

# hlij s ljljwtf Ps kl/ro

## ; Hfkt Oltxf;

hlij s ljljwtf efg]zAb ; g\! (\*) sf]dWolt/ o; kYjldf /x\$ f hlj x?sf]lsl; d tyf  
 k'/'tfsf] cWbogsf] l; nl; nfdf k'ngdf cfPsf] xf]. kYjldf hlj x?sf] ljljwtf g}  
 kfs[ts lj 1fgsf]dVo s[b]aGb' xf]. lxGb x?sf dxfgu(y j \$, :d[t, /fdfof, dxgef/t  
 cflbdf klg jg:klt Pj +k'flx?sf] gdfsf/of ul/Psf] kf065 . hlj x?sf] jul\$/of ug  
 kof; k'rlgsfnb]v g}x\$}cfPsf] Oltxf; n]:ki6 kf/\$f] 5 . ul; sf dxfg bfz]gs  
 Pl/:6f0nn)%))^-^)) khfltx?sf] klxrfg u/\$f lyP . !^ tyf !& d}ztfAbllt/  
 lj 1fg / klj lwsf]lj sf; x\$}uP kl5 hlj x?sf] jul\$/ofsf]dVo sfo{lj leG lsl; dsf  
 khfltx?sf] j ofG ugdf s]bt /xof]. !( cf}ztfAbllt/ hlj lj 1fgsf l; 4fGt cg?k  
 khfltx?sf] lj :t] cWbogsf cll/Qm khflit-khflit alrsf] thgflds cWbog ; d]  
 ug{yflnof]. To; }u/L @) cf}ztfAbldf lj sf; sf]l; 4fGt cg?k khfltx?sf] cWbog  
 z? ePk15 hlj x?sf] k'/'tf cfhsf]dfgj ; dfhdf lj 1fgsf]s[b]lj Gb' aGg kllof/ o;  
 sfohf0{ahlij s ljljwtf ljljwtf ifon]alnof]v8lsnf\$?kdf 6]f lbof].

; g\!(\*\* df 0{cf] lj N; g (E.O. Wilson) af/f ; Dkflbt k':tsdf hlij s ljljwtf sf  
 lj leG klfx? k\$fdzdf cfPk15 o; lf]sf]sfo{ctoGt}b'tultn]ePsf] 5 . of]k':ts  
 %& j 6f n\yx?sf]; \*x xf].hg z4 lj 1fgdf dfq ; lldt g/xl ; fdf]hs lj 1fg, dfgj  
 lj 1fg h:tf ljljw klf / lf]df ; d] dxlj kof{; fdullsf]?kdf /x\$]f] 5 .

To; u/L ; g\!((@ df 0{cf] lj N; gaf/f g}lnlvt ælb 8f0el; 6l ckm nf0kmE (The  
 Diversity of Life) gdfs k':tsdf lj Zj df cgdflgt hlij s ljljwtf sf]tYof\$sf ; fy}o; sf  
 ljljw klfsf]dxlj gjlg khfltx?sf] pTklQ klqmf, cg; Gwfg e0; s\$ e-"d08nsf  
 ljljw lf] / klfx?sf]vflhl, jftfj /oflo g]tstfsf]JofVof cflb af/]lj z4 rrf{ul/Psf]  
 5 . / To; }j if{; g\!((@ sf] hgdf aflhnsf] l/of] b]hg] /of] ; DkGg jftfj /of /  
 lj sf; ; DaGwl bf] f] ; 0Qm ; 3lo ; Dd]hgdf !\*) b}zsf kl'tglwx?sf] ; xeflutdf  
 dVotM \$ j 6f ; Dem}fx?df ; xdlit e0{lj ; hg ePsf]lyof]. tl ; Dem}fx? lyP M -!\_  
 jftfj /of / lj sf; ; DaGwl l/of] 3f]f]off -@\_ hn]fo' ; DaGwl -#\_ Ph]8f-@! sf] x]km]  
 dxf; Dd]hg / -\$\_ hlij s ljljwtf dxf; lGw .

gkfnaf6 tTsfnlG kwfgdGqlsf]g]Tj df aflhndf ePsf]jftfj /of tyf lj sf; ; DaGwl  
 ; 0Qm /fi6«; 3lo ; Dd]hgdf efu lng uPsf] 6f]ln] hlij s ljljwtf sf] dxf; lGwdf  
 x:tlf/ u/L gkfn]klg hlij s ljljwtf sf]; Af0f ug]kl'ta4tf hfx] u'of]. gkfn]sf  
 kl'tglw ; efn]g]a/ @#, !((# df pQm dxf; lGwnf0{cgdf]g u/L km]t/L @@, !(( \$  
 b]v nfu"u/\$f]lyof]. xfn clw/fHoel/ sfg]l ?kdf hlij s ljljwtf sf]; Af0f tyf  
 ; Da4G hg; Vof tyf jftfj /of dGqnon] nfu"u/\$f]jftfj /of ; Af0f P]g, @)%# /  
 jftfj /of ; Af0f lgodf]nl, @)%\$ n]u/\$f] 5 .

## kl/efiff

h] s lj lwtf (Biological Diversity or Biodiversity) n] hlj x?sf lsl; d / ltgdf kf0g] lj lwtfnf0{hgfp55 . csf] zAbdf eGgkbf{ ; #f/df /x\$; ; Dk0f{hljt kf0fl tyf jg:klt alrsf]leGgtf k\$ / / hDdf ; Wof / ltgsf alrsf] ; ofhg g}h] s lj lwtf xf]. o; sf]hg; s}k]hilt leqsf]cfgj lzs lj lwtf k]hilt k]hilt alrsf]lj lwtf / ltglx?sf]kfl/l:yts k0ffnlsf]lj lwtfnf0{hgfp55 . o; n]:ynlo, hnlo, ; fdlb\$ / l; d; f/sf]h] s lj lwtfnf0{; d] aemfp55 .

h] s ; f] (Biological Resource) eGgn]dfgj lo lxtdf kofu ul/g]jf:t]s jf ; l~rt hljt j:t\$ cæx?nf0{aemfp55 . h] s lj lwtf leq lgDg lnlt cfwf/et tyf r/0fa4 >0flx? kg{cfp5g\.

!= kfl/l:yts k0ffnl lj lwtf (Ecosystem Diversity)

@= k]hilt lj lwtf (Species Diversity)

#= cfgj lzs -j æf0fut\_ lj lwtf (Genetic Diversity)

## !kfl/l:yts k0ffnl lj lwtf (Ecosystem Diversity)

kfl/l:yts k0ffnl]kf0fl, jg:klt / ; ld hlj f0fx?sf] ; dbfo / ltglx?sf] ch] s jftfj /of; Esf] cGt/; DaGwnf0{hgfp55 . kfl/l:yts k0ffnlsf ch] s tjx?df k\$z, tfk, xfj, df6f] kfgl cfb kb5g\ 3fD0fg, hun, l; d; f/, kf\l, vfhfgfnf cfb kfl/l:yts k0ffnlsf pbfx/0fx? xg\ . kfl/l:ys k0ffnlsf]lj lwtf eGgn]lj leGg k\$ /sf kfl/l:yts k0ffnlx?sf lsl; d, cfj [Q (Frequency), k]s[ts jf; :yfg, h] s ; dbfox? / ltgsf ; Argdf ePsf klj tGx? aemfp55 .

## @= k]hilt lj lwtf (Species Diversity)

k]hilt]Ps cfk; df khgg, ug{; lfd hlj x?sf] ; d\nf0{hgfp55 . k]hilt lj lwtf eGgn] k]jlsf] sg}efudf kf0g]hunl jf 3/kfn]f, k]hilt\$ lsl; dx? / ltgsf] cfj [Qnf0{; d] aemfp55 . k]jldf %) nfvb]v # s/f\$ k]hilt\$ lsl; dsf]cl:t]j /x\$] cgdffg ul/Psf] 5 . tl d]l] !& nfv lsl; dsf hljt k]hiltx?sf] klxrfg e0; s\$]5 .

k]hilt lj lwtf]sf] cl]bog ug]lj leGg tl/sf 5g\ . k]hilt k] /tf eGgn] (Species Richness) sg}Ps 7fp0f kf0g]k]hiltx?sf]sh ; Wofnf0{aemfp5 . pi0f lf0df zltf]0f lf0 / zlt lf0df eGbf k]hilt k] /tf a9l kf0Psf]5 . k]hilt lj lwtf cl]bog ug]csf] tl/sf 6\$; f]f]ds lj lwtf (Taxonomic Diversity) xf]. o; n]sg}7fp0f kf0g]lj leGg lsl; dsf k]hiltx?sf] ; fk]lfs k]r0 (Relative Abundance) nf0{dVo cfwf/ df6b5 . To; }u/l k]hilt k]ntf (Species Dominance) k]hilt lj lwtf cl]bog ug]csf] tl/sf xf]. sg}lg]Zrt lf0 / ; dodf clws dfqdf kf0g]jf b]vg]jg:klt jf hlj hGt\$] k] /kotf ePsf]k]hilt a9l k]n (Dominant) 7flg65 .

