

The History of changes in the Euphrates: From ancient Ramahiyah to modern Diwaniyah

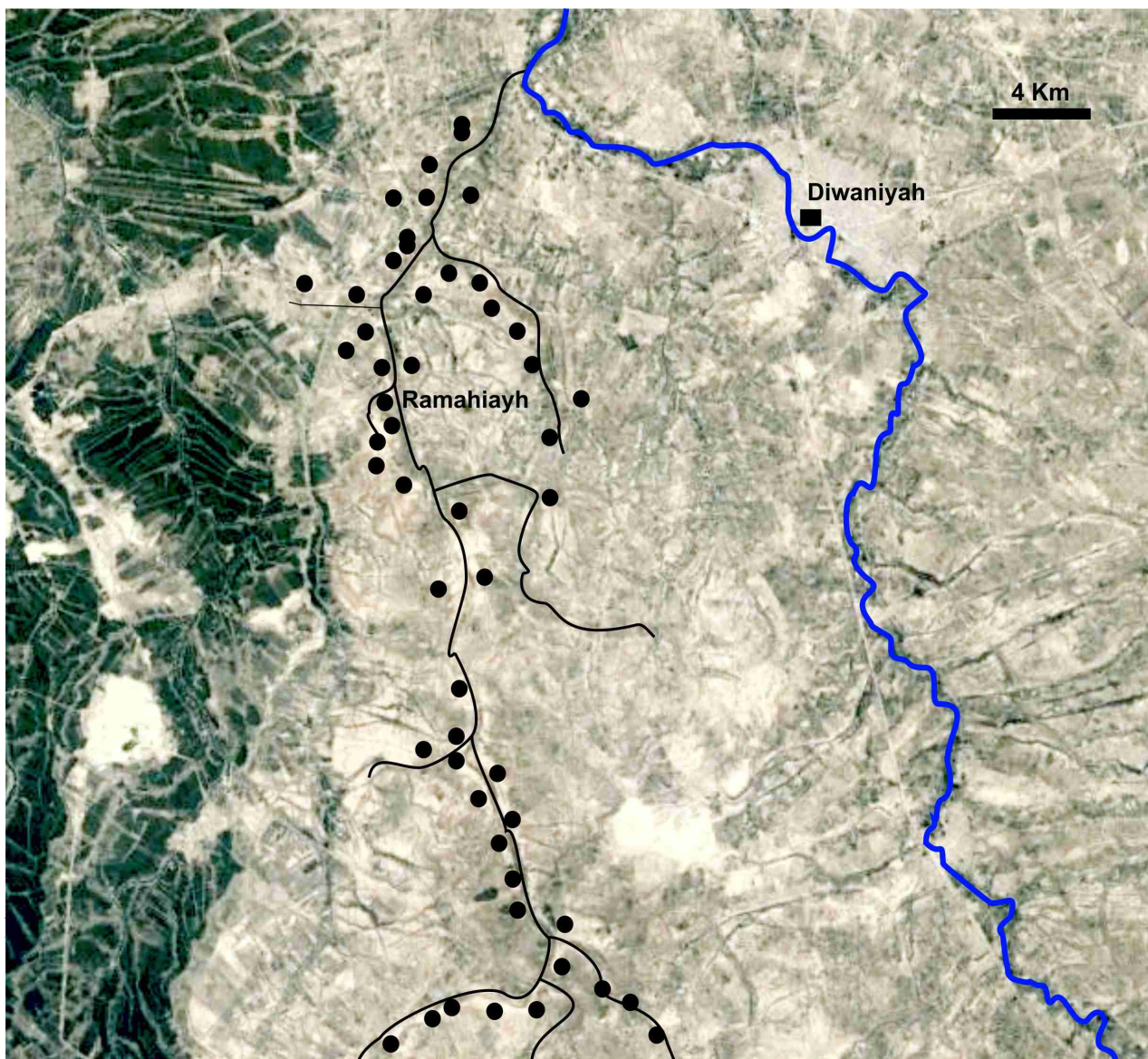
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In the modern Diwaniyah province, located in the south of Iraq, there are two main branches of the Euphrates. First, the abandoned branch called the Ramahiyah and second, the current branch called the Diwaniyah. According to Ottoman texts, there were dozens of towns and villages associated with the Ramahiyah branch and several Arab tribes flourished near the fresh water and fertile soil of the area during the early Ottoman period. However, in 1687, the Ramahiyah branch started to dry out as a result of local farmers breaching its banks, leading to the formation of a new flooded and marshy branch called the Diwaniyah in 1700. Thus the tribes living on the River Ramahiyah migrated and settled in nearby areas.

To document sites and tribes that once lived there, I surveyed fifty five archaeological sites (Fig.1) using the modern QuickBird imagery via GIS (Geographical Information System) software. The entire area of the Ramahiyah branch (40km x 20 km) has been covered by this analysis (Fig.1). To support my findings, I reviewed all available Ottoman documents and maps.



● Archaeological site ~ Abandoned river ~ Modern river ■ Modern city

Figure 1: A map shows the ancient and the modern Euphrates, the abandoned river of Ramahiayah course has fifty five Islamic archaeological sites associated with it.

Field Survey

The fieldwork have shown that the abandoned branch of Euphrates called the Ramahiayah (Fig.1) has a fifty five archaeological sites associated with it. The coordinates of each site were taken by GPS (Table 1) and these coordinates were plotted on the map using GIS software to show the settlements pattern in relation to the ancient river. It is clear from the map the ancient Ramahiayah River was the only water source available for the 55 sites. The study of the surface pottery and bricks shows the presence of Islamic period (Fig.2). However, some of the sites might

have Sasanian occupations periods (Fig.3). However, the majority of the sites go back to Late Islamic period and accordingly the river was still running and the sites were active during that time.



