



Climatic Observation and Questionnaire Survey on the Living Environment in Ohmori Historical District of Shimane, Japan

Nagano K.

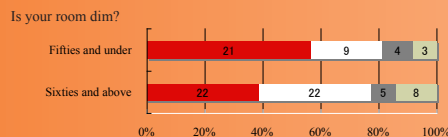
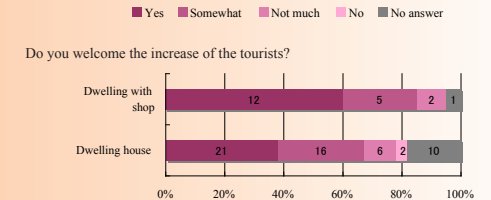
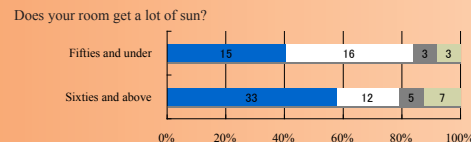
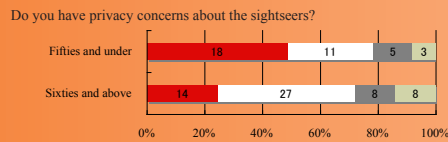
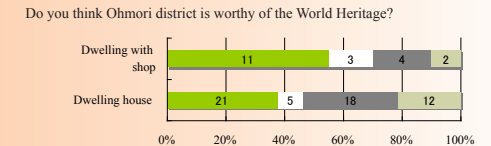
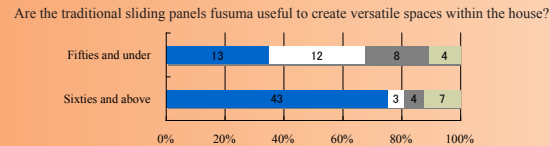
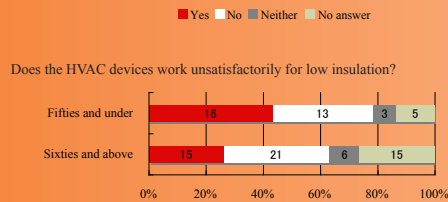
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PURPOSE

Iwami-ginzan silver mine ruins and their periphery including Ohmori historical district were registered for the World Heritage (UNESCO) in 2007. The houses in Ohmori have been restored to the traditional facades to conserve the aesthetic landscape. It occurs that increasing wooden lattices bring down the number of contemporary glass facades. However, it is not necessary that the renovation makes its living environment comfortable. This study investigates the environmental performances of the traditional facades and the residents' feelings.

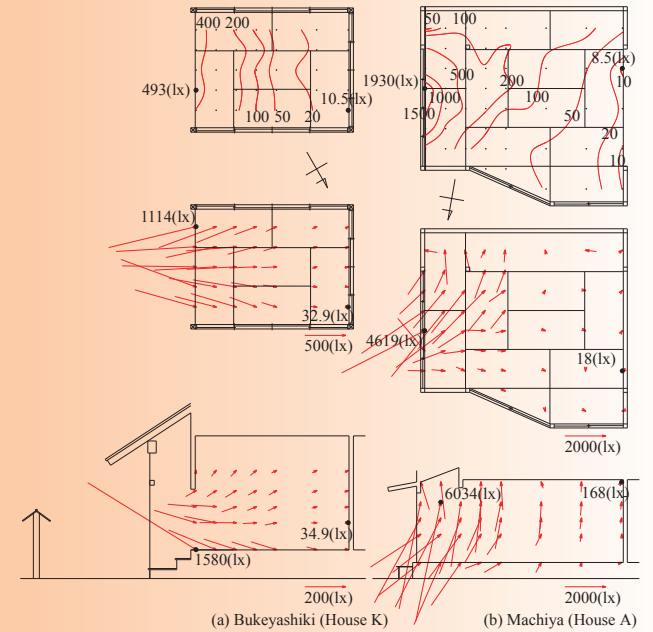
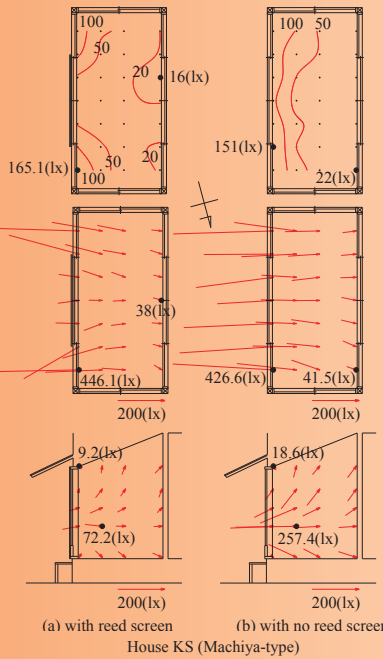
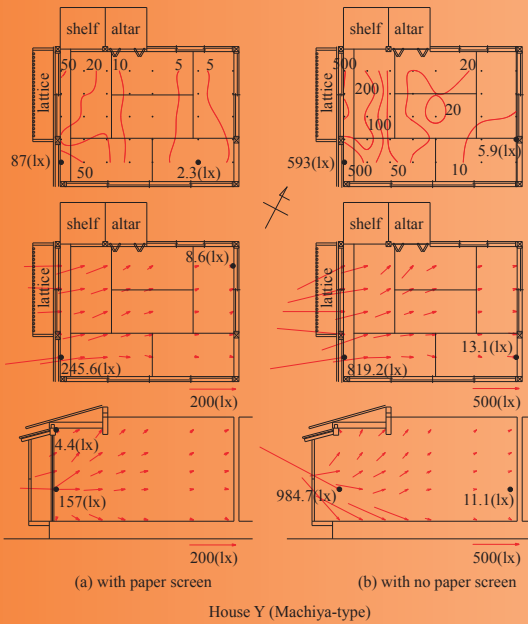
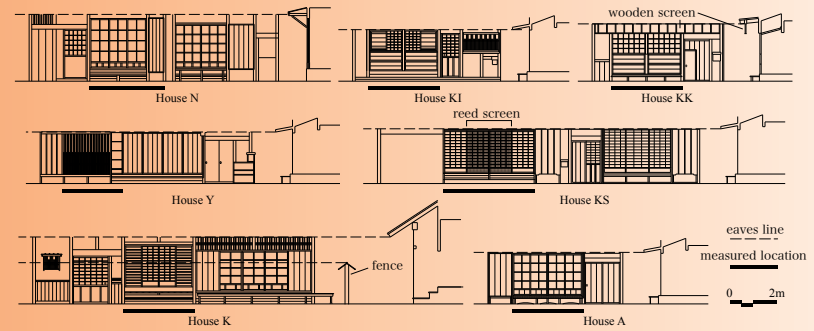
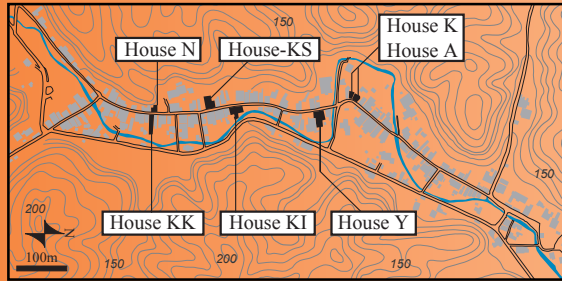
QUESTIONNAIRE

