

cwiḡekMZ w`K-wbḡ`©kbv iḡqḡQ| jŪḡbi
 BmjvvgK KvjPvivj ḡm>Uvi ḡ_ḡK
 c^aKvwkZ, Ōw` BmjvvgK
 ḡKvqvUv©iwjŌ cwĪKvi gva`ḡḡ gvwK©b
 hy³ivḡó^ai RR© IqvwsUb
 BDwbfvwm©wUi BmjvvgK ÷vwWR
 wefvḡMi cŌḡdmi mvBḡq` bvḡmi
 ḡnvmvBb, Bmjvg GŪ Gbfvqibḡḡ>U
 μvBwmm bvgK GK cŌeḡŪ eḡjb,
 Ōcwiḡek m¼UŌ AvaywbK gvbyḡli
 cŌK...wZḡK Ava`vwZḡK wbiḡcḡ
 wnḡmḡe weḡePbv KiviB djŌ KziAvḡb
 AvjovncvK wbḡRḡK Avj gywnZ eḡj
 ḡNvlYv KḡiḡQb| Avj gywnZ wnḡmḡe
 AvjovnḡK ḡḡiY Kivi A_© nḡ”Q
 cŌK...wZi cweĪZv mḡúḡK© mḡPZb
 nIqv| cŌK...wZi evĪeZvḡK Avjovni
 wb`k©b wnmvḡe ḡ`Lv Ges mḡPZb_vKv|
 Zvui gḡZ, cŌvK...wZK cwiḡek-msμvšĪ
 Bmjvḡgi `,,wófw½ Hkx cwiḡek I
 cŌvK...wZK cwiḡeḡki GK Ab`^xKvh©
 `vqx mḡúḡK©i Ici cŌwZwôZ (Lubis,
 1998)| GB MḡelYvi DḡĪk` nḡjv Bmjvḡgi
 `,,wóḡZ cwiḡeḡki mifc I msiḡY aviYv
 ch©vḡjvPbv Kivi cvkvcvwk cwiḡek
 `~lḡYi m~ĪcvZ ḡKviY AbymŪvb Kiv|

MḡelYv c×wZ

G cŌeŪwUḡZ g~jZ ,YMZ MḡelYv c×wZ
 (Qualitative Research Methodology)
 AbymiY Kivi cvkvcvwk G Abyḡ”Qḡ`
 Avḡaq weḡkøLY⁴ c×wZ ch©vḡjvPbv Kiv
 nḡqḡQ| gva`wgK Drm A_©vr Avmgvwb
 MŌš’, Rvbv©j, cŌeŪ, cĪ-cwĪKvi Kjvg
 BZ`vw` Drm ḡ_ḡK Z_` msMŌn Kiv
 nḡqḡQ| G mKj Drm mg~ḡni iḡqḡQ gḡa`
 cwiḡeḡki aviYv cwiḡekev`xḡ`i evwl©K
 cŌwZḡe`b cŌKvkbv I msKjb| ZvQvov
 cwiḡeḡki mḡúḡK© Bmjvḡgi aviYv
 mḡú©wKZ wewfbœ welḡq cŌKvwkZ
 wewfbœ MŌš’ I cwiḡek weÁvb cŌeŪ

⁴eZ©gvḡb ŌAvḡaq weḡkøLY⁰ c×wZ MḡelYvq GKwU be
 c×wZ wnḡmḡe mshy³ nḡqḡQ| GUV g~jZ `wj I cŌgvY
 wbf©i c×wZ ejv nq| ḡKbbv GLvḡb g~jZ WKzḡḡ>Um&
 Z_v wjwLZ welḡqi ch©vḡjvPbv Kiv nq (Bmjvg, 2010)|

ḡ_ḡK Z_` msMŌn Kiv nḡqḡQ| G QvovI
 Avj KziAvb I Avj-nv`xm Ges wmivZkv`ḡ
 I cŌvmw½K MḡelYv Kḡḡ©i
 mnḡhvwMZv ḡbqv nḡqḡQ| Z_` I DcvḡĪi
 e`vL`vi ḡḡḡĪ cŌvmw½KZv I AvḡjvP`
 MḡelYv welḡqi cŌwZ jḡ` ivLv nḡqḡQ|
c~e©eZ©x MḡelYv cŌeḡŪi ch©vḡjvPbv
 ḡ`kxq I AvšĪR©vwZK ḡcŌyvcḡU cwiḡek
 msiḡḡY wewfbœ ḡ`ḡk G mḡúwK©Z eŪ
 MḡelYv iḡqḡQ| G cŌeḡŪ Bmjvḡgi
 `,,wóḡZ cwiḡek msiḡḡYi welḡq msKwjZ
 MḡelYvi cŌvavb` cwijwḡZ nḡqḡQ| 1974
 mvḡj ḡ_ḡK cŌwZ eQi mgMŌ weḡk| 5
 Ryb wek^ cwiḡek w`em cvjb Kiv nq (UN,
 n.d.)| GB cwiḡeḡki Dci wewfbœ& aiḡbi
 MḡelYv cŌeŪ Ges eB iḡqḡQ| ḡh,ḡjv
 cwiḡek msiḡḡY bvbvb w`K wbḡq
 ch©vḡjvPbv KḡiḡQ| MḡelYvq MḡelKMY
 cwiḡek myiḡvq bvbvfvḡe wewfbœ w`K
 weḡkøLY KḡiḡQb| W. gvngy` mvḡjn
 Avḡ`jx (2009) Zvui ŌAvj Bmjvgj
 evwq`qvnŌ bvgK MŌḡš’ cwiḡeḡki
 Dcv`vb,ḡjv ḡh me KviḡY `~wlZ nq ḡm
 mḡcḡK© weĪvwiZ AvḡjvPbv KḡiḡQb|
 wZwb cwiḡek ejḡZ eywSḡḡQb c,,w_exi
 me wKQz hv f,-c,,ô ḡ_ḡK evqygŪḡji
 IḡRvb Īi ch©šĪ weĪ...Z ḡhgb Avḡjv-
 evZvm, gvwU -cvwb, ḡgN Kzqvkv, eb-
 R½j, cvnvo-ce©Z, mvMi-b`x, gvbe
 wbwg©Z mKj cŌKvi AeKvVvḡgv Ges
 ḡMvUv DwTMḡ` I cŌvYx RMr-Gi mgš^q
 (Bdvev-2010)| cwiḡek `~lY cŌwZḡivḡa
 AvjovnievYxi gḡa` m~iv Avivd: 74, m~iv
 evKviv: 195 Ges m~iv Avi iæg: 41 wbḡq
 AvḡjvPbv Kiv nḡqḡQ Ges
 weḡkøYIYag©x e³e` cŌ`vb Kiv nḡqḡQ|
 Zḡe AḡbK cŌeŪ iḡqḡQ, ḡhLvḡb
 MḡelKMY cwiḡek myiḡvq ḡwZKviK
 e`ḡ,ḡjv ḡhgb- cvwbḡZ eR©` ḡdjv,
 KviLvbv ḡ_ḡK wbM©Z ḡavuqv,
 mxmvhy³ Rḡjvbx ḡZḡji e`envi, ebf~wg
 DRvo Kivi cŌeYZv, gvwU Lbb, e,,ḡ
 aḡsm, eb`v N~wY©So, Rḡjv”Qḡvm,
 cŌPzi el©Y, Abve,,wó, gvBK, nY© I

cUKvi D”P kã, Av†m©wb†Ki cÖ†Kvc
BZ”vw`i gva”†g cwi†ek `~wLZ nIqvi
cÖgvY cvIqv hvq (BbwKjve,2017)|

cwi†ek `~l†Yi Kvi†Y bvbv ai†Yi ýwZ
mvwaZ n†”Q| G,†jvi g†a” evZv†m
Kve©bWB-A.vB†Wi gv†v e,,w×, gvwUi
De©iZv kw³ n«vm, f~wgýq, eb”v, Liv,
gnvgvixmn c^avK...wZK `y†h©v†Mi
cÖ†Kvc e,,w×, Ges I†Rvb Í†ii gvivZ†K
wech©q BZ”vw`| cwi†e†ki myiýv wbwðZ
Ki†Z e,,w×| wbab eÜ Kiv, meyR cÖK...wZ
e,,w× I cvnvo KvUv eÜ Kiv GKvšI
cÖ†qvRb| cÖK...wZ†Z †h Avjœvn&i
Kz`i†Zi wb`k©b Zv we`ÍvwiZ Ae†jvKb
Kiv| ZvQvov g,,Z Rš`†K gvwU†Z cyu†Z
†djv| †hLv†b †mLv†b gqjv _yZz bv †djv|
KviY G me _yZz I gqjv gvby†li g†a”
†ivM RxeYy e,,w× K†i| ivmyj (m.) Gi
wb†`©k n†jv nuwP I Kvwki mgq gyL
eÜ ivLv| †Kbbv D³ nuwP I Kvwki
gva”†g †ivM RxeYy Qovq| bvMwiK
`vwqZ; I bvMwiK†i gv†S m†PZbZv
e,,w× Kiv Ges Gi cÖwZKv†ii Dcvqmg~n
D†jœL i†q†Q | wKQz cÖeÜ i†q†Q
†hLv†b M†elKMY cwi†ek myiývq
ýwZKviK e` ,†jvi KviY AbymÜv†b
c×wZMZ we†køY I ZË;MZ Av†jvPbv
K†i†Qb| Dch©y³ M†elYv cÖe†Ü
Bmjv†gi `,,wó†Z cwi†e†ki welq m^óú†K©
we`ÍvwiZ Av†jvKcvZ Kiv nqwb| djZ,
M†elYvq †h GK cÖKvi k~b”Zv m,,wó
n†q†Q Zv Avgv†i AÍ M†elYvq cÖvavb”
†`qv n†q†Q| †hLv†b Bmjv†gi `,,wó†Z
cwi†e†ki mifc I msi¶Y aviYv
ch©v†jvPbv Kivi mv†_ mv†_ cwi†ek
`~l†Yi m~ÍcvZ ©KviY AbymÜvb Kiv
n†q†Q|

aviYvMZ KvVv†gv

cwi†e†ki cwiPq

Bs†iRx B†KvjwR (Ecology) k†ãi A_©
e`we”v|B†KvjwR (Ecology) †_†K
Gbfvqib†gU (Environment) kãwU
m^óc†K© aviYv Av†m| cwi†ek kãwU

