

## Methods Employed to Mitigate Wind Damage on Ancient Egyptian Architecture

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**Abstract :** Winds and storms are considered crucial weathering factors, representing primary causes of destruction and erosion for all materials on the Earth's surface. This naturally includes historical structures, with the impact of winds and storms intensifying their deterioration, particularly when carrying high-hardness sand particles during their passage across the ground. Ancient Egyptians utilized various methods to prevent wind damage to their ancient architecture throughout the ancient Egyptian periods . One of the techniques employed by ancient Egyptians was the use of clay or compacted earth as a filling material between opposing walls made of stone, bricks, or mud bricks. The walls made of reeds or woven tree branches were covered with clay to prevent the infiltration of winds and rain, enhancing structural integrity, this method was commonly used in hollow layers . Additionally, Egyptian engineers innovated a type of adobe brick with uniformly leveled sides, manufactured from dried clay. They utilized stone barriers, constructed wind traps, and planted trees in rows parallel to the prevailing wind direction. Moreover, they employed receptacles to drain rainwater resulting from wind-loaded rain and used mortar to fill gaps in roofs and structures. Furthermore, proactive measures such as the removal of sand from around historical and archaeological buildings were taken to prevent adverse effects

**Keywords :** winds, storms, weathering, destruction, erosion, materials, Earth's surface, historical structures, impact

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