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The Environmental Foundation for Africa
WORKING FOR ENVIRONMENTAL PROTECTION AND REHABILITATION

RUSLP URBAN GREENING PROGRAM

#FreetownTheTreeTown Campaign implemented by The Environmental Foundation for Africa

FINAL PROJECT REPORT

JULY, 2023

Executive Summary

The Resilient Urban Sierra Leone Project (RUSLP), with co-financing from the World Bank and the Global Environment Facility (GEF) under the Sustainable Cities Impact Program, and technical assistance from the Global Facility for Disaster Reduction and Recovery (GFD supported the national government, Freetown City Council, and other local partners to achieve the #TransformFreetown Strategy through restoring and reforesting the city and surrounding. The objective is to improve integrated urban management, service delivery, and emergency disaster management in the country by combating the risks of landslides and flash-flooding, as well as rising urban heat stress, through community-based reforestation. The project provides biodiversity benefits through the planting of native trees such as mangroves and other local fast-growing, non-invasive fruit tree species. Trees grow are tracked by a third-party using the TreeTracker app on locally available smartphones to incentivize monitoring and not just tree planting, whilst also receiving micropayments into their smartphones on a periodic basis for keeping trees alive.

The Environmental Foundation for Africa (EFASL), signed an agreement with the Ministry of Finance under the World Bank-funded RSULP Urban Greening Program to implement one part of the #FreetownTheTreeTown campaign; a #TransformFreetown initiative of the Freetown City Council. The primary goal of the #FreetownTheTreeTown campaign is to increase the capital city's green space and vegetation cover by 50% forest cover, to 2018 levels, by the year 2025 with the planting of indigenous trees and shrubs, as nature-based solutions to environmental degradation in Freetown and immediate suburban environs, including the Western Area Peninsula National Park. The Environmental Foundation for Africa (EFA), a Sierra Leone – based Environmental NGO operating in West Africa has been tasked to managed the implementation of the Freetown City Council's (FCC) Tree Planting and Growing sub-project under Subcomponent 2a(Neighbourhood Upgrade and Urban Greening) of the Resilient Urban Sierra Leone Project, including recruitment of the required technical staff, and purchase and distribution of tree seedlings from community and commercial nurseries.The recognition that urban forest protection would be enhanced by efficient land-use planning and promoting best practices in the implementation and management of reforestation programs has precipitated the need for increased actions for planting and growing a million trees in Freetown and the Western Area peninsula.

The primary goal of the #FreetownTheTreeTown campaign is to increase the capital city's green space through partnerships with local communities, using innovative, disruptive, low-cost digital technology for tree tracking, and creating green jobs, especially for women and youths. The project also sought to increase tree species diversity to help build more resilient urban forests that have a greater potential to reduce flooding, control erosion, and landslide susceptibility, reduce heat stress and increase resilience that can help communities withstand the deleterious impacts of climate change and exposure to climate vulnerabilities.

The RUSLP-supported project was designed to achieve four key deliverables:
1. Plant, grow, and track 500,000 trees, shrubs, and grasses, city-wide under a climatic resilience approach to urban greening using nature-based solutions to mitigate climate risks by targeting two key land-use typologies:
i) Natural areas like urban forests with steep slopes, watershed areas and coastal wetland areas
ii) Urban areas and including communities/neighbourhoods and along roadsides or medians.
2. Community Tree Stewardship working with local suppliers, Community Based Organisations, and local community residents to become owners of the trees, assuring their survival and contribution to the city's green infrastructure.
3. Mapping existing trees and building a forest inventory for Freetown, measuring the volume of land restores, and measuring greenhouse gas (GHG) reductions by trees planted and grown under the #FreetownTheTreetown Campaign.
4. Establishing an Urban Forestry Strategy and action that strengthens the City Council's capacity to support and manage the urban forestry sector in Freetown and the Western Area Peninsula, through a multi-stakeholder governance structure that will manage tree planting, growing, and maintenance of the Freetown Urban Forest. It was agreed with the World Bank's Technical Lead for this project that the objective be shifted to a lessons learned document capturing the key outcomes achieved under this project.

The establishment of an intricate tree seedling purchasing, distribution, planting, and growing system utilized open-source online services, geospatial tagging, and third-party verification systems to ensure complete transparency during project execution. Achieving the age diversity of the urban forest is expected to reduce the likelihood of significant tree canopy loss at the localized level and reduce the potential for an increase in thermal hotspots in Freetown and the Western Area Peninsula.

The planting, tracking, and growing of trees using green technology is a relatively new concept in Sierra Leone in a time of unprecedented climatic changes and a decrease in urban forest cover in Freetown and the Western Area Peninsula.

From October 2020 to May 2023, EFASL and its CBO/NGO implementing partners have succeeded in planting and growing over 443,025 trees, shrubs, and grasses, representing about 80% of the total number of trees planted. All of this against the backdrop of worsening levels of deforestation, caused largely by the annual migration into the Western Area of over 100,000 individuals, many of whom are illegally encroaching deeper into the forest expanses of the national park. Thus the protection and survival of existing trees planted during the campaign will undoubtedly help to reduce the unnecessary removal of established and often remnant tree species, whilst aiming to halt any further reduction of tree canopy in the city in both the built environment and the protected areas.

The project created 1079 green jobs for youths (for both Phase I and 2) These include tree growers, daily workers, CBO staff, nursery staff, and attendants, casual laborers, and project staff. 47% of these jobs were taken by women and 53% by men. 1,235 Community Climate Action Ambassadors were trained in 19 reforestation areas within the 13 catchment areas (65 persons trained in each reforestation area) who helped to diversify climate narratives in the community. The FreetownTheTreeTown campaign has increased awareness of the problems faced in urban ecology and green spaces. There is a growing need for improved land use planning, management of public green spaces, and strong enforcement of policy regulations for the protection of forest reserves and coastal wetlands in the urban areas.

#FreetownTheTreeTown Campaign

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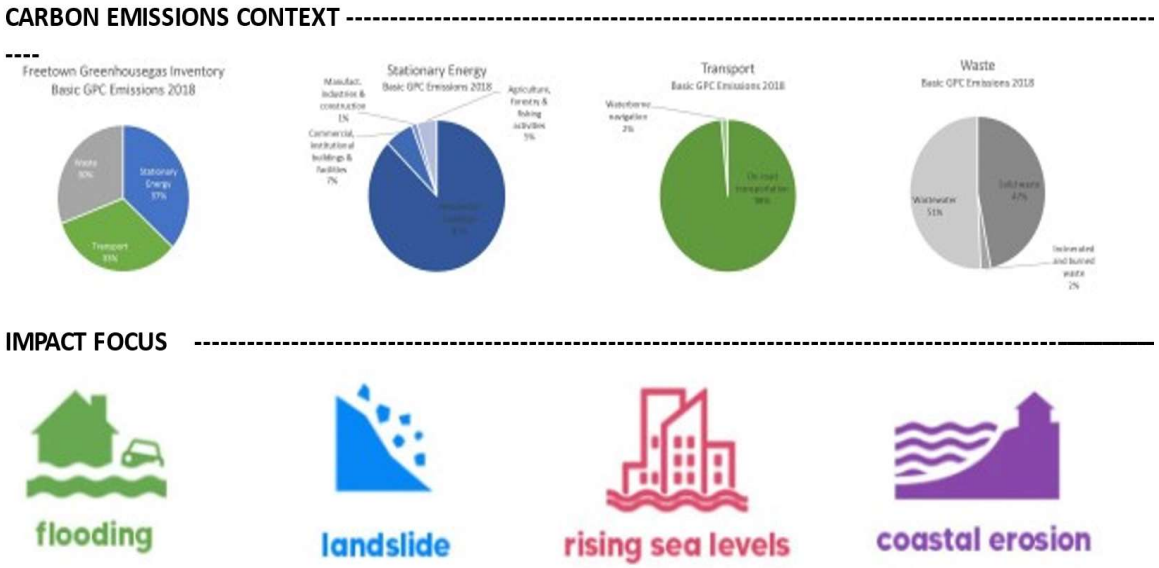
1. Introduction

Freetown, located at the seaward tip of a heavily forested, mountainous peninsula, is the capital of Sierra Leone, dominating its urban, economic, and social landscape. Each year, more than 100,000 people in search of employment move to the city, and the urban fringes continue to push deeper into the steep forest expanses outside the city. As a result, an equivalent of 12% of the total canopy in the area was lost per year between 2011 and 2018.

Loss of tree canopy directly affects catchment areas for water reserves, exacerbating the risks of landslides, flooding, and coastal erosion. Loss of tree and vegetation cover also threatens biodiversity. Against the backdrop of population expansion and rapid urbanization, the Freetown City Council came up with a plan to plant and grow 1 million trees by 2022—an effort that would increase the city's vegetation cover by 50%.

The #FreetowntheTreeTown—an unconventional tree-planting campaign. This innovative effort harnesses digital and disruptive technology to create employment opportunities for local youth during the COVID-19 pandemic; it also helps establish long-term climate resilience for the community. The campaign comes with ecosystem benefits that include reducing heat stress, improving air and water quality, and reducing flooding and landslide risks.

The campaign pioneers an innovative, sustainable tree-growing model. Freetown City Council, working



closely with the neighbouring Western Area Rural District Council, partnered with Greenstand; a nonprofit that develops open-source technology to manage environmental goods and services. Community-based growers use our TreeTracker app on smartphones to create a unique geotagged record for each new tree planted. To water and maintain, verify, and document the plant's survival, growers revisit each seedling periodically. The goal of this growing and monitoring model is to enhance community ownership over the entire tree-growing project chain—to ensure that the 80% tree-survival rate is achieved. The growing model also includes data collection and analysis on seedling purchasing, distribution, and management that allows for the measurement of ecosystem benefits that include reducing heat stress, improving air and water quality, and reducing flooding and landslide risks.

The Freetown City Council with funds co-financing from the World Bank and the Global Environment Facility (GEF) under the Sustainable Cities Impact Program, and technical assistance from the Global Facility for Disaster Reduction and Recovery (GFD under the Resilient Urban Sierra Leone Project sought to address the city's unique climate challenge through the implementation of the #FreetownTheTreeTownCampain. The Resilient Urban Sierra Leone Project (RUSLP) aims to improve

integrated urban management, service delivery, and disaster emergency management in Freetown and select cities of Sierra Leone through the following project components:

(1) Institutional and Capacity Development in Integrated Urban Management,
(2) Resilient Municipal Infrastructure Investment and Urban Greening,
(3) Emergency Management Institutional and Capacity Development, and
(4) Project Management.

