



ANNUAL REPORT

ASSOCIAZIONE MAZINGIRA NGO (AMNGO)

YEAR 2024

Misitu ni Uhai. Tumerithi, Tuwarithishe.

Forests are life. We have inherited them, let us inherit them.





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Inside front cover image: *Planting trees in schools* © S. Ricci

TABLE OF CONTENTS

	UDZUNGWA MOUNTAINS	4
	Background	
	Significance of the region	
	Key challenges	
	Possible solutions	
	OUR ROOTS IN BRIEF	6
	Udzungwa Ecological Monitoring Centre (UEMC)	
	Associazione Mazingira ODV	
	MILESTONES	8
	OUR FUNDERS AND PARTNERS	10
	2024 IN NUMBERS	12
	Research and monitoring	
	Community and livelihood	
	RESEARCH AND MONITORING	14
	COMMUNITY AND LIVELIHOOD	28
	UDZUNGWA LANDSCAPE STRATEGY	40
	OUR PEOPLE	42
	FINANCIAL OVERVIEW	45

ASSOCIAZIONE MAZINGIRA NGO (AMNGO) promotes international collaboration for sustainable development, with a strong emphasis on conserving the environment and safeguarding biodiversity and ecosystem services.

By combining research, ecological monitoring, education, and community-driven initiatives, we support and empower local communities to protect fragile ecosystems and reduce human-induced pressures on the natural world.

UDZUNGWA MOUNTAINS

BACKGROUND

“Mazingira” the Swahili word for environment, reflects our core mission and deep roots in Tanzania. Our primary intervention focus is the **Udzungwa Mountains** in south-central Tanzania, part of the globally significant **Eastern Arc Mountains** – one of the world’s top biodiversity hotspots. The Udzungwas are home to some of the most ecologically important rainforest blocks in Africa. In addition to ancient **montane rainforests**, the landscape includes **lowland forests**, **woodlands**, and **grasslands**, creating a mosaic of habitats that support exceptional biodiversity. The area hosts **over 400 bird species**, **120 mammals**, **2,500 plant species**, and **countless invertebrates**, many still awaiting scientific description.



SIGNIFICANCE OF THE REGION

The **Udzungwa Mountains** are crucial for both **nature and people**. They support local livelihoods, safeguard biodiversity, regulate climate, and supply water essential for agriculture and hydropower. Remarkably, nearly half (46%) of Tanzania's endemic vertebrates are found here, including 20 species found nowhere else. The mountains feed rivers that power hydroelectric plants responsible for 23% of Tanzania's electricity. The forests also provide vital ecosystem services to surrounding communities that rely heavily on farming for their well-being and economic survival.



KEY CHALLENGES

The exceptional ecosystems of the Udzungwa Mountains face growing threats from a range of environmental and human-induced pressures, including:

- **deforestation** and **habitat degradation** driven by agriculture, illegal logging, and fires
- **illegal hunting** and **plant collection** for subsistence and trade
- **encroachment** and **increasing pressure on forest buffer zones**
- **limited management capacity** and **weak institutional coordination**
- **climate change growing impacts**
- **food insecurity** increasing reliance on natural resources

POSSIBLE SOLUTIONS

In response to the growing threats facing the Udzungwa Mountains, and with the generous support of private foundations alongside regular institutional funding, we propose an integrated set of actions aimed at conservation, sustainable development, and community empowerment:

- **supporting biodiversity monitoring and threat mitigation** in collaboration with protected area authorities
- **strengthening local institutions** for more effective natural resource management
- **promoting sustainable economic opportunities** to reduce forest dependency
- **encouraging adoption and local production of energy-efficient technologies** to limit deforestation and habitat loss
- **enhancing governance** through capacity building and inclusive community engagement
- **expanding environmental education**, especially among youth, to foster future stewardship
- **fostering gender equality** through women's leadership in conservation
- **promoting integrated landscape-level planning** aligning conservation and development
- **advancing the Udzungwa Landscape Strategy (ULS)**, integrating community and protected areas efforts for biodiversity conservation



OUR ROOTS IN BRIEF

In 2022 AMNGO scales up, incorporating the Udzungwa Ecological Monitoring Centre (UEMC) within its organization.

UEMC – BRIEF HISTORY

In the early 2000s, growing international interest in the Udzungwa Mountains' exceptional biodiversity aligned with the **Tanzania National Parks Authority's (TANAPA)** goal to establish ecological monitoring centres in national parks. In response, the **Science Museum of Trento (MUSE)** launched a long-term research initiative in the area and proposed the creation of a field station.

In 2006, **MUSE** and **TANAPA** secured funding from the **Provincia Autonoma di Trento (PAT)** and the **Margot Marsh Biodiversity Fund** to build the **UEMC**, whose mission is to support biodiversity research, conservation planning, and community outreach.

Today, **UEMC** offers accommodation and research facilities for scientists, students and tourists, offering higher education programs, provides technical support to the **Udzungwa Mountains**

National Park and nearby reserves, by training for rangers and park staff, and plays a key role in biodiversity research, ecological monitoring, and community engagement in conservation.

UEMC MISSION

- Facilitate research
- Conservation planning
- Community outreach initiatives

UEMC STRATEGIC ACTIVITIES

- Biodiversity monitoring programmes
- Organization of training courses for rangers and park ecologists
- Organization of higher education programs
- Educational programs for school children



Summer school students during practical sessions © N. Scharff

ASSOCIAZIONE MAZINGIRA ODV – OVERVIEW

Associazione Mazingira ODV (Voluntary Organization) is a non-profit organization founded in 2010 by **MUSE** collaborators with the intent to initiate a systemic programme of community-based conservation in collaboration with **UEMC**, aiming to integrate people and nature for sustainable development in the Kilombero valley. Since its inception, the organization has operated both in Italy and Tanzania.

In Italy, it focuses on raising awareness among civil society and providing Global Citizenship Education (GCE) through sensitization projects, school programmes, public events, exhibitions, and awareness campaigns. In Tanzania, it has developed and implemented dedicated programs to promote local well-being, foster economic growth, and enhance nature conservation.



