2023 PAWEES Program Book

1. Conference Name : The 2023 Conference of International Society of Paddy and Water Environment Engineering
2. Date/Venue : October 23~25, 2023/ Haeundae Hanhwa Resort, Busan, Korea
3. PAWEES (International Society of Paddy and Water Environment Engineering)

PAWEES is an academic conference for the purpose of exchange for the development of various engineering/science technologies, such as irrigation drainage, sustainable management of agricultural water resources, promotion of multi-functionality, regional development and planning, related to rice paddy farming and water environment in the Asian monsoon region. It was founded in 2003 by the Agricultural Engineering Societies of Korea, Japan, and Taiwan (KSAE, JSIDRE, TAES), and holds an international conference every year.

4. 2023 PAWEES Main theme & Sub-theme 1~4

Main theme : Smart and Sustainable Management of Rural Resources
1) Smart Technologies for Soil and Water management (STSWM)
2) Climate Change and Agricultural Risk Management (CCARM)
3) Agricultural Conservation Practices and Multi-Functionality (ACPMF)
4) Water-Energy-Food-Environment Nexus and SDGs (WEFEN)

5. 2023 PAWEES Conference Organization

International Society of Paddy and Water Environment Engineering (PAWEES)

Korean Society of Agricultural Engineers (KSAE)

Seoul National University (SNU)

Ministry of Agriculture, Food and Rural Affairs

Ministry of Agriculture, Food and Rural Affairs (MAFRA)

Korea Rural Community Corporation (KRC)

Opening Address - PAWEES

Dr. Seong-Joon Kim
President of the PAWEES, Former president of the KASE
(Professor, Konkuk University)

Ladies and gentlemen, esteemed colleagues, and distinguished guests,

Good Afternoon! I am Seong-Joon Kim, a professor in the Division of Civil and Environmental Engineering at Konkuk University. It is an honor to welcome you all to the vibrant city of Busan for the 2023 International PAWEES Conference. As the president of PAWEES, I am deeply delighted to stand before you today, as we embark on a journey of knowledge-sharing, collaboration, and innovation. Now, as we leave the shadows of the COVID-19 pandemic outbreak behind, I would like to propose this face to face conference as a great opportunity not only for productive discussions & knowledge exchange but personal interactions to deepen friendship as well.

Our conference theme, "Smart and Sustainable Management of Rural Resources," resonates with the pressing challenges and opportunities that our world faces today. The intricate interplay between human activities and our environment demands novel solutions and proactive strategies. In the heart of this theme lie the ideals of responsible stewardship, technological advancement, and harmonious coexistence with nature.

The chosen sub-themes highlight the multifaceted nature of our endeavor. 'Smart Technology for Soil & Water Management' recognizes the role of technology in enhancing soil and water management using big data and AI application. 'Climate Change and Risk Management' acknowledges the pressing issue of climate change and its impact on rural resources. 'Agricultural Conservation Practices and Multi-functionality' looks into the need for environmentally responsible agricultural practices that balance food security and environmental preservation. Lastly, the 'Water-Energy-Food-Environment Nexus' underscores the intricate interdependence of these elements through an integrated approach to global sustainability encompassing resource allocation, trade-offs, and synergies. Through this conference, a dynamic exchange of ideas aims to foster progress in these vital areas.

As we gather here, let us remember that the solutions we seek extend beyond our immediate realm. They impact livelihoods, communities, and the health of our planet. Through the diversity of expertise and experiences represented at this conference, I am confident that we can forge new pathways towards a more equitable and resilient future.

I extend my heartfelt gratitude to all our participants, speakers, sponsors, and organizers who have dedicated their time and effort to make this conference a reality. Let us engage in fruitful discussions, build bridges across disciplines, and forge lasting connections that will shape the trajectory of rural resource management for years to come.

With great anticipation for the insights and collaborations that lie ahead, I declare the 2023 PAWEES International Conference officially open.

As we look to the future, I am confident that together, we can confront these challenges and to continue our important works around paddy farming practices. I would like to encourage all members to get involved with the activities of the PAWEES, and to share your ideas and insights with us. Thank you for your continued dedication to the field of agricultural engineering and to the PAWEES.

Welcoming Address - KASE

Dr. Kyung Sook CHOI
President of the KSAE
(Professor, Kyungpook National University)

Honorable participants of the PAWEES 2023 Conference,

It is my privilege as the President of the Korean Society of Agricultural Engineers (KSAE) to extend a warm and heartfelt welcome to all of you to the vibrant city of Busan. As we host the International Conference on Smart and Sustainable Management of Rural Resources, under the banner of PAWEES, we are honored to bring together brilliant minds and passionate souls dedicated to advancing the frontiers of knowledge and innovation.

This gathering is a testament to the power of collaboration, uniting experts, researchers, practitioners, and policymakers from diverse backgrounds, all committed to addressing the complex challenges that our world faces. The fields of agricultural engineering and environmental stewardship are pivotal in shaping the future of our planet, and your presence here reflects your dedication to creating positive change.

The theme of this conference, "Smart and Sustainable Management of Rural Resources," echoes the shared values that we hold dear. As agricultural engineers, we understand the intricate balance that must be maintained between human progress and the preservation of our natural resources. This theme resonates deeply in a world where technological advancements, environmental concerns, and the need for sustainable solutions are more critical than ever before. Through engaging presentation & discussions, and fruitful collaborations, we hope to pave the way for innovative solutions that will shape the smart trajectory of rural resource management and unlock a more sustainable, resilient, and harmonious world.

We have thoughtfully designed an engaging field trip itinerary for the PAWEES participants. This excursion comprises two distinct sites, the first showcasing pipeline irrigation for advanced smart farming practices, while the second highlights an agricultural reservoir with amenities for rural revitalization. Our collective endeavors are aimed at propelling the agricultural infrastructure into the next phase through the integration of fourth industrial revolution technologies. With fledging dedication, we have selected these specific field trip destinations to demonstrate our ongoing strides in smart farming and the multifunctional utilization of agricultural reservoirs. This excursion is scheduled to take place on the last day of this conference and I sincerely hope many of you will be able to join us for this memorable experience.

While our primary focus will be on fostering productive discussions and knowledge exchange among the participants, I would also like to encourage you to find some time to explore the enchanting city of Busan. With its stunning coastal landscapes, vibrant culture, and warm hospitality, Busan offers a unique blend of tradition and modernity that is sure to captivate your heart. Whether it's a stroll along Haeundae Beach, or an exploration of the bustling markets, I hope you take the opportunity to create lasting memories outside the conference hall.

I extend my gratitude to each one of you for joining us on this journey. Your presence enriches this conference, and your contributions will undoubtedly leave an indelible mark on the path towards a better tomorrow. On behalf of the Korean Society of Agricultural Engineers and the organizing team, I would like to welcome you all to the PAWEES 2023 Conference. Thank you very much!

Congratulatory Address - JSIDRE

Dr. Kazuaki HIRAMATSU
President of the Japanese Society of Irrigation, Drainage and Rural Engineering
(Professor Emeritus, Kyushu University)

On behalf of the Japanese Society of Irrigation, Drainage and Rural Engineering (JSIDRE), I would like to offer my congratulations on the PAWEES International Conference 2023, to be held from October 23rd to 25th, 2023, in Busan, Korea. I hope the International Conference 2023 will be a great success.

With your kind cooperation, we were able to hold the international conference in Fukuoka, Japan last year, also to celebrate the 20th anniversary of the founding of PAWEES. This was the first in-person international conference after three years of the COVID-19 pandemic, and I would like to thank many participants who came from various countries and regions.

I would also like to express my deep appreciation to the Korean Society of Agricultural Engineers (KASE) and all those involved in organizing this year's International Conference 2023.

This Busan conference will be the first international conference of the next 20 years of PAWEES activities, and thus mark an important starting point. The main theme, "Smart and Sustainable Management of Rural Resources", was chosen as the best topic to discuss the sustainability of paddy farming and its water use, water environment, and so forth.

Paddy farming is deeply connected to the diverse resources of the region in which it has historically been practiced. It is an excellent form of agriculture that can keep up sustained and sustainable farming and food production on the same farmland. We, the researchers and engineers gathered at PAWEES, are expected to optimize the use of resources and ensure sustainability from a scientific perspective.

The climate change, international conflicts and other factors increased the risks for the global environment in all aspects, including natural and social science, and now, we are about to enter a critical phase in terms of international food security. In this sense, I hope that there will be meaningful discussions at this conference and that the results of these discussions will be widely disseminated throughout the world, to contribute even a little to solving these problems related to food and local resources. I look forward to lively discussions and many results at this international conference.

