

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
Principal Bench, New Delhi
in
Original Application No. 466/2022

In the matter of:-

Raja Singh

Applicant

Versus

Ministry of New and Renewable Energy & Ors.

Respondent(s)

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| 1. | Response on behalf of CPCB in compliance to Hon'ble NGT order dated 12.07.2022, in OA No. 466/2022, Raja Singh Vs. Ministry of New and Renewable Energy & Ors. | |
| 2. | Annexure-I: A copy of the Hon'ble NGT, PB order dated 12.07.2022. | |
| 3. | Annexure-II: A copy of Comparative studies between Green Rating for Integrated Habitat Assessment (GRIHA) and Indian Green Building Council (IGBC). | |



(N.K. Gupta)

Scientist E

Central Pollution Control Board

Delhi-110032

Place- Delhi

Date- 24.08.2022

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
IN THE MATTER OF O.A. NO 466/2022
TITLED AS
RAJA SINGH VS MINISTRY OF NEW AND RENEWABLE ENERGY & ORS.**

Response of Central Pollution Control Board

1. Background

Issues raised in this matter of O.A. No. 466/2022 titled as Raja Singh Vs Ministry of New and Renewable Energy & Ors. are as follows:

- Inadequate regulatory mechanism for “Green Building Rating systems” in our country.
- Post certification compliance for Green building ratings as Green Buildings get incentives under the Policy of the MoEF&CC including fast tracking of environmental clearance, extra FAR/FSI as per Notification of MoEF&CC dated 27.06.2011 and Notification dated 23.09.2013 of the Ministry of Urban Development. Unified Building Bye-Laws 2016 of Delhi and National Building Code, 2016 also contains certain incentives.
- Requirement of regulatory mechanism to enforce and regulate the rating process.

Hon'ble NGT vide Order dated 12.07.2022 (**Annexure-I**) has issued following directions:

“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 judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.”

2. Comments of CPCB

Green Rating for Integrated Habitat Assessment (GRIHA), Indian Green Building Council (IGBC), GEM, USGBC-LEED and CPWD Ghar are major Green Building Rating System in the country. Excluding GHAR (Green rating manual), remaining four Green Building Rating Systems are operated by Non-Government Organizations. Among them, GRIHA and IGBC ratings systems are predominantly used in India. Comparative studies between these two are as presented in the **Annexure-II**.

Existing Green Buildings Rating System in India may be improved further by following:

- i. Rating agencies may include factors like;
 - Utilization of products made from processing of Construction and Demolition Wastes,
 - Use of recycled wastewater,
 - Solid Waste Management for conservation of resources and
 - Promotion of circular economy through waste management etc.
- ii. An appropriate mechanism for overall supervision & regulation of Green Buildings Rating System may be developed.

Item No. 02

(Court No. 1)

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

(By Video Conferencing)

Original Application No. 466/2022

Raja Singh

Applicant

Versus

Ministry of New and Renewable Energy & Ors.

Respondent(s)

Date of hearing: 12.07.2022

**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. Grievance in this application is against inadequacy of regulatory mechanism for "green building rating system" which is necessary for protection of environment.
2. According to the applicant, green building ratings has several incentives under the Policy of the MoEF&CC including fast tracking of environmental clearance, extra FAR/FSI as per Notification of MoEF&CC dated 27.06.2011 and Notification dated 23.09.2013 of the Ministry of Urban Development. Unified Building Bye-Laws 2016 of Delhi and National Building Code, 2016 also contains certain incentives. Incentivizing green buildings is a useful for protection of environment but parameters of green building needs to be specifically laid down and regulatory mechanism is required to enforce and regulate the process.

3. We find prima facie merit in the submission that direction under Section 15 of the NGT Act, 2010 may be required for protection of environment to lay down mechanism for regulating green building ratings.

