

)XQJL %DFWHULD 1DQR SDUWLFXODWVH0\FR  
'DPDJHG ,QGRRU (QYLURQPHQWV

-DFN 'ZD\QH 7KUDVKHU

\$GYLVRU\ &RPPLWWHH &KHPLFDO),PSQGVWLRQMHFLDOO\ &\$ 8QLWHG 6WDWHV

&RUUHVSRRGLQJDNWZD\QH 7KUDVKHU \$GYLVRU\ &RPPLWWHH &KHPLFDO ,PSDFW 3URMHFW 7LGHV )RX  
)D[ (ADR\LRFRORJLVW #PVQ FRP

5HFHLYHG)GBWH \$FFHSHWG GDWH ODU 3XEOLVKHG GDWH ODU

&RS\ULJKW ( 7KUDVKHU -' 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH WHUPV RI  
GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO DXWKRU DQG VRXUFH D

\$EVWUDFW

1LQW\SHV RI ELRFRQWDPLQDQWV LQ GDPS LQGRRU HQYLURQPHQWV IURP PLFURE  
PROGV \*UDP QHJDWLYH DQG SRVLWLYH EDFWHULD PLFURELDO SDUWLFXC  
FRPSRXQGV ERWK PLFURELDO 092&V DQG QRQ PLFURELDO 92&V SURWHLQ  
JOXFDQV JOXFDQV DQG OLSRSRO\VDFFKDULGHV /36 HQGRWR[LQV :KHQ PR  
FRQWDPLQDWRQ LV GHGXFHG +RZHYHU WKUH DUH QR FXUUHQW UHFRPPHQGDW  
WKH OHGLFDO DQG 7R[LFRORJ\ SURIHVVLRQV DV WR ZKDW FRQVWLWXWHV D VDIH  
WR[LQV LQ D ZDWHU GDPDJHG LQGRRU HQYLURQPHQW 7KH WKUXVW RI KLV UHYLHZ  
RQ WKH KHDOWK RI RFFXSDQWV RI GDPS LQGRRU VSDFHV

.H\ZRUGDFWHULD )XQJL 1DQR SDUWLFXODWHV 0\FRWR[LQ

,QWURGXFWRQ

'DPS RU ZHW EXLOGLQJ PDWHULDOV RFFXU IURP D YDULHW\ FRQVWUXFWLRQ  
GHIHFWV URRR OHDNV +9\$& FRQGHQDWRQ ZDWHU LQWUXVLRQ IURP  
KXUULFDQHV OHDNLQJ DSSOLDQFHV DQG SOXPELQJ SRRUO\ GHVLJQHG  
IRXQGDWRQV H J EDVPHQW ZDOOV WKDW DOORZ ZDWHU VHSDJH IURP ZHW  
VRLOV VORSH RI WKH EXLOGLQJ ORW OHDGLQJ WR ZDWHU DFFXPXODWRQ XQG  
FRQFUHWH VODEV :H KDYH EHHQ LQYROYHG LQ KRPHV ZLWK FUDFNHG FHPHQW  
VODEV EHQW DOXPLQLXP ZLQGRZ IUDPLQJ KLJKO\ FRQWDPLQDWHG ZDOO  
FDYLWLHV SRRO)QLPSURSROGHVSDWRQ  
PHQWLRQ D IHZ \$OO RI WKHVH VLWXDWRQV OHDG WR ERWK KLGGHQ DV ZHOO YL  
VLJQV RI IXQJDO DQG EDFWHULDO JURZWK )RU VLPSOLFLW\ fZDWHU LQWUXVLRQ  
ZLOO EH XVHG DV DOO HQFRPSDVVLQJ WHUP > @

6LJQV RI 0LFURELDO \*URZWK

6LJQV RI ZDWHU LQWUXVLRQ LQFOXGH EXW DUH QRW QHFHVVDULO\ 0LPLWHG V  
ZDWHU VWDLQV RQ FHLQLQJV ZDOOV DQG DURXQG ZLQGRZV LQFUHDVHG  
PRLVWXUH FRQWHQW XVLQJ D PRLVWXUH PHWHU ZLWK SHQHWUDWLQJ HOHFWURC  
RQ GU\ ZDOO H J ZDOO FDSLWLHV GUDZO VSDFH DWLFLV DQG FDUSHWLQJ  
YLVLEOH IXQJDO JURZWK RQ VXUIDFH RI GU\ ZDOO LQVXODWRQ H J FUDZO VSD  
DWLFLV FORWLQJ VKRHV DQG RWKHU ZHDULQJ DSSDUHO EHGLQJ XQGHU VLGH  
FDUSHWLQJ PXVW\ RGRU IURP PLFURELDO YRODWLOH RUJDQLF FRPSRXQGV  
H (3\$ FDXWLRQV WKDW DSSUR[LPDWHO\ RI WKH IXQJDO JURZWK  
FDQ EH KLGGHQ WKHUHIRHHGLGHEFDWRQYLHZ  
DLUE