The activities of PAWEES are based on two main pillars: this international conference and the publication of the PAWE journal. The impact factor of the PAWE journal rose from 1.57 last year to 2.20 this year, showing that contributions to international science are being accumulated without fail. I believe that this academic development is the fruit of the discussions at the annual international conferences. I look forward to a fruitful discussion at this research conference.

I hope that the results of the International Conference 2023 will contribute to the great success of sustainable agricultural production in global food security.

Once again, I wish to express my heartfelt congratulations to everyone involved with the International Conference 2023 in Busan.

Welcoming Address - TAES

Dr. Tsai Sheng-Fu
President of the TAES
(Director-General of the Irrigation Agency
of the Council of Agriculture)

Ladies and gentlemen, esteemed guests, and respected colleagues,

It is with great pleasure that I extend a warm and heartfelt welcome to all of you attending the 2023 Paddy and Water Environment Engineering annual meeting.

First and foremost, I wish to express my deepest gratitude to the organizers, the distinguished experts in attendance, and our friends joining from different places. PAWEES has consistently played an essential role as a platform for the convergence of agricultural and water environment engineering disciplines. It brings together preeminent experts from across the world, facilitating the sharing of cutting-edge research findings and technological innovations in rice cultivation and water environment management. The progress of your efforts holds immense significance, not only for global agricultural production but also for the crucial cause of environmental conservation.

Rice has always held a prominent position as a staple crop in East Asia and Southeast Asia, serving importantly in food supply and sustainable living. In recent years, the changing climate has posed challenges to water management and food production. Taiwan, no exception, has faced the impact of drought in recent years. Fortunately, through the united efforts of Taiwan's people, we have successfully overcome previous challenges and built a more resilient society. In August 2023, the Ministry of Agriculture Taiwan, is officially established, succeeding the Taiwan Council of Agriculture. As the director of the Irrigation Agency, I promise we will continue our dedicated work in agricultural water resource management and collaborate with nations worldwide to exchange experiences in protecting food and water resources, and contributing to global food security. In this conference, we can exchange best practices, and explore innovative ideas in paddy and environment engineering. I am looking all participants could share invaluable perspectives. With this meeting, we can collectively endeavor to discover solutions to address the challenges of the present and the future.

I would again extend my sincerest appreciation to all our esteemed friends participating in the annual PAWEES gathering. Thank you, and may this conference be a resounding success, brimming with fruitful exchanges and invaluable insights.

Thank you!

Opening Ceremony

Dr. Jin-Soo Kim
Former President of the KSAE & PAWEES
(Emeritus Professor of Chungbuk National University)

<Environmental conservation and amenity enhancement as multifunctionality of agricultural water in South Korea>

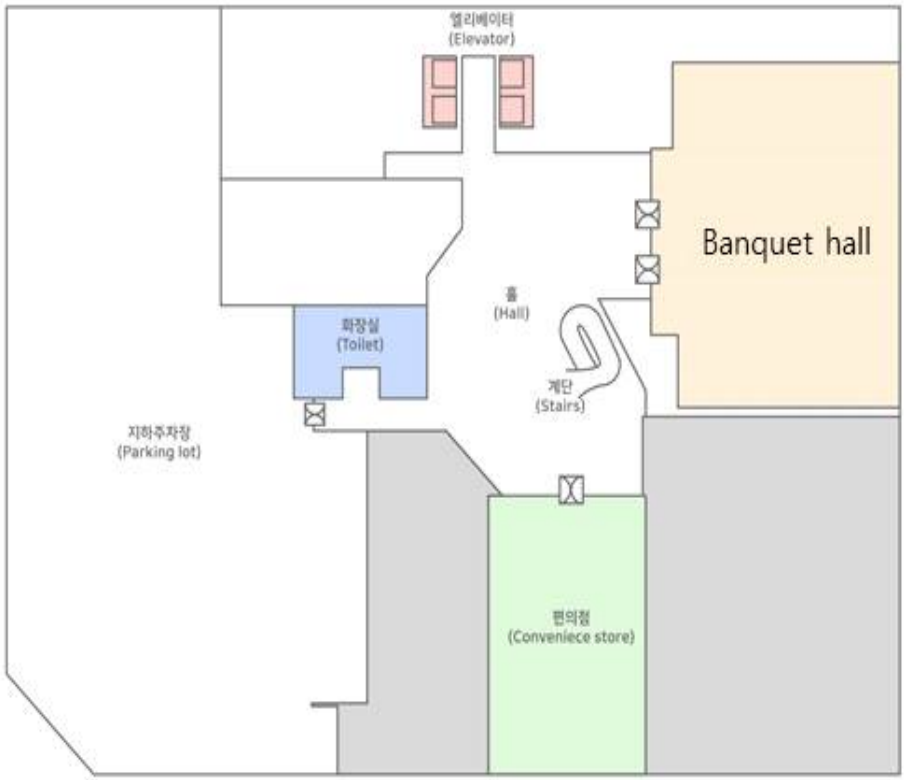
Agricultural water use for rice cultivation in monsoon Asia includes consumptive water use (e.g. irrigation water) and non-consumptive water use (e.g. multifunctional water). The share of multifunctional water has increased as the gross national income (GNI) per capita in Korea increases. The multifunctionality of agricultural water in Korea has been improved since the 2010s. Its socio-economic backgrounds are as follows: The rice consumption per capita in Korea cut in half (from 120 kg in 1990 to 59 kg in 2019). Korea's GNI per capita exceeded $20,000 in 2007. The special law on use of agricultural reservoir and its neighboring area was enacted in 2009. The remodeling project of about 110 agricultural reservoirs for responding to climate change started in 2009 and therefore reservoir storage capacity was greatly increased.

Environmental conservation and amenity enhancement areconsidered as the multifunctionality of agricultural water. Environmental conservation and amenity enhancement using agricultural water improve the quality of life for local communities and vitalize local communities by increasing the number of visitors. Main irrigation and drainage systems are operated and maintained by a national company, Korea Rural Community Cooperation (KRC), whereas the recreation and amenity facilities in the reservoirs are constructed and maintained by the local governments. The successful cases of amenity enhancement using agricultural water are shown in the medium sized (0.5-4 million cubic meters in volume) reservoirs with walking trails, offering 30-60 minutes' walk. The major success factors of reservoirs are the following; recreation and amenity facilities, travel time between major cities and reservoirs, water quantity and quality, storytelling, and beautiful landscapes. Furthermore, agricultural water is used as environmental water in some rivers.

6. 2023 PAWEES Conference Program & Technical Sessions

Date	Time	Room 1	Room 2	Room 3	Room 4	Venue & Moderator
Oct. 10.23 (Mon.)	13:00~13:30	Registration				In front of the Banquet Hall (B1F)
	13:30~14:00	Opening Ceremony (Opening (PAWEES), Welcoming (KASE), Congratulatory (JSIDRE, TAES))				Banquet Hall (B1F) Prof. Eun-Mi Hong, (Kangwon Natl Univ)
	14:00~14:30	Keynote Speech (Dr. Jin-Soo Kim) (Environmental conservation and amenity enhancement as multifunctionality of agricultural water in South Korea)				
	14:30~14:50	Coffee Break				-
	14:50~16:05	Technical Sessions Ⅰ			Poster sessions 1	Room 1~4 (3F)
		STSWM 1 Prof. Yong-Chul Shin, (Kyungpook Natl Univ)	WEFEN 1 Prof. Sang-Hyun Lee, (Chungbuk Natl Univ)	CCARM 1 Prof. Syewoon Hwang, (Gyeongsang Natl Univ)		
	16:05~16:15	Break time				
	16:15~17:45	STSWM 1	WEFEN 1	CCARM 1		
	18:00~20:00	Dinner				Restaurant (3F)
Oct. 10.24 (Tue.)	09:30~11:30	Technical Sessions Ⅱ			Poster sessions 2	Room 1~4 (3F)
		STSWM 2 Prof. Keigo Noda (Univ of Tokyo)	ACPMF 1 Prof. Young-Gu Her (Univ of Florida)	CCARM 2 Prof. Hanseok Jeong (Seoul Natl Univ of Sci & Tech)		
	11:30~13:00	Lunch				-
	13:00~15:00	Technical Sessions Ⅲ				Room 1~4 (3F)
		STSWM 3 Prof. Shu-Yuan Pan (Natl Taiwan Univ)	ACPMF 2 Prof. Hak-Kwan Kim (Seoul Natl Univ)	CCARM 3 Prof. Won-Ho Nam (Hankyung Natl Univ)		
	15:00~15:20	Coffee Break				-
	15:20~16:50	PAWEES Award and Closing Ceremony				Banquet Hall (B1F) Prof. Kimihito Nakamura (Secretary General of the PAWEES & Kyoto University)
Oct. 10.25 (Wed.)	9:30~17:00	Technical Tour (Sites: Ipgok Reservoir, Clean Water Supply Project Site)				

