Temwa Carbon Balance summary

Malawi is currently facing severe consequences of the climate crisis, with communities in Nkhata Bay North enduring extreme weather patterns, including intense rains and extended droughts. These harsh conditions lead to soil erosion and crop failures, forcing many farmers to turn to felling trees as a source of income.

To address this challenge, Temwa Carbon Balance provides organizations and individuals with an opportunity to offset their CO2 emissions through community-driven initiatives such as tree planting, sustainable farming, and the management of local natural resources in the remote villages of Nkhata Bay North. Since 2020, we have successfully planted **180,475** trees, including **53,977** seedlings earlier this year.

We are excited to share our latest report, highlighting our achievements in the last half of 2024. Thank you for choosing to balance your carbon footprint with Temwa, helping us continue our life-changing work.

Project context and aims

Approximately 90% of households in Nkhata Bay North rely on smallholder subsistence farming, with 58% of the population living below the national poverty line. These families depend on agriculture to sustain themselves but are increasingly struggling due to the impacts of climate change. Unpredictable rainfall, droughts, floods, strong winds, and crop pests are disrupting food production, further deepening vulnerability and poverty.

Extreme poverty often drives unsustainable resource use, leading to local deforestation. This deforestation accelerates soil erosion, depletes water sources, and reduces agricultural productivity, creating a cycle of environmental degradation, food insecurity, and income instability. Temwa Carbon Balance addresses these challenges by supporting community-led reforestation, sustainable livelihoods, and the responsible management of local natural resources. The programme empowers communities to sustainably manage their resources, diversify livelihoods, restore forests, prevent land degradation, and improve soil health.

Recent Project achievements

Tree seedlings raising- During the last half of the year 2024, Temwa Carbon Balance (TCB) embarked on raising tree seedlings. This was in preparation for the 2024/2025 tree planting season. The team established 14 tree nurseries, including 2 of Temwa's own nurseries at the Honga and Usisya's demonstration sites.

68, 324 tree seedlings have been raised from these 14 tree nurseries, close to the target of 70,000. Of these seedlings; **2,480** are fruit trees, **30,507** are agroforestry, **6,700** are water-retaining and **28,637** are wood-based tree species. These tree seedlings are expected to cover 110 hectares of bare lands, river lines and farmlands. These trees will help restore the soil fertility of the communities' farmlands. It will also help contain water in the river lines.

Community capacity building- Temwa trained 37 community members in seed identification, collection and storage, in preparation for the 2025/2026 planting season. These members are from **5** villages (Katuwa 2, kaulasisi, Honga, Jembe and Duwe). The training helped the members to identify local seeds that can be collected and be sown. This will result in a reduction of species-site mismatching as the seeds will be sourced locally. The Jembe community members managed to collect acacia species locally after the training. They have since raised the seedlings that will be planted during 2024/2025 tree planting season.

Fruit tree establishment- in the quest to help family income diversification and improve nutrition, the team conducted orientation on grafting and budding of fruit trees. 2 training sessions were delivered to **35** community members in fruit tree establishment. These community members are expected to propagate their fruit tree seedlings to improve their variety and speed of maturity. The propagated fruit trees will be planted in their homesteads and at the schools. These fruits will have nutritional benefits as well as provide a source of income to the community.

Bamboo woodlot management- in August and November, TCB managed to orient **70** households on the management of bamboo woodlots. As a result, these community members have established their own bamboo woodlots. The project also supported two schools - Muzgora Primary School and Kaulasisi Primary School. These two schools have planted **112** bamboos in their woodlots. The survival rate is estimated to be at 95%. The established bamboos will ease pressure on the natural forests.

Community stewardship on natural resource management. From July, strides have been made in protecting the existing forests. TCB supported 16 woodlots in protection and management. 42 community members were involved in these activities from 5 villages. Fire outbreak incidences have reduced with only one forest was affected. Thanks to the work of TCB, out of 12 identified forests for further management and protection in 2023-24 season, 10 have been protected from the fires.

In July, TCB supported 23 (14F/9M) household members from Katuwa Village to increase their knowledge and understanding of natural resource management. Reflection meetings revealed that the village has very limited natural resources. TCB supported the village create a Resource Management Plan and to select a Village Natural Resources Management Committee (VNRMC) to lead their plans. Now the village is sustainably managing **7** natural forests that were mapped out for protection.

