

**HUNGARIAN DELEGATION VISIT TO PAKISTAN**  
**(MAY 16-20, 2022)**



**MINUTES/ PROCEEDINGS OF THE 1<sup>ST</sup> PHYSICAL  
MEETING OF JOINT EXPERTS GROUP, SUBSIDIARY  
MEETINGS WITH STAKEHOLDERS & FIELD  
EXPOSURE VISITS**

**June 2022**

**OFFICE OF THE CHIEF ENGINEERING ADVISOR/ CHAIRMAN,  
FEDERAL FLOOD COMMISSION**

**Government of Pakistan, 6-Attuk Avenue, Sector G-5/1  
Islamabad-Pakistan  
([www.ffc.gov.pk](http://www.ffc.gov.pk))**

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## **ABBREVIATIONS**

CEA/CFFC:	Chief Engineering Advisor & Chairman Federal Flood Commission
CEWRE:	Centre of Excellence in Water Resources Engineering
EAD:	Economic Affairs Division
FFD:	Flood Forecasting Division
FPSP:	Flood Protection Sector Project
IESE:	Institute of Environmental Sciences and Engineering
IG:	Inspector General
IRI:	Irrigation research Institute
IWMI:	International Water Management Institute
IWRM:	Integrated Water Resources Management
IWT:	Indus Water Treaty
MoU:	Memorandum of Understanding
MoWR:	Ministry of Water Resources
MW:	Mega Watts
NFPP:	National Flood Protection Plan
NICE:	NUST Institute of Civil Engineering
NUST:	National University of Science & Technology
NUST:	National University of Science and Technology
PCRWR:	Pakistan Council of research in Water Resources
PID:	Provincial Irrigation Department
PMD:	Pakistan Meteorological Department
PST:	Pakistan Standard Time
SCEE:	School of Civil and Environmental Engineering
WAPDA:	Water and Power Development Authority
WASA:	Water and Sanitation Authority
WRE&M:	Water Resources Engineering and Management

## **ACKNOWLEDGEMENT**

1<sup>st</sup> Bilateral Physical Meeting with the visiting Hungarian Delegation/ Technical Experts Group and their Field Exposure Visits were organized by Office of the Chief Engineering Advisor & Chairman Federal Flood Commission (O/o CEA & CFFC), Ministry of Water Resources of Pakistan from **May 16-20, 2022** in Islamabad and Lahore. The In-Person Consultations took place under Pakistan Hungary Water Management MoU that was signed between the Ministry of Interior of Hungary and Ministry of Water Resources of Pakistan on **July 13, 2018** followed by the Work Program (2021-23).

For having the technical field exposure of the important water management related Institutions and Projects in Pakistan, Hungarian Delegation members visited PMD and PCRWR Headquarters and Rawal Dam site at Islamabad on **May 17, 2022**. Field Exposure visits to Khanki Barrage at Khanki and Irrigation Research Institute (IRI) at Nandipur in District Gujranwala were carried out on **May 18, 2022**. The foreign delegates also visited Flood Forecasting Division (FFD), Lahore and Centre of Excellence in Water Resources Engineering (CEWRE) at University of Engineering and Technology (UET), Lahore on **May 19, 2022**. Two professionals from O/o CEA & CFFC accompanied the Hungarian Delegation members during their visit to Lahore.

On the Final day i.e. **May 20, 2022**, in the morning, Hungarian delegates visited National University of Science and Technology (NUST), Islamabad where they attended a briefing session by the Head of Department/Principal at School of Civil and Environmental Engineering (SCEE) at NUST Islamabad; presentations also made by representatives from other related Departments (WRE&M and IESE). Subsequently, delegates visited Hydraulic Lab and IESE Lab. Wrap up meeting, held on **May 20, 2022** at 1500 Hours, was chaired by the Honourable Secretary, Ministry of Water Resources of Pakistan. **Excellency Mr. Béla Fazekas**, Ambassador of Hungary in Pakistan graced the occasion as the Guest of Honour.

The entire bilateral consultations took place in a cordial atmosphere of mutual understanding, reflecting friendly relations between the two countries and were marked by the desire of both sides to further develop and diversify the technical and economic collaboration in the field of water management. The office of CEA & CFFC hosted the bilateral dialogues and arranged technical field visits with the valuable support from PMD, PCRWR, NUST, CEWRE at UET Lahore, WASA Lahore, Punjab Irrigation Department, and in particular from IWMI-Pakistan at Lahore.

The support extended by the relevant Federal Ministries i.e. Ministry of Water Resources, Ministry of Foreign Affairs, Ministry of Economic Affairs, and Ministry of Interior is also deeply acknowledged.

The entire team of O/o the CEA & CFFC is grateful for the generous support extended by all stakeholders including security formations of Inspector General Police Islamabad and Inspector General Police Punjab at Lahore.

## **INTRODUCTION**

This document contains minutes of the various physical meetings with the visiting Hungarian Delegation/ Technical Experts Group and their field exposure visits organized by Office of the Chief Engineering Advisor & Chairman Federal Flood Commission (O/o CEA & CFFC) from **May 16-20, 2022**. The first bilateral in-person dialogues and subsidiary exposure visits were organized in Islamabad/ Lahore under Hungary Pakistan Water Management MoU which was signed between the Ministry of Interior of Hungary and Ministry of Water Resources of Pakistan on **July 13, 2018**. List of the participants of the various meetings held in O/o CEA & CFFC are given in **Appendix-I**.

Engr. Ahmed Kamal, the CEA/CFFC and being the designated National Focal Person from Pakistan on MoU implementation, chaired the opening session and 1<sup>st</sup> physical bilateral meetings held on May 16 & 17, 2022. The opening session held on **May 16, 2022** aimed at introduction with high ups of the Ministry of Water Resources and preliminary meetings focusing on deliberations related to mandate of the Ministry of Water Resources, O/o CEA/CFFC, IRSA and WAPDA. During the opening session, the distinguished delegation members paid a courtesy visit to office of the Honourable Secretary, Ministry of Water Resources of Pakistan.

The 1<sup>st</sup> Physical Meeting of Joint Expert Group (JEG) notified under MoU on Water Management was held on **May 17, 2022** at PST 1000 Hours in the committee room of Ministry of Water Resources of Pakistan. It was also attended by the representatives Ministry of Water Resources, PCRWR, PID, Punjab and WASA Lahore. In order to have a technical field exposure of the following important water management related institutions and projects in Pakistan:

- PMD and PCRWR Headquarters and Rawal Dam site at Islamabad on **May 17, 2022**
- Khanki Barrage and Irrigation Research Institute, Nandipur in District Gujranwala on **May 18, 2022**.
- FFD, Lahore and Centre of Excellence in Water Resources Engineering (CEWRE) at UET Lahore on **May 19, 2022**; two Professional Engineers from O/o CEA & CFFC accompanied the Hungarian Delegation during their field exposure visits to Districts Gujranwala and Lahore.
- National University of Science & Technology (NUST), Islamabad on the final day i.e. May 20, 2022 in the morning. Focal Person Pakistan side, the CEA & CFFC accompanied the Hungarian delegates.

The wrap up meeting was held on **May 20, 2022** at PST 1500 Hours in the committee room of Ministry of Water Resources of Pakistan. The concluding session was chaired by the Honourable Secretary, Ministry of Water Resources of Pakistan. **Excellency Mr. Béla Fazekas**, Ambassador of Hungary in Pakistan participated as the Guest of Honour. Minutes of various physical meetings and concise proceedings of exposure visits to stakeholder departments/ organizations as well as that of the field exposure visits are given in the succeeding sections of this document.

## **PROCEEDINGS OF THE OPENING PLENARIES**

(DAY-1, MAY 16, 2022)

## **DAY-1: OPENING PLENARIES HELD ON MAY 16, 2022**

### **First Session; Day-1 (10:00 – 13:00 Hours)**

The opening session started with recitation from the Holy Quran. National anthems of both the countries were played. Subsequently, a short English Documentary about the Islamic Republic of Pakistan was shown to the participants. Thereafter, the participants from both the countries had a round of introduction wherein mutually shared their professional qualifications and key experience areas. Subsequently, regular Agenda items for Day-1 (May 16, 2022) were taken up at seriatim.

#### **Item # 1: Welcome & Opening Remarks - Focal Person Pakistan side**

2. National Focal Person Pakistan side, Mr. Ahmed Kamal, Chief Engineering Advisor/ Chairman, Federal Flood Commission (CEA/CFFC) welcomed the distinguished delegates to Pakistan and to the O/o CEA/CFFC, Ministry of Water Resources of Pakistan. He expressed his special gratitude for his counterpart Mr. Peter Kovacs, Water Director, Ministry of Interior and his entire team for their utmost committed efforts to materialize early 1<sup>st</sup> physical dialogue/ meeting of Joint Experts Group (JEG) under Hungary Pakistan Water Management MoU. He stated that earlier, COVID-19 pandemic forced both sides to have virtual consultations only. He added that fruitful online consultations significantly helped to quickly mobilize MoU's implementation and to prepare a Work Program (2021-23) to take along the intended collaboration in a systematic manner.

