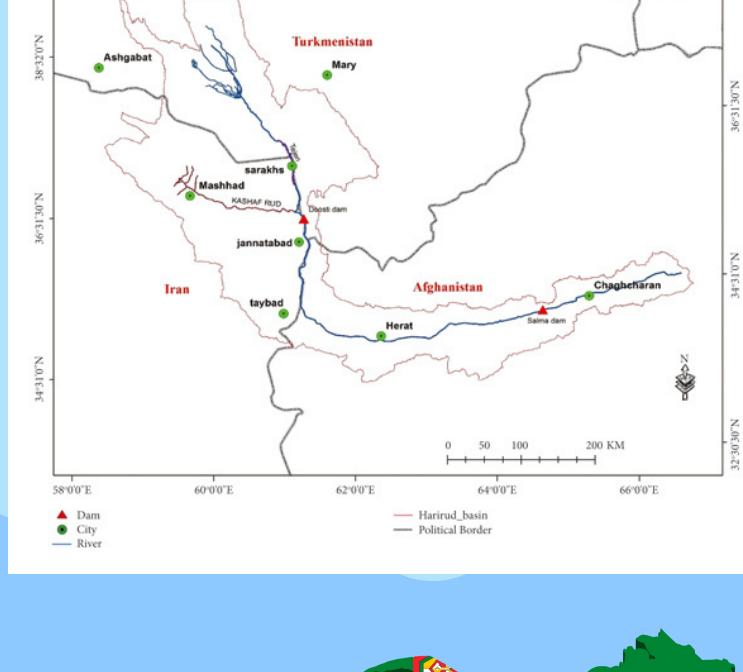




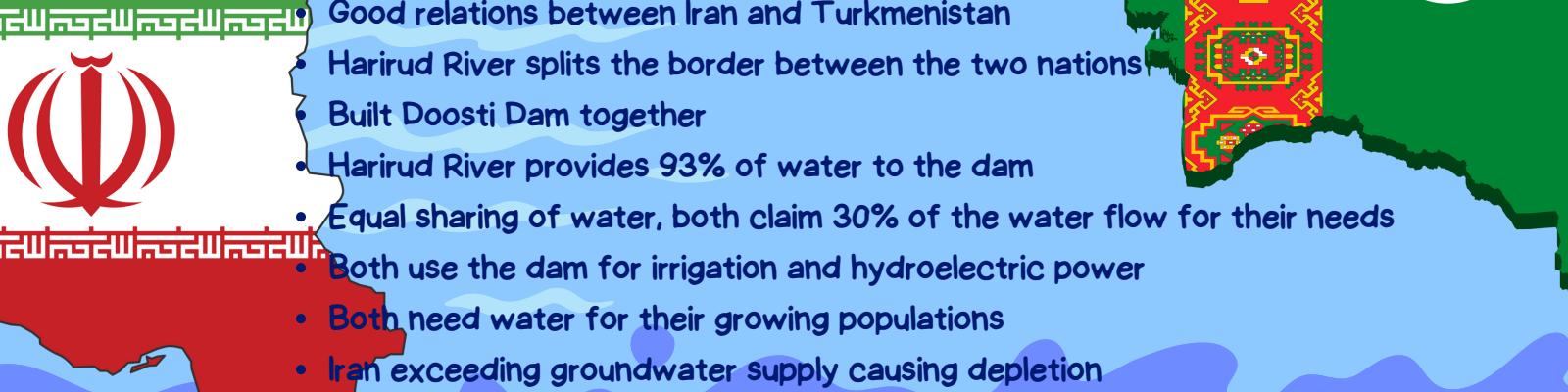
Harirud River CONFLICT

AFGHANISTAN

- Harirud River originates in Afghanistan.
- Afghans built two dams
 - Salma Dam & Pashdan-Dam
- The main source of water
- Provides electrical, political, & agricultural needs
- Growing Population Increases water demands
- Irrigation needs are rising due to drought



IRAN & TURKMENISTAN



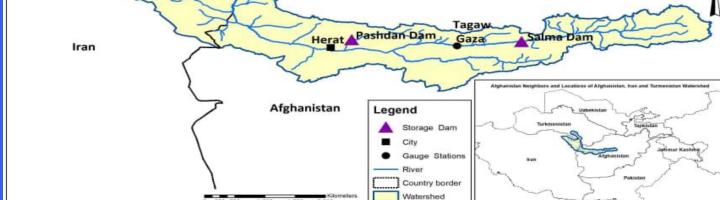
- Good relations between Iran and Turkmenistan
- Harirud River splits the border between the two nations
- Built Doosti Dam together
- Harirud River provides 93% of water to the dam
- Equal sharing of water, both claim 30% of the water flow for their needs
- Both use the dam for irrigation and hydroelectric power
- Both need water for their growing populations
- Iran exceeding groundwater supply causing depletion

