

Ancient Water System in Tel Mar Elyas during the Byzantine Period: A Study

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ABSTRACT Recent archeological survey and excavations conducted in Tel Mar Elyas (Bethany Beyond the Jordan) confidently provide explicit answers about early ecology and history of Christian community east of Jordan. Churches, caves, prayer halls and water system installations were recovered in and around Tel Mar Elyas. The discovered remains of elaborate water system include pools, cisterns, wells and aqueducts refer to skilled engineering water system built during the Byzantine period. The author of this paper with his team systematically surveyed and excavated some 20 sites along both banks of the perennial Wadi Kharrar, covering an area of several square kilometers east of the Jordan River. This work has confirmed the location of the main settlement of Bethany at the head of the Wadi Kharrar, about 1.5 kilometers east of the river. Here, the team uncovered a 1st century AD settlement with plastered pools and water systems that were almost certainly used for baptism, and a late Byzantine settlement (5th-6th century AD) with churches, a monastery and other structures that probably catered to religious pilgrims. The present study includes also the results of field survey which has documented the ancient pilgrimage route that linked Jerusalem, via the Jordan River and Bethany in Jordan, to Mt. Nebo. Several Byzantine churches and other structures have been identified between the river and Bethany and are under publication. Some of them commemorate Jesus' baptism while other structures were monasteries for ascetic monks. The paper concluded with conclusion and recommendations aiming to preserve the remaining fragile water system installations.

INTRODUCTION

The ancient water supply in Bethany beyond the Jordan was found in one of the most important sites in the Jordan Valley (Fig. 1), located eight kilometers north of the Dead Sea, and can be examined from various perspectives:

First, the location of water resources which determined methods of collection.

Second, historic sources from the beginning of the 3rd century AD until today contain valuable information.

Third, archaeological survey and excavations have revealed the presence of water installations such as cisterns, aqueducts, pools etc. Lastly, how the mechanisms used were based on function, especially for cultic purposes (Moschos 1991).

More than a century ago, in 1881, Conder mentioned a site called (Ain al-kharrar) or (Murmuring Spring) which is "in the jungle at the edge of Zor near lower bed of the Jordan River" (Conder 1882: 9). The site and the spring of Wadi al-Kharrar were visited by several travelers; among them was Abel who identified four archaeological sites in and near the area of Wadi al-Kharrar.

He believed that these sites, which he numbered 2.3.5 and 6, were among the most important remains in the area. Regarding site No.2, he saw foundations of a church built over an arch system near the Jordan River. At site No.3, he identified remains of a modern house built upon the foundations of an older structure. He recorded the existence of three fallen columns on the ground near this site.

He provided the following additional details:

1. At site No.5, Tall el-Kharrar with some related cisterns located on slopes of the tall, he described a vault system used in building the cisterns.
2. At site No.6, he described a church apse with well-dressed stones and columns' bases among the other remains scattered over the site (Abel 1932; Finigan 1969; see also Waheeb 1998c).

In his unpublished report, Harding described his visit to Wadi al-Kharrar as follows "there is a discernible mound, the surface of which is strewn with Byzantine shreds, to the east of the Wadi Kharrar and close to the left bank of Jordan is what appears to be a masonry *birket* (pool) each side of which terminates in a vaulted arch" (Harding u.d. 9).

Recently three cisterns were discovered during the excavations of Tall el-Kharrar (Waheeb 1999 a,b).

During their survey, Ibrahim et al. visited Tall el-Kharrar, which they numbered site 201 and dated it to the Early Roman -Late Roman, Early Byzantine - Late Byzantine Periods (Ibrahim et al. 1988: 193).

Since the site of Bethany beyond the Jordan is located in the wilderness (semi-desert area) (Fig. 1) (Waheeb 1998 a,b), the settlers depended on rainwater collection and springs as the main sources of water for daily life. During the Roman and Byzantine periods (Piccirillo 1996), water was diverted from the nearby *wadi* via a major gravity conduit that carried water to the main site to fill the pools, Cisterns and reservoirs. These resources were used by the community living in the area, as well as by visitors and caravans.

