

Review Of Research



elekšbžpk Olsapk fo | k; lžj gskljk ifj. ke

ik jšek v. losdj



itrlouk %

elekšbžpk Olsapk tle >kyk vkr.k tskr ekšh l i d d l r h >kyh-
Hkjrkr ilgrk & ilgrk xjhc Jheir] ekyd dkexij] L=h i#” k l okP; kp
gkrkr ekšbžpk Ols vkyk cnyR; k dkGkešs vkiY; kyk ekšbžpk xjt
Hkl w ykxyh vlgš ekšbžpk gh , d vkiyh xjt cnyh vlgš ijarq R; k
ekšbžpk xjt e; khr vlyh ikghts ijarq okrokr vki.k ekšbžpk
okij ve; khr djsr dskrhgh xls’ V e; khr vlyh rj rh vkiY; kl kšh
pkxyh vlrs vkr.k rhp xls’ V e; khr; k ifydMs xyh rj vki.kl R; kps
ifrdy ifj. ke Hkškos ylxrkr- T; k ekšbžpk vki.k xjt Eg. ku okijr
gkrš vfrjdh okijkešs R; kpp #ilrj 0; l ukr gkrš ekšbžpk; k xjt ps

#ilrj 0; l ukr d/h >kys; kph dYiuk nš[ky vkiY; kyk ulrs

vkt dky ygku eyke/; s lžk ekšbžpk lo; ylxxyh fnl u ; rs vkr.k r# k oxlžj rj ; kpk FN ifj. ke
>kysy fnl u ; rš Eg. ku ekšbžpk gk vkiY; k l š h p k cu.; k, oth vkiys thou ef dyhps d#u Vld. kjk fnl r vlgš
R; kyk dkj. lgh r’ khp vlgš- oxoxG; k oržku i=kr oxšs v’ k izlžjP; k ?Wuk okpk; yk feGrkr- l krohrY; k eykpk
vH; kl djr ukgh Eg. ku R; k; k vkršMhyk ekšbžpk dk u ?kryk Eg. ku R; k eykus vkiY; k gkrkhy ul k dki u Vld u
vRegR; k dj.; kpk iz Ru dyk- l krohryk eyxk o; kus ygku R; k; k euke/; s vl k foplj vkyk dl k rj ekšbžpk; k
vfrki jkps gsmngj. k vlgš

ekšbžpk 0; k; k %

Hke. wouh gs, d bydVMDI midj. k vl u ; kpk ngl pklkl kšh mi; lš dyk tkrš ; kyk baxhr ekšbžpk Ols fdok
lY; yj Ols vls Eg. krkr- ekšbžpk; k l gk; kus l š k” k. kph o ekgrhph nok. k ?kok. k djk ; rs

txkrhy ifgyk ekšbžpk Ols ekšbžpk dāutP; k ekVU diij ; k 0; Drhus 3 , fiy 1973 l kyh fodl hr dyk o
oki#u nk[loyk- 1990 l kyh txHjkr 1-24 dšh ekšbžpk Ols okijdrž gkrš 2009 l kyk v[lgšl gk vkrMk 4-6 včt
brdk vlgš l/; k fodl hr nš[ke/ky 100 0; Drhišh 97 rj txkrhy 100 0; Drhišh 45 0; Drh ekšbžpk Ols
okijrkr-

LeWZekšbžpk Ols %

gk , d ekšbžpk Olsapk izlžj vlgš LeWZ Ols e/; s mPPKlrjh; {kerk vkr.k l x. kdk’ l h l k/ k; Z vl . kgh dk; žzkyh
vlgš

• I ālkū fo" k; lps l el; kl q. k %

vī/īud dīGkr elckbȳ vkiyk vfoHkT; ?M/d cuyk vlḡs, doG tōk; yk ul̄ys rjh pkyrs i. k elckbȳe/; s fjp̄ktZ Vld.; kl k̄Bh ykcl̄dMs i s k vlḡs doG l ālnkl k̄Bh vlyyk elckbȳ vkrk R; kpk okij fofo/k dīj. Mā k̄Bh gl̄Ā ylx̄yk vlḡs ek. kl k̄ph cjh̄p' l̄h dkes cl̄Y; k̄Bdk. l̄h gk elckbȳ d# ylx̄yk vlḡs, d fefuVgh R; l̄p; k'kok; jlgw' kdr ulgh- elckbȳ Ol̄s gs l̄k̄k" k. k̄l̄jht b̄l̄jū/ U; l̄gīG. l̄j yq̄l̄h y?M m̄sk̄ph nōk. k̄l̄ok. k̄j xk. l̄h, d. l̄j Nk; k̄p= dīk. l̄j j̄Mh/vks, d. l̄j thih, l̄ okij. l̄j i s̄ ns̄ls dīk. l̄s b̄R; l̄nh oxoxG; k dīekd̄jhr̄k okijys t̄lrs elckbȳeḠs ek. kl s̄ t̄k̄M̄yh x̄syh vlḡs l̄oZtx toG vkȳs vlḡs

elckbȳP; k l̄gk; kus vkiY; k thoukr dīgh x̄k' Vh l̄k̄Zdj >ky; k vlḡs- i. k t̄l̄s uk.; kyk n̄ks̄ cktw v̄l̄rkr r̄l̄p elckbȳ okij̄kps l̄ānk n̄ks̄ cktw vlḡs- , d Qk; |k̄ph cktw v̄l̄k. k n̄l̄jh uq̄l̄ kuh̄ph cktw elckbȳP; k v̄uq̄l̄y v̄l̄k. k ifrd̄y ifj. ŋek̄p̄k v̄H; kl dj.; kl k̄Bh **~elckbȳ Olap̄k fo |f; lȳj gslȳjk ifj.ŋe** gk fo" k; fuol̄Myk vlḡs

• v/; ; ulpsegRo %

elckbȳpk ' ŋk̄k̄ ekuol̄P; k dY; k. k̄l̄ k̄Bh] fgrkl k̄Bh] l̄s hl̄ k̄Bh >kȳyk vlḡs elckbȳ, d ekuok̄ph x̄jt cuyh vlḡs vkiY; k fofo/k x̄jtk iql̄Z dj.; kl k̄Bh vki. k elckbȳpk okij d# ylx̄ȳs gk okij, d e; k̄h̄rp v̄l̄k; yk īl̄gts fl̄fer e; k̄h̄p; k cl̄ḡj, [l̄nh x̄k' V x̄syh dh R; kpk foijhr̄ ifj. ŋe Oqk; yk l̄āokr ḡks̄ īj̄q̄elckbȳ th x̄jtp̄h ol̄rq̄ḡk̄h fr̄ps #l̄ar̄j 0; l̄ ukr gl̄Ā ylx̄ys vlḡs cl̄; k̄p ykcl̄k̄k̄ elckbȳP; k 0; l̄ uk̄l̄hu gl̄r v̄l̄ r̄kuk̄ps vki. k̄l̄ īgk; yk feḠrs th 0; Drh elckbȳph vlḡk̄j̄h x̄syh vlḡs R; kyk; k̄ph tk. k̄hōgh ul̄rs dh dīḡk̄ vki. k elckbȳP; k vlḡk̄j̄h x̄sȳs vlḡs- v'k̄p̄ elckbȳP; k vlḡk̄j̄h x̄sȳ; k fo |f; k̄l̄k̄ elckbȳeḠs ḡks̄ ŋū; k uq̄l̄ kuh̄ph tk. k̄hō d# u ns; kl k̄Bh **~elckbȳ Olap̄k fo |f; lȳj gslȳjk ifj.ŋe** gk v̄H; kl fo" k; fuol̄Myk vlḡs