※ Venue Floor Plan (B1F, 3F)



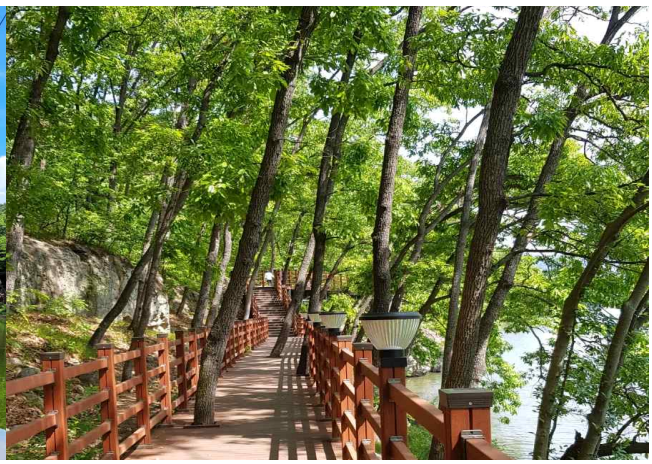
<B1F: Banquet Hall>

<3F: Room 1, Room 2, Room 3, Room 4>

7. Technical Tour Schedule

Date	Departure	Arrival	Schedule
Oct. 25 (Wed.)	8:30	10:00	Move to technical tour site 1
	10:00	11:30	Technical Tour 1 (Clean water supply project site)
	11:30	12:30	Move to restaurant
	12:30	14:00	Lunch (Restaurant: DiningOne)
	14:00	15:00	Move to technical tour site 2
	15:00	16:30	Technical Tour 2 (Ipgok reservoir)
	16:30	18:00	Move to Hanwha Resorts Haeundae

* Technical Tour 1 address: Ipgok-ri, Sanin-myeon, Haman-gun, Gyeongsangnam-do
* Technical Tour 2 address: Daesan-myeon, Uichang-gu, Changwon-si, Gyeongsangnam-do



8. 2023 PAWEES Technical Sessions Schedule

1) Oral Presentation

Technical Sessions I (14:50~17:45)		
STSWM 1	Room 1	Chair: Prof. Yong-Chul Shin (Kyungpook National University)
Time	Presenter (Affiliation)	Abstract title (Authors)
14:50~15:05	Prof. Surendra Kumar MISHRA (Indian Institute of Technology Roorkee)	IRRIGATION CANAL SYSTEM- A POTENTIAL SOURCE FOR WATER SUPPLY IN NEARBY WATER-DEFICIT AREAS LOCATED IN SEMI-ARID ZONE IN INDIA (Prof. Surendra Kumar MISHRA, Mr. Damodar SHARMA, Prof. Rahul Dev GARG)
15:05~15:20	Dr. John Paulo SACDALAN (Central Luzon State University)	A METHOD OF INTERPRETING SOIL MOISTURE SENSOR DATA TO DETERMINE FIELD CAPACITY (Dr. John Paulo SACDALAN, Dr. R. Troy PETERS)
15:20~15:35	Dr. Claire Marie CASTILLO (Central Luzon State University)	Estimating irrigation system design capacity using historical evapotranspiration and its variability (Dr. Claire Marie CASTILLO, Dr. R. Troy PETERS, Dr. Clark KOGAN, Mr. Shafik KIRAGA)
15:35~15:50	Mr. Nadim HAYAT (The University of Tokyo)	Evaluation of irrigation water supply and estimated gross water requirements from paddy fields in Fukushima, Japan (Mr. Nadim HAYAT, Mr. Hiroaki SUGINO, Mr. Masaru MIZOGUCHI)
15:50~16:05	Mr. Kazutaka SHINOMIYA (Iwate University)	Effects of Automatic Deep Ponding Irrigation on Weed Control and Labor Reduction in Experimental Organic Rice Plots (Mr. Kazutaka SHINOMIYA, Dr. Kiyohito YAMAMOTO, Prof. Atsushi MARUI, Prof. Toshiaki IIDA)
16:15~16:30	Ms. Nadezhda MOROZOVA (Niigata University)	Automated meso-structure segmentation of CT scans for deteriorated concrete headworks by deep learning approach (Ms. Nadezhda MOROZOVA, Mr. Kazuma SHIBANO, Dr. Yuma SHIMAMOTO, Prof. Tetsuya SUZUKI)
16:30~16:45	Mr. Yasushi NOGUCHI (National Agriculture and Food Research Organization)	Survey of corporate awareness for ICT construction investment evaluation in Agricultural and Rural Development (Mr. Yasushi NOGUCHI, Prof. Atsushi ISHII, Dr. Teruhito MIYAMOTO)
16:45~17:00	Mr. Wonjin JANG (Konkuk University)	Evaluation of Multi-objective PSO and NSGA-II Optimization Algorithms for DWAT Modeling (Mr. Wonjin JANG, Mr. Jeehun CHUNG, Mr. Yongwon KIM, Dr. Yonggwan LEE, Prof. Seongjoon KIM)
17:00~17:15	Mr. Jin Uk KIM (Konkuk University)	A study on spatial evapotranspiration using Terra MODIS image and indexing soil moisture (Mr. Jin Uk KIM, Mr. Jeehun CHUNG, Ms. Bohyeon KIM, Dr. Yonggwan LEE, Prof. Seongjoon KIM)
17:15~17:30	Mr. Jeehun CHUNG (Konkuk University)	SAR-based soil moisture retrieval of vegetation-dominant areas in South Korea (Mr. Jeehun CHUNG, Mr. Wonjin JANG, Mr. Jinuk KIM, Dr. Yonggwan LEE, Prof. Seongjoon KIM)

Technical Sessions I (14:50~17:45) (Continued)		
WEFEN 1	Room 2	Chair: Prof. Sang-Hyun Lee (Chungbuk National University)
Time	Presenter (Affiliation)	Abstract title (Authors)
14:50~15:05	Dr. Shigeya MAEDA (Ibaraki University)	Numerical Experiment on the Deposition Process of Detached Filamentous Algae on Artificial Fish Nests Introduced to an Agricultural Drainage Canal (Dr. Shigeya MAEDA, Mr. Sho MIYASHITA, Dr. Xiaolan LIN, Dr. Hisao KURODA)
15:05~15:20	Mrs. Qu RUI (Chungbuk National University)	Analysis of Inequality Levels of Economic and Population in Rural Areas through Inequality Indices and Spatial Autocorrelation (Mrs. Qu RUI, Prof. Lee SANG_HYUN, Dr. Rhee ZAEWOONG, Ms. Lee SUNG YUN, Prof. Bae SEUNG-JONG, Dr. Kim SANGBUM)
15:20~15:35	Mr. Iep KEOVONGSA (Tokyo University of Agriculture and Technology)	Paddy field land diminution over three decades (1989-2021) in the Makhiao River Basin, Vientiane Capital, Laos (Mr. Iep KEOVONGSA, Prof. Tasuku KATO)
15:35~15:50	Dr. Hiroshi IKEURA (Japan International Research Center for Agricultural Sciences)	Enhancing water vapor collection in plastic film tunnel by improved underground condensation system with earth-air heat exchange pipes (Dr. Hiroshi IKEURA, Dr. Haruyuki FUJIMAKI)
15:50~16:05	Mr. Rhee ZAEWOONG (Chungbuk National University)	Empirical Analysis on Strengthening the Competitiveness of Food Manufacturers (Mr. Rhee ZAEWOONG, Mr. Lee SANG-HYUN , Mrs. Qu RUI, Mr. Jun IKSU)
16:15~16:30	Dr. Naoki TAKAHASHI (Kagawa University)	Water depth and flow velocity characteristics of a portable fishway unit for salmon (Dr. Naoki TAKAHASHI, Prof. Kazuyoshi NAKATA, Dr. Takeshi SONODA, Prof. Shigeya MAEDA)
16:30~16:45	Dr. Pu Reun YOON (Seoul National University)	Crop Cultivation Activity Impacts Evaluation using Water-Energy-Food-Carbon-Water Quality Nexus (Dr. Pu Reun YOON, Prof. Jin-Yong CHOI, Dr. Seung-Oh HUR , Mr. Jeong-Woo SON)
16:45~17:00	Mr. Sayed Shajahan SADIQI (Kangwon National University)	Ingraining a resilient socio-ecological system for Long-Term Sustainability: Case of Chuncheon City, in Korea (Mr. Sayed Shajahan SADIQI, Prof. Eun-Mi HONG, Prof. Won-Ho NAM)
17:00~17:15	Mr. Kavach MISHRA (Indian Institute of Technology Roorkee)	Examining automated end member extraction strategies for advanced land cover information retrieval (Mr. Kavach MISHRA, Prof. Rahul Dev GARG)

