Gardens of the Hesperides: The Rural Archaeology of the Loukkos Valley
Preliminary Results of the 2016 Pilot Season

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**LIXUS AND THE OUED LOUKKOS**

Gardens of the Hesperides: The Rural Archaeology of the Loukkos Valley (INSAP-UT) is a multi-year project to survey the economic development of the Loukkos river valley around Lixus, the oldest city in northwestern Africa, and to assess the impact of the Roman occupation on the connectivity of the region.

Named for the mythical gardens which classical sources located at Lixus, the inaugural 2016 season was devoted to assessing the viability of systematic fieldwalking alongside extensive survey methods. Two more years of field survey up the river valley (2017-2018) will lead to the second phase of the project, the excavation of rural sites.

Sampling transects 50m across were laid out across the river valley. Systematic fieldwalking of topographic units (TU) in total of 1000sqm along with extensive reconnaissance yielded positive results: from artifact densities and architectural remains, a total of 15 sites were located, whose use extended from the Early Iron Age to the Middle Ages.

**BACKGROUND**

Current postcolonial scholarship has highlighted the difficulty in establishing clear ethnic distinctions in ancient Morocco (Papi 2014), necessitating a socioeconomic study of the agricultural economy of the Oued Loukkos and its integration with Lixus and the western Mediterranean.

A longue durée study of the changing economy of the Loukkos river valley can thus better contextualize the urbanism of Lixus, as well as evaluate the impact of the annexation of Mauretanias Tingitana by the Emperor Claudius after ca. 40 CE.

An earlier extensive survey in the Oued Loukkos was done by M. Ponisch (1966), with surveys conducted by A. Akerraz since 1997 (Akerraz and El Khayali 2000). Assessing the yield of information from systematic fieldwalking was essential. The geomorphology of the Loukkos river valley varies greatly. Smaller properties to the south of the river were also difficult to survey effectively, as opposed to more open pastures to the north. Procedures were adapted from Stone et al. (2011).

**EXPEDITED DATA PROCESSING AND RECORDING**

Standard database design and scripts were used to expedite finds entry and analysis along with paper context sheets used in field, laying the groundwork for a flexible approach to accommodate future research.

Georeferenced photogrammetry and trilateration allowed for expedited mapping of archaeological features. Right: plan, photo, 3D model, and orthophoto of standing architecture at the site of Grazia (TU0076), which Ponisch (1966) had identified as a Roman farm.

**SITES / SITELESS SURVEY**

Changes in the overall transportation, storage, and preparation-consumption of food were assessed through probabilistic modeling of quantities of amphorae, dolio, and cookware/tablware. Under the Roman occupation, there was a slight shift toward increased storage from the preceding period of the reigns of Juba I and Ptolemy Mauretanius IV.

**MODELING THE RURAL ECONOMY**

**SITE DESCRIPTION THROUGH MCA**

Given the frequent ambiguity in determining the function of archaeological sites through survey, function was assessed through multiple correspondence analysis (MCA), a method to visualize categorical data. Whereas rural sites are often in themselves suggestive of farms or villages, MCA would appear to indicate that even sharp distinctions in definitions are not fixed over time. For example, from Mauretanian IV to the Roman occupation, sites begin to group into discrete clusters, suggesting that site-specific functions became more distinct in the late 1st – 3rd c. CE.

**REFERENCES**


Arnaud, F. 2014. "Les fouilles réalisées à MAK et à TEL sur le plateau des Ksarousse, commune de Djenane-Tel, wilaya de Bouira, région de Blida."


Additional bibliography can be found on the project website: <https://insaput.org>