**#= cfqj lzs lj lwtf**

hlg jf j zfof' eGgn] s[blsf /zf (Chromosome) df /x\$] l8PgP= (DNA jf Deoxyribonucleic Acid) sf] ; aeGbf ; fg] Psf0nf0{ alen65 . cfqj lzs lj lwtf] hlj x?df kf0g] j zfofsf] lj lw lsl; dnf0{hgfp65 . csf] zAbdf eGbf o; n] sg}Ps khfltsf] ; Wofleqsf lj lwtfnf0{ ; d; cfu665 . pbfx/Ofm gkfndf lj Bdfg k/Dk/fut wfgsf ; of}Hsl; dsf khfltnf0{lng ; ls65 . h:tM af; dtl, sl/of, cgbl, yfkflrgl, df; l{ cflb \_

**dhet ; d:ofx?**

lgDg pNn]vt s'fx? hlj s lj lwtf sf vf; dhet ; d:ofx? xgM

!= hlj s lj lwtf sf] xf];

@= hlj s lj lwtf xf]; xg sf sf/ofx?

**!= hlj s lj lwtf sf] xf];**

lj Zjel/ g} jg:klt lj lwtf sf] lj gfz btultn] e}x\$] 5 h; n] ubf{ pRr ju\$ @,%),)) khfltx?dWb]cGbfhl %),)) khfltx? cfpBf]#) jif{eq nfk xg] cgdfg ul/Psf]5 . To; }u/l clwsfz jg:kltx?sf]-vf; u/l lgDgj ul6 hlj x?sf] hlj s 1fg cem}klg xfdlnf0{cflzs dfqdf kkt ePsf]5 . cem}lj rf/Oflo tYo s]xf]eg]!)-#) hlj x?dWb]Ps hlj sf]af/df dfq lj 1fgn]kQf nufPsf]5 .

pTkfbg a9fpgsf nflu lj sf; l alpsf]kpfu æcfwlg s[fif kffndf cTolws dfqdf e0/x\$] xgfn] :jbZl jg:klt tyf hlj hGtx?sf j zfofdf kTolf xf]; cfPsf 5 . :jl6h/Nof08sf]Ps pbfx/Of cg; f/ %U ; fukftsf]alp dfq :yfglo ; f}af6 ; sng u/l pdf/65, af6L (%U ldl>t ; fukft (Hybrid) sf alpx? pdf/] kpfu ul/65 .

**@= hlj s lj lwtf xf]; xg sf sf/ofx?**

lbgfglbg o; ; f/df lj Bdfg hlj s lj lwtf -h; n]o; kVj lsf]kfl/l:yIts kffnlx? ; GtInt /Vg cthglo eldsf vhf]5 \_ btutldf lj gfz e0/x\$]5 o; sf ljleG sf/ofx? 5g\ . h:tM -s\_ af; :yfgsf]xf]; tyf jgljgfz -v\_ hg; Wof a[4 -u\_ ul/al -3\_ jg; Dkbfsf] cTolws kpfu jf bfxg -a\_ cjwflgs lzs/ tyf rf]l -r\_ hlj s ; f}sf]Jofkf/ -5\_ /f; folgs dn tyf sl6gfzs cf}lwsf]cTolws kpfu

**hlj s lj lwtf ; Af0fsf]cfj Zostf**

hlj s lj lwtf sf]dNo jf dxTj cfly\$ b[i6sf0fn]dfq dNofsg ug{; lsb6, lsg eg] hlj hGt' jf jg:kltsf ; a}efux?sf]pkof]utf af/] xfdlnf0{yxf xg ; s\$]56 . tklg hlj s lj lwtf sf] sxl pkof]utf k]oM xfdl ; a}f0{yxf g}5 / ltgnf0{ki6 ?kdf xg{; ls65 . ; f/df x/\$ ; Eotfsf]pTklQ / lj sf; k}ts[ts tyf hlj s ; f}sf lj lwtfdf lglxt x65 . hlj s lj lwtfn]kTolf jf ckTolf ?kdf dfgj hlj gnf0{rflxg] j :tx? kbfq ub5 . hlj s lj lwtf sf]dxTj nf0{df6f df6L tlG lsl; dn]jul\$/Of ug{ ; ls65 . Itglx? o; ksf/ 5gM -s\_ pkof]utf (Utility)-V\_ Sf0{(Funtion)-U\_ ; f}b0{(Beauty)

**pk; x/**

xdf] b\zsf] h\j s l j l j w t f s f ] c l l b o g k f l / l : y l t s k o f f n l / k h f l t l j l j w t f s f ] : t / d f e P s f ] 5 t / c f g j l z s l j l j w t f s f ] : t / d f e P s f ] 5 g . k f l / l : y l t s k o f f n l : t / d f h \j s l j l j w t f s f ] c g ; G w f g p i o f l f g / l ; d ; f / l j : t t ? k d f u g { c f j Z o s b l v G 5 . g k f n d f p R r j u l g j g : k l t s f ] c l l b o g c k l k s j g : k l t s f ] e G b f t h g f t d s ? k d f a 9 l e P s f ] c k l k s k h f l t x ? s f ] c l l b o g d f k l g T o l Q s } k f y l d s t f l b g k g l b l v G 5 . c l l b o g / f d / l e 0 g ; s s f l g D g j u l g h l j h G t x ? s f ] c g ; G w f g u g { k l g p l Q s } h ? / l 5 . ; A l f t j g : k l t t y f h l j h G t x ? s f ] : t / / h \j s c l l b o g u / l c G o ; s 6 f k G g j g : k l t t y f h l j h G t x ? s f ] ; d f j z ; A l f o f ; r l d f / f l v g ' k g l c f j Z o s 5 .

- ; f\g >]7, gf:6

**; s6fkGg jg:klt ; kGwf v]l MPs ; Hkt hfgsf/L**

**j]flgs gfd (Botanical/Scientific name): Rauwolfia serpentina Benth. ex Kurtz**  
**[syn: Ophioxylon serpentinum L.]**

**jfg:klts kl/jf/ (Family): Apocynaceae**

**c^u\hl gfd (Common name): Serpentine root, Rauwolfia, snake root plant**

**:yfglo gfdx; (Vernacular names): ; kGwf, rfd; j f, kfunj bl, wf]l/ -gkfnL, j f? j f, wN9l/of -yf?\_ rGbdf/, ; kGwf, rGbdf -; :s t \_u Rof/uf] -r]kE\_u wd; j f -b/f0\_u uf; -; tf/\_u rGb;efuf, 5f;frf; c; f]h -lxGbL .**



**jfg:klts ljj/of**

; kGwf ; fwf/0ftof ^)-() ; d=; Dd prf0 eP tklg slxn\$flxF! blv !% ld= ; Dd prf0 xg] ; bfj xf/ axj ifl g emf8lbf/ l j z j f (woody perennial shrub) xf]. of] vNnf 3fd g?rfpg] khflt (shade loving species) xf] / o; sf] af; cG o jg:kltsf] 5xf/L dl g xS;f] e;f0G5 . o; sf kftx; lrNnf nfd, efnfsf/ (bright green, lanceolate) xG5g\ k lo\$ ufFf÷cfVnf j l / k l / a f 6 # ÷ # j 6 f k f t x ; l g l : s P s f x G 5 g \ . k f t n f D r f ] e 0 { 6 k k f l t v f ] / k m h 5 f ; f ] x G 5 . d l ; g f , j f : g f b f / , ; j f c y j f x l s f u h j l (whitish or pinkish) / a u s f k m h x ; 6 k k f d f e n k k e P / k m h ; f x G 5 g \ . o ; s f k m h x ; r g b l v k m l g ; ? e P / k f ; D d k m h k m l g ] q m d h f / l / x G 5 . s f l Q s - d l ; / l t / o ; s f k f t x ; e m 5 g \ r g a z f v l t / k n f p 5 g \ . k f t e m ; s f ] a h f d f e m s x h f { o f ] l j ? j f ; s ; f ] h : t f ] b l v G 5 . ; f p g b l v d l ; / ; D d k m n n f l u b 5 g \ k m n x ; s f F ] c j : y f d f x l / o f ] x G 5 g \ k m n / l j p r l g f / u f j h x G 5 g \ l a p s f ] / a u v ; f ] x G 5 / a f l x / l e f u s 8 f x G 5 . k m n s f ]

/u kfsk15 sfnf] xG5 . ; kGwfsf] sf08sf] afQmf v\]f] xG5 / lrl/Psf] h:tf] b\]vG5 .  
; kGwdfdf kf0g]/; fog (taxine) sf]sf/0f o; sf]kmsf] afx/L afQmf / ejf (aril) afx\$  
k/}j?jf tltf]xG5 .