Technical Sessions I (14:50~17:45) (Continued)		
CCARM 1	Room 3	Chair: Prof. Syewoon Hwang (Gyeongsang National University)
Time	Presenter (Affiliation)	Abstract title (Authors)
14:50~15:05	Ms. Cherry Rose GODES (Kangwon National University)	Analyzing Textual Data for Determining Landslide Risk Factors in South Korea (Ms. Cherry Rose GODES, Mr. Onebin LIM, Prof. Yongseong KIM, Prof. Bongjun JI, Prof. Jaeheum YEON)
15:05~15:20	Prof. Ashish PANDEY (Indian Institute of Technology Roorkee)	Remote Sensing Indices as Indicators of Agricultural Drought and Crop Yield (Prof. Ashish PANDEY, Mr. Kapil BHOUTIKA)
15:20~15:35	Ms. Lea CAGUIAT (Central Luzon State University)	Spatio-Temporal Trend Analysis of Reference Evapotranspiration in Central Luzon, Philippines (Ms. Lea CAGUIAT)
15:35~15:50	Mr. Wei SUN (National Taiwan University)	Groundwater Level Prediction Using Artificial Neural Networks: Performance Analysis and Influencing Factors (Mr. Wei SUN, Prof. Fi-John CHANG, Ms. Hang-Yeh LIN, Prof. Wen Ping TSAI)
15:50~16:05	Mr. Kei AWANO (Kindai University)	Prediction of water levels in a low-lying lake using a DNN trained with mock rainfall events (Mr. Kei AWANO, Dr. Masaomi KIMURA, Prof. Yutaka MATSUNO, Prof. Natsuki YOSHIKAWA)
16:15~16:30	Prof. Budi Indra SETIAWAN (IPB University)	IDENTIFYING PATTERN OF DRY SEASONS AND WATER DEFICITS TO SUPPORT PLANTING CALENDER (Prof. Budi Indra SETIAWAN)
16:30~16:45	Dr. Rudiyanto RUDIYANTO (Universiti Malaysia Terengganu)	ASSESSING GLOBAL METHANE (CH4) EMISSIONS FROM PADDY CULTIVATION USING REMOTE SENSING-DERIVED HARVESTED RICE MAPPING (Dr. Rudiyanto RUDIYANTO, Mr. Frisa Irawan GINTING, Mr. Fatchurrachman FATCHURRACHMAN, Dr. Ramisah MOHD SHAH , Dr. Norhidayah CHE SOH)
16:45~17:00	Ms. Min-Jing LI (National Taiwan University)	Evaluation of surface-groundwater interactions in the Zhuoshui River alluvial fan under climate change scenarios (Ms. Min-Jing LI, Mr. Chih-Mei LU, Dr. Li-Chi CHIANG)
17:00~17:15	Dr. Shiraki SHUTARO (Japan International Research Center for Agricultral Sciences)	Cultivating Perennial Rice for Climate Adaptation: Temperature Effects and Yield Benefits in Myanmar (Dr. Shiraki SHUTARO, Ms. Kywa E, Mrs. New NI, Dr. Aung Kyaw THU)
17:15~17:30	Dr. Keisuke INOUE (National Agriculture and Food Research Organization)	Evaluation of slope-climbing motion assuming a water accident in a reservoir (Dr. Keisuke INOUE, Dr. Yuichi HIROSE, Dr. Toshikazu HORI , Dr. Tsubasa MARUYAMA)
17:30~17:45	Dr. Riani MUHAROMAH (Sriwijaya University)	Climate Patterns in the Fire-prone Provinces of Riau, Jambi, and South Sumatra, Indonesia (Dr. Riani MUHAROMAH)

Technical Sessions Ⅱ (09:30~11:30)		
STSWM 2	Room 1	Chair: Prof. Keigo Noda (University of Tokyo)
Time	Presenter (Affiliation)	Abstract title (Authors)
09:30~09:45	Mr. Mingi KO (Kangwon National University)	Graphene oxide/chitosan sponge for the removal of diclofenac, triclosan, and microplastics (Mr. Mingi KO, Prof. Jeong-Ann PARK)
09:45~10:00	Dr. Keigo NODA (The University of Tokyo)	Scale-dependence of the effect of the distribution of sugarcane cropping practices on soil erosion (Dr. Keigo NODA, Mr. Yo ASADA)
10:00~10:15	Dr. Runze TIAN (The University of Tokyo)	OPTIMAL SELECTION OF PADDY PLOTS FOR INSTALLING SMART IRRIGATION SYSTEM TO REDUCE LABOUR (Dr. Runze TIAN, Prof. Toshiaki IIDA, Prof. Kyoji TAKAKI, Dr. Wenpeng XIE)
10:15~10:30	Mr. Tomohiro KUBOTA (The University of Tokyo)	Study on the shape of drop works focusing on the fluctuation of water level in the area of riverbed protection blocks (Mr. Tomohiro KUBOTA, Mr. Kyoji TAKAKI)
10:30~10:45	Dr. Yonggwan LEE (Konkuk University)	Prediction of Future Land-Use Change Based on Low-Carbon Growth Scenario in Geum River Basin Using CLUE-s Model (Dr. Yonggwan LEE, Mr. Jinuk KIM, Dr. Jiwan LEE, Prof. Seongjoon KIM)
10:45~11:00	Mr. Yu-An HOU (National Taiwan University)	Water Resources Spectrum Network Optimization Model (Mr. Yu-An HOU, Mr. Ming-Che HU)
11:00~11:15	Mr. Yongwon KIM (Konkuk University)	Practical securing ecological flow by tracing four decades change impacts of land use, groundwater use, forest growth, and soil erosion in a watershed scale (Mr. Yongwon KIM, Mr. Wonjin JANG, Dr. Soyoung WOO, Dr. Wonjin KIM, Prof. Seongjoon KIM)

Technical Sessions Ⅱ (09:30~11:30) (Continued)		
ACPMF 1	Room 2	Chair: Prof. Young-Gu Her (University of Florida)
Time	Presenter (Affiliation)	Abstract title (Authors)
09:30~09:45	Prof. Young Gu HER (University of Florida)	Evaluating the effectiveness of crop rotation between sugarcane and rice in the Everglades Agricultural Area of Florida using integrated monitoring and modeling approaches (Prof. Young Gu HER, Prof. Jehangir BHADHA, Dr. Samuel SMIDT, Ms. Xue BAI, Dr. Yuchuan FAN, Dr. Donghyeon KIM)
09:45~10:00	Ms. Kristine SAMOY-PASCUAL (Philippine Rice Research Institute)	Enhancing the water productivity of rice farmers through the adoption of water-saving irrigation technique: A case in the Philippines (Ms. Kristine SAMOY-PASCUAL, Ms. Marvelin RAFAEL, Mr. Romeo CABANGON, Mr. Gio EVANGELISTA, Dr. Sudhir YADAV, Dr. Takeshi TOKIDA, Dr. Masaru MIZOGUCHI, Dr. Manuel Jose REGALADO, Dr. Manuel Jose REGALADO)
10:00~10:15	Dr. Satyanto Krido SAPTOMO (IPB University)	The Implementation of Subsurface Perforated Pipe Network for Improved Paddy Field Water Management (Dr. Satyanto Krido SAPTOMO)
10:15~10:30	Mr. Sengsamonesay TOUNOUTH (Gifu University)	Potential Assessment of Drainage Water from Paddy Fields for Dilution of Pollutants in the Mak Hiao River, Vientiane Capital, Lao PDR (Mr. Sengsamonesay TOUNOUTH)
10:30~10:45	Mr. Ryo MURATA (The University of Tokyo)	Elucidation of the Mechanism Behind the Decrease in Subjective Well-being Associated with Flood Experiences: Implications for Paddy Field Dam Promotion (Mr. Ryo MURATA, Mr. Daisuke TOKUDA, Mr. Masashi KIGUCHI, Mr. Keigo NODA, Mr. Taikan OKI)
10:45~11:00	Mr. Hiroki KAWAI (The University of Tokyo)	The gap in the level of recognition and expectations between farmers and beneficiaries to the rice paddy dam (Mr. Hiroki KAWAI, Ms. Risa TOYODA, Mr. Kentaro OTSUKA, Prof. Taichi TEBAKARI, Prof. Keigo NODA)
11:00~11:15	Dr. Toshiaki IIDA (Iwate University)	Laboratory practicality tests of a siphon with a floating valve for labor reduction of paddy field water management (Dr. Toshiaki IIDA, Mr. Kohei OTAKE)

