

Item No. 01

(Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 468/2022

Raja Singh

Applicant

Versus

Ministry of Housing and Urban Affairs & Anr.

Respondent(s)

Date of hearing: 13.07.2022

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER

ORDER

1. The applicant is an architect and his grievance in this application is against faulty designing of certain buildings and of ventilation systems, adversely affecting natural ventilation thereby resulting in excessive and avoidable use of energy and also depriving occupants of natural light and oxygen. According to the applicant window design should include the following:-

- a. Openability of window/Operability for multiple advantages, including:
 - i. Dilution ventilation in case of use of fans and individual air conditioners (split/window type) for
 1. Prevention of spread of airborne diseases like tuberculosis and COVID19, etc.
 2. For health ventilation where the levels of Oxygen are revitalised and the levels of carbon dioxide are in check.
 3. For odour removal.

- ii. Natural ventilation allows the outside air to enter to provide thermal relief in case of potentially comfortable time periods of the day or the year, by giving the occupant a conscious option as per choice.
- iii. Release of smoke and possibility of evacuation in case of a fire.

Note 1: The openability should be easy and accessible by the occupants inside the building, and there should be Control, or the option available to open or close the window by choice available to the occupants (including persons with disabilities, whenever possible.)

Note 2: In case the building has a central air conditioner, there must be provision for Control based openable windows for the other benefits highlighted. The design of the central air conditioner should include the appropriate dilution ventilation within the design, so that appropriate fresh air is included in the Air Handling Unit of the Central Air Conditioner System.

- b. Window having appropriate wire mesh to prevent the entry of mosquitoes which are a significant threat and cause diseases like Dengue, Malaria, Chikunguniya, Zika and elephantiasis, etc.
- c. Window having necessary provision for appropriate sun shading in the form of 'chajja' to prevent the sun's entry in the summer months as a passive climate-based design strategy. The window pane should have appropriate provisions for blocking or reducing the effect of the harsh sun in summers and openability in winters.
- d. Window having a view for psychological relief. The window as an opening should also serve as a outlook to the nature outside and build a connection with the exteriors. This should use innovation to include theft proofing and mosquito proofing so that a balance is maintained.
- e. Should have provision for theft proofing like grills which is openable from the inside for easy evacuation and not be totally fixed, in case of an emergency evacuation.

2. It is further stated that building should be enabled for continuous monitoring of the Indoor Carbon Dioxide levels, as it is a surrogate measure for the levels of ventilation in an occupied space. It is submitted that use of Air Conditioners by recirculation of indoor air needs to be modified so as to enable entry of outdoor air. Instead of sealing all doors, windows and having thick curtains in rooms, modification should be

made to avoid higher chances of infection, like COVID-19, Tuberculosis, measles etc. which spread through the airborne route. It also results in higher levels of Carbon Dioxide in the space and lesser microbial diversity, compared to a room with open windows with natural ventilation. The applicant has sought directions for necessary changes in the building bylaws for appropriate window design, carbon dioxide monitoring and responsible use of split air conditioners. Directions have also been sought to builders to install carbon dioxide meters for ventilation monitoring in all buildings at places where the public can be apprised of the monitoring and to manufacturers of air conditioners to make innovations in the design of split air conditioners to make provisions for outdoor air instead of just recirculated air.

3. It appears to us that the application raises substantial question of environment viz. potential for saving energy benefitting environment and public health.

4. Accordingly, we consider it appropriate to require a response on the subject from the Ministry of Urban Development, MoEF&CC, Ministry of Renewable Energy and CPCB within one month by e-mail at [judicial-
ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

List for further consideration on 16.09.2022.

A copy of this order be forwarded to the Ministry of Urban Development, MoEF&CC, Ministry of Renewable Energy and CPCB by email for compliance.

The Applicant may serve a set of papers on Ministry of Urban Development, MoEF&CC, Ministry of Renewable Energy and CPCB and file an affidavit of service within one week.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

July 13, 2022
Original Application No. 468/2022
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