

## Flora of Kansai Basin at Lalgarh of Paschim Medinipur District in West Bengal with Special Reference to Eco-degradation in India

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**Abstract:** Flora is systematic enumeration of plant species in a given community of a given ecosystem. It reflects the quality as well as the health of the ecosystem because the floral community are the producers which support the growth and development of ecosystem. It reflects the inflow of nutrients and recycling processes through bio-geochemical processes. Indiscriminate use of different chemicals and articles for different purposes produced by different leading factories for the modern development of human societies causes threat to the environment and loosing the biodiversity which significantly destroying the environment rapidly. The main reason is increasing load of human population which damaging the environment and degrading the ecosystem by pollution directly or indirectly. The present paper reflects the 57 floral elements under 29 families and the community structure including eco-degradation process which could be a starting point of extension through community research by a group of workers in future. Hope that interested people will come and take that opportunity to record the problems for future study and assessment about the dwindling ecosystem for our existence at Lalgarh.

**Keywords:** Kansai Basin, Flora, Community composition and Eco-degradation, Sustenance

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### I. Introduction

Flora is a composition of common plant elements in and ecosystem which plays a significant role in the environment to develop community. Population is a general term that emphasised on a particular data to enumerate the flora through numerical study. The present study broadcasts Kansai Basin flora at Lalgarh of Paschim Medinipur District in West Bengal. In a static way the floral elements are not static but dynamic due to enforcement of power through nutrient flow and other stress. As the river is floating and the current is maximum during monsoon so the basin and bank elements change their composition time to time. Some parts of the Bank of Kansai River are eco-fragile so the continuous change of habitat and land pattern is going on which manifests a havoc change in the structure and composition of species and ultimately change the community composition in non-climax vegetation. Waste land nearer to the bank is going threat due to anthropogenic purposes and soil erosion is another factor that governs the havoc change hitherto to change the dynamics of vegetation. As a whole the changing habitats changing the composition from time to time also from season to season. It is because some plants become submerged or completely merged during complete flow of water during monsoon, so no vegetation was there in the river basin during monsoon to late monsoon. The only late monsoon and winter broadcasts typical vegetation mainly herbs along the moist bank of river Knasai (Kansawati) at Lalgarh of Binpur-I Community Development Block under Jhargram sub-division which is going to be Jhargram District very soon. The early summer and pre monsoon change the vegetation which having maximum phenological change due to stress prone condition. The plants get flowers and fruits as early as possible which could be due to a natural threat. The other part of the river sites e.g. high ridge river bank is very dry with no herbs during monsoon to late summer except a few cacti and other succulent shrubs along with some thorny plants. The interesting episode is that the centre of the river basin shows paddy (rice) cultivation during winter to early summer when the river having no serious water flow even the river is looking dead. A gentle flow of water discharges the typical propagules blowing from Chotanagpur plateau of Jharkhand state and causing the onset of sprouting vegetation very fast and in vivid form because the time is limited. As soon as the monsoon started, the propagules cut off the vegetative part and settle the plant above the high ridge of the bank where the settlement becomes safe to community development. The herbs available in the Basin of Kansai River are mostly ephemeral because they complete the life span very faster compared to the same plants available in other sites even some plants are now not physically visible due to scorching of heat due to non-availability of water. But interesting episode is that maximum species in embankment area presenting underground propagules for growth in the next year sprout though the aerial parts become dead. That vivid explanation may be made by lesser spear grass or love Grass (*Chrysopogon aciculatus*) in high ridge of river bank Kansai where they buried rhizome part

for their presence in a safe custody. Drought escaper easily escaping drought stress and shows propagules before the onset of hot summer for their work as a challenge bit. Commas, pappus and dry achenes are good examples of such type found in *Calotropis gigantea*, *Eupatorium odoratum* and *Clematis* spp. very faster movement of double sided commas in *Alstonia scholaris* found in the same site that rapidly disseminate and establish new plant here and there. Dry and hard coated seeds found in *Ziziphus* spp. and *Martynia* sp. and even in *Xanthium* spp. which get easy settlement along the bank of river Kansai and sprout during the onset of monsoon. In the present study trees, herbs and shrubs of 57 species have been studied well under 29 families to know the pattern of ecological significance and role for community development at Kansai Basin of Lalgarh area in Paschim Medinipur District. Eco-degradation causing loss of ecosystem, loss of habitats and loss of species through huge collection of resource by local people there by. But there was no proper management so that the present study argued to generate traditional knowledge as well as suggestion to pristine the ecosystem healthy wealthy and sound which could be the slogan in near future to save the environment to flourish the revived ecosystem for our existence and for our sustenance.