3. Focal Person Pakistan side commended the dedicated efforts of Dr. Istvan Grafjodi, Commercial Counsellor Embassy of Hungary towards organization of the first In-Person Consultations with the Hungarian Experts in Pakistan. He hoped that various meetings and field exposure visits planned for a week program (**May 16-20, 2022**) would be very productive for both sides and it will bear good fruits.

#### **Item # 2: Opening Remarks by Focal Person Hungarian side**

4. Mr. Peter Kovacs, Water Director, Ministry of Interior of Hungary/ Head of the delegation thanked Pakistan side for a very kind welcome. He urged that personal meetings will be more productive for the Hungarian Experts as they can learn many things from visits to the specific project locations in Pakistan and have a good technical discussion in future. He hoped that during the physical interactions, both sides will have a good exchange of views on the issues of common interest related to Flood Telemetry, Irrigation, Water Pricing, Floods, Droughts and Climate Change etc.

5. Mr. Peter Kovacs also aspired to share in future, the Hungarian experience of Transboundary Arrangements with the neighboring countries, as already envisaged in the MOU and subsequent Work Program (2021-23). He informed that Hungary is located in the middle of Danube River Basin and being a downstream country, Hungarian Ministry of Interior has many interests to extend its activities beyond the borders through International Transboundary Cooperation; hence, the same may also be shared with Pakistan side.

#### **Item # 3: Overview of the Bilateral Cooperation held so far**

6. Pakistan side National Focal Person on MoU (the CEA/CFFC) presented an elaborative account of the Bilateral Cooperation held so far between both sides. He informed that Hungary-Pakistan MoU was signed between the Ministry of Water Resources of Pakistan and Ministry of Interior of Hungary on **July 13, 2020** for cooperation in the field of Water Management. He stated that for effective implementation of the MoU, a Joint Expert Group (JEG) was notified which subsequently had four virtual meetings respectively on

**December 17, 2020, February 24, 2021, June 09, 2021 and July 29, 2021.** He informed that based on virtual consultations, a Work Program (2021-23) was also agreed by the both sides.

7. Focal Person Pakistan side/ the CEA & CFFC acquainted the participants with current status of the implementation of Work Plan (2021-23). He informed that in line with approved Work Program (2021-23), 1<sup>st</sup> Physical Meeting of JEG and Field Exposure Visits could not be held in 2021 due to COVID-19, however, Pakistan side is now hosting visit of the Hungarian Delegation from **May 16-20, 2022** for 1<sup>st</sup> Physical Meeting of JEG and Field Exposure Visits. He stated that a Webinar on ‘*Flood Forecasting*’ was organized by Hungarian Side on **October 07, 2021** whereas Pakistan side organized a Webinar on ‘*Flood and Drought Management*’ on **November 16, 2021**.

8. Regarding the webinars to be organized in 2022, CEA/CFFC informed that Pakistan side had already completed preliminary coordination with the stakeholder departments. He exhorted that both sides will mutually discuss and finalize the timelines for organizing the 2<sup>nd</sup> physical meeting and future webinars during the 1<sup>st</sup> Physical JEG meeting to be held tomorrow (**May 17, 2022**).

#### **Item # 4: Presentation on Role of Ministry of Water Resources (MoWR) of Pakistan and Courtesy Meeting with the Secretary, Ministry of Water Resources**

9. Mr. Sajeel Saeed, Deputy Secretary (Water), Ministry of Water Resources made a short presentation about the main functions of Ministry of Water Resources of Pakistan. He presented an overview of key functions being performed by the Provinces and the Federal Government. The presentation also focused on major duties of the organizations working under the administrative control of Ministry of Water Resources (O/o CEA&CFFC, IRSA, WAPDA; O/o PCIW and PCRWR); salient features related to ongoing mega dam projects of WAPDA were also presented. *The electronic copy of the presentation is attached.*

10. Thereafter, the distinguished delegation members paid a **Courtesy Visit** to office of the Honourable Secretary, Ministry of Water Resources of Pakistan. During the meeting, it was advised the worthy Secretary that Hungarian Delegation, exclusively keeping in view the IRSA’s proposed Telemetry System, should present the salients of the Telemetry System being used in Hungary during the closing session on Friday, **May 20, 2022**.

#### **Item # 5: Presentation on Mandate of IRSA and related Important Projects**

11. Mr. Zeeshan Riaz, Deputy Director, IRSA informed that IRSA was established vide Act No. XXII of 1992 passed by the Parliament and approved by the President of Pakistan on December 06, 1992. He presented the functions of IRSA as outlined in IRSA’s Act of 1992. He also presented the Composition and Role of IRSA’s Advisory Committee. Thereafter, salient features of IRSA’s Telemetric Project titled “*Indus Basin Irrigation System (IBIS): Automation of 07 Key Sites for Discharge Monitoring*” were presented by the IRSA representative. *The e-copy of the presentation is attached.*

#### **Item # 6: Presentation on Mandate of WAPDA and related Important Projects**

12. Mr. Mujahid Tanvir, Chief Engineer (Dams)/ JEG Member from WAPDA presented to the house that key function assigned to WAPDA is to provide unified and coordinated development of water and power resources of Pakistan. He explained that in line with the provisions of WAPDA Act 1958, WAPDA prepares projects for the development of the water and power resources of the country which are submitted for approval of the Federal Government. He presented detail of past projects carried out by WAPDA as Indus Basin Replacement Works (1962-1974) subsequent to signing of Indus Water Treaty with India.

13. Mr. Mujahid Tanvir, Chief Engineer (Dams)/ JEG Member from Pakistan side also shared the details about existing cumulative storage capacity of three major reservoirs (Mangla, Tarbela and Chashma) and WAPDA's comprehensive plan for achieving additional storage and hydropower respectively by 2030, 2040 and 2050. He shared detail related to 10 important ongoing development projects of WAPDA. **The e-copy of the above presentation is attached.**

## **Second Session; Day-1 (14:00 – 17:00 Hours)**

### **Item # 1: Presentation on National Water Policy (NWP) and its Implementation Status**

14. Mr. Zafar Iqbal, Deputy Engineering Advisor (Civil), O/o CEA & CFFC presented the salient provisions of the National Water Policy (NWP) of Pakistan. He explained the policy objectives, strategic priorities and six important national targets set under the NWP to be achieved in a time horizon of 2030. He also presented the present progress made towards achievement of the various policy objectives and the national targets by stating detail of water sector projects already implemented/being implemented and planned by the different Federal and Provincial Departments in line with the recommendations of NWP. **The e-copy of the above presentation is attached.**

### **Item # 2: Presentation on Role of Office of the CEA & CFFC**

15. Focal Person Pakistan side/ the CEA & CFFC made a detailed presentation about the roles and responsibilities of various technical wings of the O/o CEA/CFFC. He shared the details of three National Flood Protection Plans (NFPP-I, II & III) implemented so far in the country besides details related to Fourth Plan (NFPP-IV) proposed for implementation through Flood Protection Sector Project-III (FPSP-III); FPSP-I & II already stand implemented under previous three National Flood Protection Plans (NFPP-I, II & III). He presented detail of the proposed FPSP-III project prepared in line with the recommendations of NFPP-IV.

16. Focal Person Pakistan side also presented the detail of irrigation, drainage, flood protection, hydropower, and dam projects technical evaluation by O/o CEA/CFFC since last three years besides various initiatives being taken in line with the NWP. **The e-copy of the presentation is attached.**

### **Item # 3: Feedback/ Information Exchange - Hungarian side**

17. Mr. Peter Kovacs, Water Director, Ministry of Interior of Hungary appreciated the valuable exchange of knowledge and experiences related to work of various water management organizations in Pakistan. He stated that productive practical information came from the floor which would help them to have a fruitful technical discussion during 1<sup>st</sup> Physical Meeting of JEG being held tomorrow (**May 17, 2022**).

18. In response to a query about the consideration of environmental issues during the execution of water sector projects, Hungarian Experts were apprised that all the Feasibility Studies and subsequently prepared Project Proposals/PC-Is take into account the concerns related to Climate Change, DRR and Environment and necessary remedial measures are carried out during the course of execution of the projects.

19. Mr. Peter Kovacs, Focal Person Hungarian side expressed his gratitude for the Secretary, Water Resources of Pakistan for having a courtesy meeting with the delegation members in his office. He assured that as per the Secretary's advice, Mr. Jeno Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary

shall be presenting the salient features of Telemetry System in use in Hungary during the closing session scheduled on **May 20, 2022**.

**Item # 4: Concluding Remarks - Focal Person Pakistan Side**

20. While concluding the deliberations of first day, Focal Person, Pakistan side stated that preliminary sessions held today (Day-1) aimed at information exchange with the respected Hungarian Experts so that they could understand better the water management system here in Pakistan and be familiar with the issues and with the related projects being implemented/ planned here in Pakistan.

21. In the end, both sides mutually agreed to collaborate further on activities already identified and envisaged in the approved Work Program (2021-23) in order to develop further the technical and economic collaboration in the field of water management.

