

= Great Zab =

The Great Zab or Upper Zab (Arabic : ????? ????? (al @-@ Z?b al @-@ Kab?r) , Kurdish : Zêy Badînan or Zêyê Mezin , Turkish : Zap , Syriac : ??? ???? (z?ba ?alya)) is an approximately 400 @-@ kilometre (250 mi) long river flowing through Turkey and Iraq . It rises in Turkey near Lake Van and joins the Tigris in Iraq south of Mosul . The drainage basin of the Great Zab covers approximately 40 @, @ 300 square kilometres (15 @, @ 600 sq mi) , and during its course , the rivers collects the water from many tributaries . The river and its tributaries are primarily fed by rainfall and snowmelt ? as a result of which discharge fluctuates highly throughout the year . At least six dams have been planned on the Great Zab and its tributaries , but construction of only one , the Bekhme Dam , has commenced but was halted after the Gulf War .

The Zagros Mountains have been occupied since at least the Lower Palaeolithic , and Neanderthal occupation of the Great Zab basin has been testified at the archaeological site of Shanidar Cave . Historical records for the region are available from the end of the third millennium BCE onward . In the Neo @-@ Assyrian period , the Great Zab provided water for irrigation for the lands around the capital city of Nimrud . The Battle of the Zab ? which ended the Umayyad Caliphate ? took place near a tributary of the Great Zab , and the valleys of the river provided shelter for refugees from the Mongol conquest of Iraq . During the 19th and 20th centuries , the Great Zab basin saw frequent uprisings of local Kurdish tribes striving for autonomy .

= = Course = =

The Great Zab rises in Turkey in the mountainous region east of Lake Van at an elevation of approximately 3 @, @ 000 metres (9 @, @ 800 ft) amsl and joins the Tigris on its left bank in Iraq . In Turkey , the Great Zab traverses the provinces of Van and Hakkâri , whereas in Iraq it flows through Duhok Governorate and Erbil Governorate , both part of the Kurdistan Region . Together with the Tigris , the Great Zab forms the boundary between Erbil Governorate and Ninawa Governorate . In its upper reaches , the Great Zab flows through steep , rocky gorges . The stretch between Amadiya and the Bekhme Gorge , where the Bekhme Dam remains unfinished , has been called the Sapna valley and will have a large portion of it inundated with water if the project is completed . Numerous mountain streams and wadis join the Great Zab on its right and left banks . The Great Zab receives most of its waters from the left @-@ bank tributaries ; the Rubar @-@ i @-@ Shin , Rukuchuk , Rubar @-@ i @-@ Ruwandiz , Rubat Mawaran and Bastura Chai .

The length of the Great Zab has been variously estimated at 392 kilometres (244 mi) and 473 kilometres (294 mi) . Approximately 300 kilometres (190 mi) of the river 's course are located within Iraq . The average discharge of the Great Zab is 419 cubic metres (14 @, @ 800 cu ft) per second , but peak discharges of up to 1 @, @ 320 cubic metres (47 @, @ 000 cu ft) per second have been recorded . The average annual discharge is 13 @. @ 2 cubic kilometres (3 @. @ 2 cu mi) . Because of its torrential nature , Medieval Arab geographers have described the Great Zab ? together with the Little Zab ? as " demoniacally possessed " .

= = Watershed = =

Estimates of the drainage basin of the Great Zab vary widely ? from a low 25 @, @ 810 square kilometres (9 @, @ 970 sq mi) to a high figure of 40 @, @ 300 square kilometres (15 @, @ 600 sq mi) . Approximately 62 percent of the basin is located in Iraq ; the remainder is in Turkey . To the south , the Great Zab basin borders on that of the Little Zab while on the east it adjoins the Tigris basin . The Zagros consists of parallel limestone folds rising to elevations of over 3 @, @ 000 metres (9 @, @ 800 ft) amsl . The valleys ? including that of the Great Zab ? and the south @-@ western foothill zone are filled with gravel , conglomerate , and sandstone ; the result of water erosion . The Amadiya valley within the Great Zab drainage basin is the third @-@ largest valley in the Iraqi Zagros , after the Shahrzad and the Ranya Plain .

The Great Zab rises in the highlands of the Zagros Mountains , where a climate with cold winter and

annual precipitation in excess of 1 000 millimetres (39 in) prevails . From there , the river flows into the foothill zone of the Zagros , where rainfall drops to less than 300 millimetres (12 in) per year at the confluence with the Tigris . Average summer temperature in the foothill zone are generally higher in the foothill zone than in the mountains . The high Zagros is characterized by three different ecozones : the area above the treeline at 1 800 metres (5 900 ft) where shrubs and herbs dominate , the area between 1 800 and 610 metres (5 910 and 2 000 ft) that was in the past dominated by open oak forest (*Quercus aegilops*) , and the wetter and sometimes marshy river valleys . Other trees besides oak that can be found in the forested zone including juniper at higher elevations ; ash , hawthorn , maple and walnut at intermediate elevations ; and pistachio and olive trees in lower , drier areas . In the foothill zone , many areas are now cultivated , but there remain small patches of natural vegetation dominated by herbs of the genus *Phlomis* .