Some 2000 years ago, John the Baptist lived and baptized in a settlement called Bethany beyond the Jordan. This important site of early Christianity, which Jesus also visited, has now been rediscovered in Jordan, just 1800 meters east of the Jordan River (45 kilometers west of

Amman) (Fig. 3). explicit reference to Bethany beyond the Jordan, where John was baptizing, can be found in the Bible in John 1:28. Also John 10:40 mentions an incident when Jesus escaped from hostile crowds in Jerusalem and went across the Jordan to the place where John had been baptizing, (Bethany in Jordan, sometimes referred to in the Bible as Perea, should not be confused with the village of Bethany near Jerusalem, the home town of Lazarus), and also depicted on Madaba Mosaic Map (Fig. 2) (Allita et al. 1999; Donner 1965; Avi-Yonah 1954).

The Bethany in the present Kingdom of Jordan, where John the Baptist lived and baptized, has always been identified with several ancient prophets and biblical episodes. These include John the Baptist's mission, the baptism of Jesus, Joshua's crossing of the Jordan River, the last days of Moses, and the Prophets Elijah and Elisha

The Bible recounts that Elijah parted the waters of the Jordan river and walked across it with his anointed successor the Prophet Elisha, then ascended to heaven in a whirlwind on a chariot of fire (2 Kings 2:5-14). The small hill from which Elijah ascended to heaven has been

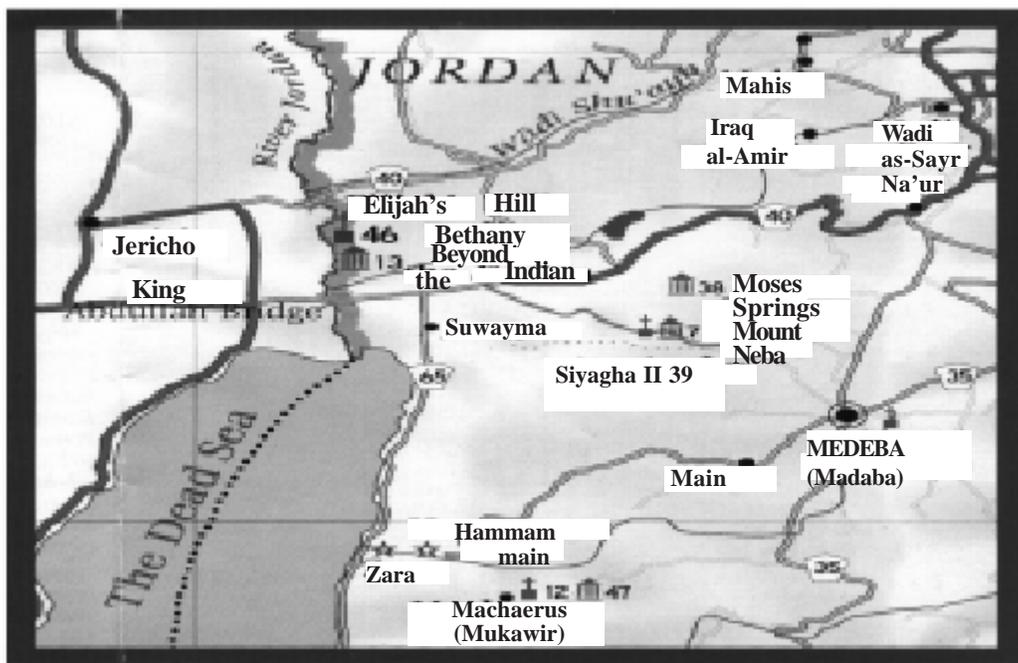


Fig. 1. Map showing location of the Bethany beyond the Jordan



Fig. 2. Fifth to sixth century AD mosaic map of Madaba Church showing the eastern part of Jordan River

known for centuries as Elijah’s Hill, and forms the core of the settlement at Bethany in Jordan.

John the Baptist is also revered in the Holy Quran. It refers to John (Yahya, in Arabic) as a prophet who was masterful yet circumspect (3:39). Along with Zechariah, Jesus and Elijah, the Quran calls John an honorable man (6:85), and says that John and his mother Elizabeth were sent by God as a sign for everyone in the universe (21:91).

