

# Investigation on village greenery's windproof effect in severe cold regions of China

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**Abstract**—For centuries, the wind environment of villages and towns in severe cold regions has long been a significant factor influencing the villagers' outdoor comfort in winter, which could be improved by appropriate greenery design. By means of questionnaire survey and field measurement, this paper carried out some basic investigations on the existing circumstances of wind environment and greenery of villages and towns in severe cold regions. Based on which, with the application of ENVI-met, this paper went on to simulate and analyse the windproof effects of four common forms of village greenerys (windbreaks, border trees, square landscape and courtyard greenery) under various parameter settings (porosity, size, form, interval and wind direction), thus providing references for applying greenery to improving wind environment in practice.

**Keywords**—Severe cold regions, villages and towns, wind environment, greenery, numerical simulation;