PAST CONFLICTS

- June 2021: 16 killed at security checkpoint @ Salma Dam by Taliban
- Aug 2021: 10 Killed @ checkpoints
- Aug 2021: 10 rockets fired at the dam
- Small skirmishes and conflicts on the border between Iran & Afghanistan over the water rights throughout the years

Table 2 DMs and options in the Harirud river conflict.		
Decision maker	Option	Current situation
Iran	(1) Giving up the water rights from the Harirud river	N
	(2) Applying military, economic, and political pressure to obtain the intended water rights from the Harirud river	Y
	(3) Providing incentives for Afghanistan to encourage this country to cooperate and conclude a water treaty	Y
Afghanistan	(1) Unilateral utilization and the continuous increase of its water rights from the Harirud river	Y
	(2) Water cooperation and concluding a treaty dividing the Harirud river water rights	N
Turkmenistan	(1) Giving up the water rights from the Harirud river	N
	(2) Applying military, economic, and political pressure to obtain the intended water rights from the Harirud river	N
	(3) Providing incentives for Afghanistan to encourage this country to cooperate and conclude a water treaty	Y

POTENTIAL CONFLICTS



- Due to increasing populations in all three countries, water resources are becoming more scarce.
- Since Salma & Pashdan-Dam were built, conflicts have increased.
- Afghanistan's failure to come to agreements has increased tensions
- Increased drought and water loss could lead to all-out war in the area
- Taliban will eventually destroy the Salma dam causing flooding and Afghan retaliation

ECOLOGICAL CONFLICT

- Droughts and dams are causing areas of the river to dry up negatively impacting food production and local wildlife.
- Desertification is spreading in some areas near the river because of the dams
- Parts of the river dries up during parts of the year

		Conflict equilibrium in different scenarios				
Decision maker	Option	Current situation	TOA	ITS	MTR	ATR
Iran	Giving up the water rights	N	N	N	N	N
	Applying military, economic, and political pressure	Y	Y	Y	N	N
	Providing incentives	Y	N	N	Y	
Afghanistan	Unilateral utilization	Y	N	Y	N	N
	Cooperation and conclusion of a water right treaty	N	Y	N	Y	
Turkmenistan	Giving up the water rights	N	N	N	N	N
	Applying military, economic, and political pressure	N	Y	Y	N	N
	Providing incentives	Y	N	N	Y	

Harirud River CONFLICT

Table 1

Power indicators of the countries involved in the Harirud conflict.

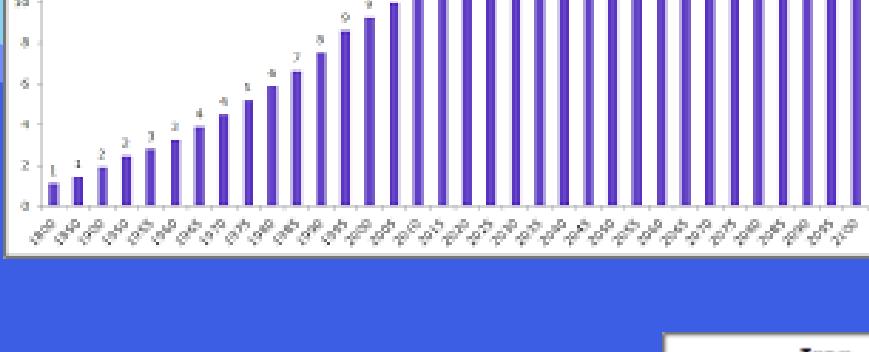
Indicators country	Iran	Afghanistan	Turkmenistan	
Economic	GDP per capita (current US\$, millions) (World Bank 2017)	5415.2	585.9	7355.8
	Foreign direct investment, net inflows (current US\$, millions, 2016) (World Bank)	3372	53.39	4522
	Net official development assistance (US\$, 2016) (World Bank)	116	4064	32
	Balance of trade (US\$, millions, average 2008 until 2016) (trading economics)	7500	-5907	881.9
Military	Agriculture sector as percentage of GDP (2015) (World Bank)	10.4	20.5	9.3
	Composite index of national capabilities (average 2002 until 2013) (Omni Atlas)	0.0130428	0.0020128	0.0006438
Governance and politics	Worldwide governance index (World Bank)	-0.83	-1.59	-1.45
	Democracy level index (2017) (economist)	2.45	2.55	1.72
	Failed and fragile states index (2018) (Fund For Peace)	84.3 (ranked 52/178)	106.6 (ranked 9/178)	72.6 (ranked 86/178)
Development and environment	Human development index (2015) (UNDP)	0.774 (ranked 68/188)	0.479 (ranked 179/188)	0.691 (ranked 111/188)
	Water loss in all economic sectors (billion cubic meters) (FAO)	89.7 (2001)	20.28 (2000)	24.91 (2000)
	Percentage of economic water loss toward total renewable water (FAO)	65.4 (2001)	31 (2000)	100.6 (2002)
	Water stress percentage (FAO)	86.72 (2001)	43.67 (2000)	145.5 (2000)

OBLIGATIONS

- Afghanistan must start to cooperate with Iran and Turkmenistan over water rights given the river originates in their country to prevent hostilities.
- All three countries need to enhance their water conservation and work together to reduce their pollution.