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 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 12, 2022
Original Application No. 466/2022
AB

| PARTICULARS | GRIHA (Green Rating for Integrated Habitat Assessment) | IGBC (Indian Green Building Council) |
|--------------------------------|--|---|
| Initiation | TERI (The Energy and Resources Institute) in association with MNRE (Ministry of New and Renewable Energy) | CII in 2003 |
| About | It follows five 'R' philosophy viz, Refuse, Reduce, Reuse, Recycle and Reinvent. GRIHA attempts to quantify aspects, like Energy / power consumption, Water consumption, Waste generation and Renewable energy integration in order to manage and reduce them. GRIHA is one of the rating systems that helps people to evaluate the performance of the building as per specifications that are accepted nationally. It evaluates the performance of building for its entire life span. | Indian Green Building Council (IGBC) is a part of CII-Godrej Green Business Centre. The vision of the council is to serve as single point solution provider and be a key engine to facilitate all Green Building activities in India. |
| Definition of a Green Building | <p>The aim of a green building design is to:</p> <ul style="list-style-type: none"> • Minimize the demand on non-renewable resources and maximize the utilization efficiency of these resources when in use, and • Maximize reuse and recycling of available resources • Utilization of renewable resources. | A green building is one which uses less water, optimizes energy efficiency, conserves natural resources, generates less waste and provides healthier spaces for occupants, as compared to a conventional building |
| Rating System | <p>A 5-star Rating system</p> <ul style="list-style-type: none"> • 50-60 points is certified as a 1 star GRIHA rated building, • 61-70 is a 2 star GRIHA rated building, • 71-80 is a 3 star GRIHA rating building, • 81-90 is a 4 star GRIHA rated building and • 91-100 is a 5 star GRIHA rated building | <p>Four categories</p> <ul style="list-style-type: none"> • Certified – 40 - 49 points • Silver – 50 - 59 points • Gold – 60 - 79 points • Platinum – 80 points and above |
| Points Distribution | GRIHA assesses a building based on 4 categories and awards points on a scale of 100. | IGBC assesses a building based on following major categories and awards points on a scale of 100. |