Agroforestry activities © S. Ricci

A. MAZINGIRA ODV STRATEGIC ACTIVITIES

Among the key activities are:

- environmental education in schools
- teacher trainings
- public awareness campaigns
- tree nursery establishment and maintenance and tree planting
- promotion of agroforestry techniques
- promotion and production of energy-efficient technologies and alternative charcoal
- income-generating initiatives (e.g. beekeeping, tailoring, poultry)
- eco-tourism



MILESTONES

2006



UEMC is inaugurated and **MUSE**, in partnership with **TANAPA**, starts the management and coordination of it for the first 10 years



UEMC takes up the Primate Monitoring Programme initiated by the **Duke University** in the 1990s, including more sampling sites

2008



A new mammal species (grey-faced elephant shrew) is discovered and described in the Udzungwa Mountains by **MUSE** scientists

2009



UEMC becomes the first node in Africa of a pantropical network of field stations that implement standardized biodiversity monitoring: **TEAM** (Tropical Ecology, Assessment and Monitoring) **Network**

2010



MUSE together with **TANAPA** supports the construction of a hostel for students



First integrated research-education abroad programme is organized by **Pennsylvania State University**



Associazione MAZINGIRA ODV is founded in Italy

2011



Associazione MAZINGIRA ODV takes over environmental education in 10 schools, initiated by **MUSE** and **UEMC**, and establishes a long-term community conservation programme



First of a series of 5 international summer schools, co-organized by **MUSE** with other partners, are hosted at **UEMC**

2012



First multi-year programme on sustainable

development, agroforestry, tree nursery, sustainable energy-efficient technologies (SEET) and education in 14 villages



13 new local schools are involved in educational programmes (reaching over 2,000 pupils)

2013



Associazione MAZINGIRA ODV organizes the first eco-tours



First activities on village sensitization and Income-Generating Activities (IGA) in the Kilombero valley

2014



School twinnings with Italian pupils and teachers' computer trainings



Training courses on bee-keeping for local communities



Funding for the construction of the **Visitor Information Centre (VIC)** obtained from PAT, Aage V. Jensen Charity Foundation (AVJCF), MUSE, Natural History Museum of Denmark



UEMC ACTIVITIES BEFORE 2022



A. MAZINGIRA ACTIVITIES BEFORE 2022

2015

First alley-cropping programme supported by **Fondazione Foresta Futura (FFF)**

MoU between **TANAPA** and Italian NGOs, coordinated by **Associazione MAZINGIRA ODV**, to build the **VIC**, with the support of **PAT** and other international institutions

2016

Training courses on tourism and tour guiding for **TANAPA** staff by **Associazione MAZINGIRA ODV**

2017

The **Natural History Museum of Denmark (NHMD)** joined the coordination of **UEMC**, marking the beginning of two additional management phases (2017–2021 and 2022–2026)

Associazione MAZINGIRA ODV is registered as Tanzanian Company LTD



The **NHMD** takes over the organization of the summer schools



Multi-year systemic programme to consolidate the intervention in the Kilombero valley (main donors: **PAT**, **Regione Trentino Alto Adige** and **FFF**)



Increased protection of the Uzungwa Scarp that is upgraded from Forest to Nature Reserve, thanks to the Primate Monitoring Programme

2018



Solar energy project through microcredits in collaboration with **TAREA** and **Microfinanza e Sviluppo**



VIC Inauguration at the headquarters of the UMNP supported by **MUSE** and **AVJCF**

2019



Associazione MAZINGIRA Co. LTD is registered as a Tanzanian NGO (**AMNGO**)



The **University of Florence (UNIFI)** joins the alliance of institutions that coordinates **UEMC**

2021



Over 500,000 seedlings produced and more than 120 ha planted over 10 years of the programme



MoU with **TREEDOM** to produce 32,000 seedlings per year



AVJCF funds a 5-year conservation program

2022

AMNGO scales up, incorporating the **UEMC** within its organization

2023

23 village consultations to promote the **Udzungwa Landscape Strategy (ULS)** funded by **Hempel Foundation**

2024

AMNGO was assigned to implement **ULS** activities within the 3 Strategic Objectives SO2, SO3 and SO4 (see pp. 40-41)

OUR FUNDERS

IN 2024



**AAGE V. JENSEN
CHARITY FOUNDATION**
(Denmark)



**WILD PLANET
TRUST**
(UK)



**FONDAZIONE
FORESTA FUTURA**
(Italy)



**PENNSYLVANIA
STATE UNIVERSITY**
(USA)



HEMPEL FOUNDATION
(Denmark)



HAMER FOUNDATION
(USA)



VIAGGI E MIRAGGI
(Italy)



**OTTO PER MILLE
CHIESA VALDESE**
(Italy)



**NATURAL HISTORY MUSEUM OF
DENMARK, University of Copenhagen**
(Denmark)



MUSEO DELLE SCIENZE
(Italy)



BRISTOL ZOO
(UK)

OUR IMPLEMENTING PARTNERS

IN 2024



**TANZANIA
NATIONAL PARK**
(Tanzania)



MUSEO DELLE SCIENZE
(Italy)

**NATURAL
HISTORY MUSEUM
OF DENMARK**

UNIVERSITY OF
COPENHAGEN



**NATURAL HISTORY MUSEUM OF
DENMARK, University of Copenhagen**
(Denmark)



**UNIVERSITY OF
FLORENCE**
(Italy)



**TANZANIA FOREST
SERVICE AGENCY**
(Tanzania)



**KILOLO DISTRICT
AUTHORITY**
(Tanzania)



**KIOLSA DISTRICT
AUTHORITY**
(Tanzania)



**KILOMBERO
DISTRICT AUTHORITY**
(Tanzania)



**MLIMBA DISTRICT
AUTHORITY**
(Tanzania)



**PENNSYLVANIA
STATE UNIVERSITY**
(USA)



REFOREST AFRICA
(Tanzania)

**BRISTOL
ZOOLOGICAL
SOCIETY**

BRISTOL ZOO
(UK)



**WILD PLANET
TRUST**
(UK)

STEP

**Southern Tanzania
Elephant Program**
(Tanzania)



BIOSPHERA

BIOSPHERA
(Italy)



VIAGGI E MIRAGGI
(Italy)

2024 IN NUMBERS

RESEARCH AND MONITORING



ECOLOGICAL MONITORING

**9,940**km walked for primate
census**120**sites for camera
trapping**3,488**camera trapping **days****52,000**camera trap **images****2,920**trapping **days** for
arthropods**1,050****man/day**
of field work**19****scientific
publications**
authored by us

RESEARCH FACILITIES

**412**

visitors

290

Tanzanian

122

non-Tanzanian

168

researchers

50**students** (university
and secondary)**194****general visitors**
(tourists and govt)