Turkmenistan - Population Density (people per sq. km.)





Harirud River SOURCES

Amini, A., Jafari, H., Nasrabadi, T., & Malekmohammadi, B. (2021, December 26). Transboundary Water Resources Conflict Analysis Using Graph Model for Conflict Resolution: A Case Study—Harirud River. Retrieved from Hindawi: <https://www.hindawi.com/journals/ddns/2021/1720517/>

Nagheby, M., & Warner, J. (2018, November 1). The geopolitical overlay of the hydropolitics of the Harirud River Basin. Retrieved from Springer Link [link.springer.com](https://link.springer.com/article/10.1007/s10784-018-9418-9):

<https://link.springer.com/article/10.1007/s10784-018-9418-9>

Sarabi, K. (2022, May 12). Iran Raises Concerns about Afghanistan's Policy on Water Resources. Retrieved from Caspian News: <https://caspiannews.com/news-detail/iran-raises-concerns-about-afghanistans-policy-on-water-resources-2022-5-11-1/>

Scallon, M. (2023, July 27). Condition Critical: Desertification Threatens To Turn Iran's Future To Dust. Retrieved from Radio Free Europe - Radio Liberty: <https://www.rferl.org/a/iran-desertification-mismanagement-dust-crisis-global-warming/32523060.html>

Trivedi, A. (2021, August 30). View: Will India's investments in Afghanistan amount to anything? Retrieved from The Economic Times: <https://economictimes.indiatimes.com/news/india/view-will-indias-investments-in-afghanistan-amount-toanything/articleshow/85754574.cms>

World Health Organization WHO. (2023). Population Analysis - WHO - Afghanistan - Iran - Turkmenistan. Retrieved from The Global Graph: <https://worldpopulation.theglobalgraph.com/p/home.html>

Table 4

Decision makers' preference of feasible states in the current scenario (important to least).

Decision maker	Desirability	Favorable situation	Explain
Iran	1	(- - - Y - - -)	Afghanistan agrees to conclude a treaty dividing the water rights
	2	(- NY - Y - - -)	If Afghanistan agrees to the treaty, Iran will only provide Afghanistan with incentives
	3	(- YY - N - - -)	If Afghanistan does not agree to the treaty, Iran will apply political and covert pressure on Afghanistan as well as providing incentives. Pressure does not include serious economic and military action.
	4	(Y - - - - -)	Iran gives up its water rights from the Harirud river and finds another way to meet its water needs
	5	(- - - - Y - NY)	If Afghanistan agrees to the treaty, Turkmenistan will only provide Afghanistan with incentives
	6	(- - - - N - YY)	If Afghanistan does not agree to the treaty, Turkmenistan will apply economic pressure to Afghanistan as well as providing incentives.
	7	(- - - - Y - -)	Turkmenistan gives up its water rights from the harirud river and finds another way to meet its water needs
Afghanistan	1	(- - - Y - - -)	Afghanistan unilaterally utilizes and increases its water rights from the harirud river
	2	(- N - - - - -)	Iran does not apply economic and military pressure on Afghanistan
	3	(- - Y - - - -)	Iran keeps providing Afghanistan with incentives
	4	(Y - - - - -)	Iran withdraws its claim to the Harirud river water rights
	5	(- - - - N -)	Turkmenistan not to apply economic pressure on Afghanistan (stopping electricity and energy exports)
	6	(- - - - - Y)	Turkmenistan keeps providing Afghanistan with incentives (exporting electricity and energy)
	7	(- - - - Y - -)	Turkmenistan withdraws its claim to the Harirud river water rights
Turkmenistan	1	(- - - Y - - -)	Afghanistan agrees to conclude a treaty dividing the water rights
	2	(- - - - NY)	Turkmenistan only provides incentives to Afghanistan and refrains from applying pressure
	3	(- Y - - - - -)	Iran applies economic and military pressure on Afghanistan to make this country agree to a water treaty
	4	(- - - - Y - -)	Turkmenistan gives up its water rights from the Harirud river and finds another way to meet its water needs