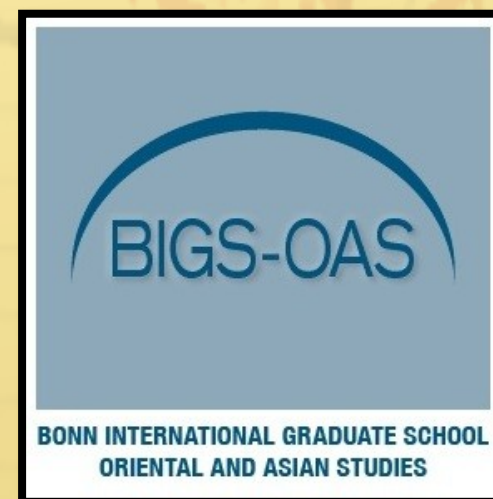


# Economic Network Analysis of Early Islamic Arabian Mining Centers

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Ali Jarkhi 2016

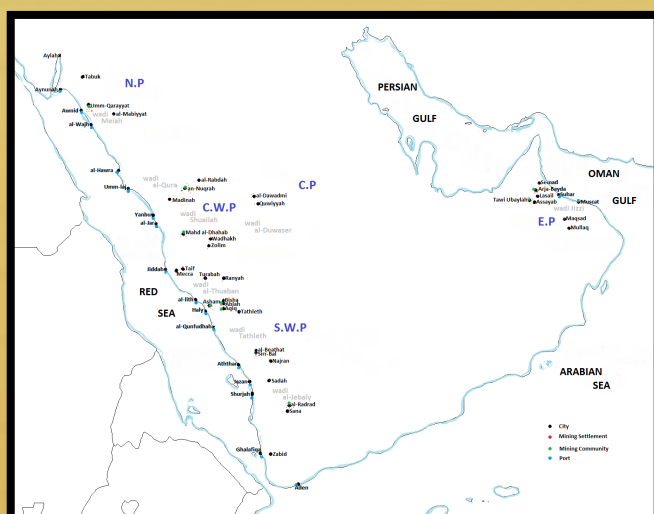
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## 1- Introduction

This project proposes an in-depth study of the dynamic and multifaceted economic systems of the Arabian provinces in the Abbasid period (750-1250 CE); a period that within few decades, most of Arabian provinces experienced a general economic strengths. This was a period during which commercial construction boomed; both in regard to physiographic extent and demographic involvement. Provincial production networks became a powerful force that drove the fundamental of local economy. Among other things, this local economy is evidenced in the increased of trade networks (merchants, markets and trade routs etc.), and increased of an industrial centers dotting in various physiographic sub-niches of the Arabian provinces. One of the activities of these industrial centers is mining center. Mining centers are often considered as a city, which have a central authority over the surrounding mines, agricultural lands and small satellite settlements that established just for mining activities. Arabian mining centers are also linked to broader social, communication, transport, and economic networks due to their ability to supply raw materials to regional trading system.

Consedring local economic network as a phenomenon bound to mining centers and their natural landscapes, hinges on the application of a theoretical framework to a very specific natural resources; namely, minerals. Mineral resources and metal productions are considered one of the most important economic resources in the Arabian provinces.



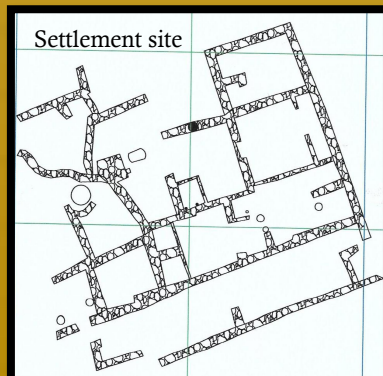
Map of Arabian mining sites

## 3- Theortical framework

Certainly, there was a strong interest in the economic network of the physiographic features and economic infrastructure of the Arabian mining centers during the 10th-13th centuries CE, and this interest permeates the early texts on local industrial activities such as mining. The theoretical framework considers the local economic network of the Arabian mining centers will draw on approach of thought in contemporary archaeology, broadly called 'historical archaeology'. Historical archaeology approach will be adopted to analyze the archaeological remains of these mining centers, which include historical sources, in order to provide as solid an empirical understanding of dynamic system of the Abbasid caliphate economy.

