



### **EDUU FIELDWORK IN AL-QADISIYAH**

The fieldwork in Al-Qadisiyah will be carried over two campaigns: in October 2017, 08/10-3/10 and in January 2018 for 14 days. The team will be based in the town of Afak, located east of Diwaniyah (Al-Qadisiyah governorate). This location has been chosen because Afak is located inside the survey area and it makes easier to coordinate the logistics of fieldwork campaigns.

These fieldwork activities build upon previous experiences by the University of Bologna in the Governorate of Al-Qadisiyah, where UNIBO started a joint field project in 2015 in synergy with the State Board of Antiquities and Heritage (SBAH) and the University of Qadisiyah.

The UNIBO fieldwork team will be composed of the project coordinator, Nicolò Marchetti, of one researcher (Dr. Federico Zaina), and of four external experts: 2 topographers and 2 ceramologists. The UoQ fieldwork team will be coordinated by Prof. Prof. Abbas al-Hussainy. The team will also include members of the local branch of the SBAH (8-10 individuals) that will be also trained on the field.

### **Regional setting and background work**

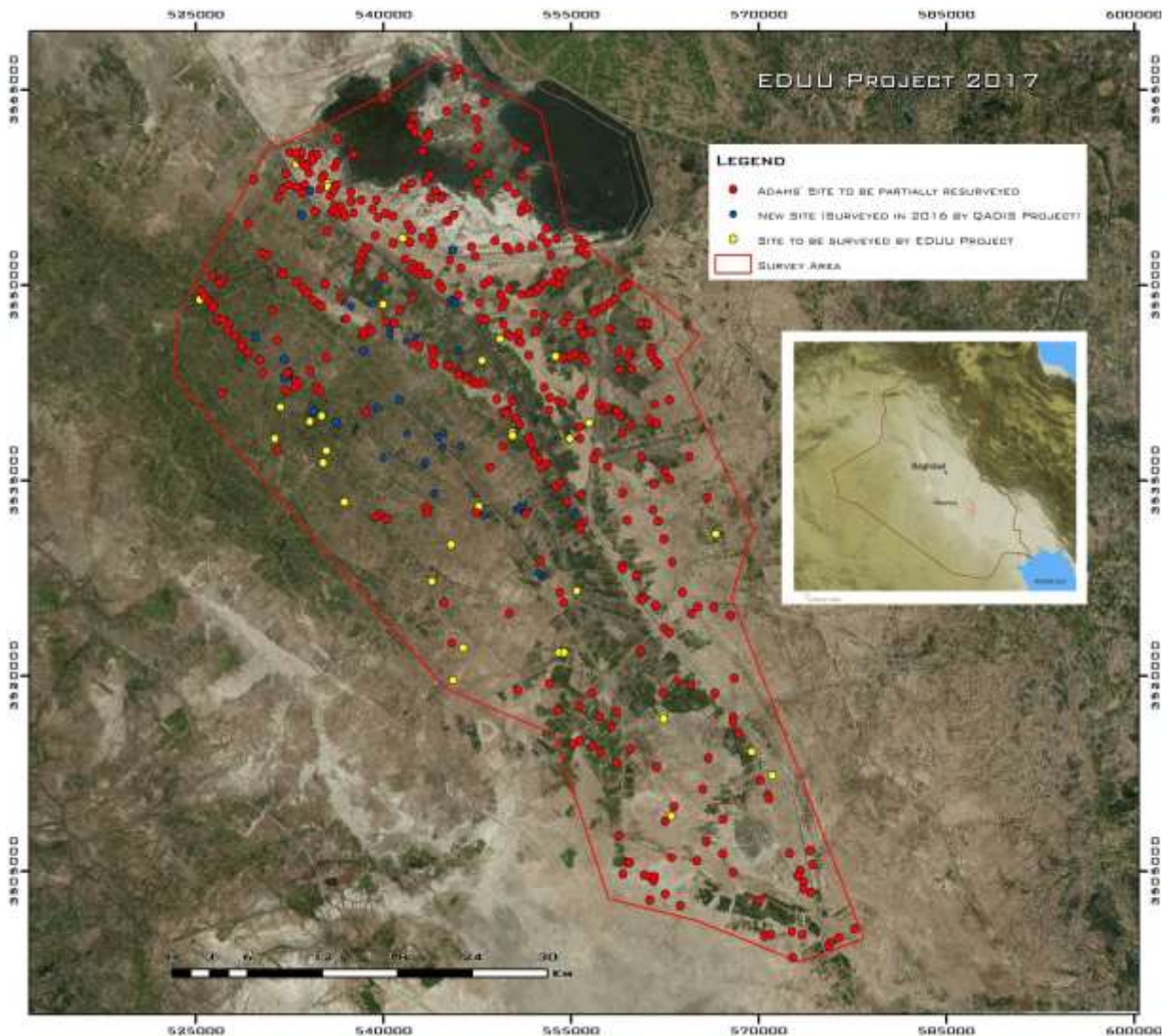
The Governorate of Al-Qadisiyah is a fertile alluvial plain located in southern Iraq and is one of the most important archaeological areas of the country and one subjected to intense cultivation. Early archaeological explorations focused on the sites of Fara – the ancient city of Shuruppak – and Bismaya – ancient Adab (1900s-1930s). Then, in recent years, the sites of Isin (Ishan Bahriyat) and Puzrish-Dagan (Tell Drehem) were also subjected to systematic excavations by foreign and local teams. The State Board of Antiquities and Heritage carried out several regular or emergency excavations at the sites of Tell Dhuhaija, Bismaya/Adab, Tell Mirza, Tell Ruejeh and Tell Delmej 1-2 in the Delmej Basin, Tell al-Akhader, Tell Abu Edan, Tell el-'Arris and Tell Drehem/Puzrish-Dagan. On the other hand, surface explorations lagged behind and the only systematic surveys carried out were the ones completed by Robert Adams in the 1960s-1970s.

