Hkkjrh; df"k vuqla/kku if=dk] **35**(4): 207-218 DOI: 10.18805/BKAP253

xk dY;k.k% doy lrrx'kkyk, gh bl lfuf'pr dj ldrh g

vtej flag] ch-,l- pnyh] ,d pkgku ,oa ,e-,y- dcksr

,u-Mh-vkj-vkbZ-] djuk&132 001] gfj;k.kk] Hkkjr A

ikIr% fnlEcj 2020 Lohdr% tuojh 2021

lkjk'k

xk&lok dk Hkkjrh; ekul e cMk egRoi.k LFkku gA Hkkjr e n'kh xk;k dh l[;k yxkrkj fxj jgh gA tl gh o ekfyd d fy, vykHkdkjh gk tkrh g] mUg NkM fn;k tkrk gA bld pyr] vkokjk i'kvk dh leL;k cuu yxrh g tk xk&gR;k çfrcU/k dkuu d cuu l vkj T;knk xgjh gk x;h gA xk'kkykvk dk yxkrkj c<rh vkokjk i'kvk d çc/ku d fy, lcl vPNk fodYi ekuk tkrk gA bl leL;k d mHkju l igy gh] Hkkjr e n'kdk l xko'k dh j{kk vkj ml cuk, j[ku d fy, xk'kkyk, ektn gA pfd xk'kkykvk dk de ykHkdkjh i'kvk dk j[k j[kko djuk iMrk g vkj budh LFkkiuk dk çkFkfed mí'; gh xk; dk dY;k.k jgk g] blfy, bUg vkRefuHkj gku dh vko';drk gA bl çdkj] ;g egRoi.k g fd mudh lrr'khyrk d Lrj dk v/;;u fd;k tk, rkfd mu ldrdk dk irk yxk;k tk ld ftue l/kkj dh xtkb'k g o xk; dY;k.k e budk D;k ;kxnku gk ldrk gA blfy, ;g 'kks/ki= gfj;k.kk jkT; e xk'kkykvk dh lrr 'khyrk o xkdY;k.k Lrj d lkFk lcf/kr fofHkUu igyvk dk lckf/kr djrk gA 'kks/k e ik;k x;k fd 'k) vk;] Vkbi , ¼xke lenk;k }kjk vkfFkd :i l lefFkr½ vkj cM vkdkj dh xk'kkykvk e vf/kd gkrh gA lrr'khyrk dk v/;;u dju d fy,] l;ä lr 'khyrk lpdkd ¼lh,lvkbZ½ fodflr fd;k x;k g vkj ;g cM vkdkj dh xk'kkykvk ¼0-41½ e vf/kd gA vkerkj ij lh,lvkbZ] 0-37 ik;k x;k tk v/;;u {k= e xk'kkykvk dh de lrr'khyrk dk ldrd gA i'k dY;k.k Ldkj dk Hkh ukik x;k vkj ;g Vkbi , xk'kkykvk ¼72-40½ vkj cM vkdkj dh xk'kkykvk ¼77-00½ e vf/kd ik;k x;kA dY;k.kLdkj vkj lh,lvkbZ d chp lglc/k x.kkd Hkh ,lh çofÙk dh vkj ldr djrk gA

'kCnndth &n'kh xk;] gfj;k.kk] vkokjk i'k] lrr mRiknu] l;ä lrr'khyrk lpdkd] i'k dY;k.k LrjA

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Cow Welfare: Only Sustainable Gaushalas can ensure it

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ABSTRACT

Cow service occupies a very important place in the Indian psyche. The number of indigenous cows is continuously falling in India. They are released as soon as they become unviable to the owner. Due to this, the problem of stray animals starts to get deeper which is further deepened by the law on cow slaughter ban . Gaushalas are considered to be the best option for the management of ever-growing stray cattle. Even before this problem arose, gaushalas existed in India to protect and maintain the cow dynasty for decades. Since gaushalas have to maintain less remunerative animals and their primary purpose of establishment has been the welfare of the cow, they need to be self-sufficient. Thus, it is important that their level of sustainablility is studied so that those indicators that have room for improvement can be indentified. Therefore, this paper addresses various aspects related to the welfare level of cow in the state of Haryana. It was found that net income is higher in Type A (financially supported by village communities) and larger size . To study the Sustainablility, the Combined Sustainability Index (CSI) has been developed and is higher in large-sized gaushalas (0.41). The over all CSI was found to be 0.37, indicating low persistence of cowsheds in the study area. Animal welfare score were also measured and the correlation coefficient between welfarescore and CSI found more in Type A and larger sized.

Key words: Animal welfare level, Composite sustainablility index, Haryana, Stray cattle, Indigenous cow, Sustainable production.

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,u-Mh-vkj-vkbZ-] djuk&132 001] gfj;k.kk] Hkkjr A

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iLrkouk

Hkkjr e Lon'kh uLyk dh xk; dh foÙkh; 0;ogk;rk mudh de mRikndrk d dkj.k cgr mRlkg tud ugh gA tl gh o ekfyd d fy, vykHkdkjh gk tkr g] mUg NkM fn;k tkrk gA ; ifjR;ä i'k vkokjk gk tkr g vkj 'kgjk e dpjk [kkr g, n[k tkr g ;k dRy[kkuk e cp fn, tkr gA bl i'k l tMh /kkfed Hkkouk, vkj xkgR;k ij çfrc/k bl eí dk bld vkfFkd ifj–'k; l ij y tkrk gA

n'k e vkokjk i'kvk dh vkcknh yxHkx 50-22 yk[k g ¼i'k/ku tux.kuk] Hkkjr ljdkj] 2020½A gky d o"kk e] ;g leL;k] fo'k"k :i l mÙkjh o e/; Hkkjrh; jkT;k e T;knkrj vo/k cpM[kkuk dk cn dju vkj xj dkuuh 0;kikj ij f'kdtk dlu d dkj.k] cgr c< x;h gA fnYyh mPp U;k;ky; dh bl fVli.kh l vkokjk i'kvk d [krj dh Hk;kogrk lkQ fn[kkb n jgh g fd Þbu i'kvk l 'kgjokfl;k dh tku eky [krjk] Hkkjrh; lfo/kku d vuPNn 21 }kjk xkjVh—r ekfyd vf/kdkj dk mYy?ku gßA blfy,] bu i'kvk d çc/ku d fy, ,d fodYi [kktu dh vR;r vko';drk g vkj n'k dh ?kVrh gb 'k) n'kh xk;k dh vkcknh dk lj{k.k Hkh djuk gA ,lk ,d fodYi xk'kkyk gk ldrk gA c'kr oxk;k d dY;k.k d fy, lrRk'khy vkj lrf"V nk;d gkA

bu ykHkk dk nh?kdkfyd vk/kkj ij çnku dju d fy,] xk'kkykvk dk vkfFkd] lkekftd vkj i;koj.kh; :i l vkRe&lr cuuk gkxkA bl eí dk lk/ku d fy, bu xk'kkykvk dh vkfFkd 0;ogk;rk dk Lrj] i'k dY;k.k o bu lLFkkuk d lrr Lrj dh tkudkjh dh vko';drk gkxhA ;|fi xk'kkykvk dh LFkkiuk d fy, i'k dY;k.k e[; mí'; g yfdu bl ekiu d fy, vyx l dkb iekuk miyC/k ugh gA xk'kkyk, i'k dY;k.k lLFkk, g] blfy, eof'k;k d dY;k.k dh oreku fLFkfr dh tkp djuk vfuok; gA

;|fi lrr'khyrk dh vo/kkj.kk u —f"k vkj lc) {k=k e db 'kk/kdrkvk dk /;ku vkdf"kr fd;k g] fQj Hkh 0;kogkfjd vkj vuHkot U; /ofu d lkFk eík dk mtkxj dju d fy, xk'kkykvk dh lr 'khyrk dk v/;;u dju d fy, cgr de ç;kl fd, x, gA xk'kkyk i'k/ku {k= l vNrh jgh g] D;kfd ;g vuRiknd vkj vkokjk eof'k;k dk lHkkyu d fy, ,drjQk ekuk tkrk gA