22. The session ended with a vote of thanks from both sides.

**Visit to Rawal Dam site at Islamabad**

Formal close of 1<sup>st</sup> day's introductory meeting was followed by a Recreational cum Technical field visit to Rawal Dam site at Islamabad. The concerned Executive Engineer Irrigation/ Incharge of the Dam briefed the Hungarian Delegation members about the salient features of the Rawal Dam. He informed that dam site is located along Korang River 9 miles away from Rawalpindi city. He explained that construction of dam was completed by WAPDA in 1962 to meet shortage of water in agriculture and domestic use in Rawalpindi. Thereafter, dam site was handed over to Punjab Irrigation Department for operation and maintenance.

2. It was also informed by the concerned Executive Engineer that Gross Storage Capacity of dam has reduced from 47,500 Acre feet to 28,309 Acre feet. He stated that at present, 23 MGD (million gallons per day) water was being supplied to Rawalpindi City through WASA Rawalpindi for domestic utilization in Rawalpindi City and 2 MGD for domestic utilization in Islamabad through CDA. Both sides had a good discussion/ exchange of knowledge regarding the various dam components and services/ benefits being obtained from the dam site.

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**Photographs of the Day-1, May 16, 2022**



CEA & CFFC/ Pakistan side Focal Person on MoU, receives Mr. Peter Kovacs, Focal Person Hungarian side



Focal Person Pakistan chairing the opening session



Focal Person Hungary addressing the opening session



Introductory Meeting - Morning Session in progress



Introductory Meeting - Afternoon Session in progress

Photographs; Day-1, May 16, 2022.....Continued



Courtesy Meeting of Respected Delegates with the Secretary, MoWR of Pakistan



Group Photo at the Reception of O/o CEA&CFFC, Ministry of Water Resources of Pakistan



Delegation's Recreational cum Technical Visit to Rawal Dam site at Islamabad

## **PROCEEDINGS OF DAY-2; MAY 17, 2022**

**(1<sup>ST</sup> PHYSICAL MEETING OF JEG ON HUNGARY PAKISTAN WATER  
MANAGEMENT MOU AND EXPOSURE VISITS TO PMD & PCRWR  
HEADQUARTERS AT ISLAMABD)**

**DAY 2: 1<sup>st</sup> PHYSICAL MEETING OF JEG ON HUNGARY PAKISTAN WATER MANAGEMENT MOU AND EXPOSURE VISITS TO PMD & PCRWR HEADQUARTERS AT ISLAMABAD**

**First Session: (10:00 – 13:00 Hours) – 1<sup>st</sup> Physical Meeting of Joint Expert Group (JEG) on Hungary Pakistan Water Management MOU**

First physical meeting of the Joint Experts Group (JEG) established in accordance with Article-4 of Hungary Pakistan Water Management MoU, was held on **May 17, 2020** at PST 10:30 hours in the Committee Room of Ministry of Water Resources of Pakistan. National Focal Person from Pakistan side presided the meeting while Mr. Peter Kovacs, Focal Person Hungarian side was the co chair. List of participants is attached as **Annexure-I**.

2. The meeting started with the recitation from Holy Quran. Mr. Ahmed Kamal, Focal Person Pakistan Side, welcomed his counterpart Mr. Peter Kovacs, Water Director, Ministry of Interior of Hungary, his team members and other participants/ JEG members from Pakistan side. He informed that in line with the provisions of Work Program, Pakistan side is now hosting the first Physical Meeting of the visiting Hungarian Joint Expert Group and Field Exposure visits from **May 16-20, 2022**. Based on the introductory discussions held on May 16, 2022, he emphasized to have extended collaboration with the Hungarian side regarding the issues like floods, droughts, groundwater management, water pricing and digital water management/ telemetric installation.

3. Thereafter, participants from both sides had a round of introduction. Deputy Engineering Advisor (Civil) O/o CEA/CFFC briefly introduced the agenda items and then agenda items were taken up at seriatim.

**Item # 1: Opening Remarks - National Focal Person, Hungarian side**

4. In his opening remarks, Mr. Peter Kovacs, Focal Person Hungarian side expressed his delight to come to Pakistan. He informed that Hungarian Delegation has representation from all levels of water management in the Hungary including Experts from Central Water Directorate and colleagues from the Regional Directorates with practical field experience. He stated that Hungarian side experts would like to share information related to capacity building, water legislation, drought and flood management, telemetry system and other policy instruments. He hoped that both sides will have very productive discussions and will come up with certain actionable areas as Way Forward to ensure effective implementation of the MoU.

**Items # 2 & 3: Review and Discussion on the Outcome of Webinars held so far**

5. Focal Person Pakistan side enunciated detail of the two webinars held so far in line with the approved Work Program (2021-23); 1<sup>st</sup> arranged by the Hungarian Side on **October 07, 2021** on 'Flood Forecasting' whereas the 2<sup>nd</sup> on 'Flood and Drought Management' organized by Pakistan side on **November 16, 2021**. He presented a list of different (14 No.) joint research areas/ potential project proposals as outcome of the both the webinars.

6. After the detailed discussion, both sides mutually agreed to collaborate further on the following ten (10) priority areas as outcome of the webinars organized hitherto: -

- (i) Sharing of expertise related to **Telemetry Systems**, Data Collection, use of Artificial Intelligence/ Self understanding systems
- (ii) Capacity enhancement for medium and long range **Drought Forecasting/ Monitoring/Sediment management**

- (iii) Knowledge sharing through online sessions on **River Hydraulics and Flood Modeling** for better Flood Forecast and Early Warning or any other topic under mutual interest
- (iv) Knowledge exchange on **Flood Fighting & Rehabilitation Measures** and sharing of Practical Expertise and Experience and replication of Best Management Practices (BMPs)
- (v) Joint study for comparison of Indus Water Treaty (1960) with Danube River Protection Agreement/Hungarian **Transboundary Water Management Agreements**
- (vi) Sharing of expertise and BMPs regarding **Urban Water Management**/water retention/comprehensive solution for Rain/Flood water harvesting
- (vii) Mutual Exchange of Expertise on **Water Pricing policy and Irrigation water use**
- (viii) Exchange of knowledge on **management of irrigation schemes**, water allocation, transfer etc. **under Climate Change scenario**
- (ix) **Sharing experiences** on Education, Capacity Building related to Water Protection and Use; &
- (x) **Exchange of Research Publications** related to other issues of common interest, review and replication of suitable remedial measures.

7. Regarding the above, Mr. Peter Kovacs, Focal Person Hungarian side appreciated the collaborative activities carried out in the form of webinars and subsequent outcome presented as future collaboration areas. He highlighted the importance of resources required for the future collaboration and advised to prioritize the list of future collaboration areas given in [Para-6](#) above. He informed that they have to wait for the election to be held in Hungary during the next 2-3 months and based on the priorities of new Minister; future activities will be taken along by utilizing some of the resources which are already available while other yet to be arranged in coordination with concerned Government/Private quarters in Hungary.

8. Mr. Peter Kovacs also clarified that they have limited capacity for hydropower generation; only the small station of 10MW as 80% flow of Danube River is diverted to Slovakia under an International Contract made in 1997. He also informed that as Hungary was a land-lock country, hence, their Experts do not have expertise in areas like sea water intrusion. He stated that underground storm water storage tanks were not used in Hungary however they have other rainwater harvesting measures.

9. Dr. Noor Muhammad Khan, Professor, CEWRE, UET Lahore/Member JEG Pakistan side briefed the House that Higher Education Commission (HEC) encourages international collaboration with the various universities in the world and provides funding. He was of the view that this forum can be used to ask various universities in Pakistan to get funding from HEC. He further suggested that a Sub-Group of Researchers from both sides be notified to interact and share latest research being carried out in respective countries. The forum endorsed the view point of Dr. Noor Muhammad Khan regarding establishment of a Sub-Group of Researchers on “Water related Research and Development”.

10. After detailed mutual discussion, following decisions were made:

- i. Both sides will take along future collaboration in areas prioritized for Joint Studies/Projects, as given in [Para-6](#) above, in coordination with the concerned respective stakeholders and in view of the resources available/ to be made available with them.
- ii. Apropos, both sides will also coordinate with the respective authorities for ensuring allocation/ availability of additional resources required for future cooperation.

- iii. Sub-Group of Researchers on “Water related Education, Research and Development” will be established for which both sides will share the potential nominations alongwith the draft TORs within two weeks time; the same once available from both sides, will be reviewed and finalized during the forthcoming/ future physical/ virtual meeting (s) of JEG.

**Items # 3 &4: Discussion on the Hungarian Tied Aid Credit Facility and Presentation of related Project Proposals by Pakistan side**

11. Focal Person Hungarian side informed that in order to strengthen the ongoing bilateral collaboration, Government of Hungary has established a credit line of USD 84 million for Hungarian companies to do business with Pakistan. He further informed that there is a possibility of considering loan facility of USD 50 Million to Pakistan for development of agriculture, water management and food processing industry. He requested Pakistan side to share their proposals for said facility and consult further with Hungarian Embassy to work out further modalities for implementation of these projects.

