



Govindrao Nikam College of Pharmacy, Sawarde

Report on Carbon Estimation in trees/shrubs in campus

May 2018

SUMMARY

This is report of estimation of carbon sequestration in trees in campus of Govindrao Nikam College of Pharmacy, Sawarde.

The campus of the college has been visited in May 2018 to carry out estimation of carbon.

During the visit, survey of trees and required measurements were carried out. The carbon Nondestructive method of carbon estimation was followed for this study.

On the basis of careful and extensive observations, measurement and successive calculations, trees of entire campus area has been assessed and presented in form of report. The report demonstrates actual efforts of the college for sequestration of carbon and contribution towards environmental conservation.



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INTRODUCTION

The growing concentration of atmospheric carbon dioxide due to various anthropogenic activities is one of important contributor to global warming. Global emissions of carbon have been increasing for about 140 years since the beginning of the Industrial Revolution. The sharpest increase is observed during the most recent 50 years.

Carbon, in greenhouse gases, is a major cause of global warming. Almost everything humans do, including breathing, releases carbon into the atmosphere. Plants, on the other hand, absorb carbon, turning it into foliage, branches, and roots by the process known as sequestration. Presently there is increasing concern about climate change and subsequently carbon sequestration as mitigation measure to climate change.

Trees from rural as well as urban regions currently store carbon, which can be released into the atmosphere after the death of tree, and capture carbon as they grow. Due to more photosynthesis, more CO₂ is converted into biomass, and sequestering carbon in plant tissue above and below ground (IPCC, 2003). Fifty percent of the biomass of the stems, branches, roots and foliage of trees is made up of carbon absorbed from the atmosphere. The rate of carbon sequestration depends on the growth characteristics of the tree species, the conditions for growth where the tree is planted, and the density of the tree's wood. Although maximum rate of carbon assimilation usually occurs early in the new plantation, mature forests continue to store carbon in significant amounts for the effective life. Along with increasing controls on emissions of greenhouse gases, effective management of additional forest plantations for carbon sequestration provides one of the few low-cost, low-energy alternatives for amelioration of greenhouse effects.

Carbon stored in biomass is usually measured in CO₂ equivalents – the weight of CO₂ removed from the atmosphere to create the biomass. In the global carbon cycle biomass which stores carbon stock is used to help quantify pools and changes of carbon di oxide from the terrestrial biosphere to the atmosphere associated with land-use and land cover changes. Carbon sequestration is useful to either mitigate or defer global warming and avoid dangerous climate change.

Estimates of carbon stocks and stock changes in tree biomass (above and belowground) are necessary for reporting to the United Nations Framework Convention on Climate Change (UNFCCC) and will be required for Kyoto Protocol reporting. Trees planted in college campus area also playing very important role because their environmental services. These trees are not only indicators of biodiversity but also help in producing more oxygen and cleaner, pollution free environment. So this report represents estimate of carbon stock stored in trees at Govindrao Nikam College of Pharmacy, Sawarde campus.

ABOUT THE COLLEGE

The Govindrao Nikam College of Pharmacy is the first pharmacy college of the Konkan region of Maharashtra providing degree course and was established in 2005 by founder of Sahyadri Shikshan Sanstha Late Shri Govindrao Nikam. College is affiliated to Mumbai University and is approved by AICTE New Delhi and Govt. of Maharashtra. The college is working with the vision : Fostering generations of Scientific minded pharmacist to spread Health, Hope, Happiness. Mission of college is To imbibe principles of scientific mind in learner, To become centre of excellence in pharmacy education, To promote integral development of learner by providing harmonious learning ambience, To develop learner to meet challenges of pharmacy world. To bridge academia, industry and healthcare system, To inculcate sense of social responsibility in learner to spread Health, Hope, Happiness....

The college is situated at the foot hills of Western Ghats at an altitude of 16 m. from sea level and located at latitude and longitude 17°24'08.4"N 73°31'46.4"E to 17°24'04.2"N 73°31'41.5"E. The college campus is of 3.5 acres which is surrounded by lush green vegetation. In College campus different buildings are located like Central building, library, laboratories, class rooms, hostel as well as playground, Vaikuntheshwar temple and medicinal plant garden. In medicinal plant garden various varieties of plants are grown.

Location Map of the College



Table Carbon sequestration in tree/shrub species of college campus

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
1	<i>Ziziphus mauritiana</i>	0.00804	0.00611	28.724	13.896	42.619
2	<i>Helicteres isora</i>	0.00398	0.00287	13.482	7.122	20.604
3	<i>Citrus limon</i>	0.00116	0.00083	3.915	2.389	6.304
4	<i>Acacia concinna</i>	0.02209	0.01590	74.809	32.374	107.183
5	<i>Acacia spp</i>	0.00499	0.00360	16.912	8.702	25.613
6	<i>Lawsonia inermis</i>	0.00062	0.00045	2.114	1.386	3.500
7	<i>Santalum album</i>	0.00637	0.00459	21.571	10.789	32.360
8	<i>Garcinia indica</i>	0.00506	0.00364	17.144	8.807	25.951
9	<i>Pterocarpus santalinus</i>	0.00032	0.00023	1.079	0.765	1.843
10	<i>Magnolia champaca</i>	0.01748	0.01258	59.191	26.323	85.514
11	<i>Magnolia champaca</i>	0.02064	0.01238	58.242	25.950	84.192
12	<i>Cinnamomum tamala</i>	0.03679	0.02649	124.595	50.811	175.406
13	<i>Cinnamomum verum</i>	0.01957	0.01409	66.267	29.085	95.352
14	<i>Mangifera indica</i>	0.10318	0.07429	349.453	126.389	475.842
15	<i>Butea monosperma</i>	0.00245	0.00176	8.283	4.631	12.915
16	<i>Cinnamomum verum</i>	0.03083	0.02220	104.404	43.462	147.867
17	<i>Syzygium jambos</i>	0.00843	0.00607	28.539	13.816	42.355
18	<i>mangifera indica</i>	0.01836	0.01322	62.190	27.498	89.688
19	<i>Nyctanthes arbor-tristis</i>	0.00187	0.00135	6.342	3.658	10.000

