

6WXG\ RI LPSDFW RI LQFUHDVHG QXPEHU RI HQYLURQPHQWDO TXDOLWPSORH KHULWDJH HV DW .ROKDSXU ODKDUDVKWUD ,QGLD

Anjali Jadhav*, Sushma Kulkarni and Ashish Rege

6+,9\$-, 81,9(56,7< .ROKkSXU ODKDUDVKWUD ,QGLD
2\$ &2//((2) \$5&+,7(&785(3DQDML *RD ,QGLD

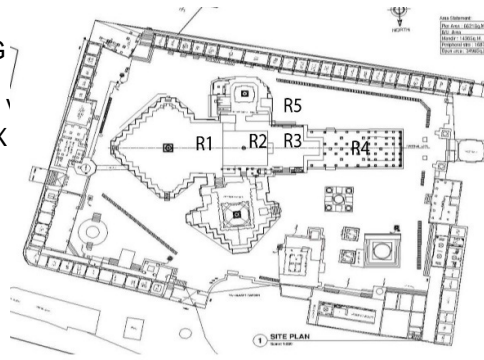
\$EVWUDQGLD KDV D JUHDW FXOWXUDO KMULWDXJHURI WWHB SZLGH DFDJURLVWVWV KH F
RI YDULHW\ RI GHLWLHV FRQVWURFBRKGV KURIP, QGLD VOR V WVRM DVKG WRHUVSIO
FHQWXULHV DJR DQG VWLOO DUHFLOO WRKRG F RDOOILW L WOHHS OHVSKWHFH QFW H
LV D YHU\ ROG SUHFLQFWFH QWROKBS & KD EXNOVQLQXOHUV (YHU\ \HDU OD
YLVVLWLQJ WKLW WHPSOH RI JRGGHRV , QGLD D DPHL WHPPSORVW FRQVWUSDFW
VWRQH ZLWK EHDXLIXO LQWULFDWHQSDRYL G Q RLO R QP HQWDS DTSKHO U R V X
ZKLFK LV GHWHULRUDWHG GXH WR WKH LPSDFW RI LQFUHDVHG QXPEHU
SUREOHP RI VXIIRIDWVRQJ IDWUQXHWLRRQ QDW SORFYL VLRQ RI YHQWV DU
QDWXUDO YHQWLQDWRQ LV QRWV D YDK DDBPH LQVH GHR VORH N RU LQHU RH I BR
QDWXUDO YHQWLQDWRQ WKH LQGBRWHGHQ, VL LQQRRE Q MUYHGXW IDW\ VLKHG
LQFUHDVHG GBRVHDVHG VHQ LQ WHPSHUDWXUHHQDQGD K X P QG LQV B R R YU W KH

.H\ZRUG+HULWDJH WHPSOH ,QGRRU HQYLURQPHQWDO TXDOLW L OFRPHILR
WHPSHUDWXUH & XPLGLW\ 2

,QWURGXFWRQ \$V SHU \$6, LW LV D JUDGH , KHULWDJH V
LPSRUWDQFH 7KH FLW\ LV D SRSXODU
ODKDOD[PL WHPSOH LV D YHU\ ROG WHPSOH WMLSOHQLRQKHSXHQWUH R
QHDU WKH ULYHU 3DQFKDJDDJDD . WOLKDSXWXLWHG WRLWVWHV QIRGDKRHXDQ V
VLGH RI WKH ROG SDODFH LQ %KDYDQL ODQGS , W LV WKH JRRG
H[DPSOH RI &KDOXNDQ VW\OH RI +LQGX \$UFKLWHFWXUH, 7KH
WHPSOH LV DW WKH FHQWUH RI WKH WHPSOH FRPSOH DQG WKH
VKULQHV DUH JURXSHG DURXQG WKH PDLO WHPSOH 7KH SODQRH KHDO
WKH WHPSOH LV VWDU VKDSHG UH (4) PDY R DMYDUD SDFW RQ WKH KHDO
\$UFKLWHFWXUH > @ RFFXSDQWV \$OO WKH KXPDO EHLQJV VS
WKH GD\ L H WR LQGRUV ,I WKH
YHU\ JRRG UHVXOW RQ WKH SURGXFWLY
RI WKH RFFXSDQWV 7KH HIILFLHQF\
DOHUWQHVV DWWHQWLYHQHVV LQFUHD
ODKDOD[PL WHPSOH LV LQ WKH KHDUW RI .ROKDSXU &LW\ ,W LV
FRQVWUXFWHG VHQ\ 7KH ROGHVW SDUW RI WKH SUHVHQW
VKULQH LV WKH ZRUN RI HDUO\ &KDOXNDQ WHPSOH WHPSOH WHPSOH 4XDOLW\
\$ ' 6KLODKDUD UXOHV RI .ROKDSXU L 7HP SOH
RQZDUGV DGGHG EHDXW\ WR WKH WHPSOH ZKH ROG VWUXFWXUH LV
FRQVWUXFWHG IURP FORVH ILWW LQJ PRUWDU OHVYV WROHV ZKLFK DUH Q
EURXJKW IURP WKH TXDUULHV QHYLJQHGRU WKH KHDOY IORZ RI GHYR
EDVDOW VWRQH V ZKLFK FDQ WD HREKJ QH WKRZHQJ WHEODEN RI Y
FDUYLQJV > @ %XLOGLQJ HQYHORSR RI WKH WHPSOH I
VXFK ODUJH QXPEHU RI GHYRWHHV 'XH
DW FRPIRUW