12. It was further informed by the Focal Person Hungarian side that there was an insurance policy for this credit facility and that as a pre-requisite, 51% cost was to be used through Hungarian Consultants/ contracting firms. He explained that in Hungary, Tied Aid Credit Programs are being run by Ministry of Foreign Affairs and Trade through Hungarian Export-Import Bank (Exim Bank); bank arranges loan on the basis of an Intergovernmental Agreement. He guided further that the official channel to coordinate further on Hungarian Tied Aid Credit Program, is Hungarian Embassy.

13. Subsequently, following potential project proposals for possible financing through Hungarian Tied Aid Credit Facility were presented from the Pakistan side: -

- a) Studies to address Urban Drainage Problem in Twenty (20) Major Cities in Pakistan.  
Dr. Muhammad Ejaz Tanveer, Superintending Engineer (Floods), O/o CEA/CFFC presented the emerging issues of urban flooding in 20 Major cities of Pakistan. He briefly stated that increasing population, inadequate existing drainage system and climate change are the main causes of urban flooding. He suggested that increased capacity of drainage system will minimize the risk of urban flooding. **E-copy of the presentation is attached.**
- b) Profiling of Wastewater and Piloting Wastewater Treatment in Urban Areas.  
Dr. Hifza Rasheed, Head of the Water Quality Section at PCRWR presented the project proposal for profiling of wastewater and piloting wastewater treatment in urban areas. She expressed with grave concern that only 8% wastewater of urban area and 3% industrial wastewater is treated in Pakistan. She apprised that treatment of wastewater was strong area with Hungary and Hungarian side also had the capability to extract nutrients from the wastewater as well. She hence suggested that the same sort of the treatment methodologies should be replicated here in Pakistan. **E-copy of the presentation is attached.**
- c) Urban Flood Management in Korang River, downstream Burma Bridge, Islamabad  
Deputy Engineering Advisor- Civil, O/o CEA/CFFC Mr. Zafar Iqbal presented the project proposal for comprehensive urban flood management of Korang River. He stated that project proposal aims to protect urban population of around 200,000 in project area. He explained urban flood risk assessment already carried out in the project area based on which flood protection through structural and non-structural measures were proposed to safeguard the area. **E-copy of the presentation is attached.**

d) Construction of Underground Storm Water Storage Tanks in Lahore.

Mr. Zeeshan Bilal, Director Planning & Development, WASA, Lahore presented salient features of WASA's projects initiated for storing rainwater storage in underground tank to be constructed in Lahore. He stated that pilot project has been implemented at Lawrence Road which was quiet effective during 2020 monsoon rains. He sought Hungarian assistance to implement the remaining projects in Lahore.

*E-copy of the presentation is attached.*

14. Regarding urban flood management in Hungary, Hungarian side demonstrated a short video clip about the 'Movable Flood Defense Wall' being used in Hungary. He explained that instead of having previously used reinforced concrete walls, they considered using mobile flood protection wall in the city of Szeged. It involves manual assembling of around 4,000 reusable elements upto height of 8 meters on prepared flood protection lines. He said that color coding of elements helps to assemble them early (in 6-12 hours) than earlier traditionally used sang bags which took 20 hours besides these elements have higher water tightness as well.

15. Regarding the rainwater harvesting projects of WASA Lahore, Mr. Jenő Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary inquired whether quality of water was being checked before it is recharged into groundwater. Director WASA Lahore responded that it was not being done at the moment. The delegates emphasized upon ensuring ground water recharge through good quality rain/storm water so that it may not get contaminated. He also apprised the house that treatment of groundwater water was much difficult than that of the surface waters.

16. Dr. Noor Muhammad Khan, Professor, CEWRE, UET Lahore/Member JEG Pakistan side suggested to prepare a work proposal for each project clearly indicating which components should be taken by Hungarian side and which part from Pakistan side. Responding to his query about the interest rate applied on Tied Aid Loan, Mr. Peter Kovacs responded that it was on lower side.

17. Mr. Jenő Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary was of the opinion that a Program approach should be adopted under which individual projects can be proposed in consultation with the concerned officials in Hungarian Embassy and thereafter it might be submitted to Hungarian side through EAD

18. After detailed deliberations, following decisions were taken: -

- i. Based on the project proposals received from the stakeholder departments regarding Hungarian Tied Aid Credit Facility, O/o CEA/CFFC will organize Joint Consultative Meeting of the stakeholders with the concerned officials of the Hungarian Embassy to work out modalities for implementation of the potential projects"
- ii. Based on above, individual project proposals for Hungarian Tied Aid Credit Facility will be submitted by Pakistan side under an umbrella Program.

**Item # 5: Way Forward For Future Implementation of Work Program (2021-23)**

19. Deputy Engineering Adviser (Civil), O/o CEA/CFFC presented the brief status of implementation of collaboration activities outlined in the approved Work Program (2021-23). He informed that due to Covid 19 crisis, 1<sup>st</sup> physical meeting of JEG and field exposure visits could not be organized in 2021, hence, presently being held in Pakistan. He stated that for Webinars to be arranged in 2022, necessary coordination with the concerned organizations has been completed based on which, PMD, O/o Pakistan Commissioner for Indus Water (PCIW) and CEWRE at UET Lahore have already nominated their resources persons.

20. Mr. Peter Kovacs Focal Person Hungarian side apprised that the 2<sup>nd</sup> physical meeting JEG would be organized in Hungary wherein they would like to have Experts level representation from Pakistan side. The forum mutually discussed the timelines for arranging next/2<sup>nd</sup> physical meeting JEG in Hungary, reciprocating field visits of Pakistan side professionals and other important activities yet to be carried out in future. Subsequently, following decisions were taken:

- i. 2<sup>nd</sup> Physical Meeting of JEG and reciprocating field visits of Pakistan side professionals will be organized/ hosted by the Hungarian side may be in November 2022 or September 2023; Focal Person from Hungary will share in advance possible engagements of Pakistani Experts visit to Hungary i.e. the Schedule/ agenda for 2<sup>nd</sup> Physical Meeting of JEG with Focal Person Pakistan side.
- ii. Both sides will coordinate with their respective Government authorities for arranging necessary resources required for effective participation in the 2<sup>nd</sup> Physical Meeting of JEG and Reciprocating Field Visits of Pakistan side professionals to be held in Hungary.
- iii. Webinars of Transboundary Cooperation, Conservation of Irrigation Water & Drought/ Water Scarcity Management will be arranged in September 2022;
- iv. For the Exchange of Students/ Young Professionals for 1-3 month On-Job Exposure/ Practical Experience at Regional Water Directorates of Hungary, Hungarian side will share the detail and timelines in the due course of time.

21. The meeting ended with a vote of thanks from both sides.

## **Second Session: (14:00 – 17:00 Hours) - Exposure Visits to PMD & PCRWR Headquarters at Islamabad**

### **Item # 1: Exposure Visit to Pakistan Meteorological Department (PMD), Islamabad**

In the afternoon session, Hungarian Delegation visited the PMD Headquarter office at Islamabad. Mr. Sabibzad Khan, Director General PMD made a short presentation about the historical background for the establishment of PMD. He presented detail on flood forecasting system, early warning mechanism, data collection & its dissemination. He also presented key functions being performed by the PMD's Regional offices in particular of Flood Forecasting Division at Lahore. The delegates also visited the control room of Islamabad Weather Radar. Various Hydro Meteorological Tools being used at National Flood Forecasting Centre were also demonstrated. **E-copy of the presentation is attached.**

### **Item # 2: Visit to PCRWR Headquarter, Islamabad**

2. Secretary, Pakistan Council of Research in Water Resources welcomed the participants. In his presentation, Dr. Muhammad Ashraf, Chairman PCRWR gave an insight into the charter and working of the Council. He provided information on various projects already implemented/ being carried out by PCRWR besides those recently initiated by the Council. He highlighted various possible collaborative programs of mutual interest. Detail is given below: -

- i. Use of Information Technology for surface and groundwater management;
- ii. Telemetry system for surface water flood and flood management
- iii. Groundwater monitoring sensors

- iv. Climate Forecasting
  - v. Development of River Health Monitoring Tool (Characterization and Bio assessment) for Indus River
  - vi. Environmental Flow Assessment of Rivers as well as coastal delta
  - vii. Capacity development on E-Flow assessment tool and E-Flow determination of rivers under threat
  - viii. Institutional capacity building for;
  - ix. Interprovincial water resources management
  - x. Transboundary water resources management
  - xi. Flood management
  - xii. Wastewater management and treatment
  - xiii. Integrated water resources management implementation at river basin level-pilot project
3. The delegates highly commended the Council activities and apprised that some of the above stated proposals had already been discussed and deliberated during 1<sup>st</sup> Physical meeting of JEG for future collaboration. He hoped to have a good further coordination with all stakeholders in Pakistan. Thereafter, the delegates also visited Water Quality Testing Lab and other related interventions in the premises of PCRWR. **E-copy of the presentation is attached.**

## Photographs of the Day-2, May 17, 2022



1<sup>st</sup> Physical Meeting of JEG on Hungary Pakistan MoU on Water Management – In progress