CAPACITY BUILDINGS

**5**technical advisory
workshops**8****trainings****3**TANAPA **monitoring
programmes**
supported

HIGHER EDUCATION

**1****summer school****34****students** involved**5**international
lecturers involved

COMMUNITY AND LIVELIHOOD



ENVIRONMENTAL EDUCATION



4,500
pupils

90%
students pass final examination

18
schools

32
classes reached

18
environmental clubs engaged and revitalized

10
schools equipped with new lavatories

1
twinning programme with 4 Italian classes

AGROFORESTRY AND GREENING



2
large tree nurseries

28,258
seedlings produced (113% of annual target)

142
farmers

140
pupils and farmers trained in tree nursery management and planting

5
villages engaged

SUSTAINABLE ENERGY-EFFICIENT TECHNOLOGIES



50
stove makers from 10 villages trained

1,090
mud stoves constructed

4,940
people (2,223 men and 2,617 women) benefited from sensitization

3
districts involved (Kilombero, Mlimba, Kilolo)

COMMUNITY SENSITIZATION



27
villages reached across 3 districts

8
members formed SO2 working group for joint planning

INCOME-GENERATING ACTIVITIES



5
villages assessed for the construction of alternative charcoal factories and briquette production



ECO-TOURISM

25
tourists visited the Udzungwas (2 trips)

2,500
euros raised through donation



Summer school students c



ECOLOGICAL MONITORING

implement
long-term biodiversity
assessments and
monitoring



RESEARCH FACILITIES

facilitate individual
researchers, PhD
students and agencies
working in the area to
promote research and
conservation efforts



RESEARCH AND MONITORING

during practical sessions © N. Scharff



CAPACITY BUILDING

provide technical advisory and training to local staff and communities from protected areas and conservation agencies



HIGHER EDUCATION

boost the hosting and facilitation of field-based training of students, such as summer schools and studying abroad visits



Monitoring arthropods in the field © N. Scharff

ECOLOGICAL MONITORING

WHY MONITORING

- Assess biodiversity status and describe new species
- Determine significant changes
- Identify drivers of change
- Anticipate changes and provide advisory for conservation management

WHAT DO WE MONITOR

- Invertebrates
- Non-human primates
- Terrestrial mammals
- Vegetation
- Human disturbance

INVERTEBRATE MONITORING PROGRAMME

For over five decades, the Natural History Museum of Denmark — co-funder and co-manager of UEMC — has led extensive biodiversity research in the Eastern Arc Mountains, with a strong focus on the Udzungwa range. This long-term effort has uncovered numerous endemic species, including amphibians and birds. These findings highlighted the area's global conservation value and supported its designation as a National Park in 1992.

A 2014 survey using the COBRA protocol revealed exceptional invertebrate diversity in the Udzungwa Mountains, including 631 spider species — 85% new to science. Over 60 new endemic millipedes has also been discovered and described within the last 10 years.

Launched in 2012, the Eastern Arc Biodiversity Programme focuses on uncovering the rich but

understudied invertebrate fauna of the Udzungwa Mountains. Its core aims include documenting arthropod diversity, refining cost-effective biodiversity survey methods, and analyzing species distribution across ecological gradients.

Following earlier spider surveys that revealed distinct species compositions across protected areas, long-term monitoring of flying insects began in late 2022 using Malaise traps, with plans to include pitfall traps for ground-dwelling species. This effort complements vertebrate monitoring, as invertebrates — due to their short life cycles and limited ranges, can offer timely, fine-scale insights into environmental changes and serve as sensitive early indicators of environmental change, and thereby provide valuable data to inform conservation strategies.

In 2024, flying insect monitoring continued at the same sites as established in 2023. Two sites, each equipped with two Malaise traps, were maintained in the Mwanihana Forest (1,190 m and 1,532 m elevation), and two additional sites were set up in the Uzungwa Scarp Nature Forest Reserve (1,220 m and 1,630 m).

All eight traps operated year-round, with only minor interruptions due to severe weather or damage from wildlife and falling debris. Traps were emptied biweekly, totaling 2,920 trapping days for the year. The programme required substantial field effort: in Mwanihana, 3 team members worked 2 days per month (72 person-days/year), while in the Uzungwa Scarp, 4 people worked 6 days per month (288 person-days/year). Trapping at current sites will continue into 2025, to secure long-term data for the two protected areas.

During 2025 we are planning to shift focus and monitor in the Kilombero Nature Forest Reserve, which is more remote and logistically challenging, but will provide crucial data for a protected area that has never been surveyed for invertebrates.

PLANS FOR 2025

- Continue the monitoring in Mwanihana Forest, Udzungwa Mountain National Park
- Establish new sites in the Kilombero Nature Forest Reserve and continue monitoring in Uzungwa Scarp Nature Forest Reserve, if funding allow us to run three monitoring sites
- Include monitoring of the ground fauna with pitfall traps

PUBLICATIONS

Enghoff H, Ngute ASK, Kwezaura RL, Laizzer RL, Lyatuu HM, Mhagawale W, Mnendendo HR & Marshall AR (2024). A mountain of millipedes XI. The trachystreptoform spirostreptids of the Udzungwa Mountains, Tanzania (Diplopoda, Spirostreptida, Spirostreptidae). *European Journal of Taxonomy* 918: 1–50.

Wood HM, Kulkarni S, Ramírez MJ & Scharff N (2024). Phylogeny and biogeography support ancient vicariance and subsequent dispersal out of Africa in Palpimanidae spiders (Araneae). *Zoological Journal of the Linnean Society*, 202(2), Article zlae 129.

PRIMATE MONITORING PROGRAMME

The Primate Monitoring Programme is the longest-running ecological monitoring initiative in the Udzungwa Mountains, having been active for over two decades. The monitoring protocol involves systematic surveys along four established transects, each spanning 3.6 to 4 km, in both Mwanihana and USNFR. These transects are surveyed monthly — twice in Mwanihana and once in USNFR — by a trained observer accompanied by an assistant. All primate sightings are carefully recorded during slow-paced walks along these trails.