## II. Study Area

Study area falls under Binpur-I community development block of Jhargram sub-Division in Paschim Medinipur District of West Bengal state, India. It is a lower tract of Chotanagpur plateau with lateritic red soil along with alluvial parent rocky substances including high and low ridge. The tract is Lalgarh area along the Basin of Kansai River that flows towards Dherua of Paschim Medinipur District. The bank has river plateau having shrubberies, waste land, fallow land and undulated degraded land with high erosive soil profile. Significant loss of soil is due to flow of water during heavy monsoon and lower drainage system flow the heavy mass of soil through mullah and gully. Extremely stiffly bank and moist community have been taken as habitat for the study of flora and ecosystem as a whole to record the vegetation along with environmental components. Only the winter season was taken in to account and study field was inclusively nearer to Lalgarh Government College and Model School of Lalgarh along the slopes and almost entirely the river basin with moist and dry community of plants in the said area.

## III. Materials And Methods

Study was conducted in the riverbank and basin of Kansai at Lalgarh with a programme scheduled for study of ecosystem and flora only for winter season when most of the composition available as dead or almost dry. The season was winter starts since October to January with significant lower temperature *i.e.* 9-10 degree centigrade during January and 26-28<sup>0</sup> C during October. The degree of variation during the study period ranged between 9-28<sup>0</sup> C degree centigrade with varied moisture content in both the waste land available at high ridge of the river bank and low lying moist community nearer to flow of water at the bottom of the river. Moisture content ranged between 7 and 14% in bank soil and sandy soil respectively for the moist community. Regular visit have been made in the study sites along with the students of Botany Department of Lalgarh Government College, Lalgarh, Paschim Medinipur, West Bengal. Photographs were taken from field. Plant specimens were collected time to time to analyse the material at Ecology Laboratory of Botany Department, Lalgarh Government College. Soil was carried out to know the moisture content study. Temperature metre was used to study the temperature. Flora and monographs along with the literature was consulted to identify the plants. Herbarium specimens was prepared and housed in the laboratory of Lalgarh Govt. College for further study. Phenological studies were continued since July 2016 till date with the parity of plant material available in Jhitka Forest under Paschim Medinipur Forest Division. Some living plant materials were placed at earthen pot to know the vegetative stage of the plant under artificially nurtured condition. Literature 1-42 was used to support the document and also for further study.

## IV. Results And Discussion

The present study revealed 57 plant species under 56 genera and 29 families in which 9 plant species under monocotyledons and 48 species under dicotyledons. The ratio of monocot to dicot species found was 1:5.3. Here, highest frequency of species was encountered in case of families like Asteraceae (6) and Poaceae (5) followed by Lamiaceae (4). Lowest frequency *i.e.* lowest number encountered in families like Acanthaceae, Alangiaceae, Asclepiadaceae, Capparaceae, Combretaceae, Cucurbitaceae, Ehretiaceae, Martyniaceae, Meliaceae, Onagraceae, Rutaceae, Scrophulariaceae, Solanaceae and Ulmaceae (Table 1). Some plant species were very important because they provide economically significant yield as timber, fruits, flowers, flosses and whole plants as medicinal one. The high ridge had a less to lesser number of grasses as because during winter almost all sites become dry that cannot produce the vegetative growth except a few thorny plants like *Solanum xanthocarpum* (Fig. 6) and *Ziziphus* sp.. The only plant *Tridax procumbens* (Fig. 16) showed greenish patch along with a grass like *Cynodon* sp. which have immense importance to the grazed animals. *Calotropis gigantea*

was used by goat and buffaloes as fodder which was non-fodder plant for other animals. The small patch of rice field in and around the river bed showed minimal growth of *Coldenia procumbens* (Fig. 25) which was a anticancer plant under the family Ehretiaceae may be used for future study that have a controversial position i.e. under the family Ehretiaceae or Boraginaceae or Cordiaceae. No flower or fruits have been recorded till the end of the January. Scattered patch of dry grass like *Chrysopogon aciculatus* (Golden false beard grass) have been recorded which have underground rhizome will revive soon during monsoon. Some important medicinal plants like *Azadirachta indica*, *Aristolochia indica*, *Ichnocarpus frutescens* and *Hemidesmus indicus* were frequently found in and around the study site during monsoon but not now seen. It could be a repository for future study and research. Some climbers like *Tiliacora acuminata*, *Combretum decandrum* and *Capparis* sp. were found as hedge along with important medicinal plant like *Cocculus hirsutus* in the study site. Small herbaceous plants like *Dentella repens*, *Spermacoce hispida*, *Ocimum americanum*, *Eragrostis tenella*, *Cyperus kyllinga*, *Tragia hispida* were found as common weeds which showed flowers but in normal condition none place showed the same plant under flowering condition. This is because all plants of moist community became ephemeral rather than normal. This could be a new angle for further study and research in the said area from different field.