1-1 xk'kkyk

xkeh.k ykxk dh vkthfodk e çklfxdrk d dkj.k xk; dh J)k vkj mldk egRo g tk fd bl ifo= i'k dh j{kk d fy, Bkl ç;kl vkj lkekftd vknkyu dk lcc cukA xkjf{k.kh lHkk ¼xk j{kk lekt½ dh LFkkiuk 1882 e itkc e dh xbA ;g vknkyu tYn gh ij mÙkj Hkkjr vkj fQj ij n'k e Qy x;kA vxy ,d n'kd e] ldMk xk'kkyk, [kkyh xbA vkt] lln e 2014 d ,d ç'u&mÙkj d vulkj] n'k e yxHkx 3]030 xk'kkyk, g] ftue l 1]325 fofHkUu i'kikyu foHkkxk }kjk lpkfyr gA Hkkjrh; i'k dY;k.k ckM d ikl 1837 xk'kkykvk dk ithdj.k gA

xk'kkyk dk vFk g xk;k d fy, ,d lj{kkRed vkJ; vFkkr ,d fuokl LFkku ;k fo'k"k :i l xk;k d fy, ,d vHk;kj.;A Hkkjrh; ekud C;jk ¼chvkb,l½ }kjk Hkkjr e xk'kkyk LFkkiuk dk mí';] xk j{kk] mud LokLF; vkj thou e l/kkj] 'k) n/k vkj fofHkUu xk; mRiknk] tuu æ0; lj{k.k vkj i'kvk d çfr Øjrk dk jkdu d fy, fd;k x;k g ¼chvkb,l] 1987½A db xk'kkyk, viu mí'; dk dkQh vPNh rjg l ijk dj jgh g vkj mue l dN vkdkj vkj fofo/krk e bruh fodflr gb g fd viu vki e ,d lLFkk cu xbA bu xk'kkykvk d çc/ku }kjk fuLokFk lokvk d dkj.k mue l dN dk LFkkuh; lenk;k dk Hkjij leFku çkIr gvk gA

The study in this contet has been conducted with the objectives as below:

- To study the functioning of Gaushalas and work out their economics.
- To find out level of animal welfare in the Gaushalas.
- To assess sustainability of Guashalas in the study area.

2- dk;ç.kkyh

2-1 v/;;u dk LFkku

mí'; d fy,] gfj;k.kk jkT; dk lkp le>dj puk x;k g D;kfd ;g jkT; xk'kkykvk dh LFkkiuk vkj j[k j[kko e vx.kh jgk gA çFke xk'kkyk dh LFkkiuk 1879 e Lokeh n;kun u jokMh e dh FkhA 18 yk[k eof'k;k ¼gfj;k.kk ljdkj] 2019½ dh dy vkcknh e l 3-99 yk[k eof'k;k dk jkT; dh dy 578 xk'kkyk, lHkky g, gA jkT; dh eo'kh vkcknh dh xfr'khyrk crkrh g fd jkT; e Lon'kh eof'k;k e dkQh deh vkb gA ;g ?kVrh Lon'kh çtkfr d fy, [krj dh ckr g tk jkxk d çfr çfrjk/k] bld n/k e A2 çkVhu d okgd] tyok; ifjoru d çfr yphykiu vkj LFkkuh; ifjfLFkfr;k d vudy {kerk d ekey e tcjnLr vkuof'kd egRo j[krh gA bu nlh i'kvk dk ljf{kr dju d fy, xk'kkykvk dk bLreky fd;k tkrk jgk gA

jkT; u Lon'kh çtkfr;k d lj{k.k d fy, fofHkUu vf/kfu;ek vkj dkuuk dk ikfjr fd;k gA gfj;k.kk xko'k lj{k.k vkj xk lo/ku vf/kfu;e] 2015] e[; :i l Lon'kh uLyk d lj{k.k vkj fodkl d mí'; l] lLFkkuk dh

LFkkiuk dju d fy, f'k'kj ?kk;y] vkokjk vkj vykHkdkjh xk;k dk cuk, j[ku vkj xk gR;k ij çfrc/krk dk vkx c<ku d fy, cuk;k x;k gA jkT; u gky gh e xk vHk;kj.;] xk lok v;kx] unh xke vkfn dh LFkkiuk dju dh igy dh gA vi;kIr txg dh leL;k l fuiVu d fy,] ty ifjlj vkfn e Hkh xk'kkykvk dh LFkkiuk d fy, ,d ub ;ktuk gfj;k.kk d pfunkftyk e 'k: dh xb g ¼xk lok;kx] 2019½Axk fpfdRlky;k dh LFkkiuk viu vki e ,d mEnk igy g

2-2 Sample ¼ueuk½

bl ç;ktu d fy,] 21 xk'kkykvk dk ,d lEiy jkT; d fofHkUu ftyk l mud Vd fjd,M vkj MVk miyC/krk d vk/kkj ij puk x;kA i'koj o dY;k.kkUe[kh xk'kkykvk dk 'kkfey dju d ç;kl fd, x,A ,h xk'kkyk, okLro e cgr lh ugh FkhA yfdu] okLrfod dkedkt vkj mud vU; lkekftd&vkfFkd eík dh tkp dju d fy, lekt ij vkj fo'k"k :i l eof'k;k d dY;k.k ij mud çHkko d vk/kkj ij xk'kkykvk dh igy igpku dh xb vkj fQj lEiy cuk;k x;kA

p;fur xk'kkykvk dk cumulative square root frequency fof/k dh lgk;rk l rhu Jf.k;k e oxh—r fd;k x;k gA NkVh xk'kkykvk dk vklr vkdkj 1306 i'kvk dk g] e/;e xk'kkykvk dk 3003 vkj cMh xk'kkykvk dk 5208 i'kvk dk ik;k x;kA

foÙkh; leFku] çc/ku lc/kh ftEenkfj;k vkj lkekftd vk/kkj d fglkc l xk'kkykvk dk nk Jf.k;k e foHkkftr fd;k x;kA Vkbi ,¼[kki ;k lkenkf;d xk'kkyk,½ vFkkr ftud ikl xke lenk;k }kjk fo'k"k :i l ipk;rk }kjk fcuk fdlh 0;kolkf;d fgrk d i'k dY;k.k d fy, foÙkh; lgk;rk g vkj bud vykok ckfd dk Vkbi ch djkj fn;k x;kA xke lenk;] Vkbi ,xk'kkykvk e viuh mit ;k fdlh vU; okLrfod çkflr;k d ,d fuf'pr vuikr e ;kxnku djr gA ge bl {k= e ikr g fd dN fof'k"V xk'kkyk, 60 xkok }kjk lefFkr g] vU; mu 84 xkok }kjk lefFkr g vkfn&vkfnA cPp d tUe tl gj 'kHk volj ij ?kjoky bl xk'kkyk e ;kxnku nr gA bu xk'kkykvk e lyXu xko nku e ,d cMk fgLlk nr gA lHkh sampled xk'kkykvk e ,d dk;dkjh lfefr g tk viu dkedkt dk fu;fer <x l dju e l{ke gkrh g

2-3 lrr'kh yrk lpdkdk dk fuek.k

lrr'kh yrk dh vo/kkj.kk rhu lpdkdk e fufgr gkrh gA vkfFkd lrr'kh yrk] lkekftd lrr'kh yrk] vkj i;koj.kh; lrr'kh yrk] lckjRue] ¼2001½ okfYVd] ¼2003½ çepn ¼2008½ vkj jgeku ¼2011½ vkfnA v/;;u e] rhu vyx&vyx lpdkdk dk l;ktu djd fy, l;ä lrr'kh yrk] lpdkd ¼lh,lvkb½ fodflr fd;k x;kA