• I ālkūlph mī " V; s %

īl̄r̄q̄ v/; ; ukr [k̄yhy īz uk̄ph m̄R̄js' ŋk̄k̄.; kpk īz Ru d̄syk x̄syk vlḡs
1½ eḡfo |ky; hu fo |f; l̄j; k elckbȳ okij̄P; k fl̄Fkr̄h̄p̄k v̄H; kl dj. l̄s
2½ elckbȳ okij̄k̄eḠs ḡks̄ ŋj̄s̄ ekuf̄l̄ d] ' ŋf̄jjhd̄ ifj. ŋe; kpk v̄H; kl dj. l̄s

• I ālkūlpsx̄fgr̄dR; s %

v/; ; ukl̄ k̄Bh [k̄yhy x̄fgr̄dR; sr; k̄j̄ dj.; kr vkyh vlḡs-
1½ fo |f; l̄j̄ elckbȳP; k vlḡk̄j̄h x̄sȳs vlḡs-
2½ elckbȳ okij̄k̄eḠs fo |f; l̄j̄ ekuf̄l̄ d o ' ŋf̄jjhd̄ ifrd̄y ifj. ŋe gl̄r vlḡs

• I ālkūlps v̄l̄j̄k̄ ŋM %

~elckbȳ Olap̄k fo |f; lȳj gslȳjk ifj.ŋe ; k fo" k; l̄p; k l̄ ālkūkl̄ k̄Bh v̄l̄b̄s' k. ŋR̄ed (Exploratory Research Design) l̄ ālkū v̄l̄j̄k̄ ŋM; kpk okij dj.; kr vkyk vlḡs

• I ālkū fo" k; % ~elckbȳ Olap̄k fo |f; lȳj gslȳjk ifj.ŋe

r̄f; l̄āȳu % īl̄r̄q̄ fo" k; l̄p; k v/; ; ukd̄jhr̄k īl̄f̄k̄ed o ng; e r̄f; l̄āȳuk̄pk okij dj.; kr vkyk vlḡs

v̄l̄īl̄f̄k̄ed l̄= k %

elckbȳ Olap̄k fo |f; lȳj gslȳjk ifj.ŋe v̄H; kl kl̄ k̄Bh eyk [kr v̄uq̄l̄ph} k̄j̄s (Interview Schedule) ek̄gr̄h l̄āf̄yr̄ d̄syh v̄l̄u; kl k̄Bh l̄gs̄ud̄ ueq̄k̄ fuol̄ i) r̄h̄p̄k okij d̄syk vlḡs

c̄l̄z̄ng; e l̄= k %

l̄ ālkū fo" k; l̄ps v/; ; u d̄j̄r̄kuk ng; e l̄ k̄ul̄ k̄ep̄e/; s fofo/k l̄ ālkūkl̄ or̄ēkui=; l̄ ālkūkl̄ āl̄h̄ ȳf̄k̄ v̄l̄k. k v̄l̄kdr̄ l̄ārl̄f̄k̄l̄ḡl̄oj̄hy miȳc̄k̄ ek̄gr̄k̄p̄k okij dj.; kr vkyk vlḡs

• I k[; dh; ra %

miyC/k ekgrhpsfo'ys' k.k dj.; kl kH l jkl jh VDdskjh bR; knh I k[; dh; rakpk okij dj.; kr vkyk vkgs

• ueqk fuoM %

ueqk fuoMrkuk ike[; kuseqbz o miuxj {skrh oxoxG; k egko |ky; krhy fo |fkhz fuoMys vkgs-

• fuoM 3Wd %

^elskby Qlapk fo |f;lj gskljik ifj.ke** vH; kl kH oxoxG; k egko |ky; krhy , dmk 300 fo |f; kph fuoM dsh vkgs

• ueqk fuoM ras%

^elskby Qlapk fo |f;lj gskljik ifj.ke** vH; kl kl kH fuoM.; kr vky; k fo |f; kph fuoM ^l gnd ueuk fuoM* (Purposive Sampling Method) i) rhus d#u iR; {k eyk[krh}kjs lalkku fo" k; kph ekgrh ldfyr dj.; kr vkyh vkgs

• fo" k; kph 0; khr o e; kzk %

lalkku fo" k; kph 0; khr o e; kzk [kyhyiek.lsvkgs-

1½ iLnr lalkku gseqbz' kgj o miuxjikjrp e; khr vkgs-

2½ Injhy fo" k; kph 0; khr egko |ky; hu fo |f;lj elskbypk gskljik ifj.ke vlf.k R; kojhy mik; ; kstul; k vH; kl kjiirp e; khr vkgs

3½ lozk.k dkyo/kh l u 2016&17 gs o" k fopkjr ?krys vkgs iHfed rF; ldyukl kH eyk[kr vuq phpk vk/kj ?kryk vkgs

• elskbypsQk;ns%

1½ elskby Qlapk; k ek; ekq txkrhy dskR; k fBdk.lP; k 0; Drhyk R; lP; ktoG u tkrk ckyw' kdrk lmsk ikBow ' kdrk ilgw' kdrk

2½ dWd; yVj Eg.kugh elskbypk okij d# ' kdrk

3½ Qk/s dk<.k fgmhvks cufo.lsojsh elskbyP; k ek; ekq djrk ; rs

4½ bWjuv okij d# ' kdrk bWjuv vl YW; k loz ekgrh okpw' kdrk fdok MkAuyk d# ' kdrk

5½ , [k|k vifjpr fBdk.k xys vl rk vkiY; kyk rfhj jLR; kph fBdk.kph ekgrh ul rs d/kh d/kh Hkjdvys tkA ' kdrsrsk elskby e/hy eWP; k l gk; kus vkiY; kyk enr feGrs

6½ iSkph nok.k ?kok.k l qnk elskbyP; k l gk; kus glr vl rj vWlykz cWthk vWlykz ' kWthk l qnk elskbyP; k l gk; kus glr vkgs

elskbyP; k l gk; kus vkiY; k thour dlgh xls' Vh l kZdj >ky; k vkgs rlp vkiY; kyk uq l ku fdok rk/sh Hkxos ylxr vkgs- i qhy Hkxkr elskbyps dlgh rk/s n' kzoys vkgs-

