

The aim of the project is to reconstruct the dynamics and mechanisms shaping the development and decline of settlement in the Early Bronze Age (3100–2000 BC) and Iron Age (1300–300 BC) cultures in the mountainous regions of northwestern Oman.

In the archaeology of Eastern Arabia, two distinct periods of settlement flourishing are attested: one in the Early Bronze Age and the other in the Iron Age (specifically, Iron Age II), separated by a nearly thousand-year hiatus. Each period of prosperity ended abruptly, with some regions experiencing a complete loss of permanent settlement, while others saw its limited survival, though on a greatly reduced scale.

The Early Bronze Age in Oman witnessed fundamental socio-economic, settlement, and technological changes leading to increased socio-political, economic, and cultural complexity. The transition to a settled way of life, with an increasing emphasis on irrigation agriculture and the spread of technologies such as copper processing and pottery production using a fast potter's wheel, significantly altered the communities living during this period.

The second period of prosperity occurred several hundred years later, around 1300/1200 BC. Once again, there was an intensification of permanent settlement. This was facilitated by the introduction of the *falaj* irrigation system and the domestication of camels, which improved communication and facilitated the flow of goods and ideas. Settlements from this period exhibit features of organized proto-urban structures.

The proposed research will be conducted in the still poorly understood archaeological region of Qumayra in the Hajar Mountains in northwestern Oman, which can be considered representative of the so-called mountainous zone of Eastern Arabia. The study area is situated at the intersection of desert and mountain zones, making it not only more susceptible to the effects of climate change but also a probable scene of interactions between settled and (semi-)nomadic communities.

At the same time, northwestern Oman, specifically the western part of the Hajar Mountains, remains the least archaeologically explored part of the mountain range, despite likely playing a significant role in the economy of the region during both periods under investigation. This is because it housed large deposits of important mineral resources, including salt, gabbro, steatite, and, most significantly, copper ore. Important communication routes traversed this area, connecting central Oman regions with ports on the coasts of the Gulf of Oman and the Persian Gulf.

By studying both the Early Bronze Age and Iron Age, the project aims to investigate how individual factors changed in the long term and how technological progress in these different periods affected the adaptation of communities to these changes. Additionally, the grant's implementation will help identify the types of natural resources that enabled settlement in extremely adverse environmental conditions and create a model of settlement for the mountainous regions of Eastern Arabia.