DrcwË Rvgv©b kã Environ †_†K, hvi
A_© En A†_© In A_v©rg†a” Ges Viron
A†_© Circuit A_v©r cwi†eób| A_v©r
cwi†ek ej†Z cwi†eóbKvix cvwicvkw^©K
Ae`v†K eySvq| Environment A_©
cwi†ek(evsjv GKv†Wwg Awfavb,
Bs†iwR †_†K evsjv, 2009)| c,,w_exi me
wKQz f,-c,,ô †_†K I†Rvb`Íi ch©`Í
we`Í...Z cwigÜ†j we”gvb| Av†jv,
evZvm, gvwU, cvwb, kã, eb, cvnvo, b`-
b`x, mvMi-gvnmvMi I gvbyl wbwg©Z
AeKvVv†gv Ges †MvUv Dw™` I Rxe-
RM†Zi mgš^†q hv m,,ó ZvB cwi†ek| “
KbmvBR A.†dvW© wWKkbvwi†Z
(1992) cwi†e†ki msÁv wn†m†e ejv
n†q†QÑ Òcwi†ek nj Dw™` I cÖvYx
RM†Zi Dci cÖfve we`ÍvKvix ewni†½i
Ae`v,†jvi mgwó|Ócwi†ek Rx†ei Rb¥,
e,,w× I Aw`ÍZ; iývi mnvqK `Re, A%oRe I
mvs`...wZK Dcv`vb,wj cvi`úwiK
wg_w`Efvq †h cvwicvkw^©K Ae`v
M†o I†V Zv†K cwi†ek e†j| Avg©m 1994
wL^aóvã Gbfvqib†gUvj mv†qY bvgK
MÖ†š’ e†j†Qb †h Rxe, Dw™`, I cÖvYx
Zv†i I RxebP†µi †Kvb GKUv mg†q †h
mg`Í `Re Ges A%oRe KviY,wj Øviv
cÖfvweZ nq, †mB KviY,wji mgwó†K
cwi†ek e†j|“Environment indicates a
situation which encloses human beings at
certain space and time (Park, 1997) |`vb I
Kv†ji †Kvb cÖ`Ë we`y†Z †h me Ae`v
gvbyl†K cwi†ewób K†i iv†L, Zv†i
mgwóMZ Ae`v†K cwi†ek e†j (K
Hawkins, 1984)| Avj Kziv†bi fvlvq
cwi†ek n†”Q, †Zvgiv †h w†KB gyL
wdivI bv †Kb, †mw`KB Avjœvni w`K|
Avjœvn cv†Ki evYx cwi†e†ki mvaviY
msÁv n†”Q, Avgv†i Pvi cvk^©`Í
mewKQz†KB cwi†ek e†j (†KviAvb 2:
115)|

cwiḡek`~IY

†Kvb KviḡY hLb cwiḡeḡki wewfbœ Dcv`vḡbi KvwOyZ gvĭv webó nq ev [^]vfvweKZv nvivq ZLb ZvḡK cwiḡek`~IY eḡj| Zḡe BDḡbḡ`v, Earth summit and international relations (ESIR) Gi`.,wóḡZ, c.,w_ex bvgK MÖḡni cÖvK...wZK fvimg`nxbZv hv Avgvḡ`i mvgvwRK, A ©ḡbwZK, I ivR%obwZK Rxeḡbi Ici ¶wZi cÖfve we`Ívi Kḡi ZvḡK cwiḡek`~IY eḡj| cwiḡeḡki cÖavb Dcv`vb gvwU, cvwb I evZvm Ges Ab`vb` Dcv`vḡbi †h †Kvb aiḡbi cwieZ©b hv mivmwi A_ev cḡiv¶fvḡe mvḡ_ mvḡ_ A_ev cieZ©xḡZ, Aí ev †ewk mgḡqi Rb` gvbylmn Ab`vb` cÖvYxḡ`i Dci ¶wZKi cÖfve †dḡj ZLb ZvḡK cwiḡek`~IY eḡj| gvbyḡli Kg©KvḡŪi djkÖæwZḡZ cwiḡeḡki Dcv`vḡb AbvKvw•¶Z cwieZ©bnq|`~IY ejḡZ mvaviYfvḡe †evSvq gvbyḡli wbr`^`^vfvweK cwiḡek e`vnZ Kiv hv cÖavbZ eR`© ev ¶wZKi c`v_© Øviv evqy, cvwb I g.,wĒKv`~lḡYi gva`ḡg nḡq_vḡK (Cherry and, Hanks JB,1972| MZ KḡqK`kḡK RbmsL`v weḡḡviY`~IY mgm`v Avḡiv ,iæZi Kḡi ZzḡjḡQ| AwaK RbmsL`v gvḡb cÖvK...wZK mœcḡ`i AwaK e`envi, hvi cwiYvg AwaK`~IY(Banglapedia 2003)| hw`I gvbe mœúḡ`i hḡ_vchy³ e`envi I cwiḡek msiyY Kivi gva`ḡg AwaK RbmsL`vi Rb` cÖPwjZ mgm`v mgvavb Kiv hvq|

cwiḡek`~lḡYi m~ĬcvZ © KviY

cÖvPxb c.,w_exḡZ Av,b Avwe®<vḡii mvḡ_ mvḡ_B m~wPZ nq cÖvḡYi avĬx Aw`ḡRḡbi aŸsmjxjv| Avi Aóv`k kZvâxḡZ m~wPZ wkí wecœḡei ci †_ḡK weMZ cÖvq AvovBk eQi hveZ wkívwqZ †`kmg~n µgvMZfvḡe DòZv e.,w×KviK M`vm (Greenhouse Gas) D`MxiYB c.,w_exi DòZv e.,w× I Rjevqy cwieZ©ḡbi

g~j KviY|`ewk|K Dòvqb Ges Rjevqy cwieZ©ḡbi KviḡY wewfbœ †`ḡk cÖwZ eQi mybvwg, wmWi, AvBjv, gnvḡmb I bvwM©ḡmi gḡZv cÖvK...wZK`yḡh©vM Ges mvBḡK~vb m.,wó nlqvq Nievwo, MvQcvjv, gvbyl, Mev`ci, eb`cÖvYx, RjR cÖvYx, gvḡVi dmj, cyKzi, n`vPvwi, I evuamn wewfbœ cÖKvi`vcbvi e`vcK ¶wZ nḡ`Q| hw`I Ab`w`ḡK cwiḡek`~lḡYi wewfbœ KviY iḡqḡQ|

RbmsL`v Ges`vwi`aZviKviḡY cwiḡek`~wIz

eZ©gvḡb weḡkḡi cÖvq 700 †KvwU RbmsL`vi gḡa` 400 †KvwUi evm GwkqvḡZ| RbmsL`v e.,w×i dḡj`æZ bMivqb, e`vcK MY`vwi`aZv I †eKviZi, eb aŸsm, gvwU, cvwb, evqy I kã`~IY, gvQ, Mev`xcī I cvwLi msL`v n`vm I Rb`^vḡ`i AebwZ cÖf...wZi gḡZv bvbv mgm`v †`Lv w`ḡ`Q| DbœZ †`ḡk weḡkḡi RbmsL`vi 26% †hLvḡb Mḡo`wBK 3,395 K`vḡjvwi Lv` MÖnY Kḡi †mLvḡb Dbœqbkxj †`ḡki 74% gvbyl gvĬ 2,389 K`vḡjvix Lv` MÖnY Kḡi| ZvQvovhy³ivḡó^ai RbcÖwZ evwl©K Avq 25 nvRvi Wjvi †_ḡK 30 nvRvi Wjvi| Avi †mLvḡb 2020 mvḡj evsjvḡ`ḡk RbcÖwZ evwl©K Avq gvĬv 1,909 Wjvi| evsjvḡ`ḡki kZKiv 46 Rb gvbyl`vwi`amxgvi wbḡP evm Kḡi| dḡj Zviv`^v`ḡmev I wk¶v MÖnY †_ḡKI ewÂZ nḡ`Q (BbwKjve, 2020)|Ab`w`ḡK gnvgvwi KḡivbvfBivm (†KvwfW-19) Gi cÖfvḡe †`ḡk Pig`vwiḡ`a`i nvi †eḡo 60 fvM nḡqḡQ| e`vK cwiPvwjZ GK MḡelYvq †`Lv wMḡqḡQ †h 14% gvbyḡli Nḡi †Kvb Lvevi †bB (hyMvšĬi, 2020; The Daily Star, 2020)| DḡjØL` †h, †KvwfW-19 gnvgvix KviḡY wewfbœ mgm`v †`Lv w`ḡjI cwiḡek I Rxe`ewPḡĬi Rb` Zv Avkxe©v`wnḡmḡe †`Lv w`ḡqḡQ|

**giæKiY, IḡRvb Ĩi, Ges KxUvbkḡKi
e`envḡi cwiḡek `~wLZ**

1977 I 1984 Ges cieZ©xḡZ AbywôZ
RvwZmsḡNi giæcÖwµqv msµvšÍ
mḡḡḡḡḡbi djvdj ḡ_ḡK Rvbv hvq ḡh,
c,,w_exi cÖvq `yB cÂgvsk GjvKv
giæf,wg nḡq hvevi fqven ūgwKi
mḡḡyLxb| cÖwZ eQi 2 jvL eM©
wKḡjvwgUvi GjvKv giæḡZ cwiYZ nḡ”Q|
CFC (Chlorofluorocarbon) Ges Ab`vb`
ḡKwgK`vj e`envi w`b w`b evoḡQ| hvi
AwaKvsk e`envi nḡ”Q DbæZ weḡkḡi
KjKviLvbyq| 1975 mvḡj ḡK~vwiḡbi
cwigvY wQj cÖwZ wewjqḡb 1.4|
eZ©gvḡb Gi cwigvY 4.3 Gi Icḡi| dḡj
c,,w_ex ūgwKi mḡḡyLxb nḡ”Q| AwaK
dmj djvḡbvi Rb` RwgḡZ KxUvbkK
e`envḡii dḡj cvwb, gvwU `~wLZ nḡq
RxeRMr I cwiḡek wech©ḡqi mḡḡyLxb
nḡ”Q| ZvQvov AwZwi³ KxUvbkK
e`envḡii KviḡY m,,wó nḡ”Q bZzb bZzb
cÖRvwZi ḡcvKv (Super pests), hv
cÖPwjZ gvĪvq KxUvbkK w`ḡq wbqšḡY
Kiv hvq bv (Bdvev-2010)|djZ, wewfbæ
cwiḡek wech©q I bvbvb mgm`v ḡ`Lv
w`ḡ”Q|

cvwb `~lYwjfvi I wKWwbi Rb` ḡwZKi
cvwb wb@<vkḡbi ḡW`b,ḡjv mvaviYZ
Rjvkḡqi mvḡ_ hy³ _vKvi KviḡY kni, nvU-
evRvi, evmvevwoi gqjv-Ave©Rbv,
wewfbæ cÖvYxi gjg~Ī, Lvj, wej I b`xḡZ
cḡo cvwb `~wLZ nḡ”Q (Evans TM,
Waarvick 1981)| cÖwZwU wkíKviLvbi
mvḡ_ ḡkvabvMvi ev A`vd~zḡqU
wU`UḡgU cøvU (BwUwc) `vcb
eva`Zvg~jK Kiv nḡqḡQ| Rvnr fvOv
wkḡii eR© I Lwb nḡZ wbM©Z
ivmvqwbK c`v_© cvwb `~lḡYi GKwU
KviY (SK Agarwal 2005)| dmḡji RwgḡZ
gvĪvwZwi³ evjvBbvkk I AvMvQv bvkk,
nvmcvZvj, wK~wbK Ges WvqvMbw÷K
ḡm>Uvḡii eR©, nvli, b`x Ges mvMḡi
PjvPjiZ BwĀjPvwjZ ḡbŠKv, jĀ I w÷gvḡii
ḡZj wbtmiY nq (Rvwn` wRjøyi ingvb,