As of 2024, the programme has accumulated a total of 2,477 transect walks, with 24 and 12 walks

added per year for each of the four transects in Mwanihana and USNFR, respectively. Five primate species are consistently monitored:

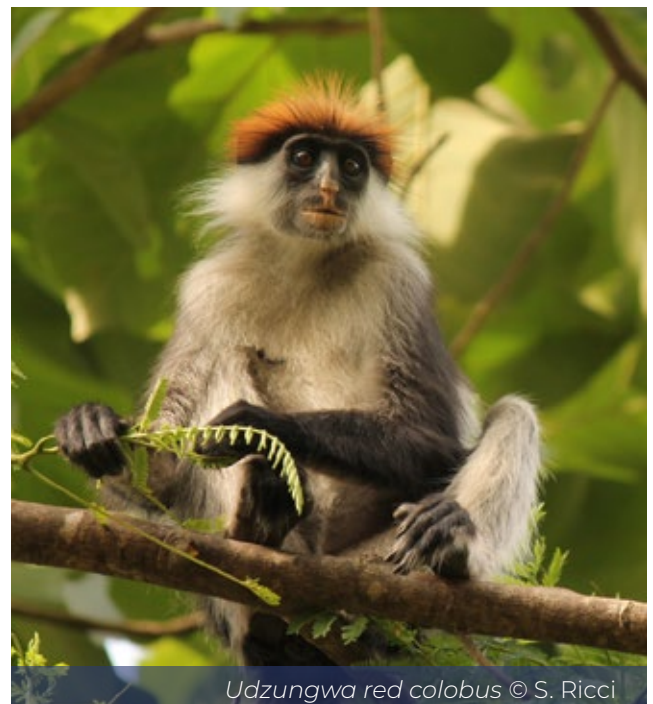
- Udzungwa red colobus (*Procolobus godonorum*, endangered and endemic)
- Peters' Angola colobus (*Colobus angolensis*)
- Tanzania Sykes' monkey (*Cercopithecus mitis monoides*)
- Sanje mangabey (*Cercocebus sanjei*, endangered and endemic)
- Yellow baboon (*Papio cynocephalus*)

Analysis of monitoring data up to 2020, presented in the 2023 report, suggests that primate populations in Mwanihana are stable, while USNFR has experienced severe declines — especially in the two colobus species, now at critically low levels. However, Sykes' monkey shows signs of recovery, and colobus numbers may be stabilizing. These differences likely reflect higher human disturbance in USNFR, though recent conservation efforts since its designation as a Nature Reserve in 2017, including reduced hunting, may be contributing to early signs of improvement.

This long-term programme not only highlights the effectiveness of simple, consistent monitoring protocols in detecting ecological trends, but also underscores the urgent need to maintain — and, where possible, enhance — protection of primate habitats.

A key strength of AMNGO's approach lies in its integration with conservation enforcement: findings from primate monitoring and camera trapping (see next section) are shared in near-real time with the Uzungwa Scarp Protection Programme. This allows for targeted patrols and timely responses to illegal activities by TFS, effectively linking ecological monitoring with direct conservation action.

In parallel, research exploring alternative approaches to assessing primate health has highlighted the potential of gut microbiota analysis as a valuable indicator. Findings suggest that gut microbial communities can vary significantly not only between primate species but also within the same species across populations inhabiting different environments, likely reflecting habitat-specific ecological pressures. Furthermore, notable differences have been observed among individuals within the same population, which appear to be linked to individual ecological factors — such as diet, sex, ranging behavior, and social dynamics — as well as localized habitat disturbances and environmental changes.



Udzungwa red colobus © S. Ricci

CENSUS OF THE KIPUNJI MONKEY

In recognition of the limited research attention historically given to the western Udzungwa forests — specifically those within the Kilombero Nature Forest Reserve — a focused re-census of the critically endangered kipunji (*Rungwecebus kipunji*) was carried out in the summer of 2024.

This rare primate, one of Africa's most threatened and least known monkey species, has a highly restricted range, with the Udzungwa population found exclusively in Ndundulu Forest.

From August 31st to September 9th, 2024, a systematic survey was conducted by three field teams. A total of 40 transects, each 2 km in length, were walked across the area, with three adjacent transects surveyed simultaneously each day using a consistent protocol and pace. This intensive effort resulted in direct sightings of three social groups and one additional group detected acoustically. These findings confirm the kipunji's persistently low density in the Udzungwas and are consistent with previous surveys conducted by teams led by Dr. Trevor Jones (STEP).

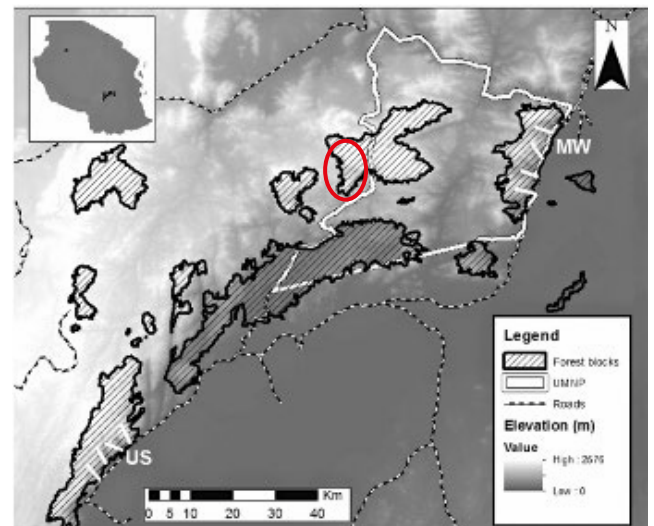
The conservation implications of these results are significant. The kipunji is not only critically endangered but also represents one of the few known African primates described in the 21st century, making its survival particularly urgent. Its extremely limited distribution and low population numbers underscore the need for sustained protection and targeted conservation strategies in Ndundulu Forest. Moreover, the data from this re-census will be integrated with previous records dating back to 2006, with a comprehensive analysis planned for publication. The area surveyed is highlighted in the map below with a red circle.

PLANS FOR 2025

- Continue to monitor non-human primates

PUBLICATIONS

Bambi M, Galla G, Donati C, Rovero F, Hauffe HC & Barelli C (2024). Gut microbiota variations in wild yellow baboons (*Papio cynocephalus*) are associated with sex and habitat disturbance. *Scientific Reports*. 14:869.



Map of Tanzania's Udzungwa Mountains highlighting key forest blocks, including Mwanihana (MW) in the northeast and Uzungwa Scarp (US) in the south-west. The eight primate monitoring transects are marked in white. The shaded background represents elevation, with darker areas indicating lower altitudes. Boundaries of the Udzungwa Mountains National Park (UMNP) are also delineated.

