and the Land Subsidence on the Coastal Areas

18. WG Chair invited Dr. Ching-Feng Ding to present on experience on ground water and land subsidence in Chinese Taipei. Dr. Ding introduced the national plan for addressing land subsidence and monitoring flooding and

introducing smart management techniques. Dr. Ding also talked about the importance of citizen monitoring systems and inclusion of local people in monitoring and management planning methods.

19. WG Chair invited Dr. Ikuo Yoshinaga to present on experience of land subsidence in Japan. Dr. Ikuo gave a summary of land subsidence in Japan, starting in 1920's and both the 1956 Act and the 1962 Act to regulate ground water pumping, and while subsidence has almost stopped, it will never be recovered.

20. The WG members discussed and agreed to pursue groundwater and land subsidence issues.

WG-SDTA Minutes Item 5: Dissemination of activities of WG

21. During the meeting, Dr. Nor Hisham M. Ghazali, Secretary of the WG gave a presentation sharing experience in managing coastline in Malaysia, especially in terms of erosion monitoring, risk assessment and management. Dr. Hisham noted in his presentation that the importance of Institutionalizing coastal management into the government, using structural and non-structural measures, categorizing erosion and considering timing of funds in management plan.

22. PH Dr. Bart Schultz (The Netherlands) enquired what the width of an effective mangrove belt must be. Dr. Hisham suggested that there is not a good understanding, and while the government suggests there must be 400m belt but in reality, most are at most 200m.

23. Dr. Iku Yoshinaga (Japan) again presented on experiences from Japan on flood management. Dr. Iku noted that the importance of the management of lowlands, agriculture land, and the importance of strengthening policies and research and development for disaster risk management. Dr. Ikuo also talked about Tsunami disasters in Japan and its damage situations, effective measures and restoration methods.

(a) WG Chair enquired: After Tsunami, how do you reclaim the land? Especially, when salination occurs. Dr. Iku informed that this is usually not a serious issue, as rain will wash out saline area. So, unless it is a very low-lying area, it is not such a big problem in Japan. This is also dependent on good drainage.

(b) PH Dr. Schultz pointed out that Dr. Iku showed rainfall has increased, and damages have also increased, which are correlated, but that we also need to note the relationship to land use changes. Dr. Schultz pointed out that Dr. Iku showed that agricultural land also has decreased. Usually, this is paired with increased urbanization, and increased monetary value of land, which may also be partially responsible to increase of damages.

WG-SDTA Minutes Item 6: Updating Multilingual Technical Dictionary (MTD)

24. In December 2018, ICID CO requested Dr. Iku Yoshinaga to take a lead in the activity of updating Multilingual Technical Dictionary (MTD). Dr. Iku Yoshinaga informed the members that the team is focusing on updating the existing English dictionary. Translation into other languages will be the responsibility of each country. Dr. Vijay K. Labhsetwar from ICID Central Office requested Dr. Iku to send an email to clarify responsibilities.

WG-SDTA Minutes Item 7: Cooperation between Institutions from Chinese Taipei and Korea

25. The MoU was signed in 2016 between the Rural Research Institute (RRI) of Korea Rural Community Corporation (KRC), Republic of Korea and Tainan Hydraulic Laboratory (THL) of National Cheng Kung University (NCKU). This collaboration has been very successful, so it has been extended. In November 2018, this partnership was updated and the current memorandum now included the President of NCKU and the CEO of KRC. During the Bali meeting (2019), the research team met and discussed research focus and next steps. This collaboration is seen as a demo for collaboration, and if successful can be used in other areas.

WG-SDTA Minutes Item 8: Any other business

26. WG Chair enquired the Philippine representative about the possible future participation of their National Committee in WG-SDTA.

27. Dr. Vijay Labhsetwar suggested the members to put together 2-page country papers for SDTA. The data which can be organized in tables comparing different factors. It is suggested a questionnaire be created in a format for the country papers.

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Annex [Appendix XVI, Item 2]

ROAD MAP TO ICID VISION 2030 – ACTIVITIES OF WG-SDTA

	Activity	**Outcomes/ Outputs**	**Milestone for Year 2017**	**Milestone for Year 2018**	**Milestone for Year 2019**	**Milestone for Year 2020**	**Milestone for Year 2021**	**Milestone for Year 2022**
Goal B: Be a catalyst for change in policies and practices								
Strategy B1 : Supporting Development of Appropriate Policies	1.1 Promoting Sophisticated water-saving irrigation development with IOT and water-saving irrigation model techniques exchanges	Technical report, workshop proceedings and water industry web site	Preparing: Promoting demonstrative plan	Site tests demonstration: Hardware construction and software tests	Site tests demonstration: Hardware, software and system control integrating process	Site tests plan: Workshop observation	Examination Plan results & improvement	Examination Plan results & improvement
	1.2 Promoting up-to-date water-saving experience exchange	As above	As above	As above	As above	As above	As above	As above
	1.10 Sustainable drainage management experience exchange	Internet of Things Water industry workshop						
Goal C: Facilitate exchange of information, knowledge and technology								
Strategy C4 : Compile, Collate and Share Knowledge and Experiences	4.26 Special Issue of ICID Journal on SDTA	Special issue of IRD	Announcement of special issue, inviting authors etc.	Setup Review Committee for selected papers based on the workshops	Submission of final drafts		Publishing Special Issue of IRD	
Strategy C5 : Dissemination of Data, Information, Tools, Knowledge and Know How	5.8 Develop and maintain the ICID web site as a knowledge hub	On-line						
Goal E: Encourage research and support development of tools to extend innovation into field practices								
Strategy E3 : Develop and Promoting Tools for AWM	3.2 The application for output of development tools from academic institutions			Prepare tidal prediction and typhoon wave model				
Goal F: Facilitate capacity development								
Strategy F3: Technical Training of Young Professionals from Member Countries	3.7 worksh/Training Workshop on Sustainable Development of Tidal Areas	Technical transfer and internet information short course /training workshop	Scope, theme and announcement		Short Course/Training Workshop on SDTA		Short Course / Training Workshop on SDTA	Short Course / Training Workshop on SDTA
	3.8 To launch e-Discussion on Sustainable Development	E-discussion	E-discussion on Sustainable Development of Tidal Areas		e-Discussion on SDTA		e-Discussion on SDTA	

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

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