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
20	<i>Grewia asiatica</i>	0.00077	0.00055	2.610	1.669	4.279
21	<i>Magnolia champaca</i>	0.00163	0.00098	4.602	2.755	7.357
22	<i>Bougainvillea glabra</i>	0.00108	0.00078	3.646	2.243	5.888
23	<i>Magnolia champaca</i>	0.00861	0.00517	24.303	11.988	36.292
24	<i>Bougainvillea glabra</i>	0.00108	0.00078	3.646	2.243	5.888
25	<i>Magnolia champaca</i>	0.00462	0.00277	13.051	6.921	19.971
26	<i>Magnolia champaca</i>	0.00421	0.00253	11.891	6.374	18.265
27	<i>Bougainvillea glabra</i>	0.00326	0.00235	11.044	5.972	17.016
28	<i>Magnolia champaca</i>	0.00510	0.00306	14.381	7.540	21.921
29	<i>Magnolia champaca</i>	0.00431	0.00258	12.152	6.498	18.649
30	<i>Magnolia champaca</i>	0.00749	0.00449	21.140	10.598	31.738
31	<i>Magnolia champaca</i>	0.00498	0.00299	14.044	7.384	21.428
32	<i>Bougainvillea glabra</i>	0.00039	0.00028	1.305	0.905	2.210
33	<i>Magnolia champaca</i>	0.00860	0.00516	24.268	11.972	36.240
34	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
35	<i>Magnolia champaca</i>	0.00230	0.00138	6.489	3.733	10.222
36	<i>Bougainvillea glabra</i>	0.00143	0.00103	4.854	2.888	7.741
37	<i>Magnolia champaca</i>	0.00646	0.00388	18.228	9.297	27.525
38	<i>Magnolia champaca</i>	0.00646	0.00388	18.228	9.297	27.525
39	<i>Magnolia champaca</i>	0.00646	0.00388	18.228	9.297	27.525

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
40	<i>Magnolia champaca</i>	0.00696	0.00418	19.657	9.938	29.595
41	<i>Magnolia champaca</i>	0.00597	0.00358	16.852	8.675	25.527
42	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
43	<i>Magnolia champaca</i>	0.00385	0.00231	10.875	5.891	16.766
44	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
45	<i>Terminalia catappa</i>	0.03567	0.02568	120.798	49.440	170.239
46	<i>Terminalia catappa</i>	0.00382	0.00275	12.943	6.870	19.813
47	<i>Albizia lebbeck</i>	0.28092	0.18541	872.103	283.569	1155.671
48	<i>Albizia lebbeck</i>	0.13577	0.08961	421.493	149.155	570.648
49	<i>Albizia lebbeck</i>	0.07243	0.04780	224.855	85.608	310.463
50	<i>Albizia lebbeck</i>	0.00929	0.00613	28.830	13.941	42.771
51	<i>Albizia lebbeck</i>	0.05870	0.03874	182.233	71.099	253.332
52	<i>Albizia lebbeck</i>	0.37838	0.24973	1174.648	368.929	1543.577
53	<i>Albizia lebbeck</i>	0.49609	0.32742	1540.073	468.688	2008.761
54	<i>Albizia lebbeck</i>	0.12640	0.08342	392.406	140.022	532.429
55	<i>Albizia lebbeck</i>	0.59713	0.39411	1853.771	552.112	2405.882
56	<i>Albizia lebbeck</i>	0.62614	0.41325	1943.820	575.743	2519.563
57	<i>Caesalpinia pulcherrima</i>	0.00612	0.00643	30.231	14.538	44.769
58	<i>Caesalpinia pulcherrima</i>	0.00815	0.00856	40.266	18.728	58.994
59	<i>Caesalpinia pulcherrima</i>	0.00847	0.00889	41.820	19.366	61.186

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
60	<i>Caesalpinia pulcherrima</i>	0.01104	0.01159	54.510	24.475	78.985
61	<i>Caesalpinia pulcherrima</i>	0.00819	0.00860	40.463	18.809	59.272
62	<i>Caesalpinia pulcherrima</i>	0.00991	0.01040	48.923	22.245	71.168
63	<i>Caesalpinia pulcherrima</i>	0.00867	0.00910	42.822	19.775	62.597
64	<i>Magnolia champaca</i>	0.00206	0.00124	5.824	3.393	9.217
65	<i>Bougainvillea glabra</i>	0.00158	0.00114	5.339	3.142	8.480
66	<i>Magnolia champaca</i>	0.00310	0.00186	8.736	4.854	13.591
67	<i>Magnolia champaca</i>	0.00446	0.00268	12.583	6.701	19.284
68	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
69	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
70	<i>Magnolia champaca</i>	0.00569	0.00341	16.049	8.308	24.357
71	<i>Magnolia champaca</i>	0.00556	0.00334	15.690	8.144	23.834
72	<i>Bougainvillea glabra</i>	0.00161	0.00116	5.468	3.209	8.677
73	<i>Magnolia champaca</i>	0.00462	0.00277	13.051	6.921	19.971
74	<i>Bougainvillea glabra</i>	0.00064	0.00046	2.157	1.411	3.568
75	<i>Magnolia champaca</i>	0.00696	0.00418	19.657	9.938	29.595
76	<i>Magnolia champaca</i>	0.00382	0.00229	10.786	5.848	16.633
77	<i>Magnolia champaca</i>	0.00449	0.00270	12.684	6.748	19.432
78	<i>Magnolia champaca</i>	0.00505	0.00303	14.264	7.486	21.750
79	<i>Magnolia champaca</i>	0.00433	0.00260	12.224	6.532	18.755