Technical Sessions Ⅱ (09:30~11:30) (Continued)		
CCARM 2	Room 3	Chair: Prof. Hanseok Jeong (Seoul National University of Sci & Tech)
Time	Presenter (Affiliation)	Abstract title (Authors)
09:30~09:45	Mr. Emmanuel OKIRIA (Gifu University)	Where are the ephemeral gullies? (Mr. Emmanuel OKIRIA, Prof. Keigo NODA, Prof. Shi-Ichi NISHIMURA)
09:45~10:00	Mr. Septian Fauzi Dwi SAPUTRA (Tokyo University of Agriculture and Technology)	Assessment the impact of climate change on water availability by coupling SWAT modeling and CIMP6 in the Cidanau watershed, Banten Province of Indonesia (Mr. Septian Fauzi Dwi SAPUTRA, Prof. Tasuku KATO)
10:00~10:15	Mrs. Rahmah Dara LUFIRA (Brawijaya University)	Optimation and Feasibility Analysis for Irrigation of Sukodono Reservoir (Mrs. Rahmah Dara LUFIRA, Mr. Suwanto MARSUDI, Mrs. Santi SARI, Ms. Rizky Ramadani PRATAMA)
10:15~10:30	Dr. Atsushi YAMAMOTO (Kindai University)	Comparison of the recognition ability among fruit maturity detection models of persimmon using You Only Look Once algorithm (Dr. Atsushi YAMAMOTO, Mr. Makoto SHINODA, Mr. Atsushi OKAYAMA, Mr. Yuuki KATAYAMA, Mr. Takeshi NAKAMURA, Ms. Mayu SUGIURA, Ms. Chika TAKEMURA, Mr. Hiroyoshi SUGIURA, Dr. Masaomi KIMURA, Prof. Yutaka MATSUNO)
10:30~10:45	Dr. Naoko OKA (Japan International research Center for Agricultural Sciences)	Assessment of the irrigation capacity of multipurpose small reservoirs in northern regions of Ghana (Dr. Naoko OKA, Dr. Abdul-Ganiyu SHAIBU, Dr. Eliasu SALIFU, Mr. Prosper KPIEBAYA, Mr. Masakazu YAMADA)
10:45~11:00	Dr. Bing-Chen JHONG (National Taiwan University)	Real-time dynamic risk assessment for agricultural crops based on hourly inundation forecasts of a physics-informed data-driven model during typhoon periods (Dr. Bing-Chen JHONG, Dr. Feng-Wen CHEN, Dr. Li-Chi CHIANG)
11:00~11:15	Mr. Hung DINH XUAN (Institute of Water Resources Planning)	Linking remote sensing and energy balance modelling in assessing crop water productivity in Xuan Thuy irrigation system, Vietnam (Mr. Hung DINH XUAN, Mr. Lan HA THANH, Mr. Thanh HOANG TIEN, Mr. Minh NGUYEN CONG, Mr. Tuan NGUYEN VAN)
11:15~11:30	Dr. Takanori NAGANO (Kobe University)	Development of a GIS-based integrated agricultural water management platform to mitigate impact of flood and salt water intrusion to rice cultivated Asian deltas (Dr. Takanori NAGANO, Dr. Natsuki YOSHIKAWA, Dr. Masaomi KIMURA, Dr. Yoshitaka MOTONAGA, Prof. Budi Indra SETIAWAN, Dr. Lan Thanh HA)

Technical Sessions Ⅲ (13:00~15:00)		
STSWM 3	Room 1	Chair: Prof. Shu-Yuan Pan (National Taiwan University)
Time	Presenter (Affiliation)	Abstract title (Authors)
13:00~13:15	Prof. Naoko KOSHIYAMA (Civil Engineering Research Institute for Cold Region)	Demonstration of Early-Stage Irrigation Using In-Field Ditches in Dry Direct-Seeding Cultivation Field (Prof. Naoko KOSHIYAMA, Dr. Daichi IKEGAMI)
13:15~13:30	Prof. Shao-Yiu HSU (National Taiwan University)	Assessing applicability and enhancing the performance of pedotransfer functions for estimating water retention curve parameters in Taiwan: a comparative analysis of Rosetta3 and local pedotransfer functions (Prof. Shao-Yiu HSU, Dr. Yi-Zhih TSAI, Mr. Bo-Yu FUNG, Dr. Chien-Hui SYU)
13:30~13:45	Mr. Hyeokjin LEE (Seoul National University)	Development of a river DTM generation algorithm based on SfM point clouds using vegetation and morphological filters (Mr. Hyeokjin LEE)
13:45~14:00	Mr. Yong Bin AN (Kangwon National University)	Assessment and Mitigation of Heavy Metal Pollution in Small Streams Adjacent to Highways and Rest Areas (Mr. Yong Bin AN, Prof. Eun Mi HONG, Prof. Hyuck Su KIM, Ms. Yu Jin LEE, Ms. Ji Yoon YUN)
14:00~14:15	Mr. Kazuma SHIBANO (Niigata University)	Development of Damage Detection Method based on Concrete Temperature by Image Analysis for Agricultural Infrastructure (Mr. Kazuma SHIBANO, Mr. Taiki HAGIWARA, Prof. Tetsuya SUZUKI)
14:15~14:30	Mr. Seongju JANG (Seoul National University)	Comparison of design costs and water supply capacity by layouts of agricultural irrigation pipeline network (Mr. Seongju JANG, Mr. Jinseok PARK, Mr. Hyeokjin LEE, Prof. Inhong SONG)
14:30~14:45	Mr. Jinseok PARK (Seoul National University)	Development of ecological streamflow estimation methods by integrating with hydrological model and hydrodynamic models, considering hydrodynamic and water quality factors (Mr. Jinseok PARK, Mr. Seongju JANG, Mr. Hyeokjin LEE, Prof. Inhong SONG)
14:45~15:00	Mr. Pu Yun KOW (National Taiwan University)	A Vision of Agriculture 4.0: Constructing Smart Agriculture through Artificial Intelligent (Mr. Pu Yun KOW, Mr. Meng-Hsin LEE, Mr. Fi-John CHANG)

Technical Sessions Ⅲ (13:00~15:00) (Continued)		
ACPMF 2	Room 2	Chair: Prof. Hak-Kwan Kim (Seoul National University)
Time	Presenter (Affiliation)	Abstract title (Authors)
13:00~13:15	Ms. Ya-Han ZHANG (National Taiwan University)	Activity and Compositions of nitrifying microbial community in rice paddy and dry field in Taiwan (Ms. Ya-Han ZHANG, Dr. Yo-Jin SHIAU, Dr. Charles C.-K. CHOU, Dr. Syu-Ruei JHANG, Dr. Chia-Wei LEE, Dr. Yi-Ying CHEN, Dr. Chih-Chung CHANG, Dr. Wei-Nai CHEN, Mr. Chih-Feng CHIANG, Mr. Horng-Yuh GUO)
13:15~13:30	Dr. Sangik LEE (Seoul National University)	Agrivoltaic smart farm system for enhancing land and water use efficiency through integration of sustainable agriculture and renewable energy (Dr. Sangik LEE, Mr. Jonghyuk LEE, Mr. Dongsu KIM, Mr. Byunghun SEO, Ms. Yejin SEO, Mr. Dongwoo KIM, Prof. Won CHOI)
13:30~13:45	Mr. Seyoon JUNG (Kangwon National University)	Revealing Methanogenic Communities in Paddy Soil: Comparative Exploration of the Impact of Organic and Conventional Farming (Mr. Seyoon JUNG, Prof. Eunmi HONG)
13:45~14:00	Mr. Kentaro OTSUKA (Gifu University)	Analysis of gate operation frequency in irrigation and drainage canals (Mr. Kentaro OTSUKA, Dr. Keigo NODA)
14:00~14:15	Mr. Kung-Hui HE (National Taiwan University)	Rice Husk Derived Biochar for Hydrogel Composite for Soil Amendment (Mr. Kung-Hui HE, Shu-Yuan PAN, Li-Kuan WANG)
14:15~14:30	Dr. Li-Chi CHIANG (National Taiwan University)	Evaluation of element distribution in sorghum with irrigation by treated wastewater (Dr. Li-Chi CHIANG, Mr. Ci-Jyun LIAO, Mr. Chi-Hsuan HUANG)
14:30~14:45	Mr. Jinyoung LEE (Hanyang University)	Effects of Eco-friendly Earth Stabilizers on Shear Strength and Embankment Stability (Mr. Jinyoung LEE, Prof. Dong Youp KWAK, Mr. Giseok HEO, Mr. Inhyeok CHOI)