| | <ol style="list-style-type: none"> 1. Site Selection 2. Building planning and construction 3. Building operation and maintenance 4. Innovation (bonus) | <ol style="list-style-type: none"> 1. Sustainable sites 2. Water efficiency 3. Energy and atmosphere 4. Materials and resources 5. Indoor environmental Quality 6. Bonus – Innovation in design & Regional priority | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | <table border="1"> <thead> <tr> <th>Category</th> <th>No. of Criteria</th> <th>Points Earned</th> <th>Mandatory</th> <th>Partly Mandatory</th> </tr> </thead> <tbody> <tr> <td>Site selection</td> <td>9</td> <td>24</td> <td>3</td> <td>3</td> </tr> <tr> <td>Building planning and construction</td> <td>22</td> <td>74</td> <td>3</td> <td>1</td> </tr> <tr> <td>Building operation and maintenance</td> <td>2</td> <td>2</td> <td>2</td> <td>-</td> </tr> <tr> <td>Innovation(bonus)</td> <td>1</td> <td>4</td> <td>-</td> <td>-</td> </tr> <tr> <td>Total</td> <td>33+1</td> <td>100+4</td> <td>8</td> <td>4</td> </tr> </tbody> </table> | Category | No. of Criteria | Points Earned | Mandatory | Partly Mandatory | Site selection | 9 | 24 | 3 | 3 | Building planning and construction | 22 | 74 | 3 | 1 | Building operation and maintenance | 2 | 2 | 2 | - | Innovation(bonus) | 1 | 4 | - | - | Total | 33+1 | 100+4 | 8 | 4 | <table border="1"> <thead> <tr> <th>Category</th> <th>No. Of credits</th> <th>Points earned</th> <th>Pre- requisites</th> </tr> </thead> <tbody> <tr> <td>Sustainable sites</td> <td>9</td> <td>26</td> <td>1</td> </tr> <tr> <td>Water efficiency</td> <td>4</td> <td>10</td> <td>1</td> </tr> <tr> <td>Energy and atmosphere</td> <td>7</td> <td>35</td> <td>3</td> </tr> <tr> <td>Materials and resources</td> <td>8</td> <td>14</td> <td>1</td> </tr> <tr> <td>Indoor environmental Quality</td> <td>9</td> <td>15</td> <td>2</td> </tr> <tr> <td>Bonus – Innovation in design</td> <td>2</td> <td>6</td> <td>-</td> </tr> <tr> <td>Bonus – Regional priority</td> <td>1</td> <td>4</td> <td>-</td> </tr> <tr> <td>Total</td> <td>37+3</td> <td>100+10</td> <td>8</td> </tr> </tbody> </table> | Category | No. Of credits | Points earned | Pre- requisites | Sustainable sites | 9 | 26 | 1 | Water efficiency | 4 | 10 | 1 | Energy and atmosphere | 7 | 35 | 3 | Materials and resources | 8 | 14 | 1 | Indoor environmental Quality | 9 | 15 | 2 | Bonus – Innovation in design | 2 | 6 | - | Bonus – Regional priority | 1 | 4 | - | Total | 37+3 | 100+10 | 8 |
| Category | No. of Criteria | Points Earned | Mandatory | Partly Mandatory | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site selection | 9 | 24 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Building planning and construction | 22 | 74 | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Building operation and maintenance | 2 | 2 | 2 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Innovation(bonus) | 1 | 4 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 33+1 | 100+4 | 8 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Category | No. Of credits | Points earned | Pre- requisites | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sustainable sites | 9 | 26 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water efficiency | 4 | 10 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Energy and atmosphere | 7 | 35 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Materials and resources | 8 | 14 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indoor environmental Quality | 9 | 15 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bonus – Innovation in design | 2 | 6 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bonus – Regional priority | 1 | 4 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 37+3 | 100+10 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mandatory Categories | <ul style="list-style-type: none"> • Design to include existing site features • Provide at least minimum level of sanitation/safety facilities for construction workers | <ul style="list-style-type: none"> • Construction Activity Pollution Prevention • Water Use Reduction • Fundamental Commissioning of Building Energy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-----------------|---|---|
| | <ul style="list-style-type: none"> • Reduce air pollution during construction • Optimize building design to reduce conventional energy demand • Minimize ozone depleting substances • Ensure water quality • Energy audit and validation • Operations and maintenance protocol for electrical and mechanical equipment | <p>Systems</p> <ul style="list-style-type: none"> • Minimum Energy Performance • Fundamental Refrigerant Management • Storage and Collection of Recyclables • Minimum Indoor Air Quality Performance • Environmental Tobacco Smoke (ETS) Control |
| Unique Features | <ul style="list-style-type: none"> • All the standards are Indian standards which increases the suitability of the rating system to the country. • Encourages physically / mentally challenged people. • Usage of fly ash and optimization of building design is given importance by providing 6 points each. • Assurance of sanitation and safety for workers is mandatory, which is a necessary thing for a country like India to reduce accidents during construction. • Getting a building qualified is a difficult task which requires 50 out of 100 (+4 bonus) points compared to the same in IGBC where, 40 out of 100 (+10 bonus) points is required for certification. This encourages buildings to be greener! • Energy auditing and validation is a mandatory criterion. | <ul style="list-style-type: none"> • Innovative transportation is given importance with 6 points. • Heat island effect is considered. • Light pollution is considered. • Optimization energy performance is given 19 points making it very important. • Environmental Tobacco smoke (ETS) control is a mandatory category. • 10 bonus points are being awarded. • Available for different types of construction <ol style="list-style-type: none"> 1. LEED India for New Construction 2. LEED India for Core and Shell 3. IGBC Green Homes 4. IGBC Green Factory Building 5. IGBC Green SEZ 6. IGBC Green Townships |