Doosti Dam
Progress on Water Cooperation

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Riparian Countries: Iran-Turkmenistan-Afghanistan
Total Length: 900 km
Catchment Area: 54000 km²
Mean Annual Runoff: 970 MCM
Flow regime: Significant Flood and Drought Periods
Demands and water resources management

Seasonal river – runoff in Dec. to May
67000 irrigating area in down stream in Iran and Turkmenistan
More than 3 million population in Garaghom basin and needs for water supply
Hugh Floods and land damaging

Doosti (Friend ship) reservoir dam
Doosti Dam Characteristics

- **Purpose:** Irrigation & urban water supply
- **Dam Type:** Earth fill dam with silty – clay core
- **Height:** 78m
- **Crest Length:** 655m
- **Dam body Volume:** 5.8 MCM
- **Reservoir Volume:** 1250 MCM
- **Annual water regulation:** 684 MCM
- **Spillway type:** Gated (8x15m)
- **Spillway design discharge:** 3920 m³/Sec
- **Bottom outlet discharge:** 105 m³/Sec
Historical Background

**Iran-Former Soviet Union**
- The first agreement on Harirood River development (Iran and former Soviet Union – 1921)
- S.U. proposal to build dam – 1926
- Agreement to embark on feasibility study – 1958
- Conducting the F.S. (1974 to 1979)

**Iran-Turkmenistan**
- Updating F.S -1991
- Start of Doosti dam diversion system – 1996
- Protocol for construction of main dam 1997
- Approval of detail design by both governments – 1999
Historical Background

- Comprehensive agreement on construction of the main dam signed by two Presidents and parliaments – 2000
- Establishment of Joint Management Committee – 2000
- Initiation of diversion system -1996
- Initiation of main dam construction – 2001
- Impounding Reservoir – 2004
- Project inauguration – 2005
- Start of “Shirtapeh” diversion dam construction – 2008
- Start of “Shirtapeh” diversion dam operation – 2012
Water Users & Related Facilities

Irrigated Area (IRAN)

Irrigated Area (TURKMENISTAN)

Municipal water supply pipeline

Shirtapeh Diversion Dam

Doosti Reservoir Dam
Water Consumption and Resources

Inflow: 970 MCM

- Doosti Dam
- Regulated Water: 684 MCM
- Spill – evap. & infiltr.: 286 MCM
- Kuwait
- Drinking Water: 178 MCM
- Industrial Water
- Shattapeh Diversion Dam
- Turkmenistan
- Agriculture: 325 MCM
- Environmental Water: 34 MCM
- Iran
- Agriculture: 114 MCM
- Artificial Recharge: 33 MCM
Doosti Dam Common Coordinating Commission (CCC) on operation stage

**Turkmen members**
- Managing director of Turkmen Regional Water Authority
- Deputy of operation and maintenance
- Deputy of surface water
- Turkman Doosti Dam manager

**Iranian members**
- Managing director of Iranian Regional Water Authority
- Deputy of operation and conservation
- Deputy of surveying
- Iranian Doosti Dam manager
Advantages of Common Coordinating Commission (CCC)

- Direct negotiation and decision making without intervention of border officials and foreign ministries bodies - 31 meetings
- Conducting the meetings in the common zone on dam site
- High availability of the commission members
- The commission is consist of both regional government and executing bodies
High lights of the Common Coordinating Commission (CCC)

- Providing and implementation of the “Doosti Dam” and “Shirtape Diversion Dam” O&M Manuals
- Providing and implementation of the “Doosti Dam” common zone pass
- Providing and implementation of Flow measurement instructions in both countries
- Agreement on operation of the dam facilities
- Resolving technical problems on dam and related facilities
- Making decision for environmental water release (Deciding the amount of 336 MCM)
- Outcome of the commissions (CCC & common management committee of Doosti and Shirtape) till now is about more than 100 signed protocols on studies – construction and exploitation.
Existing Challenges

- Border issues
- Language and translating
- Financial issues
- Management and execution issues
- Difference of Currencies
- Water losses
- Development and construction of new dams at the upstream basin by Afghanistan.
- Drought
Conclusion

- Joint operation of “Doosti Dam” is a bridge of friendship enhancement after a century which is successfully on progress.
- A coordinating commission consist of Regional members and international manifest is a key element of such success.
- Joint operation of this project has yielded a framework for extension of cooperation and friendship between the countries concerned.
- An appropriate platform for collaboration on shared river management between three countries involved should be contemplated.
THANK YOU FOR YOUR ATTENTION