2-3-1 ldrdk dk lkekU;hdj.k

fdlh Hkh lpdkd d xBu d fy,] fofHkUu dkjd gkr gA o viuh bdkb;k] eki] çHkkok vkfn e fHkUu gk ldr g] blfy, bu lHkh dkjdk dk uhp nh xb çfØ;k d vulkj lkekU; fd;k tkuk gkrk g vkj fQj 0;fäxr lpdkdk dk fuek.k fd;k tkrk gA lkekU; gku d ckn] mu lpdkdk dk x.kkd fn;k tkrk g tk l;ä lpdkd fodflr dju e vko';d gkr gA pfd l;ä lpdkd dk fodflr dju d fy, mi;kx fd, tku oky lHkh dkjdk d ekinM dh vyx&vyx bdkb;k g] blfy, fuEu l= dk mi;kx djd lkekU;hdj.k fd;k x;k g

$$I_{ij} = \frac{MaxX_{ij} - X_{ij}}{MaxX_{ij} - MinX_{ij}} \quad \text{.....(1)}$$

$$I_{ij} = \frac{X_{ij} - MinX_{ij}}{MaxX_{ij} - MinX_{ij}} \quad \text{.....(2)}$$

tgk

i ¾ 1] 2] 3 .... ,d ldrd

j ¾ 1] 2] 3 lrr'kh yrk dk vk;ke

X_{ij} ¾ j^{th} vk;ke d j^{th} ldrd dk eku

lehdj.k ¼1½ lr 'kh yrk ij ldkjkRed çHkko oky ldrdk d fy, gA

lehdj.k ¼2½ lr 'kh yrk ij udkjkRed çHkko Mkyu oky ldrdk d fy, gA

2-3-2 0;fäxr lpdkd

lkekU;hdj.k d ckn] rhu vyx&vyx lpdkdk dk xBu uhp n'kk; x, Q,ey l fd;k x;kA

$$ESI = \sum_{I=0}^{n} W_I I_I / n$$

$$SSI = \sum_{I=0}^{n} W_I I_I / n$$

$$EnSI = \sum_{I=0}^{n} W_I I_I / n$$

ESI ¾ çR;d xk'kkyk dk vkfFkd lr 'kh yrk lpdkd

SSI ¾ lkekftd lr 'kh yrk lpdkd

EnSI¾ i;koj.kh; lr 'kh yrk lpdkd

w_i ¾ i^{th} ldrd dk fn, x, x.kkd

I_i ¾ lcf/kr lpdkd d i^{th} ldrd dk lkekU;h—r eY;

n ¾ ldrdk dh l[;k

2-3-3 x.koÙkk fu/kkj.k vkj ,d=hdj.k

fQj bu rhu lpdkdk ¼vkfFkd] lkekftd vkj i;koj.k½ dk x.kkRed egRo fn;k tkrk g vkj çR;d xk'kkyk d fy, lr 'kh yrk lpdkd ¼CSI½ cuk;k tkrk gA

$$CSI = (W1 * ESIk + W2 * SSIk + W3 * EnSIk) / \sum Wi$$

tgk]

CSI ¾ kth xk'kkyk dk l;ä lpdkd

W_i ¾ fo'k"kK dh jk; l 0;fäxr ldrdk dk x.kkRed egRo

M;jh vFk'kkL=] M;jh foLrkj] i'k/ku mRiknu vkj çc/ku] i'k 'kjhj foKku] i'k ik"k.k] vkfn tl fo"k;k d fo'k"kK d eFku u ,dkdh dkjd o lpdkdk d egRo dk vklku cuk;kA rc] xk'kkykvk dk lr 'khyrkLrjk d vk/kkj ij oxh—r fd;k x;k FkkA

2-4 vkfFkd 'kCnkoyh

fjVu ¾ fcØh jktLo fofo/k vk;

R.O.V.C. ¾ py ykxr l Åij dh vk;

Lok;Ùkrk ¾ fcØh vkj fofo/k vk; dk dy çkfIr;k e vuikr

fuHkjrk ¾ nku vkj vunku dkdy vk; e vuikr

ifjpkyu ¾ dy vk; e ifjpkyu 0;; dk çfr'kr vuikr ¼;k½

2-5 xk'kkykvk e i'k dY;k.k

lr 'khyrk lpdkd d fuek.k d ckn] xk'kkyk Lrj ij i'k dY;k.k dk eY;kdu fd;k x;k D;kfd ;g xk'kkykvk dh LFkkiuk dk e[; mí'; jgk gA bldk eY;kdu M;jh i'k dY;k.k eki Ldy dk mi;kx djd fd;k x;k g tk ,uMhvkjvkb djuky }kjk fodflr 20 dY;k.k ldrdk l cuk gA

ifj.kke o foopuk

3-1 xk'kkykvk dh dk;ç.kkyh

dk;k dk lpk: :i l pyku d fy,] dk;dkjh lfefr fofHkUu dk; djrh g ft ldh viuh fof'k"V ljpuk g tl k fd fp= 1 e of.kr g tk çR;d 3&5 o"kk e puh tkrh g gkykfd vkerkj ijlfefr d inkf/kdkfj;k dk puko lolEefr l gkrk gA dk;dkjh lfefr e ,d v/;{k] mik/;{k] lfpo] l;ä lfpo] dk"kk/;{k vkj mld lnL; gkr gA lfpo dk in fnu&çfrfnu d dr0;k dk ijk dju vkj xk'kkyk dh xfrfof/k;k dh ;ktuk cuku e egRoi.k Hkfedk fuHkkrk gA og ,d çc/kd vkj ,d i;o{kd }kjk lefFkr gkrk gA dk;dkjh lfefr d fofHkUu inkf/kdkfj;k d chp dr0;k dk Li"V foHkktu gA dkedkt dh vko';drkvk vkj tuekul d vueknu d vulkj mik/;{kk dh l[;k rhu rd tk ldrh g vkj l;ä lfpok dh l[;k nk gk ldrh gA dk;dkjh lfefr] e U;ure 5 lnL;k dh vko';drk gkrh g rFkk gj rhu lky e puko gkr gA

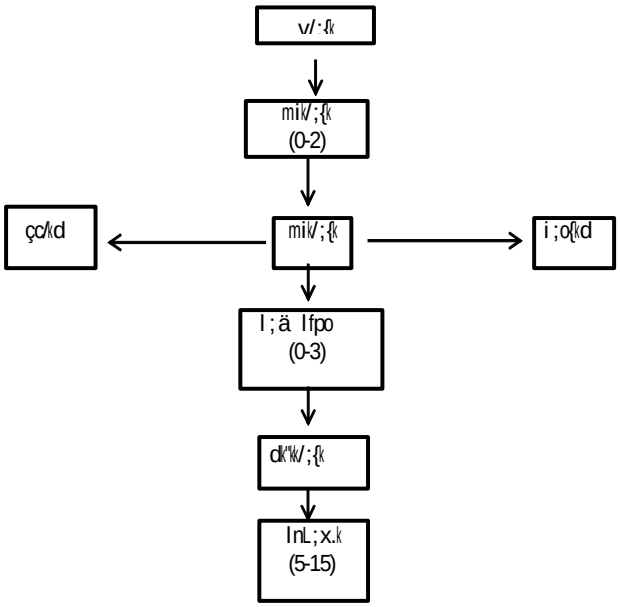
dN dk NkMdj yxHkx lHkh xk'kkyk,] dkb lkekftd dk;drk ;k fdlh lr /kkfed uk;d }kjk 'k: dh xb FkhA cgr de xk'kkyk, ,l g tk xk; d dY;k.k d fy, lkenkf;d dkjokb }kjk 'k: dh x;h gkA ; lHkh ,d lklk;Vh ;k ,d VLV d rgr ith—r FkA

bu xk'kkykvk e i'kvk dh l[;k xk'kkykvk e miyC/k l lk/kuk d vk/kkj ij fu/kkfjr ekunMk l vf/kd ikb x;hA jkT; ljdkj d vkn'k l vkokjk i'kvk dh vçR;kf'kr vkod l leL;k vkj c< xb gA jkT; e ,d çFkk g fd 'kgjh fudk; ¼M.C½ d vf/kdkjh vkokjk tkuojk dk idMr g] mUg {k.kHkxj f'kfojk ¼QkVd½ e j[kr g vkj mUg ikl dh xk'kkyk e Hkt nr g] tk igy l gh vR;f/kd HkhM d ck> d uhp djkg jgh gkrh gA bu i'kvk e l cgr lkj xk'kkyk fjd,M e lphc) ugh gkrA bll xk'kkykvk dh dk;ç.kkyh xMcMk tkrh gA mud l lk/kuk ij otu c<rk g vkj cny e xk'kkyk d jky ij vku oky okLrfod eof'k;k dk txg&vkxu] pkjk vkj vU; lfo/kkvk dk de fgLlk fey ikrk gA ,lk gh dN nlj oKkfudk u Hkh viu 'kk/k e ik;k¼Bijla *et al* ¼2019½] Singh and Kamboj ¼2019½-

'kk/k e ik;k x;k dh bu xk'kkykvk e n'kh uLy tl gfj;k.k] Fkkjikjdj] jkBh] dkdjt]xhj] lkghokyj[kh tkrh g tk fd 75-8% rd g ckfd 24-2% ldj uLy dh xk; gA

