Socio-Cultural Aspects And Built Environments Of Indigenous Settlements In Coorg, India

A study of the Kuruba Tribes

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Coorg and The Kuruba Community

According to the Census of 1931, The Kurubas numbered 6,867 with an equal ratio of males and females.
Method

• A case study of the architecture of a dwelling was undertaken. Climatic data was recorded using instruments like lux meter, laser meter, surface temperature meter and humidity meter.

• A socio-economic questionnaire with structured, semi-structured, and story based questions was developed and individual responses of 15 Kuruba tribes were recorded. Aspects explored through questionnaire:

  - Dwellings
  - Weather
  - Occupation
  - Government
  - Social Gatherings

  - Size
  - Climate
  - Materials
  - Construction
  - Interior Spaces

  - Strength
  - Occupancy
  - Modifications

  - Types
  - Opportunities
  - Indigenous practices

  - Incentives
  - Ration shops
  - Benefits

  - Adaptations
  - Comfort

  - Waste Disposal

  - Types
  - Frequency of festivals
  - Rituals

Days of Study: 22\textsuperscript{nd}, 23\textsuperscript{rd} September 2019
Dwelling Characteristics

Existing Bamboo roof

Tarpaulin, recently spread over the roof to prevent water seepage

Modified Structure

Mud Blocks bound + Paint finish

Elevated entrance

Clayey soil used to make mud Blocks (30-40 year old technique)
Modules in Ascending order of Size:

*The data was recorded during the afternoon within a **1 hour** time range (**11am to 12 noon**).

*The Lighting outdoor was 700 Lux.

<table>
<thead>
<tr>
<th>Module</th>
<th>Indoor temperature (°C)</th>
<th>Outdoor temperature (°C)</th>
<th>Relative humidity (%)</th>
<th>Intensity of light (Lux)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>26</td>
<td>29</td>
<td>76.7</td>
<td>69</td>
</tr>
<tr>
<td>Module 2</td>
<td>29</td>
<td>30</td>
<td>60.8</td>
<td>75</td>
</tr>
<tr>
<td>Module 3</td>
<td>31</td>
<td>34.7</td>
<td>63</td>
<td>50</td>
</tr>
<tr>
<td>Module 4</td>
<td>29</td>
<td>30</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>Averages</td>
<td>28.75</td>
<td>30.9</td>
<td>66.6</td>
<td>61</td>
</tr>
</tbody>
</table>

Climatic Data of the Dwellings*

<table>
<thead>
<tr>
<th>Living</th>
<th>Cresche</th>
<th>Living</th>
<th>Cresche</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen and Storage</td>
<td>N</td>
<td>Kitchen</td>
<td>Storage room</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>Bedroom</td>
<td>N</td>
</tr>
</tbody>
</table>

*The data was recorded during the afternoon within a **1 hour** time range (**11am to 12 noon**).

*The Lighting outdoor was 700 Lux.
DEDUCTION: Tarpaulin is the cause of internal heat.

DEDUCTION: Aware of sustainable construction techniques using renewable sources.

Yes
No
Yes, for most of the year, but we adjust to it accordingly.
We try to adapt to the conditions, but sometimes it is very hot to stay inside the dwelling.

Yes
No
Yes the wood is sourced from the forest, recent additions like Tarpaulin have been provided by panchayats

Yes
No

Would like to explore new occupations
Follow only indigenous practices

Responses
1. Are the indoor thermal comfort conditions pleasant throughout the year?
10. Are the materials for construction locally sourced?
5. Were you actively involved in the construction of the dwellings?
15. Are you open to new occupations or follow indigenous practices only?
15 responses
15 responses
15 responses
15 responses
Results

**Occupancy:**

- 3 people
- 4 people
- 3 people
- 5 people

**Materials used:** Mud Blocks, Bamboo, Cow dung and Clay

**Honey collection**

Agriulture (Ragi, corn, Pepper, coffee and rice)

Coffee estate workers

Gowri, Deepavali, Ugadi and Kunde festival

Ration subscriptions and Community produce

Scattered Settlement

1-5 new structures every year

**Construction techniques:**
1. 5 stone land testing technique
2. Mud Bricks+ water moulded into blocks and stacked with a clay binder.
3. Washed with Cow dung mud coat and smoothened.
4. The surface is tapped using pebbles to ensure evenness.

**Considerations:**
1. Structural strength:
   - Tree creepers used to tie wood members together.
   - Bon fire fumes of dung and wood.
2. Snake and insect repellent:
   - Houses are built on elevated platforms
   - Regular Dung application on surface

**Stages of Construction:**

Stage 1

Stage 2

Stage 3

Stage 4
Solutions

**Problem:** No toilet facilities in the settlement

**Solution:** Providing common toilets with a 0.3 mile radius from dwellings that re-use grey water for the flush systems. This method may prove sustainable and effective.

**Problem:** Many households burn Plastics instead of disposing/re using them.

**Solution:** Household Waste must be collected once in 2 weeks. Awareness on appropriate disposal and green alternatives like jute and cloth substitutes.

**Problem:** Inadequate indoor lighting during the day and night

**Solution:**

**During day:**
- Roof patches that allow natural scattering of light. (Harsh rays during day)
- Used plastic bottles can be reused as water filled lamps during the day, that capture sunlight and allow scattering.

**Night:**
- Solar driven Led lamps

COMMUNITY SPACES:
- TEMPLE
- CRESCHÉ
- WORKPLACES
Acknowledgements

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• Lastly, I would like to thank the entire Kuruba community for their participation and honest responses, making this research valuable and unique.

References:

• Iyer. Krishna. L.H’s “The Coorg Tribes and Castes”, 1948