**knfj6 / jf; :yfg**

; kGwf gkfn nufot piOf kb\zo xfjfkgl (tropical climate) ePsf bzx; ef/t,  
>lnsf, dn\; of, Dofgd/ -jdf{ cflb bzx;df kf0G5 . of]lj?jf Pl; of afx\$ clk\sf  
/ cd\]sfsf] piOf kb\zo e-efudf klg kf0G5 . of]gkfn]sf] sl/a !)) b\]v !@))  
ld6/; Ddsf] prf0df k] b\]v klZrd ; fn, x/f] j/f] c:gf, l; ; f]-vo/, sdf{ 0Gbhf}  
cflbsf] h^undf krf6kn6 5l/P/ /x\$] kf0G5 . o; nf0{ kf0Mh; f] klxn] ljgf; e0{  
kg/f]kfbg ePsf h^un (regenerated forest) sf]lr; f] ; knf]/ cf] k/\$]7fpdf lj zif  
; kdf e\$0Psf]5 . gkfn]df ; kGwfsf]Ps dfq khflit (*Rauvolfia serpentine*) kf0G5  
hg xf].

**pkoful efu h/f, kft**

**pkoflutf**

o; sf]h/f cf0j / cfwlgs cf\fw bj\df kofu xgsf ; fy}dfgl; s /fu lgb\ nufpg]  
tgfj /Qmrfk 36fpgsf]nflu /fdj f0f dflG5 . h/fsf]/; dn\]of Hj /f]; k]6f\$]sf]  
cfpF em8fkvfnf, gzf ; DalGw /fu, dgl; s pQ]hgf, d[u / lgb\ gnflg] h:tf  
/fu\;df ; d] pkoful ePsf]kzfwg gu/L sRrf ; kdf g}kofu ug{; lsG5 . To:t}  
; Ts]L Joyf nfu\$]ahf h/f vfBf aRrf l56f]hGdG5 eG]hglj Zjf; 5 . To:t}o; sf]  
kftsf] /; cf\dfdf nfu\$] hfnf] x6fpg kofu ul/G5 . kgZr vf\$], bd / kof]  
cN; /sf]/fu\nf0{eg}o; sf]kofu ug{lgif]wt 5 . ; kGwfsf lj zj f 3/ jl/kl/ /fl]gn]  
o; sf]uGwn]; k{cfpB} eG]wld\$ lj Zjf; ; d] ; dfhdf /x\$]b\]vG5 .

**kdv /f; folgs tEj**

; kGwfsf]afQdf lj leGg k\$]/sf Pl]dgf]Pl; 8 (viz. arginine, lysine, serine, aspartic acid,  
glutamic acid, threonin, alanine, praline, valine, etc) x; kf0G5g\ . o; sf]dVo pkoful  
efu dflgPsf]h/fdf tlg bhG eGb f a9L /f; folgs tEj x; -cNsfnf08\_ kf0G5g\  
h:t} M reserpine, rawalfinine, jaralicine, taxine, ajmaline, serpentine, deserpidine,  
serpigine, serpajmaline, ajmalicine, reserpinine, rescinnamine, yohimbin, corynatheine, Cflb  
/f; folgs tEj x; kf0G5g\ o; d\]o]; fwf/0ftof reserpine, rescinnamine / deserpidine  
gfds /; fog w\}h; f]kf0G5g\ . o; df ePsf]l/; kf0g / PlG6 xf0kfB]; e /; fogsf  
sf/0f ; kGwf pRr /Qmrfk lgoGq0fsf nflu cToGt} pkoful dflgG5 . o; df xg]  
chdfing (azmaline) /; fog tgfj 36fpg kofu xG5 .

**v]l tyf k] f/0f lj lw**

gkfn]df ; kGwfsf]v]l k]l{t/f0\$ s\ lhNn]df s\ jif{cuf8L ul/Psf]ePtf klg  
klg clxn]rflx JoIQmut kof]hgsf]nflu afx\$ o; sf]Jo; flos ; kdf v]l ul/Psf]

5g . o; sf]v]lsf]nflu piOf xfj kfgl ePsf] lfd df kf^wfl/s dn ePsf] tiff/f]gkg] kfgl ghDg]/ kfgl ; f] /Vg] lfdtf ePsf] jfn]f ldl; Psf] bfd6 df6f] (sandy loam) pkoQm xG5 . o; sf]k] f/Of alpaf6, h/fsf] sndlaf6 / sf08sf] sndlaf6 u/l # lsl; dn]ug{; lsG5 .

**!= alpaf6**

; kGwfsf lj zj fx; hdlgdf ; f/\$f]^ dlxgfk15 kmNg yfN5g\ t/ ! jif{k/fgf afdf dfq uOf:t/lo km nflu5g\ . o; sf kmx; j zfvb]v >fj Of; Dd kmN5g\ . d;l/b]v kfsG yfN5g\ . km\$ f kmx; Ps}k6s gkfSg] ePsf]h] kfs\$ f kmx; e0Ef emg{ cuf18 5fgl-5fgl l6kb} hfgk5{. ; ^\$ng ul/Psf] kmaf6 lap lgsfnl ; knf kfgldf wfp/ 3fddf ; \$fpgk5{. /fd] E ; ls; s]k15 dfq lapnf0{e08f/ ug{kb5 . alpnf0{! jif{Dd e08f/Of ug{; lsG5 . tklg hlt rfBf]g; {ldf lap /f]of]pdg]k]tzt Tolt g} a9L /xG5 . ; fwf/Of tof alpsf] pdg] zIQm w}] yf}] sl/a @%-%)U ; Dd xG5 . cg; Gwfgaf6 yxf eP cg; f/ &-\* dlxgf; Dd e08f/Of u/\$f]alp pdg w}]ufx] xG5 cyf\$ \pd]g, To: tf]kl/Of dnf0{; xhls/Of ug{cr]h lj zj fsf] tGt' k]gg klj lw af6 yf}]; dodf w}]la?jf pTkfbg ug{; lsG5 . alpnf0{l; w}kf]nlyg y]hdf /fv] klg lj zj f pTkfbg ug{; lsG5 t/ pdg]k]tzt sd ePsf]xgfn]l; 8Jof8÷g; {L Jof8df /fv] pdfg{a9L /fd] xG5 . alpx; /fk\$]# xktfkl5 pdg yfN5g\ / of] qmd @-# dlxgf; Dd klg rln g}/xG5 .

**@= h/fsf]sl6E÷sndlaf6**

sl6E÷sndlsf]nflu ! jif{k/fgf]; kGwfsf]afdf]h/fnf0{krfug r]df pv]hl s]k dl; gf h/f ; d] kg] u/l dVo h/faf6 % ; #d= nfd] 6qmx; kf/] df6f] el/Psf] kf]nlyg y]hdf cyj f bfd6 df6f] ePsf]g; {L Jof8df h/fsf]; fg] efu df6f}hldg afx/ b]vg]u/l /f]gk5{/ lgoldt ; kdf kfgl tyf 5xf/L lbgk5{. tof/ kfl/Psf] sndl /k\$]! xktfb]v gofF6; f knfpg yfN5g\ . ; kGwfsf] lj zj f pTkfbg ug] ; aeGbf ; lhnf]tl/sf oxl xf].