3-2 xk'kkykvk e çc/ku çfØ;k; ¼Practices½

xk'kkykvk e ikyu dh tku okyh çc/ku çfØ;kvk ¼Practices½ dk fo'y"k.k xk'kkykvk e xk;k d dY;k.k



vk—fr 1 & xk'kkyk dk;dkjh lfefr dh ljpukA

lpdkd e l/kkj d mí'; d rgr lHkkfor gLr{ki d {k=k dk irk yxku d mí'; l fd;k x;kA

vkokl

xk'kkykvk }kjk J.khokj 'kM ½Shed½ cuk, j[k tkr g tl fd jkxxLr i'kvk d fy, vyx] cNM] xHkorh vkj n/k nu oky LV,d vkfn d fy, vyx yfdu bu xk'kkykvk e uLy d vulkj vyx&vyx 'kM (Shed) ugh ik, x,A ?kk;y o ncy tkuojk dk vyx j[kk x;k Fkk vkj mUg mud Hkk tu d lkFk&lkFk mudh nok d fy, Hkh mfpr n[kHkky nh xb FkhA bud ½Shed½ dN gh njh ij Fk vkj vU; tkuojk d fy, nxe cuk fn, x, FkA bu tkuojk d fy, e[; :i l i'k fpfdRlk LVkQ j[kk x;k Fkk tk mudh fujrj fuxjkuh djrk FkkA

[kku&iku

bu xk'kkykvk e gj le; i;klr ek=k e ikuh miyC/k jgrk gA tkuojk dk [kkuk nu dk dke nk ckj ;kuh lcg vkj 'kke dk fd;k tkrk FkkA [ky ¼ry dd½ dk l[k pkj d lkFk feyk;k tkrk g tk lHkh tkuojk dk f[kyk;k tkrk gA rFkk nkuk doy xHkorh vkj n/k nu okyh xk;k dk fn;k tkrk gA [kfut feJ.k lHkh tkuojk dk f[kyk;k tkrk gA i'kvk dk fn, tku oky QhM vkj pkj dh ek=k jk"Vh; M;jh vul/kku lLFkku }kjk fu/kkfjr ekud ekunMk l cgr de ik;h x;hA mnkgj.k d fy,] gjk pkjk 3-79 fdykxke fnu i'k fn;k tkrk g tcfd ekunM 30 &40 kg i'k gA blh çdkj] concentrates U;ure 2-0 fdxk fnu fu/kkfjr ek=k d edkcy doy 0-33 fdxk gh fn;k tkrk gA ¼rkfydk 2½A

i'k fpfdRlk lfgr n[kHkky

lHkh lEiy xk'kkykvk u i'k fpfdRlk depkfj;k dk çf'kf{krdj j[kk gA fu;fer ljdkjh i'k fpfdRldk d lkFk&lkFk xk'kkyk, viu ne ij Hkh futh i'k fpfdRldk dk bLreky djrh gA cM legk e fu;fer funku vkj Vhdkdj.k ef'dy ik;k x;k yfdu tk xk; ?kk;y gk xb ;k ftUg dN xHkhj chekfj;k gb] mUg bl mí'; d fy,

rkfydk 1: xk'kkykvk e txg dh miyC/krk oxehVj çfr i'k ¼SAU½A

J.khçdkj	vkPNkfnr {k=	[kyh txg	dy txg
Type - A	4-22	10-55	14-78
Type - B	3-89	7-77	11-66
lHkh	4-11	8-21	12-32
J.kh vkdkj	vkPNkfnr {k=	[kyh txg	dy txg
NkVk	3-50	7-80	11-30
e/;e	4-39	10-68	15-07
fo'kky	5-24	9-60	14-85
lHkh	4-11	8-21	12-32

rkfydk 2: xk'kkyk e i'kvk dk pkjk vkj pkj dh miyC/krk dh ek=kA

	fdyk fnu ,l,; ¼SAU½		
	GF	DF	Conc
ekud	30&40	5&7	2-0
Type B	3-60	3-32	0-40
	2-83	4-08	0-49
Type A	4-93	3-90	0-25
	4-24	4-14	0-10
NkVk	2-95	5-18	0-60
	2-32	4-21	0-51
fo'kky	3-64	1-89	0-18
	4-77	0-53	0-66
e/;e	5-63	4-66	0-29
	4-06	4-32	0-11
lHkh	3-79	3-62	0-33
	3-17	3-99	0-46

¼dk"Bd e vkdM standard errors g½A

vyx&vyx LFkkuksa ij j[kk x;kA bu i'kqvksa dk mfpr n[kHkky vkj nks çdkj dh xbA

3-3 xk'kkykvksa d foÙkh; lq/kk

nksuksa d vykso] ljdkjh vunku xk'kkyk d foÙkh; lq/kk dk çe[k lzr gA ; vunku i'k dY;k.k ckM v,Q bfM;k] lcf/kr uxj fuxe vkj gfj;k.kk xk lok vk;kx l çkIr fd;k tkrk gA vk;kx ey :i l rhu çdkj d vunku çnku djrk gA pkjk vunku] xkik"Veh vunku vkj fo'k"k vunkuA fo'k"k vunku fofHkUu ç;ktuksa d fy, fn, tkrs g tl çk—frd vkinkvksa d dkj.k [kpk dk ijk djuk] tkuojk d 'kM dk [kMk djuk] ,Ecyl [kjhnuk] ipx0; mRiknksa dk mRiknu vkj vkokjk i'kqvksa d fy, ljpukvksa dk fuek.k djuk vkfnA bud vykok] v;kx d v/;{k dk viuk food Hkh gkrk g vkj t#jr d vk/kkj ij ekey dk Qlyk fd;k tkrk gA ;g n[kk x;k g fd ; vunku u rk dkQh 0;kid g vkj u gh fu;ferA

vunku

- **Hkkjr dk i'k dY;k.k ckM**
- **uxj fuxe vunku**
- **gfj;k.kk xk lok v;kx**
  - **1& pkjk vunku**
  - **2& xkik"Veh vunku**
  - **3& fo'k"k vunku**
    - **,& çk—frd vkink**
    - **[k& 'kM**
    - **lh& ,Ecyl**
    - **?k& ipx0;**
    - **b& vkokjk i'k vkJ;**
    - **,Q& v/;{k dk food**

bl lcd vykok]jktLo] fcØh ?kVd l mRiUu gkrk g xk'kkykvksa e n/k] xkcj vkj [kkn] e= vkj mld mRiknksa dh fcØh gkrh g vkj vU; fcØh tk fd cNfM;k] xk;k] er i'kqvksa vkj vuqt] vkfn d mRiknu l vkrh gA 14-5% fcØh ?kVdk vkj 4-8% fofo/k vk; l ;ä] dy çkfIr;k 19-3% ik;h x;hA

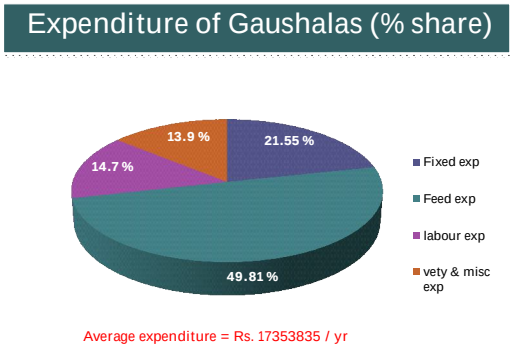
3-4 xk'kkykvksa dh vk; vkj 0;; dk Lo:i

vkdMk l irk pyrk g fd xk'kkyk dh dy vk; vkj pfyr 0;; Øe'k ` 179-15 yk[k vkj ` 173-53 yk[k gA nksuksa vkj vunku xk'kkyk dh vk; dk çe[k ?kVd g ¼Øe'k% 74-2% vkj 6-5%½A 0;; i{k e vkuokyh py ykxr tl QhM vkj pkjk] nok, vkj vU; nfud 0;; çe[k ?kVd gA