Technical Sessions Ⅲ (13:00~15:00) (Continued)		
CCARM 3	Room 3	Chair: Prof. Won-Ho Nam (Hankyung National University)
Time	Presenter (Affiliation)	Abstract title (Authors)
13:00~13:15	Mr. Maulana Ibrahim RAU (Niigata University)	The Performance Evaluation of Inland Flood Modeling using Long Short-Term Memory (LSTM) (Mr. Maulana Ibrahim RAU, Mr. Hiroya SATO , Mr. Yusuke SATO , Prof. Natsuki YOSHIKAWA , Dr. Susumu MIYAZU , Prof. Masaomi KIMURA)
13:15~13:30	Mr. Tsubota TOMA (Niigata University)	Detection of Water Leakage in Service Pipeline by Digital Image Correlated Method with Time-Frequency Analysis (Mr. Tsubota TOMA, Mr. Higiwara TAIKI, Prof. Suzuki TETSUYA)
13:30~13:45	Mr. Hiroya SATO (Niigata University)	Development of Inland Flood Modeling using Long Short-Term Memory (LSTM) (Mr. Hiroya SATO, Mr. Maulana RAU, Prof. Natsuki YOSHIKAWA)
13:45~14:00	Dr. Bashir ADELODUN (Kyungpook National University)	Changes in precipitation characteristics and their links with pluvial flood hazards in Chungcheong region (Dr. Bashir ADELODUN, Mr. Golden ODEY, Mr. Qudus ADEYI, Prof. Kyung Sook CHOI)
14:00~14:15	Mr. Qudus ADEYI (Kyungpook National University)	Climate change impact analysis of IDF curves for stormwater management system design (Mr. Qudus ADEYI, Dr. Bashir ADELODUN, Dr. Mirza Junaid AHMAD, Mr. Golden ODEY, Prof. Kyung Sook CHOI)
14:15~14:30	Dr. Shih Wei CHIANG (Agricultural Engineering Research Center)	Assessment of Climate Change Effects on the Rice Water Requirements for Hsin-Chu Irrigation Area in Taiwan (Dr. Shih Wei CHIANG)
14:30~14:45	Mr. Min-Gi JEON (Hankyong National University)	CMIP6 model-projected hydroclimatic and flash drought responses to climate change (Mr. Min-Gi JEON , Hee-Jin LEE, Gwang-Su PARK , Song-Hyun KIM, Chanyang SUR , Prof. Won-Ho NAM)

2) Poster Presentation

Technical Sessions I (14:50~17:45) (Room 4)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-STSWM 1		
P1	Mr. Ankook SHIN (Rural Research Institute of Korea Rural Community Corporation)	AI module applicability verification for reservoir water level analysis using CCTV images (Mr. Ankook SHIN, Prof. Seungyub LEE)
P2	Mr. Ankook SHIN (Rural Research Institute of Korea Rural Community Corporation)	Analysis of agricultural water supply in KRC Standard Testbed based on measurement (Mr. Ankook SHIN, Dr. Jaenam LEE)
P3	Mr. Ankook SHIN (Rural Research Institute of Korea Rural Community Corporation)	Verification of the water level of Baekma Reservoir using satellite images (Mr. Ankook SHIN)
P4	Ms. Ming-Ting YANG (National Taiwan University)	Develop Water Level Prediction Models at Pumping Stations for Intelligent Urban Flood Control (Ms. Ming-Ting YANG, Prof. Li-Chiu CHANG, Prof. Fi-John CHANG)
P5	Prof. I-Hsuan WANG (National Cheng Kung University)	Enhancing Streamflow Forecasting through Wavelet Analysis-Driven Rainfall Fusion in Artificial Neural Networks (Prof. I-Hsuan WANG, Prof. Wen-Ping TSAI)
P6	Mr. Jaebeom CHOI (Kangwon National University)	Chitosan nanofiber sponge for the removal of microplastics (Mr. Jaebeom CHOI, Mr. Jinhyuk CHOI, Ms. Jeongmin SHIN, Ms. Soyeong YOON, Prof. Jeong-Ann PARK)
P7	Mr. Yi SU (National Taiwan University)	Assessment and Planning of Water Allocation for Agricultural Irrigation - A Case Study of Kinmen (Mr. Yi SU, Mr. Hwa-Lung YU, Mr. Ta-Wei CHIEN)
P8	Dr. Yohei ASADA (University of Tsukuba)	Velocity Distribution Measurement for Unsteady Flow in Pipelines Using Particle Image Velocimetry (PIV) (Dr. Yohei ASADA)
P9	Mr. Hikaru YAMASHITA (The University of Tokyo)	How to prevent rainwater infiltration into the flower greenhouse (Mr. Hikaru YAMASHITA)
P10	Ms. Jieun CHOI (Geongsang national university)	Developing a Village-scale Alternative Irrigation Water Secure System Using Rainfall-Runoff (Ms. Jieun CHOI, Prof. Min-Won JANG, Prof. Syewoon HWANG)
P11	Prof. Taeil JANG (Jeonbuk National University)	Evaluating Evapotranspiration-Driven Water Management Strategies for Enhancing Winter Wheat Yield Using APSIM (Prof. Taeil JANG, Mr. Liguang CHENG, Mr. Hyunsu PARK, Mr. Stephen OKWANG)
P12	Ms. Koharu TASAKI (Saga University)	Development and Evaluation of Soil CO2 Gas Measurement for an Artificial Macropore under the Shaft Tillage Cultivation Method (Ms. Koharu TASAKI, Prof. Ieyasu TOKUMOTO, Dr. Shujiro KOMIYA, Prof. Kosuke NOBORIO)