2013) Ges cvigvYweK Aḡ`ḡi cixÿv I
weḡùviḡYi KviḡYI mvMḡii cvwb `~wLZ
nḡ”Q| eZ©gvḡb weḡkḡi cÖvq 700 ḡKvwU
RbmsL`vi gḡa` 400 ḡKvwUi evm
GwkqvḡZ| RbmsL`v `æZ e,,w×i dḡj
bMivqb, e`vcK MY`vwi`aZv I ḡeKviZi, eb
aÿsm, gvwU, cvwb, evqy I kã `~lY, gvQ,
Mev`xci I cvwLi msL`v n`vm Ges
Rb`^vḡ`”i AebwZ cÖf...wZi gḡZv bvbv
mgm`v ḡ`Lv w`ḡ”Q (nviæb, 2012) | `~wLZ
cvwb e`vKḡUwiqv, ḡzḡ` Rxe, ḡKuḡPv,
mvc, e`vO, wewfbæ DcKvix cÖvYx, gvQ,
RjR Dw™ḡ` BZ`vw`i g,,Zy` NUvq Ges
Kḡjiv, UvBdḡqW, wWḡmw>U` I Pg©
ḡivM Qovq| welv³ ivmvqwbK c`v_©
enbKvix dmj Ges gvQ ḡLḡj eÜ`vZi,
RbŸMZ ĪæwU, `ævqy `eKj”, ḡK~vb
ḡi±vj, wKWwb mgm`v, cÖḡ÷U, hK...Z,
dzmdzm, cvK`jx K`vYvi I wjDḡKvwgqv
ḡivM nq| Avḡm©wbKhy³ cvwb Pvgov,
wjfvi I wKWwbi gvivZŸK ḡwZ Kḡi (Anh
and [Kroeze](#) 1981)| djZ Dch©y³ welḡqi
KviḡY gvbe Rxeḡb wewfbæ mgm`v
cwijwÿZ nḡ”Q|

**gvwU `~lḡYiKviḡY RwgḡZ dmj Drev`b
e`vnZ**

U`vbvwi wkímn wewfbæ wkí KviLvbi
eR©, GwmW, welv³ ivmvqwbK `æ`-
Lvj, wej I b`xi cvwbi mvḡ_ dmwj RwgḡZ
Qwoḡq cḡo gvwU `~wLZ nḡ”Q| ḡ`ḡki
DcK~jxq AĀḡj cÖvK...wZK `yḡhv©M,
ḡhgb- So, N~wY©So, Rḡjv”Qjvm, I eb`v
BZ`vw`i KviḡY AeKvVvḡgv,ḡjv aÿsm
nḡq K...wl Rwgi jeYv³Zv e,,w× ḡcḡq
gvwU `~wLZ nḡ”Q| DcK~jxq AĀḡj jeYv³
gvwUḡZ PvlḡhvM` jeY mwnòz dmḡji
RvZ ḡZgb bv _vKvi KviḡY km` Drev`ḡb
KvwOÿZ jÿ”gvĪv AwR©Z nḡ”Q bv| el©v
ḡḡSmḡḡ Avgb avb Pvl Kiv mḡḡe nḡjI
evwK ḡḡSmḡḡ,ḡjvḡZ nvRvi nvRvi ḡn±i
Rwg jeYv³Zvi KviḡY cwZZ _vKḡḡQ| i©<
ḡḡSmḡḡ G AĀḡj jeYv³Zvi gvĪv e,,w×
ḡcḡq 4 ḡ_ḡK 20 wW.Gm/wg. ch©šÍ
Ae`vb KiḡQ| AwaK jeYv³Zvi Rb` wgVv

cvwb m¹/₄†Ui Kvi†Y dm†ji Rwg†Z †mP
Kvh©µg m^αεe n†”Q bv ([Science of the
total Environment](#), 2014)|

**kā ~l†Ygv_v e”_v, gvbwmK wech©q I
Awb`^v m,,wó**

evm-U^avK, †ijMvwo, jÂ-w÷gv†ii
nvB†W^avwjK n†Y©i kā, wegv†bi weKU
kā, wk†KviLvbvi kā, BU-cv_i fvOvi kā,
gvB†Ki kā, cUKvi kā, nvUevRvi, hvbRU,
Rbmfvq gvby†li †Kvjvn†ji kā, XvK-
†Xv†ji kā, So-Zzdvb, mvB†K-vb, eR^acvZ
I mgy†`ai MR©b kā ~l†Yi Ab`Zg KviY|
kā ~l†Yi Kvi†Y kÖeYkw³ n«vm, gv_v
e”_v, ü†ivM, ¯œvqyweK ^eKj”, wkii
gvbwmK wech©q, Awb`^v, weiw³fve, I
g†bv†hvM bó BZ`vw` jÿY †`Lv †`q
(Mathew H.M.LeeM.D. M.P.H. FACP
2000)| hw`I gvbyl PvB†j Dch©y³ wKQz
†ÿ†I kā ~lY Kgv†Z cv†i| hv gvby†li
B”Qvkw³ I m†PZbZvi Dci wbf©i Ki†Q|
Bmjv†gi Ab`Zg w`Kwb†`©kbv n†jv GK
gymjgvb Zvui Aci gymwjg e`w³i Rb`
ÿwZKi I aÿsmvZœK Kvh©µg †_†K weiZ
_vK†e| myZivs G mKj wel†qi cÖwZ jÿ`
ivL†j kā ~lY I Ab`vb` gbyl`m,,ó wech©q
mn†RB †iva Kiv m^αεe|

cwi†ekMZ wewfbœ mgm`vmg~n

cvwb GKw`†K †hgb Rxeb iÿv K†i,
Ab`w`†K cvwb Rxeb aÿsm nlqvi Rb`
Ab`Zg KviY| cvwb ~l†Yi gva`†g ^i I
`xN© †gqv`x ^v`”MZ mgm`v †`Lv †`q|
cvwb†Z e`vK†Uwivq, fvBivm I
c`vivmvBU, avZe RvZxq c`v_©, Ges
KxUbvK wgwkÖZ n†q cvwb†K ~wlZ
K†i| Avi Av†m©wbK wgwkÖZ cvwb
~lY gvivZÿK AvKvi aviY K†i†Q| cvwb
~l†Yi Kvi†Y KwZcq cvwbevwnZ †ivM
†`Lv hv†”Q| G,†jvi g†a` Wvqwiqv, K†jiv,
†W¹/₂y, †ncvUvBwUm, I g`v†jwiqv
D†jØL†hvM`| Ab`w`†K Avgv†`i †`†k
eb`v GKwU cÖvK,,wZK `y†hv©M
wn†m†e wPwýZ Ges Gi gva`†g
^v`”MZ wKQz RwUj mgm`vi KviY
n†q `vwo†q†Q| eb`vi Kvi†Y `yM©Z†`i

hLb wbivc` AvkÖ†q †bqv nq ZLb cvwb I
†m†bUvix mgm`vi Kvi†Y Wvqwiqv
k^vm-cÖk^vmRwbZ I Aš; m^α^Üxq †ivM
†`Lv †`q| wbivc` cvwb I m`vwb†Uk†bi
Afv†e Wv†qwiqv, †cvwjI, gv†qwjwcm,
†ncvUvBwUm, Aš; m^α^Üxq †ivM,
Avi†mwb †Kvwmm, I †d-v†ivwmm †`Lv
†`q| †d-vivBW I bvB†U^aURwbZ mgm`v
Kg ÿwZKi bq| ^v`” msiÿ†Y wbivc`
cvwbi †Kvb weKí †bB| cvwb†Z
Av†m©wbK ~lY evsjv†`†ki Rb`
gvivZÿK D†Ø†Mi KviY| GK Z_` †_†K
Rvbv hvq †h. kni/bM†i RbcÖwZ cÖvq
Avav†KwR eR`© ^Zix nq| eR`©
h_vh_fv†e AcmvwiZ bv nlqvq
cvwicvkw©K wech©q cwi†ek†K ~wlZ
Ki†Q| eÜ n†q hv†”Q cvwb wb@<vk†bi
e`e`^v, gkvgvwQi DrcvZ e,,w×, `yM©Ü
Qov†bv Ges wewfbœ †iv†Mi we`Ivi
NU†Q| AvevwmK GjvKvq cÖwZw`b †h
eR`© Drcbœ nq Zvi 80 fvMB cPbkxj
%oRe c`v_©| eR`©mg~n hÎZÍ bv †d†j
mvwe©Kfv†e msiÿY I msMÖn K†i
cybte`envi†hvM` ^Zwi Kiv hvq| cwi†ek
Dbœq†bi †ÿ†I cÖavb cÖwZeÜKZv n†jv
gqjv AveR©bv mwVK e`e`^vcbvi Afve|
evsjv†`†ki knivÂ†ji cwienb e`e`^v
m†šÍvlRbK bq| hvbevnb cy†iv†bv nlqvq
Kv†jv †avuqv wbM©Z nq| hvbevn†b
AwZwi³ wfo RbRxeb†K bvbvfv†e
wech©`I Ki†Q| Nb AvevwmK emwZ,
febmg~†ni KvVv†gv, Avevm†bi Rb` Rwg
K†g hvlqv, cvwb I cqwb@<vk†bi †ÿ†I
Ach©vß e`e`^v I Av†jv evZvm cÖ†e†ki
ch©vß e`e`^v bv _vKvi Kvi†Y kni,†jvi
Avevmb c×wZ †Kvb bv †Kvbfv†e
cwi†ek†K KjywLZ Ki†Q| knivÂ†j w`b
w`b fvmgvb †jv†Ki msL`v e,,w× cv†”Q|
d†j cqtwb@<vkb e`e`^v, wei× cvwbi
mieivn, ^v`”m^α§Z AvevwmK Ni,
†mwbUvix j`wU^ab bv _vKvq cwi†ek
~wlZ nq| knivÂ†j w`b w`b Dbÿy³ `vb
n«vm cv†”Q| Gi mv†_ Dbÿy³ RjvkqI K†g
hv†”Q| G†Z cwi†e†ki fvimvg` webó