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
80	<i>Magnolia champaca</i>	0.00462	0.00277	13.051	6.921	19.971
81	<i>Magnolia champaca</i>	0.00606	0.00364	17.117	8.795	25.911
82	<i>Magnolia champaca</i>	0.00322	0.00193	9.085	5.025	14.110
83	<i>Magnolia champaca</i>	0.05780	0.03468	163.132	64.472	227.604
84	<i>Magnolia champaca</i>	0.05136	0.03082	144.958	58.083	203.041
85	<i>Magnolia champaca</i>	0.04932	0.02959	139.206	56.041	195.247
86	<i>Magnolia champaca</i>	0.14716	0.08830	415.317	147.222	562.538
87	<i>Magnolia champaca</i>	0.03185	0.01911	89.880	38.074	127.954
88	<i>Magnolia champaca</i>	0.02935	0.01761	82.833	35.424	118.257
89	<i>Magnolia champaca</i>	0.03059	0.01835	86.321	36.739	123.059
90	<i>Magnolia champaca</i>	0.03503	0.02102	98.868	41.419	140.287
91	<i>Dypsis cabadae</i>	0.00184	0.00147	6.927	3.954	10.881
92	<i>Palm big</i>	0.32611	0.26089	1227.159	383.465	1610.623
93	<i>Dypsis cabadae</i>	0.20617	0.16493	775.794	255.713	1031.507
94	<i>Dypsis cabadae</i>	0.04994	0.03995	187.909	73.052	260.961
95	<i>Magnolia champaca</i>	0.02786	0.01672	78.627	33.830	112.457
96	<i>Magnolia champaca</i>	0.02890	0.01734	81.566	34.945	116.511
97	<i>Magnolia champaca</i>	0.03214	0.01928	90.707	38.383	129.090
98	<i>Magnolia champaca</i>	0.02996	0.01798	84.559	36.075	120.634
99	<i>Magnolia champaca</i>	0.03104	0.01862	87.606	37.222	124.827

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
100	<i>Magnolia champaca</i>	0.02684	0.01610	75.742	32.731	108.472
101	<i>Magnolia champaca</i>	0.02583	0.01550	72.910	31.647	104.558
102	<i>Magnolia champaca</i>	0.02485	0.01491	70.133	30.580	100.713
103	<i>Magnolia champaca</i>	0.02786	0.01672	78.627	33.830	112.457
104	<i>Gymnosperm Spp</i>	0.01019	0.00734	34.514	16.343	50.857
105	<i>Magnolia champaca</i>	0.16994	0.10196	479.608	167.187	646.795
106	<i>Magnolia champaca</i>	0.11437	0.06862	322.776	117.825	440.601
107	<i>Magnolia champaca</i>	0.01938	0.01163	54.683	24.544	79.226
108	<i>Magnolia champaca</i>	0.04036	0.02421	113.896	46.936	160.831
109	<i>Magnolia champaca</i>	0.04206	0.02523	118.691	48.677	167.368
110	<i>Magnolia champaca</i>	0.04379	0.02627	123.585	50.447	174.031
111	<i>Magnolia champaca</i>	0.03869	0.02322	109.199	45.221	154.421
112	<i>Magnolia champaca</i>	0.03706	0.02224	104.602	43.535	148.137
113	<i>Magnolia champaca</i>	0.03547	0.02128	100.104	41.876	141.980
114	<i>Magnolia champaca</i>	0.03391	0.02035	95.704	40.246	135.950
115	<i>Magnolia champaca</i>	0.03239	0.01943	91.403	38.644	130.047
116	<i>Magnolia champaca</i>	0.04182	0.02509	118.037	48.441	166.478
117	<i>Mammea suriga</i>	0.05357	0.03857	181.413	70.816	252.230
118	<i>Mammea suriga</i>	0.05732	0.04127	194.140	75.189	269.329
119	<i>Mimusops elengi</i>	0.02064	0.01486	69.891	30.486	100.377

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
120	<i>Mimusops elengi</i>	0.02299	0.01656	77.872	33.543	111.414
121	<i>Palm big</i>	0.12640	0.10112	475.644	165.966	641.610
122	<i>Dyopsis cabadae</i>	0.00573	0.00459	21.571	10.789	32.360
123	<i>Dyopsis cabadae</i>	0.00529	0.00423	19.901	10.047	29.948
124	<i>Dyopsis cabadae</i>	0.00475	0.00380	17.861	9.132	26.993
125	<i>Dyopsis cabadae</i>	0.00433	0.00346	16.278	8.413	24.691
126	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.368	12.451	37.818
127	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
128	<i>Dyopsis cabadae</i>	0.00842	0.00674	31.698	15.159	46.857
129	<i>Dyopsis cabadae</i>	0.00936	0.00748	35.204	16.632	51.836
130	<i>Dyopsis cabadae</i>	0.00730	0.00584	27.482	13.363	40.845
131	<i>Dyopsis cabadae</i>	0.00561	0.00448	21.092	10.577	31.669
132	<i>Dyopsis cabadae</i>	0.00494	0.00395	18.603	9.466	28.069
133	<i>Dyopsis cabadae</i>	0.00433	0.00347	16.308	8.426	24.734
134	<i>Dyopsis cabadae</i>	0.00377	0.00302	14.200	7.456	21.656
135	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.358	12.447	37.805
136	<i>Dyopsis cabadae</i>	0.00694	0.00555	26.101	12.768	38.869
137	<i>Dyopsis cabadae</i>	0.00646	0.00517	24.311	11.991	36.302
138	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.051	11.001	33.051
139	<i>Dyopsis cabadae</i>	0.00660	0.00528	24.839	12.221	37.060