Reproduced from Barelli et al 2023

CAMERA TRAPPING TO MONITOR GROUND-DWELLING MAMMALS

A second, major monitoring programme on mammals, highly complementing the primate one, targets ground-dwelling mammals using camera-trapping.

This began in 2009 when UEMC became the first node in Africa of the Tropical Ecology, Assessment, and Monitoring (TEAM) Network, a pantropical programme aimed at tracking long-term changes in biodiversity at different levels (species, communities, ecosystems) and create an early warning system for tropical forests globally. Main TEAM's original monitoring programmes included terrestrial vertebrates and vegetation. Led and funded by Conservation International, TEAM transitioned to a decentralized and voluntary network in 2017, and UEMC has since continued to secure the necessary funding to sustain this programme.

TEAM's target forest is Mwanihana, where sampling consists of installing and running camera-traps at 60 sites across the forest for 30 days in the dry season (July-November). Remarkably, sampling has been conducted consistently since 2009, and in 2024 the 16th year of sampling was completed. To our knowledge this is among the few areas on earth where systematic camera trapping has been conducted for such a long period.

Mirroring the primate monitoring, in 2016 the sampling was extended to USNFR, where 60 sites were also established and since then monitored annually.

In 2024 the sampling took place during July to November, with the usual system of sampling 20 arrays sequentially, each with 20 camera-trap sites. Sampling cumulated overall 3,488 camera-days in both forests, yielding 52,000 images. In Mwanihana, 269 wildlife species were detected, while in USNFR species recorded were only 19. Similarly to the differences found from the primate monitoring, earlier analyses have already revealed how the community of mammals in the impacted forest has a lower number of species, with lower population abundance.

Among the publications in 2024 contributed by this monitoring programme, one is especially important: it used comparable data from 38 areas across the tropics, including the two in Udzungwa, to assess how anthropogenic disturbance in the landscape influences wildlife within the monitoring areas. Results showed that human activities are detrimental to wildlife, leading to decline in species, with remaining ones being modulated by the extent of forest. The study corroborates the importance taken by AMNGO and partners of addressing conservation at the landscape level, such as through the Udzungwa Landscape Strategy (see pp. 40-41).

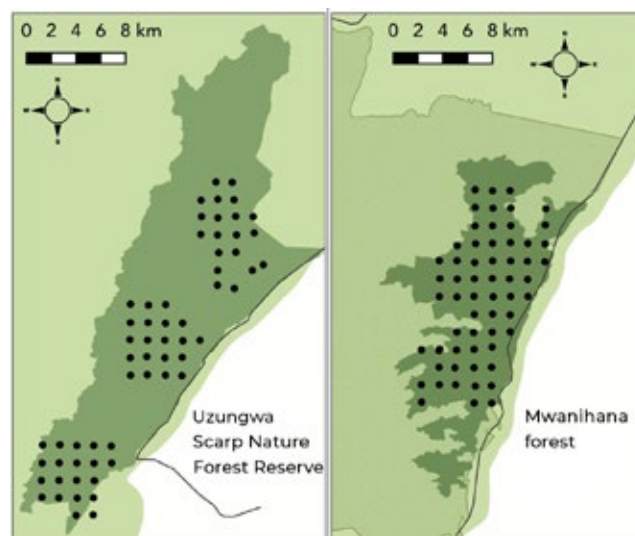
PLANS FOR 2025

- Continue the camera-trap monitoring
- Conduct an analysis of trends
- Disseminate the information collected
- Extend the sampling in the Kilombero Nature Reserve in the west of Udzungwa

PUBLICATIONS

Greco I, Beaudrot L, Sutherland C, Tenan S, Hsieh C, Gorczynski D, ... & Rovero F (2025). Landscape-level human disturbance results in loss and contraction of mammalian populations in tropical forests. *PLoS biology*, 23(2), e3002976.

Greco I, Paddock CL, McCabe GM, Barelli C, Shinyambala S, Mtui AS & Rovero F (2023). Calibrating occupancy to density estimations to assess abundance and vulnerability of a threatened primate in Tanzania. *Ecosphere*, 14(3), e4427.



Map of camera traps locations in the two forests (Mwanihana forest and Uzungwa Scarp Nature Forest Reserve) shown as black dots. Reproduced from Oberosler et al 2020



The Udzungwa Ecological Monitoring Centre (UEMC) from a drone perspective © N. Scharff

RESEARCH FACILITIES

WHICH FACILITIES WE HAVE

UEMC holds the following facilities available to researchers and agencies:

- a large (150 m²) seminar room (accommodating over 50 people)
- three researchers' houses, each with two double, self-contained rooms
- a large dormitory block with four rooms (hosting up to 24 people)
- a dining hall with annexed kitchen and store, capable to serve up to 30 people
- a new laboratory currently under construction, initiated in 2024 and expected to be completed by August 2025 for the sorting, identification, processing, and storage of biological and environmental samples.

In 2024, the Udzungwa Ecological Monitoring Centre (UEMC) continued to serve as a hub for research and capacity-building activities, offering lodging and logistical support to a diverse range of users. These included national and international researchers, students attending self-organized or institutional training initiatives (such as summer schools and field courses), as well as conservation programmes coordinated by external organizations. The research facilities are also occasionally used by tourists who visit the area.

During the year, a total of 412 individuals made use of the UEMC's facilities. Of these, 71.6% (295 visitors) were from African countries — 290 from Tanzania and 5 from Madagascar — while the remaining 28.4% were international visitors. Among the 117 non-Tanzanian guests, 71.8% (84 individuals) were European, with representatives from Italy, Denmark, Germany, and the United Kingdom. The rest came from across the globe: 22.2% from the Americas, 3.4% from Asia, and 2.6% from Australia.

Out of all visitors, 217 were accommodated on-site, while others accessed the centre as day users. Visitor profiles were varied: 168 were re-

searchers, 50 students, 55 tourists, 74 government representatives, 1 journalist, and 64 general public attendees. Accommodation patterns showed that 284 individuals stayed for short-term visits, while 128 had extended stays.

In 2024, a major infrastructural milestone was reached at UEMC when the construction of a new laboratory facility was initiated, following extensive planning and design work carried out in 2023. The new laboratory will include an office, a storage, a sorting and preparation room, and a larger room that can also function as a training space for students and technicians. Completion of construction, outfitting and installation of equipment are scheduled for 2025, after which the laboratory will become fully operational.