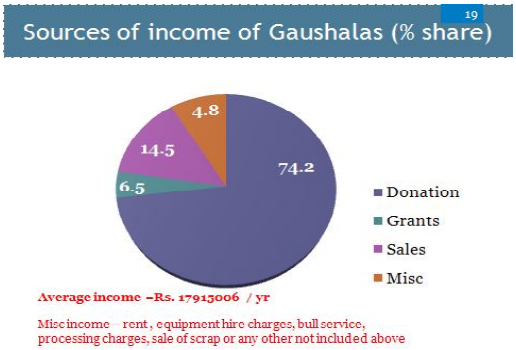
Type A xk'kkykvksa e çfr o"k ` 20-49 yk[k dh 'k) vk; ik;h x;h tcfd nljh xk'kkykvksa e flQ ` 4-11 yk[k Fkh D;kfd bu lkenkf;d xk'kkykvksa dk vkfFkd Lrj cMk FkkA ;g xke lenk;k }kjk foÙkh; leFku d egRo dk n'kkrk gA Vkbi , xk'kkykvksa dh vkl r vk; ` 352-50 yk[k çfr o"k Fkh o [kpk ` 332-02 yk[k Fkk tcfd nljh xk'kkykvksa e ; l[;k ` 130-12 yk[k o ` 126-01 yk[k Øe'k ik;h x;hA ,d m|e d fy, v,ij'ku d Ldy d dkj.k ykxr vkj vk; ykHk vyx&vyx gkr gA cMs lkbt dh xk'kkyk, ` 133-05 yk[k dh 'k) vk; dk mBk jgh g tcfd e/;e vkj NksV vkdkj dh xk'kkykvksa dh vk; Øe'k doy ` 8-02 vkj ` 1-79 ik;h x;hA

LVMM ,fuey ;fuV ¼SAU½ ij vk/kkfjr ykxr vkj vk; dh x.kuk mud vFk'kkL= vkj foÙk d ckj e cgrj jk; n ldrh g ftl lkj.kh 3 e l{kfir fd;k x;k gA fo'y"k.k e ik;k x;k g fd Vkbi , xk'kkyk u ,d xk; ij ` 9-24 gtkj [kp fd, vkj ` 9-81 gtkj vftr fd, tk çfr o'k çfr xk; ij 0-57 gtkj dk 'k) ykHk cukrh gA Vkbi ch e xk'kkyk u ` 8-56 gtkj [kp fd, vkj ` 8-84 gtkj dek, ftlu çfr o'k ` 0-28 gtkj dk vrj çfr ,l,; dj fn;kA

xk'kkyk d fglkc l n[kk tk; rk geu ik;k fd ,d xk; ij vkl ru dy [kp NkVh vkdkj dh xk'kkykvksa e ` 8-73 gtkj Fkko cMh vkdkj dh xk'kkyk e ` 8-90 gtkj gkrk gA vkl ru dy vk; çfr xk;] NkV vkdkj dh xk'kkyk e ` 8-91 gtkj l ydj cM vkdkj dh xk'kkyk e ` 12-17 gtkj rd ikb tkrh gA 'k) vk;



vk—fr 2% vk; d fofHkUu lkrk dk çfr'kr fgLlkA



vk—fr 3% dy [kpk e fofHkUu ?kVdk dk çfr'krA

e cMk Qd g tk NkV vkdkj dh xk'kkyk e the 0-18 gtkj ik;k x;k o cM vkdkj dh xk'kkyk e ` 28 3-28 gtkj ik;k x;kA

3-5 xk'kkykvk e lr 'khyrk d eí

fujrj vk/kkj ij xk'kkyk dk lpkyu] mld lpkyu cuk, j[ku dh {kerk ij fuHkj djrk gA p;fur xk'kkykvk e l çR;d d fy, l;ä lr'khyrk lpdkd dk fu/kkj.k fd;k x;k gA lr'khyrk dh vo/kkj.kk dk rhu vk;kek l cuk ekuk tkrk gA vkfFkd] lkekftd vkj i;koj.kh; lr'khyrk ¼lckjRue 2002; okfYVd 2003; pkn 2008 vkj jgeku o [kku 2012½A ldrd uhp of.kr fd, x, g vkj xk'kkykvk d vkdkj vkj mud çdkj d vk/kkj ij mudh lr'khyrk dh ppk dh xb gA

3-5-1 vkfFkd lr 'khyrk d ldrd

lr 'khyrkfo'y"k.k d fy, mi;kx fd, x, mud x.kkd d lkFk fofHkUu vkfFkd ldrd rkfydk 4 e of.kr gA vkfFkd lr'khyrk dk vk; vk/kkfjr ldrdk }kjk tkpk ij[kk x;k gA çfr o"k çfr xk; d vk/kkj ij vuekfur dh xb 'k) vk; dk lr 'khyrk eY;kdu e vf/kdre 30% egRo fn;k x;k gA

gjkuh dh dkb ckr ugh g fd ,d o"k e çfr xk; 'k) çkflr typeA xk'kkykvk e dkQh vf/kd Fkh tk fd xke lenk;k }kjk lefFkr g vkj tgk dkb 0;ko lkf;d –f"Vdk.k ugh gA leku :i l ;g cMh xk'kkykvk d chp mPp Fkk] ; ogh xk'kkyk, g tk T;knkrj xkeh.k {k=k e fLFkr g vkj xko d lenk;k }kjk cM ieku ij lefFkr gA çpkyu vuikr leku Q'ku e gA mRikknd xk;k dk vuikr myV fn'kk e gA ;g cM vkj Type A xk'kkykvk e de gA jktxkj l tu Type A e vf/kd g vkj cMh xk'kkykvk u cM ieku ij lpkyu vkj ukdfj;k nh g yfdu Lok;Ùkrk tk lr 'khyrk d fy, ,d egRoi.k pj g] NkV vkdkj dh xk'kkykvk e cgrj ik;h x;hA

3-5-2 lr 'khyrk d lkekftd ldrd

lr 'khyrk fo'y"k.k d fy, mi;kx fd, tku oky ?kVd mud x.kkd d lkFk fofHkUu lkekftd ldrd rkfydk&5 e fn[kk, x, gA Type A xk'kkykvk e xk; lj{k.k] çf'k{k.k dk;Øek dk vk;ktu] çf'k{k.k çkIr dju oky 0;fä;k dh

rkfydk 3: fofHkUu xk'kkyk çdkj vkj leg d vkdkj ¼gtkj ` o"k xk;½ e xk'kkykvk dh vkfFkd gkyrA

pj	çdkj A	çdkj B	NkVh	e/;e	fo'kky	lHkh
vunku nku	8-03	7-02	7-08	7-45	10-38	7-46
vk;	1-34	1-39	1-40	1-36	1-36	1-37
fofo/k vk;	0-44	0-43	0-43	0-43	0-44	0-44
fjVu	1-78	1-82	1-83	1-79	1-79	1-80
dy vk;	9-81	8-84	8-91	9-24	12-17	9-26
dy py ykxr	6-18	7-11	7-36	6-61	6-00	6-89
dy vpy ykxr	2-36	1-67	1-85	2-01	2-01	1-97
dy [kp	9-24	8-56	8-73	8-90	8-90	8-86
'k) vk;	0-57	0-28	0-18	0-34	3-28	0-40

rkfydk 4: xk'kkykvk d fofHkUu çdkjk vkj vkdkj d vkfFkd ldrdA

lpd	egRo ¼%½	xk'kkykvk d vkdkj çdkj ,& lkenkf;d xk'kkyk	çdkj ch&vU; xk'kkyk	NkVh	e/;e	fo'kky	lHkh
'k) vkod/ xk; ¼`/o"k½	30	570-24	279-13	175-00	342-00	3275-00	283-78
R-O-V-C- / xk; ¼`/o"k½	15	&5105-00	&5066-00	&5056-97	&5093-59	&5091-38	&5081-60
ifjpkyu vuikr	5	70-17	77-93	77-28	74-53	56-56	75-99
mRiknd xk; dk ¼çfr'kr½	10	4-44	10-87	12-00	7-74	5-69	8-09
jktxkj l tu ¼ekuo&fnu½	10	44-6	16-18	9-27	23-33	60-00	22-95
Lok;Ùkrk ¼%½	20	18-13	20-58	20-51	19-39	14-73	19-89
fuHkjrk ¼%½	10	81-86	79-41	79-49	80-61	85-27	80-11

l[;k vkj nku nkrkvk dh l[;k type B xk'kkykvk dh ryuk e vf/kd gA leg d vkdkj d ekey e] cM vkdkj dh xk'kkykvk e e/;e vkj NkV vkdkj dh xk'kkykvk d edkcy] lHkh lkekftd ldrd cgrj ik, x,A

