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DIVERSITY OF ANGIOSPERMS AND THEIR CONSERVATON STATUS IN RAKAB FOREST, A SACRED GROVE IN PURULIA DISTRICT, WEST BENGAL

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Abstract: The assessment on the plant biodiversity was carried out during February 2024 to June, 2024 in Rakab Forest at Keshargarh in Purulia district, West Bengal, India. A total of **123** plant species were recorded from the study area. Among them one family was gymnosperm and all other families were angiosperms. Among those angiospermic families Fabaceae comprises highest number of species i.e.**14** species, followed by Apocynaceae comprises **11** species, Asteraceae comprises **09** species, Euphorbiaceae, Lamiaceae and Poaceae contributes **05** species of each. In the present study, the conservation status of the plant specimens, given by IUCN has been mentioned. According to the information provided by IUCN, **55** species were in Least Concern(LC), **01** species was in Data Deficient(DD), **02** species were in Near Threatened (NT) and **01** species was in Endangered(EN) categories among the plants collected from the study area.This work was accomplished by collection, documentation, identification and description of the plant specimens.

Key words: Angiosperms, Diversity, Conservation status, Rakab Forest, Purulia.

I. INTRODUCTION

Biodiversity is also known as biological diversity which is the heterogeneity of all living beings and their interactions with the environment. It encompasses with full range of different life form, including plants, animals, microorganisms even human being also along with their diverse habitat. Present existing biodiversity is the outcome of evolution of billion years, constructed by continuous natural process and influence by the variation of different species.

India has a great biodiversity for its climatic conditions. This country has different climatic zones and these support the plants and animals for their survival. At the level of species and ecosystem India ranks 6th among 12 mega biodiversity countries in world. It is the home to more than 45,000 floral species and over 90,000 faunal species.

Biodiversity itself not only the measure of different species, but also it incorporates genetic diversity within the species. The critical importance of biodiversity conservation is multidimentional such as ecological, economical, social, and ethical[1].The main reasons behind the loss of biodiversity are the consequences of habit and habitat loss, environmental pollution, exotic pressure of alien species, overpopulation, intra and inter specific competition, and global warming[2]. So, the monitoring and management of biodiversity with existing knowledge and information is utmost necessary.

Listing the threatened species according to IUCN category with proper documentation is the most powerful tool for identifying their current status and distribution range. As well as to plan for the restoration of their habitats with special attention to vulnerable and endangered species. Therefore, to conserve the species in a particular area, they need to be explored periodically[3].

To understand the ecosystem of an area, one should not only study its biodiversity but also check their conservation status because, biodiversity is being destroyed by various factors, such as deforestation, set fire in the forest area, etc. Therefore, it is very important to retain those endangered biodiversity as per the list published by IUCN.

Not only in India, but in different parts of the world, nature and biodiversity are closely related to different human communities mainly remote rural and indigenous communities. So, it is very important to conserve nature and natural resources.

The present study aims to investigate the current status and documentation of angiosperms inhabiting Rakab forest to execute the plan of conservation of protection of biodiversity in their native area.

II. MATERIAL AND METHODS

2.1 Study Area:

Rakab forest is located between 23.26° N latitude and 86.53° E longitude. It is spread over about 14 square kilometres of land. It is located in Hura block about 30 km away from Purulia town. Mainly Keshargarh village is famous for this forest. The forest is very beautiful in a secluded nature, there are several tribal villages nearby like Chorgali, Dapang,,Kudlung, Kurruduba, Dhadkita
rd, Kulabahal etc. People of these villages are especially dependent on this forest for their livelihood. *Anthoshorea roxburghii, Butea monosperma, Diospyros melanoxylon, Madhuca longifolia, Acacia auriculiformis* etc. are very common vegetations. This forest is enriched with a great diversity of both flora and fauna.

Fig.1 A view of Rakab Burir Than

2.2 A brief history of the study area:

Rakab forest is familiar as "Rakab Burir Jungle". This forest was Kashipur's hunting ground. It is witness to a glorious story of liberating the country from the hands of the British rulers. In August 1857, around 10,000 tribals from Rakab area, led by Maharaja Nilmani Singhdeo of Keshargarh, gathered and vowed to overthrow British rule. This oath-taking ceremony was witnessed by the Forest Goddess or "Rakab Buri". At the entrance of Keshargarh, the historical "Rakab Burir Than" is still present.

2.3 Sample collection method and identification:

The plant samples have been collected from different regions of the forest keeping in mind their flowering and fruiting period. This field survey was conducted during February 2024 to June 2024. Various authentic literatures has been consulted for the identification of collected plant specimens[4-35]. The valid name of the specimen has been verified by **POWO**[36] **and WFO**[37]. Besides, their conservation status has been verified by **IUCN Red List**[38].