Under sub-component (2a), the project is supporting the urban greening intervention designed by the Freetown City Council (FCC) through funding for seedling acquisition in years 1 and 2 of planting (2020 and 2021) and, canopy monitoring and asset management for the urban greening pilot program, to both track the effect of planting activities on the canopy cover over time and the adequate maintenance of trees at the local level. This activity will contribute to the FCC's goal to increase tree and vegetation cover by 50 percent from 2018 levels by 2022, as a core component of the Resilience Pillar in the "Transform Freetown" agenda for 2019–2022. Specifically, Global Environmental Facility (GEF) resources will be used toward this pilot activity that utilizes the sustainable spatial planning for expanding tree and vegetation cover in targeted upper catchment and high slope areas identified in Multi-city Hazards Assessment Report. The #FreetownTheTreeTownCampaign aims to strengthen the city's ability to manage natural resources and mitigate critical recurring hazards through scaling up spatial planning capacity with a robust data-driven approach. In addition, the Campaign will contribute to the government's effort to alleviate the short-term economic and poverty impacts of COVID-19 on vulnerable households through short-term job creation, especially for the youth, women, and other vulnerable groups.

2. Project Background

FreetownTheTreeTown campaign: Goals, objectives and Scope and project matrix
KEY PROJECT OBJECTIVES, METRICS, SCOPE, AND PARTNERSHIPS (2020 – 2022 IMPLEMENTATION)

Tree Growing Operational Structure
The Urban Greening Program harnesses strategic partnerships to establish and implement a comprehensive community-based planting and growing stewardship, and monitoring and evaluation model. This model aims to enhance community awareness, ownership, and stewardship over the entire tree planting to growing project chain to ensure that the targeted 80 percent tree survival rate is achieved. The Environmental Foundation for Africa (EFA) was selected to implement the project collaborating and/or partnering with the Freetown City Council and a network of technical experts from local institutions, Civil Society Organizations, Government of Sierra Leone Ministries, Department and Agencies. EFA also worked closely with an international technology firm, Greenstand, who were contracted by the GoSL to administer the project data management services for monitoring and evaluation. EFA was responsible for the overall project management related to planting and growing of trees, Shrubs and Grasses while Greenstand oversaw the development of the tree tracker app and dashboard as well as provide technical support to EFA staff undertaking tree verification and creation of related records.

The EFA following established public procurement processes selected and contracted 10 commercial nurseries to supply tree seedlings and engaged 10 CBO/NGOs for managing tree planting and growing operations at catchment level. The EFA and CBOs team identified and trained property owners who act as tree-growing 'Stewards' with over 50,000 stewards planting about 98,000 trees in and around private compounds during Phases I and II of the Project. Furthermore, the CBOs were responsible to coordinate the field staff, distribute tree seedlings, assign index numbers to each tree, help stewards care for trees, conduct weekly steward visits and monthly tree-growing progress over the duration of the project period.

3. Resilient Urban Sierra Leone Project
Urban Greening Sub-component: Goals, objectives, and Scope and project matrix

The Urban Greening Program under component 2 of the RUSLP is integrated within the greater 'Transform Freetown' Agenda implementation framework under the #FreetownTheTreeTown Campaign'. The joint aims of these programs are to enhance urban resilience and create a climate-resilient Freetown through planting and growing over 1 million trees across 13 catchments in Freetown in the 2020 and 2021 rainy seasons.

The Project was strategically divided into the following two phases:

(i) Phase 1- Risk Reduction: this phase (implemented in 2020) aims to plant approximately 500,000 trees in 48 planting areas in the upper catchment and high-slope areas identified in the World Bank multi-city hazard report and 'ThinkHazard!' map to address flood risk, landslide susceptibility and threats to the water supply, and

(ii) (ii) Phase 2- Achieving Climate resilience: this phase (implemented in 2021-2022) aims to enhance community engagement, participation, and impact through planting approximately 300,000 trees within communities, neighborhoods and public spaces for long-term localized climate resilience and ecosystem service benefits including localized heat stress reduction, air pollution reduction, rainfall water management, decreased flooding, and more.

Urban Greening Program, scope, and Approach

The Urban Greening program is integrated within the greater #TransformFreetown program under the '#FreetownTheTreeTownCampaign' which was launched in June 2019. The joint aims of these programs are to enhance urban resilience and create a climate-ready Freetown through planting and growing over 1 million trees across 13 catchments in Freetown in the 2020 and 2021 rainy seasons. The FCC strategically divided the '#FreetownTheTreeTown' program into the following two phases:

Phase 1-Urban Greening Program for Hazard and Disaster Risk Reduction which in 2020 planted, tracked, and is currently growing approximately 251,000 trees in 48 planting areas in the upper catchment and high slope areas identified in the World Bank multi-city hazard report and 'ThinkHazard!' map to address flood risk, landslide susceptibility and threats to the water supply.

Phase 2- Climate Ready Cities which aims to enhance community engagement, participation, and impact by planting approximately 306,000 trees in 2021 and 2022 within the following land-use typologies:

1. Natural Spaces: a) River or Stream / Watershed, b) Mangrove Area, c) Wetland Area, d) Urban Forest / Natural Woodlot / Treed Area, and e) Natural Area with Steep Slope

2. Urban Areas and Communities:

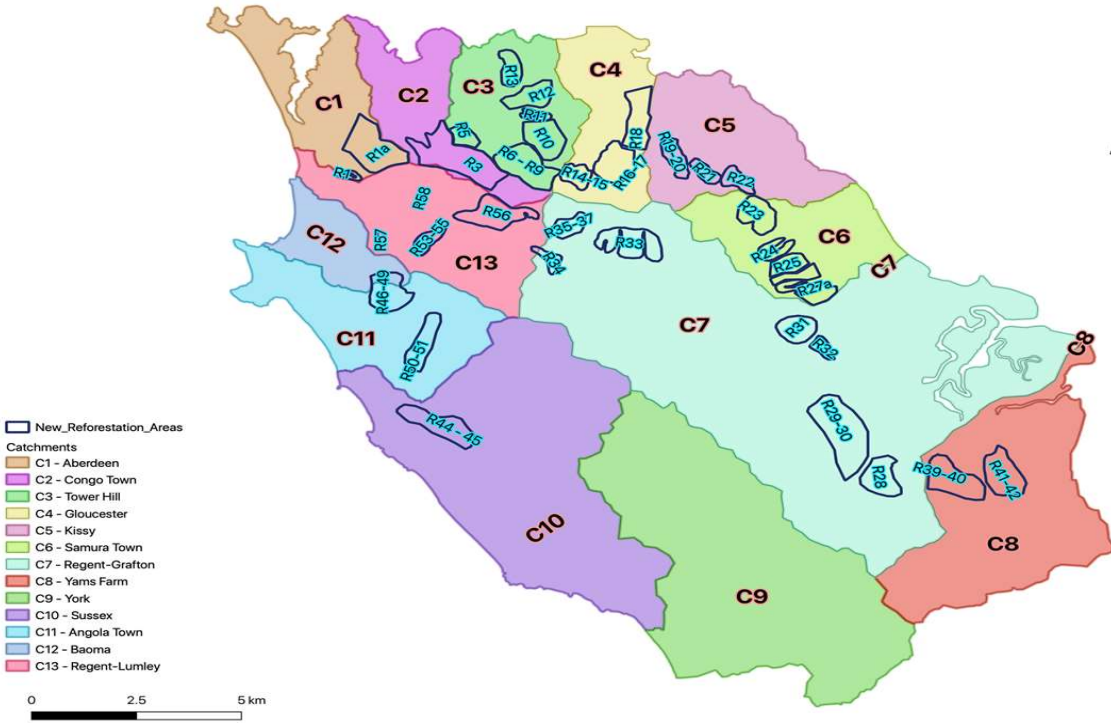
a) Populated Area(s)/Communities - requiring distinction within one or between two communities (e.g., visual-spatial boundaries),

b) Populated Area/Community + Different Land Use Zone - requiring visual-spatial boundary and

c) Populated Area/Community – requiring Community Tree(s) or Iconic Trees. This will ensure long-term localized climate resilience and ecosystem service benefits including localized heat stress reduction, air pollution reduction, rainfall water management, decreased flooding, and more.

Based on targeting in the Multi-City Hazards Report and additional geomorphic analysis and ground-truthing 42 additional planting areas were identified and operationalized for Phase 2 planting and Growing in the Western Area.

Reforestation Map



The total volume of land restored under the #FreetownTheTreeTownCampaign in phases one and two is 955.5 hectares.

4. Location of Activities

Breakdown of Tree survival by Catchment

The table below shows the breakdown of tree survival by Catchment.

Reforestation Areas	Catchment	Location/Area/Community	Number of Planting Areas	Total Number of Trees Planted	Total number of tree losses	Total number of tree survival
1	C-1a	Tennis Cot Hill Station	3	7,500	671	6,829
2		Choithram Hospital				
3		St. Mary's Supermarket-Hill Cot Junction				
4	C-1b	Madina	6	66,000	24,903	41,097
5		Thompson Bay				

6		Dorkoti				
7		Inlet View				
8		Mafembeh				
9		Kola Tree				
10	**C-2**	POW School compound	15	10,200	9,870	330
11		Mamie Gumble Compound(Kingtom)				
12		Government Sec School Kingtom				
13		G-Gate Compound				
14		Soja Compound				
15		G-gate Roundabout				
16		Maranella Guesthouse				
17		Limount School				
18		Back off Soja Compound				
19		Milton Margai college, Congo Cross				
20		Hill cut roundabout				
21		Hill cut roadsides				
22		King Harman Road				
23		FSSG School				
24	**C-3**	Guma Compound-Tower Hill	4	28,000	8,923	19,077
25		AYV compound				
26		Blue Gate- FBC road				
27		FBC Botanical Garden				

28	C-4a	Mamoudu Town	5	12,300	3,176	9,124
29		Gloucester Church Compound				
30		Juana Farm				
31		Fourah Bay College-Leicester Axis				
32		Part of Tree Planting				
33	C-4b	Moyiba Kissy	5	6000	2,842	3,158
34		Soja Town				
35		Kamanda Farm				
36		Mount Aureol				
37		Quarry				
38	C-5	Upper Kissy Mental	5	18,119	3919	14,200
39		Methodist Boys High School				
40		Bishop Gate-Kissy				
41		Wesleyan Church-Kissy				
42		Police Barracks-Kissy				
43	C-6a	Ninka Town	2	8,961	2850	6,111
44		Upper Mountain-Peacock Farm				
45	C-6b	Bush Cow	5	29,578	3,984	25,594
46		FHM Dean				