**Table 1.** Plants of Kansai basin along with English, Bengali and family name(s)

| SL. No. | Scientific Name  | English Name                                      | Bengali Name                 | Family                       |
|---------|--|---|------------------------------|------------------------------|
| 1.      | <i>Ipomoea carnea</i> Jacq. ssp. <i>fistulosa</i> (Mart. Ex Choisy) D. Austin  | Bush Morning Glory/Pink Morning Glory             | Uridam/Jhoradan/<br>Ha-Kalmi | Convolvulaceae               |
| 2.      | <i>Phoenix sylvestris</i> L.   | Date Palm   | Khejur                       | Areaceae                     |
| 3.      | <i>Lippia geminate</i> Kunth   | Bushy Matgrass/Pittona                            | Motmotia ful                 | Verbenaceae                  |
| 4.      | <i>Limonia acidissima</i> L.<br>= <i>Feronia elephantum</i><br>= <i>F. limonia</i>   | Elephant-apple                                    | Kothbel/Kaith                | Rutaceae                     |
| 5.      | <i>Saccharum spontaneum</i> L.   | Serio grass                                       | Kans ghas                    | Poaceae/<br>Graminae         |
| 6.      | <i>Solanum xanthocarpum</i> Schard & Wendl.  | Yellow berried Night shade                        | Kantikarii                   | Solanaceae                   |
| 7.      | <i>Pithecellobium dulce</i> (Roxb.) Willd.   | Manila Tamarind                                   | Jilapi/Jalebi                | Mimosaceae                   |
| 8.      | <i>Vachelia nilotica</i> (L.) P. J. H. Hurter & Mabb.<br>= <i>Acacia nilotica</i> (L.) Willd. ex. Dellile<br>= <i>A. Arabica</i> (Lam.) Willd. | Gum Arabica/<br>Prickly Acacia                    | Babla/Babul                  | Mimosaceae                   |
| 9.      | <i>Croton bonplandianum</i> Baill.   | Bonpland's Croton                                 | Ban Tulsi                    | Euphorbiaceae                |
| 10.     | <i>Ziziphus</i> sp.  | Shrubby Boir                                      | Pal Kul                      | Rhamnaceae                   |
| 11.     | <i>Borassus flabellifer</i> L.   | Asian Palmyra Palm/Toddy Palm                     | Tal                          | Areaceae/<br>Palmae          |
| 12.     | <i>Oryza sativa</i> L.   | Asian Rice  | Dhan                         | Poaceae                      |
| 13.     | <i>Evolvulus nummularius</i> (L.) L.   | Agracejo/Rastrero                                 | Bhnui-Akra                   | Convolvulaceae               |
| 14.     | <i>Cyperus rotundus</i> L.   | Nutgrass/Nut sedge                                | Mutha                        | Cyperaceae                   |
| 15.     | <i>Desmodium triflorum</i> (L.) DC.  | Three flower beggarweed/<br>Creeping tick trefoil | Kudaliya                     | Fabaceae                     |
| 16.     | <i>Tridax procumbens</i> L.  | Tridax daisy/Coat buttons                         | Tridaksha                    | Asteraceae/<br>Compositae    |
| 17.     | <i>Spermacoce hispida</i> L.   | False button weed                                 | Madanghati                   | Rubiaceae                    |
| 18.     | <i>Mecardonia procumbens</i> (Mill.) Small   | Baby jump-up                                      | Garur bramhi                 | Scrophulariaceae             |
| 19.     | <i>Eclipta prostrata</i> L.<br>= <i>E. alba</i> (L.) Hassk.  | False daisy                                       | Kesut/Kesta                  | Asteraceae                   |
| 20.     | <i>Cassia tora</i> L.  | Sickle Pod/Sickle Senna                           | Jhunjhuni                    | Caesalpinaceae               |
| 21.     | <i>Cynodon dactylon</i> (L.) Pers.   | Bermuda grass                                     | Durba/Duba                   | Poaceae                      |
| 22.     | <i>Kylinga brevifolia</i> Rottb.   | Green head sedge/Short leaf spike sedge           | Nirbis                       | Cyperaceae                   |
| 23.     | <i>Blumea oxyodonta</i> DC.  | -   | Kukshima                     | Asteraceae                   |
| 24.     | <i>Eragrostis tenella</i> (A.Rich.) Hochst. ex Steud   | Love Grass/Feather love grass                     | -                            | Poaceae                      |
| 25.     | <i>Coldenia procumbens</i> L.  | -   | Tripunkhi                    | Ehretiaceae/<br>Boraginaceae |
| 26.     | <i>Helichrysum luteoalbum</i> (L.) Rehb.<br>= <i>Gnephaliun luteoalbum</i> L.  | Jersey Cudweed/<br>Weedy Cudweed                  | Scora                        | Asteraceae                   |
| 27.     | <i>Stereblus asper</i> Lour.   | Sand Paper tree                                   | Seora                        | Moraceae                     |
| 28.     | <i>Morinda angustifolia</i> Roxb.  | Narrow leaved Indian Mulberry                     | Daruharidra                  | Rubiaceae                    |
| 29.     | <i>Azadirachta indica</i> A. Juss.   | Margosa tree                                      | Neem/Nim                     | Meliaceae                    |
| 30.     | <i>Clerodendrum viscosum</i> Vent.   | Clerodendrum                                      | Ghetu/Glory tree             | Verbenaceae                  |

