**Supplementary Figure 1.** Richness of invasive alien plant species (IAPS/100m2) in each survey plot along roadside and in grids

A picture containing text, map

Description automatically generated

Supplementary Figure 2. Species composition variation between non-invaded and invaded plots. The diagram was obtained from Canonical Correspondence Analysis (CCA) considering quadrat type as environmental variable. The length of the gradient was 4.1621 which was greater than 2.5 s.d. unit, therefore data was analyzed by CCA. Complete names of the species can be found in Supplementary table 1.

A close up of a map

Description automatically generated

**Supplementary table 1.** Checklist of species recorded in quadrats sampled for impact assessment.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.N** | **Name of species** | **Family** | **Abbreviation** | **Life form** | **Status** |
| 1 | *Adina cordifolia* (Roxb.) Brandis | Rubiaceae | Adi.cor | Herb | Native |
| 2 | *Aegle marmelos* (L.) Correa | Rutaceae | Aeg.mar | Tree | Native |
| 3 | *Aerva lanata* (L.) Juss | Amaranthaceae | Aer.lan | Herb | Native |
| 4 | *Ageratum conyzoides* L. | Asteraceae | Age.con | Herb | Invasive |
| 5 | *Ageratum houstonianum* Mill. | Asteraceae | Age.hou | Herb | Invasive |
| 6 | Ajuga sp. | Lamiaceae | Aju.sp | Herb | Native |
| 7 | *Albizia lebbeck* (L.) Benth | Fabaceae | Alb.leb | Tree | Native |
| 8 | *Ampelocissus latifolia* (Roxb.) Planch. | Vitaceae | Amp.lat | Climber | Native |
| 9 | *Anisomeles indica* (L.) Kuntze | Lamiaceae | Ani.ind | Herb | Native |
| 10 | *Artemisia vulgaris* L. | Asteraceae | Art.vul | Herb | Native |
| 11 | *Arundinella nepalensis* Trin. | Poaceae | Aru.nep | Herb | Native |
| 12 | *Barleria cristata* L. | Acanthaceae | Bar.cri | Herb | Native |
| 13 | *Bauhinia variegata* L. | Fabaceae | Bau.var | Tree | Native |
| 14 | *Bombax ceiba* L. | Malvaceae | Box.cei | Tree | Native |
| 15 | *Bonnaya ciliate* subsp. *ciliata* | Linderniaceae | Bon.cil | Herb | Native |
| 16 | *Callicarpa arborea* Roxb. | Lamiaceae | Cal.arb | Shrub | Native |
| 17 | *Calotropis gigantea* (L.) W.T. Aiton | Apocynaceae | Cal.gig | Herb | Native |
| 18 | *Canscora diffusa* (Vahl) R. Br. ex Roem. & Schult. | Gentinaceae | Can.dif | Herb | Native |
| 19 | *Cassia fistula* L. | Fabaceae | Cas.fis | Tree | Native |
| 20 | *Catunaregam spinosa* (Thunb.) Tirveng | Rubiaceae | Cat.spi | Herb | Native |
| 21 | *Cenchrus americanus* (L.) Morrone | Poaceae | Cen.ame | Herb | Native |
| 22 | *Chrysopogon acicula*tus (Retz) Trin. | Poaceae | Chr.aci | Herb | Native |
| 23 | *Chrysopogon zizanioides* (L.) Roberty | Poaceae | Chr.ziz | Herb | Native |
| 24 | *Cissampelos pareira* L. | Menispermaceae | Cis.par | Climber | Native |
| 25 | *Clerodendrum infortunatum* L. | Lamiaceae | Cle.inf | Shrub | Native |
| 26 | *Coccinia grandis* (L.) Voigt | Cucurbitaceae | Coc.gra | Climber | Naturalized non-invasive |
| 27 | *Colebrookea oppositifolia* Sm. | Lamiaceae | Col.opp | Shrub | Native |
| 28 | Combretum roxburghii Spreng. | Combretaceae | Com.rox | Tree | Native |
| 29 | *Conyza* sp. | Asteraceae | Con. | Herb | Native |
| 30 | *Corchorus aestuans* L. | Malvaceae | Cor.aes | Herb | Naturalized non-invasive |
| 31 | *Cordia grandis* Roxb. | Ehretiaceae | Cor.gra | Tree | Native |
| 32 | *Crotalaria prostrata* Willd. | Fabaceae | Cro.pro | Herb | Native |
| 33 | *Cryptolepis buchananii Schultes ex Roemer and schultes* | Apocynaceae | Cry.buc | Climber | Native |
| 34 | *Curculigo orchioides* Gaertn. | Hypoxidaceae | Cur.orc | Herb | Native |
| 35 | *Curcuma aromatica* Salisb. | Zingiberaceae | Cur.aro | Herb | Native |