47		Al Fajir School-Mayenkeineh				
49		Honey Town				
50		Mayenkeineh community				
51	C-7a	Huntingdon SecSchool	6	56,500	2,605	53,895
52		Jui Bible College				
53		Grafton Dam				
54		Kossoh Town- Wan Tick				
55		Jui Community				
56		Allen Town by the Bridge				
57	C-7b	Regent Community	2	45,231	8,611	36,620
58		Charlotte Dam				
59	C-7c	Regent-Sugar Loaf	6	31,340	6,365	24,975
60		Rising Academy-Regent				
61		Barbardorie Dam-Regent				
62		Boy Society				
63		Gloucester Road-Regent				
64		Barthust Road				
65	C-8	Yams Farm	3	15,106	8,790	6,316
66		PTS Hastings				
67		PMTC				

68	C-9	York landslide site	4	11,039	1300	9,739
69		Tokeh Hospital				
70		Gondama Water Catchment				
71		Tokeh School				
72	C-10a	Mambo waterfall	2	36,381	9,641	26,740
73		Mambo School				
74	C-10b	Guma Gate-Mile 13	5	95,500	4,755	90,745
75		Guma Dam-Mile 13				
76		Bawbaw Community				
77		Bunky- Mile 13				
78		Guma Portoh				
79	C-11	Cobo 2- Angola Town	4	20,430	4,985	15,445
80		Upper Cobo 2- Angola Town				
81		Upper New Jersey-Baoma				
82		Lower Angola Town				
83	C-12	Lower Baoma	4	40,180	1,870	38,310
84		Upper Baoma				
85		Upper Dodo-Hillside				
86		Lower Dodo				

87	C-13	Cockeril Compound	4	18,635	3,915	14,720
88		Military War Graves				
89		Juba				
90		Pentagon new site/Kamayama-Engine				
	TOTAL		**90**	**557,000**	**113,975**	**443,025**

5. **Project Metrics**

Specific Objective	Target	Indicator / Ecosystem Services Tracked	Means of Verification	Partners Responsible
80% of survival of trees planted under the #FreetownTheTreeTown Campaign	Plant and grow 557,000 trees, shrubs and grasses in Freetown and the Western area peninsula over the period between 2020 – 2022. Restore 1000 hectares of the urban forest in the target reforestation areas in Freetown and the Western Area Peninsula	• Indicators: • Urban Tree Planting Diversity • Canopy Cover • Available Growing Space • Greenhouse Gas Sequestration and Storage Estimates • Water supply impact	FCC tree tracker platform and respective qualitative and quantitative analysis	EFA
Build and operationalize tree tracking and impact monitoring platform to share tree planting implementation	Operationalize FCC Tree Tracking and Monitoring Platform	Tree Tracker Platform operational	FCC Tree Tracker Platform	EFA/Greenstand

progress and impact with stakeholders				
Establish a circular economy solution to create jobs and a pay-to-grow model that links mobile money payments to growing trees	Build and operationalize a stewardship / pay-to-grow model which will incentivize tree growing at the community level	# of green jobs created # of green service provided contracted # number and amount of payment transactions to growers # of tree stewards registered # of pay as you grow transactions processed	FCC tree tracker platform	EFA/Greenstand
Conduct an Urban Forestry Strategy Workshop on lessons learned from the project implementation to Policy Framework recommendation	Through collaboration with relevant MDA, EFA/FCC will develop a framework policy recommendation for urban forestry management from lessons learned from project implementation	Produce an urban forestry strategy workshop report from lessons learned for policy recommendation	Urban Forestry Strategy workshop report produced	EFA/SLURC

6. Tree Planting, Growing, and Tracking Operations

Building the Infrastructure to Plant, Grow and Track Trees in Freetown and the Western Area Peninsula

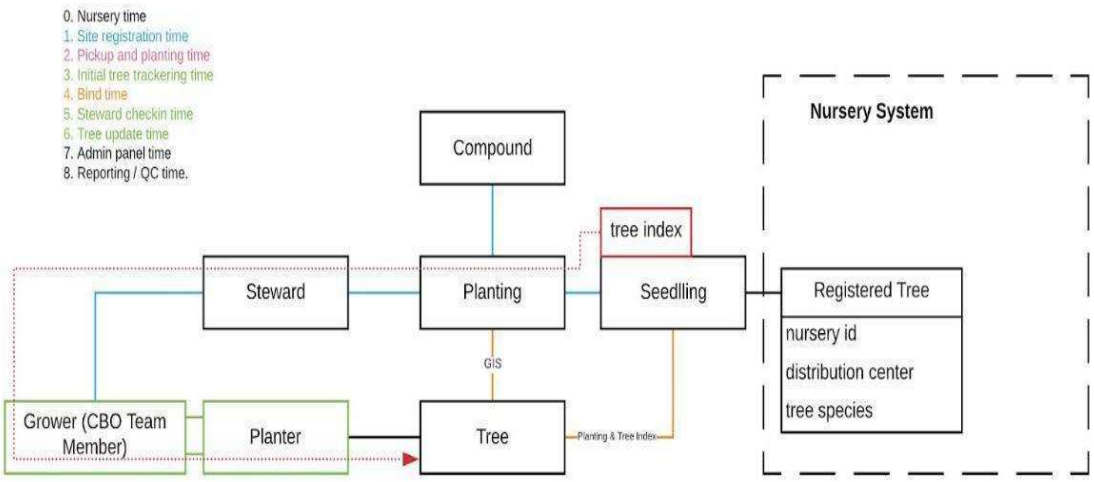
The establishment of an intricate tree seedling purchasing, distribution, planting, and growing system utilized open-source online services, geospatial tagging, and third-party verification systems to ensure complete transparency during project execution. The Environmental Foundation for Africa (EFA), a Sierra Leone – based Environmental NGO operating in West Africa has been tasked to manage the implementation of the Freetown City Council's (FCC) Tree Planting and Growing sub-project under component 2 of the Resilient Urban Sierra Leone Project, including recruitment of the required technical staff, and purchase and distribution of tree seedlings from community and commercial nurseries.

EFA issued sub-grant awards to community-based organizations in return for services required to implement the community planting and stewardship component of the FreetownTheTreeTown campaign The EFA collaboration with Greenstand focussed on creating the enabling mechanisms to track individual trees through the tracking app and platform customized to track the growth, health, and survival of the trees planted between 2020-2023. Specifically, the Greenstand Tree Tracker App and Open Data Kit (ODK) App were used to support project management of growers' payment, tracking, and

tree verification processes. CBO operations (10 CBOs were operationalized to establish growing teams across 19 reforestation areas) and 10 commercial tree nurseries supplied 557,000 seedlings to CBO/NGO implementing partners. Growing Teams, Stewards, through distribution centers were monitored through ODK surveys, with final data uploaded into the Greenstand dashboard for FCC and EFA to verify and monitor.

The Greenstand Tree-tracker App has an exclusive feature that creates a unique ID token for each individual tree that is planted based on its geospatial location and the cell phone number from the grower that tags the tree. This system is directly linked to each individual registered cell phone user and their mobile money system, which allows individual tree growers to be paid incremental payments into their mobile money system every time the tree they are growing is verified to be still growing. Planting on private properties was conducted by the Stewards. On all other properties, the CBOs and growing team members planted the seedlings and used the Greenstand Tree-tracker App to verify and track the trees bi-monthly. The tracking process monitored tree growth until the end of the project.

Conceptual Framework for the Tree Tracking Platform



7. Project Deliverables and targets

Phase 1- 2020-2021 Targets

Risk Reduction: During this phase (implemented from September 2020 and June 2021) the project planted and verified approximately 251,000 trees in 48 planting areas in the upper catchment and high-slope areas identified in the 2018 World Bank multi-city hazard report and 'ThinkHazard!' map to address flood risk, landslide susceptibility and threats to the water supply.

The initial agreement in Phase 1 was to plant and grow 450,000 tree seedlings, however, the late signing of the agreement in September 2020 and disbursement of funds in late October 2020 created difficulties for the mobilization of seedlings to all the sites. Firstly, the tree nursery vendors who had expected to supply the seedlings by July 2020 were only contracted in late September after EFA signed the agreement. By this time, thousands of seedlings had perished in the various nurseries leading to a drastic shortfall in the number of viable seedlings available to be supplied to the project. Therefore EFA was only able to procure 259, 499 seedlings.

Secondly, transplanting of the seedling began in late October and early November when the rainy season was almost ending. This meant that the project management team had reallocate substantial amount of resources to assure the survival of new planted seedlings that could not benefit from rainy season. By the end of November 2020, the project successfully planted, tracked and verified 251,000 tree seedlings.

Phase 2- July 2021-December 2022 Targets

Achieving Climate Resilience: During this phase (implemented between July 2021-December 2022) the project aimed to enhance community engagement, participation, and impact by planting approximately 300,000 trees, shrubs and grasses within communities, neighborhoods and public spaces for long-term localized climate resilience and ecosystem service benefits including localized heat stress reduction, air pollution reduction, rainfall water management, decreased flooding, and more.

The project had four key deliverables as described below:

Deliverable 1: (Supply) Engage tree nursery providers to mobilize the provision of a supply of 300,000 tree seedlings for phase 2 of the #FreetownTheTreeTownCampaign to provide a variety of seedlings by typology noted below (species were determined and indicated in an EOI published by 30 June 2021) by contracting nurseries at the stated price from the nurseries included in the EFA nursery vendors list and ensured delivery to agreed reforestation sites in Freetown and the Western Area. The seedling acquisition process is explained below:

Seedling Acquisition Processes and Outcomes for phase 2

EFA undertook an intricate seedling acquisition process. With support from Academics, Botanists, Floriculturists, arborists from Njala University, Fourah Bay College, and independent consultants, a greening species greening model was developed against each land use typology. The planting map created also showed the number of trees to be planted in each reforestation area.

EFA in partnership with the EPA, FCC, NWRMA, SLRA, and MoE Forestry Division, constituted a bid evaluation committee for the selection of seedling suppliers. An EOI was published online in April 2021 for the supplies of seedlings. After the submission and verification of business registration documents, selected nurseries are asked to bid for supplying seedlings by lots.

The seedling acquisition evaluation committee conducted due diligence visits to assess nurseries based on the seedling-supply capacities stated in their EOIs and bids. The commitment ultimately recommended seedling suppliers for lots based on their capacities.

A total of 10 tree nurseries were awarded contracts for the supplies of 300,000 seedlings for the undermentioned species:

36,564 Ornamental tree seedlings including Ornamental Palms and Willow Trees, Cassia Seberina

43,481 shrubs including Yellow bell, Hibiscus. paper flower, oleander, croton, Bougouvillea, etc

20,000 Ornamental grasses including velvet grass, vetiver grass and lemon grass

38,424 fruit tree seedlings including mango, avocado, tamarind, citrus, jackfruit, sour sop, guava, etc

101,531 hardwood tree seedlings, Delonix regia, Gmelina Aborea, Tectona grandis, Neem, Moringa,

60,000 mangrove propagules collected by the community residents and paid for by the project. (an excess of 6000 mangrove propagules were collected by the community and planted by the project which resulted in the planting of 66,000 mangroves)

It should be noted that for both Phases I and II, a total of **565,499** tree seedlings were procured (259,499 trees for phase I and 300,000 trees, shrubs and grasses for Phase 2). The project this planted a total number of **557,000** trees, shrubs and grasses for both phases I and II.

