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RESEARCH ON CHANGES IN FUNCTIONAL SPACE OF RURAL DWELLINGS IN NORTHERN COASTAL COLD REGIONS: IMPLICATIONS FOR DESIGN AND DEVELOPMENT

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Abstract

Understanding the functional requirements ratio (FRO) is of great help to architects, especially in rural areas with little design experience. This study examines the changes in FRO in rural dwellings from the perspective of architects. The PLEs theory, Maslow's hierarchy of needs, and Hlafacree's three-fold model are employed to classify residential functions into physiological needs space (PNS), safety needs space (SNS), and belongingness and love needs space (BLNS). The results show that the layout of rural dwellings has changed with the development of the economy and life. The average F_{PNS} has decreased from 56.45% to 35.94%, while the average of F_{BLNS} has increased from 5.62% to 62.11%. The average F_{SNS} has decreased from 37.92% to 1.95%. Notably, the participation of architects has accelerated this change. Additionally, the space is biased towards openness. These findings offer valuable insights for architects in the reconstruction or new design of rural dwellings and can contribute to the improvement of the overall comfort level of rural dwellings in northern coastal cold regions. Furthermore, the transition from a subsistence dwelling to a belonging dwelling is observed.

Key words: architectural insights, function requirement ratio, functional-belonging shift, rural dwelling

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