After collection the plant specimens, they are kept well pressed in the ordinary newspapers, to avoid the blackening and decaying of plant materials, the moistened paper folders should be changed. The used newspapers are checked at the interval of a few hours, until they are completely dry. After this, naphthalene has been used so that insects, or other microbes can not spoil them. After drying the specimens thoroughly, they are well mounted on the herbarium sheet. Then on the right side of those sheets, the name plate given by the University has been written well and then attached. The collected specimens have been deposited in the Herbarium, Department of Botany, Sidho Kanho Birsha University, Purulia.

III. RESULTS AND DISCUSSION

3.1 Documentation of plants and their distribution into families:

The present study was undertaken to carry out an extensive survey of angiosperms diversity in Rakab Forest, Keshargarh, Purulia District, which revealed the documentation of **114** genera of angiosperms and a genus of gymnosperm belonging to **53** families(Table 1).

Table 1: An enumeration of angiosperms associated with Rakab Forest, Purulia district.

Sl. No.	Scientific names of the plant	Family	Vernacular Name	Habit & Dates of collection	Latitude	Longitude
1	*Abrus precatorius* L.	Fabaceae	Kanchfal	C, 21.04.24	23.28° N	86.52° E
2	*Acacia auriculiformis* A.Cunn. ex. Benth	Fabaceae	Akashmani / Sonajhuri	T, 21.04.24	23.29° N	86.51° E
3	*Acalypha indica* L.	Euphorbiaceae	Muktajhuri	H, 21.04.24	23.30° N	86.49° E
4	*Achyranthes aspera* L.	Amaranthaceae	Chirchiri	H, 09.06.24	23.31° N	86.49° E
5	*Aegle marmelos*(L.) Corrêa	Rutaceae	Bel	T, 09.06.24	23.28° N	86.53° E
6	*Ailanthus excelsa* Roxb.	Simaroubaceae	Mahanim	T, 21.04.24	23.28° N, 23.29° N	86.53° E, 86.51° E
7	*Alangium salviifolium*(L.f.) Wangerin	Cornaceae	Ankhra / Ankarkata	T, 21.04.24	23.29° N	86.53° E
8	*Albizia lebbeck* (L.) Benth.	Fabaceae	Shirish	T, 21.04.24	23.33° N	86.47° E
9	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	Chhatim	T, 21.04.24	23.29° N	86.52° E
10	*Anaphalis subdecurrens* (DC.) Gamble	Asteraceae	-	H, 21.04.24	23.28° N	86.53° E
11	*Andrographis paniculata* (Burm.f.)Wall. ex. Nees	Acanthaceae	Kalmegh	H, 21.04.24	23.28° N	86.53° E
12	*Alternanthera sessilis* (L.) DC.	Amaranthaceae	Salanchi-sak	H, 09.06.24	23.31° N	86.49° E
13	*Amaranthus spinosus* L.	Amaranthaceae	Kantanote	H, 09.06.24	23.31° N	86.49° E
14	*Anacardium occidentale* L.	Anacardiaceae	Kajubadam	T,09.06.24	23.27° N	86.53° E
15	*Annona squamosa* L.	Annonaceae	Aata	T,09.06.24	23.27° N	86.53° E
16	*Anthoshorea roxburghii* (G. Don) P.S.Ashton & J.Heck	Dipterocarpaceae	Shal	T, 21.04.24	23.28° N	86.53° E
17	*Argemone mexicana* L.	Papaveraceae	Sheyalkanta	US, 09.06.24	23.31° N	86.49° E
18	*Aristida adscensionis* L.	Poaceae	-	H, 21.04.24	23.29° N	86.51° E
19	*Azadirachta indica* A. Juss.	Meliaceae	Neem	T, 21.04.24	23.27° N	86.54° E
20	*Blumea lacera* (Burm.f.) DC.	Asteraceae	Kukursunga	H,09.06.24	23.29° N	86.50° E
21	*Borassus flabellifer* L.	Arecaceae	Taal	T, 21.04.24	23.28° N	86.53° E
22	*Bougainvillea spectabilis* Willd.	Nyctaginaceae	Kagajful	T, 21.04.24	23.33° N	86.47° E
23	*Bourreria succulenta* Jacq.	Boraginaceae	Clammy-cherry	T, 21.04.2	23.28° N	86.52° E
24	*Butea monosperma* (Lam.) Kuntze	Fabaceae	Palash	T, 21.04.24	23.29° N	86.50° E