Deliverable 2: Manage and implement community/stewardship planting and growing field operations through CBOs contracted through the 2021 FCC Community Planting and Stewardship Small Grants Program. The program will be launched and publicly advertised for Phase 2 planting, growing, tracking, and tree mapping by 31 December 2022

CBO Recruitment Processes and Outcomes

EFA also undertook an intricate process of recruiting Community-based Organizations to manage the reforestation of planting areas. The same bidding committee consisting of representatives from EPA, FCC, NWRMA, SLRA, and Forestry division-MoECC was in charge of CBO recruitment. The CBO recruitment started with the publication of an EOI online in April 2021 for the management of reforestation areas. A capacity assessment was done with administrative and financial diagnostic for each CBO. After the submission and verification of business registration documents, and analysis of diagnostic reports, 11 CBOs were selected to manage 13 catchment areas comprising of 90 reforestation areas with the following allocations:

Catchment 1-Aberdeen-FEDURP

Catchment 2-Congo Town-KingTom- FEDURP

Catchment 3-Tower Hill-Mount Aureol- FEDURP

Catchment 4a-Kissy-Moyiba-Caritas Freetown

Catchment 4b-Leicester-Gloucester-YIAICTT

Catchment 5-Kissy-Looking Town-YARDO SL

Catchment 6-Samura Town- CAN-SL

Catchment 7a-Grafton-EICSEDAP

Catchment 7b-Charlotte EICSEDAP

Catchment 7c-Regent-Sugar Loaf- WARD-C Youth Council

Catchment 8-Yams Farms-Caritas Freetown

Catchment 9- Tokeh-York- AnSOJ

Catchment 10a- Mambo- WAAMA

Catchment 10b-Mile 13- YARDO SL

Catchment 11- Angola Town- Nation Builders CM Network-SL

Catchment 12-Baoma- Nation Builders CM Network-SL

Catchment 13- Regent-Lumley- Manudihirian Development Organization

The bidding committee's decision to select CBOs was based on existing presence in the community and staff strength and experience in implementing reforestation programs.

Deliverable 3: The FCC and the RUSLP Urban Greening Program will support the formalization of the urban forestry sector in Freetown and the Western Area Peninsula by using green technology to establish an Integrated Urban Forestry Management Platform which tracks metrics, informs, and visualizes the project output, outcomes, and impact of reforestation efforts, as well as house an inventory of existing trees. This enhanced platform will include the evaluation of ecosystem service provision, CO2 emission calculations, land restoration, and carbon sequestration,

EFA worked in partnership with Greenstand to set up a Tree tracking, maintenance, and growing strategy. This was achieved through bi-monthly tracking of the trees planted between September 2020 and November 2021, by the 432 growers, 153 daily workers and 35 Team Leads operating across the 13 catchment areas as shown in the table below:

Position	Description	Variables			
		Men	Women	TOTAL	Youth
Project Management	Executive Directors, Project Managers, Coordinators, and Officers	5	6	11	2
Administrative Staff	Financial assistance	1	1	2	1
Technical Staff	Data Coordinators, Monitor and Validations	5	4	9	9
Driver		1	0	1	1
Heads of CBO		11	4	15	8
CBOs Administrative Staff	Financial assistance	9	2	11	11
Growers	Responsible to track, grow and monitor trees	252	180	432	432
Team Leaders	Responsible to manage teams	20	17	37	35
Daily Workers	Support tree planting, dig holes, transport trees from storage site to planting area, help tree planting and maintenance	80	73	153	153

Tree Nursery Agrotechnicians	Responsible for technical aspects of tree growing. On average one/nursery (mostly men)	79	43	122	6
Tree Nursery Staff	Responsible for growing trees, managing basic nursery requirements, etc. Mostly men	185	171	356	314
Total number of jobs created		648	501	1149	972
Percentage of jobs by Gender		**56%**	**44%**	**100%**	**85%**

A tree dashboard has been developed and set up that demonstrates about 80% tree survival rate. Out of the **557,000** trees planted between 2020 and 2021, **443,025** trees have survived and are displayed on the tree dashboard and web map. It is noteworthy that the project targeted to plant 300,000 trees in Phase 2 including 60,000 mangroves. But the growing teams in the mangrove planting area took the initiative to plant an extra 6,000 mangroves which increased the number to 66,000 mangroves bringing the total to 306,000 trees and mangroves overall. However, EFA has decidcd to use the initially targeted number of trees (300,000) which it was contracted to oversea the planting of. Thus, adding the 2020 total of 251,000 trees, EFA successfully planted 557,000 trees during the two years project life cycle.

Deliverable 4: (Urban Forestry Strategy Lessons Learned Workshop) The EFA and RUSLP team co-organized an Urban Forestry Lessons Learned Worskhop to examine in detail the project outcomes to date and distil lessons learned that could be applied to future urban forestry policy).

Urban Forestry Strategy Workshop- Lessons Learned

EFA, in consultation and collaboration with the RUSLP team, organized a 3-days workshop at the Bintumani Conference Centre to document lessons learned from the project implementation. Bringing together key MDAs, CSOs, implementing CBO partners, and the media, participants sought to document lessons, successes, and challenges of the project while developing the pathway for an Urban Forestry Strategy from these lessons learned during the implementation of the #FreetownTheTreeTown campaign. The Sierra Leone Urban Research Centre (SLURC) facilitated the workshop, which will also produce the final workshop report that entails recommendations for an Urban Forestry Strategy based on the lessons learned from the FreetownTheTreeTown project implementation and desktop research of best practices around the worldwide.

The workshop draws from lessons learned from the implementation of the RSULP Urban Greening Program- #FreetownTheTreeTown campaign; a #TransformFreetown initiative. The planting, tracking, and growing of trees using green technology is a relatively new concept in Sierra Leone in a time of unprecedented climatic changes and a decrease in urban forest cover in Freetown and the western area peninsula.

The recognition that urban forest protection would be enhanced by efficient land-use planning and promoting best practices in the implementation and management of reforestation programs has precipitated the need for increased actions and regulatory policy frameworks for protecting existing and new trees.

The protection and retention of existing trees will help to reduce the unnecessary removal of established and often remnant tree species while aiming to halt any further reduction of tree canopy in the City (both the built environment and protected areas).

The Urban Forestry Strategy Workshop was held from 9th-11th August 2022 and unfortunately was interrupted during the 10th of August 2022 protests in Freetown. Online survey tools were developed and sent to participants between the 11th and 14th of August 2022, and responses which formed part of the results and recommendations for the development of an urban forestry strategy for Freetown and the western area. A third and final session was help on Monday 15th August 2022 to validate responses from the various stakeholders and participants and wrap up recommendations.

Implementing the #FreetownTheTreeTown campaign through Community-Based Organizations (CBOs) helped promote the benefits of the urban forest. It encouraged residents, private property owners, and institutions to plant and grow more trees. There are fundamental lessons learned from the project and actions needed to take to achieve an urban Forest Strategy (UFS) that is based on the principles of adaptive management.

Key Lessons Learnt throughout the FreetownTheTreeTown campaign process

A. Coordination

Coordination on every stage before implementation matters a lot in the success of any project. For the Tree Town project, the key stages were:

(i) Mapping of reforestation areas to determine suitability of different approaches and species for land restoration. Establishment of a clear demarcation before planting of trees, shrubs, mangroves and grasses

(ii) Identification and engagement of key stakeholders including MDAs with similar imitatives.

(iii) Identification and selection of seedling suppliers, CBOs and local community structures. Catchment area stakeholder engagement proved critical to the success of the project.

Photos from the Urban Forestry Strategy Workshop held at the Bintumani Conference Center from 9th-11th August 2022

8. Project Results:

Throughout the project implementation of the Urban Greening Program,, planting, growing and tracking have directly impacted communities with long-term benefits including the following:

(a) Protecting communities from climate risk and helping meet the goals of the Paris Agreement while improving overall health and wellbeing. Freetown under the Resilient Urban Sierra Leone Project Urban Greening Program and the #FreetownTheTreeTownCampaign has increased and enhanced nature-based solutions (green and blue) in our urban environments that reduced climate risk and vulnerability.

(b) The Implementation of the urban greening program has amplified and supported the delivery of urban nature by setting greening targets and accelerating actions focused on delivering nature-based solutions for equitable climate resilience, building an inclusive economy, and ensuring healthy communities — setting Freetown and the Western Area Peninsula pathway where people and nature support one another.

(c) Provision of about 1149 green jobs with at least 85% for youths with about 44% of women involved in the project by getting their livelihoods as tree growers, team leads, nursery attendants, and tree maintenance teams.

(d) Increased environmental awareness at the community level with the training of over 1,235 Community Climate Action Ambassadors who are not only diversifying climate narratives at the community level but also equipped with skills to identify climate risks for disaster prevention which has led to an increase in tree survival rates.

Position	Description	Varaibles			
		Men	Women	TOTAL	Youth
Total number of jobs created		648	501	1149	972
Percentage of jobs by Gender		56%	44%	100%	85%

Through the project, **at least 600 hectares of the urban forest** in Freetown and the Western Area Peninsula has been restored by planting a total of **557,000** trees, shrubs, and grasses of which **443,025** survived. At least 1000 trees are planted per hectare in forest areas and 500 trees in the built environment and communities.