An active spring and some sculpted caves at Bethany were documented (Disi et al. 2001.) and described by numerous ancient writers and pilgrims (Wilkinson 1981), most of who associated John’s baptismal activities with Bethany and Elijah’s Hill:

- Antoninus Martyr (560 AD), an early pilgrim who mentioned this place, states that it was east of Jordan and two miles from the river. There is a small spring, Ain el-Kharrar to the east of the river beside the low hill (Antoninus 1896-II).

- Piacenza (570 AD) says “We arrived at the place where the lord was baptized. This is the place where Elijah was taken up. In that place is the little hill of Hermon and the spring where St. John used to baptize” (Wilkinson 1977).

- Arculf (670 AD) “saw a small clear spring in the desert from which people say that Saint John the Baptist used to drink, its stone roof is covered with the lime plaster” (Arculf’s 1895-III.).

- Epiphanius the monk (675 AD) refers to John the Baptist’s cave which is about a mile from the river and contained a spring (Hirschfeld 1992).

- Abbot Danial (1107 AD) says “Not far from the river, a couple of bow-shots to the east, a beautiful stream of water which flows over pebbles into the Jordan is found here. The water is very sweet and very cold and it was drunk by John the forerunner of Christ when he inhabited this sacred cavern” (Dänial 1895-IV).

- John Phocas (1185 AD) mentions “Beyond the Jordan, opposite to the place of our Lord’s baptism is the grotto of John the Baptist” (Antoninus 1896-V).

Tell el-Kharrar

Also known as Elijah’s Hill or Tel Mar Elyas (Fig. 3, site no.8), is a small low hill located west of el-Kafrein village, between Wadi Nimrin and Wadi Gharaba (Ibrahim et al. 1996.). Hills surround the south-eastern side of Wadi el-Kharrar, where palm, tamarisk trees, reeds, grass and an active spring surround the site from the north, east and west sides. The Tell consists of white Lissan marl mixed with brown-red earth. The eastern, western and northern slopes of the Tell descend steeply down in the bed of the wadi, which flows westwards for approximately two kilometers to join the River Jordan, at the traditional place of baptism (Harding UD). A low saddle of



Fig. 3. Tel Mar Elyas after excavation 2000 AD

land connects the hill from its south side to the adjacent plain (Fig. 4)



- Key
- | | |
|-----------------------|-------------------------|
| 1. North church | 9. Monks house |
| 2. Prayer Hall | 10. Gateway |
| 3. Church of the Cave | 11. John paul II church |
| 4. Second cave | 12. Prayer hall |
| 5. Third cave | 13. Water Cistem |
| 6. North eastern pool | 14. Cylendricall well |
| 7. North western pool | 15. Water System |
| 8. Southern pool | 16. Small Room |

Fig 4. Architectural remains on Tel el-Kharrar

The Water System

The Roman and Byzantine era people often brought water over considerable distances to cities, towns, and villages (Hodge 1992). Test soundings conducted by the author about 300m southeast of Tell el-Kharrar revealed ceramic pipes and aqueducts linking the area of the Tell with springs in the nearby Wadi el-Kafrein and Wadi er-Rameh. Numerous springs still feed the area, including Ain el-Kharrar (John the Baptist's spring), which is at the head of Wadi el-Kharrar, right beside the main site, and other springs to the east such as Ain Salim, Ain el-Fawara, Ain el-Hammam and others (Waheeb 1998a).

The necessity of permanent water for daily life, with the added demand of water for cultic purposes, must have prompted constructing the water systems. The ceramic pipes brought the

water to a settling tank located near to the prayer hall situated just to the south of the main Tell. From here, the water continued on a stone aqueduct to two smaller settling tanks, whence three branches divided the flow towards the main reservoir/pool and cistern nearby and to an as yet unknown destination (Khoury 2001), (Fig. 8). The main stone aqueduct, that continued on to bring water to the main site, was carried on stone arches. The bases of a few of the supporting stone pillars were discovered, consisting of field stones mixed with a gray lime mortar, along with well cut sandstone ashlar blocks. It is clear from the construction of the aqueduct (Fig. 5) that cuts through two rooms adjacent to the northern part of the prayer hall that the aqueduct was a later construction (Waheeb 1998b, 1998c.).