25	*Calotropis gigantea* (L.) W. T. Aiton	Apocynaceae	Akanda	S, 21.04.24	23.31° N	86.49° E
26	*Carissa spinarum* L.	Apocynaceae	-	S, 21.04. 24	23.28° N	86.52° E
27	*Cascabela thevetia* (L.) Lippold	Apocynaceae	Kalke	S, 21.04.24	23.29° N	86.53° E
28	*Casearia tomentosa* Roxb.	Salicaceae	Chilla	S, 21.04.24	23.27° N, 23.28° N	86.53° E, 86.52° E
29	*Cassia fistula* L.	Fabaceae	Bandarlathi	T, 09.06.24	23.28° N	86.53° E
30	*Casuarina equisetifolia* L.	Casuarinacea e	Belati-jhau	T, 21.04.24	23.30° N	86.49° E
31	*Catharanthus roseus* (L.) G.Don	Apocynaceae	Nayantara	S, 21.04.24	23.30° N	86.49° E
32	*Centipeda minima* (L.) A.Braun & Asch.	Asteraceae	Mecheta / Hanchifal	H, 09.06.24	23.29° N	86.51° E
33	*Chromolaena corym bosa* (Aubl.) R.M.King & H.Rob.	Asteraceae	Uchunti	H, 21.04.24	23.28° N	86.53° E
34	*Chromolaena odorata* (L.) R.M.King & H. Rob.	Asteraceae	Bhutbhairabi	S, 21.04.24	23.29° N	86.51° E
35	*Cleome aspera* J.Koenig ex DC.	Cleomaceae	-	H, 09.06.24	23.29° N	86.51° E
36	*Clerodendrum infortunatum* L.	Lamiaceae	Vaant	S, 21.04.24	23.27° N	86.54° E
37	*Coldenia procumbens* L.	Boraginaceae	Tripakshi	H,09.06.2 4	23.28° N	86.53° E
38	*Croton bonplandianus* Baill.	Euphorbiacea e	Ban tulsi	H, 21.04.24	23.27° N	86.54° E
39	*Cryptolepis buchananii* R.Br. ex Roem. & Schult.	Apocynaceae	-	C,09.06.2 4	23.28° N	86.53° E
40	*Cyanthillium cinereum* (L.) H.Rob.	Asteraceae	Kukshima	H, 21.04.24	23.27° N	86.54° E
41	*Cyperus cyperoides* (L.) Kuntze	Cyperaceae	Bara guthubi	H,09.06.2 4	23.28° N	86.53° E
42	*Dalbergia sissoo* Roxb. ex DC.	Fabaceae	Sishu	T, 21.04.24	23.30° N	86.49° E
43	*Delonix regia* (Bojer ex Hook.) Raf.	Fabaceae	Krishnachura	T,09.06.24	23.29° N	86.53° E
44	*Dentella repens* (L.) J.R.Forst. & G.Forst.	Rubiaceae	Bhumipatful	H, 09.06.24	23.28° N	53° E
45	*Diospyros melanoxylon* Roxb.	Ebenaceae	Kendu	T, 21.04.24	23.28° N	86.51° E
46	*Duranta erecta* L.	Verbenaceae	Duranta	S, 21.04.24	23.30° N	86.49° E
47	*Eclipta prostrata* (L.) L.	Asteraceae	Keshut / Bhringaraj	H, 09.06.24	23.29° N	86.51° E
48	*Eragrostis ciliata* (Roxb.) Nees	Poaceae	-	H, 21.04.24	23.29° N	86.50° E
49	*Eucalyptus globulus* Labill.	Myrtaceae	Eucalyptus	T, 09.06.24	23.29° N	86.50° E
50	*Euphorbia hirta* L.	Euphorbiacea e	Bara dudhe	H, 21.04.24	23.30° N	86.49° E
51	*Euphorbia thymifolia* L	Euphorbiacea	Dudiya	H,	23.29°	86.53° E

