and in-depth overview on the influence of generational differences towards the Malaysian housing consumers’ preferences. The main objective of this study is show that demographic/population changes do influence the housing preferences especially on the generations. This study employs mixed methods approaches. Seven (7) of the local authorities from the City Councils, Municipalities and District Councils along with two (2) housing developers in Selangor were interviewed for this study. The main purpose of the conducted interviews (semi-structured interview) is to determine the considerations and level of extent given on the demographic (population) changes in the planning for housing currently practised by these main actors. A total numbers of 678 housing consumers from different generations in Selangor, Malaysia were managed to be surveyed (questionnaires survey) to ascertain the current, future and senior (elderly) housing environment preferences. The questionnaires responses were analysed by using the SPSS, the Paired Comparisons/Pair-wise and the Analytic Hierarchy Process (AHP) methods of analysis. The main findings reveal that Safety, Health and Convenience were listed as the first three (3) important factors of the Residential Environment Preferences by the Malaysian generations, followed by the other two (2) factors namely Community and Amenity. As for the senior (elderly) housing, the findings reveal the acceptance of the generations with the introduction of the Age-Restricted Community Concept. Thus, this study will provide comprehensive findings on the housing preferences of the generations covering the current, future and elderly (senior) housing preferences. Detail findings derived from this study of housing, population and generations will provide beneficial information to various parties of the property development especially the policy makers and the involving main actors. Detail understanding on the matter would provide information that can be use as guidance to able and assist these concerning parties of property development for better planning and delivery of housing provisions that would benefit the current and future generations.

Sixty percent of Malaysians prefer to stay in linked houses for reasons of location, space and aesthetic. Most of these houses are installed with mechanical cooling and air circulating fans for thermal comfort instead of a more passive means. There are less demand for courtyard linked houses although the courtyard could hypothetically be the answer for a passive cooling design strategy. Hence, the aim of this research is to explore the possibilities of enhancing indoor thermal comfort condition by determining the effectiveness of courtyard as a passive cooling building element. The objectives of this thesis are: i) to study the types of courtyard configuration in existing linked houses; ii) to investigate the environmental condition of the courtyard and its effect to the indoor thermal comfort; iii) to explore the importance of courtyard configuration in providing good natural ventilation and iv) to determine the best courtyard configuration that create best indoor thermal comfort of a linked house. This study investigated two similar urban linked houses (with and without internal courtyard) in terms of size and specifications in Shah Alam and Klang. Data based on two days of measurements and observations at both houses for outdoor, indoor temperature, relative humidity and air velocity revealed that the indoor thermal conditions for both houses exceeded the thermal comfort zone recommended by Givoni’s Bio-Climatic chart and ASHRAE. However, through comparative analysis, the house with internal centre courtyard produced better results and maintained a more comfortable indoor condition due to its horizontal and vertical natural cross ventilation which occurred during the day time and night time. Further predictive investigations on the courtyard linked house, based on CFD simulations using Flovent 7.2 and AnSys were conducted. Three variations of design models were studied namely enlarged courtyard area, increased courtyard walls height and enlarged openings at the front and rear options were the most effective, whereas the enlarged courtyard area (footprint) type were less effective, regardless of which operation mode were applied. Hence, linked houses with courtyards are proven to be beneficial to the occupants by providing passive cooling through natural ventilation.

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