Fig. 5. Remains of the water channel south of Tel Mar Elyas

The Southern Pool (Tel Mar Elyas)

Three pools were attested on the Tell itself (Fig. 6). The first one is located on the lower southern slope, while the other two pools (Fig.



Fig. 6. A water Cistern to southern of Tel Mar Elyas

8) are situated at the top by the northern edge of Tell el-Kharrar (Waheeb 1998c).

The southern pool was totally excavated and it measured 4.10m north-south by 7.50m east-west. Robber damage could be seen on the eastern side of the pool, which was built of medium sized undressed stones, with gray to dark lime adhering to them. A staircase of 9 steps was built of local field stones with lime on the eastern side of the pool. Only four steps are still in situ extending the whole width of the pool, which must have enabled people to go down into this pool, either to be baptized or to have a refreshing wash. Similar steps were found in the two pools on the northern edge of the Tell (Waheeb 1999b). The inner sides of the pool were coated with three layers of lime and plaster, possibly to prevent seepage and the floor consisted of field stones covered by a layer of lime. The only way to fill this pool with water was via the aqueduct, located to the south of the pool, and through the channel supported on stone pillars, which partly rested on the western side of the protection wall to reach the pool. Unfortunately, the channel was demolished near the pool.

The archaeological excavations on the western side of Jordan River revealed the presence of several pools in Jericho. Qumran and even in Zara 20 km to the south of Bethany beyond the Jordan on the eastern side of the Dead Sea the recovered pools were different in shape and size if compared with other pools (Waheeb 2002), but close in date, since, they were dated to Roman Period. Some of these pools were attributed to John the Baptist Era 1st to 2nd century AD. The community of John the Baptist in Bethany beyond the Jordan is well attested depending on architecture and artifacts. The area reached its high peak during the Byzantine period during 5th- 6th AD. The clear evidences referred to one stepped pool located on the southern edge but this was not an indicator and could not be identified as a ritual bath pool, similar to those found on the western side of Jordan River and Dead Sea Coast (Waterhouse and Ibach 1975; See also Piccirillo 1987, 1996), but to an isolated sect which believed in John the Baptist, gradually with increased numbers and strong early Byzantine evidences made this location flourishing and distinguished.

The Two Northern Pools (Tel Mar Elyas)

Excavations on the northern side of the hill uncovered two pools linked together and built

of local field stones with dark gray lime mortar. The northwestern pool measured 4.30m. North-south by 3.40m. East – west, some ashlar blocks were added near the southwestern corner, possibly as a staircase to go down into the pool during later periods (Waheeb 1998c).

The northeastern pool measured 4.85m north-south by 2.50m east-west. This pool suffered severe destruction by extensive use during later periods. Part of the western wall and the floor were damaged and removed. Excavation under the damaged floor uncovered a water cistern. It is circular in shape from the top, and built of well-cut sandstone ashlar blocks. There are no remains of lime or plaster covering the inner sides, which leads one to think that it was a well built on the spot to reach the water table of the nearby spring. In order to date this cistern it has been excavated to a depth of 12m. The material recovered from this well consists of fallen ashlar blocks, pottery shreds and coins dated from the Early Roman to Late Byzantine periods. The question which now arises, is whether the well was built before the pools, during the Roman period or was dug later during the Byzantine period?

Remains of a channel and the base of a pillar built of local field stones were uncovered near the southern wall of the two pools, which must have been part of the system designed and built to fill the pools with water. The Byzantine pottery shards found in and near the pools suggested a date from the 5th and 6th centuries AD.

The similarity in construction methods of the three pools on the Tell suggested that the building of the pools was linked with that of the churches on the Tell.

The Reservoir (Tel Mar Elyas)

The Reservoir measures 8m. East-west by 6m. north-south and was dug in the natural Lissan marl rock (Fig. 5). The inner sides of the Reservoir were lined with well-cut sandstone ashlar blocks, covered by a thick layer of lime and a smooth layer of plaster to prevent any seepage. The Reservoir was roofed with a vaulted system and with a mosaic floor on top. Remains of the arches are still visible on the upper parts of the Reservoir. It is reasonable to assume that roof aimed to reduce the evaporation of the water of the Reservoir during the intense heat of the summer. Excavation of the Reservoir

recovered fallen ashlar blocks, mosaic tesserae and pottery shards dated to the Byzantine period. The function of the Reservoir is to store water to be used by the local residents of the Hermit community of the *wadi*.

