

SETTLEMENT SCALING AND URBAN INFRASTRUCTURE

A COMPARATIVE APPROACH TO SETTLEMENTS
FROM THE ANCIENT INDUS SOCIETY

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Abstract

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The scope of the present thesis is to analyze the major variabilities among Indus settlements and urban infrastructure of the ancient Indus society during 2600-1900BCE. This includes the process of urbanization in relation with population, settled area, and location of the major urban centers. The impact of urbanization on the regional environment is also discussed. Thus, the aim of the thesis is to analyze the urban infrastructure of the Indus society by comparing the available archaeological data from the largest urban settlements. In addition, urban process and development of the Indus region is compared with the Mesopotamia region.

Mesopotamia and the Indus society are Bronze Age (6000-1900BCE) urban societies that present large, dense, and planned cities, but the study of urban processes and the environment is limited. The urban process from specific regions of both ancient societies is compared at different levels. At the primary level, comparative method and urban scaling theory is applied to examine the similarities and differences among major urban settlements of the Indus region during 2600-1900BCE. Available archaeological material from the largest settlements of Indus society are used to compare. A limited set of artefacts from Mohenjo Daro, Harappa and Ganweriwala are analysed and compared by SEM-EDX method. Results of SEM-EDX analysis shows that these artefacts were produced locally. Special attention is given to Ganweriwala settlement that is the least investigated settlement of the Indus region. The major shortcoming to understanding urban infrastructure of the Indus society is the lack of knowledge about Ganweriwala settlement. That shortcoming is addressed in the present work. The urban scale of Ganweriwala settlement is analyzed by an attribute-based approach. The results from the surface and artefacts study of Ganweriwala suggest that it was a major urban center during Indus urban period 2600-1900BCE. It shared the similar cultural expression with other major urban centers such as settlement plan, types of artefacts, written script on tablets and some types of figurines. Using Ganweriwala data as a case study for Indus urban infrastructure, I suggest that the Indus urban infrastructure is a complex phenomenon with greater similarities and lesser variabilities. Five major urban centers had different urban and socio-economic scales. The results of the present study suggest that Ancient Indus society exhibits complex patterns of urbanism that are rare in other ancient society. Indus society was regionally more expanded than Mesopotamia, but had a limited number of major urban centers. These urban centers were operated at different scales and exhibit greater similarities and fewer variabilities. The present research also contributes to the theoretical and empirical understanding of Ganweriwala settlement in relation to the environment, which has never been studied or reported before.

At the secondary level, the settlements of the Diyala region of Mesopotamia are compared with the Cholistan region settlements of Indus society to analyze the similarities and differences of urban process and its impact on the environment. The largest settlement from Mesopotamia known as Uruk and the largest settlement from the Indus region known as Mohenjo Daro are also compared. The conclusion reached by comparing the settlement data of the Diyala region of Mesopotamia and the Cholistan region of Indus society suggests that settlements of the Cholistan were denser than the Diyala region. In the Cholistan region, a total abandonment of settlements happened around 1900BCE. However, in the Diyala region there was still continuity of settlements around 1900BCE. Major urban settlements from both societies also contain variabilities such as they had different settlement plan, they were constructed with different materials, and they had different type of environment. It is also concluded that the nature of urban development and the process at respective macro regions was different.

KEYWORDS: Ganweriwala, Indus Society, Mesopotamia, Urban settlements, Infrastructure, Cholistan region, Diyala region