CEA & CFFC chairs 1<sup>st</sup> Physical meeting of JEG



Hungarian Focal Person speaks to JEG's 1<sup>st</sup> meeting



Hungarian Experts in 1<sup>st</sup> Physical meeting of JEG



Pakistan side Experts in 1<sup>st</sup> Physical meeting of JEG

***HUNGARIAN DELEGATION VISIT TO PAKISTAN***  
*Minutes of Meeting & Proceedings of the Exposure Visits to Stakeholders & Field Exposure Visits*

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Photographs; Day-2, May 17, 2022.....Continued



Pakistan side JEG Members (Mr. Mujahid Tanveer on the left and Prof. Dr. Noor Muhammad Khan on the right) speak to 1<sup>st</sup> Physical meeting of JEG on Hungary Pakistan MoU on Water Management



Visit of HU delegates to PMD Headquarter at Islamabad and Demonstration of Islamabad Weather Radar and other Flood Forecasting and Early Warning Facilities

***HUNGARIAN DELEGATION VISIT TO PAKISTAN***  
*Minutes of Meeting & Proceedings of the Exposure Visits to Stakeholders & Field Exposure Visits*

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Photographs; Day-2, May 17, 2022.....Continued



Visit to PCRWR; Meeting of Hungarian delegates with PCRWR's Professionals – In progress



Chairman PCRWR chairs the meeting with delegates



Hungarian Experts in meeting with PCRWR's team



Hungarian Experts in Water Quality Labs of PCRWR



PCRWR souvenir presented to Mr. Peter Kovacs

## **PROCEEDINGS OF THE DAY-3; MAY 18, 2022**

**(FIELD EXPOSURE VISITS TO KHANKI BARRAGE AND IRI  
NANDIPUR IN DISTRICT GUJRANWALA)**

**DAY-3: MAY 18, 2022; FIELD EXPOSURE VISITS TO KHANKI BARRAGE AT KHANKI AND IRRIGATION RESEARCH INSTITUTE (IRI) NANDIPUR, IN DISTRICT GUJRANWALA**

**Item # 1 Visit to Khanki Barrage at Khanki, District Gujranwala**

Chief Engineer (Irrigation), Faisalabad Irrigation Zone, Mr. Shahid Saleem welcomed the Hungarian delegates at the beautiful site of the Khanki Barrage. Two professionals from O/o CEA & CFFC, Mr. Zafar Iqbal, Deputy Engineering Advisor (Civil) and Mr. Hussain Shigri, Principal River Engineer accompanied the Hungarian Delegation during their visit to Khanki Barrage at Khanki and IRI at Nandipur in District Gujranwala.

2. During his presentation, Mr. Shahid Saleem Chief Engineer (Irrigation), Faisalabad Irrigation Zone apprised that Khanki Barrage is located on River Chenab about 16 Kilometers downstream from Alexandra Bridge and 56 Kilometers from Marala Barrages. He told that Barrage feeds Lower Chenab Canal (LCC) System at its left flank; designed capacity of Khanki Barrage being 1,100,000 Cubic feet per second while the designed discharge of off-taking LCC canal is 11,507 Cubic feet per second.

3. Mr. Shahid Saleem Chief Engineer (Irrigation), Faisalabad Irrigation Zone further informed that New Khanki Barrage was constructed during 2013 - 2017 replacing the 125 year old Khanki Head works under a Flagship Project of Punjab Government, funded by Asian Development Bank (ADB). He presented the salient features of the new Barrage Project and explained the line diagram of LCC System. He further informed that LCC system irrigates cultural command area of 3.031 Million Acres in 8 Districts of the central Punjab. He also presented the detailed of river training and flood protection works constructed at the barrage site.

4. In the end, SKADA (Supervisory Control and Data Acquisition) system installed at the new Khanki Barrage was also explained to Hungarian delegates. Thereafter opening and closing of the Barrage gates through SKADA system was also demonstrated. Both sides had a good exchange of knowledge and practical experience regarding the irrigation network of both the countries. *Soft copy of the presentation is attached.*

**Item # 2 Visit to Irrigation Research Institute (IRI), Nandipur District Gujranwala**

5. Dr. Hafiz Muhammad Attique-u-Rehman, Director IRI Nandipur warmly received Hungarian Delegation members at IRI Nandipur. In his presentation, he highlighted the historical background for establishment of IRI and various functions of the Institute. The Director also presented detailed layout of the various experimental trays at the research station. He apprised that IRI was currently engaged in 17 different physical model studies for river training, flood protection, dams, barrages, bridges and other hydraulic structure.

6. It was further informed by the Director IRI that Physics Wing of IRI takes care of the different studies of Geotechnical Investigations, Groundwater related issues, GIS and Remote Sensing, Seepage Studies, Evaluation of Efficiency of Canal lining materials etc. He also shared that cost incurred on the physical model testing through IRI Nandipur was on very lower side when compared with cost charged by the similar International Institutes though in this respect, recommendations regarding some of the physical models tested twice remained the same. Thereafter, delegates visited various physical models being tested at IRI Nandipur. *Soft copy of the presentation is attached.*

**Photographs: Day-3, May 18, 2022**



Hungarian delegates alongwith Barrage Management in Control Room of the Khanki Barrage



Visit of Hungarian delegates to Khanki Barrage site



Briefing by the Director IRI Nandipur



Hungarian Experts visit and discuss about the various Physical Model Testing Facilities at IRI Nandipur

## **PROCEEDINGS OF THE DAY-4; MAY 19, 2022**

(EXPOSURE VISITS TO PUNJAB IRRIGATION DEPARTMENT, FFD,  
LAHORE AND CEWRE AT UET LAHORE)

## **DAY-4: MAY 19, 2022 – EXPOSURE VISITS TO PUNJAB IRRIGATION DEPARTMENT, FFD AND CEWRE AT LAHORE**

### **Item # 1 Meeting with Secretary, Punjab Irrigation Department**

The esteemed members of the Hungarian Delegation were welcomed by the team of Irrigation Engineers at office of the Secretary, Irrigation Department Government of the Punjab (PID, Punjab) at Lahore. During the presentation session, Hungarian delegates were apprised that Punjab Irrigation System was designed for low irrigation intensities of 60-70%; however as a result of agricultural development over the years and ground water contribution, irrigation intensities have now almost doubled (120 – 150%). Hence, water requirements had increased tremendously and the system capacities are grossly inadequate.

2. The presentation delivered by Mr. Aamir Khan, Chief of Strategic Policy Reforms Unit (SPRU) at PID, Punjab also covered key issues and challenges faced by the system and future plans of the Department to address them. He informed that presently serious water shortages were being encountered during Kharif sowing and Rabi maturing periods when the Dams are empty. He stated that although the ground water contributes about 50% of Irrigation requirements, the average annual groundwater extraction in Punjab was over 45 MAF against the average recharge of about 43 MAF resulting in a deficit of 2 MAF per year.

3. Mr. Aamir Khan, Chief of Strategic Policy Reforms Unit also presented the detail of two new canal projects and number of small dam projects taken up by PID, Punjab in line with the provisions of Punjab Water Policy approved by Provincial Cabinet in its meeting held on **December 29, 2018**. He informed that 57 Small Dams had been completed while 11 were under construction and 37 potential dam sites have been identified.

4. Mr. Aamir Khan also presented detail of key policy reforms being taken up by the Department. Regarding control of excessive groundwater withdrawals in the Province, he informed that as a first priority step, Punjab Irrigation Department has deputed 150 Field Teams to collect the Geo-Referencing data of existing Tubewells in the Province. He informed that Groundwater Monitoring Network was also being extended to non-command areas of Punjab (Thal, Pothohar & Cholistan). **Soft copy of the presentation is attached.**

### **Item # 2 Courtesy Meeting with the Secretary, Punjab Irrigation Department**

5. The distinguished Hungarian Delegation was cordially welcomed by the Secretary, Irrigation Department Government of the Punjab (PID, Punjab) at Lahore. During the meeting with the Provincial Secretary asked the delegates about their rivers network in Hungary and associated issues and challenges? Mr. Peter Kovacs, Head of the Hungarian delegation informed that 24 rivers enter into Hungary out of which three were major rivers i.e. Danube, Tisza and Drava. He informed that Danube River was the most international river basin having catchment area in 19 countries. It was further informed by that there was a Centralized and 12 Regional Directorates established in Hungary for Water Management.

6. There was good exchange of knowledge and expertise between both sides regarding the issues like floods, drought, water pricing, and groundwater management besides transboundary water management. In the end, the Secretary PID, Punjab presented souvenirs to distinguished delegates from Hungary.

### **Item # 3 Visit to Flood Forecasting Division (FFD), Lahore**

7. Presentation delivered by the Director FFD, Lahore focused on the responsibilities of the Flood Forecasting Division and detail of various flood forecasting and warning mechanism adopted by the FFD, Lahore. He explained on the maps the manned as well real

time meteorological observation network in Pakistan. He also presented the Numerical Weather Prediction Models as well as the hydrological models (FEWS and Indus IFAS) being used by FFD, Lahore. Thereafter, the delegates visited the Control Room of Lahore Weather Radar besides various other Flood Forecasting Models/ Tools were also demonstrated to them. **Soft copy of the presentation is attached.**

**Item # 4 Visit to Centre of Excellence in Water Resources Engineering (CEWRE) at UET Lahore**

8. Prof. Dr. Noor Muhammad Khan, Director, Centre of Excellence in Water Resources Engineering warmly welcomed the Hungarian Delegation along with his senior faculty members. In the special meeting with the foreign delegates, Prof. Dr. Noor Muhammad Khan highlighted the historical background for the establishment of CEWRE, various master and PhD level degree programs being offered by Centre, laboratory, library, IT Computer and students Residential Facilities available at the Centre.

