



-RXUQDO RI

ODULQH 6FLHQFH 5HVHDUFK

'HJDQL HW DO - 0DULQH 6FL 5HV

'HYHO

5HVHDUFK

2SHQ \$F

7JUFMMPHFQJO -FWFM JO UIF 1MBTNB PG 3VTT  
HVFMEFOTUBFEUJJ /PSUIFSO \*TSBFM

\*DG 'HJDQL HW DO T € 0 P 0

> @ DQG WKH VRPDWRWURSLQ D[LV JURZ  
ON JURZWK IDFWRU , ,\*) , > @ DV ZH  
WKHP

H DLP RI WKH SUHVHQW VWXG\ ZDV WR  
5XVLDQ VWXUJHRQ LQ

EHORQJ WR RQH RI WKH PRVW DQFLHQW JURXS

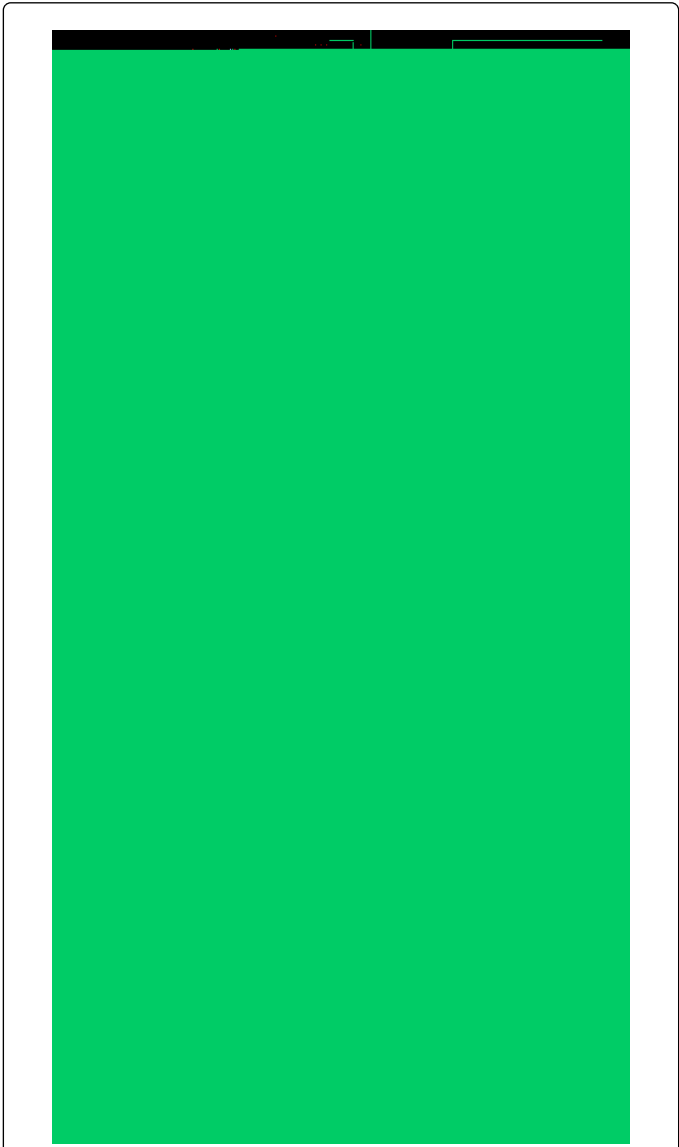
RI RVWHLEFKWK}WKRXQG DORQJ WKH FRD3DVL)RI WKH \$WODQWLF DQG  
2FHDQV LQ WKH &DVSLDQ DQG %ODFN 6HDV DQG LQ PDQ\ ULYHUV ODNHV DQG  
LQ DQG VHDVH. POLQH RI VWXUJHRQ SRSXODWLRQV LQ WKHLU QDWLYH  
KDEWDWV PDLQO\ LQ WKHRY&HDV)RQDQGHDDV DQG XH WR  
FDYDU SURGXFWLRQ WKH GHVWUXFWLRQ RI WKHLU VSDZQLQJ JURXQGV DQG  
ZDWHU SROLGXWLRQ WR EULQJLQJ DERXW WKHLU LQWURGXFWRQ LQWR  
DQDFXOWXUH