• elskbypsrW% %

1½ bWjuv vWHDV % vkt dky eyk/; s elskbyps vWHD'ku gsk; kph y{k.k.s Qkj ekB; k iek.kr fnl u ; skr- vWHDV eyk/; s dlgh y{k.k.s fnl u ; skr tl; okLrokrY; k fe=ki{k vWlykz fe=ld kr tkr felGr vl sy] vWlykz vl rkuk dlgh vMFkGs vky; kl fpMfpM gskl bWjuv okijc iy xlrk ikGr vl sy fdok dWk ukrskbz o fe=ifojkr oG ?kyor ul sy] elskbyf'kok; , d fno l fdok dlgh rkl jgw' kdr ul sy] elskbye/; s [u oG fpVdu jkg.k oGpsHku ul .ls v'lh y{k.k.s fnl yh rj rh 0; Drh elskbyP; k vlgkjh xsh vkgs vl s let.; kl gjdr ugh- lrr elskbyoj jgw brj xls' Vh lMs nyZk dj.k vH; kl fdok nqjh dkes vl yh rjgh dlgh oG lrr elskby pad djokl k okV.k l YQh dk<.; kpsom vl .k l kky feMh; koj ed st vkysukh rj dlgh oGkurj itgk pad dj.k Qk/s fgmhvks itgk itgk igkod s okV.lsv'k izdkjh y{k.k.s vk<GY; kl R; kl bWjuv vWHDV vl s Eg.krk-

2½MG; koj gskljh ij. Ne % cū; kp 0; Drhuk ekckbz LØhudMs ikgrkuk lrr MGs ckjhd d#u ikg.; kph lo; v lrs R; keGs MG; kp; k vorHhørh l jdh; k i Mw ykxr- rlp MG; kojgh lrr rk.k tk.kow ykxrls R; keGs LØhudMs c?rkuk MGs ckjhd d#u c?k. Is VIGlos ekckbz vki Y; k ' kjhlp; k toG Bø. Is VIGlos ; k midj. krw ckjg i M. kjs jMh v k l v h d fdj.k vki Y; k ' kjhkl Bh gfrudkj vlrk- rlp ekckbz LØhue/hy vYVØgkvkyl fdj. NeGs Ropk vkr.k MGs ; k nkskuk vik; qkÅ ' kdrts

3½cm V;ej %ekobypstsybVelluVd jMh, 'ku fu?krkr- R; kpk l olr okoV ifj. ke vkiY; k cnoy glrks vud r kloh
dsyY; k l kklkoj ekobyp; k vfrish oki jkeGscu V; ej qks; koh ' lD; rk vl rs

4½, **dkrpk vllk** % ekkyP; k vfr okijleG, dkrpk vllk vkGu; rls uotu f'kd.; kph {kerk deh gks
xg.k'kDrh deh gks gk ifj.kk ikef; kus eykvoj vf/kd iek.kr gks vkt dkyph eys ekkyvoj vf/kd iek.kr xk
lkGruk fnl rkr- v'kk eykuk vY>k; ej lkj; k vktkluk lek tkos ykrs

5½% Mijjd glypyh deh % ekboyeGs ' Mijjd glypyh deh gks; kph o vK'ghi.kk ok.; kph ' kD; rk vlrs lrr, dk fBdk.kh clu ekbozy vKlJY dj.k clg; tkou cktjkru, [knh olrw vk.k.; k, oth vkrk vKlykbu olrw elxo.; kps iek.k ok-r vlg; clg; fQjY; keGs ply.; keGs ' kjhK; k dgh iek.kr 0; k; ke glrk ' Mijjd glypyh glkr- ijrwekboyeGs; k lOz x's' Vh deh glr pkyY; k vlg; o vK'ghi.kk ok-r pvyk vlg;

6½' kjiJP; k rkieukr ok %ekkoj Okue/; s jmhvs QDoll h pk cd LVsku'kh l okn l k/k.; kl Bh okij dsk tkrks ; k jmhvs QDoll h jmh, 'kueGs' kjiJP; k rkieukr vfrfjDr ok< gks R; kpk okZ/ ifj. ke ekuokP; k emwo ' kihikoj gkrks

7½vi?krP;k iekkr ok % ekbzyP;k vfrjsh okijkeGsjm vi?krkr fnol fnol ok glr vks ogpripofu; e
fdrgh dMd dysrjhi .k ykd MR; Ogx djruk ekbzyoj clyr vl rukpsfnl u ; ss xkMh plyfor vl ruk ekbzyoj
clyr vl Y; keG y{k fopfyR glA ' kdrs vfk.k vi?krkl kj [h ?Wuk ?Ww' kdrs R; keGp vkt vi?krkps iek.k ok r
vl Y; kpsfnl u ; ss R; kpiek.k vkt dky cū; kp ; od ; orhuk jmo#u pykr tkr vl ruk ekbzy okij djr vl Y; kps
fnl u ; ss dkuē; sbvjOks Bow xk.kh ykou pWkx djr vl rukpsfnl u ; ss v'keG R; kps lāqz y{k ekbzyoj
vlrs jLR; ko#u lekū , [knh xkMh vkyh fdok iBhekū o iqū dskh xkMhpk gWZ tjh oktofyk rjh ekbzy
okij. WJ; kpsR; kdMs y{k ul rs ifj. kkeh , [kn; k okbZ ?Kvūs k R; kau l leuk dijok ykxrs

8½dkulpsvktlj %fo|w pædh; ygjh lrr dkuP;k vkl ikl ihpr vlY; kus dæG dkuP ulgh rj vkl ikl P;k k vl; iskhogh ifj. We glA ' kdris dgh ykdkuk Oksj tkr oG dly.; kph lo; vl rs tkr oG Oks dkuYk /#u Boyk vl rk risxje gkr;s; k xls' Vhpkah dkuko ifj. We gkr's

9% I k; cjdMh; k (Cyberchondria) % cjp ykd oxoxG; k vktkjkps y{k.ks vlf.k mipkj ; kl Bñ bñjuv/p oki j djkr- oxoxG; k vktkjkph dlskdkskrñ y{k.ks vlgR; koj dlskdkskrs mipkj vlgR ; kpk ' Msk ?kr- ' Msk ?skuk l etk , [k] k vktkjkph y{k.ks vkiY; kr fnl yñ dh xyp l etkr dh rls vktkj vkiY; kyk >kyk vlgR vlf.k vk.k [kñ vkiy r.ko okom ?kr- vlf.k R; koj mipkjl ð Lor% bñjuvoj ' Mskkr- okLrokr ; kl Bñ , [k] k Rk Mñvjkp l Yy ?sk vko'; d vls ijar vñ 0; Drh Lor% vkiy vktkj Bjork vlf.k vk.k [kñ r.Moxlr glsk- vkiY; kyk dñykrñ vktkj >kyk vlgR vlsxñr /kjkr vlsxñr /k.ks gk , dñzkpk vktkj vlgR ; kyk I k; cjdMh; k Eq.krkr-