+LVWRU\
+HULWDJH OLVWLQJ 3DUDPHWHUV RI ,(4

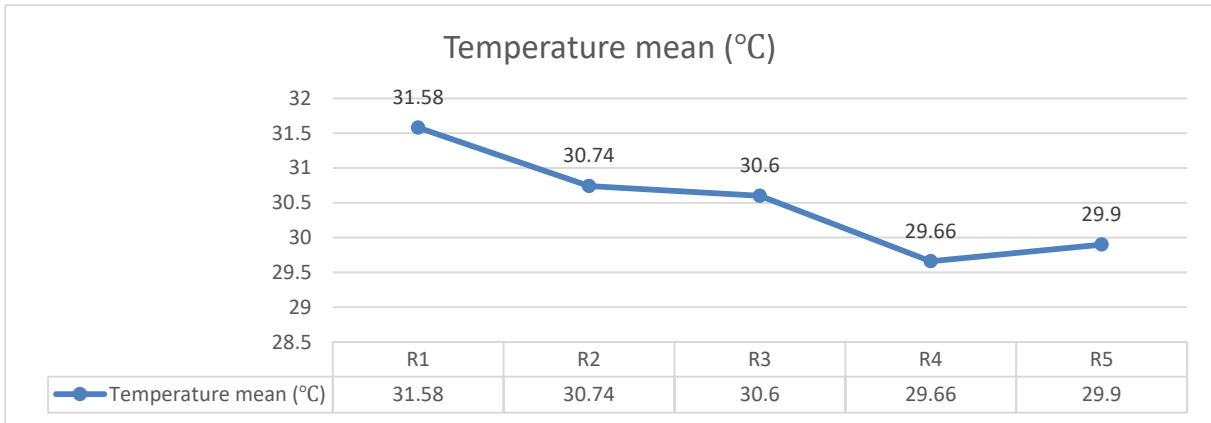
WKL V SHULRG 7R VWXG\ WKH
 LQVWUXPHQWDWLRQ LV FDUULHG
)LJXUH VKRZV WKH ORFDWLRQ
 WHPHUDWXUH DQG KXPLGLW\ L'
 SRFNHW ZHDWKHU & WUDFNH PHDVX
 VHQRU 'UDJHU ; DP /LJKW
 PHWHU /;