**#= xfEfsf]sl6Eaf6**

; kGwfsf k/fgf lj ?j fx; sf]s8f 8f7 ePsf sf08 tyf xfEfsf]sl6Eaf6 klg lj?jf ; lhn} E pTkfbg ug{; lsG5 . @-\$ j6f cfVnf ePsf !% ; #d= nfd] xfE tyf sf08sf]sl6E tof/ kf/L g; {L j \$df j f df6f]el/Psf]kf]nlyg y]hdf sl6E tof/ kf/L g; {L a \$df j f df6f]el/Psf]kf]nlyg y]hdf 58\$]agfP/ cfwf efu df6f]dfly / cfwf efu df6f]dlg kg]u/l /f]g' kb5 . sndlaf6 6; f knfP/ gcfP; Dd g; {L j \$nf0{l r; f] kf/L /Vg' kb5 . o: tf sndlnf0{df6f]df /f]g' k} {z6\$; (rootex) gfds h/fsf]lj sf; ug]Ps lsl; dsf]kfp8/df 8af0{/f]gfn]h/f rfBf]lgl:s0 lj?j fsf] ; k lnG5g\cGoyf h/f lg:sg sl/a @ dlxgf nflu5 .

**lj?jf /fkof**

g; {ldf pd\$]sl/a ^ dlxgfk15 lj?jf /f]g of]o xG5 . o; sf]v]l ; se/ jgsf]pi0f  
xfj fkgldf /fd] xG5 tfklg s[if hldgsf] sfGnf / l8ndf o; nf0{ ; lhn} nufpg  
; lsG5 . s[if hldgsf] v]df nufpBf sDkf]6 dn xfnl ulx/f] u/L vghf] ugK5{.  
c; f/ dlxgfk15 lj?jf /fkof /fd] E ; 5G\ l; #f0sf] cfj Zostf kbG . lj?jf /f]bf  
!%÷@) ; #d= ulx/f] v]f]8f]d] #) ; #d= sf] km/s xg] u/L Ps nf0gb]v csf]nf0gsf]  
b/L sldtdf ! ld= ^) ; #d= kg] u/L /f]gk5{. lj z]f u/L /fk\$]f] klxnf] j ifGf lj?jf  
; fg] xg] ePsf]h] cfj Zostf cg' f/ ufBdh u/L df6f] vshf] agf0{ps}f nufpgk5{.  
; Vvf df}ddf l; #f0sf] cfj Zostf a9l k5{. /fk\$]f] # dlxgfk15 gf06fhg !) s]hl=  
km km] ; ^) s]hl= / kfGf; #) s]hl= kl]t x\$6/sf b/n] kof] u] ug{p]tkfbgsf lx; fan]  
nfebfos dflgG5 . t/ kZ:t slxPsf] uf0] :tsf] uf] / dn /fv] ul/Psf] p]tkfbg  
(organic farming) sf] kl/df0f, u0f:t/ / ahf/ d]llo ; a} pRr:t/lo xG5 . /fk\$]f]  
lj?jfx^ ^ dlxgdf kmh km]g ; ? ub5g\ !\* dlxgdf ; a\$ng ug{of]o xG5g\  
udl{7fpBf ; kGwf kf]oM afx}dlxg km]b5g\  
; kGwfsf] lj?jfdf 9" Lsf khfltx^af6 nflg] lnkm :k6 (Cercospora leaf spot),  
.cN6/g]of lnkm :k6 (Alternaria leaf spot) / ef0/; af6 nflg].nlkm df]hf0\$U /f]ux^ n]  
cfqmd0f ug{ ; Sb5g\ . o; sf] clt]l/Qm h/fdf .lgdf6fB] -df6f]d] xg] /fpG8 jd{  
kmf0nds]f; 'd hsf\_ n]cfqmd0f u/] h/fdf uf]f kfg]sfd ub5 . v]ldf 8DklE ckm  
/f]u klg nflg ; Sb5 / o; sf]nflu @ uf]d Bavistan kfp8/ kl]t ln6/ kfgldf ld; fP/  
5g{kb5 . ol /f]ux^nf0{ls6gfzs cf]fw kof] u/] klg /f]syfd ug{; lsG5 .

**afnl ; a\$ng, e08f/0f tyf ahf/ Joj:yfkg**

o; sf]afnl ; a\$ng eG'g}dVotM h/f lgsf]g]sfd xf]; fy}alp ; a\$ng klg ug]  
ul/G5 . lj?jf /fk\$]f]l56f]d] !\* dlxgfk15 / a9ldf # j ifK15 kl/kSj lj?jfaf6 afnl  
; a\$ng ug{; lsG5 . o; sf h/f ; fwf/0ftof d# / kfj dlxgdf ; a\$ng ul/Pdf  
; f/tEj a9l kf0g]xgfn]pQm ; do >D:s/ dflgG5 . h/f ; a\$ng ubf{dl; gf /f}h:tf  
; fgf h/f ; d] /xg]u/L / af]mf glaug]u/L ; a\$ng ug{kb5 . /fd] E ; kmf u/\$f  
h/f xfj f nflg] 5xf/ldf ; \$fpg' k5{. /fd/L ; \$]g; \$]f]yxf kfpG h/fnf0{efRbf  
lk6-lk6 cfj fh cfpg]xgk5{. k'} ; \$]f h/f af]fdf /fv] cf]fgf] / xfj f v]g]sf]fdf  
e08f/ ugK5{. v]lsf]nflu lap ; a\$ng ; fwf/0ftof c; f/b]v kfj; Dd ug{pkoQm  
xG5 . alp ; a\$ng ubf{kfs] /ftf]e0; s]f]alp e0Bf emg{cl3sf]cj:yfdf dfq  
ugK5{/ ; a\$ng ul/Psf alpx^ xfj f gk:g]u/L l6gsf]afs; df /fv' kb5 .

g]kndf Joj ; flos ^kdf ; kGwfsf]v]l gul/Ptf klg ; a\$ngstf^ c]kml ghssf]  
/fli60 jg cyjf ; fdbflos jgaf6 ; a\$ng u/] 3/df Nof0{ ; fdfGo kZ]v]gk15  
:yfglo Jofkf/Lnf0{a]g]ub5g\ . lj Zj ; A]f0f ; 3 (World Conservation Union, IUCN)  
n] ; a\$6fkGg khfltsf] ; 'ldf ; fy}; f0l6; (Convention on International Trade in  
Endangered Species of wild fauna & flora, CITES) sf]cg' 'l @ df ; 'ls[ ePsf]  
; kGwfnf0{ kZ]v]g gu/L sRrf tj/df a]g cyjf ljbZ lgsf; Lsf] nflu kl]tjGw

nuf0Psf]5 . kgZr jg:klt lje fu jf hl8a6l ptkfbg tyf kzf\wg sDkgl lnld68sf] l; kmf/; df cf`gf]pTkbgsf]xsfdf afx\$ jg lje fufsf]:jls[t lnP/ gkfn clw/fHoleq kzf\wg u/l ; f/ t[ej lgsf; l ug{cugd tl kfPsf]cj :yfdf jfx\$ ljbz lgsf; l (export) ug{kl\ta6w nuf0Psf]5 .

:yfglo, /fli60 tyf c6t/fli60 ahf/df o; sf]dfu lbg kl\tlbg a9l/x\$]5 . :yfglo ahf/df o; sf]dNo kl\ t s\hl= ; /b/ !^).- 2k0fF/x\$]5 . ; /sf/l jg hEnaf6 ; k6Gwf ; a\$ngsf]nflu kl\ t s\hl= sf]?= %).- /fhZj jg sfofhodef aenf0{; a\$ng Ohfht kq lngk5{. ; fdbflos jg leq :jls[t jg sfo{offhgdf pln\y eP cg' f/ v\l u/l ; a\$ng u/\$f]v08df jg sfofhodef sg}/fhZj aemfpg' kb0\