3-5-3 lr 'khyrk d i;koj.kh; ldrd

lr 'khyrk dk tkpud fy, mi;kx fd, tku oky fofHkUu i;koj.k lc/kh ?kVd rkfydk&6 e lphc) fd, x, gA vkdMk l irk pyrk g fd type B ¼36-37%½] Vkbi , ¼33-8%½ d edkcy b/ku dh vf/kd ek=k dk mi;kx djrk g tcfd j[k j[kko d fy, çfr xk; txg ¼15-23 ox ehVj½] ejg, tkuojk dk nQukuk ¼92%½ vkj oehdEikLV mRiknu ¼10-0 fDoVy / ekg½ vkfnA Type A ¼3-13 q½ e t;knk ik, x, gA fctyh dh inkokj Type A xk'kkykvk e ud cjkcj ik;h x;h tk ,d Hkkoh uhfrxr dk;okgh gk ldrh g

i;koj.kh; ?kVd ,d feyh&tyh rLohj çnf'kr djr gA dN ?kVd tl to&dhVuk'kd] xkcj dk cgrj mi;kx o oehdEikLV mRiknu cMh xk'kkykvk e cgrj gA vU; ?kVdk d ekey e dkb fuf'pr çofÙk ugh n[kh tk ldrh gA yfdu ; lHkh i;koj.k ?kVd Type A xk'kkyk e cgrj ik, x,A

3-5-4 xk'kkykvk dk lr 'khyrk Lrj

rhuk ldrdk dk mi;kx djd lr 'khyrk lpdkdk dk rkfydk &7 e l{kfir fd;k x;k gA rhuk lpdkdk dk feykdj l;ä lr 'khyrk lpdkd 0-37 ik;k x;kA rhuk lpdkdk e l] vkfFkd ldrdk dk eku 0-41 vkj mld ckn lkekftd ldrdk dk 0-38 vkj i;koj.kh; ldrdk dk 0-26 ik;k x;kA

ESI – vkfFkd lr 'khyrk lpdkd

EnSI– i;koj.kh; lr'khyrk lpdkd

SSI – lkekftd lr 'khyrk lpdkd

CSI – l;ä lr 'khyrk lpdkd

vkdkj legk vkj xk'kkyk d çdkj ij fu/kkfjr lr 'khyrk Lrj dk rkfydk &7 e fn[kk;k x;k gA cMh xk'kkyk,] e/;e vkj NkV vkdkj dh xk'kkykvk dh vi{kk vkfFkd :i l vf/kd lrRik;h x;hA lkekftd lr'khyrk d lnHk e] leku iVu n[kk tk ldrk gA i;koj.k dh –f'V l Hkh] cMh xk'kkyk, NkVh xk'kkykvk l vf/kd etcr ik;h x;hA dy feykdj] lr'khyrk dk Lrj cMh xk'kkykvk ¼0-48½ e e/;e ¼0-40½ vkj NkVh xk'kkykvk ¼0-31½ e vf/kd ik;k x;kA

vkfFkd] lkekftd vkj i;koj.kh; lpdkdk d vk/kkj ij xfBr l;ä lr'khyrk lpdkd n'kkrk g fd cMh o lkenkf;d xk'kkyk,] tk xkeh.k lenk;k }kjk lefFkr g] cgrj çc/ku djrh gb ik;h x;h g vkj vf/kd lr HkhA c'kr mUg Hkfo"; e Hkh mlh Lrj dk leFku fn;k tkrk g ¼rkfydk &7½A Vkbi , xk'kkykvk e vkfFkd lr 'khyrk lpdkd ¼0-38½ Vkbi ch ¼0-42½ dh ryuk e de

rkfydk 5: xk'kkykvk d fofHkUu çdkj vkj leg d vkdkj d lkekftd ldrdA

	xk'kkykvk d vkdkj					
lpd	Type A	Type B	NkVh	e/;e	fo'kky	lHkh
ljf{kr xk;k dk vuikr	55-37	38-29	38-66	39-05	56-25	45-68
çf'k{k.k dk;Øek dh l[;k çfr o"k	14-80	7-75	5-27	12-67	16-00	9-43
vU; dk;Øek dh l[;kçfr o"k	222-80	110-25	0-91	2-67	4-00	2-00
xk'kkyk e çf'k{k.k çkIr dju oky 0;fä;k dh l[;k	222-80	110-25	77-00	189-16	224-00	137-05
nku lokvk dk çnku dju oky 0;fä;k dh l[;k	1034-60	367-50	312-91	680-00	882-75	526-33
,d o"k e vk;kftr lekjkgk eyk dh l[;k	2-00	1-125	1-00	1-33	2-25	1-33
xk'kkyk l bykt djku oky 0;fä;k dh l[;k	12-40	34-38	25-00	18-67	56-25	29-14

rkfydk 6: xk'kkykvk d fofHkUu çdkj vkj >M d vkdkj d i;koj.k ldrdA

	xk'kkykvk d vkdkj					
lpd	Type A	Type B	NkVh	e/;e	fo'kky	lHkh
dy LFkku miyC/k ¼m²½	14-78	11-66	11-30	15-07	14-85	13-05
pjkb ¼?kV/ llrkg½	4-80	3-00	1-45	6-67	4-00	3-43
to dhVuk'kd mRiknu ¼fDoVy/ekg½	0-00	0-31	0-00	0-00	1-25	0-24
oehdEikLV mRiknu ¼fDoVy /ekg½	10-00	3-13	1-82	4-17	13-75	4-76
to b/ku d :i exkcj dk vuikr ¼%½ mi;kx fd;k tkrk g	33-80	36-37	35-18	32-83	41-75	35-76
fctyh mRiknu ¼fdykokV½	0-00	0-94	0-00	0-00	3-75	0-71
flpkb e mi;kx fd;k tku okyk ey ¼%½	0-00	0-62	0-00	1-67	0-00	0-48
er i'k fuiVku ¼% nQu½	92-00	70-00	67-73	79-17	90-00	75-10

ik;k x;k] yfdu] Vkbi ch ¼0-34½ dh ryuk e ;g lkekftd :i l vf/kd lrr ¼lpdkd¾0-52½ ik;h x;hA lkekU; xk'kkyk ¼024½ dh ryuk e type A e i;koj.kh; lr 'khyrk Hkh cgrj gA lHkh lr 'khyrk lpdkd eY; g Vkbi , ¼0-42½ xk'kkykvk e nljk d edkcy 0-35 vf/kd ik;k x;kA

3-5-5 lr 'khyrk d vk/kkj ij xk'kkykvk dh Jf.k;k

xk'kkykvk d l;ä lr 'khyrk lpdkd ij Cumulative lative square root frequency dk ykx djr g,] mUg fQj l fuEu] e/;e vkj vR;f/kd lrr xk'kkykvk d :i e oxh—r fd;k x;kA de lrr xk'kkykvk d fy, dV v,Q Lrj 0-31 g vkj e/;e d fy,] ;g 0-52 FkkA fuEu LFkk;h J.kh d vrxr vku okyh xk'kkyk, 62 çfr'kr ik;h x;h] tcfd e/;e J.kh d vrxr vku okyh xk'kkyk, 24 çfr'kr FkhA vR;f/kd lrr xk'kkyk, p;fur lEiYl e l doy 14 çfr'kr gh gA ij ueu dk l;ä lr 'khyrk Lrj 0-37 g tk xk'kkykvk dh lr 'khyrk d fuEu Lrj dk bfxr djrk gA blh rjg d fu"d"kk dk fctyk ,V vy ¼2019½ }kjk Hkh lfpr fd;k x;k gA