9. Director CEWRE also presented a clear picture of the Centre's Research Projects completed in the last five years and ongoing research activities at the Campus. Regarding the rainwater harvesting facility at CEWRE, Mr. Jeno Labdy, General Director, General Directorate of Water Management, Hungary suggested that quality of rain/storm water harvested for groundwater recharge should be first checked and it must be ensured that only good quality water is injected into aquifers.

10. Director CEWRE proposed various possible collaborative programs of mutual interest from CEWRE side like joint research, sandwich degrees, short term exchange of faculty and students. Afterwards, the Hungarian delegates visited various Hydraulics Laboratories, Library and IT Computer Lab.

11. The delegates highly applauded the efforts of Director CEWRE activities in bringing the Centre parallel with international standard level.

**Photographs: Day-4, May 19, 2022**



Visit to CEWRE at UET Lahore – Meeting with the Director and Demonstration of Research Labs



Demonstration of various Flood Forecasting & Early Warning Systems at FFD Lahore

## **PROCEEDINGS OF THE DAY-5; MAY 20, 2022**

**(VISIT TO NUST ISLAMABAD AND WRAP UP MEETING WITH  
PAKISTAN SIDE STAKEHOLDERS)**

## **DAY-5, MAY 20, 2022 – VISIT TO NUST, ISLAMABAD AND WRAP UP MEETING WITH PAKISTAN SIDE STAKEHOLDERS**

### **First Session: Visit to NUST, Islamabad**

On the Final day i.e. **May 20, 2022**, in the morning, Hungarian delegates visited National University of Science and Technology (NUST), Islamabad. Principal at School of Civil and Environmental Engineering (SCEE) welcomed the delegation at NUST Islamabad. The delegates attended a briefing session by the Principal SCEE; presentations were also made by the Representatives from other related Departments (WRE&M and IESE). Subsequently, delegates visited Hydraulic Lab and IESE Lab.

2. Based on above, possible areas of future collaboration with Hungarian side included (i) MoU with Hungarian National University, Budapest, (ii) Tied Credit Loan Facility for Wastewater Treatment and Reuse + IRI like Facility; (iii) Scholarships, HEC/ Other Options and (iv) Short Trainings under Exchange of Professional/ Students.



Meeting of the Delegates with the NUST Officials



Focal Person Hungary speaks to Faculty at NUST



Visit of Hungarian Delegates to NUST: Demonstration of Hydraulic Labs and IESE Labs



Exchange of Gifts and Souvenirs between both sides at NUST Islamabad

**Closing Session: Wrap Up Meeting of the Hungarian Delegation with Pakistan side Stakeholders held on Friday May 20, 2022**

The wrap up meeting was held on Friday, **May 20, 2022** at 1500 Hours in the Committee Room of Ministry of Water Resources of Pakistan at Islamabad. The meeting was chaired by Honourable Secretary, Ministry of Water Resources of Pakistan. **Excellency Mr. Béla Fazekas**, Ambassador of Hungary in Pakistan participated as the Guest of Honour. List of participants is attached as **Annexure-I**.

2. The Chair welcomed the distinguished Guest H.E Mr. Béla Fazekas, Ambassador of Hungary in Pakistan and esteemed delegates from Hungary. He also welcomed Pakistan side representative from Provinces and concerned agencies at Federal level and expressed his satisfaction with the level of their interest. He expressed his special gratitude for Hungarian Delegates for their exclusive presentation on Telemetry System now being used in Hungary in view of IRSA's proposed Telemetry System, kept later as agenda item for closing session.

3. Mr. Peter Kovacs, Head of the Hungarian Delegation and Water Director, Ministry of Interior, Hungary thanked Focal Person Pakistan side for their outstanding hospitality and excellent arrangement made for Hungarian Delegates. He gave an elaborated account of exposure meetings held with the heads of stakeholders departments and technical field tours carried out during their stay in Pakistan. He also thanked all organizers, especially O/o CEA/CFFC who ensured their rich and meaningful representation of all concerned departments in these events and stated that they had very interactive and rewarding sessions during the last 4-5 days. He assured that outcomes of these in-person collaborative meetings would contribute a lot toward successful implementation of Hungary Pakistan Water Management MoU.

**Item # 1: Presentation on Telemetry System in use in Hungary – Mr. Jenő Labdy, Expert from Hungarian side**

4. Mr. Jenő Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary presented an elaborated account of present hydrological monitoring network in Hungary. He informed that the system consists of around 8,000 work stations which are operated, maintained and developed by 12 Regional Water Directorates (abbreviated as VIZIG's in Hungarian language) coordinated by the General Directorate of Water Management (abbreviated as OVF in Hungarian language). He talked about the (i) **Work stations** that regularly provide data for local operational activities only, (ii) **Base stations**, some of which provide regular data for both operational activities and regional tasks, while others provide data for the latter, as well as data necessary for a nationwide review and hydrological evaluation; and (iii) **Study stations** that supplement data for "ad hoc" investigation needs.

5. He gave an insight of types of water data being collected through telemetry system. He also informed that for surface water monitoring there are 350 Base Stations, 1,700 Work Stations and 450 Telemetry Stations. Similarly for subsurface water monitoring, he reported the number of Work Stations as 1,200 and Base Stations as 1,547. He informed that there are additional 500 Hydro meteorological monitoring stations in Hungary. He also explained how their Centralized Server Database, web based architecture and their own developed software application are integrated.

6. While explaining the products and outputs of Regional Forecasting Stations in Hungary, he apprised that there are 25 gauges at Danube River and its tributaries, 51 gauges at Tisza River and its tributaries besides 10 gauges at Drava River and its tributaries. He stated that forecast lead time is 144 hours for all the gauges. He added that water level forecasts are made and issued every morning.

7. Mr. Asjad Imtiaz Ali, Member Federal, IRSA inquired as to how often calibration of the Telemetric System is done in Hungary? Mr. Jeno Labdy responded that they buy the systems from International companies so they do the calibration of the system and also perform their own hydrological data base communications, results of which are tailor based and can be seen by any of the parties. Responding to another query from Mr. Asjad Imtiaz, he informed that total surface flow for Danube River is around 11,000 cubic meter per second (388,000 cusec) and for Tisza River it approximately ranges from 3,000 - 4, 000 cubic meter per second (106,000 – 141,000 cusec).

8. The Chair urged for the participants to learn from Hungarian System as this was a rare life opportunity for stakeholders in particular who are involved in planning, design and anticipated implementation of IRSA's proposed Telemetry System meant for judicious water accounting and distribution. He opined that lessons learnt from the Hungarian presentation should be incorporated by IRSA in the project proposal/PC-I before it was sent to higher competent approving forum/CDWP.

9. Chairman IRSA inquired about the involvement of human hand in Hungarian Telemetry System. The Chair while putting perspective to this question, informed the house that this is not the first time that telemetry system is being introduced in Pakistan. He stated that Water Apportionment Accord (WAA-1991) exists for the distribution of Indus Basin water among the Provinces. For the implementation of the Water Apportionment Accord, the Indus River System Authority (IRSA) was established in 1992 and in order to introduce a reliable and acceptable water management system in the wake of WAA-1991, Government of Pakistan entrusted the Telemetry Project to WAPDA for its execution on behalf of IRSA and later on it was handed over to IRSA for operation and maintenance. The installation of telemetry system completed and commissioned in 2004, however, due to certain reasons including some mal-practices of human/ people operating the system in the remote locations in the Provinces, project could not be operated smoothly by the IRSA. In this regard, the Chair also spoke about the extreme importance of data in Pakistan and apprised that it is politically very explosive as it relates to distribution of water among the Provinces.

10. Mr. Jeno Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary responded that they have a network of guards to control the system besides Experts from Central General Water Directorate also visit the system regularly to ensure its smooth operation. As regards the maintenance of the system, he informed that International Companies, being system providers, are approached to carry out necessary repairs and rehabilitation works.

11. Chief Engineer, Pothohar Irrigation Zone from PID, Punjab asked about level of acceptance of the data by the lower riparian people. Mr. Jeno Labdy replied that data measurement related to water flow, flood forecast and satellite snow measurements are presented on daily basis and well accepted by all stakeholders. He cited the example of forecast generated by them for the rainfall runoff for Romania through best softwares.

12. Joint Secretary (Water), Ministry of Water Resources, Government of Pakistan, outlined the reasons that establish need of a robust and reliable telemetric system. He enunciated that at present there are 24 nodes for measuring river waters of Indus Basin Irrigation System in Pakistan; all of them being owned and operated by the Provinces. However, as per WAA 1991, IRSA distributes water among the Provinces for cropping seasons. He explained further as 24 nodes for measuring river water are not in hands of Centre so there comes the potential of conflicts.