- **2020 Tree planting and tracking Analysis.**

In 2020, tree tracking was done in November and December. Fruit trees, Indigenous hardwood, and Ornamental trees were planted as is analysed below:

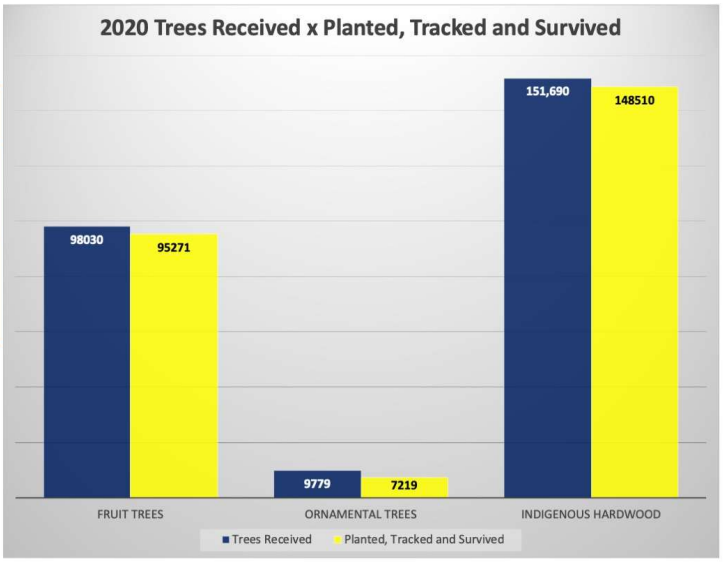
Tree species analysis, planting losses, and survival during 2020-2021

Between September 2020 and June 2021, tree species that were supplied and planted are shown in the table below:

Tree species	Number of seedlings supplied	Number of seedlings lost during planting	Number of Tree planted/Tracked	Tree Survival
Fruit trees	98,030	2,759	95,271	95,271
Ornamental trees	9,779	2,560	7,219	7,219
Indigenous Hardwood	151,690	3,180	148,510	148,510
TOTAL	**259,499**	**8,499**	**251,000**	**251,000**

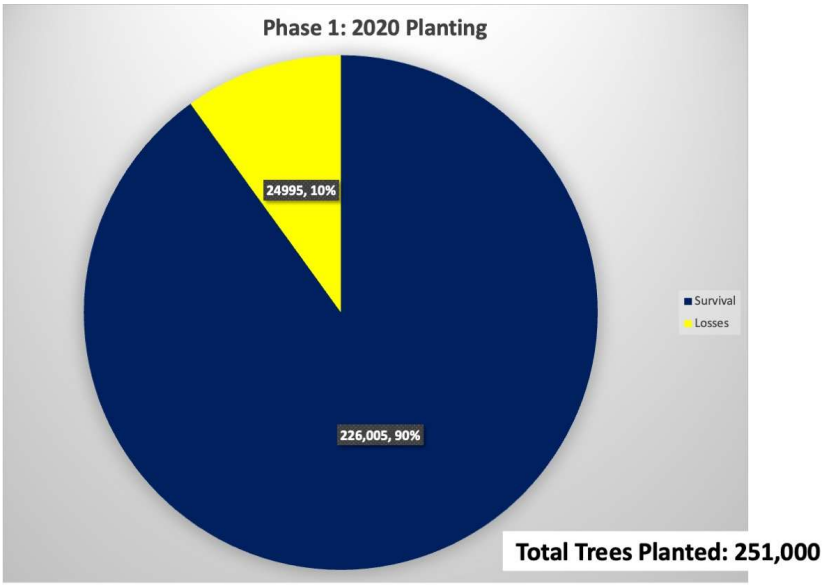
Total Breakdown

Total Trees Received	**259,499**
Number of seedlings lost during planting	**8,499**
Number of Tree planted/Tracked /Survived	**251,000**



Summary Breakdown for Phase I

Total number of trees planted in 2020-	251,000
Total Number of trees tracked after planting in 2020	251,000
Total number of trees lost after planting in 2020	24,995
Total number of trees that survived from 2020 planting	**226,005**



Phase Two- July 2021-June 2023

Species selection process and Greening Model

EFA and a selected technical team from Njala University, the University of Sierra Leone,, Villanova University, the Ministry of the Environment and Climate Change, Environmental Protection Agency, National Protected Area Authority, Ministry of Agriculture and Forestry, Ministry of Water Resources / National Water Resources Management Agency, Guma Valley Water Company, and civil society actors such as the Conservation Society of Sierra Leone, CEFCON – Climate Change, Environment, and Forest Conservation Consortium, Women's Network for Environmental Sustainability, Tacugama Chimpanzee Sanctuary and the Sierra Leone Urban Research Centre and others identified the following four target tree species categories and subsequent tree species list for planting throughout Freetown for Phase 2:

Land-use Typologies:

Natural Spaces: (1) River or Stream / Watershed, (2) Mangrove Area, (3) Wetland Area, (4) Urban Forest / Natural Woodlot / Treed Area, and (5) Natural Area with Steep Slope

Urban Areas and Communities:

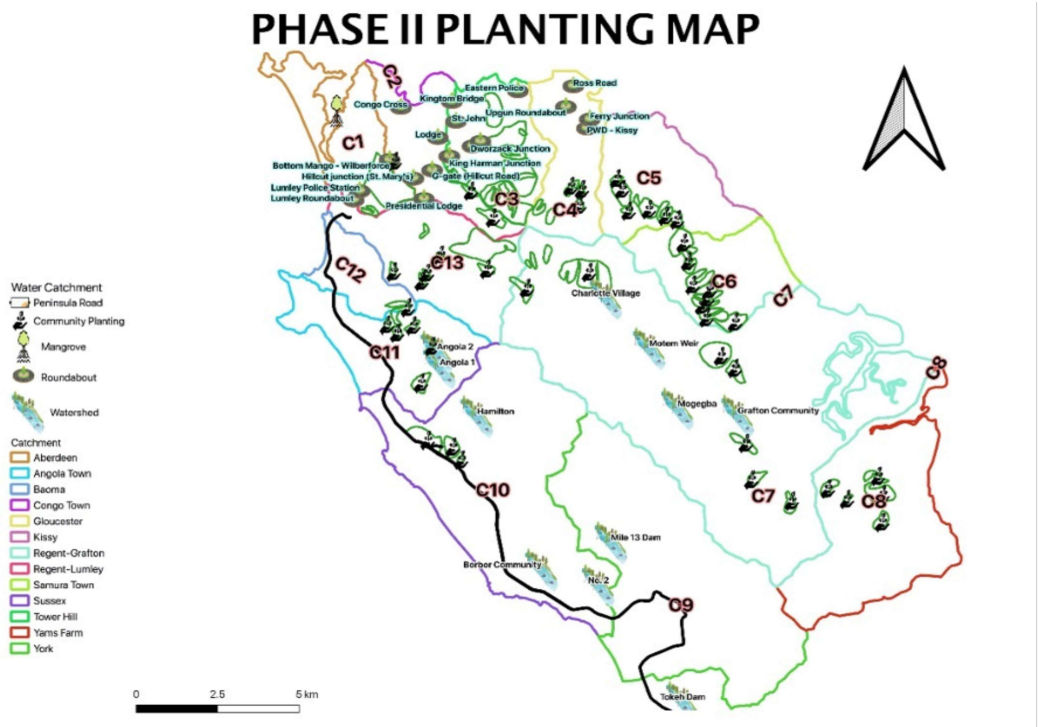
a) Populated Area(s)/Communities - requiring distinction within one or between two communities (e.g., visual spatial boundaries),

b) Populated Area/Community + Different Land Use Zone - requiring visual spatial boundary.

c) Populated Area/Community – requiring Community Tree(s) or Iconic Tree(s)

EFA and FCC facilitated several engagements with consultants to develop and agree on a robust species selection process. Species selection took into account the land use typologies that the project sought to address. A green model was developed and agreed upon for implementation in phase 2.

NOTE: As a result of rapid and intense urbanization and unregulated development, many natural spaces have become urban / community spaces – particularly in the high slopes, throughout the watershed, and in forest areas.



Land use typologies and planting strategy

Typology 1: Watershed/Riparian Buffer around rivers and streams plantation and Riverine:

EFA worked closely with the National Water Resources Management Agency to deliver this workstream through a community planting and growing model. The plantation of vegetation in this typology is mainly of two types such as watershed area and riparian buffer around the rivers and streams in Catchment 10 around the Guma Valley Dam and other community dams in Catchments 7 and 9. The plantation in the watershed area was done in a series of horizontal fashion based on the slope of the area. However, for plantation along the rivers or streams corridor vegetation, such as trees, shrubs, or grasses was planted along the riverside. A clump of grass (4-5 plants) along the riverside was planted at 5m to mitigate erosion by the river. Similarly, grasses were planted at 2m in a horizontal line in watershed areas to reduce runoff, increase infiltration, and reduce soil erosion. Shrubs were also planted at a rate of 100/km along the riverside and at the rate of 25/ha in the watershed area to further support the mitigating effect of grasses.

Three types of grasses and ten types of shrubs are proposed for this typology. These grasses are Reed grass (*Phragmites species*), Vetiver grass (*Chrysopogon zizaniodies*), and Lemon grass (*Cymbopogon citratus*). Several types of shrubs are Yellow Oleander (*Thevetia peruviana*), Yesterday Today Tomorrow (*Brunfelsia americana*), Pinwheel flower (*Tabernamontana coronaria*), Starflower (*Ixora species*), etc.

Typology 2: Roadside plantation (Avenue and median plantation) at Hill Cot Road, Regent-Grafton Highway, and Peninsular Highway:

EFA worked with the Sierra Leone Roads Authority (SLRA) to deliver this workstream through a community planting and growing model. A total length of 1.1 km was achieved under Categories 1 and 2 whereas 1.2 km falls in category 3.

Roadside (Avenue) plantation: Even though a wide range of popular landscaping plants were proposed to be planted in this area very little roadside planting was achieved as most of the proposed planting locations on the Peninsula highway are still under construction. Uniform types (same type) of trees or shrubs were proposed to be planted on either side of the road for a good length ranging from 200m-1000m. This was intended to give a mass effect and have a pleasing picture to the viewer's eyes. Fully grown trees or shrubs will provide beautiful flowers, and shade to the pedestrian and will also sequester carbon from the atmosphere. Trees to shrubs ratio is maintained at an average rate of about 35% trees to 65% shrubs. A good mixture of trees (10) and shrubs (15) were proposed to be planted to provide adequate biodiversity, aesthetic, and easy assimilation with the local vegetation.

Roadside (Median) plantation: A stretch of about 1.1 km along the Hill Cot road was targeted for median planting; Shrub types (12) were planted at a distance of 5m and as in the case of the avenue; contrasting shrubs were planted in the median to have a good ambience. Some of the trees species were Golden shower (*Cassia fistula*), Camel's foot (*Bauhinia varigata*), Flea tree (*Albizia leebeck*), Pride of India (*Lagerstormia flosreginae*), Willow (*Polyalthia longifolia*), Siamese lilac (*Senna siame*), and various types of shrubs including yellow oleander, Crape myrtle, Yesterday Today Tomorrow, Pinwheel flower, Flower of love, Oleander, Mussanda, etc were planted.

Typology 3: Urban green space/Roundabouts:

EFA and FCC worked with the CBOs and communities to deliver this workstream through a community planting and growing model. Planting and growing targeted roundabouts throughout Freetown and identified community sites for the creation of green spaces, particularly in underserved communities. Roundabouts at G-Gate, St Mary's Hill cot junction, and Tennis court by the presidential lodge were also targeted for median planting.