Altogether, these explorations indicate that the area was a major urban core during most of the 3<sup>rd</sup> and the 2<sup>nd</sup> millennia BC, with an extended network of cities, villages and ramified waterways connected to herringbone cultivated fields. In particular, most site present significant Early Dynastic (2900-2300 BC) and Ur III occupations (2100-2000 BC), with some significant Isin-Larsa (2000-1900 BC) and Old Babylonian ones (1800-1600 BC). Of particular importance is the network of sites and waterways that can be dated to the Ur III period, when the dynasty that ruled Sumer from Ur (Tell al-Muqayyar in the Dhi Qar Governorate) built the new administrative capital in this area – Puzrish-

Dagan – on the site of modern Tell Drehem, and the place in which the Ur III kings were buried – Tummal (perhaps the site of Tell Dlehim).

This being said, previous work carried out by the UNIBO and UoQ team in the area involved a preliminary survey of the area in order to check the validity of surveys carried out in the past (1960s) and to assess the potential of the area in order to build a multi-tiered fieldwork strategy that takes into account not only settlement patterns, but also environmental and landscape changes. The other aim of this effort was to assess the damage done in the last decades by looters and by construction activities. The result is that looting occurred mostly in the years after 1991 and, more intensely, between 2003 and 2007. After 2007, the looting activities seemingly stopped altogether. Some sites were also affected by the construction of agricultural infrastructures, especially the ones dispersed among cultivations. Notably, looting was more intense in depopulated areas: the heritage/archaeological sites located in proximity to populated and/or cultivated areas were protected by their neighbors and almost not looted. This is an important point that needs to be stressed when dealing with issues related to the protection of archaeological sites in Iraq.

### Main Aims and Goals



*Photo showing the survey area within the Governorate of Al-Qadisiyah with main archaeological sites to be surveyed by the EDUU project.*



*Map showing the survey area within the Governorate of Al-Qadisiyah*

The main aims of this fieldwork activity are to produce a new understanding of a multi-layered historical landscape through cutting-edge documentation techniques. The methodological framework consists of an integrated approach including ancient settlements and paleochannels reconnaissance through historical satellite imagery and free-access online platforms, high resolution photos of selected case studies taken with drones. The end-point of this work is that of reconstructing the relationship between human communities and their environment through time in the study region. The EDUU team will explore the phenomena of urban and state-formation in the study area also thought these new ground techniques. Major underpinnings of these phenomena are the rise of large urban centers (4<sup>th</sup> – 3<sup>rd</sup> millennia BC), the formation of territorial states (second half of 3<sup>rd</sup> millennium BC) and empires (late 3<sup>rd</sup> millennium). These social and political phenomena contributed to shape the environment via changing settlement patterns and the construction of progressively elaborated water infrastructures. The EDUU fieldwork aims at investigating the impact of these phenomena through the traces left on the ground and through material culture recovered from archaeological exploration.