|     |  |   |   |                              |
|-----|--|---|---|------------------------------|
| 31. | Ziziphus oenoplea (L.) Miller  | Jackal jujube/<br>Wild Jujuba   | Kankul  | Rhamnaceae                   |
| 32. | Capparis sepiaria L.   | Caper bush  | Kaliakra  | Capparaceae                  |
| 33. | Cocculus hirsutus (L.) Diels   | Broom Creeper   | Dadaya/Huyer                                    | Menispermaceae               |
| 34. | Caesalpinia bonducella (L.)<br>Fleming<br>=C. bonduc (L.) Roxb.                                    | Nickernut/<br>Fever Nut/Physic Nut  | Nata  | Caesalpinaceae               |
| 35. | Lantana camara L.  | Yellow sage   | Kutus   | Lamiaceae                    |
| 36. | Dentella repens (L.) J.R.Forst & G.<br>Forst   | Creeping lick stoop   | Bhumipat phool                                  | Rubiaceae                    |
| 37. | Ludwigia perennis L.   | Cylindric fruit primrose-<br>willow                                       | Jal labanga/Ban<br>labanga                      | Onagraceae                   |
| 38. | Ocimum americanum L.   | Hoary basil   | Ban tulsi                                       | Lamiaceae/<br>Labiatae       |
| 39. | Ficus benghalensis L.  | Banyan tree   | Bot   | Moraceae                     |
| 40. | Jatropha gossypifolia L.   | Black physic nut/<br>Bellyache bush/<br>Cotton-leaf physicnut             | Bharenda  | Euphorbiaceae                |
| 41. | Coccinia grandis (L.) Voigt.   | Ivy gourd/<br>Scarlet gourd   | Tite Kundri                                     | Cucurbitaceae                |
| 42. | Tephrosia purpurea (L.) Pers.  | Wild Indigo   | Ban Nil/Lahamori<br>/Sarpunkha                  | Fabaceae                     |
| 43. | Tiliacora acuminata (Lam.) Hook.<br>f. & Thoms.  | Teliakoara  | Teli lata                                       | Menispermaceae               |
| 44. | Chrysopogon aciculatus (Retz.)<br>Trin.  | Mackie's pest/<br>Lesser Spear grass                                      | Chorkanta                                       | Poaceae                      |
| 45. | Tragia hispida Willd.  | Stinging Neetle   | Bichuti   | Euphorbiaceae                |
| 46. | Martynia annua L.  | Tiger's Claw  | Baghnokh  | Martyniaceae<br>/Pedaliaceae |
| 47. | Calotropis gigantea (L.) Ait.  | Madar/Swallow wort  | Akanda  | Asclepiadaceae               |
| 48. | Eupatorium odoratum L.<br>=Chromolaena odorata (L.) R.M.<br>King. & H. Rob.                        | Christ mas bush/<br>Common flosch<br>flower/Siam weed/jack in<br>the bush | Ban<br>karpur/Kaslimasala/<br>Sial muti/Banmara | Asteraceae                   |
| 49. | Combretum decandrum Jacq.  | -   | Atang   | Combretaceae                 |
| 50. | Dicliptera bupleuroides Nees   | -   | Lal Jhanti/lal sira                             | Acanthaceae                  |
| 51. | Hyptis suaveolens (L.) Poit.   | Bush tea-bush   | Bilati tulsi                                    | Lamiaceae                    |
| 52. | Anisomeles ovata W. T. Aiton<br>=A. indica (L.) Kuntze.  | Catmint   | Gopali/Gobru                                    | Lamiaceae                    |
| 53. | Alangium salvifolium (L. f.)<br>Wangerin   | Sage-leaved alangium  | Ankar/Ans phal                                  | Alangiaceae                  |
| 54. | Holoptelea integrifolia (Roxb.)<br>Planch  | Jungle cork wood tree   | Nata karanja/Challa                             | Ulmaceae                     |
| 55. | Haldina cordifolia (Roxb.) Rids.<br>=Adina cordifolia (Roxb.) Benth.<br>& Hook. f. ex B. D. Jacks. | Heart leaf Adina  | Karam   | Rubiaceae                    |
| 56. | Sphaeranthus indicus L.  | East Indian Globe thistle   | Chagal<br>nudi/Mundi/<br>Gorkhmundi             | Asteraceae                   |
| 57. | Tamarindus indica L.   | Tamarind  | Tentul  | Caesalpinaceae               |