**lgisif{**

; k6Gwf pi0f hnj fo' kf^al/s dn ePsf] kfgl gh0g] afnjf ldl; Psf] bf06 df6f] c6o jg:klt sf]5xf/l pko0m df6g]Ps axpkof\ul jg:klt xf]. o; sf]dVo pkof\ul efu h/f hg ljz\if u/] pRr /Omrk, dfgl; s p0\hg, lg6bf gnflg] nufot c6o /f\ux2 lgsf] kfg{ k0f\ u/\$f] kf0Psf]5 . o; sf]pkof\utfsf] a9bf] dfusf] sf/0f cj\wflgs tl/sfn] hyefjl c\oflws ; a\$ngn] ubf{ of]lj?jf nfk xg]l:y\tdf kl\$fh]o; sf]; Af0fsf]nflu gkfn ; /sf/ jg P0 @)\$ (, jg lgodfjnl @)%! / ; zflwt jg P0 @)%\* n]o; nf0{; Af0f ; f\ldf /fv\$]5 . gkfn ; /sf/sf]hl8a6l tyf u\ sfi7 jg k0fj / glt @)^! n]o; nf0{h8la6lsf]/fli60 kfyldstf ; f\ tyf ; Af0f / v\lsf]kfyldstfsf] ; f\ldf /fv\$]5 . jg:klt lje fuaf6 gkfn]sf] cfly\$ ljsf; sf nflu ; fy}v\l klj lw cg' Gwf sfo\$ nflu kfyldstf k\kt hl8a6l kl g xf]. ljZj ; Af0f ; 3 (IUCN) n]; \$6fk6g khfltsf]; f\ldf ; fy}; f0l6; sf]cg'; f\ @ df ; f\ls[t ePsf]o; lj?jfnf0{kzf\wg gu/l sRrf tj/df a\g cyjf ljbz lgsf; lsf] nflu kl\ta6w nuf0Psf]5 . gkfn]df Joj ; flos 2kdf o; sf]v\l ug{; s0f cfly\$ nfe kl g /fd}xg]ePsf]h]; Dal6wt ; /f\$]jfnf lgsfox2n]o; sf]j\xt\v\l klj lwsf] lj:tf/ ub\lbuf]; Af0f, cg' Gwf tyf ljsf; sf]nflu oyf:yfg (in-situ) tyf k/:yfg (ex-situ) tj/af6 ; Af0f ug{k\g]b\l\65 .

**: Gbe{; fdulx2 (References)**

- != e\$/f0, v\ /fh / l3ld/] dwb]l l3ld/]-lj=; #@)^#\_ , gkfn]sf dxTj k0f{h8lj 6l tyf u\ sfi7 jg k0fj/x?sf] lbuf] ; \$ng tyf v\l klj lw , ; Dkbf c6j jf0f ljsf; d-r gkfn, \$!! k\$
- @= >]7, p0dj fj' / >]7, ; hftf -lj=; # @)^! gkfn]sf k0v u\ sfi7 jg k0fj/x?, e8lk/f0f k\$zfg, sf7df8f}gkfn, \$!! k\$
- #= >l % sf]; /sf/ -lj=; #@)^!\_ , h8lj 6l ; \$ng, ; Af0f, ; Dj w6 lj lw, h8lj 6l kl/rod fnf %, jg tyf e" - ; Af0f d6qfno, jg:klt lje fu, yfkfynl, sf7df8f}gkfn @@ k\$
- \$= jg:klt lje fu -lj=; #@)^\*\_ , gkfn]sf] cfly\$ ljsf; sf nflu kfyldstf k\kt h8lj 6lx?, jg:klt lje fu, yfkfynl, sf7df8f}gkfn,+!@k\$ .



- %= zdf{ ; ð{k| fb -lj =; ÷@)^@\_ , ; kGwf v]l ; Hfkt hfgsf/L, xdfj]sMkj [f, j if{ !^, cÍ !&%, !# - !\$k£
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- /fh]b|cfrfo{  
/fli60 xj]Vod tyf jg:klt kof]uzfnf (KATH), uf]bfj /L, nln tk/

## kofj /0fj fb s]xf]<

; /sf/l glltnf0{ ; fdflhs, cfly\$, /fhgllts / ; f:s[ts lf0x?df kj flxt tNof0{ dfgj clwsf/ / jftfj /0flo ; d:ofx?df ; sf/flds kl/j t0 Nofpg / Gof0 lbnfpgsf] nflu af6f] b]y]pg] sf0nf0{ Advocacy cyff\j sfnt elg65 . To:t}u/L jftfj /0flo hf]vd jf ; d:ofaf6 dflg; nf0{arfpg / k\$[tsf] ; Af0fsf] nflu ul/g] j sfntnf0{ kofj /0fj fb cyff\Environmentalism elg65 .

kofj /0fj fb Ps bz0zf:q, lj rf/ wf/f / ; fdflhs cleofg jf cf6bf]hg xf]. of]zAb klxnf]k6s !(@@ df kof]u ul/Psf]lyof]. kofj /0fj fbn]k\$[tsf] ; Af0f, kgM :yfkgf, ; wf/, kbf]f0f lgo6q0f ug{ / h]j s lj]wtfsf] ; Af0f ug{ j sfnt ug] ub5 . of]Ps kof; xf]h; n]dfgj / k]s[ts klqmfalrsf] ; DaGw ; Gtlnt /fVg d2t ub5 .

k\$[tsf] ; Af0f ugk5{e6g] r]gf lj Zj sf]lj le6g b]x?df le6gf le6g} ; dodf cfPtf klg jftfj /0f ; Af0f cleofg jf cf6bf]hg eg] cfBf]us qmfl6tsf] ; dodf ePsf] kf065 . cfBf]us qmfl6tsf] ; dodf c]oflws sf0nfsf]pkef]usf] km:j?k ePsf]j fo' kbf]f0fnf0{lg06q0f ug{ Britain's Alkali Act 1863 df kfl/t ePsf]kf065 . ; fy)!\*%)

b]v !(%) ; Dd dVotof j fo' kblf0f g}jftfj /0flo ; d:ofsf]?kdf b\yfk/\$f]x\$F !\*(  
df Coal Smoke Abatement Society gfdS ; :yfsf]u7g ePsf]lyof]hg ; #f/sf]k/fgf]  
jftfj /0flo lj ifodf sfd ug[u} ; /sf/l ; :yf lyof].

To:t}u/l kf0flzf:ql Alfred Newton n]\*&@ / !()# df :yfglo j GohGt'sf] ; xj f; sf]  
df}ddf lzsf/ ug{gxg]eGg]s'/fsf] ; dyG u/l Royal Society for the Protection of  
Birds gfdS ; :yfsf]u7g ug{ ; xof]u u/ . ; fy}Sea Birds Preservation Act, 1869 kfl/t  
ug{klg kEj kf/]. hg lj Zj sf]klxnf]k\$[t ; Af0f sfgG (Natural Protection Law)  
lyof]. !( cf)-ztfAb]sf]cGfodf aG hGt'sf] ; Af0fsf]nflu klxnf] j GohGt' ; Af0f  
sfgG klg kfl/t eof].

o:t}u/l ljleGg k\$f/sf] jftfj /0flo cfGbf]hgsf] jftfj /0flo glt / ; :yfx? aGg]  
qmdf cd\sl jg:kltzf:ql Rachel Carson Sf] "Silent Spring" gfdS lStfa !(^@ df  
k\$fgz eof]. h; df DDT gfdS / ; fogsf]kpf]u / o; sf]c; / af/]n]vPsf]lyof].

To:t}u/l jftfj /0flo lj ifodf cfGbf]hg z? ug[klxnf]/fhglts kf6l{United Tasmania  
Group Tasmania Australia / The Values Party New Zealand ag].

lj sf; f]dV bZdf klG jftfj /0f ; Af0f ug[ qmdf ef/tdf lrksf](Chipko) cfGbf]hg  
!(&) ; fndf ?v hf]ufpg z? ePsf]lyof].

jftfj /0f ; Af0f ug[ sfoGf dxTj k0f{cfGbf]hgsf]?kdf cyff\kV]l lbj ; nf0{df]lg65  
hg dfr{@!, !(&) ut]b]v dgfpg yfnPsf]xf]. h; sf]p2Z0 jftfj /0flo ; d:ofsf]  
af/0f hg r]gf km]fpg'lyof].

; fy}cGt/f]60 jftfj /0flo ; d:ofx? ; d]6P/ klxnf] dxTj k0f{ ; Dd]hg Stockholm  
Conference 1972 df ul/Psf]lyof]. To:t}u/l Endangered Species Act 1973 df kfl/t  
eof]/ CITES 1975 df u7g ul/Psf]lyof].

xfn pi0ftf, hn]fo' kl/j tG, a9bf]hg; wof / cfGj flZs klj lw h:tf s'/fx?df yk}  
cfGbf]hg, Pg / hg r]gf hf]ufpg]sfo{e0{x\$]/ e0{s\$]kf0G5 .