To do so, the EDUU fieldwork will survey with modern techniques the settlements located in a core area for the development of Mesopotamian civilizations. In particular, during these campaigns the research team will target 40 sites that have never been surveyed before, identified thanks to satellite photos, that will be labelled as “EDUU Sites”. In addition, ancient channels, waterways and agricultural infrastructures will be surveyed with an array of ground and airborne techniques, in order to reconstruct land-use patterns through time. The landscape analysis has never been

attempted before in the area with ground techniques since the 1960s survey were mainly based on satellite photos.

Also, one particularly important site, Tell Abu Hatab - ancient Kisurra, a major urban center during the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC – will be targeted by an intensive surface collection in order to ascertain its main occupational phases. The site of Kisurra was only briefly investigated by German archaeologists in the early 1900s. In addition to Kisurra, select study cases, such as sites with well-visible urban quarters or imposing architectural remains will be targeted by small-scale excavations in order to ascertain their chronology.



*Drone photo of the site of Tell Dlehim, a site dating from the second half of the 3<sup>rd</sup> millennium BC. The low knoll in the left corner consist of the remains of the main sanctuary of the city, most probably a terrace-temple or ziqqurat.*

## **Task-groups**

To pursue the objective of these two campaigns, five task-groups will be created:

### Task-group 1

Group 1 will be tasked with the excavation of small soundings in the sites of Bismaya – ancient Sumerian city of Adab, a very important urban center during the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC, briefly investigated during the early 1900s – and Tell Jidr – possibly to be identified with the ancient city of

Karkara, an important cultic center, never subjected to investigations. The group will be composed of two UNIBO archaeologists, some members of the SBAH, university students and some community leaders.

#### Task-group 2

This group will be tasked with the intensive survey on the major site of Tell Abu Hatab – ancient city of Kisurra – and the random survey of previously not recognized archaeological sites that have been recently identified on the basis of satellite photos of the area under scrutiny. The components of this group will be one UNIBO archaeologist, some members of the SBAH and university students.

#### Task-group 3

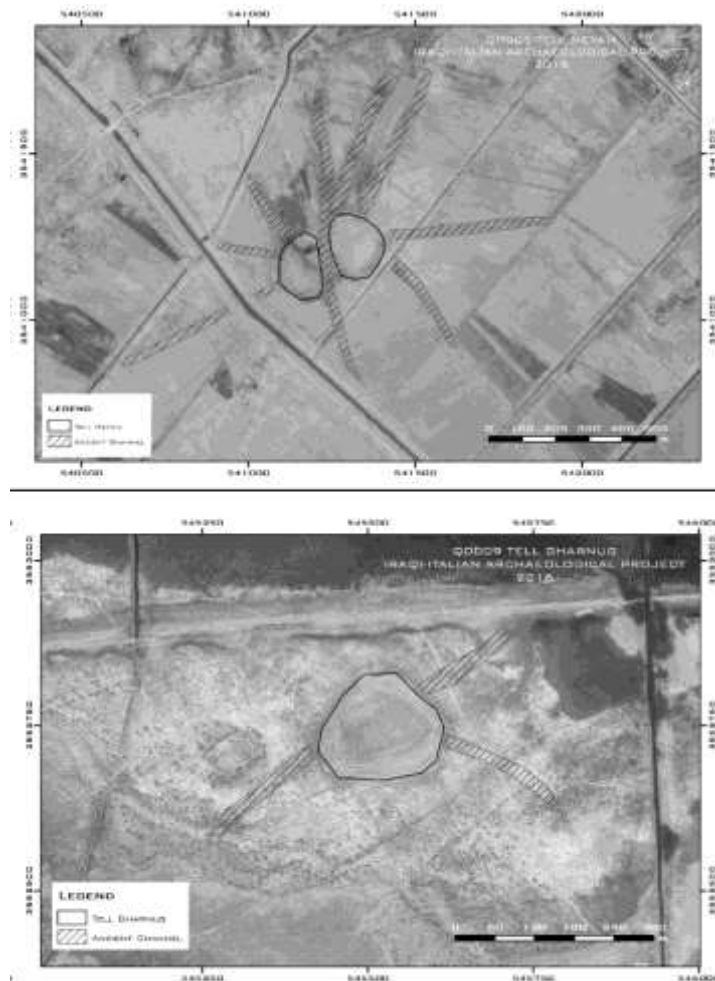
This group will be tasked with the processing of archaeological materials collected during surveys and small-scale excavations. The materials will be collected and transported at the excavation house in Afak to be processed and studied. This group will be composed of 2 Italian and one Iraqi ceramic experts, some members of the SBAH and university students.