The need for this dedicated facility had been a recurring theme in discussions among UEMC, TANAPA and other partners since 2021, as research activities in the area expanded in both scale and complexity. Until now, UEMC lacked a

specialized space to handle field-collected materials in a professional and efficient manner. The new laboratory has been purpose-built to support essential activities such as sorting, preparing, identifying, and storing biological and environmental samples. It will also serve to host specialized equipment requiring dedicated space, thereby filling a critical gap in UEMC's research infrastructure.

Funding for the construction was generously provided by the Aage V. Jensen Charity Foundation. Once completed, the laboratory will significantly strengthen UEMC's capacity for advanced research, training, and long-term biodiversity monitoring in the Udzungwa Mountains and beyond.

PLANS FOR 2025

- Complete the new laboratory building
- Continue to promote the facilities
- Improve the engagement with local and international stakeholders to showcase the research facilities



Construction of the new laboratory building at UEMC © Photographer



Training workshop © S. Ricci

CAPACITY BUILDING

WHAT WE PROVIDE

- Organization of training workshops
- Logistical support for training workshops and technical advisory services
- Promote higher education trainings to TANAPA staff

In 2024, AMNGO continued to strengthen its partnership with the Ecology Department of the Udzungwa Mountains National Park (UMNP) by facilitating data sharing from ongoing ecological monitoring efforts, supporting the design and implementation of park-led monitoring initiatives, providing regular technical guidance, and contributing to capacity development for UMNP staff.

As part of its broader commitment to capacity building, AMNGO, in collaboration with strategic

partners including STEP, Reforest Africa, TAWIRI, and TANAPA, facilitated eight training activities hosted at UEMC. These included:

- **Community-based capacity building:** A two-day workshop on the construction of energy-efficient mud stoves for 20 participants from five villages, aimed at reducing dependency on wood fuel and promoting sustainable energy use.
- **Staff development trainings:** Two key sessions, one on resource mobilization (36 participants over three days), and another for senior staff focusing on grant proposal writing and leadership (12 participants over two days).
- **Technical collaboration:** A joint training with STEP on the development and application of ecological data dashboards.

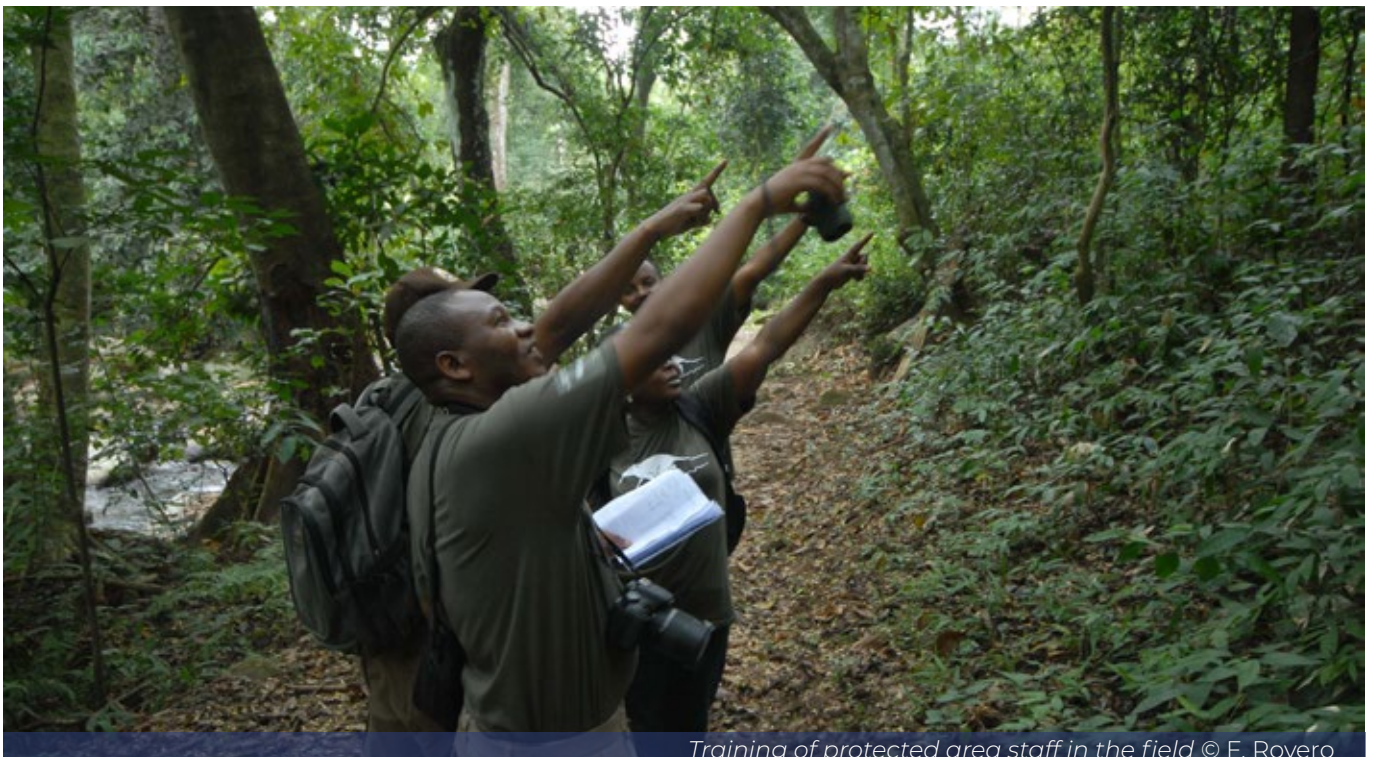
- **Specialized ranger training:** A two-day intensive course led by STEP to enhance knowledge of local biodiversity, patrol planning, and ranger mental wellness.
- **Sustainable agriculture training:** In partnership with Reforest Africa, this training engaged 75 participants (50 villagers and 25 local leaders) from five communities in smart, sustainable farming practices to reduce environmental pressures.
- **Financial literacy training:** A session delivered by STEP to 40 villagers and 8 instructors from Sole and Kanyenja village, aimed at improving community-level financial management and planning.
- **Leadership training:** A strategic workshop for senior local government and conservation officials, co-organized with TAWIRI and TANAPA, to foster stronger governance in conservation leadership.

In addition, the Research and Monitoring Department of AMNGO provided technical advisory services on five occasions in 2024, specifically supporting the establishment of roadkill monitoring transects along the newly constructed tarmac road.