- d]bgl khfklit, gf:6

### axpkof]l jg:klt ; fn

; fnsf]j] flgs gfd *Shorea robusta* xf]. of]jg:klt lj z]fu/l g]k]fnsf]t/f0{/ efj /  
lf]df cTolws dfqdf kf0G5 . t/f0{/ efj / lf]sf clt]l/Qm ; fnsf]jg l; j flns kxf8L  
lf], leql dwZ / d]l]b]kxf8sf]j]l lf]df klG kZ:t dfqdf kf0G5 . ; db] ; txb]v

!%)) ld6/ prf0{Dd kf0g] eP tflg ;fwf/oftof !)) ld6/e6bf dfly ;fdlxs  
?kdf o; sf]jg hwn e|b6g . g|kfnf]d|rlb|v dxfsnl;Dd kf0g];fnsf]?v kfom  
efj/ / t/f0{k|z afx\$ c6o :yfgdf ;Gtf]fhgs ?kdf x5g ; Qm| . t/f0{/ efj/  
k|zdf eg]of]\$% ld6/sf]prf0{Dd !%-@) ld6/ dfq a9g ;S5 .

;fnsf]sf7 ljz|fu/L 3/sf]emfn-9f\$|, rf\$| / blng agfpg kofu ul/65 .  
sf/of of]c6o sf7x?sf] thgfd Psbd}alnof]x65 . Io;f]t ;fnsf]sf7 ljle6g  
tVtfx?, uf8fx? / sfi7snfsf]nflu klg kofu ul/65 . o; sf ;fy};fnsf]?v sf7  
afx\$ bfp/f / 8fn]3f+sf]nflu klg cTo6t /fd|];f] dflg65 . o;af6 /fd|]ufh  
sf0nf klg a6b5 . vf;u/L kxf8l e|x?df ;fnsf slnnf kftx? uf0a:thf0{v]fpg]  
ul/65 . Io:t};fnsf]jlpaf6 t|h p|kfbg u/L ;fag agfpg]pBf|udf ;d] kofu  
ul/65 .

;fnsf]?v g|kfnf]t/f0{lf|b|v !)) ld6/sf]prf0{Dd /fd|] u x565 . anf6]gbl  
lsgf/sf k|y/L df6f] kfgl hDg]lf| / ;Svf df6f|df afx\$ c6o lsl;dsf]df6f|df  
;fnsf]?v dhfn]?kn]pd|f ;S5 . ;fn k\$z jf p|hofnf]dg k/fpg]?v xf]/ o; n]  
x|sf t|ff/f|hf0{klg v|g ;S5 . t/ slxn\$fxl+;fdf6o cj:yfdf klg uf0a:tsf]  
rl/r/gaf6 of]k6f]j t xg kul gi6 xg klg ;S5 . ;fnsf]?v /fd|] u x5g o; sf]  
h/f k|z:t alnof]xgk5{/ o;sf]nflu # b|v !) jif{Dd nflu ;S5 . ;fnsf]cf} t  
jflif\$ a|4b/ !) 3gid6/ k|t x\$6/ ;Dd k|b5 .

;fn Ps 7hf]/ c|nf]vfnsf]?v xf]. t/f0df of]?vsf]prf0{@) b|v \$) ld6/;Dd  
k|g ;S5 eg]t/f0{afx\$ c6o lf|df of];/b/ !% b|v @) ld6/;Dd c|nf]x65 .  
slnnf]?vsf]af|nf lr|knf] s|h] v|f]/u|sf]6f6f|Qm x65 eg]kfsf]?vsf]af|nf uf9f  
u|f]/u|sf]tyf ulx|/Psf]x65 . ;fnsf]kft !) b|v #) ;|6ld6/ nfd]rRrf]k/|f]  
6|kf]/ c08fsf/sf]x65 . t/ ktem8 df}ddf eg]o;sf]kft ;fdf6o ?kdf klg emg]  
;S5 .

;fnsf]k|th ;fdf6otof r}-a|zfv dlxgfd k|nb5 . k|th 8f7 lalxg lknsf kx|f]/u|sf]  
x65 . x|uf jf kftsf]sf]faf6 em|kf\$|]?kdf em|08Psf]x65 . a|zfv-h7 dlxgflt/  
;fnsf]k|n nflu5 . of]s/lj ^ ;|6ld6/ nfd]/ ! ;|6ld6/ Jof; ePsf]c08fsf/sf]  
x65 . ;fy}k|ndf % uf6f kv6f ;d] x65 . k|n nfd]afnfd /x65 . k|n j|psf]  
?kdf kl/oft x|f df|nf]v|f]kv6f]sf];fy}|k|nsf xl/of]/u|sf]x65 .

;fnnf0{/fd|] u lj :tf/ ug{;ls65 . ljz|fu/L rl/r/g / 89]hf|f6 jg lf|nf0{;|lft  
ug{;lsPsf]v08df ;fn ;h|n} u kg?|yfg xg ;S5 . df6f]eq /x\$|h/fx? l566}  
gdg|x|f 3gf jg lf| x6fP tflg s|x| jif6}dgfx? knfpg y|nb5g\ To:tf]k|s|ts  
?kn]xg]kg?|yfgnf0{;wf/ ug{;l;w}jlp 5g{klg ;ls65 . ;fnsf]jlp j|zfvb|v  
c;/;Dd ;sng ug{ pkoQm x65 / o;sf]pdg] ;do klg Psbd}5f6f]  
x65 . k|n k|nsf xl/of]/u|sf]/ kv6f]?v|f]/u|df kl/oft ePkl5 dfq jlp ;sng ug{

kb5 . ; fnsf] Pp6f dxTj k0f{lj z\ftf s]xf] eg] Pp6f ; fnsf] lj ?j f /fkkl5 sf6g nfos xg sDtdf klg \$) j if{nflb5 .

gkfnsf] ; Gbedf eGgkb{ ; fnsf] ?v /flgeGbf o ; sf] ; Alf0tkm{Wofg lbg' g}pkoQm xg]wf/0ff lj z\ft1x?sf]/x\$]5 . To; sf/0f o; nf0{lj ?j f agf0{x\$fpgeGbf ; Alf0tkm{ Wofg lbPdf kg ; fn kg?Tyfg e0{ ; fnsf] hwn a[4 xg klb5 .

- /fhzdfg s; l=, gf:6

## e\$Dklo hf\vd Joj :yfkG

!\* ; #6]a/ @)!! sf]e\$Dkn]elj iodf cfpG]e\$Dklo vt/fx? sd u/fPsf]5g] lsg eg]of]e\$Dk Transverse Fault Line df Strike Slip Movement ub\upSf]lyof]. lxdfnl lf\df lj utdf 7hf 7hf e\$Dkx? uPsf lyP . !\*( & -l; nfe\_ !() % -sfE8f\_ !(#\$ -laxf/-gkfn\_ !(% ) -cf; fd\_ / @) ) % -sf:dl/\_ df xhf/f}dfg; sf]d[o' ePsf]lyof]. gkfndf e\$Dk hf\ sd c; / k\ofpg]xf]eg]lgDg sfd ug{ ; lsG5 .

### ejg lgdf\ ; \xtf

ejg lgdf\ ; \xtfn]hljg /lfnf0{klxnf]kfyldstfdf /Vb5 . ef/tsf]ehdf uPsf] e\$Dkkl5 p; n]cfkn]ejg lgdf\ ; \xtfdf lgs}kl/dfhg ul/; s\$]eP klg gkfndf eg]clxn]Dd klg k/fG}!(( \$ df tof/ ul/Psf]; \xtf g}5 . To; h]jtGfg ; Gbedf ; f]sf\$sf]kl/dfhg ug\$ ; fy; fy}to; sf]cgludg klg plQs}/fd\l ugkG]b]V65 .

### kljlws lfdtfsf]lj sf;

cG bllf0f Pl; ofnl dh\$? eGbf lgs}/fd]e\$Dk dfkg k0ffnl / ; r'gf k0ffnl ePsf] dh\$ gkfndf @% j6f e\$Dk dfkg s\bx? / \* j6f lj Zj Jofkl :yfkGf k0ffnl (GPS) 5g\ h; af6 qm6 cyf{\kY]lsf]dflyNnf]; txsf]sDkg yxf kfpG ; lsG5 . t/ cem} ; xl tYof\$sf]nflu eg]kljlw cem}pRr :t/sf]agfpg' cfj Zos 5 . e\$Dk k'fGdfg u/l k' {r}fjgl lbg]k0ffnl\$]klg plQs}/fd\l lj sf; ugkG]b]V65 . kljlwsx?nf0{ klg lj leG lj Zj lj Bfno; E ; dgj o ub\ r' t / lfdtfzln agfpg' kb5 .