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
140	<i>Dyopsis cabadae</i>	0.00740	0.00592	27.841	13.518	41.359
141	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
142	<i>Dyopsis cabadae</i>	0.00575	0.00460	21.631	10.816	32.447
143	<i>Dyopsis cabadae</i>	0.00526	0.00421	19.802	10.003	29.806
144	<i>Dyopsis cabadae</i>	0.00479	0.00383	18.010	9.199	27.208
145	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
146	<i>Dyopsis cabadae</i>	0.00663	0.00530	24.941	12.266	37.207
147	<i>Dyopsis cabadae</i>	0.00708	0.00566	26.626	12.995	39.621
148	<i>Dyopsis cabadae</i>	0.00752	0.00602	28.301	13.715	42.016
149	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
150	<i>Dyopsis cabadae</i>	0.00573	0.00459	21.571	10.789	32.360
151	<i>Dyopsis cabadae</i>	0.00529	0.00423	19.901	10.047	29.948
152	<i>Dyopsis cabadae</i>	0.00475	0.00380	17.861	9.132	26.993
153	<i>Dyopsis cabadae</i>	0.00433	0.00346	16.278	8.413	24.691
154	<i>Dyopsis cabadae</i>	0.00809	0.00647	30.430	14.622	45.052
155	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
156	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333
157	<i>Dyopsis cabadae</i>	0.00650	0.00520	24.447	12.051	36.498
158	<i>Dyopsis cabadae</i>	0.00730	0.00584	27.482	13.363	40.845
159	<i>Dyopsis cabadae</i>	0.00678	0.00543	25.521	12.517	38.038

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
160	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
161	<i>Dyopsis cabadae</i>	0.00483	0.00386	18.170	9.271	27.441
162	<i>Dyopsis cabadae</i>	0.00423	0.00338	15.920	8.249	24.168
163	<i>Dyopsis cabadae</i>	0.00368	0.00295	13.853	7.295	21.149
164	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
165	<i>Dyopsis cabadae</i>	0.00771	0.00617	29.001	14.014	43.015
166	<i>Dyopsis cabadae</i>	0.00758	0.00606	28.528	13.812	42.340
167	<i>Dyopsis cabadae</i>	0.00734	0.00587	27.611	13.419	41.030
168	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
169	<i>Dyopsis cabadae</i>	0.00510	0.00408	19.174	9.723	28.897
170	<i>Dyopsis cabadae</i>	0.00517	0.00414	19.468	9.854	29.322
171	<i>Dyopsis cabadae</i>	0.00475	0.00380	17.861	9.132	26.993
172	<i>Dyopsis cabadae</i>	0.00423	0.00339	15.931	8.254	24.186
173	<i>Dyopsis cabadae</i>	0.00792	0.00633	29.796	14.353	44.149
174	<i>Dyopsis cabadae</i>	0.00740	0.00592	27.841	13.518	41.359
175	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
176	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810
177	<i>Dyopsis cabadae</i>	0.00716	0.00573	26.953	13.136	40.089
178	<i>Dyopsis cabadae</i>	0.00802	0.00641	30.161	14.508	44.669
179	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
180	<i>Dyopsis cabadae</i>	0.00494	0.00395	18.603	9.466	28.069
181	<i>Dyopsis cabadae</i>	0.00433	0.00347	16.308	8.426	24.734
182	<i>Dyopsis cabadae</i>	0.00377	0.00302	14.200	7.456	21.656
183	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
184	<i>Dyopsis cabadae</i>	0.00724	0.00580	27.261	13.268	40.530
185	<i>Dyopsis cabadae</i>	0.00809	0.00647	30.430	14.622	45.052
186	<i>Dyopsis cabadae</i>	0.00899	0.00719	33.824	16.054	49.878
187	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333
188	<i>Dyopsis cabadae</i>	0.00650	0.00520	24.447	12.051	36.498
189	<i>Dyopsis cabadae</i>	0.00598	0.00478	22.496	11.197	33.693
190	<i>Dyopsis cabadae</i>	0.00454	0.00363	17.084	8.780	25.864
191	<i>Dyopsis cabadae</i>	0.00396	0.00317	14.892	7.777	22.669
192	<i>Dyopsis cabadae</i>	0.00708	0.00566	26.626	12.995	39.621
193	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.781	11.760	35.541
194	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
195	<i>Dyopsis cabadae</i>	0.00573	0.00459	21.571	10.789	32.360
196	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
197	<i>Dyopsis cabadae</i>	0.00724	0.00580	27.261	13.268	40.530
198	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.368	12.451	37.818
199	<i>Dyopsis cabadae</i>	0.00563	0.00451	21.198	10.624	31.823

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
200	<i>Dyopsis cabadae</i>	0.00516	0.00413	19.414	9.830	29.244
201	<i>Dyopsis cabadae</i>	0.00469	0.00376	17.663	9.042	26.706
202	<i>Dyopsis cabadae</i>	0.00730	0.00584	27.482	13.363	40.845
203	<i>Dyopsis cabadae</i>	0.00678	0.00543	25.521	12.517	38.038
204	<i>Dyopsis cabadae</i>	0.00724	0.00580	27.260	13.268	40.528
205	<i>Dyopsis cabadae</i>	0.00770	0.00616	28.992	14.010	43.002
206	<i>Dyopsis cabadae</i>	0.00576	0.00461	21.668	10.832	32.500
207	<i>Dyopsis cabadae</i>	0.00510	0.00408	19.174	9.723	28.897
208	<i>Dyopsis cabadae</i>	0.00563	0.00451	21.198	10.624	31.823
209	<i>Dyopsis cabadae</i>	0.00516	0.00413	19.414	9.830	29.244
210	<i>Dyopsis cabadae</i>	0.00469	0.00376	17.663	9.042	26.706
211	<i>Dyopsis cabadae</i>	0.00876	0.00701	32.966	15.694	48.659
212	<i>Dyopsis cabadae</i>	0.00678	0.00543	25.521	12.517	38.038
213	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
214	<i>Dyopsis cabadae</i>	0.00535	0.00428	20.133	10.151	30.284
215	<i>Dyopsis cabadae</i>	0.00576	0.00461	21.668	10.832	32.500
216	<i>Dyopsis cabadae</i>	0.00617	0.00493	23.201	11.506	34.707
217	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
218	<i>Dyopsis cabadae</i>	0.00575	0.00460	21.631	10.816	32.447
219	<i>Dyopsis cabadae</i>	0.00526	0.00421	19.802	10.003	29.806