10% IYQhVNI % IYQhVNI yk v'kk ykdl KBH ,d ufou eukodlj lKxryk vkg ts vko'; drs i{k tkR IYQh dk<rkr vkr k R; kl lKky feMh; k oj viyKM djrk- vkt dky cl; kp eykayhuk IYQh dk<; kpsom ylxys vkg; k IYQh dk<; lP; k omKgsfdr; d t. kku kviys i.k xeokos ylxys vixRo iRdjkos ylxys v'kk ?KVuk okpW] , chu lQk IYQh dk<; kps iek.k deh >kyysukgh myV rsok<r vLY; kpsnlW ; rs

11½ Okt.: lpk Hle %QSe občs ku fdok QSe fjhzn fl Mle½ dgh ykalek vkiY; ktoG vl ysk ekščy gk lrr
občy glr v lY; lpk Hkl glr s fdok Lor%toG ekščy ul ruk l gk ekščy občy glr v lY; lpk Hkl glr s rj v'lk
0; Drhuk QSe občs ku fl Mle ph lel; k vkas vl s letkos

12½ uleQk; k % lrr vkiY; kdMs ekcbz ulY; kph tk.kh gskš Lor% toG ekcbz vlrkuk lšk gjoY; kpk Hkl
gskš okjokj vkiyk ekcbz pd dj.k Lor% toGhy ekcbz lkiMyk ukgh rj yxp cpš gskš ekcbz f'kok; , [k|k
{k.k lšk jkww ' kd.ksh lkih vfk.k uleQk; k als; kos ldr nrkr-

13½ Qd cpl mīšlu % Qd cpl e/; s i k f o y s e l g r h j Q k k f o g M h v k s l m H k k d l g h i f r m R j f d o k i f r l k n u f e G R y ; k e G s u š k' ; s l s

14% blyuyps 0; l u % i l r r v h; k l k e /; s f o | f; l; e /; s blyuyps elekšyph 0; l u y l x y s v l Y; k p s f n l u ; s s 35% f o | f h z g s 5 r s 6 r k l] 12-5% f o | f h z g s 7 r s 8 r k l] 16-17% f o | f h z g s 9 r s 11 r k l] 12 r k l o R; k g u v f / k d o g e k š b y o k i j . k j s 8-12% f o | f h z v l u y k b u v l r k r- blyuyps; k 0; l u k p s i f j . k e n k u i d k j p s f n l u ; s s

1½' Wjhd ifj. ke % Wjhd ifj. ke k e /; s [k y h y c k c h f n l u ; s k r- v ½ i k B P; k d .; k p k = k l c ½ d k i ž V u y f l M k e d ½ x b o k l i k y k b z v l e g s g k s k j k x G; k p k = k l M ½ 0; k d G r k

2½ ekuf d ifj. ke %

v ½ f p r k j e m f e ? M . k s c ½ , d v i . k k d ½ l k e f t d c k / k y d h i k l u n j j k g . k s M ½ r . k k o k p s m P p L r j x l B . k s b ½ o x o x G; k 0; l u k P; k v k g j h t k . k s t l s n k #] t k j] M k t-

• fu" d" %

1½ l a k k u v h; k l k r d l; k p f o | f; k k j k e h e k š b y v k w j v d j .; k p h l o; i m y s y h v l Y; k p s v k < G u v k y s v k g s 1 r k l o v f / k d o g e k š b y o k i j . k j s 18-12% 2 r k l o v f / k d o g e k i j . k j s 25% 3 r k l o v f / k d o g e k i j . k j s 11-25% 4 r k l v f / k d o o g e k i j . k j s 27-5% 5 r k l P; k o j o k i j . k j s 0-62% f o | f h z j k e h e k š b y v k w j v d j r k r- R; k e /; s x e [k G . k j p w h k d j . k j f o g M h v k s i k g . k s o x s s x k s' V h v k g s- j k e h m f' k j k i; ž e k š b y v k w j v d y; k e g s j k e h t h ' k r > k i v k o'; d v k g s r h i j s k h g l s u l r k u k p s v k < G u v k y s i f j . k e l d k G h ' k k G k j e g f o | k y; k e /; s o x k r > k i; s v l r k u k p s f n l r s R; k e g s R; k p s v h; k l k r y { k y l x r u l g h } f' k d o y s s l e t u ; s u l g h- ' k k G k j e g f o | k y; k p h # p h d e h g l s e g f o | k y; k r h y x g t j h r h y d k j . k e /; s g s l g k , d d k j . k v k g s

2½ l a k k u v h; k l k r t o G i k l 83-75% f o | f; k k e k š b y p s 0; l u y l x y s v l Y; k p s v k < G r s d k g h o g t j h R; l e; k d m u e k š b y d k u ? k r y k r j R; k k p k y r u l g h y x p R; k p h f p m f p m g k s; k l] j k x ; s; k l l f o k r g l s v f h z v' k e k š b y P; k 0; l u k l u f o | f; l; e / m y L o h k o k r c n y > k Y; k p s f n l u ; s s o k j o k j e k š b y e /; s v l y s y s f g d x e [k G Y; k e g s R; k p h e k u f d r k f g d g l k Å ' k d r s C Y; q o g s y l k j [k s v k . k [k h d k g h x e l v k g s T; k p k v f r f j D r o k i j k s f o | f; k p h e k u f d r k f g d c u w' k d r s

3½ l a k k u v h; k l k r 75-62% f o | f h z g s l k s y f e M h; k' k h t g y s y s v k g s- l k s y f e M h; k l k b z ¼ Q d c p l] b l v l o k e] o g k v l v i ½ v f . k R; l e; k x i e /; s v m > k y s y s v k g s- ; k e /; s v k i y k c j k v e l; o g ? k y o r v k g s-

4½ Q d c p l e /; s y k b D l f e G r k r d k ; k c k r i z u f o p k j y k v l r k 46-87% f o | f; k k h g l s v' k h m R j s f n y h- v k . k [k h y k b D l f e G l o s v' k h v i f k g h 0; D r d s y h- y k b D l f e G k Y; k u a r j d k; v l k i z u f o p k j y k v l r k c j p f o | f h z f u # R j g l s c l g h a h m R j s f n y h f d l k s y f e M h; k v k w j v d j k; y k m R s t u f e G r j i f l j h f e G r s E g . k t s 46-87% f o | f h z g s l k s y f e M h; k P; k e k; k o h t k G; k r i q k l . k s v m d y s y h f n l r k r- R; k k ; k x k s' V h p h t k . k h o g h u l g h d h R; l e; k t o G v l y s y k o g p k n f i; k k g l s v k g s R; k p o g p k o k i j H f o " ; k l k B h d s y s r j ; k p k O k; n k f o | f; k k k p g l o ž y- f' k k . k p h l d ; k e d o k < g l s v k g s i j a r q x q k k e d o k < e k ? k l j r p k y y h v k g s