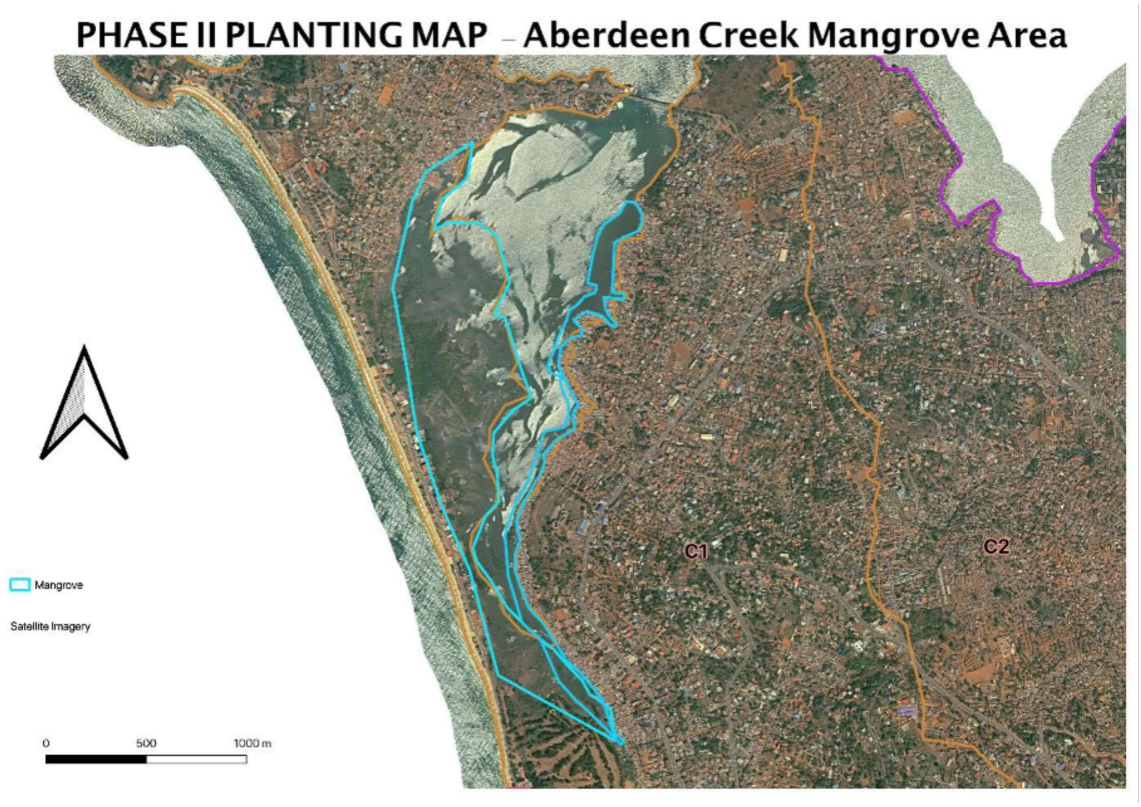
Typology 4: Community/Neighbourhood:

In phase, I of the Urban Greening Program, about 251,000 trees were planted in communities and neighborhoods across all 48 reforestation areas. In phase 2, EFA worked with local CBOs and targeted an additional 42 reforestation areas across 13 catchments. A total of 295,909 trees of 32 different species were planted in the community and neighborhood typologies. Trees planted included the following species: Mango, Tamarind,

Moringa, Neem, Flame of the Forest, Albizia, Camel's foot, Gliricidia, Teak, African Wattle, Gmelina, Spice, Willow, Eucalyptus, etc. Thirteen different types of shrubs were also planted. The plant population of these shrubs was proposed as 30/ha in low density, 20/ha in mid-density, and 10/ha in high density. These ornamental shrubs were provided as a preferred choice by some community members who had requested for such plants in phase I of the planting program in 2020. Some of the shrubs listed in this typology are yellow oleander, Croton, Yesterday Today Tomorrow, Pinwheel flower, Oleander, Hibiscus, Pride of Barbados, etc. Planting of these shrubs beautified the localities in addition to reducing soil erosion and regulating local temperatures.

Typology 5: Mangrove Woodlands targeting six communities along Aberdeen Creek

It is documented that mangrove woodlands are among the most carbon-rich forests in the tropics – blue carbon. They are noted to be capable of storing 10 times more carbon than terrestrial ecosystems, putting them at the front line of climate change. Mangroves provide a natural solution to protect against the devastation caused by rising sea levels and increasingly extreme storm surges. Mangroves' dense and plentiful roots hold the soil in place to prevent erosion and degradation of the coastline. EFA worked with and through the National Protected Area Authority, a local CBO partner, and the existing community structures to deliver this workstream. Hence, as a component of the RUSLP urban greening program, EFA planted 66,000 mangroves to restore the depleted mangrove woodlands and ecosystems. The priority area for planting was along Aberdeen Creak as per the below map.



- **2021 Tree planting and tracking Analysis.**

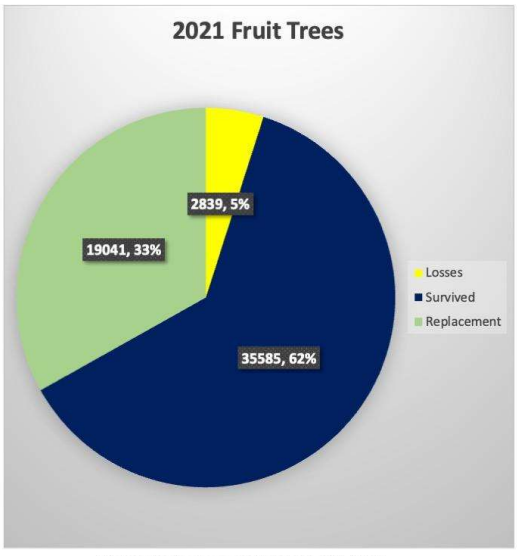
In 2020, tree tracking was done in November and December. Fruit trees, Indigenous hardwood, and Ornamental trees were planted as is analyzed below:

Phase 2- 2021 Planting

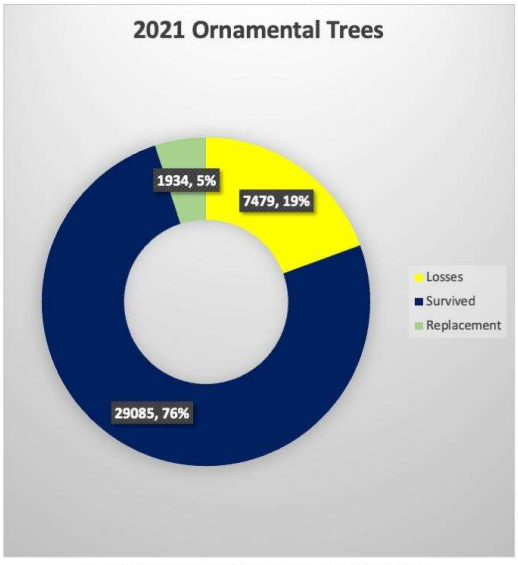
Species	Number of species planted	species losses	Replacement planting	Survival rates

Fruit trees	38,424	8,839	19,041	29,585
Ornamental trees	36,564	12,379	1,934	24,185
Indigenous Hardwood	101,531	54,999	29,025	46,532
Ornamental Grasses	20,000	17,977	0	2,023
Ornamental Shrubs	43,481	19,876	0	23,605
Mangroves	66,000	24,910	0	41,090
Totals for Phase 2	**306,000**	**138,980**	**50,000**	**217,020**