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
220	<i>Dyopsis cabadae</i>	0.00479	0.00383	18.010	9.199	27.208
221	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
222	<i>Dyopsis cabadae</i>	0.00663	0.00530	24.941	12.266	37.207
223	<i>Dyopsis cabadae</i>	0.00708	0.00566	26.626	12.995	39.621
224	<i>Dyopsis cabadae</i>	0.00752	0.00602	28.301	13.715	42.016
225	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
226	<i>Dyopsis cabadae</i>	0.00624	0.00499	23.489	11.632	35.121
227	<i>Dyopsis cabadae</i>	0.00575	0.00460	21.631	10.816	32.447
228	<i>Dyopsis cabadae</i>	0.00526	0.00421	19.802	10.003	29.806
229	<i>Dyopsis cabadae</i>	0.00479	0.00383	18.010	9.199	27.208
230	<i>Dyopsis cabadae</i>	0.00741	0.00593	27.894	13.540	41.434
231	<i>Dyopsis cabadae</i>	0.00663	0.00530	24.941	12.266	37.207
232	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
233	<i>Dyopsis cabadae</i>	0.00522	0.00418	19.654	9.937	29.591
234	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
235	<i>Dyopsis cabadae</i>	0.00709	0.00567	26.681	13.019	39.700
236	<i>Dyopsis cabadae</i>	0.00646	0.00517	24.311	11.991	36.302
237	<i>Dyopsis cabadae</i>	0.00540	0.00432	20.333	10.240	30.573
238	<i>Dyopsis cabadae</i>	0.00495	0.00396	18.637	9.482	28.119
239	<i>Dyopsis cabadae</i>	0.00451	0.00361	16.971	8.728	25.699

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
240	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333
241	<i>Dyopsis cabadae</i>	0.00786	0.00629	29.581	14.261	43.843
242	<i>Dyopsis cabadae</i>	0.00876	0.00701	32.966	15.694	48.659
243	<i>Dyopsis cabadae</i>	0.00807	0.00646	30.372	14.598	44.970
244	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
245	<i>Dyopsis cabadae</i>	0.00535	0.00428	20.133	10.151	30.284
246	<i>Dyopsis cabadae</i>	0.00471	0.00377	17.737	9.076	26.813
247	<i>Dyopsis cabadae</i>	0.00413	0.00330	15.531	8.071	23.602
248	<i>Dyopsis cabadae</i>	0.00414	0.00331	15.585	8.096	23.681
249	<i>Dyopsis cabadae</i>	0.00775	0.00620	29.162	14.083	43.244
250	<i>Dyopsis cabadae</i>	0.00709	0.00567	26.681	13.019	39.700
251	<i>Dyopsis cabadae</i>	0.00660	0.00528	24.839	12.221	37.060
252	<i>Dyopsis cabadae</i>	0.00611	0.00489	23.009	11.422	34.431
253	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
254	<i>Dyopsis cabadae</i>	0.00771	0.00617	29.001	14.014	43.015
255	<i>Dyopsis cabadae</i>	0.00716	0.00573	26.953	13.136	40.089
256	<i>Dyopsis cabadae</i>	0.00598	0.00478	22.496	11.197	33.693
257	<i>Dyopsis cabadae</i>	0.00454	0.00363	17.084	8.780	25.864
258	<i>Dyopsis cabadae</i>	0.00396	0.00317	14.892	7.777	22.669
259	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
260	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.781	11.760	35.541
261	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.358	12.447	37.805
262	<i>Dyopsis cabadae</i>	0.00825	0.00660	31.062	14.891	45.953
263	<i>Dyopsis cabadae</i>	0.00646	0.00517	24.311	11.991	36.302
264	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.051	11.001	33.051
265	<i>Dyopsis cabadae</i>	0.00540	0.00432	20.333	10.240	30.573
266	<i>Dyopsis cabadae</i>	0.00495	0.00396	18.637	9.482	28.119
267	<i>Dyopsis cabadae</i>	0.00451	0.00361	16.971	8.728	25.699
268	<i>Dyopsis cabadae</i>	0.00842	0.00674	31.698	15.159	46.857
269	<i>Dyopsis cabadae</i>	0.00786	0.00629	29.581	14.261	43.843
270	<i>Dyopsis cabadae</i>	0.00730	0.00584	27.482	13.363	40.845
271	<i>Dyopsis cabadae</i>	0.00561	0.00448	21.092	10.577	31.669
272	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
273	<i>Dyopsis cabadae</i>	0.00647	0.00518	24.361	12.013	36.374
274	<i>Dyopsis cabadae</i>	0.00576	0.00461	21.668	10.832	32.500
275	<i>Dyopsis cabadae</i>	0.00460	0.00368	17.305	8.880	26.185
276	<i>Dyopsis cabadae</i>	0.00413	0.00330	15.531	8.071	23.602
277	<i>Dyopsis cabadae</i>	0.00460	0.00368	17.317	8.886	26.202
278	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.782	11.761	35.543
279	<i>Dyopsis cabadae</i>	0.00617	0.00493	23.201	11.506	34.707

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
280	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.358	12.447	37.805
281	<i>Dyopsis cabadae</i>	0.00734	0.00587	27.611	13.419	41.030
282	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.782	11.761	35.543
283	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.051	11.001	33.051
284	<i>Dyopsis cabadae</i>	0.00529	0.00423	19.901	10.047	29.948
285	<i>Dyopsis cabadae</i>	0.00485	0.00388	18.249	9.307	27.556
286	<i>Dyopsis cabadae</i>	0.00442	0.00353	16.624	8.571	25.195
287	<i>Dyopsis cabadae</i>	0.00826	0.00660	31.064	14.891	45.955
288	<i>Dyopsis cabadae</i>	0.00771	0.00617	29.001	14.014	43.015
289	<i>Dyopsis cabadae</i>	0.00716	0.00573	26.953	13.136	40.089
290	<i>Dyopsis cabadae</i>	0.00662	0.00530	24.927	12.259	37.186
291	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
292	<i>Dyopsis cabadae</i>	0.00663	0.00530	24.941	12.266	37.207
293	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
294	<i>Dyopsis cabadae</i>	0.00471	0.00377	17.737	9.076	26.813
295	<i>Dyopsis cabadae</i>	0.00413	0.00330	15.531	8.071	23.602
296	<i>Dyopsis cabadae</i>	0.00433	0.00346	16.278	8.413	24.691
297	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.368	12.451	37.818
298	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
299	<i>Dyopsis cabadae</i>	0.00842	0.00674	31.698	15.159	46.857