n†”Q| evsjv††k cwi†ek †~IY †iva I
cwi†ek msi††Yi Rb” 1992 mv†j
cwi†ekbxwZ I 1995 mv†j cwi†ek msi††Y
AvBb Ges 1997 mv†j cwi†ek msi††Y
wewagvjv ^Zwi Kiv nq| GB me AvBb I
bxwZgvjvi gva††g cwi†ek Awa`†i ††ki
cwi†ek†K †~I†Yi nvZ ††K i††v I msi††Y
Kivi †Póv Ki†Q (UPTM, 2003)| hw`I
wKQz †††† wbqgbxwZi h_vh_ev`levqb I
mswkøó KZ...c††yi Amn††hvwMZvi
Kvi†Y AvB†bi mydj e†q Avb†Q bv|

cwi†ek †~IY †iva†a KiYxq

cwi†ek †~IY †ivaK††i `yÖwU wel†q ,iæZ;
Av†ivc Kiv cÖ†qvRb| cÖ_gZ, cÖK...wZ,
cÖvK...wZK cwi†ek m††K© Ges gvbe
Rxe†bi mKj †††† Bnvi Nwbô m††K©
wel†q Bmjv†gi aviYv cÖPvi Kiv|
wØZxqZ, cÖvK...wZK cwi†ek wel†q
Bmjv†gi wkÿv, g~j††eva I HwZ†n`i
Av†jv†K ^bwZK AvPiY Ges ev`Ie
cÖ†qvM wbdZKiY| gvby†li RxebcÖevn
I weKv†ki Rb” hv wKQz cÖ†qvRb Zvi
mw†šwjZ Ae`v I cvi`úvwiK m††K©
wb†q cwi†ek| cwi†ek†ki mKj Dcv`v†bi
g†a” GKwU Mfxi Avš†tm††K© we”gvb
hv ci`ú††K cÖfvweZ K†i| cvwb I gvwU
evwn`K, gvbyl-e,ÿ, RxeRš` ^RweK Ges
RbmsL`v mvgvwRK Dcv`v†bi g†a”
Aš†f†y†KiY| cwi†ek†ki mKj Dcv`vb
GKwU Ac††ii m††~iK wnmv†e we†ewPZ
nq| cwi†ek msi††Y Bmjv†gi wkÿv,
g~j††eva I HwZn” m††K© Av†jvPbv
cÖwYavb††hvM”|

cwi†ek msKU I DĒi†Y Bmjv†gi e³e”

cwi†ek msKU eZ©gv†b GKwU eūj
Av†jvPZ welq| mviv c,,w_ex†Z cwi†ek
msKU wb†q Av†jvPbv, ch©v†jvPbv I
M††elYv Pjgvb i†q†Q| cÖ†Póv †Rvi`vi
n†”Q cwi†ek msKU †~i Kivi Rb”| mKj
cÖ†Póv Ae`vnZ _vK††I GKwU ††††
KgwZ i†q†Q| Zv n†jv cwi†ek†ki cÖwZ
Ae†njv Kiv| cwi†ek msKU wbQK weÁvb
I cÖhyw³i Ace`enviRwbZ dmj bq| cwi†ek
msK†Ui †††† ag©wek^vm, g~j††eva,

HwZn” I Rxeb `k©†bi ,iæZ;c~Y© cÖfve
we”gvb i†q†Q (Ozdemir, 2004)| Bnv
cÖK...wZ ev cwi†ek†ki mv†_ gvby†li
AvPiY wba©vwiZ nq| Bmjvg GKwU
Kj`vYKi Rxebe`e`v| Bmjv†gi Ab`Zg
^ewkó” n†jv GUv ^fve I cÖK...wZrvZ
ag©| Bmjvg†K G Kvi†Y Ô`x†b
wdZ&ivZÖ ev ^fveag© ejv nq| KLbI
Bmjvg†K ÔAvj-Øxb Avj-nvbxDÖ
wnmv†e Ges KLbI Avw`g I ^fveRvZ
ag© wnmv†e AewnZ Kiv nq| gvby†li
^fvfweK cÖK...Z `,,wófw½ KziAvbyj
Kix†g wea,,Z n†q†Q| GB gnvb MÖ†š’
cÖK...wZi D††jØL i†q†Q| Av†iv D††jØL
Av†Q cÖvK...wZK e`†y, MvQcvjv,
RxeRš`, m~h© I by††i eY©bv
(schwarte, 2007)| cÖK...wZ†K gvby†li
Bn†jŠwKK ev ag©xq Rxe†bi Awe†”Q”
Ask g†b Kiv nq| djZ, Bmjv†gi w`K
wb†`©kbv g†Z P††j A†bKvs†k cwi†ek
wech©q †iva Kiv m††e|

cwi†ek†ki mifc (^fvfweK Ae`v I m`,,kifc)

cÖK...wZ Avjovn&i Kz`&i†Zi wb`k©b
cÖK...wZ GgbB wewPÍ †h, G†Z ^aóvi
A†bK Kz`&iZ I gwngv Qwo†q i†q†Q|
cÖK...wZ†K wPš†v Ki†j Avjovn&i
Amxg Kz`i†Zi wb`k©b cÖwZevwnZ nq|
GB mKj wb`k©b ^aóvi cÖwZ wek^vm
^vc†bi †††† wPš†vKxj I M††elK††i DØy×
K†i| c,,w_exi mewKQzi Dci Avjovn&i
wbqš;Y i†q†Q| GB Kvi†Y KziAvbyj
Kix†g Avjovn&†K ÔgynxZÖ wnmv†e
D††jØL Kiv n†q†Q| ÔAvj-gynxZÖ
wnmv†e Avjovn&†K †††† Kivi A_©
n†”Q cÖK...wZi cwelZv m††K©
m†PZb nqv Ges cÖK...wZi ev`IeZv†K
Avjovn&i wb`k©b wnmv†e †`Lv (mB†q`
ûmvqb bvmi, 1996)| KziAvb, nv`xm I
mybœvn& cÖK...wZi cÖwZ mnvbyf,wZ,
ggZv†eva I fv†jvevmv†K DrmvwnZ Ki†Z
cÖK...wZi cÖwZ fv†jvevmv Bmjv†gi
weÁvb m††wK©Z wPš†vavivi g†a”
cÖwZdwjZ n†q†Q| G Qvov m~wdev`x

KweZvmg~†n Gi Aw⁻ÍZ; cwijwÿZ nq|
cÖK...wZ †hb ⁻aóvi cweÍZv I
Zvrch©c~Y© wb†`©kbv †NvLYv K†i|
GB m^óú†K© KziAvbyj Kix†g ejv n†q†Q:
ÒGgb wKQz †bB hv Zuvi mcÖksm
cweÍZv I gwngv †NvLYv K†i bv| wKš‘
Dnv†`i cweÍZv I gwngv †NvLYv †Zvgiv
Abyaveb Ki†Z cv†iv bv (KziAvb 17 t
44)|Ó Bmjv†gi AbymvixMY
cÖK...wZ†K Avjovn&i wbqvgZ wnmv†e
g†b K†ib| GB w`K †_†K cÖK...wZ ⁻aóvi
Kz`iZ I ifc cÖKvkK (Bmjvg I cwi†ek
msKU 1996)|

cwi†e†ki mife (⁻^vfvweK Ae⁻v)

cwi†e†ki mv†_ gvbe RvwZi AvPiY

cwi†e†ki mv†_ mv†_ gvbe AvPiY †Kgb
nIqv DwPZ, †mB †y†Í GB `ywbqvq
gvby†li gh©v`vi welqwU GKwU
,iæZ;c~Y© welq| c,,w_ex†Z gvbyl
Avjovn&i cÖwZwbwa wnm†e
Avjovn†K Lywk Kivi Rb` hveZxq Kvh©
cwiPvjbv Ki†e| gvbyl c,,w_ex†Z DcvR©b
Ki†e| gvbe Kj`vY wbwðZ Kivi D††k`
hveZxq we`gvb m^óú` e`envi Ki†e|
GZ`y†Í†k` cÖK,,wZ ev wek^gq we`gvb
mKj m^óú` gvby†li Aaxb` Kiv n†q†Q|
GB m^óú†K© KziAvbyj Kix†g h_vh_fv†e
ejv n†q†Q: Ó†L bv wKfv†e c,,w_exi me
wKQz†K Avjovn& †Zvgv†`i Rb`
wbqš;Yvaxb K†i w`†q†Qb (KziAvb 22 :
65)|Ó GB †cÖÿvc†U ch©v†jvPbv Kiv n†j
†Lv hvq †h, Bmjv†gi `,,wó†Z mxwgZ
ch©v†q gvbyl†K cwi†e†ki Dci n⁻Í†ÿc
Kievi ÿgZv cÖ`vb Kiv n†q†Q| Avjovn&i
cÖwZwbwa wnmv†e `wi^a I ewÁZ†`i
cÖwZ iay `vwqZ; cvjb Ki†j Pj†e bv ;
evqy, cvwb I cwi†ek `~LY †_†K weiZ
_vK†Z Ges MvQcvjv, Rxe-RšÍyi cÖwZI
m`q e`envi Ki†Z n†e| Avjovn& ev Zuvi
m,,wói cÖwZ AwePvi ev wbh©vZ†bi
wewbg†q gvbyl†K †Mšievwš^Z Kivi
cÖeYZv†K mg_©b K†i bv| Bmjvg
Ab`vb` mKj m,,wói AwaKvi wbwðZ Kivi
Avnevb Rvbvq| GK_v Avgv†`i g†b ivL†Z

n†e †h, AwaKv†ii Av†M `vwqZ; cvj†bi
cÖkæ RwoZ| c,,w_ex†Z gvbyl †h AwaKvi
†fvM K†i Zv gnvb Avjovn&B `vb
K†i†Qb| c,,w_ex†Z Avjovn&i
cÖwZwbwa wnmv†e `vwqZ; cvj†bi Rb`
Avjovn&i cÿ n†Z Bnv cyi`vi gvÍ|
Bmjv†g Avjovn&B GKgvÍ mve©†fšg
mËv| GB Kvi†Y KziAvbyj Kix†g ejv
n†q†Q: ÓÓAvjovn& Hk^†h©i gvwjK,
†Zvgiv `xbnx ev gyLv†cÿx (KziAvb 47
:38)|Ó Bmjvg gvbyl†K Ab`vb` mK†ji
AwaKv†ii cÖwZ m†PZb _vK†Z wkÿv
†q| cÖK...wZ I cwi†e†ki Dci Bmjv†gi
GB RvZxq `,,wófw½i cÖfve jÿYxq|
cwi†e†ki wech©q †KejgvÍ wk†ivbœZ ev
cvðv†Z`i mgm`v bq| Zv c,,w_exi Rb` GK
gnv mgm`v I P`v†jÄ| †MvUv c,,w_exi
gvbe RvwZ†K GB R†b` m†PZb n†Z n†e|
Z†e GB †y†Í Bmjv†gi Abymvix I
kvwšÍKvgx †jvK†`i AwaK `vwqZ;evb
n†Z n†e| cÖK...wZ I cwi†ek msiÿ†Y
Bmjv†gi wkÿv, g~j†eva I HwZn†K
mK†ji mvg†b Dc`vcb Ki†Z n†e|
RvwZ†K eyw×e,,wÈK Ges `bwZK wkÿvq
D¾xweZ Ki†Z n†e|

