India
Healthy forests, healthy people, healthy climate
News from the Field (July 2021–June 2022)

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Conservation International

Note: This project is implemented by Applied Environmental Research Foundation (AERF), a non-governmental organization in India.

Carbon Stock Estimation of Kalamabaste Community Forest

It is a well-known fact that forests play a significant role in storing and sequestering significant amount of carbon from the atmosphere; thereby, regulating the climate over thousands of years. As global warming has intensified in recent years, there is growing interest in nature-based solutions (NBS) globally for mitigating climate change and achieving net zero commitments by the private sector. Through this project, we are collaborating with stakeholders to conduct forest conservation for offsetting carbon emissions. Through this process, we have once again realized the importance of forests.

Irrespective of the significant growth in voluntary carbon market and increasing prices for certified carbon credits, accessing carbon financing for forest conservation is challenging to say the least. The most difficult part is to prove the additionality and arriving at consensus about the rate of degradation. Our experience in the field over the last few years tells us that extensive field work for collecting primary data on carbon stock estimation is critical for clearly addressing the gaps in perception on the potential of these forests in carbon sequestration. The data also helps in clearing misunderstanding or confusion about the health of forests based solely on satellite imagery.

The AERF team achieved an important milestone in this context last year. The team successfully completed the forest carbon estimation of Kalambaste community forest under conservation agreement for the second time in the previous six years. The first such assessment was conducted in 2015. This repeated assessment helped us understand incremental growth in biomass in this forest spread over 538 acres and consequently estimate growth in carbon stock over the past six years. As a result, and most importantly, we calculated the potential of this forest in carbon dioxide emissions per acre per year.

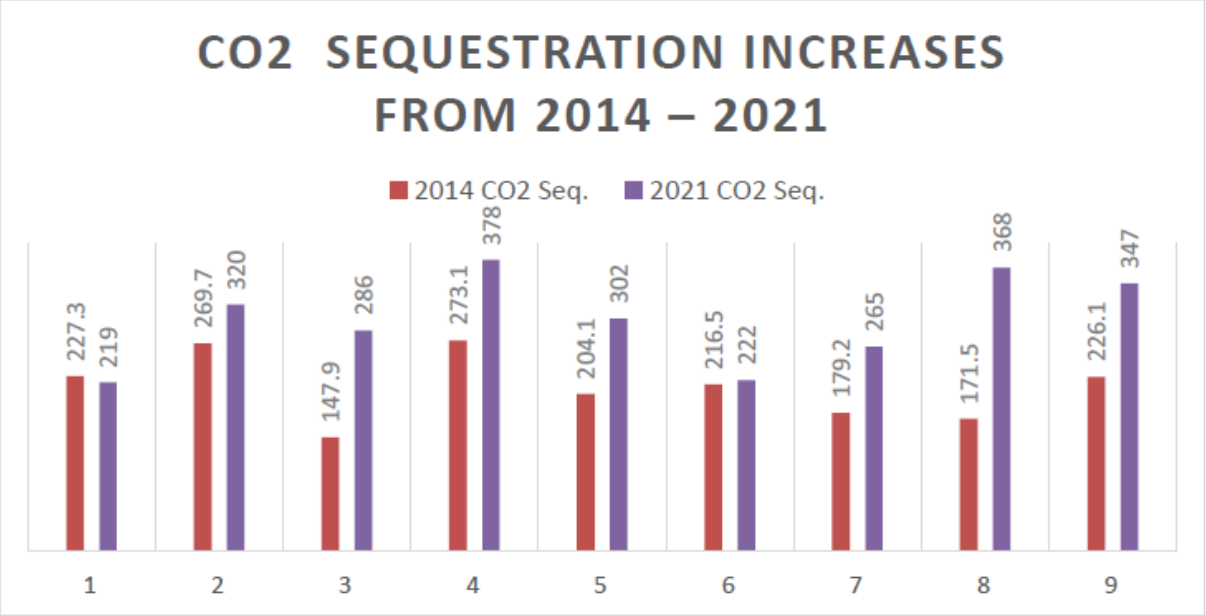
This is likely the first such study in India where incremental growth in biomass and carbon stock has been estimated through collection of primary data, which serves an important purpose for estimating the amount of CO2 sequestered in forests per acre/year in the years to come.

Data collected in 2015 and 2021 are as follows

Grid	2014 Carbon Stock (tons)	2021 Carbon Stock (tons)
1	61.94	59.74
2	73.48	87.13
3	40.31	78.04
4	74.42	102.92
5	55.6	82.21
6	58.99	60.44
7	48.84	72.22
8	46.74	100.22
9	61.62	94.65

Grid wise comparative carbon stock numbers (2014—2021)

(unit: ton)



Respective increase in CO2 sequestration per grid (2014—2021)

The table below shows the significance of the community and privately owned forests in the northwestern Ghats in mitigating climate change. More importantly, we value the commitment of local communities in protecting the forests that they agreed to through signing of an agreement. We feel that our approach and efforts to continuously engage with local communities for capacity building in conservation has ensured the social sustainability of this initiative.

Summary of findings on carbon stock estimation in Kalambaste community forest	
Tons of Carbon stock increased in 6 years in 9 grids	215.62
Tons of Carbon stock per hectares in 6 years	23.96
Tons of Carbon stock increases per acre in 6 years	9.70
Tons of Carbon stock increases per acre per year	1.62
Tons of CO_2 sequestration per acre per year	5.93
Tons of CO_2 sequestration per year in total 538 acres	3,190

Summary of findings on carbon stock estimation in Kalambaste community forest from the study

AERF team during the field work with community members
in Kalambaste community forest

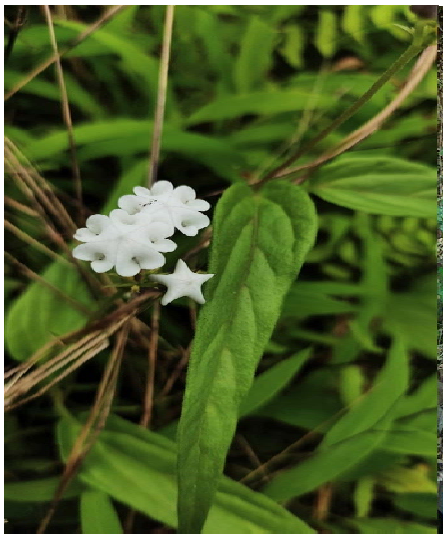
Community forest under agreement and community members engaged in carbon stock estimation

Biodiversity Monitoring Across Seasons in Forests under Conservation Agreements

AERF field researchers dedicated biodiversity monitoring in Bamnoli private forest has resulted in interesting and new findings in the last year. First, the camera traps deployed in this forest caught the image of Jerdon's palm civet. This civet was captured on trail camera for the first time in the private forests of northwestern Ghats. Besides that it is a rare animal, this civet is endemic to the Western Ghats.

Similarly, our researcher found another important plant species (Ceropegia huberi) in these forests. This plant is endemic to northwestern Ghats, making these forests even more important from a biodiversity conservation perspective.

Bamnoli private forest area



Ceropegia huberi

Jerdon's palm civet