The Cistern (Tel Mar Elyas)

The cistern (Fig. 7) is by the northwestern corner of the pool and it was fed by a branch of the aqueduct. The general shape of the cistern is cylindrical. The inner sides of the cistern were coated with plaster to prevent seepage. Excavations in the cistern revealed the presence of fallen ashlar blocks mixed with smooth sand and some pottery shards dated to the Byzantine period. The abundance of water in the cistern (from the water table) forced the team to pump out the water; but it was nevertheless difficult to excavate much below the water level.

CONCLUSION

Bethany beyond the Jordan was provided with water from the nearby Wadi Gharaba for



Fig. 7. A cylindrical well with its channel



Fig. 8. Photographs of the southern pool

cultic utilization, through artificially made ceramic pipes still in situ. The ceramic pipes and the water channels that reached the site were stored in properly designed cisterns and wells, so can serve and sustain for a long time during summer seasons. Bethany beyond the Jordan also supplied several pilgrims stations used by travelers on the road between Jerusalem, Jericho, and, Wadi Gharaba, Wadi Hesban and Mt. Nebo

The pools, channels, wells and cisterns, associated with the settlement of John the Baptist, recognized and adopted by the Byzantines, which is now well identified, represent one of the important discoveries east of Jordan River.

According to pilgrims of Bordeaux (AD 333-334): "Five miles from the Dead sea to the Jordan, where the Lord was baptized by John. There is a place by the river, little hill upon the farther (left) bank from which Elijah was caught up into heaven".

The Roman five miles equal four and one-half English miles, from the Dead sea up Tell Mar Elyas stream would reach the excavated church. According to St. Hellana from An Anonymous Life of Constantine (AD 260-340): "when she had crossed the Jordan and found the cave, in which the former used to live, and she caused the church to be made in the name of John's the Baptist. Opposite the cave is a raised place at which Saint Elias was caught up to heaven, and there she decreed that there should be a very impressive sanctuary in the name of the prophet Elias".

Theodosius in AD 530, in his book The Topography of the Holy Land, said: "At the place where my Lord was Baptized is a single marble column, and on the top of it has been set iron cross. There also is a Church of Saint John the Baptist, which was constructed by the Emperor Anastasius. It stands on great vaults, which are high enough for the times when the Jordan River is in flood. The monks who resident at this Church each receive six shillings a year from the Treasury for their live-hood. Where my Lord was baptized beyond Jordan there is on the far side the Jordan (little hill) called Hermon where Saint Elijah was taken up, its five miles from the place where my Lord was baptized to the point where the Jordan enters the Dead Sea".

John Moschas, writing in the seven century, mention Sapsaphas near "Wadi al - Kharrar," also saying that the patriarch Elias of Jerusalem (AD 464-518) had built a church and monastery

there (Mosch: partum 1,2853). The church and monastery were recently discovered, built on Elijah's Hill.

Until 1900 there were ruins of a church on the east bank, which have also been washed away. At the beginning of this period many things changed. Regarding the topography of the eastern side of the Jordan river.

Day after day most of the holy buildings on the east bank of Jordan River, including the Byzantine churches disappeared gradually.

There are many problems that are associated with the non-availability of water for religious purposes in Tell Mar Elyas. The archaeological remains demonstrate that water shortage is the major problem followed by poor management of water. Information gathered from field and in-depth discussions and analysis suggested that water shortage is not only caused by lack of rainfall and possibly increased users during the Byzantine period 5th-6th Century AD, but also because of poorly managed water distribution systems which at times lead to water losses when high temperature consumed the available water through evaporation. This situation has stimulated a number of conflicts that threaten the whole religious buildings due to water scarcity in Tell Mar Elyas area. It's obviously clear that Byzantines were moved from Tell Mar Elyas toward Jordan River area a distance of 1800 meters in order to overcome this severe problem.

In general terms, the factors that are leading in influencing water scarcity are related to non-sustainable resource use and possibly population pressure. The impact of population pressure is being reflected in terms of water scarcity due to increased demand, environmental degradation.

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