3-5-6 l;ä lr 'khyrk lpdkd dk çHkkfor dju oky dkjd

l;ä lr 'khyrk lpdkd ¼Composite sustainability index½ d cuu] x.kuk d ckn] ;g tkuuk egRoi.k g fd v/;;u e xk'kkykvk dh lr 'khyrk dk dku l dkjd egRoi.k :i l çHkkfor dj jg g rkfd uhfrxr fufgrkFkk dk r;kj fd;k tk ldA bl mí'; d fy,] CSI dk fofHkUu dkjdk d lkFk regre fd;k x;k vkj rkfydk&8 e l{kfir fd;k x;kA

lr 'khyrk d vkdkj d vyx&vyx çHkkok dk tkuu d fy, leg d vkdkj dk cukoVh çk:i ¼dummy½ yr g,] vkj vU; çdkj d vyx&vyx çHkkok dk tkuu d fy, xk'kkykvk dk ,d cukoVh çk:i ¼dummy) yu d lkFk nk jfteV pyk, x, gA igy çfrxeu d ifj.kke crkr g fd cM vkdkj dh xk'kkyk, NkV vkdkj dh xk'kkykvk dh ryuk e 0-957 xuk vf/kd lr gkrh gA rkfydk ;g Hkh crkrh g fd xk'kkykvk dh lr 'khyrk ij Lok;Ùkrk dk ldkjkRed vkj egRoi.k çHkko gA tc xk'kkykvk e Lok;Ùkrk c<rh g] rk lr 'khyrk lpdkd 0-005 x.kk c< tkrk gA leku ldkjkRed vkj egRoi.k çHkko] xk'kkykvk e vk;kftr çf'k{k.k vkj vU; dk;Øek dh l[;k d lkFk n[kk tkrk gA nljh vkj] ljf{kr tkuojk dk vuikr vkj vuikr e lr 'khyrk ij udkjkRed vkj egRoi.k çHkko iMrk gA x.kd ¼Coefficient½ dk eku Øe'k% &0-7403 vkj &0-0014 ik;k x;kA ; xk; xk'kkykvk d vkfFkd ck> dk c<kr gA bl rjg dh xfrfof/k;k dk xk'kkykvk dh lkekftd lr 'khyrk ij ldkjkRed vlj iMrk g] yfdu ;g mudh folxfr;k }kjk çHkkoghu cuk fn;k tkrk gA tl&tl ; pj c<r g] o xk'kkykvk dh lr 'khyrk ij udkjkRed çHkko Mkyr g] ftlls irk pyrk g fd xk'kkykvk dk viu lr 'khyrk Lrj dk cuk, j[ku d fy, viu jkt ejjk d [kpk dk fu;f=r djuk gkxkA

nlj çfrxeu d ekey e tgk xk'kkykvk d çdkjk dk cukoVh çk:i ¼dummy½ fy;k x;k g] ;g n[kk tk ldrk g fd oyQ;j dk vdy xk'kkyk dh lr 'khyrk lpdkd d lkFk cgr vf/kd çklfxdrk ugh g] yfdu dN [kkl dkjd vf/kd egRoi.k g tk] vkfFkd lr 'khyrk c<kr g

3-6 xk'kkyk e xk dY;k.k

3-6-1 fofHkUu çdkj dh xk'kkykvk e dY;k.k Ldkj

xk'kkyk d fofHkUu çdkjk vkj vkdkjk e i'k dY;k.k Ldkj rkfydk&9 e n'k;k x;k gA vkokl vkj vU; lfo/kkvk ¼?kVd ,½ d lc/k e 30 d Ldkj e l çklr vklr dY;k.k Ldkj cM vkdkj dh xk'kkykvk e lcl vf/kd g ¼24-75½] e/;e ¼21-5½ vkj NkV vkdkj dh xk'kkykvk e ¼18-64½ ik;k x;kA [kku&iku dh Practices ¼?kVd ch½ d lkFk&lkFk i'k LokLF;] çn'ku vkj 0;ogkj ¼?kVd lh½ d ekey e Hkh blh rjg dh çofÙk Li"V gA dy Ldkj 100 e l rhu ?kVdk e çklr l;ä dY;k.k Ldkj vkj NkVh xk'kkykvk ¼60-09½] e/;e e ¼70-0½ o cMh xk'kkykvk d lc/k e lcl ¼77-0½ vf/kd ik;k xk;k gA

bld vykok] type A xk'kkykvk u 72-40 d vklr Ldkj d lkFk i'k dY;k.k ekp ij cgrj çn'ku fd;k] tcfd

rkfydk 7: vkdkj legk ij xk'kkykvk dh lr 'khyrkA

xk'kkyk J.kh	ESI	SSI	EnSI	CSI
NkVh	0-39	0-29	0-19	0-31
e/;e	0-41	0-44	0-30	0-40
fo'kky	0-47	0-55	0-41	0-48
çdkj , ¼lkenkf;d½	0-38	0-52	0-34	0-42
çdkj ch ¼lkekU;½	0-42	0-34	0-24	0-35
lHkh	0-41	0-38	0-26	0-37

Vkbi ch xk'kkykvk u 65-32 Ldkj vftr fd;k] D;kfd o lk/ku vk/kkfjr ldrdk ij ekeyh :i l t;knk vPN ugh FkA ;fn 60 d dY;k.kdkjh Ldkj dk Lohdk; ekuk tkrk g] rk nk lk/ku vk/kkfjr ldrd vFkkr] ¼microclimate protection½ d mik; vkj [kku&iku d LFkku dh miyC/krk vkj pkj i'k vk/kkfjr ldrd vFkkr xk; dh mRikndrk] 'kjhj dh fLFkfr d Ldkj] çtuu d rjhd vkj çtuu n{krk lcl vge ,l ldrd fey ftue l/kkj dh vko';drk gA rhuk dY;k.kdkjh ?kVdk e Type A xk'kkykvk dk vklr i'k dY;k.k Ldkj ¼72-4½ vkj Type B xk'kkykvk e l;ä dY;k.k Ldkj 65-3 ik;k x;k tcfd ldrdk dk dy Ldkj 100 j[kk x;k gA

3-6-2 xk'kkykvk dh dY;k.k jfdx

p;fur xk'kkykvk e l 71% xk'kkykvk e eof'k;k dk dY;k.k vPNk g vkj yxHkx 19% xk'kkykvk e ;g vklr J.kh dk ik;k x;kA U;ure J.kh e 5% xk'kkyk, ikb xb vkj bruh gh ¼5%½ çfr'kr cgr vPNh J.kh ¼rkfydk 10½ e ikb xbA cMh xk'kkykvk u 77 d vklr dY;k.k Ldkj d lkFk cgrj çn'ku fd;k] bld ckn e/;e ¼70½ vkj NkV vkdkj ¼61½ dk jgkA ogn xk'kkyk, cMh gku vkj vPNh rjg l lefFkr gku d dkj.k xke lenk; d ikl i'k vkokl lfo/kkvk] QhM vkj pkjk] LokLF; lfo/kkvk dh cgrj miyC/krk vkj bl rjg cgrj i'k ikyu] LokLF; lok] i'k çn'ku lfuf'pr dju dh fLFkfr e cgrj cfu;knh <kpk gA dY;k.k ieku ij 80 l vf/kd vd çklr dju okyh xk'kkykvk dk cgr vPN d :i e oxh—r fd;k x;k gA 60 vkj 79 d chp e vPNk vklru 40 l 59 d chp vkj 40 l de vd okyk dk detkj J.kh d :i e oxh—r fd;k x;k gA

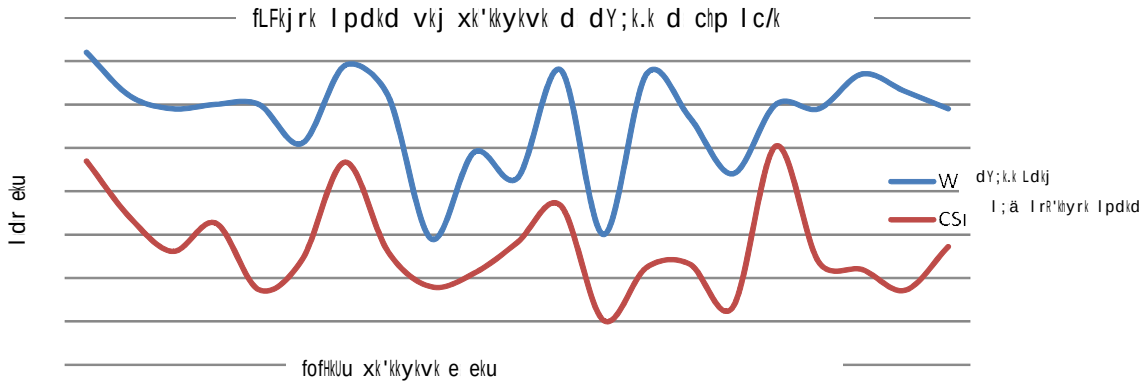
3-7 xk'kkykvk d lr 'khyrk lpdkd vkj dY;k.k Ldkj d chp lc/k

fp=&2 xk'kkykvk d lr 'khyrk lpdkd vkj dY;k.k Ldkj d chp lc/k dk n'kkrk g tk de vkj e/;e lr'khyrk d Lrj ij de mrkj&p<ko oky fj'r dk bfxr djrk g yfdu mPp lrRk'khyrk d Lrj ij dY;k.k Ldkj yxkrkj c< jgk g tk mud chp ldkjkRed lc/k dk