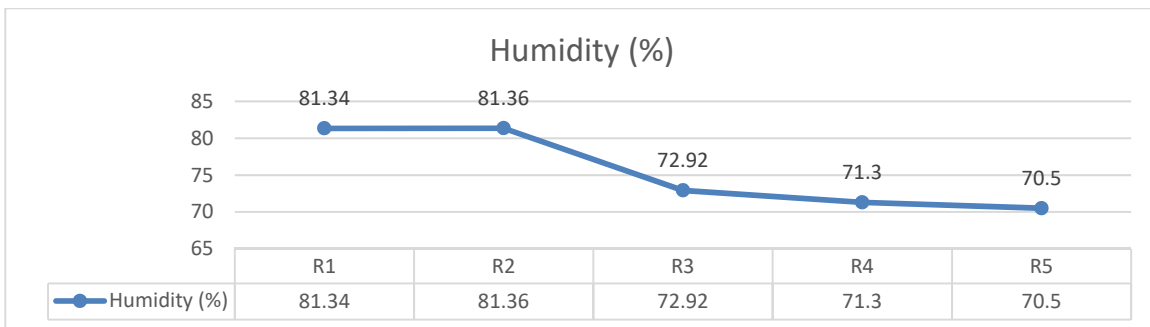
'KH WHPSOH
 2 7KH

5 *DUEKDJUXKD
 5 GDUVKDQ 0DQGDSD
 5 .DVDY 0DQGDSD
 5 *DQDSDWL &KRZN
 5 2XWVLGH WKH WHPSOH

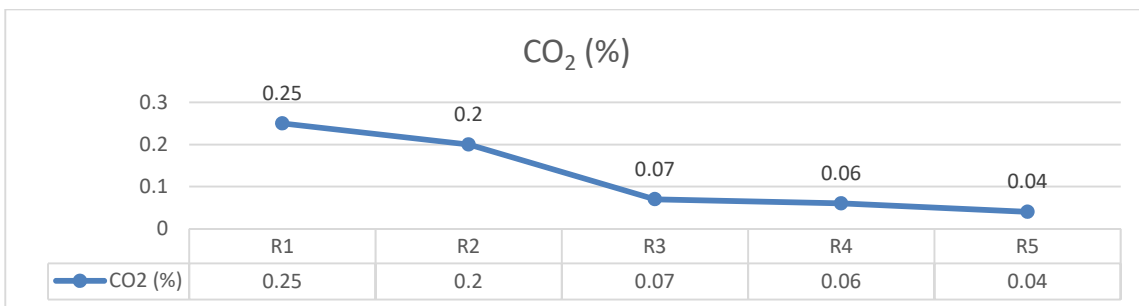
)LJ,QVWUXPHQWDWLRQ LQ WKH WHPSOH



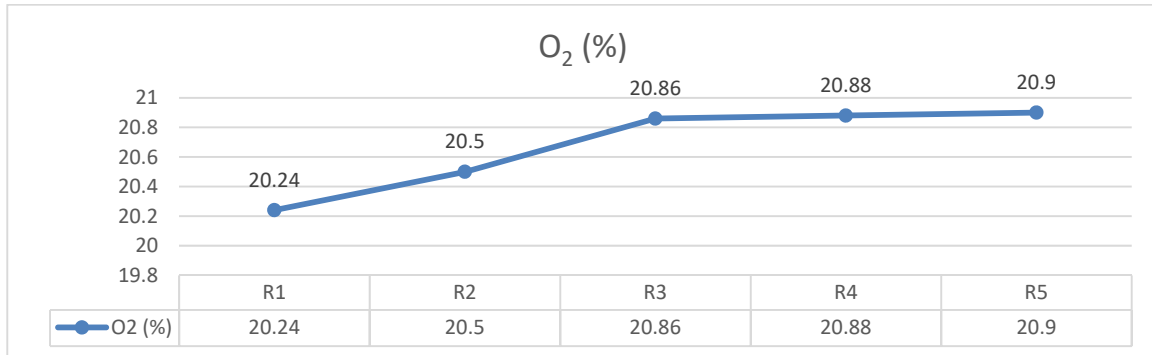
)LJ *UDSK VKRZLQJ WHPSOH DW ORFDWLRQV R1, R2, R3, R4, R5



)LJ *UDSK VKRZLQJ +XPLGLW\ LQ WKH WHPSOH DW ORFDWLRQV R1, R2, R3, R4, R5



)LJ *UDSK VKRZLQJ &2RI WHPSOH DW ORFDWLRQV R1, R2, R3, R4, R5



)LJ *UDSK VKRZLQJ 2 OHYHO LQ DLU RI WKH WHP SOH DW ORFDWLRQV

(4 LQ WKH WHP SOH LV GHWHULRUDWHG
'DWD \$QDO\VLV DQG &RQF\O\WLRQ KH DOWK RI WKH GHYRWHHV

)URP WKH DQDO\VLV RI WKH WHP SHUDWXUH FHW DSK ILJXUH QR
 LW LV REVHUYHG WKDW WKH WHP SHUDWXUH RI WKH *DUEKD JUXKD 5
 LV PRUH WKDQ 2 & WKDQ WKH RXWLQJ URWLF ASHEDW (Sudhis Sand
 'HYRWHHV\ GHQVLW\ LV PD[LXP DW HIRFDW\ RQ 5 WKH\ VWD\
 WKHUH DW OHDVW PLQXWHV 7KH D\HD SHUWHASH Resonance and
 VT PW ZKLFK LV YHU\ VXIIRFDWLQJ 7KH KXPLGLW\ OHYHO
 LV ZKLFK PRUH WKDQ WKH FRPISRAE Posmo Cape and door Environmental
 GLVFRPIRUW)LJXUH 2 LV KH &ZKLFK, \$XJXVW
 LV PRUH WKDQ WKH VWDQGDUG OHYHO STANARDQ R 2
 DOVR UHGXFHG E\)LJXUH QR 7KH DZILQHG WS & SHUHQJJD /HKUHU
 P V DV WKHUH LV QR FURVV YHQW, LDDWLRQ LQ WKH 'DUVKDQ
 PDQGDSD DQG WKH YHQWV DERYH WKHRORJYHV DUE \$ \$RORHG]RKH * VWD
 DLU H[FKDQJHV DUH QRW XS WR VW DQDQJG V DQG (YHU\ OHVV SHU
 KRXU 7KH QRLVH OHYHO LQ WKH VKUHQDQDEHG ZDQHG LV YLUKLSDQD
 FKDRWLF DQG QR VLOHQFH LV REVHUYHG, QVLEGGH WKH WHP SOH WKHUH
 DUH YDULRXV VPHOO FVHDWHG E\ IUP\KSHORZHU + DQG GHFD\ LQ J3
 IORZHUV HVVHQFH VWLFNV EXUQLQJ RLO ODPSV DQG PRVW
 REMHFWRQDEOH DQG YROXPLOQRXV VPHOO ELL R\ 7LWLRQV LQ VZ HDW 3
 'HFUHDVHG YHO LQFVHDWHG & FVHDVHG
 KXPLGLW\ DQG WHP SHUDWXUH LQFUHDVHG RQ RLV (MVDK YHO' FDXHV
 GLVFRPIRUW)URP WKH REVHUYDWLRQV LW LV FRQFOXGHG WKDW WKH