N.B.: = Synonym

## V. Figures in Result (Fig. 1 -53)



Fig. 1 Flowers of *Ipomoea carnea* of Convolvulaceae-Stem used as fuel wood, living fence



**Fig. 2** *Phoenix sylvestris* of Areaceae (Eng.–Date palm) is under threat need immediate conservation. The plant is toddy making and molasses yielding plant also get edible fruits



**Fig. 3** *Lippia geminata* of Verbenaceae—a weed of River basin at Lalgarh, Paschim Medinipur



**Fig. 4** *Feronia elephantum* Correa of Rutaceae yield edible fruits used to prepare chutney (young plant)



**Fig. 5** Huge hedge (*Kash-Saccharum spontaneum* L.) in river basin and *Acacia* a common vegetation spectrum along the basin of Kansai



**Fig. 6** *Solanum xanthocarpum* of Solanaceae showing fruits and flowers an important medicinal plant



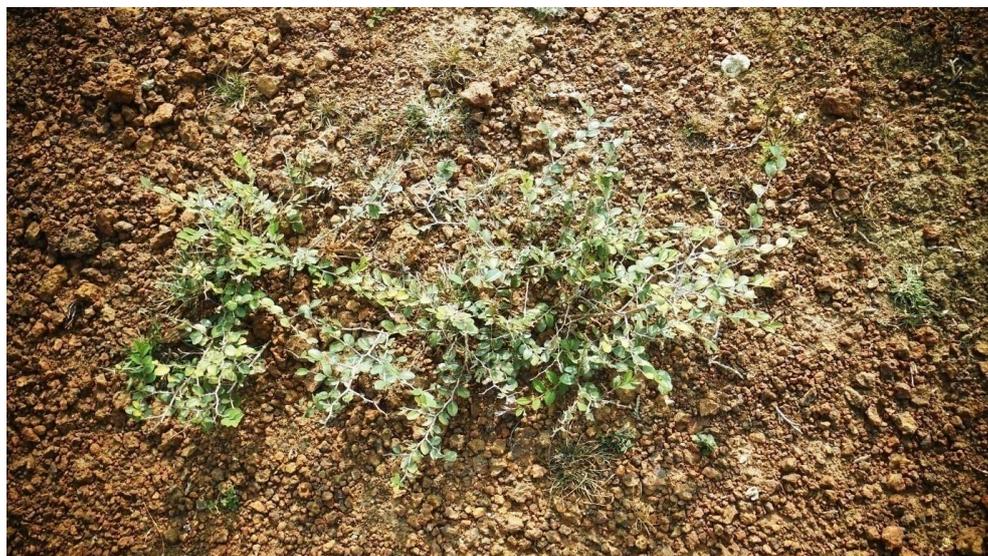
**Fig. 7** Paddy seedlings at Kansai basin behind the *Pithecellobium dulce* (Mimosaceae) plant during winter before shifting in a paddy field.