| 36 | *Cyanotis cristata* (L.) D. Don. | Commelinaceae | Cya.cri | Herb | Native |
| 37 | *Cynodon dactylon*(L.) Pers. | Poaceae | Cyn.dac | Herb | Native |
| 38 | *Cynodon plectostachyus* (K.Schum.) Pilg. | Poaceae | Cyn.ple | Herb | Native |
| 39 | *Cynoglossum zeylanicum* (Vahl) Thunb. ex Lehm. | Boraginaceae | Cyn.zey | Herb | Native |
| 40 | *Cyperus brevifolius* (Rottb.) Hassk. | Cyperaceae | Cyp.bre | Herb | Native |
| 41 | *Cyperus esculentus* L. | Cyperaceae | Cyp.esc | Herb | Native |
| 42 | *Cyperus rotundus* L. | Cyperaceae | Cyp.rot | Herb | Native |
| 43 | *Dalbergia sissoo* DC. | Fabaceae | Dal.sis | Herb | Native |
| 44 | *Desmodium gangeticum* (L.) DC. | Fabaceae | Des.gan | Herb | Native |
| 45 | *Desmodium heterophyllum* (Willd.) DC. | Fabaceae | Des.het | Herb | Native |
| 46 | *Desmodium triflorum* (L.) DC. | Fabaceae | Des.tri | Herb | Native |
| 47 | *Desmostachya bipinnata* (L.) Stapf | Poaceae | Des.bip | Herb | Native |
| 48 | *Dichanthium annulatum*(Forssk.) Stapf | Poaceae | Dic.ann | Herb | Native |
| 49 | *Digitaria ciliaris* (Retz.) Koeler | Poaceae | Dig.cil | Herb | Native |
| 50 | *Dioscorea bulbifera L.* | Dioscoreaceae | Dio.bul | Climber | Native |
| 51 | *Dioscorea* sp. | Dioscoreaceae | Dio.sp | Climber | Native |
| 52 | *Diplazium esculentum* (Retz.) Sw. | Athyriaceae | Dip.esc | Herb | Native |
| 53 | *Ehretia laevis* (Rottler ex G. Don) Roxb. | Ehretiaceae | Ehr.lae | Tree | Native |
| 54 | *Elephantopus scaber* L. | Asteraceae | Ele.sca | Herb | Native |
| 55 | *Eleusine indica* (L.) Gaertn. | Poaceae | Ele.ind | Herb | Native |
| 56 | Equisetum *ramosissimum* subsp. *debile* (Roxb. ex Vaucher) Hauke | Equisetaceae | Equ.deb | Herb | Native |
| 57 | *Eragrostis amabilis* (L.) Wight and Arn *Beauv. ex Roem. & Schult.* | Poaceae | Era.ama | Herb | Native |
| 58 | *Euphorbia hirta* L. | Euphorbiaceae | Eup.hir | Herb | Naturalized non-invasive |
| 59 | *Evolvulus nummularius* (L.) L. | Convolvulaceae | Evo.num | Herb | Naturalized non-invasive |
| 60 | *Falconeria insignis* Royle Trimen | Euphorbiaceae | Fal.ins | Tree | Native |
| 61 | *Ficus hispida* L. fil. | Moraceae | Fic.his | Tree | Native |
| 62 | *Ficus religiosa* L. | Moraceae | Fic.rel | Tree | Native |
| 63 | *Ficus semicordata* Buch. ex J. E. Smith | Moraceae | Fic.sem | Tree | Native |
| 64 | *Fimbristylis dichotoma* (L.) Vahl | Cyperaceae | Fim.dic | Herb | Native |
| 65 | *Glycosmis pentaphylla* (Retz.) Correa | Rutaceae | Gly.pen | Tree | Native |
| 66 | *Hiptage benghalensis* subsp. *benghalensis* | Malpighiaceae | Hip.ben | Climber | Native |
| 67 | *Holarrhena pubescens* (Buch.-Ham.) Wall. ex G. Don | Apocynaceae | Hol.pub | Tree | Native |
| 68 | *Ichnocarpus frutescens* (L.) W.T. Aiton | Apocynaceae | Ich.fru | Climber | Native |
| 69 | *Imperata cylindrica* (L.) P.Beauv. | Poaceae | Imp.cyl | Herb | Native |
| 70 | *Ipomoea carnea* subsp*. fistulosa* (Mart. ex Choisy) D.F. Austin | Convolvulaceae | Ipo.car | Herb | Invasive |
| 71 | *Jatropha curcas* L. | Euphorbiaceae | Jat.cur | Tree | Naturalized non-invasive |
| 72 | *Justicia diffusa* Willd. | Acanthaceae | Jus.dif | Herb | Native |
| 73 | *Justicia simplex* D. Don | Acanthaceae | Jus.sim | Herb | Native |
| 74 | *Lagerstroemia parviflora* Roxb. | Lythraceae | Lag.par | Tree | Native |
| 75 | *Lantana camara* L. | Verbenaceae | Lan.cam | Shrub | Invasive |
| 76 | *Leucas cephalotes*(Roth) Spreng. | Lamiaceae | Leu.cep | Herb | Native |
| 77 | *Mallotus nudiflorus* (L.) Kulju and Welzen | Euphorbiaceae | Mal.nud | Tree | Native |
| 78 | *Mallotus philippensis*(Lam.) Müll.Arg. | Euphorbiaceae | Mal.phi | Tree | Native |