5½ 53-75% f o | f h z e k š b y e / m y x e [k G .; k l m R l p l v l Y; k p s v k < G u v k y s r k l u- r k l e k š b y e /; s x e [k G r v l r k r- v k i Y; k n s k r v u s d i j a k j h d [k G v k g s v l s [k G [k G .; k u s ' k j h j k p k 0; k; k e g l s k s b r j 0; D r h a k h e s h g l s j l o k n g l s k r- i j a r v l s [k G [k G k o; k p s l k w u e k š b y e / m y x e [k G .; k l m R l p l v k g s T; k p k f o | f; l; e /; k 0; D r h e r o k o j i f r d n y i f j . k e g l s v k g s

6½ l a k k u v h; k l k r 82-5% f o | f; k k k t k l r l y Q h d k .; k r # p h v k g s v k o'; d r i f k t k l r l y Q h d k . k s g k , d e u l o d k j l e t y k t k r s R; k l ^ l y Q k b z v l * v l s e g . k y s t k r s

7½ 46-87% f o | f; k k k Q d c p l e /; s y k b D l f e G k o d s o k v r s f d o k Q d c p l l k s y f e M h; k e /; s T; k x k s' V h v i y m d s y y; k v k g s R; k l i f r l k n f e G k o k l k o k v r l s t j g k i f r l k n f e G l y k u l g h r j R; k k u s k'; ; s s ; k l Q d c p l f m i s k u E g . k r k r- v' k f o | f; k p h l d ; k 46-87% v k g s

8½ e k š b y O k u o k i j r v l r k u l r r , d k p v o l f k r c l Y; k u s i k B P; k d .; k p k = k l g l s k s i k B P; k d .; k p k = k l l d . k j s 44-37% f o | f h z v k g s-

9% cjkp oG elskby okijr vly; kus MG; koj rk.k iMr vlrks lalku vH; kl kr 70-62% fo |f; l; k MG; koj rk.k iMr vly; kps vk<Gm vkys

10% vkiY; kdm elskby ulY; kph tk.kho gsklj Lor%toG elskby vlrkuk lqk gjoY; kpk Hkl gsklj okjokj vkiyk elskby psl dj.k Lor%toGhy elskby lkiMyk ukgh rj yxp cpk gsklj elskby f'kok; , [kknk {k.k lqk jkgw u ' kd.lsg h lkh y{k.k.ukelQk; k gsk; kph ldr vlg- vl s 72-5% fo |f; l; vlg-

11% elskby e/; svud play; k xks' Vh vlg- rj okb/ xks' Vgh vlg- ygku o; kr R; ksk cl; kp vf'yy xks' Vh elgr gkr- vf'yy Qk/s fclok fglMhvk isgrkr dk ; kclcr izu fopkjyk vlrk cl; kp fo |f; l; mRrj ns; kl VkgkVKG dsh ijarq 16-25% fo |f; l; vlg; k xks' Vh igrls vl smRrj fnysys vlg; k xks' VheGs fo |f; l; k; k eukoj ifrdy ifj. lke glA ' kdris

• f'Qlj'lh %

1% elskby okijr vlrkuk rls ' kjhjikl u nj Bokok- ' kD; rls b; jQkpk okij djok- tskd#u elskby e/ fu?k.kjs jkh; skup; k ifj. kklkl u okpw' kdw ' kP; k oJP; k f[k'; kr elskby Bowu; s Boyk rj Ugn; koj ifj. lke glA ' kdris 2% cl; kp ikydauk vkiY; k ygku ey/kuk elskby ns; kph lo; vlrk ygku ey jMr vly] iokl kr =kl ns vly rj R; k; k gkrkr elskby ns R; kl ' kkr djkr- R; k; s x; fglMhvk xk.kh oxjs ykwm nsr- ; keGs ygku o; krp R; kyk elskbyph lo; ykrs ' kGpk vH; kl dj.; kl kH rls elskbyoj voyem jgrk R; kph okpu] euu] o fparukh lo; deh gks R; kPh Lej.k' kDrh deh gks ; keGs f'k{k.koj ifrdy ifj. lke glA ' kdris R; keGs ikydauk vkiY; k ey/kuk elskby ikl u nj Bokos

3% jk-h mf'kiki; r elskby okij.; kph lo; fo |f; l; k vlg rsgk ikydauk o Lor% fo |f; l; k; kclcr tlx#d jkg.k vko'; d vlg- ' kD; rls elskby jk-h Lor%kl u nj Bokok

4% ?kjrh lnl; tsgk ?kjr vlrkr rsgk elskbypk okij Vkgkok o rls oG dlykrhy 0; Drhl kH |kok- tskd#u fo |f; l; k lqk ; kph lo; gkby o rslqk vkiYk oG dlykkl kH nsrh-

5% vkiyse tsgk ?kjr vly rsgk R; kl oxoxG; k dlekr xrom Bokoj vH; kl kfo" k; h R; k'kh pplz djkoh] R; kpk vH; kl ilgkok] vH; kl kph lo; yokoh tskd#u ?kjr R; kyk feG.kjk oG rls elskbye/; s?kyo.; k; k , oth vH; kl kr o brj dlekr ?kyosy- v'k i}rhv vki.k dgh dkG rjh fo |f; l; k elskby ikl u nj Bow' kdw

6% vkiY; k nskr vud ikj kjd [kG vlg- v'k [kG/; s [kG.; kl fo |f; l; k iDrR djkos T; keGs R; kpk 0; k; ke gkby o brj fe=kah R; kph vlg[k gkby , d playk xV fuekz k gkby- elskbye/ky x; eGs fo |f; l; k ckgj tkwm [kG.; kps foljys vlg- R; kpk Eg.kok frdk ' Wjjhd 0; k; ke gkr ukgh- Lor% , dVs elskbye/; s x; [kG; keGs rls lglk , dV k jkg.; kps iDr djris ' Wjjhd gkykjh deh gkr- elskbyojph fuHjrk okrs

7% dgh ikyd ey vkiY; k laldz jkgkok ; kl kH R; kl elskby nsr- rsgk v'k oGk R; kl LeVZ Qks ns; k; k , oth l/kk Qks |kok tskd#u elskbye/ky brj xks' Vph lo; R; kl ylx.kj ukgh-

Review Of Research



MAN ANIMAL CONFLICT IN KARNATAKA STATE

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Abstract

Human-wildlife conflicts have occurred from man's prehistoric period to present. An early form of human-wildlife conflict is the predation of the ancestors of prehistoric man by a number of predators of the Miocene. Even fossil remains of early hominids a *Thung Child* show evidences of predation like a the skull of a young *Australopithecus Africanus* was killed by an eagle from the distinct marks on its skull and the fossil having been found amongst egg shells and remains of small animals. The Neolithic Revolution where the advent of farming and animal husbandry has increased the scope of conflict between humans and animals. The expansion of human population into wild animal habitats where the natural wildlife territory is displaced that made them in seeking alternate sources for their natural prey and food. The conflicts occurs with various negative results such as injury and loss of

life of humans and wildlife, crop damage, livestock depredation, predation of managed wildlife stock, property loss, trophic cascades, destruction of habitats and even reduction of wildlife populations and reduction of their geographic ranges. In this regard forest management techniques should be well adopted to protect them.