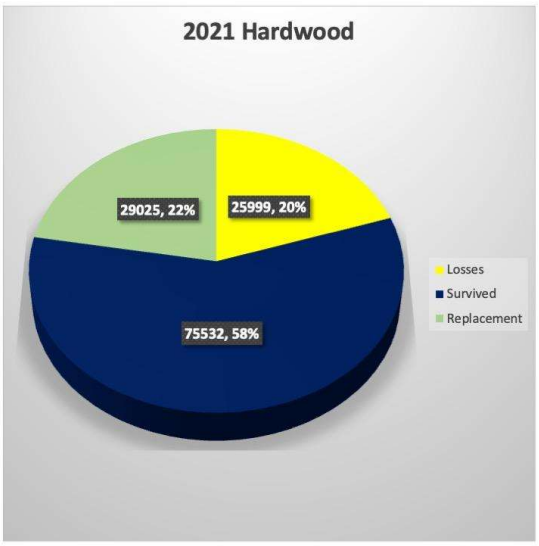
2021 Seedling species



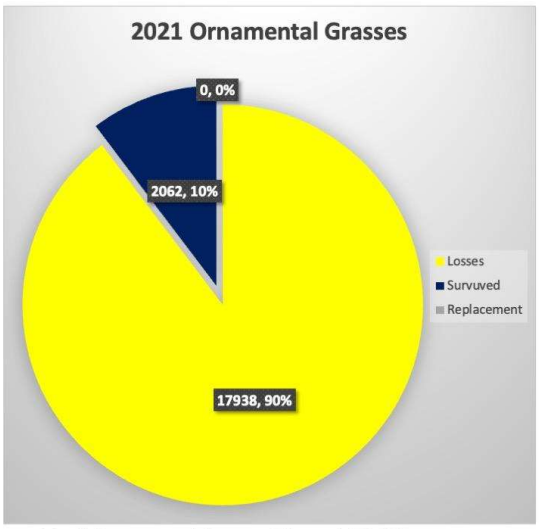
Total Fruit Trees Planted: 38,424



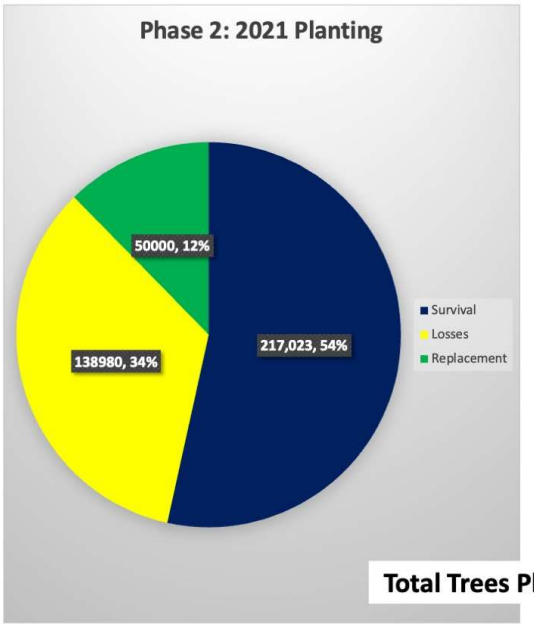
Total Ornamental Trees Planted: 36,564

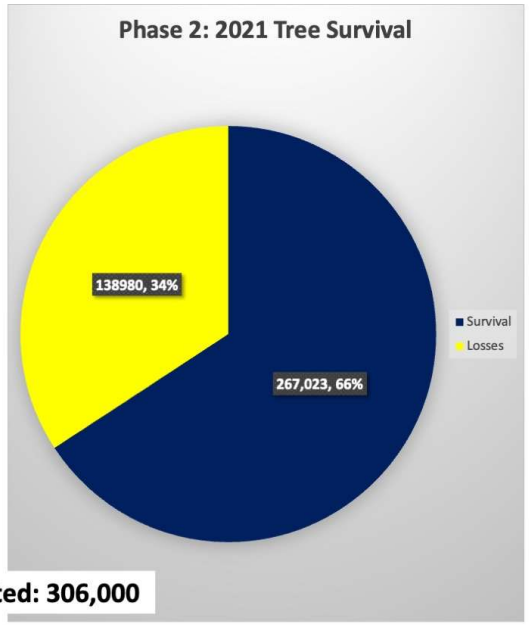


Total Hardwood Trees Planted: 101,531



Total Ornamental Grasses Planted: 20,000



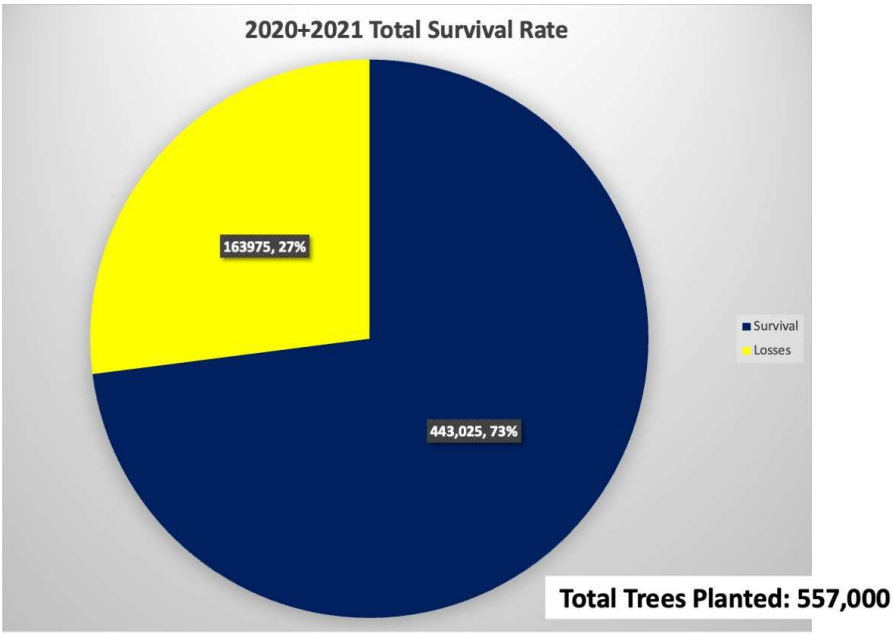


Total Trees Planted: 306,000

Summary breakdown for Phase II

Total number of trees planted in 2021-	306,000
Total number of tree losses in 2021	138,980
Number of tree survival for Phase 2	167,020
Total number of replacement planting	50,000
Total number of tree survival by 2022	217,020

Overall Tree Survival Rates



Overall Tree survival summary

Number of tree survival for 2020 trees	226,005	
Number of tree survival for 2021 trees shrubs and grasses		217,020
Total number of trees planted between 2020-2022	**443,025**	

Tree planting Data	Total number of Trees planted	Total tree losess	Total Replacement planting	Total number if tree Survival
Phase 1	251,000	24,995	0	226,005
Phase 2	306,000	138,980	50,000	217,020
GRAND TOTAL	557,000	163,975	50,000	443,025

Independent Monitoring visits: Field Visit, Monitoring, and Supervision

Several field visits were conducted by the project team and other relevant stakeholders to provide supervision/guidance as necessary and monitor the performance of the trees, shrubs, and mangroves planted under

this project. From November 2020 to April 2022 the following field visit and monitoring exercise were undertaken.

- **Field Monitoring Visit by FCC and WARD-C Councilors, staff, and the Media**

FCC and the EFA project team made several monitoring visits to planting areas accompanied by journalists from six (6) Major Media Houses to conduct a field visit in all 13 catchments to see how trees were doing, interact with growers and learn of the challenges the growers were facing and to get information about the growth of the trees. On many occasions, the visiting team comprised of the following:

Mayor councilors and staff of FCC, EFA Project Team including the EFA Executive Director, Project Coordinator, Field Operations Officer and Project M&E Officer, and Journalists from 6 media houses including

1. SLBC TV.
2. AYV TV
3. Star TV
4. Freetown Television Network
5. Epic Radio
6. Concord Times Newspaper

About 60 out of the 90 reforestation areas were visited during all the five visits made between November 2020 and April 2022 including private compounds where trees were thriving well.

Field visits and monitoring exercises with theRUSLP team

Regular monitoring visits have also been undertaken by the M&E team from the Resilient Urban Sierra Leone Project and the EFA Project team. These visits are conducted after the submission of progress reports every 6 months. The main purpose of these exercises was to physically identify and assess the different tree species planted in the 13 catchments.

During visits to the various planting sites, the team would assess the growth of trees and interact with growers in the economic trees, and shrubs in communities and forest trees in the watershed areas. Different grasses and shrubs were also different reforestation areas. The RUSLP monitoring team was always led by Ing Mohamed Timbo, M&E Expert RUSLP Project. The visit would always involve the random identification of ten tree species planted with tags, if available on the tree and shrub in each reforestation area of every catchment. CBO Team

leaders and growers were personally interviewed, and their responses were documented. The physical observations were done, and photos of healthy growing trees and stressed trees and shrubs were taken in the field with discussions and recommendations by the RUSLP Team and the Project team to the growers to improve.

RUSLP Team and the Project Team at Catchment 1b (Mangrove)

Tree Care and Maintenance Operations

The #FreetownTheTreeTown Project worked with the CBO implementing partners for better tree care and maintenance practices of newly planted trees, shrubs, and mangroves. Every CBO has a team of maintenance workers, paid each month by the project. Care and maintenance activities under this project refer to post-planting silvicultural practices that are applied to the trees for improved growth. These include ring weeding, watering during the dries, and establishing fire breaks, amongst others. These activities, carried out between November 2020 to May 2023 saw improvements in tree growth in all the catchments while a lack of care and maintenance was seen in the catchments where growth was slow.

Daily Workers Doing Care and Maintenance

2022 Tree growing Audits and Results and Actions

In March 2022, a tree-growing audit and monitoring exercise was conducted by the EFA project team in all of the thirteen (13) catchments. A total of 256,966 (75%) trees were physically counted out of the 306,000 trees planted in phase two, and **99,034** (25%) trees were lost. This field growing audit result was matched with the January-March 2022 Tree Tracking data which showed almost the same results.

April-May 2022: CBO Engagement and Contracting for Maintenance

Informed by the findings of the March 2022 Field Growing Audit, EFA engaged CBOs to review losses of trees and the causes for the losses.

The reasons for tree losses included:

(a) continuous land grabbing in the Western Area Peninsula in the Guma Valley water catchment area.

(b) Forest fires – intentional and/or accidental

(c) Construction of roads by the local authorities in new communities

(d) Lapses in care and maintenance by CBOs

Following the engagements with CBO partners and intensive deliberations on addressing the problems, the following actions were agreed between the EFA project team and CBO partners:

(i) Replacement planting to reduce the number of losses by catchment

(ii) Expanding roles of Tree Verification Monitoring Officers to Catchment Monitoring Officers

(iii) Refresher training of Catchment Monitoring Officers and Community Climate Action Ambassadors

(iv) Increase supervision of Tree Maintenance activities

June 2022: Refresher Training for Community Climate Action Ambassadors, Growers, and Team Leaders.

The Refresher Training for CCAA, growers, and team leads was conducted across the 13 catchments and targeted a total of 1,471 participants. The first traing was done in July 2021 prior to planting. This was to help the community stakeholders, tree growers and daily maintenance workers understanding climate change adaptation, climate risks and the importance of nature-based solutions to climate sustainability.
The key focus of the refresher training was on tree maintenance, community sensitization, and replacement planting of dead or lost trees through:
-Collection, care, and transplanting of wildlings from local forests.
-Vegetative propagation of existing indigenous trees in reforestation areas.
-Refresher training for Community Climate Action Ambassadors and Growers.

- 1,235 Community Climate Action Ambassadors
- 217 Growers
- 19 Team Leaders

Refresher Training for Catchment Monitoring Officers and Team Leaders
The role of the Tree Verification Monitors was expanded to Catchment Monitoring Officers which included direct overall supervision of CBO Team Leads and Growers by EFA personnel. On the 2nd of June 2022, EFA organized a one-day training for the 8 catchment monitoring officers and 19 team leaders to build their capacities in basic tree maintenance practices, monitoring, and reporting as per project objectives. The training was further intended to bolster their confidence in performing their supervisory roles.

Facilitators

Cross section of Team Leader & CMO's

Community Climate Action Ambassadors certified after the training


Community Climate Action Ambassadors TRAINING

Replacement plantings

In April 2022, a comprehensive Tree growing audit was conducted for phase 2 planted between July and November 2021 which revealed **163,975** tree losses. Among the reasons responsible for the tree losses were:

a) Land grabbing in the protected areas
b) Wildfires
c) Negligence by some growing teams
d) Continuous land reclamation (banking) in the mangrove areas

EFA engaged CBOs partners on ways to address the losses especially attributed to negligence. It was thus agreed that some of the partners will voluntarily undertake replacement planting resulting in the planting of 42,250 (fruits and medicinal

trees). It was also realized that vegetative propagation of indigenous tree species will help biodiversity and ecosystem restoration. Thus, EFA and CBO partners engaged in replacement plantings of seedlings that have died or were destroyed as a result of the aforementioned reasons.

July-August 2022: Replacement Planting and Tree maintenance

Replacement Planting

a. Partners collaboration and support for replacement planting

(i) Don Bosco- June-July 2022 (6,850 trees)

Don Bosco Fambul Project partnered with the #FreetownTheTreeTown Project by providing 6.858 trees, tools and transportation of the seedlings to reforestation areas. The seedlings were used as replacements for dead or lost trees between 2020 and 2021.