rkfydk 8: v/;;u {k= e l;ä lr'khyrk lpdkd dk çHkkfor dju oky dkjdA

pj oLr,	pj dk fooj.k	Coefficient	Standard Error	Coefficient	Standard Error
Intercept	vojk/kd in	0-7354*	0-1509	0-4277	0-4992
leg dk vkdkj	xk'kkykvk dk vkdkj ¼vk/kkj NkV vkdkj dh xk'kkyk,½				
e/;e	e/;e vkdkj dh xk'kkyk,	0-0314	0-0141	&	&
fo'kky	cM vkdkj dh xk'kkyk,	0-0957*	0-0224	&	&
çdkj:	xk'kkykvk d çdkj ¼vk/kkj lkekU; xk'kkyk½	&	&		
Type A	Vkbi , ¼lkenkf;d xk'kkyk,½	&	&	&0-0116	0-0424
OR	lpkyu vuikr	&0-7403*	0-1619	&0-4228	0-4849
mRikrnd xk;	mRikrnd i'kvk dk vuikr ¼%½	0-0007	0-0006	0-0008	0-0008
Lok;Ùkrk	Lok;Ùkrk Lrj ¼%½	0-0049*	0-0009	0-0025	0-0017
lj{kk	dy tkuojk e ljf{kr tkuojk dk vuikr ¼%½	&0-0014*	0-0004	&0-0003	0-0015
çf'k{k.k	vk;kftr çf'k{k.k vkj vU; dk;Øek dh l[;k	0-0092*	0-0020	0-0077	0-0045
çf'kf{kr 0;fä	xk'kkykvk l çf'k{k.k çklr dju oky 0;fä;k dh l[;k	&0-0003	0-0002	0-0000	0-0003
bykt	xk'kkykvk l mipkj çklr dju oky 0;fä;k dh l[;k	0-0001	0-0001	0-0000	0-0003
txg	[kyk vkj 'kM {k= ¼oxehVj½	0-0015	0-0009	0-0011	0-0016
to dhVuk'kd	to dhVuk'kd mRiknu ¼fDoVy/ ekg½	0-0006	0-0004	0-0021	0-0008
xkcj dk	to b/ku ¼%½ d :i e mi;kx xkcj dk				
mi;kx fd;k	vuikr fd;k tkrk g	0-0000	0-0003	0-0002	0-0010
fctyh	fctyh mRiknu ¼fdyk okV½	0-0025	0-0023	0-0089	0-0042
lhotdh	flpkb e ç;ä lhot ikuh dk vuikr				
mi;kfxrk		&0-0132	0-0049	&0-0004	0-0127
er fuLrkj.k	er i'kvk dh fuiVku nj ¼%½	&0-0014	0-0006	0-0004	0-0018

***=p<.001], **=p<.01 and *=p<.05.



fp= 2: lr'khyrk lpdkd vkj xk'kkykvk d dY;k.k Ldkj d chp lc/kA

rkfydk 9: fofHkUu vkdkj dh xk'kkykvk e vklr i'k dY;k.k LdkjA

i'k dY;k.k ?kVd	ekud dY;k.k Ldkj	xk'kkyk dk vkdkj			xk'kkyk dk çdkj		
		NkVk	e/;e	fo'kky	Type&A lkenkf;d	Type&B lkekU;	t&value
vkokl vkj vU; lfo/kk,	30	18-64	21-50	24-75	23	20-06	1-729^{NS}
[kku&iku lEcf/kr	30	18-73	23-17	24-25	23-60	20-45	2-59**
i'k LokLF;] mRiknu vkj 0;ogkj	40	23-73	25-33	28-00	25-80	24-81	0-575^{NS}
li.k	100	61-09	70-00	77-00	72-40	65-32	1-849*

lkr: y[kdk }kjk vuekfur *5% ij egRoi.k] **1% ij egRoi.k] NS& xj egRoi.kA

Table: Overall animal welfare ranking of gaushalas.

Welfare ranking of Gaushalas	Total animal welfare score	No- of Gaushalas	Percent of total Gaushalas
Very good	> 80	01	4-8
Good	60&79	15	71-4
Average	40&59	04	19
Poor	<40	01	4-8

n'kkrk gA lr'khyrk lpdkd vkj dY;k.k Ldkj d chp lglc/k 0-58 x.kd d lkFk mPp ik;k x;k gA ble xk'kkykvk d çdkj d Hkh fufgrkFk g D;kfd dY;k.k Ldkj dh mpkb;k dk T;knkrj , xk'kkykvk }kjk ifjyf{kr fd;k tkrk g tk fd xke lenk;k }kjk lefFkr gA

fu'd'k vkj uhfr fufgrkFk

oreku e] xk'kkyk, fpru dk u;k {k= gA db xj ljdkjh lxBu ;k VLV vkj db Lo; lgk;rk leg igy l gh bl {k= e dke dj jg gA v/;;u {k= e] ge ,lh fof"k'V çdkj dh xk'kkyk, feyh tk xke lenk;k }kjk lefFkr g vkj v/;;u e Vkbi , xk'kkyk d :i e of.kr xke lenk; dh lkL—frd ykbuk ij pyrh gA ; xk'kkyk, vkfFkdh d ekp ij vkj lkFk gh lr'khyrk ldrdk vkj dY;k.kdkjh Ldkj ij cgrj çn'ku djr g, ikb x;h] gkykfd Statistical significance cgr lrk"k tud ugh Fkk yfdu –'; dk leFku dju d fy, ldr i;klr FkA tcfd cM leg okyh xk'kkyk, vf/kd lrRikb x;h tk fn[kkrh g fd txg&ckM dk mfpr mi;kx fd;k tkuk pkfg,A ,d vU; dkjd tk mPp lr'khyrk e ;kxnku nrk g og g xk'kkykvk dh Lok;Ùkrk dk LrjA blfy, xk'kkykvk dk viu –f"Vdk.k vkj lpkyu e Lok;Ùk gkuk cgn t:jh gk tkrk gA Lo; Lok;Ùk cuu d fy, lcl egRoi.k –f"Vdk.k n/k dh fcØh dk fofo/k vk; d lkFk ijd cukuk g tl fdjk;k] midj.k fdjk;k 'kYd] cy lok] LØi fcØh] vukt fcØh] cNfM;k dh fcØh] vkj er i'kvk dh fcØh vkfnA blfy,] mUg i'koj mUe[khdj.k cukdj vf/kd d'kyrk l pykuk gkxkA bUg ,d&nlj d lkFk ,dh—r fd;k tk ldrk g rFkk bud }kjk

0;kolkf;d vk/kkj ij cgrj x.koÙkk oky mRikn lok, nh tk ldrh gA bld vykok] v/;;u e lr'khyrk e ;kxnku dju oky ,d vkj vU; egRoi.k dkjd dk irk pyrk g tk çf'k{k.k vkj vU; lekftd&lkL—frd o rduhdh dk;Øek dh l[;k gA blfy,] lkenkf;d fodkl dk;Øek tl fd çf'k{k.k vkj /kkfed rFkk lkL—frd dk;Øek d vk;ktu e xk'kkykvk dh Hkkxhnkjh dk çkRlkfgr fd;k tkuk pkfg,A

;|fi ; lHkh dkjd xk'kkykvk dh lr'khyrk d fy, ;kxnku djr g tk bld ckn xk;k d dY;k.k d fy, ijk djr g] fQj Hkh çkjfHkd LFkkiuk vkj foÙkh; lgk;rk d fy, ljdkjh leFku vko';d gA xk'kkykvk dk fn, tku oky vunku çfr i'k d vk/kkj ij r; fd, tku pkfg, vkj mudk forj.k fu;fer gkuk pkfg,] gkykfd bu lHkh dk xk'kkyk çc/ku }kjk 0;ä fd, tku dh vko';drk dkQh c< tkrh gA vunku dh ek=k r; dju vkj bl rjg d fdlh Hkh u, m|e dk fodflr dju d nkjku i'k dY;k.k ,d ekinM gkuk pkfg,A bl çdkj ; LFkk;h xk'kkykvk n'k d Lon'kh lk/ku vk/kkj dh j{kk dju d lkFk&lkFk vkokjk i'kvk d [krj dk de dju e dkQh gn rd ;kxnku dj ldrh gA

lnHk

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