		e		09.06.24	N	
52	*Euploca marifolia* (J.Koenig ex Retz.) Ancy & P.Javad	Boraginaceae	Seaforth Heliotrope	H, 09.06.24	23.29° N	86.51° E
53	*Evolvulus alsinoides* (L.) L.	Convolvulaceae	-	H, 09.06.24	23.29° N	86.50° E
54	*Evolvulus nummularius* (L.) L.	Convolvulaceae	Tora gachh	H, 21.04.24	23.29° N	86.50° E
55	*Ficus benghalensis* L.	Moraceae	Bat	T, 21.04.24	23.27° N	86.54° E
56	*Ficus racemosa* L.	Moraceae	Dumur	T, 09.06.24	23.32° N	86.47° E
57	*Ficus religiosa* L.	Moraceae	Ashwatha	T, 09.06.24	23.32° N	86.47° E
58	*Flemingia strobilifera* (L.) W.T.Aiton	Fabaceae	Binunigach	S, 09.06.24	23.28° N	86.53° E
59	*Gomphrena celosioides* Mart.	Amaranthaceae	Botamphul	H, 09.06.24	23.28° N	86.53° E
60	*Grangea maderaspatana* (L.) Poir.	Asteraceae	Namuti	H, 21.04.24	23.26° N	86.54° E
61	*Heliotropium indicum* L.	Boraginaceae	Hantishur	H, 09.06.24	23.28° N	86.53° E
62	*Hemidesmus indicus* (L.) R.Br.	Apocynaceae	Anantamul	C, 21.04.24	23.28° N	86.51° E
63	*Holarrhena pubescens* Wall. ex.G.Don	Apocynaceae	Kurchi	T, 21.04.24	23.28° N	86.53° E
64	*Holoptelea integrifolia* (Roxb.) Planch.	Ulmaceae	Challa	T, 21.04.24	23.31° N	86.49° E
65	*Ipomoea carnea* Jacq.	Convolvulaceae	Berha	S, 21.04.24	23.27° N	86.54° E
66	*Jatropha gossypiifolia* L.	Euphorbiaceae	Verenda / Sambhu	S, 21.04.24	23.27° N	86.53° E
67	*Lantana camara* L.	Verbenaceae	Putush	S, 21.04.24	23.28° N, 23.29° N	86.53° E, 86.51° E
68	*Lindernia rotundifolia* (L.) Alston	Linderniacea	-	H, 09.06.24	23.28° N	86.53° E
69	*Ludwigia perennis* L.	Onagraceae	Jal-labanga	H, 09.06.24	23.28° N	86.53° E
70	*Madhuca longifolia* (L.) J.F.Macbr.	Sapotaceae	Mahua/ Mahul	T, 21.04.24	23.27° N	86.55° E
71	*Mangifera indica* L.	Anacardiaceae	Aam	T, 21.04.24	23.28° N	86.52° E
72	*Mesosphaerum suaveolens* (L.) Kuntze	Lamiaceae	Bilatitulshi	H, 21.04.24	23.30° N	86.49° E
73	*Mimosa pudica* L.	Fabaceae	Lajjabati	H, 09.06.24	23.27° N	86.54° E
74	*Monoon longifolium* (Sonn.) B. Xue & R.M.K.Saunders	Annonaceae	Debdaru	T, 21.04.24	23.30° N	86.49° E
75	*Moringa oleifera* Lam.	Moringaceae	Sajne	T, 21.04.24	23.31° N	86.49° E
76	*Nastus borbonicus* J. F. Gmel	Poaceae	Bansh	T, 21.04.24	23.31° N	86.49° E