**Fig. 8** Vegetation of degraded land filled with *Acacia nilotica* trees; note that the land is undulated



**Fig. 9** *Croton bonplandianum* of Euphorbiaceae-A common medicinal plant used to treat the toothache.



**Fig. 10** *Ziziphus* sp. of Rhamnaceae in degraded land of Kansai river bank at Lalgargh



**Fig 11** *Borassus flabellifer* of Arecaceae an important economic plant used to prepare molasses and toddy, note that the plant is under threat need conservation



**Fig. 12** Paddy/Rice field (*Oryza sativa* L.) in Kansai basin at Lalgarh of Paschim Medinipur



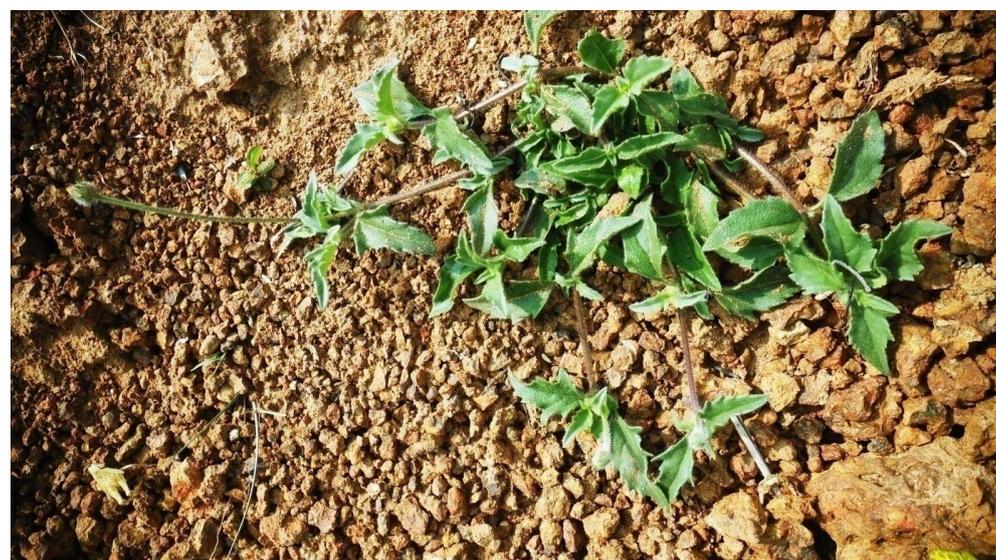
**Fig. 13** *Evolvulus nummularius* L. of Convolvulaceae-a medicinal plant



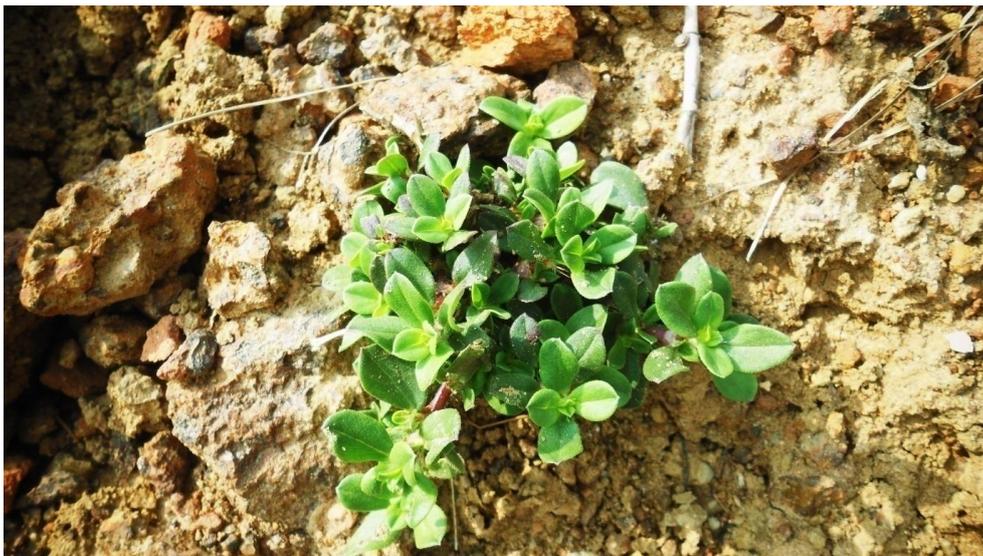
**Fig. 14** *Cyperus rotundus* L. of Cyperaceae-a sedge of river bank Kansai