**cÖvK...wZK fvimg` i¶vq MvQcvjvi
f,wgKv**

cÖvK...wZK fvimg` i¶vq MvQcvjvi
f,wgKv Acwimxg| MvQcvjv I ebf,wg
†hgwbv†e Avgv†`i Rb` Aw`†Rb mieivn
K†i wVK †Zgwbv†e cÖvK...wZK
`y†h©v†Mi Kej †_†KI cwi†ek†K i¶v K†i|
MvQcvjv I ebf,wg Qvov gvbyl Ges
Ab`vb` cÖvYxi RxebaviY Am^óœe| h†_ó
cwigv†Y MvQcvjv I ebf,wg bv _vK†j
cwi†ek n†e Dò| Ab`w`†K c,,w_ex n†e
giaf,wg, a~wjKvgq I emev†mi A†hvM`|
G†Z cwi†ek n†e wecbœ| gvbyl cwZZ n†e
eúj wech©†q| cwi†ek weÁvbx†`i g†Z,
cwi†e†ki fvimg` i¶vi Rb` GKwU ††ki
†gvU AvqZ†bi 25 fvM ebf,wg _vKv
cÖ†qvRb| A_P evsjv††ki †gvU ebf,wgi
AvqZb n†`Q- 17.4 fvM| hw`I Gi
cwimsL`vb wb†q gZ†f i†q†Q|

RvwZms†Ni K...wl I Lv` ms`vi ` ` †÷U
Ae †Møvej d†i÷-2018 Gi cÖwZ†e`b
Abyhvqx evsjv† †ki †gvU f~-L†Di 13.5%
ebf~wg i†q†Q (cÖ_g Av†jv, 2018)| hv
wbtm†`†n D†Ø†Mi welq Ges G cwigvY
e,,w×I Rb` c`†yc †bqv cÖ†qvRb| G †`†ki
fvwi RbmsL`vi Zzjbvq ebf,wg LyeB Kg|
w`b w`b K†g hv†`Q ebf,wgi AvqZb|
†`†ki wewfbæ AA†j Qwo†q-wQwU†q
_vKv wKQz wKQz MvQ †K†U
wbwe©Pv†i aYsm Kiv n†`Q
cÖvK...wZK fvimg`†K| gvby†li KvV I
Rjvjbv K†Vi µgea©gvb Pwv`v
†gUv†Z wM†q aYsm Kiv n†`Q ebf,wg|
bMivqb I knivq†bi µgea©gvb Pwv`vi
d†jI aYsm n†`Q ebf,wg| wejyß n†`Q
RxeRš` I eb`cÖvYx| G†Z ûgwKi gy†L
co†Q †`k I †`†ki gvbyl| iay evsjv†`k bq
c,,w_ex †_†KI ebf,wg `aæZaYsm n†q
hv†`Q| ZvB GLbB D†`vM wb†Z n†e
†ewk cwigv†Y e,,¶ †ivcY Kivi| evsjv†`†ki
ebf,wg†K †gvU AvqZ†bi 25 fv†M wb†q
hvIqvi cwiKíbv _vK†Z n†e| cwi†e†ki
fvimg` i¶vq Bmjvg e,,¶ †ivc†Yi Zvwm`
w`†q†Q| GgbwK e,,¶ †ivcY†K m`Kv†q
Rvwivqvi mlqve wn†m†eI AwfwnZ Kiv
n†q†Q| e,,¶ †ivc†Yi ci hZw`b ch©šI gvbyl
I RxeRš` IB e,,¶ †_†K cÖvß dj †fvM
Ki†e, Qvqv cv†e, ZZw`b ch©šI
†ivcYKvixi Avgjbvgvq m`Kv†q Rvwivqvi
mlqve †jLv n†Z _vK†e| mwvnn †evLvwii
nvw`†m G†m†Q, ivm~jyjn (mv.) Bikv`
K†ib, †Kv†bv e`w³ hw` e,,¶-†ivcY K†i
wksev dmj Drcbæ K†i Avi Zv †_†K
gvbyl I ci-cvwl f¶Y K†i, Zvn†j
DrcbæKvixi Avgjbvgvq Zv m`Kvi mlqve
wn†m†e MY` n†e| c,,w_ex†Z gvby†li
wU†K _vKvi R†b`, cwi†e†ki fvimg` i¶v
I dmjvw` Drcbæ Kivi R†b` Avjovn
Zvqvjv c,,w_ex†Z cwiwgZ e,,wó el©Y
K†ib| hv†Z gvwU imv†jv nq Ges
MvQcvjv, ZiæjZv m†ZR n†q dzj-dj
Drcbæ I Qvqv`vb K†i cwi†ek†K cÖvYešI

K†i †Zv†j (†gkKvZ kixd, nvw`m bs-
3442)|
cwi†ek msij†Y Bmjv†gi f,wgKv
cÖK,,wZ, cÖvK...wZK cwi†ek, cwi†ek
msKU †gvKvwejvq Bmjv†gi wkÿv
AZzjbxq| Bmjv†g ejv n†q†Q, Ö†Zvgviv
wb†Riv wb†R†`i aYsm †W†K G†bv bv|Ó
Bmjv†gi GB wkÿv gvbe RvwZi Rb`
GKwU mveavb evYx `^ifc| gvby†li
K...ZK†g©i Rb`B g~jZ GB `ywbqvi
mvaviYZ wech©q m,,wó nq| †KviAvbyj
Kix†gi GKwU Avqv†Z ejv n†q†Q t
Ògvby†li K...ZK†g©i `iæY mgy†`a I `†j
wech©q Qwo†q c†o (KziAvb 30 :41)|Ó
Aci GKwU Avqv†Z ejv n†q†Q:
Ò†Zvgviv wK †`L bv wKfv†e c,,w_exi
me wKQz†K Avjovn †Zvgv†`i
wbqš;Yvaxb K†i w`†q†Qb (KziAvb 22 t
65)|Ó Bmjv†gi `,,wó†KvY †_†K
cÖK...wZi cÖwZ Bmjv†gi BwZevPK
g†bvfe _vKv m†E;I Avgiv GB wel†q
D†jØL†hvM` f~wgKv cvjb Ki†Z e`_©
n†qwQ| cwi†ek msKU iaygvI Avgv†`i
Rb` msKU bq| Avevi GUv cvðv†Z`i
msKU I bq| Bnv †MvUv c,,w_exi Rb`
msKU I wech©q|
cwi†ek msK†Ui mgvav†b Bmjv†gi
`,,wófw½ mvaviY gvby†li Abyf~wZ†K
mwuqfv†e RvMwiZ Ki†Z cv†i| cwi†ek
móú†K© Bmjv†gi `bwZK `,,wófw½ AwZ
mn†R gvbyl†K DØy× Ki†Z mnvqK n†e|
cwi†ek msKU †gvKvwejvq `yÖwU †y†I
,iæZi Av†ivc Kiv †h†Z cv†i| GKwU n†jv,
cÖK...wZ, cwi†ek I cÖvK...wZK
web`vm móú†K© Bmjv†gi `,,wófw½|
agx©q ,iæZi I gvbe Rxe†bi mKj †y†I
Bnvi Nwbó móúK© i†q†Q| mgKvjxb
†cÖÿvc†U G wel†q mvaviY gvby†li
wbKU cÖKvk I De`vcb Kiv cÖ†qvRb|
wØZxqwU n†jv cÖvK...wZK cwi†e†ki
wel†q Bmjv†gi `,,wófw½i Av†jv†K
`bwZK AvPiY móú†K© MYm†PZbZv
m,,wó Ges ev`Ie cÖ†qv†Mi †y†I
móú`mvwiZ Kiv| Bmjvg gvbyl†K mxwgZ

chv©†q cwi†e†ki Dci n⁻††yc Kivi ygZv
Ac©Y Ki††I Bmjv††gi wkÿv, g~j††eva I
HwZ††nⁱ Av††jv††K GB ygZv††K LyeB
mxgve× Kiv n††q††Q| Bmjv††gi wkÿv
cÖvK,,wZK k•Ljv iyv I cwi††ek msKU
†_†K D×v††ii †††† ch©†† m^αú^{aa}mvwiZ Kiv|
Bmjvg GKw††K ††hgb `wi^a††K Lv[”]
cÖ^v††b DrmvwnZ K††i| Ab^w††K cvwb
~IY †_†K weiZ _vK††Z Avn††Yvb Rvbvq|
Bmjvg ††hgb wcZv-gvZvi cÖwZ m^vPviY
Ki††Z e††j, mv††_ mv††_ MvQ-cvjv I Rxe
Ršⁱ cÖwZ m^q n††Z wkÿv †^q| GB ††y†††
Bmjv††gi wkÿv eyw×e,,wEK HwZ††nⁱ
Awe††”Q[”] Ask| Bmjvg KLbI cÖK...wZi
Acgvb ev wech©††qi wewbg††q gvbe
RvwZ††K ††MŠievwš[^]Z Ki††Z DrmvwnZ
K††i bv| Bmjvg Avjœvn& I Ab^wvb[”] m,,wói
AwaKvi we^š,Z n††q iaygv[†] wb††Ri
AwaKvi††K g~j[”] w††Z wkLvq bv|
gymjgvb††i††K Avjœvn& I Ab^wvb[”] m,,wói
cÖwZ mZ©K _vK††Z ejv n††q††Q| Bmjv††gi
GB ai††bi `,,wófw^{1/2} cÖK...wZ,
cÖvK...wZK cwi††ek Ges gvbyl I
cwi††e††ki g††a[”] we[”]gvb Avš††tm^αúK©††K
eújvs††k cÖfvweZ K††i| Bmjv††g ††Kej
gvby††li AwaKv††ii K_v ejv nqwb| eis
gvby††li mv††_ cÖvK...wZK cwi††ek, Rxe-
Rš[‘], cĕcvwLmn mKj m,,wói K_v ejv
n††q††Q| m,,wók~††ji g††a[”] Rxe-Rš[‘]i
AwaKviI Bmjv††g ,iæZ; mnKv††i
⁻^xK...wZ jvf Ki††Q| bex Kixg (mv)
e††j††Qb: ÒGKwU Rxeb Zv hZB wbK,,ó
nDK, Kó w††q ††g††i ††djvi Aciv††a ††m
Rvnbœv††g wbyß n††e|Ó wZwb Ab[†]
e††j††Qb: ÒGKwU wccvmvZ© KzKzi††K
K~c †_†K cvwb cvb Kiv††bvi Rb[”] GK
cvcvPvix bvix ††e††nk††Z hv††e|Ó

