4: HYPOTHESES

“A hypothesis is an idea which is suggested as a possible explanation for a particular situation or condition but which has not yet been proved to be correct”.

‘To overcome a problem of ventilation of enclosed building in rural areas an attempt is made to provide a practical solution for the same. A continuous narrow strip of about 0.30m wide opening in the roof slab is provided along a periphery of common walls. Two leaves of parapet wall in burnt brick masonry with varying heights (outer wall with large height and inner wall with less height) are provided. A white color fiber sheet is placed on these parapet walls to prevent direct entry of rainwater inside the building and simultaneously allowing daylight. In the inner parapet wall louvered glass ventilators with movable glass louvers is provided for allowing air flow in and out. The louvered ventilators play vital role in natural ventilation. During summer season glass louvers are kept open for escaping hot air which rises up from inside the building. Simultaneously outside fresh air enters inside through the louvered ventilators in opposite direction wall. A continuous “air changes” takes place throughout day and night for 365 days. Similarly during winter season the glass louvers are kept in closed position so that warm room temperature exists inside the building. Thus a comfortable condition is maintained inside the building due to continuous opening in the roof slab, fiber reinforced sheet covering and movable glass louvered ventilators. During summer season a temperature difference of about 4 to 5 degrees is recorded thus keeping the building naturally cool. No mechanical means of ventilation such as fans, ac or coolers are required for cooling building in summer season. The electricity bill for such naturally ventilated building is reduced by almost 75% to 80% since no electricity is required to operate lamps and other mechanical means of ventilation through out the year. These are the benefits of natural ventilation of enclosed buildings in rural areas.
STRUCTURAL PLAN AT ROOF LEVEL

- M.S. GRILL
- CHINA MOSAIC
- R.C.C. Slab
- LOUVERED VENTILATOR
- F.R.P. SHEET
- OUTER PARAPET
- RAIN WATER PIPE
- TO KITCHEN SINK