**Fig. 15** *Desmodium triflorum* (L.) DC. of Fabaceae-A weed and medicinal plant is a source of *Rhizobium* sp.



**Fig. 16** *Tridax procumbens* L. of Asteracea is a medicinal plant, leaf decoction is used to stop bleeding



**Fig. 17** *Spermacoce hispida* L. of Rubiaceae during winter at Kansai river bank of Lalgarh



**Fig. 18** *Mecardonia procumbens* (Mill.) Small of Scrophulariaceae-a medicinal plant is called Gorur Brmhi



**Fig. 19** *Eclipta prostrata* L. of Asteraceae-an important medicinal herb also used to prepare dye



**Fig. 20** *Cassia tora* L. of Caesalpiniaceae-A medicinal plant and also is a source of *Rhizobium* sp.



**Fig. 21** Dove grass i.e. *Cynodon dactylon* (L.) Pers. of Poaceae is a fodder grass and also a medicinal plant



**Fig. 22** *Kyllinga brevifolia* Rottb. of Cyperaceae is a perennial herb and is used as soil binder, fodder etc.



**Fig. 23** *Blumea oxyodonta* DC. of Asteraceae is a medicinal plant, leaf decoction used to stop bleeding



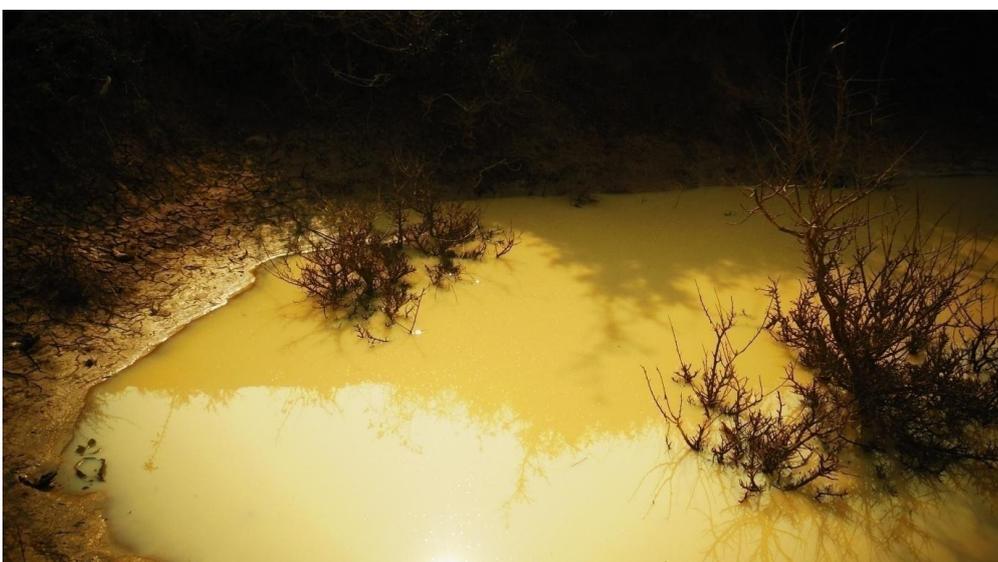
**Fig. 24** *Eragrostis tenella* (A. Rich.) Hochst. ex Steud of Poaceae- an important fodder plant



**Fig. 25** *Coldenia procumbens* L. of Ehretiaceae (=Boraginaceae/Cordiaceae) –an anticancer plant



**Fig. 26** *Gnaphalium luteoalbum* L. of Asteraceae in river bank of Lalgarh



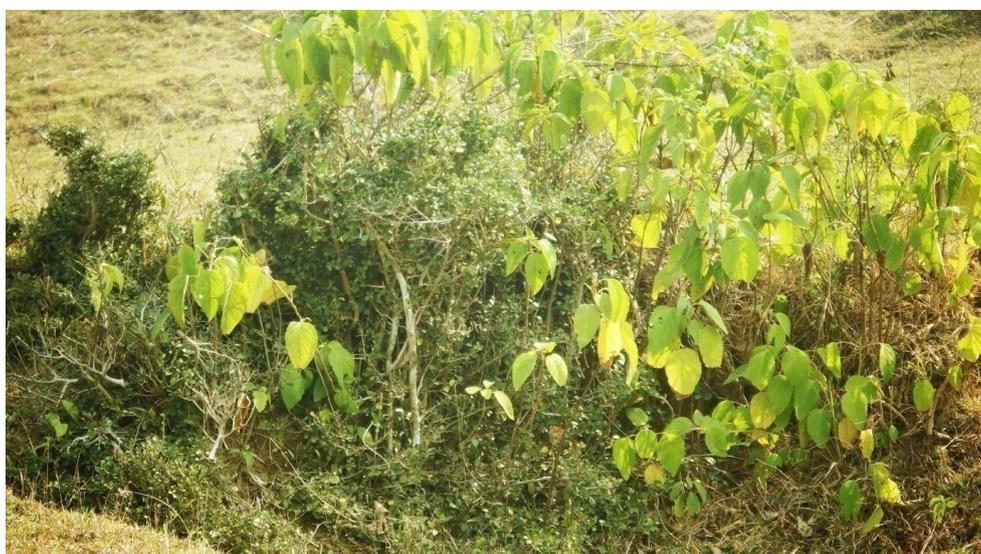
**Fig. 27** A water body near river bank with sub-merged *Streblus asper* Lour. Plant