cwi††ek msi†††Y KiYxq

cwi††ek cwi[@]vi ivLv

cÖK...wZi mg⁻†† `vb, ††hgb-cvnvo-ceZ©,
b⁻b^x, eb-R^{1/2}j, KxUcZ^{1/2}, Rj, gvwU,
evZvm, RxeRš[‘] I gvbyl| cwi††e††ki GB
Dcv^vvb,††jvB gvbyl††K c^afvweZ K††i Ges

cwi††ewóZ iv††L| ††hgb- Avey ûivqiv (iv.)
†_†K ewY©Z n††q††Q, ivm~jyjœvn (mv.)
e††jb, m~††hv©^q nq Ggb cÖwZwU w^b
gvbe††††ni cÖwZwU ††Rvov Z_v MÖwšⁱ
Ici mv^{Kv} IqvwrE nq| Zzwg `yÖwU
gvby††li g††a[”] ††h b^vvqwePvi K††iv Zv
mv^{Kv}Zzj[”]| Zzwg gvbyl††K Zvi fvievnx cĕi
Ici Pwo††q w††q wKsev Zvi Ici gvjc[†] Zz††j
††h mvnvh[”] K††i Zv mv^{Kv}| Ggwbfv††e
KvD††K fvj K_v ejvI m^{Kv}| bvgv††Ri
w††K hvIqvi mgq ††Zvgvi cÖwZwU c[†]†yc
mv^{Kv}| iv⁻††v †_†K Zzwg ††h Kó^vqK e⁻
mwi††q ††dj, ZvI mv^{Kv} (eyLvix, 2989;
gymwjg, 1009)| Av††iK nv^x††m G††m††Q,
Avey ûivqiv (ivw^vqvjœvû Avbû) †_†K
ewY©Z n††q††Q, ivm~jyjœvn (mv.) e††jb,
Ó††Zvgiv jvbZKvix (Awfkv††ci KviY)
`yÖwU KvR †_†K ††eu††P _v††Kv|
mvnvexiv wRÁvm Ki††jb, ††n Avjœvni
ivm~j, jvÖbZKvix (Awfkv††ci KviY)
`yÖwU KvR Kx? - wZwb e††jb, ††h
gvby††li PjvP††ji iv⁻††vq wKsev Zv††i
Qvqvq ††ck^ave cvqLvbv K††iÓ (Ave~ `vE[‘],
25; gymbv^v Avng^v, 8853)| ZvQvov
cwi††e††ki ††bvsiv Ki††j A††bⁱ K††ói KviY
nq| Avi Ab[†]†K Kó bv w††ZI Bmjv††g bvbv
iKg Av^e ††kLv††bv n††q††Q| Ave~ g~mv
(iv.) †_†K ewY©Z, wZwb e††jb, mvnvexiv
wRÁvm Ki††jb, ††n Avjœvni ivm~j ††K DĒg
gymwjg? - wZwb DĒi w††jb, hvi nvZ I
gy††Li Awbó †_†K Ab[”] me gymwjg
wbivc[‘] (eyLvix, 11)| ††Zgwb Lv[”] I
cvbxq††K `~IYgy³ ivL††Z cv[†] ††X††K
ivLvmn wewfbœ Riæix wb††k©bv ††qv
n††q††Q| ††hgb Rv††ei AvB††b Ave^yjœvn
(iv.) †_†K ewY©Z, wZwb e††jb,
Ó††Zvgv††i evmb ††X††K iv††Lv, cvbcv††li
gyL eÜ iv††Lv, `iRv AM©jve× K††iv Ges
Gkvi mgq ††Zvgv††i wki††i[‘] mvg††b iv††Lv|
††Kbbv G mgq wRbiv Qwo††q c††o Ges
AvQi K††i| Avi ††Zvgiv wb^{av}Kv††j
evwZ,††jv (cÖ^xcmg~n) wbwf††q w[†]I|
††Kbbv B^yi KL††bv cÖ^x††ci mjZ††K ††U††b

wb†q hvq| AZtci Zv M,,nevmx†K
R|vwj†q †`q (eyLvix, 3316)|

cvnvo KvUv I e,,y wbab eÜKiY

kvšÍ I wbg©j cwi†e†ki Rb" †Kv†bv †`†ki
†gvU f,wgi AšÍZ 25 kZvsk eb _vKv
cÖ†qvRb| †`†k e†bi Rb" wba©vwiZ cÖvq
25 jvL GKí f,wgi g†a" 25 jvL GKíB
e,,nxb n†q c†o†Q (cÖ_g Av†jv, 2020)
ebf~wg K†g hvlqvi Kvi†Y †`†ki
AvenvIqv Pig fvevcbœ n†q co†Q|
AvenvIqv ^ewi AvPiY†K Av†iv ^ewi K†i
†Zvjvi †¶†Í b`-b`xi Acg,,Zy`I `Lj ,cvnvo
KZ©b BZ`vw`I f,wgKv iv†L| Gfv†e
cvnvo aÿsm n†j mswkøó GjvKvq
gvbweK I cÖvK...wZK wech©q
†Kvbfv†eB mvgjv†bv hv†e bv|G e`vcv†i
RbMY†KB m†PZb n†Z n†e Ges
miKvi†K G Rb" AvB†bi h_vh_ cÖ†qvM
Ki†Z n†e| RbMY†K Kj-KviLvbi eR©`
e,,y wbab, cvnvo KvUv, AcwiKwíZ
bMivqb, ivmvqwbK mv†ii e`envi
mxwgZKiY I cwjw_†bi e`†j Ab" _j
e`env†i AviI †ewk hZæevb n†Z n†e|
Gikv` n†q†Q, ÓAvi cvnvo, †jv†K †c†i†Ki
g†Zv †M†o w`†qwQ (KziAvb 78: 7)|
Av†iv Gikv` n†q†Q, ÓAvi cvnvo†K k³
K†i `vo Kiv†bv n†q†Q (KziAvb 88: 19)|
A_P Avgiv wb†RivB cvnvo †K†U, MvQ
†K†U, IcyKzi fivU K†i cwi†ek aÿsm
KiwQ| c,,w_ex†K emev†mi A†hvM" K†i
ZzjwQ| AvjovncvK Gikv` K†i†Qb,
Ó†Zvgiv kvwšÍ `vc†bi ci wech©q
NUv†e bv (KziAvb 7: 85)| Ab`Í ejv
n†q†Q, c,,w_ex†Z wech©q m,,wó K†i
†ewi†qv bv (KziAvb 11 : 85)| nvw`†mi
Av†jvKms†úvZ ev gnvbex (mv)-Gi wkÿv
e,,y ev MvQ gvbyll cwi†e†ki AK...wíg
eÜz| meyR MvQcvjvi DciB wbf©i K†i
gvbyllmn Ab`vb" cÖvYxi wU†K _vKv|
Rx†ei Rb" MvQcvjvi mv†jvKms†køLY
cÖwµqvi gva`†g Dw™ø` Lv" cÖ`Z K†i|
ïay Lv" ^Zix bq, mv†jvK-ms†kø†Yi mgq
Zviv Kve©b-WvBA·vBW MÖnY K†i I
Aw·†Rb †ei K†i †`q| d†j evqygÜ†j

Aw·†Rb I Kve©b-WvBA·vB†Wi fvimg`
iÿv nq| ÓMv†Qi cÖvY Av†Q G mZ`wU
cÖgvY K†iwQ†jb Dcgnv†`†ki cÖL`vZ
weAvbx m`vi RM`xk P`ª emy| A_P 14kZ
eQi c~†e© gnvbex (mv) Mv†Qi cÖvY
Av†Q G mZ`wU Avgv†i Rvwb†q
w`†qwQ†jb| nvw`†m ivm~j (mv) †_†K
Rvbw hvq, GKrb †jvK hLb AKvi†Y
GKwU Mv†Qi Wvj fv†O ZLb bex Kwig
(mv) †m †jvKwUi Pzj g,,yfv†e Uvb w`†q
e†jb, Zzwg †hgb kix†i AvNvZ ev †K†U
†M†j e`_v cvL, Mv†Qi cvZv ev Wvj
wQuo†j MvQI †Zgb e`v_v cvq|Ó
cwi†e†ki fvimg`i Rb" MvQ jvMv†bvi
wkÿv Avgiv gnvbex (mv) †_†K cvB|
wZwb e†j†Qb, Óhw` Zzwg g†b K†iv
AvMvgxKvj †KqvgZ n†e, Zey AvR
GKwU MvQ jvMvIÓ (mxxn eyLvix I
gymwjg)| nhiZ Avbvm (iv.) †_†K
ewY©Z, gnvbex (mv) e†j†Qb, Ó†Kvb
gymjgvb hw` GKwU e,,y ev MvQ †ivcb
K†i, AZtci Zv n†Z gvbyl, cvwL ev †Kvb
cÖvYx fyY K†i, Zv Zvi Rb" m`Kvi mlqve
n†e|Ó my`i I k,,Ljvc~Y© mvgvwRK
cwi†ek MV†b Lvj-wej, cyKzi-†Wvev,
iv`Ív-NvU cwi©vivi _vKv Acwinvh©|
gvby†li cÖwZ `qvi bex e†j†Qb, Cgv†bi
73wU kvLv, Zbÿ†a" m†ev©ËgwU n†jv,
jv Bjvnn Bjøvjøvn, Avi me©wbbÿwU
n†jv, iv`Ív †_†K ÿwZKviK e`´ `~ixf~Z
Kiv| wZwb Av†iv e†j†Qb, ÓcweÍZv
Cgv†bi Aa©vsk| nhiZ gyqvR web Rvevj
(iv) †_†K ewY©Z, ivm~j (mv) e†j†Qb,
†Zvgiv jvBZ cvlqvi wZbwU KvR A_v©r
cvwii NvU, iv`Ívi gv†S Ges e,,†ÿi Qvqvi
Z†j gjZ`vM †_†K weiZ _vK (eyLvix,
wKZveyZ ZvnvivZ)|

g,Z RšÍy†K cy†Z †djv

g,Z Rš`i MÜ cwi†e†ki Rb" ÿwZKi| G†Z
evqy `~l†Yi gvÍv †e†o hvq| gvbyl
mvaviYZ wewfbœ †iv†M AvµvšÍ nq|
nvw`†m ivmyj (mv.) †_†K Rvbw hvq, g,Z
kix†ii †Kv†bv Ask wZwb hÍZÍ †dj†Zb bv,
KviY Zv GKmgq iwK†q evZv†mi mv†_

wg†k †h†Z cv†i| hv cy†Z bv †dj†j Zv
 †Kv†bv cÖvYx ev cvwLi Øviv Qwo†q
 cwi†ek ~wlZ Ki†Z cv†i| G Rb" ivm~j
 (mv.) i³ ev †MvkZ gvwU†Z cy†Z †dj†Zb
 ev cy†Z †djvi wb†'©k w'†Zb| D†α§j
 †gv†gbxb nhiZ Av†qkv (iv) †_†K
 ewY©Z, wZwb e†j†Qb, bexRx (mv) hLb
 wm½v jvMv†Zb ev †jvg cwi®<vi Ki†Zb
 ev bL KvU†Zb, ZLb wZwb Zv RvbœvZzj
 evKx †Mvi-Ív†b wb†q wM†q cy†Z
 †dj†Zb| evqy ~wlZ n†q GKR†bi †ivM
 Ab"R†bi Kv†Q ~'vbsÍi nq|