Technical Sessions I (14:50~17:45) (Room 4) (Continued)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-CCARM 1		
P13	Ms. Ya-Zhen HUANG (National Taiwan University)	Variation of Irrigation Water Quality and its Potential Risk for Agriculture under the Influence of climate change (Ms. Ya-Zhen HUANG, Prof. Chihhao FAN)
P14	Ms. Hong Minh TRAN (University of Tsukuba)	Water-saving Effect of Block Rotational Irrigation System in Large Irrigation Scheme in Japan (Ms. Hong Minh TRAN, Prof. Atsushi ISHII, Prof. Moono SHIN, Dr. Yohei ASADA)
P15	Mr. Yun Wei TAN (Agricultural Engineering Research Center)	Reliability Analysis of River Flow Dilution for Large Point Source Pollution Discharge: A Case Study of Rinan Irrigation District, Taichung City (Mr. Yun Wei TAN, Mr. Feng Wen CHEN, Mr. Yu Chien CHO, Ms. Ya Ting CHANG, Mr. Hsiu Te LIN, Ms. Man Jing WANG, Mr. Ming Yang XIE)
P16	Ms. Jihye KWAK (Seoul National University)	Development of future flood risk evaluation method in agricultural reservoir watersheds using an integrated flood simulation system (Ms. Jihye KWAK, Mrs. Jihye KIM, Mrs. Hyunji LEE, Mr. Seokhyeon KIM, Ms. Sinae KIM, Prof. Moon Seong KANG)
P17	Dr. Solhee KIM (Jeonbuk National University)	High-resolution geographical coverage of greenhouse gas emissions from agricultural activity (Dr. Solhee KIM, Dr. Taegon KIM, Mr. Seungwon SEOK, Prof. Kyo SUH)
P18	Mr. Kota HAMAOKA (Okayama University)	The effect of artificial-macropore application on the GHGs emission and the leaching behavior of cations in paddy soil (Mr. Kota HAMAOKA, Prof. Yasushi MORI)
P19	Mr. Hung-Jen LIU (National Taiwan University)	Quantitative Assessment of the Sustainable Hyporheic Flow Water of Pingtung Plain in Taiwan (Mr. Hung-Jen LIU, Mr. Chi-Hung CHUANG)
P20	Prof. Yasushi MORI (Okayama University)	Effect of Linear Macropore Installation in Subtropical Sugarcane Field Soil to Reduce Surface Flow. (Prof. Yasushi MORI, Ms. Kanako OKA, Prof. Kazutoshi OSAWA, Mr. Akira HOSHIKAWA)
P21	Mr. Atsushi OKAYAMA (Kindai University Graduate School)	Development of a Method for Predicting Persimmon Harvest Yield Using Meteorological Data (Mr. Atsushi OKAYAMA, Dr. Atsushi YAMAMOTO, Dr. Masaomi KIMURA, Mr. Yuki KATAYAMA, Prof. Yutaka MATSUNO)
P22	Mr. Siho KIM (Gyeongsang national university)	Comparison of climate change impact on Agricultural water supply under RCP and SSP scenario. (Mr. Siho KIM, Prof. Min-Won JANG, Prof. Syewoon HWANG)
P23	Ms. Wun-Jhen YANG (National Taiwan University)	Using Representative Channel Bathymetry from the Height-Above-the-Nearest-Drainage (HAND) Method for River Dynamics and Irrigation Strategy- Proof of Concept and Performance Evaluation in Central Taiwan (Ms. Wun-Jhen YANG, Dr. Cheng-Wei YU, Mr. Chia-Tsun CHEN, Mr. Bo-Han CHEN)
P24	Ms. Dong Hyuk JOO (Chonnam National University)	A Study on the Application of Future Climate Change Scenarios in the Agricultural Infrastructures Design Criteria Explanation Guide:For Rice Paddy Irrigation Plan Standard (Ms. Dong Hyuk JOO, Ms. Ra NA, Ms. Hayoung KIM, Prof. Seung-Hwan YOO)
P25	Mr. Taehwa LEE (Kyungpook National University)	Estimating Optimal Crop Production using the Irrigation Schedule &Management Model (Mr. Taehwa LEE, Mr. Won Seok JANG, Mr. Beomseok CHUN, Mr. Mirza Junaid AHMAD, Mr. Younghun JUNG, Mr. Jonggun KIM, Prof. Yongchul SHIN)

Technical Sessions I (14:50~17:45) (Room 4) (Continued)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-ACPMF 1		
P26	Dr. Ssheng-Wei WANG (Tamkang University)	Enhancing Groundwater Resource Circulation through Terrace Restoration (Dr. Ssheng-Wei WANG, Ms. Wun-Ci CHEN, Ms. Ting-You LIN, Prof. Shao-Yiu HSU)
P27	Mr. Shumpei YAMASHITA (The University of Tokyo)	Progress and Prospects for Research on the Effects of Cyclic Irrigation on Water Quality Improvement in Lake Inbanuma (Mr. Shumpei YAMASHITA)
P28	Dr. Feng-Wen CHEN (Agricultural Engineering Research Center)	Experimental Study of Removing Ammonia Nitrogen with Ponding-Depth Irrigation in Paddy Fields (Dr. Feng-Wen CHEN, Dr. Ya-Ting CHANG, Mr. Yu-Chien CHO, Mr. Hsiu-Te LIN, Mr. Yun-Wei TAN, Dr. Chen-Wuing LIU, Dr. Jin-Jing LEE, Dr. Hsu-Hui HUANG)
Poster-WEFEN 1		
P29	Ms. Chu-Han CHEN (National Taiwan University)	Establishing the Water-Energy-Food-Land-Climate (WEFLC) Nexus of Aquavoltaic using system dynamics (Ms. Chu-Han CHEN, Prof. Fi-John CHANG, Mr. Meng-Hsin LEE, Mrs. Hng-Yeh LIN)
P30	Mr. Yuki KATAYAMA (Kindai University)	Water Quality Characteristics of Wetlands and Drainage Rivers in Vientiane, Laos (Mr. Yuki KATAYAMA, Ms. China SAKAI, Mr. Atsushi OKAYAMA, Dr. Atsushi YAMAMOTO, Dr. Masaomi KIMURA, Dr. Keigo NODA, Prof. Yutaka MATSUNO)
P31	Ms. Saya UEMATSU (Kagawa University)	An examination of the positioning of partitions in the V-shaped portable fishway for the upstream migration of endangered loaches with a large body length (Ms. Saya UEMATSU, Mr. Mitsuki HAMAGUCHI , Mr. Kei KOBAYASHI, Dr. Shigefumi KANAO, Prof. Kazuyoshi NAKATA , Dr. Naoki TAKAHASHI)
P32	Mr. Mitsuki HAMAGUCHI (Okayama University)	Upstream swimming behavior of the Hokkaido eight-barbel loach (Lefua nikkonis) in the V-shaped portable fishway with improvements of flow control blocks (Mr. Mitsuki HAMAGUCHI, Ms. Saya UEMATSU, Ms. Ayano TAKESHITA, Dr. Naoki TAKAHASHI, Dr. Yoshiyasu MACHIDA, Prof. Kazuyoshi NAKATA)
P33	Prof. Tetsuya SUZUKI (Niigata University)	Use of Rice Husk Ash as a Cement Substitute for the Development of New Environmental Friendly Structural Materials (Prof. Tetsuya SUZUKI, Prof. Yuma SHIMAMOTO)
P34	Mr. Kei KOBAYASHI (Okayama University)	Use of the V-shaped portable fishway for upstream migration of the endangered kissing loach (Parabotia curtus) in river control structures (Mr. Kei KOBAYASHI, Mr. Mitsuki HAMAGUCHI, Ms. Saya UEMATSU, Dr. Naoki TAKAHASHI, Dr. Shigefumi KANAO, Prof. Kazuyoshi NAKATA)

Technical Sessions Ⅱ (09:30~15:00) (Room 4)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-STSWM 2		
P35	Ms. Wakana INOUE (Ono-Gumi Co.Ltd,)	Influence of Surface Characteristics of Concrete Headworks on Laser Intensity by Regression Tree Algorithms (Ms. Wakana INOUE, Mr. Kazuma SHIBANO, Prof. Tetsuya SUZUKI)
P36	Mr. Atsushi CHIYODA (Nihon Suiko Consultant Co.)	Surface Characteristics Evaluation of Irrigation Concrete Structures by 3D Point Cloud of Laser Scanning for CIM (Mr. Atsushi CHIYODA, Mr. Kakutaro SUEMATSU, Dr. Hisaya ITO, Mr. Tomoya TORIGOE, Mr. Kazuma SHIBANO, Prof. Tetsuya SUZUKI)
P37	Ms. Moeka MUKAI (Niigata University)	Damage Evaluation of Concrete in Drainage Pump Station by Acoustic Emission Wave Characteristics (Ms. Moeka MUKAI, Mr. Kazuma SHIBANO, Ms. Nadezhda MOROZOVA, Prof. Tetsuya SUZUKI)
P38	Mr. Ulises Adrian MARECOS VARGAS (National Taiwan University)	Meeting the Challenge of Climate Change in Taiwan: Application of Transformer Neural Networks forForecasting Water Levels in River Basin (Mr. Ulises Adrian MARECOS VARGAS, Dr. Fi-John CHANG)
P39	Mr. Kenta SAKIMURA (Saga University)	Hydrodynamic Dispersion for an Aggregated Andisol using a 100-cm Long Column of a Lysimeter Study (Mr. Kenta SAKIMURA, Prof. Ieyasu TOKUMOTO)
P40	Ms. Maga KIM (Seoul National University)	Evaluation of ANN-TANK Combined Model according to Model Structure and Input Data (Ms. Maga KIM, Prof. Jin-Yong CHOI)
P41	Prof. Kimihito NAKAMURA (Kyoto University)	On-farm paddy irrigation water management using automatic water hydrants (Prof. Kimihito NAKAMURA, Mr. Takumi MATSUZAWA, Ms. Yu SHIMAMURA, Dr. Takehide HAMA)
P42	Mr. Fadhil NOOR (Saga University)	Weighing Lysimeter Improvement Study: Accurate Measurement of Groundwater Infiltration and Drainage through Bidirectional Pump Control (Mr. Fadhil NOOR, Prof. Ieyasu TOKUMOTO, Mrs. Rina TAJIMA)
P43	Mr. Seungwon SEOK (Jeonbuk National University)	Development of Decision Support System for Water Management of Wheat Production in Paddy Field using APSIM-Wheat (Mr. Seungwon SEOK, Dr. Solhee KIM, Prof. Taegon KIM)
P44	Ms. Mingyeong BAK (Kangwon National University)	Assessing the interaction of environmental ecological and meteorological drought in the Tancheon River (Ms. Mingyeong BAK, Prof. Eunmi HONG, Ms. Yeonjung NOH, Prof. Sungjun KIM)
P45	Mr. Yoonseok KIM (Kangwon National University)	Assessment of Ecological Drought in the Hwang-River Through Environmental Flow Analysis (Mr. Yoonseok KIM, Prof. Eunmi HONG, Prof. Seongjun KIM)
P46	Mr. Kwihoon KIM (Seoul National University)	Inundation Analysis in Paddy Fields Considering Critical Rainfall Duration (Mr. Kwihoon KIM, Prof. Jin-Yong CHOI)
P47	Ms. Ji-Hyeon SHIN (Hankyong National University)	Application of coupled hydraulic-hydrological modeling for water circulation in agricultural watershed (Ms. Ji-Hyeon SHIN, Dong-Hyun YOON, Mi-Hye YANG, Young-Sik MUN, Prof. Won-Ho NAM)
P48	Prof. Ieko KAKUTA (Asia University)	Success factors of Joint System Management in irrigation management transfer in the Toban-Yosui Irrigation Scheme in Japan (Prof. Ieko KAKUTA)

