ABSTRACT

Ensuring a quality indoor environment is a complex operation as it involves managing the whole building delivery process (prior to the design, construction, and operation & maintenance stages) such that the various military Camps/ Wards can function as healthy buildings for the officers and men. The standard of ensuring healthy indoor environment must be high to ensure the smooth functioning of critical services, plants and equipment so as to minimise physiological, psychological, sociological and economic inconveniences for the Camp occupants, its medical/dental patients and their visitors. The indoor environmental management of these Camps and facilities is therefore of utmost importance.

The objectives of this study are three-fold:

1. To evaluate via subjective measurement (questionnaire survey) the general response from the occupants about the present indoor environment of two military Camps and one medical Ward of the Singapore Armed Forces.

2. To indicate through visual assessment the physical trace and behavioural observations made during the walkthrough. By so doing, any sign(s) of stresses or user modification to the original design will be recorded as indicators for further evaluation measurement.

3. To provide an objective measurement of a room/ office each in a military environment through simple instrumentation. The objective measurement will give a realistic condition of the occupants' indoor working environment as compared with the subjective measurement.

From the survey feedback, there is an indication that occupants, in general, are concerned about health, but fall short of a better understanding of the long-term effects. The overall subjective rating of the working area suggests that the occupants prefer good air quality, good working environment and good lighting level.
From the objective readings of the instrumentation tests, certain rooms revealed that suspended particulates are present and do exceed the recommended maximum concentrations of 150 µg/m³ (mass less than 10 µm) for an acceptable indoor air quality. The indoor air quality inside any room is considered harmful to a person's respiratory system if there exist 150 µg/m³ or more of dust particulates as fine as 10 µm mass.