Avgiv A†bK mgq nvwQ-Kvwk †'Iqvi
 mgq gyL XvwK bv| G†Z K†i wbM©Z
 ggjv I RxevYy Øviv A†b"i ýwZ n†Z cv†i|
 eZ©gv†b K†ivbvfvBivm (†Kvfw-19)
 †gvKv†ejvq nvuwP †'qvi mgq KbyB ev
 nvZ w'†q wbqš¿Y K†i nvuwP †'qvi Rb"
 wek| ^v" ms~'v I Wv³viMY civgk©
 w'†q†Qb| Bmjvg eû c~†e© G wel†q wek'
 civgk© I w'K wb†'©kbv w'†q†Q| nhiZ
 Avev ûivBiv (iv) †_†K ewY©Z, wZwb
 e†j†Qb, ivm~j (mv) hLb nuvwP w'†Zb,
 ZLb wZwb Zvui gyL †X†K wb†Zb|
 AwMœKv†Ûi d†j cy†o hvq `vjb-†KvVv,
 Nievwo, I †'vKvbcvU A†bK wKQz|
 †mLvb †_†K wbM©Z †avqv cwi†ek
 ~wlZ K†i| AwMœKv†Û Ggb me c`v_©
 cy†o evZv†m wg†k hv ^v" I cwi†e†ki
 Rb" nvwbKi| nhiZ Avev gymv Avkqvix
 (iv) †_†K ewY©Z, ivm~j (mv) e†j†Qb,
 Av,b †Zvgv†i kÎæ| hLb Nygv†Z hv†e
 ZLb Av,b wbwe†q †dj†e (mxxn eyLvix I
 gymjxg)| nhiZ Rvwei (iv) †_†K ewY©Z,
 ivm~j (mv) e†j†Qb, iv†Z †kvevi Av†M
 cvÎ †X†K ivL, gk†Ki (cvwbi cvÎ) gyL
 †X†K ivL, N†ii Rvbvqv eÛ Ki Ges evwZ
 wbwe†q `vI (mxxn gymjxg)|

a~gcv†bi gva"†gl evqy Z v cwi†ek ~wlZ
 nq| cvov Zvgv†Ki MÛ cwi†e†ki Rb"
 KZLwb ýwZKi Zv wb†q weÁvbxivI
 kw¼Z| wmMv†i†Ui wb†KvwUb GZ
 gvivZÆK ýwZKi †h, `yÔwU wmMv†i†U
 hv cwigvY wb†KvwUb Av†Q, Zv Øviv

†Kv†bv my' gvby†li †'†n cÖ†ek Ki†j
 g,,Zz" wbNv©Z| ivm~j (mv) e†j†Qb, Ø†h
 e"w³ `yM©Ûhy³ `ae" Lvq, †m †hb (H
 Ae~'vq) gmwR†'i wbKUeZx© I bv nq|Ó
 we†klA†'i g†Z, GKUv RjšÍ wmMv†i†U
 Kg K†i n†jI Pvi nvRvi wewfbœ ai†bi
 ivmvqwbK c`v_© wbM©Z nq| cÖL`vZ
 wPwKrmv weÁvbx I `vk©wbK Be†b
 wmbv, e†j†Qb, Òc,,w_ex†Z GZ a~jv-
 evwj, †avuqv I M'vm hw` gvby†li
 dzmdz†m bv XzK†Zv Zvn†j gvbyl nvRvi
 nvRvi eQi a†i my'fv†e †e†P_vK†Z
 cviZ|Ó GB AbsÍ gnvwek^ c,,w_ex bvgK
 †QvU MÖ†n Rx†ei †e†Pu_vKvi Rb"
 mKj Dcv`vb w'†q Avjœvn cwic~Y© K†i
 w'†q†Qb|

cwi†ek ~LY fiv†a bvMwiK†'i KiYxq

cÖK...wZi AbyK,j cwi†e†k GKw'b Rxeb
 mÁvi n†qWQj G c,,w_exi ey†K| evqygÛ†j
 ZLb cÖv†Yi eÛy Aw'†R†bi Afve wQj bv|
 Lv"-R†j wQj m†ZR wei×Zv| d†j
 c,,w_ex†Z Rxe†bi `aæZ weKvk mœe
 n†qWQj (`wbK BbwKjve 2010)| G†jv
 DbœZ gw-Í†@i gvbyl| weÁv†bi
 wbiæ¼zk cÖvavb" cÖwZôvi j†¶"
 c,,w_ex†Z †W†K Avbv n†jv AwZ
 hvwš¿KZv| evqygÛ†j AvR Avi †bB, †mB
 cÖ_g w'†bi wei×Zvi cÖwZkÖæwZ|
 cwi†e†k †bB Rxe†bi mywbwðZ Avk|vm|
 wbwe©Pv†i cÖK...wZ aÿsm Ges KvÛ
 Ávbnxb cwi†ek ~l†Yi ga" w'†q gvbyl
 Zv†'i my'`i G c,,w_ex†Z †W†K G†b†Q
 GK gnvwech©q (%`wbK B†ËdvK, 2019)|
 ZvB c,,w_ex Avi KZ w'b †eu†P_vK†e,
 Zvi ey†K mÁviYgvb cÖvY ev Avi
 KZw'b wU†K_vK†e! Zv iay
 c`v_©we"vi m~†Íi DciB wbf©i Ki†Q bv,
 Zv AvR wbf©i Ki†Q gvby†li Dci|
 bvMwiK†'i cwi†ek i¶vq KvH©Ki f,wgKv
 ivL†Z n†j M†elYv Avek"K| M†elYvi
 gva"†gB cwi†ek i¶vi P"v†jÄ,†jv Rvbv
 hv†e Ges mgvavb Kiv hv†e|

Dcmsnvi

AÎ M†elYvi djvd†j GUv cwijwÿZ n†q†Q, cw†ek ~lY I cÖwZKv†i Bmjv†gi wb†`©kbvejx cvjb Acwinvh© nq| Av†jvP” M†elYvq GUv Abyaveb Kiv wM†q†Q †h, Bmjvg cw†ek iyvq †h w`K Av†jvPbv Kiv Ges wb†`©k w`†q†Q Zv my`úo fvlvq eY©bv Kiv n†q†Q| agx©q w`K †_†K cÖK...wZ I cw†ek msiy†Yi cÖwZ Bmjv†gi BwZevPK g†bvfe i†q†Q| cw†ek msiy†Y Bmjv†gi `bwZK I eyw×e,,wĒK HwZn`†K ev`Í†e cÖ†qvM Ki†Z n†e| cÖvK...wZK cw†ek msiy†Y Bmjv†gi wkÿv, agx©q ,iæZ; I gvbe Rxe†bi mKj †ÿ†Í -Gi Nwbô m†ú†K©i welq,†jv mgKvjxb †cÖÿvc†U Dc`vcb I cÖKvk Kiv cÖ†qvRb| cw†ek msiy†Y Bmjvgx HwZn` I g~j`†eva Bmjv†gi %obwZK I eyw×e,,wĒK HwZn`i Awe†”Q” Ask| cÖvK,,wZK msKU DliY Ges cÖvK...wZK cw†ek msiy†Y Bmjv†gi `,,wófw½ I `bwZK AvPiY m†ú†K© gvbyl†K AewnZKiY, m†PZbZv m,,wó I ev`le cÖ†qvM we`Í...wZ Kiv `iKvi| cÖvK...wZK cw†ek I cw†ek msiy†Y ev`le I Ava”vwZ†K ,iæZ; I Bnv aÿs†mi gvivZ†K Kzdz m†ú†K© mZK© I mRvM _vK†Z n†e| bB†j wPi meyR cÖK...wZ I fvimg`c~Y© cÖvK...wZK cw†ek Aejsxvµ†g aÿsmc~e©K gvbe RvwZ†K AgiZ; `v†bi cÖnmb-cÖwZkÖæwZ wbôj n†e| me©Kv†ji Ab”Zg †miv c`v_©weÁvbx w÷†db nwKs wek^ cw†ek w`em (2006) Gi fvebv wn†m†e cÖkœ iv†Lb, ivR%obwZK mvgvwrK I cw†ekMZ wek,,•Ljv cwic~Y©| G c,,w_ex†K Av†iv 100 eQi wU†K _vKvi Rb” gvbyl†K †Kvb Dcvq Aeja^b Ki†Z n†e? mZzivs cw†ek wech©q †iv†a gvbe RvwZi `vwqZ;†eva wb†q KvR Ki†Z n†e| MZ 10-1-2001 gyα^vB†Z ÒGK †mwgbv†i MÖxb nvDR B†d†±i e`vcv†i Mfxi D†ØM cÖKvk K†i†Qb w÷†db