#### Task-group 4

This group will be tasked with topographic work on the sites subjected to survey and on the sites subjected to stratigraphic testing. This group will be composed by 2 Italian and one Iraqi topographers, SBAH representatives and Iraqi students.

#### Task-group 5

This group will be tasked with geoarchaeological work, consisting of coring of ancient channels located near some important sites within the survey areas – such as Adab/Bismaya, Tell Dlehim/Tummal, Umm al-Fugas, the latter never subjected to archaeological investigations – with the aim of dating with more certainty the network of channels that surrounded these ancient settlements and that provided transportation and water for irrigation. The group will be composed by 2 Italian researchers, one professor from the University of Qadisiyah (Jafaar Jotheri, specialized in geoarchaeology), some members of the SBAH and university students.



*Images showing the networks of ancient channels related to some settlements located within the survey area.*

### **Methods and Techniques**

Task-group 1 will carry out its activities by means of small-scale stratigraphic soundings in a select number of cases (see above) in order to test the nature of the site occupation, namely the date of the main occupation phases of the sites. This will be achieved by comparing the results from surface collection of pottery sherds with the results from these stratigraphic tests.

Task-group 2 will collect surface materials in random way while on a select number of sites (see above), intensely dividing the survey area in a grid composed of squares of 50x50 and 100x100 m.

Task-group 3 will focus on processing, documenting and studying archaeological materials. Once collected in bags, the materials are brought to the excavation house, where they are cleaned, selected (in case of pottery sherds), digitally cataloged, marked with catalogue numbers, photographed and drawn.

Task-group 4 will carry out the topographic survey of archaeological sites using drones (of the brand Phantom 3 and 4). The surveys made with drones are mainly aimed at recognizing and documenting the traces of structures on the surfaces of ancient sites (see fig. 3 below) and the traces of ancient waterways and agricultural infrastructures. Then, total stations and GPSs will be used to plot structures and features visible on the sites and to document the features brought to light via small-scale excavations.



*The excavation of a small trench in order to test the results of surface collection.*

Task-group 5 will be using geo-archaeological techniques, such as coring, for collecting buried sediments connected to fossil waterways, paleochannels and ancient irrigation infrastructures. The analysis of the collected sediments will be used to date more precisely the development of artificial waterways and irrigation features in the study areas.



*Example of identification of architectural traces on the surface of an ancient site surveyed with drones. Black lines denote possible walls, violet lines denote possible streets and alleyways.*

## **Data Post-processing Program**

The data gathered via surveys and material culture analysis will be organized by means of a digital database. Drone and total station surveys will generate an array of high-resolution maps and plans of the surveyed features and sites. GPS data will be used to create a GIS system in order to put on map newly plotted settlements and paleochannels. All the resulting digital platforms containing raw data will be made available on the web, while field report will be prepared on the basis of the obtained datasets, and starting January 2018, the EDUU Iraqi-EU teams will be working jointly on publishing the results of their fieldwork.

The data resulting from this work will provide the means to reconstruct how ancient Mesopotamians shaped their communities and the environment they inhabited over the millennia. Of particular importance for the project are the dynamics between communities organized in towns, villages and the agricultural countryside they cultivated, in order to create a direct link between ancient and modern lifeways. As a matter of fact, the people that inhabited the Iraqi plain managed to create highly sustainable environment, even if almost completely artificial and in need of perennial renovation. It is therefore one of the main goals of this work that of documenting and studying a landscape that is constantly evolving, but at the same time remains very similar due to the nature of its very fabric: water, clay and people. The data gathered from this fieldwork will provide a major means for understanding one of the main economic underpinning of Mesopotamian – and modern Iraqi – societies, the development of agricultural techniques over the millennia and the resulting process of modification of the natural environment, started in the proto-historic period (4<sup>th</sup> millennium BC) to accommodate growing communities and still continues today.

At the end of fieldwork the EDUU team will have gathered substantial data on ancient urban entities, their agricultural and pastoral strategies, the impact of states on economy and environment, religious and social identities.