)XQJL *URZLQJ RQ %XLOGLQJ 02DWHULDOV DQG 7KHLU D			
&RORQL]HU *URXS	D 5DQJH	&ODVVLILFDWLRQ	)XQJDO ([DPSOH
3ULPDU\ &RORQL]HUV	VWRU DJH	;HURSKLOLF ;HURW	3HQLFLFKULXP JHQRSHUJYLQXVFWORUPRVW FRSPRQRQ IXPLJDDXJWVGRZLLWXXURWLSS EGHYLFRRPFRFPXQH RQHUORSKLOXP SDGDWBDQRPDCHWRWVWDEL
6HFRQGDU\ &RORQL]HUV		0HVRSKLOLF	\$OWHUQDULD VSS &O(SGRRSFKLUXPKSSD VSS DQG 8ORFODGLXP VSS
7HUWLDU\ &RORQL]HUV		+\GURSKLOLF	&KDHWRPDRERYXPDULOHPQRQHFKQDQWLDRSWWRORQLIHU 6WDFK\ERWUWDXPKRGMSSD D7WURYL7ULGHU LQR7LULGH KDUJLDQXP DQG 7 ORQJLEUDFKLDWXP







(YHQW	)DWKHU	\ORWKHU	\ 'DXJKWHU	\ 'DXJKWHU	\ 'DXJKWHU
6OHHS 0LQXWHV	"	"	"	"	"
7L... \$ZD	"	"	"	"	"
HVWOHV	"	"	"	"	"
8Q... HIUHVKLQJ	"	"	"	"	"

QOW

DE HV... VPPD... ]HV... UHVXOWV RI VOHHS PRQLWRULQJ HYHQWV LQ HDF  
 'LV XVVLRQ

\$ VKRUW UHYLHZ RI WKH OLWHUDWXUH  
 UHFHDVH VWXGLHV... ZLWK... WKH PHGLFDO SURIHV  
 FKURQLF LOOQHVV UHVXOWLQJ IURP... GRFWRU  
 ELRFRQWDPLQDQWV +RZHYHU WKH SHS...  
 SXEOLVKHG SDSHUV UH...  
 ZDWHU GDPDJHG LQGRRU HQYLURQPHQW...  
 EDFWHULD... EXW DUH QRW...  
 IROORZLQJ

8SSHU DQG ORZHU UHVSLUDWRU\ L...  
 GLVHVVH  
 H KHD... FOXGH LQIHFWRQV DV...  
 SQHXPRQLWLV > @

)XQJDO VLQXVLWLV  
 )XQJL DV ZHOO DV EDFWHULD LQ GDP...  
 VLQXVLWLV DV...  
 K\SRWKDODPXV SLWXLWU\ D[LV ,Q DGGLWLRQ LQWUDFUDQLDO LQYDVLQ RFFX  
 LQ LPPXQRFPSHWHQW SDWLHQWV > @

6DUFRLGRVLV  
 LV LV V\...  
 RUJDQV ,W LV DVVRFLDWHG ZLWK QDQR SDUWLFXODWHV VKHG E\ PROG WKDW  
 FRQWDLQ EHD JOXFDQV P\FRWR[LQV DQG D YDULHW\ RI DQWLJHQLF  
 SURWHLQV > @

1HUVRXV V\WHP  
 1HXURORJLFDQ GDPDJH LQFOXGHV WKH IROORZLQJ GHFUHDVH LQ VKRUW DQG  
 ORQJ PHPRU\ LQ DGXOWV DQG FKLOGUHQ DXWLVWLF VSHFWUXP GLVRUGHU LQ  
 \RXQJ FKLOGUHQ SHULSKHUDO QHXURSDWK\ ORVV RI EDODQFH IDFLDO SDLQ  
 JORVRSKDUHQJHDO QHXUDOJLD KHGD DQG QHFN P\DOJLDV PRYHPHQW  
 GLVRUGHUV DQG GHFUHDVHG YLVXDO DFXLW\ > @

.LGQH\ GLVHVVH  
 .LGQH\ GLVHVVH KDV EHHQ DVVRFLDWHG ZLWK H[SRVXUH WR RFKUDWR[LQ \$  
 SURGXFHG E\ VHYHUDO VSHFLHV RI \$VSHUJLOOXV ,Q (XURSHDQ \$VLDQ  
 FRXQWLHV LW LV UHIHUHG WR DV HQGHPLF %DONDQ QHSKURSDWK\ DVVRFLDW  
 ZLWK RUDO...  
 RFKUDWR[LQ \$ KDV DVVRFLDWHG LQKDODWLRQDO H[SRVXUH WR NLGQH\ GLVHVVH  
 LQFOXGLQJ IRFDO VHJPHQWDO JORPHUXORVFOHURVLV > @

\*μUQ5/ 5HSRQH Q 7 :LOOHNH . 6FKPHFKHO ' 5RELQH ( HW DO

(QJHOKDUG 6% 3DWHO 9 5HGG\ \$. ,QWHUPHGLDWH XYHLWLWV SRVWHULRU  
XYHLWLWV DQG SDQXYHLWLWV LQ WKH 0LG \$WODQWLF 86\$ &OLQ 2SKWKDOPRO

:LOVRQ 1- .LQJ &0 &XWDQHRXV VDUFRLGRVLV 3RVWJUDG 0HG -

\$Q\DQZ &DPSEHOO \$: 9RMGDQL \$ HvHFIMXURSK\VLRORJLFDO  
RI FKURQLF LQGRRU HQYLURQPHQWDO WR[LF PROG H[SRVXUH RQ FKLOGUHQ  
6FLHQWL}F:RUOG-RXUQDO  
.LOEXUQD+WKHU,PPHUV 1% 'R WHUEXWDOLQH DQG PROG  
DVVRFLDWHG LPSDLUPHQWV RI WKH EUDLQ DQG OXQJ UHODWH WR DXWLVP" 7R[LFRQ  
,QG +HDOWK  
.LOEXUQ .+ 1HXUREHKDYLRUDO DQG SXOPRQDU\ LPSDLUPHQW LQ