Figure 2: surface findings on archaeological site such as pottery and bricks



Figure 3: tracing and mapping surface foundations of archaeological sites

Ottoman Maps and Documents:

A total of 18 Ottoman historical maps (Fig.4) and 23 historical texts available in Iraqi libraries have been collected, reviewed and compared with the laboratory and fieldwork results.



Figure 4: an example of Ottoman historical map showing how were rivers and marshes during that period.

According to these documents there were dozens of towns and villages associated with the Ramahiya branch and several Arab tribes living near the fresh water and fertile soil of the area during the early Ottoman period. The well documented account about the river change in the Ottoman documents and maps reports that in 1687 the Ramahiya branch started to dry out as a result of local farmers breaching its banks, leading to the formation of a new flooded and marshy branch called the Diwaniyah in 1700. The report mentioned that a farmer called Dhiyab dug a small canal from the eastern bank of the main Euphrates River to irrigate his land. Over time, the main river began to run through this small canal, forming a new branch to the main river. (Husain, 2014 and 2016)

Moreover, these documents also mentioned that the main consequence of this change to the river was that the tribes living on the River Ramahiya banks migrated from their farms and towns and settled in nearby areas outside the

Diwaniyah province, namely Hilla, Kufa and Nasiriyah, as their gardens turned into a desert.

The ground survey and fieldwork of the present study has verified this story, as the ancient Ramahiyah branch and its associated ancient towns and villages that thrived there have been mapped (Fig.1). These abandoned sites have been identified first from satellite images and then fieldwork checking.

It is worth mentioning that this change of the Euphrates had both a direct and an indirect impact on the history of southern Iraq. Turning an area from a garden to a desert and another area from a desert to marshes must have impacted human life and the environment in that period.

The Ottoman documents stated that in 1701-2, the Ottoman authority ordered the restoration of the avulsion by cleaning the abandoned Ramahiyah branch and damming the new Diwaniyah branch in order to keep Ramahiyah and its branches running and to desiccate the large marshes area around the Diwaniyah branch. The purpose of desiccation of the marshes was to push the tribes that always protest against the Ottoman authority out of the area. For such water-work, the local people usually used large rolls of reeds, heavy pieces of palm-tree trunk and they dumped sandbags. However, all their efforts failed to prevent the new river from continuing its on-going avulsion.

References

- Husain, F. (2014). In the Bellies of the Marshes: Water and Power in the Countryside of Ottoman Baghdad. *Environmental History*, 19(4), 638-664.
- Husain, F. (2016). Changes in the Euphrates River: Ecology and Politics in a Rural Ottoman Periphery, 1687–1702. *Journal of Interdisciplinary History*.

Table 1

Number of archaeological sites	Coordinates in degree		periods of occupations based on surface findings
	N	E	
1	32.038964	44.746456	Late Islamic
2	31.999852	44.736784	Late Islamic
3	31.998514	44.730188	Late Islamic
4	32.001878	44.710228	Late Islamic
5	31.989102	44.723356	Late Islamic
6	31.980462	44.726864	Late Islamic
7	31.978266	44.732696	Late Islamic
8	31.911204	44.69934	Late Islamic
9	31.894194	44.712752	Late Islamic
10	31.770122	44.731512	Late Islamic
11	31.793032	44.771768	Late Islamic
12	31.975134	44.7211	Late Islamic
13	31.960136	44.709044	Late Islamic
14	31.892404	44.695692	Late Islamic
15	31.749832	44.766096	Late Islamic
16	31.704768	44.773028	Late Islamic
17	31.67594	44.77504	Late Islamic
18	31.971362	44.7349	Late Islamic
19	31.961796	44.743268	Sasnian and Late Islamic Late Islamic
20	31.965976	44.750028	Sasnian and Late Islamic Late Islamic
21	31.961434	44.757608	Late Islamic
22	31.961028	44.76112	Late Islamic
23	31.82597	44.790728	Late Islamic
24	31.609012	44.708328	Late Islamic
25	31.912726	44.722016	Late Islamic
26	31.659934	44.71776	Late Islamic
27	31.65358	44.717524	Late Islamic
28	31.663062	44.72702	Late Islamic
29	31.67494	44.746036	Late Islamic
30	31.687172	44.78582	Late Islamic
31	31.954508	44.703568	Late Islamic
32	31.943562	44.705728	Late Islamic
33	31.943034	44.703636	Late Islamic
34	31.972774	44.711928	Late Islamic
35	31.810234	44.725852	Late Islamic
36	31.862964	44.782064	Late Islamic
37	31.862016	44.7758	Late Islamic
38	32.026372	44.736984	Late Islamic
39	32.02428	44.73308	Late Islamic
40	32.017296	44.726752	Late Islamic
41	31.997756	44.751796	Late Islamic
42	31.978026	44.74838	Late Islamic
43	32.018244	44.74618	Late Islamic
44	31.952342	44.684028	Late Islamic
45	31.959426	44.67178	Late Islamic
46	31.955438	44.667596	Late Islamic
47	31.903578	44.65242	Late Islamic

48	31.79796	44.736972	Late Islamic
49	31.9415	44.721188	Late Islamic
50	31.954804	44.712436	Late Islamic
51	31.952178	44.746716	Late Islamic
52	31.949168	44.753096	Late Islamic
53	31.973814	44.743188	Late Islamic
54	31.67666	44.801356	Late Islamic
55	31.639972	44.738568	Late Islamic