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
300	<i>Dyopsis cabadae</i>	0.00936	0.00748	35.204	16.632	51.836
301	<i>Dyopsis cabadae</i>	0.00730	0.00584	27.482	13.363	40.845
302	<i>Dyopsis cabadae</i>	0.00561	0.00448	21.092	10.577	31.669
303	<i>Dyopsis cabadae</i>	0.00494	0.00395	18.603	9.466	28.069
304	<i>Dyopsis cabadae</i>	0.00433	0.00347	16.308	8.426	24.734
305	<i>Dyopsis cabadae</i>	0.00377	0.00302	14.200	7.456	21.656
306	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.358	12.447	37.805
307	<i>Dyopsis cabadae</i>	0.00694	0.00555	26.101	12.768	38.869
308	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
309	<i>Dyopsis cabadae</i>	0.00599	0.00479	22.530	11.212	33.742
310	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.368	12.451	37.818
311	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
312	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333
313	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.064	11.006	33.070
314	<i>Dyopsis cabadae</i>	0.00537	0.00429	20.191	10.177	30.367
315	<i>Dyopsis cabadae</i>	0.00405	0.00324	15.239	7.936	23.175
316	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
317	<i>Dyopsis cabadae</i>	0.00647	0.00518	24.361	12.013	36.374
318	<i>Dyopsis cabadae</i>	0.00691	0.00553	25.992	12.721	38.713
319	<i>Dyopsis cabadae</i>	0.00734	0.00587	27.611	13.419	41.030

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
320	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
321	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810
322	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.064	11.006	33.070
323	<i>Dyopsis cabadae</i>	0.00537	0.00429	20.191	10.177	30.367
324	<i>Dyopsis cabadae</i>	0.00405	0.00324	15.239	7.936	23.175
325	<i>Dyopsis cabadae</i>	0.00724	0.00580	27.260	13.268	40.528
326	<i>Dyopsis cabadae</i>	0.00647	0.00518	24.361	12.013	36.374
327	<i>Dyopsis cabadae</i>	0.00576	0.00461	21.668	10.832	32.500
328	<i>Dyopsis cabadae</i>	0.00510	0.00408	19.174	9.723	28.897
329	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
330	<i>Dyopsis cabadae</i>	0.00771	0.00617	29.001	14.014	43.015
331	<i>Dyopsis cabadae</i>	0.00716	0.00573	26.953	13.136	40.089
332	<i>Dyopsis cabadae</i>	0.00598	0.00478	22.496	11.197	33.693
333	<i>Dyopsis cabadae</i>	0.00454	0.00363	17.084	8.780	25.864
334	<i>Dyopsis cabadae</i>	0.00396	0.00317	14.892	7.777	22.669
335	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
336	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.781	11.760	35.541
337	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.358	12.447	37.805
338	<i>Dyopsis cabadae</i>	0.00899	0.00719	33.824	16.054	49.878
339	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
340	<i>Dyopsis cabadae</i>	0.00650	0.00520	24.447	12.051	36.498
341	<i>Dyopsis cabadae</i>	0.00598	0.00478	22.496	11.197	33.693
342	<i>Dyopsis cabadae</i>	0.00454	0.00363	17.084	8.780	25.864
343	<i>Dyopsis cabadae</i>	0.00396	0.00317	14.892	7.777	22.669
344	<i>Dyopsis cabadae</i>	0.00708	0.00566	26.626	12.995	39.621
345	<i>Dyopsis cabadae</i>	0.00663	0.00530	24.941	12.266	37.207
346	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
347	<i>Dyopsis cabadae</i>	0.00522	0.00418	19.654	9.937	29.591
348	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
349	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
350	<i>Dyopsis cabadae</i>	0.00702	0.00562	26.425	12.908	39.333
351	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.064	11.006	33.070
352	<i>Dyopsis cabadae</i>	0.00537	0.00429	20.191	10.177	30.367
353	<i>Dyopsis cabadae</i>	0.00405	0.00324	15.239	7.936	23.175
354	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
355	<i>Dyopsis cabadae</i>	0.00647	0.00518	24.361	12.013	36.374
356	<i>Dyopsis cabadae</i>	0.00691	0.00553	25.992	12.721	38.713
357	<i>Dyopsis cabadae</i>	0.00734	0.00587	27.611	13.419	41.030
358	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
359	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
360	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.064	11.006	33.070
361	<i>Dyopsis cabadae</i>	0.00537	0.00429	20.191	10.177	30.367
362	<i>Dyopsis cabadae</i>	0.00405	0.00324	15.239	7.936	23.175
363	<i>Dyopsis cabadae</i>	0.00724	0.00580	27.260	13.268	40.528
364	<i>Dyopsis cabadae</i>	0.00647	0.00518	24.361	12.013	36.374
365	<i>Dyopsis cabadae</i>	0.00576	0.00461	21.668	10.832	32.500
366	<i>Dyopsis cabadae</i>	0.00548	0.00438	20.612	10.364	30.977
367	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
368	<i>Dyopsis cabadae</i>	0.00632	0.00506	23.781	11.760	35.541
369	<i>Dyopsis cabadae</i>	0.00562	0.00449	21.140	10.598	31.738
370	<i>Dyopsis cabadae</i>	0.00688	0.00551	25.896	12.680	38.576
371	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810
372	<i>Dyopsis cabadae</i>	0.00586	0.00469	22.064	11.006	33.070
373	<i>Dyopsis cabadae</i>	0.00954	0.00763	35.894	16.920	52.814
374	<i>Dyopsis cabadae</i>	0.00741	0.00593	27.894	13.540	41.434
375	<i>Dyopsis cabadae</i>	0.00856	0.00685	32.207	15.374	47.581
376	<i>Dyopsis cabadae</i>	0.00590	0.00472	22.197	11.065	33.262
377	<i>Dyopsis cabadae</i>	0.00522	0.00418	19.654	9.937	29.591
378	<i>Dyopsis cabadae</i>	0.00460	0.00368	17.305	8.880	26.185
379	<i>Dyopsis cabadae</i>	0.00826	0.00660	31.064	14.891	45.955