Keywords: Wildlife, Human, Forest, Conflict, Karnataka, Habitat .

INTRODUCTION:

Human-wildlife conflict is a fast becoming a critical threat to both man and animals. It refers to the interaction between wild animals and people and the result will be impact on people or their resources, or wild animals or their habitat. This happens only when growing human populations overlap with established wildlife territory, creating reduction of resources or life to some people and/or wild animals. This process involves in loss of life or injury to both humans as well as animals either wild or domesticated to competition for scarce

resources to loss and degradation of habitat. The conflict is fast becoming a critical threat to the survival of many endangered species and it will ultimately affect to environmental impacts on ecosystem equilibrium and biodiversity conservation. In our law of universe both man and animals are placed equally. Since man-made laws are always treated as first importance and rights of wild animals are to be of secondary importance. But human rights approach to environmental protection in case of conflict is often based on anthropocentricityⁱ. Conflict arises by animals encroach human territories but vice-versa. As man thinks otherwise and his thinking is rooted in anthropocentrism. It has been noted that expansion of agricultural fields leads to fragmentation of forests all around the world along with increasing human population and their developmental activities like hydel projects, irrigation canals, coffee estates, road and railway network and even urbanisation has made animals in a very big trouble. Loss of tropical forests coupled with destruction which ultimately leads to decrease in ecosystem services of great value to humanity such as storage in biomass and soils, watersheds regulation and rainfall activities, it also modulates to climate and river flows, spread of infectious diseases and also reduction of feeding ground of many species. In thei regard most of the animals look for alternative sources towards human habitats and finally results in human wildlife conflicts.

In India human-wildlife conflict has given rise to many problems. This can be reduced by providing sufficient habitat to those animals and by maintenance of barriers, guarding of crops and providing immediate compensation to affected families. People development is always welcomed but not at the cost of ecological aspect in the ecosystem. Privacy of wildlife which is always been disturbed by humans can cause serious problems. Indian is considered as one of the fast developing countries in consideration with population. In this matter environmental justice could be achived only if drift away from the principle like sustainable development; polluter pays principle, precautionary principles which are based in the interest of humans and environmentⁱⁱ. India's Central Government, the State Governments and the Union Territories should evolve better preservation strategies so that conflicts can be avoided to larger extent. Even participation of people who are staying in the Community Reserves is also of given extreme importance. By improving animal habitat, training programs to officials and local people, regular awareness programmes, providing technical and financial support, by constructing boundary walls, eco-development activities and also encouraging research and academic programs towards issues can solve issues relating to man-animal conflicts. In India laws relating to forest and wild life are subject matters which are listed in the constitution. Both Central and State governments were responsible for all framing and implementation of policies relating to wild life conservation and forest protection. Areas of sufficient ecological, faunal, floral, geo-morphological, natural or zoological significance have been declared as a National Parks, Wildlife Sanctuaries, Conservation Reserve Forests or Community Reserve Forests for protecting, propagation or developing wildlife or their habitats. Expanding human habitations and the burgeoning population have resulted in shrinking of the forest base for animals. Also, there is tremendous pressure on forests by communities dependent on them for firewoodⁱⁱⁱ.

KARNATAKA FOREST AND CONSERVATION

The state of Karnataka is blessed with abundant natural resources with magnificent forests endowed with different types of forests. It has spread across a geographical area of 191,791 sq km. where in the recorded forest area is 43,356.47 sq.km. i.e., 23% as per annual report of Karnataka State Forest Department. The forest area is again classified in to Reserved Forests (68.48%), Protected Forests (8.17%), Unclassified Forests (23.12%), Village Forests (0.11%) and Private Forests (0.12%). The abundant rainfall has promoted the growth of luxuriant tropical forests in Karnataka which covers almost 17% of the state. While looking at the physiographical map of Karnataka it forms part of two well defined macro-regions of India: the Deccan Plateau and the coastal plains and islands. The state has four physiographic regions they are 1) Northern Karnataka Plateau, 2) Central Karnataka Plateau, 3) Southern Karnataka Plateau: andf 4) Karnataka Coastal Region. Looking at the socio-economic profile of the state across most of Karnataka's Western Ghats, which are not favourable for sheep and where cattle are of poor breed, many communities have had traditional associations with hunting and fishing for subsistence. Pre-colonial Uttara Kannada, for instance, was a haven for wildlife. Karnataka has a population of 52.85 million and is predominantly rural and agrarian. About 66% of its population lives in rural areas, about 60% were engaged in agricultural and allied activities. The districts in the Western Ghats have been renowned since ancient times for spice gardens in which betel nut, pepper, cardamom, ginger and banana are grown. Rice, coconut, sugarcane, groundnut, vegetables, mango, cashew nut, tuber crops, ginger, etc. are other important crops. Karnataka accounts for 59% of the country's coffee production and 47% of its *ragi* production. Karnataka has a diverse tribal population, comprising about 6.6%

of the total population of the state. The state has a coastline of about 320 km, providing one of the best fisheries along the west coast. Tides that enter the estuaries flood a good part of the coast. The estuaries are highly productive, but of late, enormous human pressures and interference with the natural ecology have reduced their productivity drastically. Agricultural systems practiced in the shallow portions of these estuaries date back hundreds of centuries. About 12,000 ha area of the state is under such cultivation. The state is rich in mineral resources, especially granite, along with gold and high-grade iron.

There are also different types of forests in Karnataka they are evergreen and semi-evergreen forest, moist deciduous forest, dry deciduous forest, scrub and thorny forest, and un-wooded forest. Some of the forest in Karnataka are Bhagavati Reserved Forest, Bhadra Reserved Forest, Bannerghatta National Park, Kudremukh National Park, Nagarahole National Park, Bandipur National Park, Anashi National Park, Bhimgad Wildlife Sanctuary, Biligiri Rangaswamy Temple (B.R.T.) Wildlife Sanctuary, Brahmagiri Wildlife Sanctuary, Dandeli Wildlife Sanctuary, Daroji Bear Wildlife Sanctuary, Nugu Wildlife Sanctuary, Pushpagiri Wildlife Sanctuary, Shettihalli Wildlife Sanctuary, Someshwara Wildlife Sanctuary, Talakaveri Wildlife Sanctuary, Tyavarekoppa Lion and Tiger Reserve, Attiveri Bird Sanctuary, Sharavathi Wildlife Sanctuary.

It's a challenge for entire country including the state of Karnataka in conserving the flora and fauna. Forest is considered as one of the major natural landscape and it is considered as integral part of the ecosystem. Encroachment of forestland is on the rise due to ever-increasing population and consequent landlessness. The threat to forest resources is due to unchecked exploitation and fragmentation and honeycombing of forest areas are causing the loss of corridor for movement of wild animals. Most of the patches of forests in Karnataka require protection, smuggling of timber and poaching of wild animals are posing serious threats to forest and its resources. In this regard adequate measures should be taken in order to halt the decline of forest resources and in this regard there must be a conscious effort on part of the government and the citizens to conserve the forest resources in Karnataka.