From the partnership with Don Bosco Fambul Project, the following tree species and tools were received and distributed as follows:

(i) World Environment Day Celebrations 5TH June 2022

2022 World Environment Day celebration on 5th June 2022 with the theme ONLY ONE EARTH aims at raising awareness and celebrating environmental actions. The campaign was celebrated with a focus on living sustainably in harmony with nature highlighing the need to reset the balance with nature through transformative changes. In

partnership with Don Bosco Fambul project, EFA celebrated World Environment Day with symbolic tree planting of 500 trees at Choithram Memorial Hospital situated in catchment 1A at the hill station in the western urban area of Freetown. The commemoration brought together the 11 Community-Based Organizations involved in the implementation of the Project in Freetown and the western rural area.

(i) Sierra Leone US Alumni Association-July 2022 (800 trees)

The Sierra Leone US Alumni Association supported the project with 800 Trees replacement planting. These seedlings which include Gmelina, Cashew, Mango, Tamarind, and Neem trees were planted at Cockerill Military HQ. Formal YALI, Fulbright, and Obama fellows joined growers from Catchment 13 in this exercise. All trees planted were tracked.

(ii) Rotaract Club of Freetown Sunset-July 2022 (100 trees)

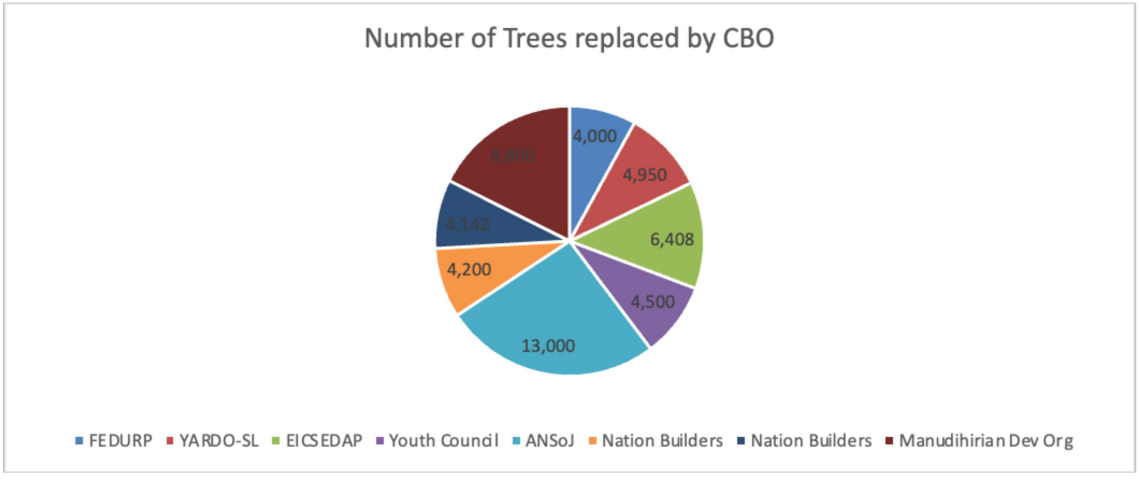
Rotaract club also joined the project to plant 100 trees in catchment 5, Bishop Gate. Present during the exercise was the President of the Rotary Club of Freetown Sunset and volunteers. These trees were tracked by growers as part of the replacement for their catchment.

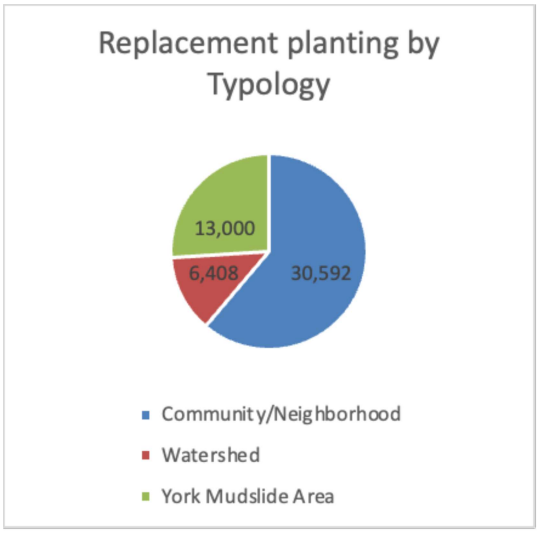
(iii) CBOs Voluntary Community replacement planting July-August 2022 (42,250)

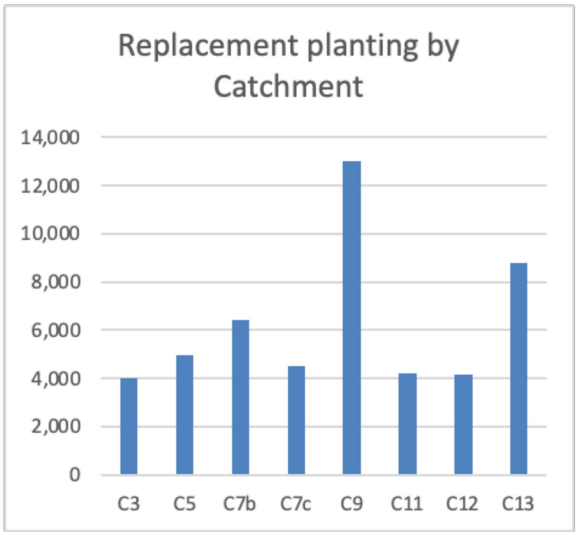
In implementing the outcomes from a CBO engagement meeting held in April 2022 after the Field Growing audit in March 2022, a replacement planting model was undertaken by CBOs to replace dead or lost trees. A total of 24,995 trees were lost from phase 1 planting as was discovered from field audit and tree tracking data in May 2022..

A total of 50,000 trees were replaced through the collection, caring, and planting of wildlings verified and approved by the project team. These included Mango, Avocado, Neem, Tectona Grandis, Tamarind,
Gmelina, Terminalia Ivorensis, Willow, Cashew, and Moringa. Replacement planting was done in 10 catchments that had suffered tree losses taking into consideration sustainable and safe planting sites and locations. The project team trained growers and Team Leads and supervised the replacement planting of 42,250 trees by the CBOs with 7,750 trees with support from external Organizations as stated above.

In total 50,000 trees were replaced in 8 catchments out of the 13 catchment areas of the project. Details of the replacement are underscored:







B. Timely disbursement of funds

The dependence of tree planting initiatives on seasonal factors implies that timeliness in the disbursement of funds can be most significant determinant of success or failure of the initiative. In Sierra Leone, the appropriate timeframe to start tree planting is June-July. By this time, all tree seedlings should have been transported to the planting sites and all required logistics are available in site. During phase I, these ideal conditions were not met. Late disbursement of funds in October 2020 meant that tree planting only commenced in late October 2020 and concluded in November 2020. In addition to tree seedling suppliers loosing thousands of seedlings, due to very late orders, the entire project planning, operations and budget were adversely affected. And ultimately, the planting targets in Phase one were not met.

Timely disbursement of funds during Phase II enabled better planning and implementation of various activiies as well as improved coordination between the various stakeholders. Ultimately, Phase II targets were met.

C. The use of Digital Technology in tree planting.

The use of digital technology (tree tracker) ensured:

- Accountability- verification of the number of tree planted and tracked by CBOs/community growers (demonstrating growth process and survival of tree)
- Easy management of earnings and payments to growers through mobile money platform
- EFA management and donor partners were fully informed about the status of the project in real time (tree dashboard)

- *Growers tracking trees*

D. Effects of Rapid Population Growth in Urban Areas

As a result of rapid and intense urbanization and unregulated development, many natural spaces have become urban / community spaces – particularly in the high slopes, throughout the watershed, forest areas and mangrove wetlands. Furthermore, the MDAs responsible for the management of these protected areas are overwhelmed and often ill-equipped to respond to the incessant demands of these illegal activities.

E. Tree care and maintenance and Tree growing audit

Allocating resources to the regular care and maintenance of trees during the first two years of planting ensures:

- higher rate of tree survival
- Increased commitment and ownership by the local communities who have received financial benefit for stewardship
- Demonstrable good practice of tree planting and growing in Sierra Leone
- Periodic tree growing audit (physical verification of tree planted) helped improve tree CBO accountablity

Replacement planting *Growing team during maintenance*

Tree growing Audit process

A healthy Delonix regia species growing

Final Tree growing results, survival rates, and Challenges

In May 2023, a final field growing audit was conducted in all 90 planting areas after the February tree tracking phase. Below is a table showing a breakdown of tree survival by catchment:

Breakdown by Land use Typology

Land use Typology	**Number of Tree Planted**
Watershed	195,551
Mangrove	66,000
Community/neighbourhood	293,909
Roadside	2,000
TOTAL	**557,000**

Challenges

- **Watershed planting areas**

Land grabbing continues to be a challenge even within the forest reserves. Engagement with NPAA and NWRMA continues to be facilitated so strong actions can be taken to protect the surviving trees. Even within the Guma Valley water catchment, there are incidents of private individuals laying claims to portions of land within the water catchment

- **Mangrove planting areas**

Another huge threat facing planting in this typology continues to come from land reclamation or banking of the mangrove wetlands. EFA has worked with NPAA to demarcate the mangrove planting areas by installing pillars.

Several engagement meetings have been held with the community stakeholders and NPAA to increase protection for the thriving mangrove planted and protect the existing mangrove population.

- **Community and neighbourhood planting areas**

Lang grabbing and bushfires in the dry season have been a significant challenge to the survival of trees. Of the losses of trees planted in this typology, bushfires have been responsible for the primary cause of tree losses. Growing teams have been building fire belts in areas with large numbers of trees, drastically reducing fire threats to trees. Most of the grasses were lost as a result of bush fires.

- **Roadside planting areas**

Even though many attempts were made to plant in this typology, much hasn't been accomplished as the main Peninsula highway target roadside and median are still under construction. The few locations targeted have faced

challenges of fires along the Regent-Grafton highway. Shrubs planted in most of the areas have thrived but growth remains a challenge from pedestrians and people who uproot these shrubs and take them away.

Total number of trees losses in 2020-2023	113,975
Total number of trees that survived from 2020-	**251,000**
Total number of trees replacement planting in 2022-	50,000
Total Number of trees that survived by May 2023	**443,025**

Conclusions and Recommendations

The Urban Greening #FreetownTheTreeTown campaign has increased awareness of the problems faced in urban ecology and green spaces. The creation of about 1149 green jobs employing 85% youths and 42% women and training about 1235 Community Climate Action Ambassadors immensely contributed to the increase climate awareness in vulnerable communities in the Western Area.

There is a growing need for improved land use planning, management of public green spaces, and strong enforcement of policy regulations for the protection of forest reserves and coastal wetlands in urban areas.

Through the lessons learnt Urban Forestry Strategy workshop, it was clear that the lack of an urban forestry policy will affect tree cover loss in the western area with very little protection for growing trees and existing one.