Further contributions to TANAPA included logistical and financial support for key ecological monitoring initiatives. This encompassed the provision of transport for roadkill transect activities and an annual financial contribution of approximately TZS 2.4 million to support large mammal monitoring within the park.

PLANS FOR 2025

- Continue facilitating training courses and workshops
- Support higher education studies on wildlife topics



Training of protected area staff in the field © F. Rovero



Summer school students © N. De Vere

HIGHER EDUCATION

WHAT WE OFFER

Lecturing, logistic support and facilities for:

- summer schools with lecturers and practical field trainings
- summer camps

As part of local staff development, support has also included the facilitation of access to higher education opportunities, both nationally and internationally. In previous years, this has involved assistance for the completion of undergraduate studies at local universities as well as participation in international master's programmes focused on sustainable forest and nature management, funded through European initiatives. These efforts contribute to strengthening local capacity and fostering long-term expertise in conservation and environmental management.

SUMMER SCHOOLS & STUDY ABROAD PROGRAMMES

The establishment of the student hostel adjacent to UEMC's research facilities created the infrastructure needed to host recurring international academic programmes. Since 2017, one of the flagship initiatives has been an annual field course in East African ecology and evolution, coordinated by the Natural History Museum of Denmark. Designed for undergraduate students from both Europe and Tanzania, the course brings together participants from institutions such as the University of Copenhagen, the University of Dar es Salaam, Sokoine University of Agriculture, and Mweka Wildlife College. Over seven editions, the programme has engaged 154 students in immersive field-based learning.

In 2024, the course welcomed 22 students — 16 from Denmark and 6 from Tanzania — who

received training from a team of 11 lecturers representing both European and Tanzanian institutions. The curriculum offers foundational knowledge of East African rainforest and savanna ecosystems, coupled with practical training in biodiversity monitoring, species identification, and conservation challenges. Students gain hands-on experience in tropical field methods while exploring the ecological roles and characteristics of key animal and plant groups native to the region.

The 2024 course had major focus on mammals, invertebrates and plants, and it showed students how tropical organisms interact in many and often surprising ways. Earlier field courses have led to the discovery that defense secretions by cylindrical millipedes attract a number of blow fly species. This has never been documented in scientific literature, and we used this in a student exercise in the field, partly to show the phenomenon, and partly to demonstrate what is needed to generate the scientific data for proper scientific documentation. A small exercise was carried out in the forest and the students later analysed the collected data in a class exercise where they calculated statistics and discussed the possible — but still unknown — reasons why these blow flies are attracted to the defense secretions.

The course was evaluated by participating students as part of the standard course assessment process at the University of Copenhagen, consistently receiving very positive feedback. Students particularly appreciated the combination of classroom lectures, hands-on activities, and a three-night camping experience in the national park, which offered valuable field exposure and direct interaction with the forest environment.

The programme ended with a two-day excursion to Mikumi National Park, where students were introduced to savannah ecosystems and their characteristic megafauna.

In addition to this annual course, UEMC has also provided independent training opportunities and summer camps for other interested institutions, offering logistical support and access to accommodation facilities.

Finally, in August 2024, AMNGO participated in the final symposium of the **CONTAN project** (“Developing Curricula for Biodiversity Monitoring and Conservation in Tanzania”), a project funded by the EU with €790,431 under the Erasmus+ Capacity Building in Higher Education programme (2021–2025). The project aimed to enhance biodiversity science training and curricula by fostering collaboration between European and Tanzanian higher education institutions, specifically benefiting students and lecturers from CAWM-Mweka, SUA, and UDSM. Secondary beneficiaries included conservation professionals expected to employ project-trained graduates.

Following its successful hosting of field trainings in 2022, UEMC and AMNGO were invited to contribute to the symposium, which gathered over 100 participants including students, faculty, EU partners, and local stakeholders. The event highlighted the project’s achievements, such as the use of professional research equipment and the integration of theoretical and practical training.

PLANS FOR 2025

- Continue to offer the facilities for training
- Facilitate the organization of the 8th edition of the summer school
- Broaden and enhance the collaboration with local and international Higher Education Institutions (HEIs)

On the following page:
summer school students and the final symposium of the CONTAN Project © N. De Vere





Seed



ENVIRONMENTAL EDUCATION

raise awareness
and educate young
generations on
environmental
conservation and
sustainability



AGROFORESTRY AND GREENING

create sustainable
alternatives to forest
resources and help
reduce deforestation
to enhance
biodiversity



SUSTAINABLE ENERGY-EFFICIENT TECHNOLOGIES

improve local communities'
economy, health and
environmental sustainability



...lling distribution in schools © S. Ricci



COMMUNITY AND LIVELIHOOD



VILLAGE SENSITIZATION

enhance community awareness across all programme sectors



INCOME- GENERATING ACTIVITIES

improve economy and livelihood by empowering local entrepreneurs



ECO-TOURISM

organize field trips to connect locals and travellers



One of the schools that took part in The Green Schools Project © A. G. Mlenga

ENVIRONMENTAL EDUCATION

WHY ENVIRONMENTAL EDUCATION

- Builds awareness among students about conservation, sustainability, and the unique biodiversity of their region
- Prepares the next generation of community leaders committed to sustainable living
- Deepens understanding and appreciation of local environmental issues and solutions
- Supports Tanzania's contribution to global efforts toward achieving the Sustainable Development Goals (Agenda 2030)
- Encourages student participation in hands-on environmental projects and actions

WHAT WE DO

- Teach environmental lessons in 32 classrooms across 18 schools
- Connect and support environmental clubs for peer learning
- Lead field trips to UMNP, VIC, and other key sites
- Conduct exams and train teachers for improved delivery
- Promote international school links, hands-on labs, and build mud stoves at school
- Organize World Environment Day events for awareness and engagement
- Monitor and evaluate regularly to guide improvements

Since 2011, AMNGO has led an environmental education (EE) programme which involves 18 schools and 32 classes of primary and secondary students. The programme, also funded by AVJCF since 2021, has trained over 100 teachers. It is currently led by four AMNGO teachers and engages around 3,000 students annually. Key activities of the EE programme include tree nurseries and planting, agroforestry, practical workshops, creative twinning projects with Italian schools and educational trips to UMNP and Visitor Information Centre (VIC).