By increase of human population wildlife-human conflicts are becoming serious obstacle for conservation of forests as well as livelihoods of people worldwide and as development expands and global climate changes and other human and environmental factors put people and wildlife in greater direct competition for shrinking resource base.

METHOD

The present study is based on the secondary data which is collected from the Department of Forests, Karnataka State of five years from 2010-11, 2011-12, 2012-13, 2014-15 and 2016-17. Data for this article were also obtained from field studies aimed at a broader survey of wildlife in general in different areas of Karnataka State. These studies examined the presence, distribution, and status of different species of wildlife. The fieldwork also recorded conflicts between humans and animals through focus group discussion and in-depth interviews. Effort are also made to interview the villagers, forest staff, and hunters, poachers that had experienced conflicts with animals. The data related to loss of human and domestic life along with loss to crop and property and permanent disability or injuries and total compensation paid to them or to those families were been incorporated by the data provided by the Department of Forests, Karnataka State, Bangalore

RESULTS

Results of the data are converted to amount in lakhs as the forest departmental data shows both in lakhs and in rupees. Information about financial year 2013-14 and 2015-16 are not available with the state forest department. After correcting the data the below table of ex-gratia for death of human, compensation for crop and cattle damages by wildlife havoc is constructed.

Table 1: Payment of ex-gratia for death of human, compensation for Crop and Cattle damages by Wildlife havoc.

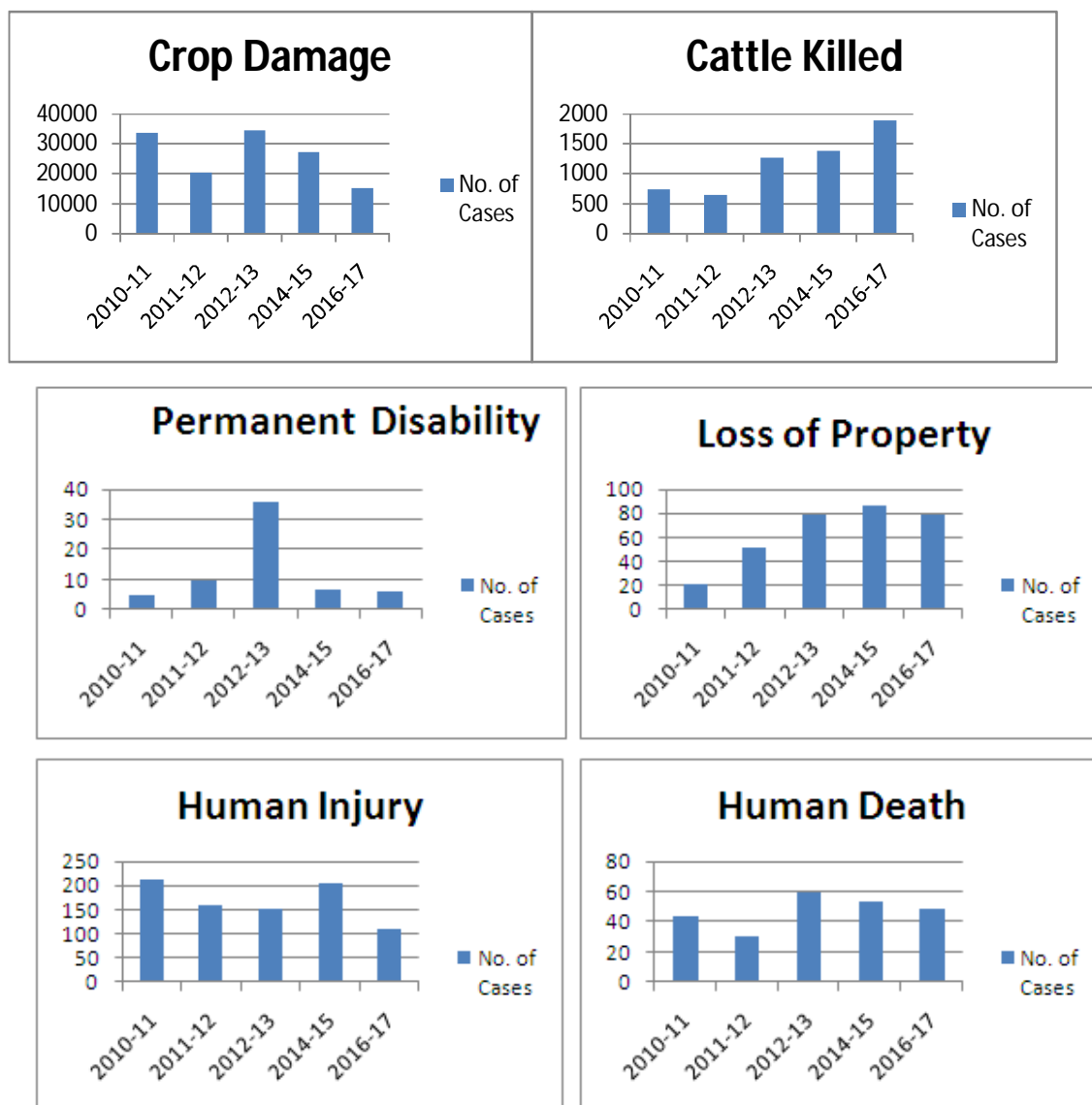
Year		2010-11	2011-12	2012-13	2014-15	2016-17	Total
Crop damage	Cases	33555	20312	34496	27327	15401	131091
	Amount Paid	827.10	541.23	958.95	890.59	631.53	3849.39
Cattle Killed	Cases	751	653	1269	1390	1896	5959
	Amount	23.83	21.34	42.97	61.73	136.73	286.60

	Paid						
Human death	Cases	44	30	59	53	48	234
	Amount Paid	72.55	94.20	276.67	253.50	228.83	925.75
Permanent Disability	Cases	5	10	36	7	6	64
	Amount Paid	1.95	5.11	8.79	3.30	4.24	23.38
Human Injury	Cases	211	158	151	204	108	832
	Amount Paid	22.22	13.39	18.93	27.05	23.27	104.87
Loss of property	Cases	22	53	80	86	80	321
	Amount Paid	1.15	1.42	2.53	3.21	3.91	12.22
Total	Cases	34588	21216	36091	29067	17539	138501
	Amount Paid	948.80	676.68	1308.84	1239.38	1028.51	5202.21

