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FoodStore: Food Storage in the Late Fifth, Fourth and Third Millennia BC in the Northern Fertile Crescent

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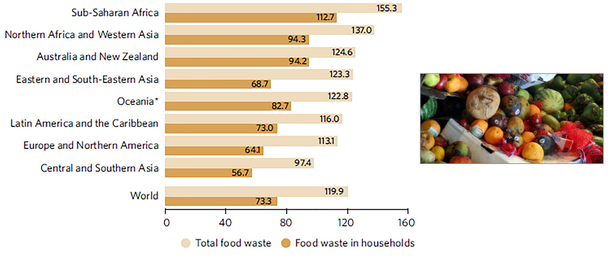
Food security and storage

As recently outlined during the United Nation Climate Change Conference 2023 (COP 28), food security is one of the most endangered human rights and is intrinsically associated with the necessity of an urgent global improvement in the sustainability of agrifood systems. The Sustainable Development Goal 12 of the United Nations 2030 Agenda seeks to ensure greater food availability, not only through sustainable production but also consumption patterns (https://www.fao.org/platform-food-loss-waste/background/en).

SUSTAINABLE DEVELOPMENT GOALS
sdgs.un.org/goals

ON AVERAGE, EACH PERSON WASTES 120 KILOGRAMS OF FOOD PER YEAR
sdgs.un.org/goals/goal12

Food storage behaviors play a key role in understanding resource optimization since food waste represents a notable part of global energy consumption within the agrifood industry. About 17% of food available to consumers was wasted in 2019, with most of this occurring at the consumer level (https://www.fao.org/interactive/sdg2-roadmap/en/). Furthermore, low-income regions, already at risk of agricultural yield loss due to unpredictable natural events, experience the highest food insecurity (https://unstats.un.org/sdgs/report/2023/Goal-12/).



Estimated total food waste and food waste in households per person, 2019 (kilograms). Source: unstats.un.org/sdgs/report/2023/Goal-12/

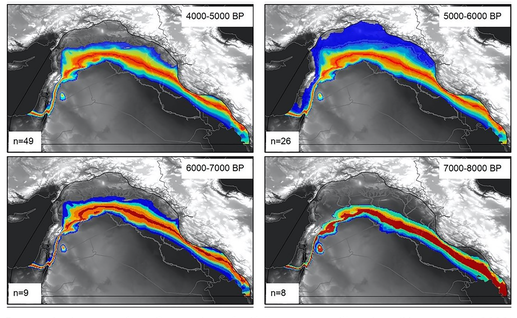
Sustainable storage practices are needed for reducing quantitative and qualitative food loss, and to combat the negative social and ecological impacts of this loss on the broader food economy. This requires the integrated involvement of diverse actors, including archaeologists and researchers of traditional heritage, to raise awareness about the potentiality of traditional stockpiling methods for improving food availability in modern communities.

Food storage and social changes

Storing food has always been a basic need for sedentary and semi-nomadic peoples, representing a risk-management strategy for potential or perceived food security needs. Food stockpiling can be aimed at reducing unequal access to resources or food scarcity stemming from various social and environmental factors. For example, political instability, wars, climate change or environmental degradation may create situations where people store food to mitigate against shortages. On the other hand, food storage can also be used to create unequal access to resources or food insecurity. Here, food surplus can be seen as a form of accumulated wealth and an instrument of power that generates and supports social inequality.

Project description

The Fertile Crescent is a crescent-shaped area ranging from the Tigris and Euphrates rivers in the east to the Levant in the west. The area is traditionally considered the center of major socio-economic changes in the region, including the emergence of the first cities and the early states. The Northern Fertile Crescent is the part encompassing western inner Syria, southeastern Turkey, and northern Iraq. It is characterized by diverse physical landscapes and ecologies, the extents of which change through time based on environmental factors, especially rainfall rates. The fluctuations in ecological and social conditions over time made agriculture either a risky activity or a highly productive enterprise.



Composite images of the fluctuation of raifall rates by millennium (Hewett et al. 2022)

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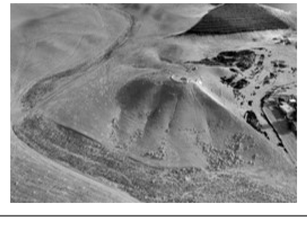

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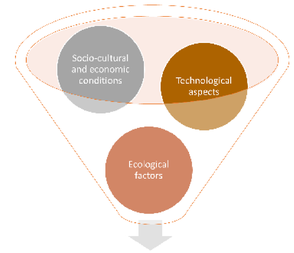
The period between the late fifth and the third millennium BC represented a turning point in the history of Southwest Asia. Through improvements in food production systems, increasing amounts of staple food were being produced and new storage facilities allowed these surpluses to be effectively stored and, thus, accumulated and mobilized beyond immediate subsistence needs. This food surplus was collected as a reserve aimed at mitigating shortages and, increasingly, to be exchanged for other goods or labor, generating a shift from a subsistence-based economy to a political economy; in other words, from producing surplus for enhancing food security to reinvestments driven by social elites to gain social profits and consolidate their political power, increasing inequality. These transformations resulted in new types of socio-economic organizations and interaction with the environment, with the appearance of the world's first cities and early states.

Goals of the project

The decisions associated with food storage are determined by a combination of ecological, technological, and social factors.



The FoodStore Project tackles issues related to food availability and the social developments connected to food stockpiling, highlighting the potential for using archaeological data to assess the value of different past storage and management solutions. The goal of the project is to identify how past technological knowledges interacted with different landscapes and climates, and under various social conditions, to create and preserve diverse types of storage features, especially in periods in which food became a form of wealth and an instrument for power.