**Fig. 28** *Morinda angustifolia* Roxb. of Rubiaceae –shrubby plant in the margin of temporary water body



**Fig. 29** Neem Tree showing compound leaves (*Azadirachta indica* A. Juss. )- important medicinal plant.



**Fig. 30** Dark green dwarf plant at the left is *Streblus asper* Lour. and yellow green broad leaved plants are *Clerodendrum viscosum* Vent. (Beng.-Seora and Ghetu association)



**Fig. 31** *Ziziphus oenoplea* (L.) Mill. of Rhamnaceae-a plant used to prepare living fence



**Fig. 32** *Capparis sepiaria* L. of Rhamnaceae is a medicinal plant



**Fig. 33** *Cocculus hirsutus* (L.) Diels of Menispermaceae-used to prepare green curd from leaf decoction



**Fig. 34** Plant with compound leaf is *Caesalpinia bonducella* (L.) Fleming of Caesalpinaceae-an anthelmintic plant, roasted kernel of seeds used widely.



**Fig. 35** Degraded site of Kansai and backside of the river bank showing Lalgarh Government College



**Fig. 36** Landscape showing Amkala Bridge and educational institute-a neglected site now going to flourish



**Fig. 37** Newly built model School opposite to which exhibit picnic spot showing plastic pollution need awareness to protect environment



**Fig. 38** Seriously damaged site under threat due to plastic pollution lead to vision pollution also



**Fig. 39** Old Banyan tree (*Ficus benghalensis* L. tree) now going to vanish from the site as the bank is fragile



**Fig. 40** *Jatropha gossypifolia* L. plants of Euphorbiaceae in front of date palm, right one whole plant



**Fig. 41** Climber with white flower is a plant *Coccinia grandis* (L.) Voigt. of Cucurbitaceae-medicinal plant used in boils



**Fig. 42** Dark green patches in river Kansai at Lalgarh showing mingled threads of algae dominated by *Spirogyra* spp.



**Fig. 43** Degraded river belt showing least birds due to lesser availability of fish and zoo plankton, note that the white bird is Egret



**Fig. 44** Dry Love grass *i.e.* *Chrysopogon aciculatus* (Retz.) Trin. of Poaceae during winter though the underground rhizome is still alive



**Fig. 45** Lone Little Cormorant in river basin of Kansai at Lalgarh



**Fig. 46** Degraded land used as grazing field in front of Lalgarh Government College at Lalgarh, note that huge Acacia trees growing here and there which is used as fodder tree



**Fig. 47 (a-c)** *Calotropis gigantea* (L.) Ait. of Asclepiadaceae is nearer to river Bank- a medicinal plant and a fodder plant



**Fig. 48** *Eupatorium odoratum* L. of Asteraceae and exotic species established everywhere as exotic species



**Fig. 49** (a-b) *Tragia hispida* Willd. of Euphorbiaceae is a medicinal plant



**Fig. 50** *Spharenthus indicus* L. of Asteraceae



Fig. 51 *Ocimum americanum* L. of Lamiaceae (Labiatae)- An important medicinal plant of waste land



Fig. 52 Sankhasini Sacred grove conserving Tamarind tree, right one 'idols' of Sacred grove beneath the tree (*Tamartindus indica* L. of Caesalpiniaceae)



Fig 53 (a-c) Thermocol and plastic pollution in front of Lalgarh Govt. College, Sacred grove, picnic spot

## VI. Conclusion

The study is important because this is the first time report on the bank community of Kansai at Lalgarh which could be the starting point of taxonomic as well as ecological research. The record may be a general Key guide to the beginners and amateur field worker in the field of Botany, Zoology, Environmental Study and nature lovers to use the data for future study. The land planner and policy maker may be made the new plan to protect the habitat as the habitat is facing threat. Pollution and human pressure causing the site more and more fragile which need immediate protection to protect the site threat less or more pristine.

### Acknowledgements

I acknowledge authority of my parent organization *i.e.* Higher Education Directorate, Govt. Of West Bengal, India for giving me transfer from Darjeeling Govt. College, Darjeeling to Lalgargh Govt. College, Lalgargh, Paschim Medinipur for teaching and extension including research. I thank my students of Botany Deptt. for help as and when required. Local people who helped me in field are well acknowledged.

### Further Readings

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