### cg' Gwfgdf nufgl

e\$Dk kljlwdf cg' Gwfg ug{clg gofFkljlwsf]lj sf; ug{clt cfj Zos e\$g klg gkfndf o:t] lgsfo / sfoGmd gePsf]h] Pp6f 5\$} lgsfo agf0{ lj leG lj Zj lj Bfnox?; E\$] ; xsfoGf e\$Dk k'fGdfg, klfk0f / k/fGf e\$Dkx?sf] c\wog cg' Gwfg ugkG]b] .

**:yfut ljsf:**

xfdf] b}zdf Pp6f /fi6e eSDk s[b|5 h;n]; xl ; r'gf lbg]u/\$f]5 t/ sg}To:tf] lgsfo 5g h;n] hf]vd eNofsg / Gogls/of sfo{x? u/f] \. o; sf] nflu kl'tli7t j}flgsx? ; lDdInt eSDklo hf]vd dNofsg / Joj:yfkg s[b\$] cfj Zostf 5 . o:tf lgsfox?af6 eSDk kl't/f\l ; dfh agfpg ; xof\ kl'b5 .

**lgod sfgg**

National Strategy for Disaster Risk Management (NSDRM @))( df cgdffg eof]. O; df Disaster Management Act klg ; dfj z ul/of]. hg s/fnf0{; jg :j fut ul/Psf] 5 . pRr hf]vd ePsf :yfgaf6 dflg; x? cloq}; fg{sg}lgod sfggsf]Joj:yf ePsf] kf0Gg . Disaster Risk Reduction (DDR) cyff\k\$fk\$sf] hf]vd 36fpg Pp6f e/kbf] klqmf / lgsfosf] clt g}vfFf] b]vG5 h; af6 lbuf] ?kdf k\$fk Joj:yfkg ug{ ; lsof] . ; a}f0{eSDk ; DaGwl ; fdfGo lzlf tyf lj 1x? tof/ ug{pRr lzlfssf]klg gltut txd} Joj:yf ug[kg] b]vG5 . ; DalGwt ; a} ; /sf/l lgsfodf a; \$f kbflwsf/lx?nf0{lj zif klzlf0f lbgkg]b]vG5 / ; fj wfglsf pkfox? ; Dkof{b}zjf; lnf0{ l; sfpg' kg]b]vG5 .

**hf]vd ; fg{**

o; pkfodf ; Dkof{a}S E Ifq nflu ; S5 . a\$ tyf lj Qlo ; :yfx?af6 aldf ug\$ ; fy} eSDk kl't/f\l lgdf0sf]nflu rflxg]nufglsf]jftfj /of aG ; S5 .

**efloj fbl ; f}df kl/j tG**

efloj fbn]xfdf] ; dfhnf0{g/fd/l ufF\$]5 h; sf]sf/0faf6 xfdl eSDk kl't/f\l ; dfh agfpg ; ls/x\$ 5g} . ev{ }s}l g}fx?n]u/\$f cleJolQmaf6 klg o; sf] kdf0f kfg ; lsg5 . /fhg]ts g}fx?n] k\$fnf0{ eflo; E ha; Dd hf\$] x}5g\ta; Dd k\$fk Joj:yfkg ePsf]Jojl:yt ; dfh aG ; Sbg . ; f/fzdf eG] xf] eg] eSDksf] xfgl g\$; fglaf6 aRg ; /sf/n]dfly pNn]vt pkfox?nf0{; xl ; Daf]wg ug[kb5 . ; fy; fy} ; Dkof{b}zjf; ln]g}; r} eP/ cf cknf] lfaaf6 hf]vd Gogls/of ug{cfj Zos sfo{ u/df eSDk kl't/f\l ; dfhsf]lgdf0f lgZro klg xg]g}5 .

- ; fef/ lj 1fg n\ydfnf, gf:6

**Knfli6ssf]kpf\ 7ls ls al/s <**

Knfl:6s / Knfli6s4f/f lgldf ; fdulx? xfd]b]lgs hljg k4lts}Ps cleG cw h:tf] e0; s\$]5 . klxn]klxn]3/-k; n / sfofnox?df hg ef8f j tGx?sf]kpf\ xGyof] ltglx? kfoM tfjf jf lkQnaf6 ag\$ xGy]. clxn]tl ; fdfgx?sf] :yfg Knfl:6s jf :6lnsf ; fdfgx?n]Ing yfn\$ 5g\ To; df klg gDa/ Ps df t Knfl:6ssf ; fdulx?

g}kb5g\ laxfg h?Ss p7h\yl lbp#f]v?Ss vfg]/ ahsl n?Ss ; Tg hlf; Dd klg  
xhdl sg}g sg}?kdf knfl:6s / knfl:6shGo ; fdfgx? kofu ul//x\$}x65f}: h:tf]  
laxfg bft dfebf kofu xg]6y az, 6yk]6, rKkn, ; fagsf]l8Aaf, sflwof] knfl:6ssf]  
hu, asf, kfglsf]s06g/ clg lrof gf:tf]nflu kofu xg]bwsf]kofs tyf c6o  
vfB kbfx? h:t}tj, gg, l3p, bfn cflb /fv\$ f kofsx? ; a}knfl:6sdf g}koflsE  
ul/Psf x65g\ . To; df klg dwlgs 3/x?df t /u/fu]gb]v lnP/ sfk, sk8fx?,  
lahhlsf tf/x?b]v lahhlaQlsf ; fdfgx?, ; ff/ ; fdu]lx? h:t} l6=el= /l8of]  
6]nkff, sDk06/ nufot c6o ; a}k\$ f/sf On\$6kgs; ; dfgx? knfli6saf6 g}ag\$ f  
x65g\ . o; /l ; fdfGo 3/fo; l kof]hgb]v lnP/ 7h7hf pBfu, Jofk/, ; ff/, oftfoft,  
:jf:Yo cflb x/ l fdf cfh knfl:6s / knfl:6shGo ; fdfgx?n]kftj hdfPsf] xhdl  
kfp5f}:

o:tf knfl:6ssf ; fdu]lx?sf] kof]hg a9b}hfgsf] dh sf/of s]xf] eg] loglx? ; a}  
7fpx?df ; xh}pknlw xg ; Sg] pTkfbgdf ; lhnf]/ ; fy}dNodf klg ; :tf]kb5 . log}  
sf/ofx?n]ubf{l jz sf ; ah; f]dhsx?df clxn]o; sf]pTkfbgdf a[4 e0/x\$]f]5 . /  
lgs6 eljiod}@%-#) nfv kl]tj if\$]lx; fj n]pTkfbg xg]cgdfg ul/Psf]5 . cem  
ci6knofsf]d]hag:yt dfg; l jz l j Bfnosf k]wofks /f0{ sf]; n]t slt; Dd eg\$ f  
5g\eg] cfufdl j ifx?df o:tf knfl:6sx?af6 7h7hf ejg, hxfh, df/sf/, kh,  
j fobfg cflb agfpgdf ; d] kofu xg]5g\

t/ olt u0foQm Pa\pkofu]l; 4 e0sg klg o:tf knfl:6s Pa\knfl:6ssf ; fdu]lx?  
pTkfbg]v lnP/ pkefu] xbf]sf]cj:yf; Dd jftj /oflo k]wofsf]kd]v sf/of klg ag  
k]b5g\ . l jleG sf]6oQm /f; folgs kbfx{ ; lDd>Of xg]sf] sf/of o; sf] pTkfbg  
; dodf lg:sg] wof;n] j/k/sf] jftj /ofdf kl]tsh c; / k'w]fpg] s'f l jz]f1x?  
atfp5g\ . vf; u/L kl=j l; l= k]nsfaf]f, a}hf06 cflb h:tf knfl:6s pTkfbgsf]  
; dodf l jleG l jiffn' /f; folgs t]j x? h:t} knfl:6s f08, knf] hlg cflb kofu  
xg]ub5g\ . hg /f; folgs t]j x? Sof; /, 5fnf / Zj; ; Da6wl /fu]x?sf] kd]v  
sf/st]j dflgPsf]5 . knfl:6s / knfl:6shGo ; fdu]lx? c]olws dfgdf kofu xg]/  
of]xfj f, kfgl / df6df ; d] slxP/ gi6 gxg]ePsf]xbf knfl:6ssf]knf/ j f 8u/ klg  
zx/sf] htftt}ykp/ /x\$]f] xhdl kfp5f}. o; af6 j/k/sf] jftj /ofdf kl]tsh c; /  
k'w]fpgsf ; fy}hdlgsf]pj {fzlQm ; d] 36g]s'f l jz]f1x? atfp5g\ . l jz]f1x?sf  
cg' f/ kfgldf nfd] ; do; Dd knfl:6s hDdf xg] kl]df Toxf+/x\$]f jg:klt / hlj h6t'  
; d] gi6 xg] k]b5g\