One hundred and two residents answered the questionnaires, and the collection rate was 85 percent. The residents, especially younger generations complained at little sunshine. But, they were proud of their historical townscape and the tourist industry that stimulated the local economics was welcomed.



LIGHTING ENVIRONMENT

Indoor daylighting distributions were observed at seven types of facades. The daylighting levels in machiya houses with lattices and reed screen was remarkably lower than in bukeyashiki, while both the lattice or reed screen and the enclosure prevent tourists from looking into the room similarly.



THERMAL ENVIRONMENT

Indoor temperatures at a townhouse machiya abutted the street and a samurai residence bukeyashiki surrounded by a defensive enclosure were observed in 2006. There was an ambiguous difference between two houses in both air temperature and universal sensory index ETV.

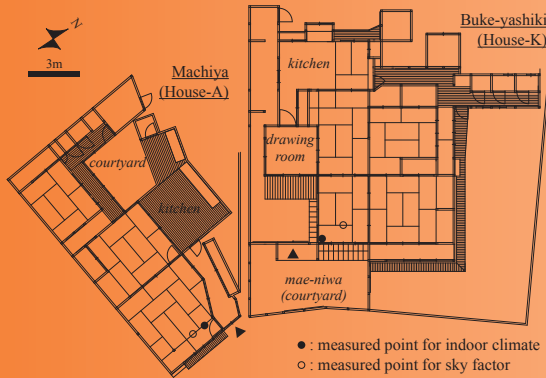


Fig. Floor plans of machiya and buke-yashiki

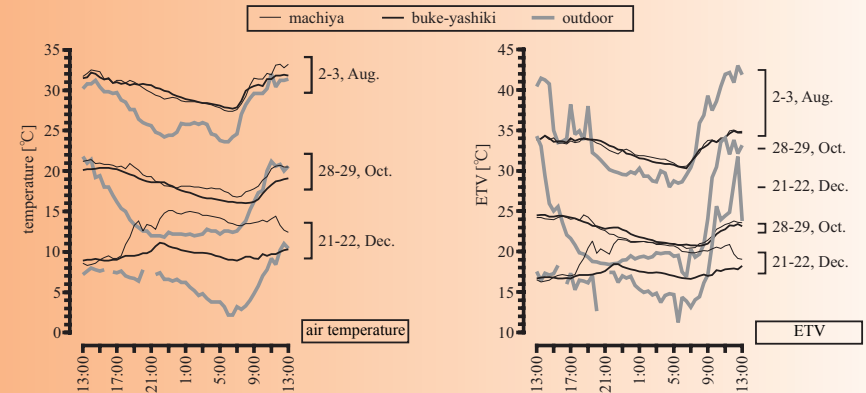


Fig. Time series results of air temperature and ETV at machiya, buke-yashiki and the outdoor

CONCLUSION

Importance to the residents' convenience and comfort should be attached to the current renovation policy to restore their original facades. In order to manage both of conserving the landscape and improving the living environment, environmental designers should have interest in historical houses and participate in the renovation team.