13. He also reported challenges associated with the operation of 2004 commissioned telemetry system related to high temperature and power failure. He handed over a copy of

IRSA's Project proposal to Hungarian side and requested for their feedback in the due course of time. In this context, he also asked from Hungarian side about the possibility of training Pakistani experts/professionals to the level that they can better manage the system here in Pakistan.

14. Responding to above, Mr. Peter Kovacs, Water Director, Ministry of Interior Hungary informed that though they don't have the large barrages like one in Pakistan mainly due to the limited land owned by the State, use of telemetry system does not affect the site of the system. He suggested that upstream of the Barrages could be potential site for the proposed telemetric measurements in Pakistan.

15. Responding to the queries from Chairman PCRWR and representatives from PID Punjab about the types of sensors (either depth or water level sensors) being used in Hungary, Mr. Jenő Labdy, General Director, General Directorate of Water Management, Ministry of Interior Hungary responded that they were mostly using the water level sensors.

16. Regarding the groundwater aquifers in Hungary, Mr. Jenő Labdy enunciated that 95% of drinking water comes from groundwater and other significant water uses are irrigation and thermal water uses. He explained that groundwater aquifers provide base flow for surface waters and groundwater dependent ecosystems and ensures local water balance as well. He further informed that Irrigation from groundwater requires a permit and it can only be used for irrigation only if no surface water is available (economic feasibility); from the consumers water resources/water service fee is charged. He also talked about the vulnerability of shallow groundwater aquifers to climate change.

17. The Chair directed to establish linkages with Hungarian side for extending bilateral cooperation on management of ground water resources, floods and water scarcity/ drought management, water pricing and irrigation water management under emerging challenges introduced by the climate change. Joint Secretary (Water), Ministry of Water Resources also stressed for bilateral collaboration regarding transboundary water management. CEA/CFFC confirmed that bilateral collaboration on all of these areas was already included in Work Program (2021-23) and would be taken along accordingly both in letter and spirit.

18. After detailed discussion, following decisions were taken:

- (i) A Joint Working Group will be formulated having representation of most concerned Experts from both sides to mutually coordinate with regard to implementation of IRSA's Telemetric System Project.
- (ii) Both sides will ensure extended bilateral cooperation on emerging water challenges and issues like ground water resources, floods and water scarcity/ drought management, water pricing, irrigation water management under emerging challenges introduced by the climate change and transboundary water management.

## **Item # 2: Outcome of the Physical Bilateral Meetings & Field Exposure Visits of the visiting Hungarian Delegation/Technical Experts Group**

19. CEA/CFFC, Focal person Pakistan side shared the outcome of bilateral physical meetings and field exposure visits organized by O/o CEA & CFFC for the Hungarian Delegation/ Technical Experts Group during the period from May 16-20, 2022. He stated that being the designated National Focal Person from Pakistan on MoU implementation, he chaired the opening session and in person bilateral meetings held on May 16 & 17, 2022. He stated that during the opening session held on May 16, 2022, the distinguished delegation members paid a courtesy visit to office of the worthy Secretary, Ministry of Water Resources

of Pakistan and based on this, Agenda Item #1 has been exclusively included in the program of the closing session and deliberated accordingly.

20. He provided information on field exposure visits of Hungarian Delegates to Rawal Dam site at Islamabad, Khanki Barrage Project and Physical model testing facilities at Irrigation Research Institute (IRI), Nandipur in District Gujranwala, besides some visits to sites of cultural importance. He further informed that O/o CEA/ CFFC hosted the bilateral dialogues and arranged exposure visits to PMD Headquarter office at Islamabad, PCRWR Headquarter office at Islamabad, NUST University at Islamabad, Flood Forecasting Division (FFD), Lahore and Centre of Excellence in Water Resources Engineering (CEWRE) at Lahore, besides a courtesy meeting of Hungarian delegates with the respected Secretary, Irrigation Department, Government of the Punjab, in his office at Lahore.

21. The house was informed that entire bilateral consultations took place in a cordial atmosphere of mutual understanding, reflecting friendly relations between the two countries and were marked by the desire of both sides to further develop and diversify the technical and economic collaboration in the field of water management. CEA/CFFC acknowledged the immense support from all relevant Federal Ministries (Ministry of Water Resources, Ministry of Foreign Affairs, Ministry of Economic Affairs, and Ministry of Interior) and stakeholder departments i.e. PMD, PCRWR, NUST, FFD & CEWRE at Lahore, WASA Lahore, Punjab Irrigation Department, and IWMI-Pakistan at Lahore including security formations of Inspector Generals of Police at Islamabad and Punjab at Lahore.

### **Item # 3: Concluding Remarks - Dr. Kazim Niaz, Secretary, M/o of Water Resources of Pakistan**

22. In his conclusive remarks, Dr. Kazim Niaz, Secretary, Ministry of Water Resources of Pakistan expressed his delight to be part of the Closing Session of the Pakistan-Hungary's Experts level dialogue organized by the O/o CEA/CFFC here in Islamabad Pakistan. He appreciated the excellent arrangements and coordination done by O/o CEA/CFFC with all concerned agencies and departments that have resulted in culmination of delegates visit at a good note and they had a good comfortable stay in Pakistan.

### **Item # 4: Concluding Remarks - Excellency Mr. Béla Fazekas, Hungarian Ambassador in Pakistan**

23. His Excellency Mr. Béla Fazekas, Ambassador of Hungary in Pakistan appreciated the active and rich participation from concerned departments in the closing workshop. He enunciated that water is more and more a security issue and hence a sensitive issue. He spoke about the importance of trust. He was of the opinion that trust can be established through friendship which requires to create a friendly environment as well. Finally, he assured maximum possible support from Government of Hungary in all areas of collaboration identified under MoU including installation of an innovative indigenous robust telemetry system in Pakistan which could convince all stakeholders and build trust among them.

### **Item # 5: Presentation of the Souvenirs and Certificates**

24. Mr. Béla Fazekas, Ambassador of Hungary in Pakistan presented the souvenirs and certificates to Honourable Secretary, MoWR of Pakistan and other senior officers from MoWR, O/o CEA/CFFC and from other stakeholder organizations. Souvenirs and certificates were also presented by the worthy Secretary, MoWR of Pakistan to the Guest of Honour, H.E Mr. Béla Fazekas and to other visiting Hungarian Delegation members.

25. Thereafter, meeting closed with a vote of thanks to all participants.

**Photographs: Closing Session/ Wrap up Meeting with Pakistan side Stakeholders**



Hon. Secretary, MoWR of Pakistan welcomes H.E. Mr. Béla Fazekas, Ambassador of Hungary in Pakistan



Hon. Secretary, MoWR of Pakistan chairing the Wrap up Meeting of Delegates with Pakistan side Stakeholders



Hungarian Expert Mr. Jeno Labdy, presenting salient features of Telemetry system being used in Hungary

## **HUNGARIAN DELEGATION VISIT TO PAKISTAN**

### *Minutes of Meeting & Proceedings of the Exposure Visits to Stakeholders & Field Exposure Visits*



Wrap up Meeting of visiting Hungarian Delegates with Pakistan side Stakeholders- Discussions in progress



Concluding Remarks by Secretary, MoWR of Pakistan



Concluding Remarks by the Guest of Honour



Exchange of Souvenirs and gifts between by the Chief Guest & Guest of Honour

## ***HUNGARIAN DELEGATION VISIT TO PAKISTAN***

*Minutes of Meeting & Proceedings of the Exposure Visits to Stakeholders & Field Exposure Visits*

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Group Photos at the time of departure of the Hungarian Delegates

## **APPENDICES**

**VISIT OF HUNGARIAN DELEGATION TO PAKISTAN FROM MAY 16-20, 2022  
UNDER HUNGARY – PAKISTAN WATER MANAGEMENT MoU**

**WRAP UP MEETING/ CLOSING SESSION HELD ON MAY 20, 2022**

**(LIST OF PARTICIPANTS)**

**HUNGARIAN SIDE:**

1. H.E. Mr. Bela Fazekas **Guest of Honour**  
Ambassador of Hungary in Pakistan,  
Embassy of Hungary
2. Mr. Péter KOVÁCS,  
Focal Person (Hungarian Side)/ Water Director,  
Head of River Basin Management and Water Protection Department,  
Ministry of Interior, Hungary
3. Mr. Jeno Labdy  
General Director,  
General Directorate of Water Management,  
Ministry of Interior, Hungary
4. Mr. Attila LOVAS  
Director, Middle-Tisza-Region Water Management,  
Ministry of Interior Hungary
5. Mr. Zoltan BENCS  
Director, South-Transdanubian Water Management Directorate,  
Ministry of Interior, Hungary
6. Dr. Istvan Grafjodi,  
Commercial Counselor  
Embassy of Hungary

**PAKISTAN SIDE**

**MINISTRY OF WATER RESOURCES:**

7. Dr. Kazim Niaz **In Chair**  
Secretary
8. Syed M. Mehar Ali Shah  
Joint Secretary (Water)
9. Mr. Zain Ijaz  
Section Officer (Water)

