The Economics of Ecosystems and Biodiversity for Agriculture and Food (TEEBAgriFood) aims at equipping decision-makers with the tools and information to recognise the value that ecosystems provide to food systems

T E E B A G R I F O O D

K E N Y A

TEEBAgriFood Kenya Initiative

TEEBAgriFood Kenya is a highly innovative initiative that provides quantitative evidence of the vast, yet largely hidden value of the exceptional diversity and ecosystem services found within the Mau Forest Complex. Through a series of community-led activities, a unique and empirical set of innovative scenarios was co-created and agreed upon – ranging from no change up to a full range of activities such as regenerative farming, carbon sequestration and restoration of the Mau Forest Complex. The scenarios are **Business as Usual** (300 USD/ha/yr); (ii) **Large-scale agroforestry** (757 USD/ha/yr); (iii) **Forest gardening** (1,816 USD/ha/yr); (iv) **Carbon farming** (2,493 USD/ha/yr). Carbon sequestration from 0 – 18t/ha/year.

Research findings show that ***Carbon Farming and Enhanced Forestry*** have the power to transform the Mau Forest Complex and the lives of those within its environs into an ecosystem of global importance for climate change and nature-based prosperity by 2030. They are projected to generate significant increases in carbon sequestration of up to 18t/ha per year, restore up to 20,000ha of the 190,00 ha forest removed since the 1960s and at least 500km of surface rivers of the 3000 km that have dried up. They will generate an increase of 1,800 – 2,500 USD per ha per year through improvements in crop yields, non-timber products and carbon credits (27USD/tC02e) and create positive social economic impacts for more than 100,000 households across the **Mau Forest Complex**.

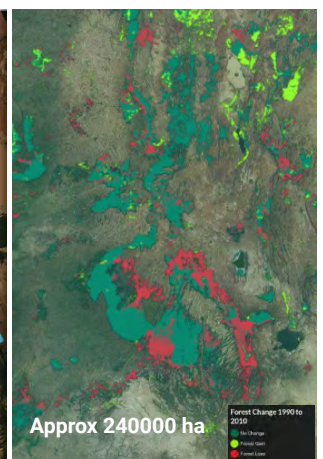### MAPPING OF THE FOREST 1960s-2020
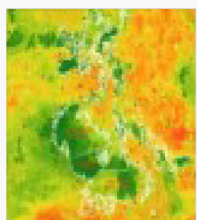

1 Baseline
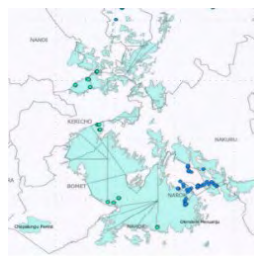
Digitisation of 1960s Sok

391352 ha

Approx 240000 ha

6 Scenarios

MAU MARA COMMUNITY NATURAL CAPITAL SCENARIOS

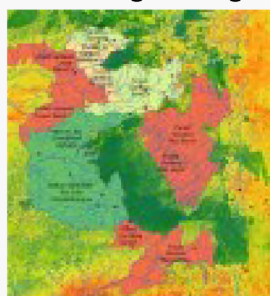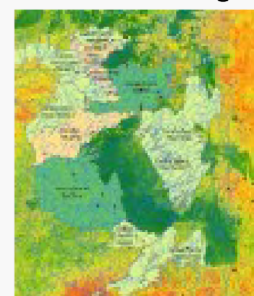| Scenarios	δ CO$_2$ t/ha	USD/ha
Carbon farming	18	2600
Forest gardening	12	1300
Large scale agroforestry	3	630
Current BAU	0	300
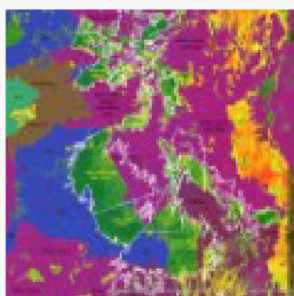
Current BAU · **Large scale agroforestry** · **Forest gardening** · **Carbon farming**

KEY MESSAGES: MAJOR ACHIEVEMENTS

i. Through the TEEBAgriFood project in Kenya, communities across the Mau Forest Complex are now able to undertake projects and generate evidence of the highest quality suitable for climate change, carbon and natural capital monitoring, reporting and evaluation.

ii. Using processes of co-design and co-production; the TEEB community teams have developed and implemented an innovative, multilingual, digital platform. This was to accurately and consistently record the spatial distribution and health of more than 360 species of indigenous trees and forest cover across the MFC.

iii. TEEBAgriFood in Kenya has created a unique database of global significance for the Mau Forest Complex. This database is fusing the latest earth observation and climate data and information via the Digital Earth Africa platform with digitised archival data from the 1960s and validating it with communities on the ground to create the foundations of a digital twin for the Mau Forest Complex.

iv. TEEB Prosperity workshops, facilitated by ProCol Kenya, provided a means to change community perceptions about nature and the need to invest in the natural capital of the Mau Forest Complex to support local food systems and connect to global supply chains.

v. As a result of the TEEBAgriFood activities, communities across the Mau Forest Complex now have a greater understanding of national and global climate and biodiversity policies and an ability to see how these link to their own lives.

vi. By bringing social and natural capital valuation together in three major activities - agroforestry, landscape restoration and clean energy - the TEEBAgriFood approach is enabling communities in the Mau Forest Complex to better understand the long-term benefits of forest restoration, as opposed to short-term economic gains of land clearance.

Current Mau Ecosystem Land Use Type	Economic Value USD/Ha
Livestock	5,106
Carbon Sequestrating Fruit Tree - Tea	3,700
Carbon Sequestrating Fruit Tree - Avocado	3,500
Grain Crop – Wheat Barley	1,500
NTFP – Honey	607
Food Crop – Maize	389
Carbon Farms	-
Plantation Timber	-