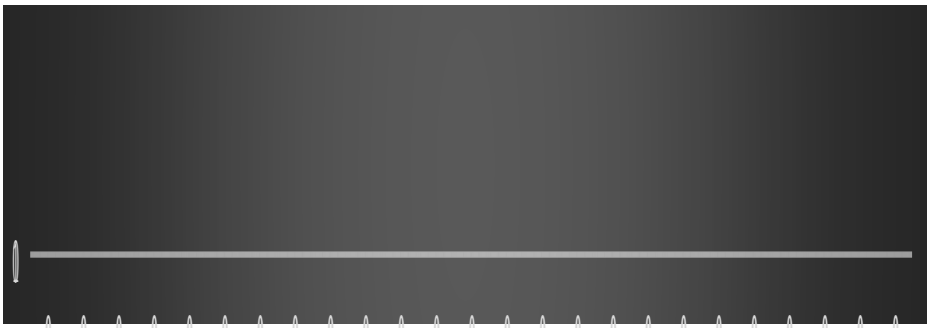
77	*Nelumbo nucifera* Gaertn.	Nelumbonaceae	Padma	H, 21.04.24	23.27° N	86.54° E
78	*Nymphaea pubescens* Willd.	Nymphaeaceae	Shaluk	H, 09.06.24	23.27° N	86.53° E
79	*Nymphoides indica* (L.) Kuntze	Menyanthaceae	Chandmala	H, 09.06.24	23.28° N	86.53° E
80	*Ocimum americanum* L.	Lamiaceae	Bhabhri	H, 09.06.24	23.29° N	86.53° E
81	*Oldenlandia corymbosa* L.	Rubiaceae	Khetpapra	H, 09.06.24	23.29° N	86.51° E
82	*Opuntia tuna* (L.) Mill.	Cactaceae	Fanimansha	S, 21.04.24	23.33° N	86.47° E
83	*Oxalis corniculata* L.	Oxalidaceae	Amrulshak	H, 09.06.24	23.29° N	86.51° E
84	*Paramollugo nudicaulis* (Lam.) Thulin	Molluginaceae	-	H, 09.06.24	23.28° N	86.53° E
85	*Pergularia daemia* (Forssk.) Chiov.	Apocynaceae	Chagalabati / Dudhilata	C, 09.06.24	23.27° N	86.53° E
86	*Phoenix sylvestris* (L.) Roxb.	Arecaceae	Khejur	T, 21.04.24	23.29° N	86.50° E
87	*Pigea enneasperma* (L.) P.l.Frost.	Violaceae	Munbora	H, 09.06.24	23.29° N	86.51° E
88	*Piliostigma malabaricum* (Roxb.) Benth.	Fabaceae	Kanchan	T, 21.04.24	23.31° N	86.49° E
89	*Platycladus orientalis* (L.) Franco	Cupressaceae	Patajhau	S, 21.04.24	23.30° N	86.49° E
90	*Plumeria rubra* L .	Apocynaceae	Kath golap	T, 21.04.24	23.27° N	86.53° E
91	*Polygala arvensis* Willd.	Polygalaceae	-	H, 09.06.24	23.29° N	86.51° E
92	*Pongamia pinnata* (L.) Pierre	Fabaceae	Karach / Karanj	T, 21.04.24	23.27° N	86.55° E
93	*Pontederia crassipes* Mart.	Pontederiaceae	Kachuripana	H, 21.04.24	23.27° N	86.54° E
94	*Psidium guajava* L.	Myrtaceae	Peyara	T, 09.06.24	23.31° N	86.53° E
95	*Puccinellia distans* (Jacq.) Parl.	Poaceae	-	H, 09.06.24	23.29° N	86.51° E
96	*Saccharum spontaneum* L.	Poaceae	Kaash	US, 09.06.24	23.28° N	86.53° E
97	*Schleichera oleosa* (Lour.)Oken	Sapindaceae	Kusum	T, 09.06.24	23.29° N	86.51° E
98	*Scoparia dulcis* L.	Plantaginaceae	Bon dhonya	H, 21.04.24	23.30° N	86.49° E
99	*Senna alata* (L.) Roxb.	Fabaceae	Dadmari	S, 21.04.24	23.28° N	86.53° E
100	*Sida cordifolia* L.	Malvaceae	Berhela	H, 21.04.24	23.28° N	86.51° E
101	*Solanum sisymbriifolium* Lam.	Solanaceae	Swetrangani	US, 21.04.24	23.30° N	86.49° E
102	*Solanum torvum* Sw.	Solanaceae	TitaBagoon	S, 09.06.24	23.31° N	86.49° E
103	*Spermacoce articularis* L.f.	Rubiaceae	-	H, 09.06.24	23.29° N	86.51° E
10	*Spermacoce verticillata* L.	Rubiaceae	-	H,	23.28°	86.52° E,

4				21.04.24	N, 23.29° N	86.53° E
105	*Spondias mombin* L.	Anacardiaceae	Aamrha	T, 09.06.24	23.27° N	86.53° E
106	*Streblus asper* Lour	Moraceae	Shenora	T, 21.04.24	23.28° N	86.53° E
107	*Strophanthus sarmentosus* DC.	Apocynaceae	-	S, 21.04.24	23.28° N	86.52° E
108	*Syzygium cumini* (L.) Skeels	Myrtaceae	Jaam	T, 21.04.24	23.28° N	86.51° E
109	*Tamarindus indica* L.	Fabaceae	Tentul	T, 21.04.24	23.28° N	86.53° E
110	*Tecoma stans* (L.)Juss.ex Kunth	Bignoniaceae	Chandaprabha	T, 21.04.24	23.30° N	86.49° E
111	*Tectona grandis* L.f.	Lamiaceae	Segun	T, 09.06.24	23.32° N	86.47° E
112	*Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.	Combretaceae	Arjun	T, 09.06.24	23.32° N	86.48° E
113	*Terminalia bellirica* (Gaertn.) Roxb.	Combretaceae	Boherha	T, 09.06.24	23.29° N	86.51° E
114	*Torenia crustacea* (L.) Cham. & Schltdl.	Linderniacea	Chapraghas	H, 21.04.24	23.27° N	86.54° E
115	*Trianthema portulacastrum* L.	Aizoaceae	Kulphasag / Swetpunarnova	H, 09.06.24	23.28° N	86.53° E
116	*Trichocereus macrogonus* (Salm-Dyck) Riccob.	Cactaceae	Panchshira mansha	S, 21.04.24	23.27° N	86.54° E
117	*Tridax procumbens* L.	Asteraceae	Bisalyakarani	H, 21.04.24	23.27° N	86.54° E
118	*Urena lobata* L.	Malvaceae	Bon okra	H, 21.04.24	23.27° N	86.54° E
119	*Vachellia nilotica* (L.) P.J.H.Hurter & Mabb.	Fabaceae	Babla	T, 09.06.24	23.32° N	86.47° E
120	*Vanda tessellata* (Roxb.) Hook. ex G.Don	Orchidaceae	Rasna	E, 09.06.24	23.29° N	86.53° E
121	*Vitex negundo* L.	Lamiaceae	Buyan	S, 21.04.24	23.27° N	86.54° E
122	*Ziziphus jujuba* Mill.	Rhamnaceae	Kul	S, 21.04.24	23.28° N	86.53° E
123	*Ziziphus oenopolia* (L.) Mill.	Rhamnaceae	Shiyankul	S, 21.04.24	23.29° N	85.51° E