| 79 | *Mazus pumilio* R. Br. | Mazaceae | Maz.pum | Herb | Native |
| 80 | *Momordica charantia* L. | Cucurbitaceae | Mom.cha | Climber | Native |
| 81 | *Morus alba* Bur. | Moraceae | Mor.alb | Tree | Native |
| 82 | *Murraya koenigii* (L.) Spreng. | Rutaceae | Mur.koe | Shrub | Native |
| 83 | *Oplismenus burmanni* (Retz.) P. Beauv. | Poaceae | Opl.bur | Herb | Native |
| 84 | *Panicum repens* L. | Poaceae | Pan.rep | Herb | Native |
| 85 | *Parthenium hysterophoru*s L. | Asteraceae | Par.hys | Herb | Invasive |
| 86 | *Peperomia pellucida*(L.) Kunth | Peperaceae | Pep.pel | Herb | Naturalized non-invasive |
| 87 | *Phyllanthus urinaria* L. | Phyllanthaceae | Phy.uri | Tree | Native |
| 88 | *Phyllanthus virgatus*G.Forst. | Phyllanthaceae | Phy.vir | Tree | Native |
| 89 | *Pogostemon benghalensis* (Burm.f.) Kuntze | Lamiaceae | Pog.ben | Herb | Native |
| 90 | *Pouzolzia zeylanica* (L.) Benn. & R. Br. | Urticaceae | Pou.zey | Herb | Native |
| 91 | *Psidium guajava* L. | Myrtaceae | Psi.gua | Tree | Naturalized non-invasive |
| 92 | *Pteris vittata* L. | Pteridaceae | Pte.vit | Herb | Native |
| 93 | *Saccharum bengalense* Retz. | Poaceae | Sac.ben | Herb | Native |
| 94 | *Saccharum spontaneum* L. | Poaceae | Sac.spo | Herb | Native |
| 95 | *Senegalia catechu* (L.f.) P.J.H Hurter and Mabb | Fabaceae | Sen.cat | Tree | Native |
| 96 | *Senna occidentalis* (L.) Link | Fabaceae | Sen.occ | Herb | Invasive |
| 97 | *Senna tora* (L.) Roxb. | Fabaceae | Sen.tor | Herb | Invasive |
| 98 | *Sesamum indicum* subsp. *indicum* | Pedaliaceae | Ses.ori | Herb | Native |
| 99 | *Setaria flavida* (Retz.) Veldkamp | Poaceae | Set.fla | Herb | Native |
| 100 | *Shorea robusta* A. DC. | Dipterocarpaceae | Sho.rob | Tree | Native |
| 101 | *Sida cordata* (Burm. fil.) Borss. Waalk. | Malvaceae | Sid.cor | Herb | Native |
| 102 | *Sida cordifolia* Forsk. | Malvaceae | Sid.cor | Herb | Naturalized non-invasive |
| 103 | *Sida rhombifolia* L. | Malvaceae | Sid.rho | Herb | Naturalized non-invasive |
| 104 | *Solanum virginianum* L. | Solanaceae | Sol.vir | Herb | Native |
| 105 | *Stephania* sp. | Menispermaceae | Ste.sp | Climber | Native |
| 106 | Streblus asper Lour. | Moraceae | Str.asp | tree | Native |
| 107 | *Syzygium cumini* (L.) Skeels | Myrtaceae | Syz.cum | Tree | Native |
| 108 | *Themeda villosa*(Lam.) A. Camus | Poaceae | The.vil | Herb | Native |
| 109 | *Tiliacora acuminata* (Lam.) Hook. fil. & Thoms. | Menispermaceae | Til.acu | Climber | Native |
| 110 | *Trichosanthes dioica* Roxb. | Cucurbitaceae | Tri.dio | Climber | Native |
| 111 | *Tridax procumbens* L. | Asteraceae | Tri.pro | Herb | Naturalized non-invasive |
| 112 | *Urena lobata* L. | Malvaceae | Ure.lob | Shrub | Native |
| 113 | *Vitis* tetraflorum | Vitaceae | Vit.sp | Climber | Native |
| 114 | *Woodfordia fruticosa* (L.) Kurz | Lythraceae | Woo.fru | Shrub | Native |
| 115 | *Xanthium strumarium* L. | Asteraceae | Xan.str | Shrub | Invasive |
| 116 | *Ziziphus mauritiana* Lam. | Rhamnaceae | Ziz.mau | Shrub | Native |

Supplementary Table 2a. Summary results of Detredend Correspondence Analysis (DCA)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | DCA1 | DCA2 | DCA3 | DCA4 |
| Eigen values | 0.7004 | 0.7956 | 0.4966 | 0.3333 |
| Decorana values | 0.8477 | 0.6275 | 0.3955 | 0.3333 |
| Axis lengths | 4.2213 | 4.6218 | 2.4084 | 1.7715 |

Supplementary Table 2b. Summary results of Canonical Correspondence Analysis (CCA)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Inertia | Proportion | Rank |
| Total | 4.6497 | 1.0000 |  |
| Constrained | 0.9694 | 0.2083 | 7 |
| Unconstrained | 3.6803 | 0.7915 | 10 |