**O/o CEA/CFFC:**

10. Mr. Ahmed Kamal  
Focal Person on MoU (Pakistan Side)/ Chief Engineering Advisor &  
Chairman, Federal Flood Commission
11. Mr. Ashok Kumar  
Chief Engineer (Floods)

12. Dr. M. Ejaz Tanveer  
Superintending Engineer (Floods)
13. Mr. M. Hanif Chachar  
Deputy Director (S&M)
14. Mr. Zafar Iqbal  
Deputy Engineering Advisor (Civil)
15. Mr. Hussain Shigri  
Principal River Engineer
16. Mr. Sibte Hassan  
Deputy Director (S&M)
17. Mr. Yawar Rasheed  
Senior Engineer (Floods)

**MINISTRY OF PLANNING DEVELOPMENT & SPECIAL INITIATIVES:**

18. Engr. Ghazala Channar  
Deputy Chief/Incharge (Water)
19. Mr. Shahzad Ali Khan  
Deputy Chief (Water)

**MINISTRY OF ECONOMIC AFFAIRS:**

20. Mr. Aftab Ahmad Khan  
Deputy Secretary (INGO/US)

**IRRIGATION DEPARTMENT, PUNJAB**

21. Capt. Retd. Saif Anjum  
Secretary (**Online Participation**)
22. Mr. Moin-u-Din Shiekh,  
Chief Engineer, Potohar Irrigation Zone

**IRRIGATION DEPARTMENT, SINDH:**

23. Mr. M. Ayoub Soomro  
Additional Secretary (Technical)

**IRRIGATION DEPARTMENT, KHYBER PAKHTUNKHAWA:**

24. Mr. Nasir Ghafoor Khan  
Chief Engineer (South)

**IRRIGATION DEPARTMENT, BALOCHISTAN:**

25. Mr. Abdul Fattah Bhagar  
Secretary (**Online Participation**)

**INDUS RIVER SYSTEM AUTHORITY:**

- 26. Mr. Zahid Hussain Junejo  
Chairman, IRSA
- 27. Mr. Asjad Imtiaz Ali  
Member (Federal)
- 28. Mr. Zahid Abbas  
Member (KP)
- 29. Mr. Abdul Hameed Mengal  
Member (Balochistan)
- 30. Mr. M. Khalid Idrees Rana  
Director (Operations)
- 31. Mr. Zeeshan Riaz Tarar  
System Analyst/ Deputy Director
- 32. Mr. Tahir Ali Khan  
Programmer

**WATER & POWER DEVELOPMENT AUTHORITY:**

- 33. Mr. Abdul Rasheed  
Chief Engineer (H&WM)
- 34. Mr. Zubair Shamshad  
Senior Engineer (H&R)
- 35. Mr. Afraz Haider  
Junior Engineer (E)

**PCRWR:**

- 36. Dr. Muhammad Ashraf  
Chairman
- 37. Mr. Faizan-ul-Hassan  
Secretary

**PMD:**

- 38. Mr. M. Irfan Virk  
Deputy Director (PMD)

**1<sup>st</sup> PHYSICAL MEETING OF JEG HELD ON MAY 17, 2022**

**(LIST OF PARTICIPANTS)**

**HUNGARIAN SIDE:**

1. Mr. Péter KOVÁCS, **Focal Person Hungarian Side**  
Focal Person (Hungarian Side)/ Water Director,  
Head of River Basin Management and Water Protection Department,  
Ministry of Interior, Hungary
2. Mr. Jeno LABDY  
General Director,  
General Directorate of Water Management,  
Ministry of Interior, Hungary
3. Mr. Attila LOVAS  
Director, Middle-Tisza-Region Water Management,  
Ministry of Interior Hungary
4. Mr. Zoltan BENCS  
Director, South-Transdanubian Water Management Directorate,  
Ministry of Interior, Hungary

**PAKISTAN SIDE**

**O/o CEA/CFFC:**

5. Mr. Ahmed Kamal **In Chair**  
Focal Person on MoU (Pakistan Side)/ Chief Engineering Advisor &  
Chairman, Federal Flood Commission
6. Mr. Ashok Kumar  
Chief Engineer (Floods)
7. Dr. Qazi Tallat Mahmood Siddiqui  
Chief Engineer (Dams Safety Council)
8. Dr. M. Ejaz Tanveer  
Superintending Engineer (Floods)
9. Mr. M. Hanif Chachar  
Deputy Director (S&M)
10. Mr. Zafar Iqbal  
Deputy Engineering Advisor (Civil)
11. Mr. Hussain Shigri  
Principal River Engineer
12. Mr. Sibte Hassan  
Deputy Director (S&M)

13. Mr. Yawar Rasheed  
Senior Engineer (Floods)

**MINISTRY OF WATER RESOURCES:**

14. Mr. Zain Ijaz  
Section Officer (Water)

**UNIVERSITY OF ENGINEERING & TECHNOLOGY, LAHORE:**

15. Prof. Dr. Noor Muhammad Khan  
Professor Civil Engineering Department/  
Director CEWRE/ Member JEG Pakistan Side

**WATER & POWER DEVELOPMENT AUTHORITY:**

16. Mr. Mujahid Tanveer Ahmed  
Chief Engineer (Dams)/Member of JEG Pakistan Side

**PCRWR:**

17. Mr. Faizan-ul-Hassan  
Secretary
18. Dr. Hifza Rasheed  
Director General (Water Quality)

**WASA, LAHORE:**

19. Mr. Zeeshan Bilal  
Director (P&D)
20. Mr. Muhammad Saleem Ashraf  
Director

**OPENING SESSION/ INTRODUCTORY MEETING HELD ON MAY 16, 2022**

**(LIST OF PARTICIPANTS)**

**HUNGARIAN SIDE:**

1. Mr. Péter KOVÁCS, **Focal Person Hungarian Side**  
Water Director,  
Head of River Basin Management and Water Protection Department,  
Ministry of Interior, Hungary
2. Mr. Jeno Labdy  
General Director,  
General Directorate of Water Management,  
Ministry of Interior, Hungary
3. Mr. Attila LOVAS  
Director, Middle-Tisza-Region Water Management,  
Ministry of Interior Hungary
4. Mr. Zoltan BENCS  
Director, South-Transdanubian Water Management Directorate,  
Ministry of Interior, Hungary
5. Dr. Istvan Grafjodi  
Commercial Consular, Embassy of Hungary,  
Islamabad

**PAKISTAN SIDE**

**O/o CEA/CFFC:**

6. Mr. Ahmed Kamal **In Chair**  
Focal Person on MoU (Pakistan Side)/ Chief Engineering Advisor &  
Chairman, Federal Flood Commission
7. Mr. Ashok Kumar  
Chief Engineer (Floods)
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Chief Engineer (Dams Safety Council)
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10. Mr. M. Hanif Chachar  
Deputy Director (S&M)
11. Mr. Zafar Iqbal  
Deputy Engineering Advisor (Civil)

12. Mr. Hussain Shigri  
Principal River Engineer

13. Mr. Sibite Hassan  
Deputy Director (S&M)

14. Mr. Yawar Rasheed  
Senior Engineer (Floods)

15. Mr. Basit Hussain  
Sub-Engineer (Civil)

16. Mr. M. Iqbal  
Programmer

**MINISTRY OF WATER RESOURCES:**

17. Mr. Sajeel Saeed  
Deputy Secretary (Water)

18. Mr. Zain Ijaz  
Section Officer (Water)

**WATER & POWER DEVELOPMENT AUTHORITY:**

19. Mr. Mujahid Tanveer Ahmed  
Chief Engineer (Dams)  
(Member of JEG Pakistan Side)

**INDUS RIVER SYSTEM AUTHORITY:**

20. Mr. Zeeshan Riaz Tarar  
System Analyst/ Deputy Director

21. Mr. Tahir Ali Khan  
Programmer

**DETAIL OF ELECTRONIC ATTACHMENTS**

**(For Consideration by Hungarian Side)**

1. Presentation on Role of Ministry of Water Resources (MoWR) of Pakistan
2. Presentation on Mandate of IRSA and related Important Projects
3. Presentation on Mandate of WAPDA and related Important Projects
4. Presentation on National Water Policy (NWP) and its Implementation Status
5. Presentation on Role of Office of the CEA & CFFC
6. Presentation on project proposal titled “Studies to address Urban Drainage Problem in Twenty (20) Major Cities in Pakistan”
7. Presentation on project proposal titled “Profiling of Wastewater and Piloting Wastewater Treatment in Urban Areas”
8. Presentation on project proposal titled “Urban Flood Management in Korang River, downstream Burma Bridge, Islamabad”
9. Presentation on project proposal titled “Construction of Underground Storm Water Storage Tanks in Lahore”
10. Presentation on Mandate of PMD and related Important Projects
11. Presentation on Mandate of PCRWR and related Important Projects
12. Presentation regarding salient features of Khanki Barrage, District Gujranwala
13. Presentation on Mandate of IRI, Nandipur District Gujranwala
14. Presentation regarding Mandate of Punjab Irrigation Department and related Important Projects
15. Presentation on Mandate of FFD, Lahore and related Important FF&EW Facilities