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
380	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810
381	<i>Dyopsis cabadae</i>	0.00716	0.00573	26.953	13.136	40.089
382	<i>Dyopsis cabadae</i>	0.00802	0.00641	30.161	14.508	44.669
383	<i>Dyopsis cabadae</i>	0.00618	0.00494	23.254	11.529	34.783
384	<i>Dyopsis cabadae</i>	0.00604	0.00483	22.725	11.298	34.023
385	<i>Dyopsis cabadae</i>	0.00535	0.00428	20.133	10.151	30.284
386	<i>Dyopsis cabadae</i>	0.00522	0.00418	19.654	9.937	29.591
387	<i>Dyopsis cabadae</i>	0.00674	0.00539	25.368	12.451	37.818
388	<i>Dyopsis cabadae</i>	0.00755	0.00604	28.421	13.766	42.187
389	<i>Dyopsis cabadae</i>	0.00744	0.00595	28.010	13.590	41.600
390	<i>Dyopsis cabadae</i>	0.00758	0.00607	28.539	13.816	42.355
391	<i>Dyopsis cabadae</i>	0.00637	0.00510	23.968	11.842	35.810
392	<i>Dyopsis cabadae</i>	0.00611	0.00489	23.009	11.422	34.431
393	<i>Dyopsis cabadae</i>	0.00251	0.00263	12.387	6.609	18.995
394	<i>Dyopsis cabadae</i>	0.00331	0.00348	16.364	8.452	24.817
395	<i>Dyopsis cabadae</i>	0.00341	0.00358	16.819	8.659	25.478
396	<i>Dyopsis cabadae</i>	0.00200	0.00210	9.865	5.405	15.270
397	<i>Dyopsis cabadae</i>	0.00285	0.00300	14.093	7.407	21.500
398	<i>Dyopsis cabadae</i>	0.00258	0.00271	12.740	6.775	19.516
399	<i>Dyopsis cabadae</i>	0.00302	0.00317	14.898	7.780	22.678

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
400	<i>Dyopsis cabadae</i>	0.00206	0.00216	10.173	5.554	15.727
401	<i>Dyopsis cabadae</i>	0.00322	0.00338	15.910	8.245	24.154
402	<i>Dyopsis cabadae</i>	0.00269	0.00282	13.288	7.032	20.319
403	<i>Dyopsis cabadae</i>	0.01606	0.01156	54.392	24.428	78.820
404	<i>Dyopsis cabadae</i>	0.00318	0.00229	10.786	5.848	16.633
405	<i>Dyopsis cabadae</i>	0.00696	0.00501	23.584	11.674	35.258
406	<i>Dyopsis cabadae</i>	0.00774	0.00557	26.209	12.815	39.024
407	<i>Dyopsis cabadae</i>	0.01131	0.00815	38.316	17.924	56.240
408	<i>Dyopsis cabadae</i>	0.00803	0.00578	27.180	13.233	40.413
409	<i>Dyopsis cabadae</i>	0.02251	0.01621	76.241	32.921	109.162
410	<i>Dyopsis cabadae</i>	0.08569	0.05142	241.849	91.300	333.149
411	<i>Dyopsis cabadae</i>	0.04473	0.02684	126.236	51.402	177.638
412	<i>Dyopsis cabadae</i>	0.02466	0.01480	69.603	30.375	99.978
413	<i>Dyopsis cabadae</i>	0.07110	0.04266	200.666	77.417	278.083
414	<i>Dyopsis cabadae</i>	0.00860	0.00619	29.121	14.065	43.186
415	<i>Dyopsis cabadae</i>	0.01144	0.00824	38.760	18.108	56.868
416	<i>Dyopsis cabadae</i>	0.01651	0.01189	55.912	25.031	80.943
417	<i>Dyopsis cabadae</i>	0.01521	0.01095	51.528	23.288	74.816
418	<i>Dyopsis cabadae</i>	0.01362	0.00981	46.132	21.120	67.252
419	<i>Dyopsis cabadae</i>	0.01318	0.00949	44.633	20.512	65.145

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
420	<i>Dyopsis cabadae</i>	0.01473	0.01060	49.872	22.626	72.498
421	<i>Dyopsis cabadae</i>	0.01692	0.01218	57.310	25.583	82.893
422	<i>Dyopsis cabadae</i>	0.01831	0.01318	62.015	27.430	89.445
423	<i>Dyopsis cabadae</i>	0.00884	0.00928	43.653	20.113	63.766
424	<i>Dyopsis cabadae</i>	0.00917	0.00963	45.299	20.782	66.082
425	<i>Dyopsis cabadae</i>	0.00918	0.00964	45.347	20.802	66.148
426	<i>Dyopsis cabadae</i>	0.00774	0.00813	38.228	17.888	56.116
427	<i>Dyopsis cabadae</i>	0.09554	0.06879	323.567	118.080	441.647
428	<i>Dyopsis cabadae</i>	0.05382	0.03875	182.276	71.114	253.390
429	<i>Dyopsis cabadae</i>	0.05688	0.04095	192.626	74.670	267.296
430	<i>Dyopsis cabadae</i>	0.06671	0.04803	225.941	85.973	311.913
431	<i>Dyopsis cabadae</i>	0.06147	0.04426	208.191	79.977	288.168
432	<i>Dyopsis cabadae</i>	0.06479	0.04665	219.439	83.783	303.222
433	<i>Dyopsis cabadae</i>	0.05218	0.03757	176.711	69.192	245.903
434	<i>Caesalpinia pulcherrima</i>	0.00796	0.00836	39.322	18.340	57.662
435	<i>Caesalpinia pulcherrima</i>	0.00952	0.00999	47.012	21.475	68.488
436	<i>Caesalpinia pulcherrima</i>	0.01204	0.01264	59.455	26.427	85.883
437	<i>Caesalpinia pulcherrima</i>	0.01347	0.01414	66.508	29.179	95.687
438	<i>Caesalpinia pulcherrima</i>	0.00840	0.00882	41.468	19.221	60.689
439	<i>Caesalpinia pulcherrima</i>	0.00756	0.00794	37.356	17.527	54.884