Habit : H- Herb, S- Shrub ,US-Undershrub, T- Tree, C- Climber, E-Epiphyte.

From different locations of the forest, it can be said that there were *Acacia auriculiformis*(Sonajhuri), *Anthoshorea roxburghii*(Shal), *Aristida adscensionis*, *Butea monosperma*(Palash), *Calotropis gigantea*(Akanda), *Casearia tomentosa*, *Chromolaena odorata*, *Nastus borbonicus*(Bansh), *Phoenix sylvestris*(Khejur), *Opuntia tuna*(Fani mansha) especially dominant.

Among them there were many plants that were economically important for timber and non-timber forest products. Moreover, there were various plants that were used by the tribal people to make medicine such as they use *Holarrhena pubescens*(Kurchi) plant and roots of *Ziziphus oenopolia*(Shiyankul) to treat



rheumatism.

Fig..3a Familywise distribution of number of species

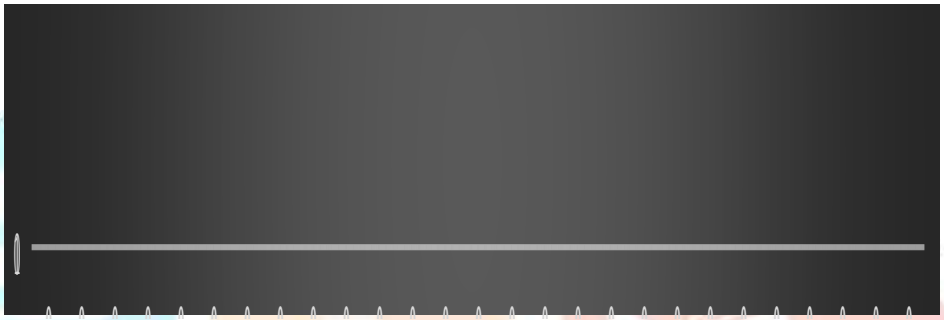


Fig. 3b Familywise distribution of number of species

3.2 Habits of collected taxa:

The study recorded the habits of the collected angiosperms among which **49** species were herbs, **03** species were Undershrub, **21** species were shrubs, **04** species were climbers, **45** species were Trees and only **01** species was epiphyte

Fig. 4 Habits of the enlisted plants

3.3 Conservation status:

By doing the conservation status analysis provided by IUCN, we found that there were **55** species of Least Concern(LC), **01** species of Data Deficient(DD), **02** species of Near Threatened(NT) and **01** species of Endangered (EN) categories present there(Table 2).

Table 2: Conservation status of angiosperms studied from Rakab Forest, Purulia District.

Sl. No	Scientific names of the plant	Family	Vernacular Name	Life-span	Fl. & Fr. period	Conservation Status
1	*Acacia auriculiformis* A. Cunn. Ex. Benth	Fabaceae	Akashmani / Sonajhuri	P	March – May	LC
2	*Aegle marmelos* (L.) Corrêa	Rutaceae	Bel	P	May - July	NT
3	*Alangium salviifolium* (L.f.)Wangerin	Cornaceae	Ankhra / Ankarkata	P	March – May	LC
4	*Albizia lebbeck* (L.) Benth.	Fabaceae	Shirish	P	March – May	LC
5	*Alstonia scholaris* (L.) R.Br.	Apocynaceae	Chhatim	P	March – Aug	LC
6	*Alternanthera sessilis* (L.) DC.	Amaranthaceae	Salanchi-sak	P	May - July	LC
7	*Anacardium occidentale* L.	Anacardiaceae	Kajubadam	P	April-June	LC
8	*Annona squamosa* L.	Annonaceae	Aata	P	May- July	LC
9	*Azadirachta indica* A. Juss.	Meliaceae	Neem	P	March – May	LC
10	*Borassus flabellifer* L.	Arecaceae	Taal	P	April- June	LC
11	*Bourreria succulenta* Jacq.	Boraginaceae	Clammy-cherry	P	March – May	LC
12	*Butea monosperma*(Lam.) Kuntze	Fabaceae	Palash	P	March – May	LC
13	*Carissa spinarum* L.	Apocynaceae	-	P	March – May	LC
14	*Cascabela thevetia* (L.) Lippold	Apocynaceae	Kalke	P	Toy	LC
15	*Cassia fistula* L.	Fabaceae	Bandarlathi	P	May - July	LC
16	*Casuarina equisetifolia* L.	Casuarinaceae	Belati-jhau	P	March – May	LC
17	*Centipeda minima* (L.) A.Braun & Asch.	Asteraceae	Mecheta / Hanchi fal	A	May - July	LC
18	*Clerodendrum infortunatum* L.	Lamiaceae	Vaant	P	March – May	LC
19	*Coldenia procumbens* L.	Boraginaceae	Tripakshi	A	May- July	LC
20	*Cyperus cyperoides* (L.) Kuntze	Cyperaceae	Bara guthubi	P	May - July	LC
21	*Dalbergia sissoo* Roxb. ex DC.	Fabaceae	Sishu	P	March - May	LC
22	*Delonix regia* (Bojer ex Hook.)Raf.	Fabaceae	Krishnachura	P	May - July	LC
23	*Dentella repens* (L.) J.R.Forst. & G.Forst.	Rubiaceae	Bhumipatful	A	May - July	LC
24	*Duranta erecta* L.	Verbenaceae	Duranta	P	Toy	LC
25	*Eclipta prostrata* (L.) L.	Asteraceae	Keshut / Bhringaraj	A	May-July	LC