knfl:6saf6 cem a9l k]wof knfl:6s Nof08kn]ndf hDdf ubf{xg]ub5 . vf; u/L  
knfl:6s nfd] ; do; Dd l:y/ /xg] ePsf]xbf ; 6\$]f] k\$zsf] cefjdf o; af6  
jftj /ofdf bl3\$fnlg c; / kg{hf65 . l jz]f u/L knfl:6saf6 knf cflb h:tf a:t'  
agfpbf 60Snf]f]y, Pl; l6g, 6fplng / a]hlg h:tf l jiffn' /; fogx? lg:s65g\  
To:t}knfl:6s agfpbf xfj fsf]; Dksdf l j nfp]lsl; dsf hlj s j:t'sf]cnfj f ; Nkm/  
cS; f08, gf06\ cS; f06, ldygf]h / Oyf0lng cS; f08 h:tf wof;x? ; d] lg:sg]

ub5g\ knfl:6s ptkfbgsf qmddf lg:sg]o:tf llof÷x?n]j fo' kplf0f a9fpg cTolws  
d4t k/\afpg] s/f klg ljz]f1x?n] atfPsf 5g\ . csf] s/f, knfl:6ssf ; fdfgdf  
Snfl/g ldl; Psf] xG5 . h:tf] kl=el=; l= cyff\ kfl]nlj gf0n Snf]f08df Snfl/g g]  
ldl; Psf] t xG5 t/ ptkfbgsf] qmddf eg] o:tf] Snfl/g ldl; g] ; Defj gf /x\$] xG5 .  
o:tf] Snfl/goQm knfl:6s cGtu\$ kfl]nSnfl/g/68 jf0lkmf0n, Snf]f]kmf]f] sfj G /  
8l-8l-6l= h:tf cufG\$nf]f08 ; d] kb5g\ o; af6 8l 8l 6l h:tf] ptkfbgdf kl]taGw  
nflu; s\$] vt/gfs kbfy{; d] o:tf knfl:6sx?sf] ptkfbg / pkef]usf qmddf xfdl]  
j/k/sf]j ftfj /0fdf lj Bdfg /xg kllb5g\

**knfl:6s kplf0faf/]yk hfgsf/l**

knfl:6ssf] cTolws kpf]hg / lj; hgaf6 k/\afPsf] c; /sf af/df sxl abfut  
hfgsf/lx? o; k\$] /x\$] 5g\

- ; dbdf k]os j if{^ s/f\$ 6g kmf] / lj; hg xG5 / ; f] dWb]%) kltzt dfq  
knfl:6ssf] 5 . o; df sRrf knfl:6s, knfl:6ssf] em]hf, df5f dfq] hfn /  
; f\$]sf kofs cflb k5G\
- ; dbdf k]o\$ j u{lsnfl]d6/df !\* xhf/ knfl:6ssf 6qmf kfgldf t]P/ /xg]s/f  
xfn; fn\$]Ps cWbogn]b]y]fPsf]5 .
- h]hl hftsf]df5f 7fg] knfl:6ssf ; -; fgf 6qmf vfg]ugf]n]; dbdf /xg]sltko  
s5] fsf]cl: t]j ; \$6df k/\$]5 .
- ci6]nofdf dfq vkt xg] ^ ; o ( ) ca{ knfl:6s em]hf clGtddf ; dbdf  
kmflsG5 .
- df5f dfq]knfl:6s hfnsf sf/0f #& kltzt ; dbll hlj kf; fdf kg]u5G\  
• ; g\!(( \* df pQ/L kzfGt dxf; fu/df kf0Psf] sh kmf] /dWb] \* ( kltzt  
knfl:6shG6 kmf] /x\$]tYo Ps cWbogn]b]y]fPsf]5 .
- ljZje/l sDtldf !\$# khfltsf ; dbll hlj hg't' ; dbll kmf] /sf] yk]df km]g] /  
sDtldf !&& khfltsf r/f nufot ; dbll hlj n]knfl:6s vfg]u/\$] 5g\  
• bl]f0f ci6]nofdf kl]t j if{#&) ; dbll l; \* / km/l; nsf]d[o' knfl:6s vfP/ xg]  
ub5 .
- j]hfotdf \* ca{/ cfo/Nof08df ! cj{@\* s/f\$ knfl:6s em]hf j flif\$ vkt  
xg]ub5 .
- kffG; df #) nfv 6g knfl:6ssf]kmf] /dWb]; fnfvfnf \$ kltzt dfq kGkz]w  
xG5 . ef/tdf knfl:6ssf]kmf] / k]o\$ j if{ \$% nfv 6g lg: sG5 .
- sfuh @-\$ xktfdf uN5, :6f0/f]kmd{gfd s a: taf6 ag\$]sk uNg %) j if{ nflU5  
eg]knfl:6s \$%) j if{ Dd klg guNg ; S5 .

knfl:6s kplf0fs} s/f ubf{cfhsn /fhwfgldf sg}lj /f]w k]bzG ug{k/\af]eg]; 8ssf]  
dVo efudf df6/ uf8lsf]y]f]f]6fo/ afn] w] fsf] sfnf]dZnf] lgsfn\$] xfdl b]V5f].  
ljz]f1x?sf cg'; f/ o:tf 6fo/x? knfl:6ss]lj sl; t :j?k xf] / o:tf 6fo/x? aflngfn]

jftfj/0fdf 8f0clS; g / k\o/fg h:tf xflgsf/s llof;x? pI; h6 xg]ub5g\h; af6  
xpdf]klhgg :jf:Yo / :gfo'k0ffnldf klts h c; / k\ofpgsf ; fy}Soff; / h:tf 3fts  
/f\ ; d] lgDTofpg ; Qm5 . To; h] dfgj :jf:Yo / jftfj/0flo b[i6sf0fn] ; d]  
lj/f\vsf]o:tf]z]lnf0{b?I; flxt ug{cfj Zos 5 .

lgZro klg knfl:6ssf em]hf Pj +; fdfg af\$g ; lhnf] xn'sf / thgflds ?kdf ; :tf]  
klg kg[ePsf]x6f lj Zj e/L g}o:tf knfl:6sh6o j:tx?sf]pTkfbg / pkef\ cTolws  
?kdf e0/x\$]5 . t/ ; lhnf]5 e6b]df o; af6 dfgj :jf:Yo / jftfj/0fdf k\ofpg]  
c; /kl't eg] xfdln] a]f:tf u/] a:g ldNb6 . knfl:6ssf] cTolws k6f]hgaf6 xg]  
xflgsf/s c; /nf0{Wbfgdf /fv] lj sl; t dh'sx?df o; sf]lg/fs/0ftkm{uDel/ rf; f]  
lng yfln; lsPsf]5 .

knfl:6s pTk6g ePsf ; d:ofx? G6glS/Of ug[x]h]xfn}lj 1fg, klj lw tyf jftfj/Of  
d6qfnon)#) df0qmf] e6bf sd df6f06f knfli6s em]hf pTkfbg, cfoft, e08f/Of,  
lj qmlj t/Of tyf k6f\udf g]k'ne/ kl'ta6w nufPsf]5 . ; fy}lj=; #@)& j zfv ! b]v  
sf7df08f}pkTosfnf0{knfli6s em]hf dOm lfg 3f]f0ff ug]; Da6wl kl'tj6g k z u/\$f]  
5 .

xfdln]o:tf pko]ul a:tx?af6 ; lj wf pkef\ ubf{o; af6 pTk6g xg ; Sg]jftfj/0flo  
k6f]f0f / :jf:Yo ; Da6wl ; d:of /f\$g]pkfotkm{klg Wbfg lbgkg]cfj Zos b]v65 . olb  
knfl:6ssf ; fdullx?sf]cTolws k6f]hgaf6 pknJw ; jf ; lj wf e6bf dfgj :jf:Yo /  
kof]/0flo b[i6sf0fn]xfgl cyjf g\$; fgl g}a9l b]v65 eg]o; sf]lj sNk v]g]tkm{  
nflg'g}al4dfgl x]hf ls <

- ; fef/ lj 1fg n\ydfnf, gfi6