Technical Sessions Ⅱ (09:30~15:00) (Room 4)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-CCARM 2		
P49	Ms. Sinae KIM (Seoul National University)	Future changes in runoff characteristics of an estuarine reservoir watershed using CMIP6 multi-GCMs (Ms. Sinae KIM, Mr. Seokhyeon KIM, Ms. Jihye KIM, Ms. Jihye KWAK, Ms. Hyunji LEE, Prof. Moon-Seong KANG)
P50	Mr. Mirza Junaid AHMAD (Kyungpook National University)	Deriving empirical relationships to predict the performance indices based on the characteristics of agricultural reservoirs (Mr. Mirza Junaid AHMAD, Prof. Kyung Sook CHOI)
P51	Ms. Hojeong YEOM (Kangwon National University)	Analysis of the Occurrence of Algal Blooms in Upper Soyang Lake : Focusing on Cases in 2023 (Ms. Hojeong YEOM, Mr. Yongbin AN, Mr. Yoonseok KIM, Prof. Bomchul KIM, Prof. Eunmi HONG)
P52	Dr. Jung-Hun SONG (Seoul National University)	Investigation of Hydrological Flow Indicators Based on Ecological Drought Assessment (Dr. Jung-Hun SONG, Prof. Hakkwan KIM, Prof. Ji Yong CHOI)
P53	Mr. Yifan ZHANG (Kobe University)	Monitoring of rice transplantation using SAR satellite data with consideration of influence of snow cover (Mr. Yifan ZHANG, Prof. Takanori NAGANO)
P54	Ms. Jihye KIM (Seoul National University)	Improved downscaling technique for climate change scenarios in future extreme precipitation analysis (Ms. Jihye KIM, Ms. Jihye KWAK, Mr. Moon Seong KANG)
P55	Mr. Jonghyuk LEE (Seoul National University)	Development of a single image elevation estimation model using the Diffusion model (Mr. Jonghyuk LEE, Dr. Sangik LEE, Mr. Byunghun SEO, Mr. Dongsu KIM, Ms. Yejin SEO, Mr. Dongwoo KIM, Prof. Won CHOI)
P56	Dr. Hyunji LEE (Seoul national university)	Assessment of the impact of sea level rise on estuarine reservoir flood controls (Dr. Hyunji LEE, Mr. Seokhyeon KIM, Mrs. Jihye KIM, Ms. Jihye KWAK, Ms. Sinae KIM, Prof. Moonseong KANG)
P57	Mr. Taiki HAGIWARA (Civil Engineering Research Institute for Cold Region)	Estimation of Seismic Hydrodynamic Pressure in an Agricultural Pipeline System by a Numerical Simulation (Mr. Taiki HAGIWARA, Dr. Takashi OHKUBO, Mr. Hitoshi NAGUMO)
P58	Mr. Jehong BANG (Seoul National University)	Analysis and Comparison of Agricultural Reservoir Performance Considering Rule Curve and Water Supply Adjustment Based on Water Balance Model (Mr. Jehong BANG, Prof. Jin-Yong CHOI)

Technical Sessions Ⅱ (09:30~15:00) (Room 4) (Continued)		
No.	Presenter (Affiliation)	Abstract title (Authors)
Poster-ACPMF 2		
P59	Dr. Yuki HASEGAWA (Kagawa University)	Investigation on concrete quality of agricultural irrigation facilities in Vietnam by simple non-destructive tests (Dr. Yuki HASEGAWA, Prof. Shushi SATO, Prof. Tran Ngoc LONG)
P60	Ms. Hayoung KIM (Chonnam National University)	Availability Evaluation of Solar Power Plant Detection in Rural Areas Using Object Detection Model (Ms. Hayoung KIM, Dr. Soojin KIM, Ms. Ra NA, Mr. Donghyuk JOO, Dr. Yun-Gyeong OH)
P61	Mr. Seokhyeon KIM (Seoul national university)	Analysis of paddy drainage and nutrient load using surface-FTABLE (Mr. Seokhyeon KIM, Ms. Hyunji LEE, Mrs. Jihye KIM, Ms. Sinae KIM, Ms. Jihye KWAK, Prof. Moonseong KANG)
P62	Dr. Li-Chi CHIANG (National Taiwan University)	Evaluation of agricultural management strategies under the impact of climate change on Effects of different agricultural management scenarios on Watershed by Soil and Water Assessment Tool (Dr. Li-Chi CHIANG, Mr. Pin-Chih SHIH)
Poster-WEFEN 2		
P63	Mr. Seongnam HAM (Okayama University)	Potential threat of the introduced red swamp crayfish (Procambarus clarkii) in rice paddy environments of South Korea (Mr. Seongnam HAM, Prof. Kazuyoshi NAKATA)
P64	Ms. Ra NA (Chonnam National University)	Design of CS-WEF(Climate-Soil-Water-Energy-Food) Nexus Platform for Agricultural Drought Impact Assessment (Ms. Ra NA, Mr. Donghyuk JOO, Ms. Hayoung KIM, Prof. Seung-Hwan YOO, Dr. Pu Reun YOON, Mr. Gyuhoon CHOI, Dr. Jae-Hoon SUNG, Mrs. Bu-Yeong OH, Dr. Seung-Oh HUR)
P65	Ms. Ra NA (Chonnam National University)	Design of Agricultural Environmental Conservation Program Environment Diagnostic Platform Based on Carbon-Soil-Water-Energy-Food Nexus (Ms. Ra NA, Mr. Donghyuk JOO, Ms. Hayoung KIM, Prof. Seung-Hwan YOO, Prof. Sang-Hyun LEE, Dr. Soo-Jin KIM, Mr. Gyuhoon CHOI, Dr. Jae-Hoon SUNG, Mr. Jeong-Woo SON, Dr. Seung-Oh HUR)
P66	Mr. Norihiro OTAKA (Nippon Steel Metal Products Co., Ltd.)	Life Cycle Cost Assessment for Extra Long-Term Durability in Service Irrigation and Drainage Infrastructure by using Different Condition of Social Discount Rate (Mr. Norihiro OTAKA, Mr. Yuji FUJIMOTO, Prof. Tetsuya SUZUKI)
P67	Mr. Taiyo HATAGAMI (The University of Tokyo)	Pelletizing Characteristics of Manure-Biochar Mixed Materials and the Pursuit of an Optimal Binder from Organic Wastes (Mr. Taiyo HATAGAMI, Dr. Kenichi FURUHASHI, Prof. Masaru MIZOGUCHI)
P68	Mr. Golden ODEY (Kyungpook National University)	Analyzing the Empirical Relationship between Virtual Water Trade in Grains and Environmental/Socioeconomic Factors Using Decomposition and Decoupling Models (Mr. Golden ODEY, Dr. Bashir ADELODUN, Dr. Seulgi LEE, Mr. Qudus ADEYI, Prof. Kyung Sook CHOI)
P69	Mr. Po-Hsuan LIN (National Taiwan University)	Impact Analysis of Series of Groundsills on the Fluvial Stability and Geomorphology (Mr. Po-Hsuan LIN, Prof. Liao KUO-WEI, Mr. Tsung-Yu HSIEH)