In this project, the focus is on the environs of the mining centers, which were facilitated by natural landscapes. These natural landscapes consist mainly of extensive *wadi*-systems and natural resources, which were used as commercial construction and trade routes through which caravans, merchants and people who engaged in mining activities could have facilitated the mobility exchange network. By understanding the economic relationship between mining centers and their natural landscapes as a commercial activity that leads to greater regional integration, the expansion of dynamic process of local economic network of the Abbasid caliphate will be explained. This project strives to achieve that by conducting another theoretical approach, which will be applied on the environs of the Arabian mining centers, called landscape archaeology.

Landscapes constitute the context for peoples' lives and the setting for material manifestations of physiographic features, economic infrastructure and specific social spheres. These natural landscape services result in socio-economic benefits such as enhancement of the stability of local population and local investments. To understand the relations and links between the natural landscape services and the resulting socio-economic benefits thoroughly, the study particularly takes into account network analysis approaches. From them, it is possible to extrapolate and analysis these material manifestations of Arabian mining center systematically so as to provide a meaningful context of understanding the local economic networks at the natural landscapes.



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## 2- Aims and Objectives

This study seeks to investigate and explain the dynamic process of local economic network, concentrating on the early Islamic Arabian mining centers to meet the dynamic system of the Abbasid caliphate economy. This economic development drove to imply the formation of the mining centers and their natural landscapes. Determining how exactly the Arabian mining networks administrate and develop their natural landscapes across Arabian mining centers is key to understanding the structure of the local economic networks and how it influenced the Abbasid economic system. This study also focuses on placing these mining centers in their inter/intra-regional economic setting within the Abbasid caliphate.

This project will also analyze Arabian mining centers through their physical-geographical position (vegetation area and main roads and routes), their economic infrastructure (channels, dams, cisterns, wells, ore processing facilities, towers and storage facilities), and their social spheres (production, distribution, ownership and consumption). The goal is to indicate that the mining centers functioned as a combination of social, political, ecological and economic factors, and were represented as economic units within the Abbasid economic system.

## 4- Scope and Methodology

The geographical scope of this project is the mining centers of the southern Arabian provinces, and the chronological scope is defined broadly as the Abbasid Period, which covers 750 to 1250 CE. The Southern Arabian mining centers and their natural landscapes will be studied empirically on two perspectives. Firstly, on a mining center as a city with urban plan and central authority to the surrounding environs such as mines, agricultural lands and small industrial settlements. Secondly, on their economic infrastructure such as channels, dams, cisterns, wells, ore processing facilities, towers and storage facilities, and their specific social spheres such as production, distribution, ownership and consumption. To achieve this, the project relies on two main sources of data stemming from archaeological exploration of the southern Arabian mining centers.

The first consists of an official three months/year research stay at (SCTH) the Saudi Commission for Tourism and National Heritage Branch in Al-Baha in Southern Arabia, where I will have the opportunity to study a large collection of relevant archaeological data and material collected in the Southern Arabian mining centers. The second is that the student has participated in the Ablah Mining Site Project (AMSP) under the Ancient Mining Sites Project constitutes a new and independent scientific project. Ancient Mining Sites Project is an active program since 2001 and pre-financed by the Saudi Commission for Tourism and National Heritage. However, AMSP is specifically oriented towards exposing the features and facilities to economic network of mining, and can thus provide part of the empirical data necessary for this research.

## 5- Potential Results

The analysis material from both past and future excavations in Arabian mining centers will be useful to contextualized local economic network within framework of caliphate economic system. The proposed project will result in a comprehensive understanding of how Arabian mining centers were connected to inland centers in their vicinity, as well distant centers of production and trade network, and how this connection developed the dynamic systems of the Abbasid caliphate economy. The project will demonstrate that Arabian mining centers were important fundamentals for internal production strategies of the Abbasid caliphate and acted as the basis of the economy localization in Arabian provinces. Moreover, an article that presents and discusses the concrete result of the project, as well as assesses the strength and potential weaknesses of the approach is also planned for publication.



FIG1: Industrial site in AMSP



FIG2: Gold mine in AMSP