H DGDSWLRQ RI 5XVLDQ VWXUJHRQ WR DTXDFXOWXUH FRQGLWLRQV > @ ZDV  
VXGLHG DGLZHOVDFWV RI KRUPRQDO FRQWURO RI JURZWK DQG  
UHSURGXFWLRQDQGLQWLRQV LQ RUGHU WR LPSURYH VXUYLYDO  
UDWHRZWK DQG UHSURGXFWLRQ VXFFHVV > @ 1HYHUWKHOHVV LQIRUPDWLRQ  
RQ JRQDGO GHYHORSPHQW > @ DQG SXEHUW\ RI 5XVLDQ VWXUJHRQ LQ  
QRUWKHUQ ,UDHO DTXDFXOWXUH LV LPSRUWDQW IRU FDYDU SURGXFWLRQ  
DOWKRXJK PFK LQIRUPDWLRQ DERXW WKL VSHFLHV KDV VWLOO QRW EHHQ  
VWXGLHG > @ 'XULQJ RRJQHVLV WKH 9J LV D SKRVSKROLSRJO\FRSURWHLQ  
SUHFUXVU RI FRQDLQ&RQDQXWLRQVRIODKHWR RWKHU  
YHWHEUDWHV DQG LV DQ HVWURJHQ LQGXFHG O\FRS Ag dPH

Q G U 9€JVR 0P0ÚTM' bDAD€ IHZ KRUPRQHV LQYROYHG LQ FRQWUROOLQJ 97/ DUH PDLQO\ IURP  
JR

QDGRWURSLQ D[LV K\SRWKDODPLF JRQDQW LQVSDQWV OHDVLQJ KRUPRQDQG  
\*Q5+ /XWHLQL]LQJ /+ DQG )ROOLFOH VWLPXODWLRQ KRUPRQH )6+

GHYHORSPHQW WKH VWDJH RI RYDULDQ PDWXULW\ ZDV DQDO\JHG E\ HQGRVFRS\  
)LJXUH



)LJXUHHVFULSWLRQ RI WKH OLIH F\FOH DQG JURZWK RI 5XVVLDQ  
VWXUJHRQ LQ WKH 'DQ )LVK )DUPV \$ a 0DWXUH IHPDOHV % a IHPDOHV  
ZLWK EODFN HJJV FDYLDU & a FDYLDU HJJV IRU VDOH ( a IHUWLLOLJHG HJJV  
RULJLQDWLQJ LQ WKH &DVSLDQ 6HD EURXJKW IURP 5XVVLD DQG UH DUHG LQ  
WKH 'DQ )LVK )DUPV ' DQG ) a FRQWDLQHUV LQFXEDWLQJ WKH IHUWLLOLJHG  
HJJV DQG QXUDVLEOH WKH LQVHU 6XQVLDQ  
VWXUJHRQ UH DUHG LQ WKH IHPDOHV a HUV DGDSWHG WR  
EHIRUH WUDQVIHU WR WKH JURZWK SRQGV

6HUXP ZDV WKHQ VHSUDWHG E\ FHQWULIXJDWLRQ DW

530 IRU

ZHUH FDUULHG RXW XVLQJ HOHFWURSKRUHVLV RQ SRO\DFU\ODPLGH  
JHO HOHFWURSKRUHVLV 3\$\*( DV GHVFULEHG SUHYLRXVO\ E\ /DHPPOL  
XVLQJ D V\WHP RI 3527(\$1 ,, PLQL %LRUDG 86\$

\$Q DQDO\VLV ZDV PDGH IRU WKH SURWHLQ WUDQVIHU XVLQJ D :HVWHUQ EORW  
PHPEUDQH %LRUDG 86\$ ZLWK 7%6 P0 7ULV +&O P0 1D&O

JURZWK EXW D PRUH