26	*Eucalyptus globulus* Labill.	Myrtaceae	Eucalyptus	P	March-May	LC
27	*Ficus racemosa* L.	Moraceae	Dumur	P	Decm-Febru	LC
28	*Ficus religiosa* L.	Moraceae	Ashwatha	P	June-Aug	LC
29	*Grangea maderaspatana* (L.) Poir.	Asteraceae	Namuti	A	March - May	LC
30	*Holarrhena pubescens* Wall. ex.G. Don	Apocynaceae	Kurchi	P	May – Octo	LC
31	*Jatropha gossypiifolia* L.	Euphorbiaceae	Verenda / Sambhu	P	Toy	LC
32	*Lindernia rotundifolia* (L.) Alston	Linderniacea	-	P	May- July	LC
33	*Ludwigia perennis* L.	Onagraceae	Jal-labanga	P	May- July	LC
34	*Mangifera indica* L.	Anacardiaceae	Aam	P	January - May	DD
35	*Mimosa pudica* L.	Fabaceae	Lajjabati	P	Toy	LC
36	*Moringa oleifera* Lam.	Moringaceae	Sajne	P	March -Aug	LC
37	*Nymphaea pubescens* Willd.	Nymphaeaceae	Shaluk	P	May- July	LC
38	*Nymphoides indica* (L.) Kuntze	Menyanthaceae	Chandmala	P	May - July	LC
39	*Platycladus orientalis*(L.) Franco	Cupressaceae	Patajhau	P	April – May	NT
40	*Plumeria rubra* L .	Apocynaceae	Kath golap	P	March - May	LC
41	*Pongamia pinnata* (L.) Pierre	Fabaceae	Karach	P	April – June	LC
42	*Psidium guajava* L.	Myrtaceae	Peyara	P	May -July	LC
43	*Saccharum spontaneum* L.	Poaceae	Kaash	P	Sept-Nov	LC
44	*Schleichera oleosa* (Lour.) Oken	Sapindaceae	Kusum	P	May - July	LC
45	*Senna alata* (L.) Roxb.	Fabaceae	Dadmari	P	April-June	LC
46	*Spondias mombin* L.	Anacardiaceae	Aamrha	P	March-May	LC
47	*Streblus asper* Lour.	Moraceae	Shenora	P	March - May	LC
48	*Syzygium cumini* (L.) Skeels	Myrtaceae	Jaam	P	March – June	LC
49	*Tamarindus indica* L.	Fabaceae	Tentul	P	March - May	LC
50	*Tecoma stans (*L.)Juss.ex Kunth	Bignoniaceae	Chandaprabha	P	Toy	LC
51	*Tectona grandis* L.f.	Lamiaceae	Segun	P	July-Sept	EN
52	*Terminalia bellirica* (Gaertn.) Roxb.	Combretaceae	Boherha	P	May- July	LC
53	*Torenia crustacea* (L.) Cham. &Schltdl..	Linderniacea	Chapraghas	P	Toy	LC
54	*Urena lobata* L.	Malvaceae	Bon okra	P	March - May	LC
55	*Vachellia nilotica* (L.) P.J.H.Hurter & Mabb.	Fabaceae	Babla	P	May - July	LC
56	*Vanda tessellata* (Roxb.) Hook. ex G.Don	Orchidaceae	Rasna	P	May-July	LC
57	*Vitex negundo* L.	Lamiaceae	Buyan / Nishinda	P	April-June	LC
58	*Ziziphus jujuba* Mill.	Rhamnaceae	Kul	P	Septem –	LC

					Febr	
59	*Ziziphus oenopolia* (L.) Mill.	Rhamnaceae	Shiyankul	P	August – Janu	LC

Life-span: A-Annual, P- Perennial; Conservation status: LC- Least Concern, DD- Data Deficient, NT- Near Threatened, EN- Endangered; Fl. & Fr. Toy- Throughout the year.