== River modifications ==

To date , one large dam has been partially constructed on the Great Zab : Iraq 's Bekhme Dam and Turkey 's 24 MW weir @-@ controlled run @-@ of @-@ the @-@ river Ba??an? Hydroelectric Power Plant . Five others have been planned in the Great Zab basin by both Turkey and Iraq . Turkey 's State Hydraulic Works plans to construct the Çukurca and Do?an? Dams near Çukurca and the Hakkâri Dam near the city of Hakkâri . The Hakkâri Dam with a 245 MW power station is in final design and the Çukurca and Do?an? Dams will support 245 MW and 462 MW power stations , respectively .

Iraq has commenced construction of the Bekhme and Deralok Dams and planned two others ? the Khazir @-@ Gomel and Mandawa Dams . Plans to build a dam in the Great Zab at the Bekhme Gorge for flood control and irrigation were first proposed in 1937 . A feasibility study determined that the site was not suited for dam construction and the plan was abandoned . In 1976 , another study proposed three different locations on the Great Zab , including the site suggested in the earlier study . This site was eventually chosen in 1989 , when work on the dam commenced . Construction of the Bekhme Dam was interrupted by the outbreak of the Gulf War in 1990 and the dam remains unfinished . After the war , the site of the dam was looted . The plans of the Bekhme Dam called for a 230 @-@ metre (750 ft) high rockfill dam and an underground hydroelectric power station housing six turbines with a total capacity of 1 @, @ 560 MW . The reservoir that would have been created by the Bekhme Dam would have a storage capacity of 17 cubic kilometres (4 @. @ 1 cu mi) and would have flooded numerous villages , the archaeological site of Zawi Chemi Shanidar and the access road to Shanidar Cave (although not the cave itself) .

== History ==

Evidence for human occupation of the Zagros reaches back into the Lower Palaeolithic , as evidenced by the discovery of many cave @-@ sites dating to that period in the Iranian part of the mountain range . Middle Palaeolithic stone tool assemblages are known from Barda Balka , a cave @-@ site south of the Little Zab ; and from the Iranian Zagros . A Mousterian stone tool assemblage ? produced by either Neanderthals or anatomically modern humans ? was recently excavated in Arbil . Neanderthals also occupied the site of Shanidar . This cave @-@ site , located in the Sapna Valley , has yielded a settlement sequence stretching from the Middle Palaeolithic up to the Epipalaeolithic period . The site is particularly well known for its Neanderthal burials . The Epipalaeolithic occupation of Shanidar , contemporary with the use of the Kebaran stone tool assemblage , is the oldest evidence for anatomically modern human occupation of the Great Zab basin . The following Protoneolithic , or Natufian , occupation is contemporary with the oldest occupation of the nearby open @-@ air site Zawi Chemi Shanidar . M 'lefaat on the Khazir River (a tributary to the Great Zab) was a small village of hunter @-@ gatherers dating to the 10th millennium BCE that was contemporary with the Pre @-@ Pottery Neolithic A in the Levant . An archaeological survey of the Citadel of Arbil , in the plain south of the lower course of the Great Zab

, has shown that this site was continuously occupied at least from the 6th millennium BCE upward .

The earliest historical reference to the region dates to the Ur III dynasty , when king Shulgi mentioned the city of Urbilum ? the ancient name of modern @-@ day Arbil . The great Assyrian capitals of Assur , Nineveh , Nimrud and Dur @-@ Sharrukin were all located in the foothill zone where the Great Zab flows into the Tigris , and the Great Zab basin became increasingly integrated into the Middle Assyrian and Neo @-@ Assyrian empires . Nimrud , the capital of the empire until 706 BCE , was located only 10 kilometres (6 @.@ 2 mi) away from the confluence of the Great Zab with the Tigris . The Assyrian king Ashurnasirpal II constructed a canal called Patti @-@ Hegalli that tapped water from the Great Zab to irrigate the land around Nimrud , and this canal was restored by his successors Tiglath @-@ Pileser III and Esarhaddon . This canal ran along the right bank of the Great Zab and cut through a rock bluff by means of a tunnel and is still visible today . After the fall of the Neo @-@ Assyrian empire , the Medes gained control of the area , followed by the Achaemenids in 550 BCE . The Battle of Gaugamela in 331 BCE ? one of the decisive battles leading to the fall of the Achaemenid empire at the hands of Alexander the Great ? supposedly took place north of the Great Zab in the vicinity of Mosul . After Alexander ? s death in 323 BCE , control of the area shifted to the Seleucids .

In 750 CE , the last Umayyad caliph Marwan II was defeated by the Abbasid As @-@ Saffah in the Battle of the Zab on the banks of the Khazir River , a tributary to the Great Zab . When the Mongols swept over Iraq in the 13th century and sacked Arbil , many survivors sought a refuge in the inaccessible valleys of the Great Zab . The Sapna Valley was home to both Christian and Muslim communities , as evidenced by Christian artefacts found at Zawi Chemi Shanidar . During the 19th century , the area was controlled by local Kurdish leaders . During World War I , heavy fighting took place in the area , and Rowanduz was pillaged by Russian soldiers in 1916 . Following World War I , episodes of heavy fighting took place between the Barzani tribe ? striving for the establishment of an independent Kurdish polity ? and several other Kurdish tribes , and between the Barzanis and the Iraqi Government . The last of these uprisings started in 1974 and led to heavy bombardments of towns and villages in the Great Zab basin .