

# Local Artisans' Knowledge of Flood Resilient Construction and Adaptation of Residential Buildings in Flood-Prone Informal Settlements in Dar es Salaam, Tanzania

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**ABSTRACT:** Flood-prone informal settlements are among the most complex and challenging construction sites that require adequate knowledge to enhance flood resilience and adaptation. While such settlements present construction challenges that need the attention of professionals, anecdotal observations and experiences in developing countries and Tanzania, in particular, indicate a vast preference to engage and prioritise local artisans in such areas under the pretext of the high cost of affording professionals. This article sought to understand how the local artisans were knowledgeable of construction of residential buildings in flood-prone informal settlements in Dar es Salaam. To understand this phenomenon, various flood-resilient and adaptive measures that local artisans presumed to be aware of and which they were using in constructing buildings in flood-prone areas were analysed. The article adopted a case study design where qualitative data were collected using key informant interviews and focus-group discussions and analysed thematically. Results showed that local artisans constructing houses in the flood-prone areas of Msasani Bonde la Mpunga were well informed of various flood-resilient and adaptation measures, including engineering-related skills (structural) and tacit categories. These measures include raising/elevating ground floor levels, using reinforced foundations and aprons around the foundation plinth and using waterproof building materials such as waterproof cement. However, using stilts/columns was rarely applied because it was conceived as a complex and costly flood construction measure. The article concludes that most local artisans in the Msasani Bonde la Mpunga settlement had good and relevant knowledge to enhance flood resilience and adaptation of buildings. However, they require the technical proficiency of professionals. The article calls for regular training and inseminations of flood-resilient construction techniques for local artisans. Such training will blend the engineering and local knowledge/expertise fundamental for enhancing sustainable urban planning and resilient building construction in flood-prone informal settlements. Local artisans' training should be synchronised with sensitisation to enlighten communities about the significance of utilising skilled and trained local artisans.

**KEYWORDS:** Flood-prone, resilience, adaptation, local artisans' knowledge, informal settlement.

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