nwKs| wZwb e†jb, wek^ †h µgk Dò n†q co†Q, G e`vcv†i Avgv†i Kv†Q wbf©i†hvM” Z_” cÖgvY i†q†Q| Avgvi Avk¼v n†”Q, MÖxY nvDR B†d± nq†Zv †iva Kiv hv†e bv, †m†ÿ†Í gvbeRvwZi Aw`ÍZ; GK nvRvi eQ†ii g†a”B wejyß n†q hv†e| c,,w_exi AvenvIqv n†q hv†e iµ MÖ†ni g†Zv| iµ MÖ†n mvjwdDwiK GwmW e,,wó S†i| MÖxY nvDR B†d†±i weia†× kw³kvjx RbgZ ^Zwii Avnÿvb Rvwb†q wZwb Avil e†jb, GUv Kiv bv †M†j Avgiv Avi GK nvRvi eQil wUK†ev bv| evsjv†`k cÖm†½ kZvāxi †kl bvMv` †XD†qi wb†P A`,,k” n†q hv†e evsjv†`k| G Lei wK Awek^vm” bq! Awek^vm” n†jI evsjv†`k Ny†i wM†q wbôzi G c~ev©fvm w`†q†Qb cÖfvekvjx weawUk `wbK ” BwU†c†W>U-Gi †Rvnb n`vwi| Zuvi cÖKvwkZ e½†cvmvM†ii cvwbi `li e,,w× Ges wngvjq ce©Zgvjv Mj†Z _vKvq ce©Z cw†ewóZ mgZj evsjv†`k G wbg©g cw†YwZi wkKvi n†Z hv†”Q| G cw†YwZi Rb” gvbyl†K `vqx K†i cÖwZ†e`†bi BwZ Uvbw nq Gfv†e| hviv cw†ek†K aÿsm Ki†Q †`kwUi mv†_ Zv†`i mwjj mgvwa n†e A_ev Ab” †Kvb DcK~j †f†m wM†q DØv` n†e Zviv| wbnZ wKsev DØv`i msL`v `vov†e †KvwU †KvwU| hy³iv†ó”i GKwU M†elYv cÖwZôvb Rvbvq, evsjv†`k K†qK eQ†ii g†a” mvM†ii ey†K wewjb n†q hv†Z cv†i|Ö cw†ek weÁvbxiv iay evsjv†`k bq, G ZvwjKvq gvjØxc I nj`v†Ûi bvgI †i†L†Qb| GB wZb †`k mgy`a c,,ô †_†K wb†P Aew`Z| Gi KviY wn†m†e weÁvbxiv MÖxY nvDR B†d†±i cÖfve e†j D†jØL K†ib| G Kvi†Y mgy`a c,,†ôi cvwbi D”PZvi w`b w`b e,,w× cv†”Q| d†j mgy`a DcK~jq †`k,†jv cøweZ nevi Avk¼v i†q†Q| cw†ek AvBb I bxwZ _vK†jI Gi h_vh_e`envi I cÖ†qvM †bB| Z†e Avkvi K_v GB †h, eZ©gv†b †ek wKQz ms`v cw†ek msiy†Yi m†PZbZv ^Zwii †Pón Pvjv†”Qb| evsjv†`k cw†ek Av†`vjb

(evcv, 2014) I evsjv`k cwi`ek evPvuI Av`vjb (cev, 2004) bv`gi ms`v,`jvi Kvh`µg gv`S gv`S `Pv`L c`o| Kg-`ewk mevB Rv`bb, we`k^ cwi`ek `~l`Yi Rb` DbæZ wek^B `ewk `vqx| cwi`e`ki fvimg` i`vq Zv`i f~wgKvI Av`iv `ewk nIqv DwPZ| Avgv`i AZ`vPv`i c, w_`exi cwi`ek w`b w`b DEß n`q D`V`Q| d`j Rx`ei `eu`P _vKv KwVb n`q co`Q| wewfbæ `ivM AvµvšI n`q my`fv`e `eu`P _vKvi cwi`ek nviv`Q| MÖxY nvDR` B`d`±i d`j we`k^i wKQz wKQz wbæ f, wg wejxb nIqvi Avk`/v `Lv w`q`Q| Bmjv`gi mygnvb cwi`ek bxwZi Av`jv`K we`k^i cwi`ek Avevi my`i K`i M`o Zz`Z cvwi| GQvovI gviYv`I cÖwZ`hvwMZvq wjß bv nIqv, eb-ebvbx `k e,`y DRvo bv Kiv, MMbPz`x AÆvwjKv `Zwii Rb` cvnvo bv KvUv, Ges cı-cvWL wbwe`Pv`i wkKvi bv Kivi gva`g cwi`e`ki cÖwZ Avgv`i `vwqZ|kxj AvPiY cwijw`Z n`e| cvkvcvwk cÖvK...wZK M`vm AvniY myôz wbqg gvbv, Kj-KviLvbi eR`© wb`vIY h_vh_wbqg AbymiY, hvbevn`bi welv³ `avuqvi weia`× e`e`v MÖnY Kiv Ges RbmvaviY`K Av`iv AwaK m`PZb nIqvi A`bK ,iaZ;c~Y© cwi`ekevÜe c`y`c| Gi Rb` miKvi`K cÖ`qvRbxq AvBb cÖYqb K`i Zv cÖwZKv`ii e`e`v `bqvUvI AZ`šI cÖ`qvRb| GQvovI Av`jvP` M`elYvq GUvI cwijw`Z n`q`Q `h, eZ`gv`b cwi`ek wech`q `ivaK`i `h KiYxq ejv n`q`Q| Zv me`Rbxbfv`e Ab` `Kv_vI wek`fv`e ewY`Z nqwb| cwi`ek cwi`Qbæ ivLvi wel`q wb``wkZ HwkevYx I nvw`m,`jv AbymiY Kiv n`j cwi`ek `~IY `iva Kiv mæ`e n`e|

Z`m~Î

1. Avhv`,GGBP.Av.Kv.gvI. Öcwi`ek `~IY cÖwZ`iv`a Bmjvg`, `wbK BbwKjve,2018. RyjvB 6|
2. BmgvBj. Av. Av: gy. eyLvix, Avm- mvnxnwjj eyLvix, wKZveyZ ZvniVZ, Zq ms`iY, `eiaZ, 1987. Ryb|
3. Bmjvg, W. `gv. mvgvwRK M`elYv, XvKv, Zvmwgqv cvewj`KkY, 2010|

4. Kvgvj Av. `n. gy. gvbe Dbæqb `c`w`Z Bmjvg, BmjvwgK dvD`Ükb, XvKv, 2006. wW`m`i|
5. Lvb, gy Wt. cwi`ek msi`Y Bmjv`g e,`i `ive`Yi f, wgKv, `wbK B`EdvK, 2019. Ryb 5 |
6. Lvb gy. "cwi`e`ki fvimg` i`vq Bmjv`gi f, wgKv" `wbK cÖ_g Av`jv, 2018. Ryb 5 |
7. `~. e`. ey`. (DMB), `~`hv`Mi aiY I cÖKvi`f Ges evsjv`k cÖK...wZK `~`hvM, 2017|
8. cÖ_g Av`jv. ebf-wgi cwigvY wb`q weZK`| Retrieved on May 09, 2020 from <https://www.prothomalo.com/bangladesh/article/1535141/>, 2019. 17 RyjvB|
9. d.K. d. Bmjvgx `v`bxwZ, BmjvwgK dvD`Ükb evsjv`k, XvKv, 1985. Ryb |
10. hyMvšI. K`ivbvi cÖfv`e Pig `vwi`a` `e`o`Q 60 fvM. Retrieved on May 8, 2020 from <https://www.jugantor.com/todays-paper/secondedition/297374/>, 2020
11. iwK`, A. nv. evsjv`k cÖK...wZ I cwi`ek, XvKv, 2012. RyjvB|
12. mv.ü.vv. Bmjvg I cwi`ek msKU,. BmjvwgK dvD`Ükb cw`Kv 35 el©, 2q msL`v 1996. GwcÖj |
13. kvdx, gvI. gy.gy., Zdmx`i gv-Av`idzj `KviAvb, Lv`gyj nvigvBb.gv`bv `gvbIqviv, 1413 wnRwi|
14. wm. n., Av. Rv. evsjvwcvWqv GwkqvWUK `mvmvBwU, LÜ 13, 2003. Rvbyqvwi|
15. `nv`mbI nK G. `K.kv. Av. KvRx. QvKx BDwbqb cwil` cÖwk`Yg`vby`qj, (mæcvw`Z), RvZxq`vbxqmiKviBbw`wUDU (GbAvBGjwR), 29AvMviMvuI, `k`ievsjvbMi, XvKv1207, 2003|
16. nv`vR, Av.ü.gy.B. mnxn gymwjg, wKZveyZ ZvniVZ, Zq ms`iY, `eiaZ, 1999|
17. .nvmb Rvwn` `gvnvæ` wRjøyi ingvb. cvwb mæc` I Rjxq cÖwZ`ek: wecbæ wek`, 2013. `g |
18. Cherry WB. Sep.24) as an index of pollution of surface waters. Appl Microbiol. 1972. P-334-340

19. Contribution of Islam in saving Environment by Munim Khan (Editorial Column on 5th June 2015), Retrived on 5 June 2015 from <http://www.ittefaq.com.bd: banglanews24.com/islam/news/bd/398821, 2015>
20. David. *Water Pollution: Causes, Effects and Control* volume 98, Issue 7 Schwarte, C. 2007.2010. July 7
21. Environmental protection in Islamic law: an overview on potential influences for legal developments in Iraq. *Local Environment*, 8(5): 567–576.
22. Evans TM, Waarvick ATL. "Failure of the most-probable-number technique to detect coliforms in drinking water and raw water supplies" Appl Environ Microbiol. 1981, January. P-130-138
23. Hawkins, K. *Environment and enforcement: Regulation and the social definition of pollution*. United States: N. 1984
24. H. L. Penman. *Natural evaporation from open water, bare soil and grass*, DOI: 10.1098/rspa.1948.0037, 1948, April 22

25. Lubis, A. "Environmental ethics in Islam". available online at: <http://www.mandailing.org/Eng/envethicislam.html>. 1998
26. Mico, T. "*Air Pollution Causes, Effects, and Solutions*". *National Geographic*. 2016, October 9
27. Ozdemir, I. "Towards an understanding of environmental ethics from a Qur'anic perspective". available online at: <http://www.ibrahimozdemir.com/Makaleler/EnvironmentalEthics.pdf>. 2004
28. Nasir, A.M. "Islam and the protection of the environment". available online at: <http://www.isesco.org.ma/Islam.Today/Eng/13/P5.htm>. 2007
29. Partow, H. "The Mesopotamian marshlands: demise of an ecosystem". Nairobi UNEP, A report of division of early warning and assessment, 200
30. MaUN. (n.d.). World Environment Day 5 June, Retrieved from on May 8, 2020 from <https://www.un.org/en/events/environmentday/background.shtml>
31. UNEP. "A desk study on the environment in Iraq". available online at: http://postconflict.unep.ch/publications/Iraq_DS_LowRes.pdf. 2003
32. The role of Islam in keeping the environment free by Dr. Munim Khan (Editorial Column) on June 5, 2018: <http://www.protomalo.com.bd/banglanews24.com/islam/news/bd/4045197.Retrieved> 5 June 2018), 2018
33. The Daily Star. 14 kZvsk gvby†li N†i Lvevi †bB, Pig `vwi`"††o†Q 60 kZvsk: e"vK. Retrieved on May 8, 2020 from <https://www.thedailystar.net/bangla/>, 2020
34. The role of Islam in resist environment pollution by Maolana Abul Kalam Azad (an Editorial Column) on 6th July 2018: <https://www.dailyinqilab.com/article/140025.Retrieved> on 6 July, 2018
35. *Water pollution by intensive brackish shrimp farming in South-East Vietnam: Causes and options for control Agricultural Water Management, (2010). V.-97, Issue-6, June, 2010*