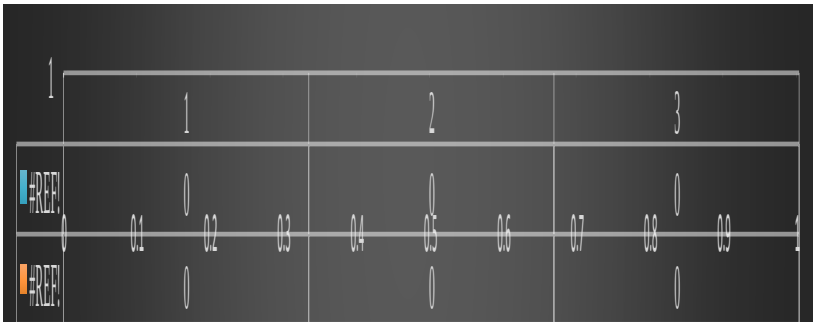


Fig. 5 Life span of enlisted plants

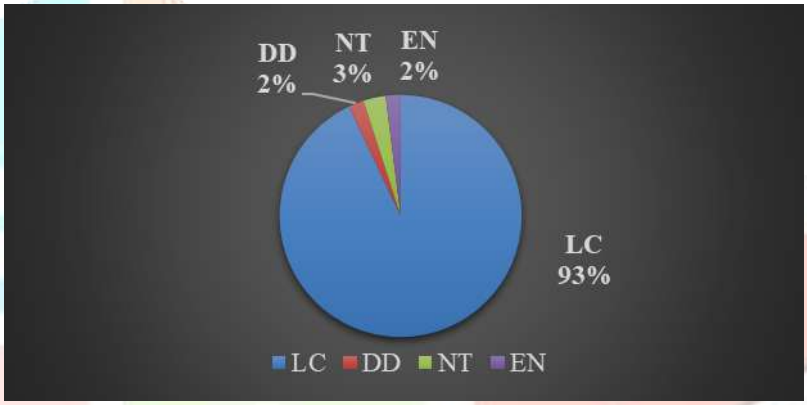


Fig. 6 Conservation status of plants

3.4 loss of biodiversity:

a. Man- made causes:

1.Burning of plants: Fires have been set in different locations of the forest which not only destroyed the vegetation but also destroyed the associated fauna.

2. Deforestation:The people are living there, dependent on the forest, but nowadays the big trees are being cut down from some locations, which is definitely damaging the biodiversity.

3.Grazing of domestic animals: Continuous grazing of domestic animals cause destruction of herbaceous plants and soil desertification.

b. Natural causes:

Biodiversity is also facing loss due to various natural causes like -

1. Climate change: This is a very big problem, as a result of which the reproduction of various plants is hindered and therefore their vegetation is destroyed.

2. Overheating: Many plant species are dying due to the recent rise in temperature, as well as Fauna are damaged, resulting in disruption of biodiversity.

3. Low-Rainfall: Purulia district is already a drought-prone area, and with the increase in heat, rainfall has drastically reduced. This is also an important reason for biodiversity loss .

We may not be able to stop the natural causes but the man-made causes can definitely be stopped, so we have to go ahead to fulfill the responsibility of stopping them. Especially the plants which are under the different categories of IUCN must be preserved, besides the native plants cannot be allowed to be lost.

Fig. 7 A view of set fire of vegetation

Fig. 8 A view of deforestation

IV. CONCLUSION

About 22 % of India's area is covered by forests. The present study has also been done on such forests covering a large area of Purulia district. Forests are not only for food, shelter and medicine, but different cultures and traditions are also associated with forests. But as time goes on people are forgetting their culture, traditions and damaging forests and other natural resources in various ways. As a result, all living organisms are facing different types of diseases, drought, global warming and other effects today. So, the forest with huge variation of biodiversity along with other resources should be preserved and routine monitoring with proper implementation of protection rule by government or non government authorities is needed immediately. So that both the environment and culture will be preserved and loss of biodiversity can be reduced to some extant by such kind of scientific study.

So, through this present study we can conclude that Rakab forest covering the large area is full of different types of plants with their qualities. And those quality plants should not be allowed to be destroyed, they should be preserved for the future.

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