Forest-friendly livelihoods. The Kanolo bee-keeping group had **75** colonised bee hives from which they expected to harvest at least **200** kgs of honey. However, the group lacked technical knowledge of honey harvesting, extraction and storage for a better market. Temwa responded by training the group in December in these areas. It is good to note that by December 2024, the group managed to harvest **203 kgs** of honey surpassing their target by **3 kgs**. At **MKW5, 000** the group will earn least **MKW 1, 015, 000.00,** about £**475.**

Challenges and lessons learnt

1. Prolonged dry spells in February and heat waves in October affected the survival rate of sensitive trees such as Moringa both at the nursery and in the field after planting out. Temwa promoted mulching of the tree base to reduce the impact of the heat waves on survival rates.
2. Weak governance structures affected enforcement of natural resources management activities. Temwa facilitated trainings of 14 VDCs on their roles and responsibilities on natural resources management.
3. Rising cost of living in Malawi affected the budget for the 2024 work plan. A revision of the budget was conducted to align items with the current prices on the market.
4. Uncontrolled fires affected the survival rate of out-planted tree seedlings in one designated carbon balance site. Temwa responded by conducting popularization meetings of the 2020 Forest Amendment Act regarding offences and penalties related to forest crimes.
5. Promotion of herbal tree production has shown that it has a high potential to improve people's lives through enhanced nutrition.
6. The collaboration between Temwa and the District Council on strengthening governance structures has contributed to improved participation of these structures on Natural Resource Management.

Successes

Improved diversification of sources of income

In 2024, at least 43 forest-dependent households have reported to have diversified their sources of income towards forest-friendly sources. In Kanolo and Jembe villages, 43 members of VNRMCs have now started to enjoy the fruits of bee-keeping initiative. The VNRMC has earned £475 from sales of 203kgs of honey harvested from 75 beehives. 8 out of the 23 members of Kanolo group reported investing their income into farming for the 2024-2025 growing season, whilst another 5 members reported to have paid school fees for their children at secondary schools and bought basic needs. This shows how significant this intervention is at improving the wellbeing of community members whilst protecting the existing forests.

Reduced Deforestation Rate and enhanced vegetative cover

Through enforcement of community bylaws and promoting forest-friendly businesses, deforestation rate has been reported to have decreased in the year in both carbon balance sites and non-carbon balance sites. In the carbon balance sites, deforestation has reduced by 39% this year from 33 reported trees cut in the year to December 2023, compared to 20 cut trees in the year to December 2024. Furthermore, over 50 fire outbreaks were reported by the Nyaluwanga and Mbwana Area Development Committees in 2023 but this year less than 41 cases were reported.

Community participation in tree planting activities was also recorded to be high this year. Last year only 66 community members were reported to have planted at least a tree on their lands. However, this year more than 112 community members have been reported to have a planted at least 1 tree. This shows that community stewardship is improving towards enhancing vegetative cover.

Looking Forward

In the next six months, the project will focus on supporting communities in out-planting of tree seedlings and managing the planted trees to ensure high survival rate. The project will also support 2 communities targeting 30 households on establishment of fruit tree orchards with assorted fruits. The project will also support establishment of 2 bee-keeping groups who will go through tailored trainings and be supported with at least 30 beehives each.

In the 2025-2026 tree planting season, the project would like to increase its targeted number of seedlings to be raised from 75,000 to 90,000 seedlings by working with more Village Natural Resources Management Committees.

Community Stories

1. Carbon Balance Beneficiaries in Chikwina Applaud the planting of Faiderbia Albida in crop fields

Figure 1. shows a maize field for Mr Mtambo who planted agroforestry trees 4 years ago and has seen an improvement in soil health status of his farming land and also crop productivity. Before planting the trees, Mtambo used to buy 4 bags of inorganic fertilizer for application at £170 but instead he now only applies 4 bags of manure to complement the nitrogen fixing trees.

2. Natural Regeneration Creates Access to firewood

Figure 2. Shows Village Headman Chazeka accessing firewood easily through forest regeneration and protection activities on his 4 hectors of land. The Village Headman and his households prunes their forest trees every two months. This has reduced the distance which his household members were walking (10Kilometers) to fetch firewood from the government forest reserve to now only 50 metres.

3. *Mr Bojesi Phiri has ensured a 98% survival rate of his tree seedlings in preparation for the 2024-2025 tree planting season*

Figure 3. Shows Mr Bojesi Phiri at his tree nursery where he has raised 1,597 tree seedlings of pine. Through the technical training he received from Temwa on tree nursery management, Bojesi has achieved 98% survival rate of his raised seedlings, which are almost ready for out-planting when the rains start.