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
440	<i>Gymnosperm spp</i>	0.08218	0.05917	278.320	103.365	381.684
441	<i>Plumeria acuminata</i>	0.03533	0.02544	119.655	49.027	168.682
442	<i>Gymnosperm spp</i>	0.03121	0.02247	105.699	43.938	149.637
443	<i>Caesalpinia pulcherrima</i>	0.00462	0.00486	22.838	11.347	34.186
444	<i>Caesalpinia pulcherrima</i>	0.00657	0.00690	32.441	15.473	47.914
445	<i>Caesalpinia pulcherrima</i>	0.00874	0.00918	43.160	19.913	63.073
446	<i>Plumeria acuminata</i>	0.07990	0.05753	270.589	100.823	371.412
447	<i>Polyalthia longifolia</i>	0.09388	0.06759	317.941	116.264	434.206
448	<i>Polyalthia longifolia</i>	0.12261	0.08828	415.237	147.197	562.434
449	<i>Polyalthia longifolia</i>	0.13455	0.09688	455.691	159.799	615.489
450	<i>Polyalthia longifolia</i>	0.08571	0.06171	290.261	107.274	397.535
451	<i>Polyalthia longifolia</i>	0.10073	0.07252	341.132	123.726	464.858
452	<i>Polyalthia longifolia</i>	0.09977	0.07184	337.901	122.691	460.592
453	<i>Polyalthia longifolia</i>	0.07499	0.05400	253.979	95.335	349.314
454	<i>Polyalthia longifolia</i>	0.13456	0.09689	455.725	159.809	615.535
455	<i>Polyalthia longifolia</i>	0.12008	0.08646	406.676	144.512	551.188
456	<i>Magnolia champaca</i>	0.01110	0.00666	31.321	15.000	46.321
457	<i>Magnolia champaca</i>	0.01380	0.00828	38.936	18.181	57.116
458	<i>Magnolia champaca</i>	0.01279	0.00768	36.110	17.010	53.120
459	<i>Bougainvillea glabra</i>	0.00505	0.00364	17.117	8.795	25.911

Sr. No.	Tree Species	Volume (m3/tree)	Biomass of VOB	Above ground Carbon (Kg)	Below ground Carbon (Kg)	Total carbon (Kg)
460	<i>Bougainvillea glabra</i>	0.00617	0.00444	20.897	10.491	31.388
461	<i>Bougainvillea glabra</i>	0.00432	0.00311	14.617	7.649	22.266
462	<i>Bougainvillea glabra</i>	0.00581	0.00419	19.686	9.951	29.637
463	<i>Bougainvillea glabra</i>	0.00459	0.00330	15.531	8.071	23.602
464	<i>Bougainvillea glabra</i>	0.00657	0.00473	22.245	11.086	33.332
465	<i>Bougainvillea glabra</i>	0.00789	0.00568	26.733	13.041	39.774
466	<i>Bougainvillea glabra</i>	0.00689	0.00496	23.331	11.563	34.895
467	<i>Bougainvillea glabra</i>	0.00522	0.00376	17.687	9.053	26.741
468	<i>Bougainvillea glabra</i>	0.00462	0.00333	15.661	8.130	23.791
469	<i>Bougainvillea glabra</i>	0.00874	0.00629	29.596	14.268	43.863
470	<i>Bougainvillea glabra</i>	0.00720	0.00518	24.374	12.019	36.393
471	<i>Bougainvillea glabra</i>	0.00637	0.00459	21.571	10.789	32.360
472	<i>Bougainvillea glabra</i>	0.00532	0.00383	18.016	9.202	27.218
473	<i>Bougainvillea glabra</i>	0.00603	0.00434	20.415	10.276	30.691
474	<i>Bougainvillea glabra</i>	0.00673	0.00485	22.802	11.331	34.133
475	<i>Caesalpinia pulcherrima</i>	0.00689	0.00723	34.025	16.139	50.164
476	<i>Caesalpinia pulcherrima</i>	0.00569	0.00597	28.086	13.622	41.708
477	<i>Dypsis cabadae</i>	0.00206	0.00149	6.989	3.986	10.975
	TOTAL	9.641	6.821	32082.63	12560.58	44643.21

Total Carbon sequestrated in Tree/shrubs is 44.64 Ton

In Govindrao Nikam College of Pharmacy, Sawarde campus total 477 tree/shrub were found. But majority of them are shrub. The most common species were *Dyopsis cabadae*, *Magnolia champaca*, *Bougainvillea glabra*. The tree/shrubs have average height of 5 m. Total volume is 9.641, Biomass of Volume Over Bark is 6.821, Total above ground Carbon stock in these 477 tree/shrub is **32082.63 kg** while, total below ground Carbon is **12560.58 kg**.

In 477 tree/shrub of college campus total carbon sequestered is **44.64 Ton**. As compared to total College campus area many plants are flourishing. Total campus is beautiful with greenery of herbs, shrubs, tree, climbers etc. Tree and shrubs are in developing condition now and carbon sequestration will be increased day by day with increase in biomass. Proper care of all the plants is taken by college. The college is also active in plantation drive and following other ecofriendly ways. Students and staff of college is engaged in various environment conservation activities. In conclusion Govindrao Nikam College of Pharmacy, Sawarde is actively engaged in environment conservation initiatives and with proper care of 477 tree/shrub in area of 3.5 acres with total carbon sequestration of 44.64 Ton. This carbon credit in college campus is green initiative towards capturing atmospheric CO₂ and mitigation of climate change and global warming. It is highly appreciated.



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