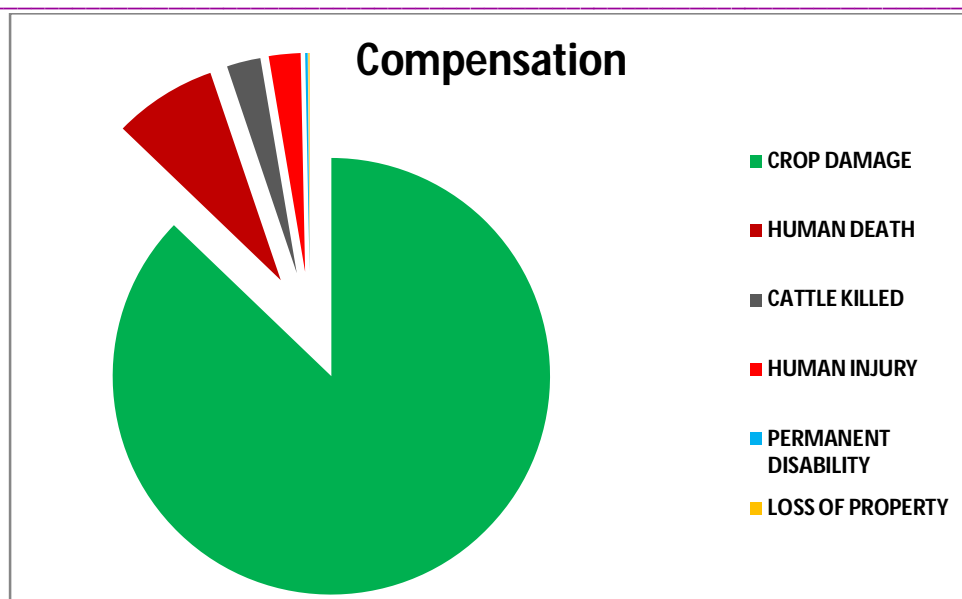
The above table show the compensation regarding the cases of crop damage is recorded highest number of cases as well as the compensation is also huge. Wild animals species namely Asian elephant (*Elephas maximus*), wild pig or wild boars (*Sus scrofa*), Indian crested porcupine (*Hystrix indica*), Malabar gaint squirrel (*Ratufa indica*), Indian peafowl (*Pavo cristatus*), bonnet macaque (*Macaca radita*) and sambar (*Rusa unicolor*) are main animals damaging main crops like coconut, Arecanut, rubber, banana, paddy, colocasia, tapioca, elephant yam, plantain and so on. These wild animals, mainly in peripheral areas of national parks and wild life sanctuaries, increasingly pose a risk to farmers around those regions. Farmers are inflicted with crop losses and other damages when herds of such animals occasionally stray from their habitats and enter farm lands, destroying the fields and plantations^{iv}. Due to the loss of animal habitat, more and more species of fauna have started to venture into human habitation causing a conflict between humans and fauna. A typical species affected by this is the elephant which ventures out of the forest into human cultivations thereby eating or destroying the crops. In some cases, the elephants have also caused human deaths like an incident that happened in Hassan district where a villager was trampled to death^v. Precautionary measures (sometimes illegally) taken up by humans to prevent such mishaps like electric fencing have also led to disastrous consequences like electrocution of fauna^{vi}. Five years crop damage is estimated as 3849.39 lakhs.

Most of the villagers graze their livestock in forests which ultimately leads to death of livestock such as carnivores which are attracted towards the easy prey and became direct enemies of livestock and livestock graziers. This type of grazing in forest areas are considered as a threat to wildlife habitats as well as forest resources. The most noticeable effect is the decline of wild herbivore populations as they have to compete with livestock for their food source. As more cattle graze and nibble the natural vegetation there is less palatable biomass for wild herbivores. As livestock eliminate palatable native plant species often unpalatable species of plants invade the area. Some of the scientific studies have shown how wild ungulates decline in areas where grazing pressures is considered as high. The intricate relationship between various species of flora and fauna is yet to be understood and many a time the actual implications of grazing might even go unnoticed by many. Plant species composition skews as foraging by domestic animals increases. Livestock voraciously graze on young saplings directly affecting the recruitment rate and regeneration of tree and plant species. Livestock Grazers are also one of the important links in human-wildlife conflict, as they often dismantle physical barriers (elephant proof trench, solar fence) meant to prevent wild animals entering crop fields so that they can take livestock into the forests. Very importantly livestock grazing aids in spread of communicable diseases from domestic to wild animals many times causing death of wild ungulates. Heavy grazing increases soil erosion in forest areas. Livestock grazing in forests become easy prey for wild carnivores, causing conflict and leading to retaliatory killing of large carnivores. This can directly affect their numbers. Livestock not only affects the forage but also water availability especially during dry seasons. Livestock compete with wild animals for scarce water in the forests.

The increasing human population has also led to an increase in their requirements. Many settlements have started expanding in urban and rural parts to meet the pace of growing populations. Many settlements have come up near the peripheries of protected areas, encroaching the forest areas and using it for their own benefit this has caused human conflicts with wild animals leading to death of animal or human. Apart from human death permanent disability of a person and human injuries are also happened. Apart from these loss of property like destruction of their houses and huts and vehicle damages moveable and immoveable damages also happened.



Above charts shows that crop damage and human deaths are in reducing while cattle killed and loss of property are recorded in increasing order. Permanent disability and human injuries are in fluctuating indicators year by year.



While looking through the total compensation paid was crop damage was estimated as highest with 3849.39 lakhs followed by human death 925.75 lakhs, cattle killed 286.60 lakhs, human injury 104.87 lakhs, permanent disability 23.38lakhs and loss of property is recorded as 12.22 lakhs.

SUGGESTIONS

Development activities cause more interference in forest and also the privacy of wildlife and these ultimately cause conflict with wildlife. Man-animal conflict often takes place when wild animals cause damage to agricultural crop and property, killing of livestock and human beings. Human population growth, land use transformation, species loss of habitat, eco-tourism, too much access to reserves, increase in livestock population bordering the forest, depletion of natural prey base etc., often stated to be reasons for such conflict. Central Government the State Government, and the Union Territories should evolve better preservation strategies, in consultation with Wildlife Boards so that such conflicts can be avoided to a large extent. Participation of people who are staying in the Community Reserves is also given extreme importance. Environmental justice could be achieved only if we drift away from the principle like sustainable development; polluter pays principle, precautionary principles which are based in the interest of humans and environment. In recent years the environment ministry has allowed Himachal Pradesh to kill monkeys and Bihar, nilgai and wild boar, where they were in conflict with humans. Killing “too many animals” can affect the food chain, since carnivores prey on nilgai and wild boar. If prey decline, carnivores could turn their attention to farm animals and humans, suggesting that culling be done “under proper supervision and monitoring”.

It is recommended that the government needs to maintain an updated database of wildlife movement. Incentivising farmers to grow non-cash crops around the Protected Areas and providing of crop insurance may be taken up. Maintenance of Elephant Proof Trenches, solar fences, special structures and adequate use of Elephant Depredation Camps may be ensured to reduce Human Wildlife Conflicts and Speedy action may be initiated to work on strengthening of corridors by purchasing private land within a time frame. The government may consider the implementation of the recommendations brought out in Reports like The Right of Passage" (2005)^{vii}, Gajah (2010)^{viii}, Conservation plan for securing selected Elephant Corridors in South Western Ghats" (2011)^{ix} and “Report of the Karnataka Elephant Task Force Report” submitted to High Court of Karnataka in September 2012^x.

Development of people is always welcome but not at the cost of negative ecological aspect in the ecosystem.

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