ENVIRONMENTAL EDUCATION LESSONS IN SCHOOLS

In 2024, environmental education (EE) lessons were conducted in 18 schools (14 primary and 4 secondary) with 40-minute periods. A total of 4,500 pupils (2,256 boys and 2,244 girls) aged 10–17 participated. Due to time limitations, in order to implement the planned curriculum, extracurricular activities were introduced on weekends, including drawing, compost making, twinning, and sports.

TREE PLANTING IN SCHOOLS

Seedlings were distributed for free to all schools under the EE project and even to those outside it. Considering that all schools cook food for their students, the aim was to reduce firewood collection time for students and promote environmental sustainability. Fast-growing trees provided firewood through pruning, while fruit trees improved student nutrition. Timber and shade trees were also planted for additional environmental benefits. A total of 5,005 trees was supplied to the 18 schools.

ENERGY-EFFICIENT TECHNOLOGIES: MUD STOVES

In collaboration with host teachers, 22 improved mud stoves were built in 10 schools, benefiting

7,516 students. These stoves consume less firewood than traditional three-stone fires, promoting energy efficiency and reducing deforestation. They also minimize indoor air pollution and domestic smokes, improving general health.

TWINNING WITH ITALIAN SCHOOLS

The twinning initiative fostered cultural exchange between Tanzanian and Italian students. This collaboration aimed to promote mutual understanding of lifestyles, traditions, and environmental practices. In 2024, twinning activities were conducted between four primary and secondary school classes in Italy and their same-age counterparts in Tanzania in collaboration with Trento Science Museum (MUSE) and A. Mazingira ODV.

THE GREEN SCHOOL PROJECT

The Green School Project, funded by the Union of Methodist and Waldensian Church of Italy, started in 2023 also continued in 2024, implementing five key actions across the 32 classes:

- Weekly interactive EE lessons and lab activities.
- Revitalization of environmental clubs, engaging 180 students and 22 teachers
- Educational trips for students and teachers
- Construction of wash basins and sanitary facilities benefiting students and teachers
- World Environment Day celebration with performances and competitions.

In 2024, 37 lavatories were installed in all schools to reduce disease transmission and promote hygiene, benefiting 12,566 students. Additionally, 18 host teachers were trained in liquid soap production, and each school received 10 liters of soap.

To raise community awareness creatively, 15 environmental club students wrote and recorded a song on conservation.

Moreover, students engaged in recycling by re-using tires and oil cans, supported with tools and materials. Schools received musical instruments, sports gear, and t-shirts to enhance environmental-themed activities and performances.

A launch event at Mang'ula Secondary School featured performances, debates, and demos on recycling and tree planting. Drawing supplies promote environmental art, while soil research tools supported practical agricultural learning. World Environment Day was celebrated at Sulu-lu Primary School with community involvement and tree planting by the District Commissioner.

EVALUATION OF SCHOOL ACTIVITIES

In 2024, only one annual exam was held due to scheduling constraints, with over 90% of students passing.

Quarterly evaluations by AMNGO staff, teachers, and students assessed progress in environmental education activities, such as mud stove use, lavatory conditions, recycling, and vegetable gardens.

The evaluations also encouraged knowledge sharing and motivation among schools.

PLANS FOR 2025

- Expand the Environmental Education (EE) Programme to additional schools, reaching out to new districts.
- Strengthen and sustain all 18 environmental clubs, ensuring consistent engagement and leadership development.
- Enhance the EE programme in the existing 32 classes, by integrating more practical, community-based activities.
- Diversify and increase the number of didactic trips, fostering hands-on learning experiences.
- Conduct a comprehensive evaluation and impact assessment of the EE programme in all 18 schools, to refine content and delivery methods.



One of the lavatories © S. Ricci



A tree nursery © S. Ricci

AGROFORESTRY AND GREENING

WHY AGROFORESTRY AND GREENING

- Re-establish forest cover and offer sustainable alternatives to forest products such as fuelwood and timber
- Protect soil, water resources, and biodiversity while encouraging sustainable land management
- Boost agricultural yields to strengthen food security and broaden income opportunities
- Reduce greenhouse gas emissions in alignment with global climate objectives
- Promote climate change mitigation and resilience through community-based reforestation and climate-smart agricultural practices

Thanks to public funds and, since 2015, the continuous and generous support of Fondazione Foresta Futura, AMNGO has been able to carry out its agroforestry and greening activities as part of a long-term programme. In 2024, 24,000 seedlings produced in the two large tree nurseries of Mwaya and Kisawasawa were distributed to 142 beneficiaries (76 men, 44 women, and 22 institutions) across six villages (Mang'ula 'A', Mang'ula 'B', Mkasu, Kisawasawa, Ichonde, and Mhelule) and various institutions, covering 20.75 hectares, with a 75% survival rate.

WHAT WE DO

- Farmer selection and training
- Tree nursery establishment and maintenance
- Seedling production and distribution
- In-farm, continued technical support
- Promotion of indigenous species
- Monitoring and evaluation of planted trees
- Climate-smart practices advocacy

The remaining seedlings, produced in 2023, were distributed to selected model farmers from five villages.

To monitor the planted trees, between April and June 2024, we conducted field surveys involving four farmers and 18 schools, aiming to identify challenges and provide professional technical advice. The identified challenges were poor maintenance and lack of irrigation. Follow-up advice included farm clearing, fire break establishment, regular watering, and pruning.

Additionally, from July to September 2024, 140 pupils and farmers were trained in tree nursery management and tree planting.

In September 2024, AMNGO received additional funding from Pennsylvania State University and the Hamer Foundation to promote agroforestry practices and sustainable cooking systems in five villages: Kisawasawa, Mang'ula A, Mang'ula B, Magombera, and Tundu. The objective is to use participatory land use planning in the five villages to improve local resource access, reducing the need for external reliance. It also aims to promote sustainable land use practices and spread these techniques within designated agricultural and reforestation areas, making the villages models for others to follow.

Thanks to all these donors, the two large tree nurseries also began producing new seedlings. The total produced was 28,258 — 113% of the annual target — including 1,037 grafted mango and avocado plants. These seedlings will be distributed and planted in 2025, after the rainy season, across the eight villages, to promote agroforestry.

The activities related to tree nurseries focused on seed and material procurement, site preparation — including seed beds, grafting areas, soil work — and delivery of training and promotional sessions in schools and villages. In fact, the environmental education lessons in the 18 schools included tree nursery management and tree planting among the topics covered. At the end of the year, a total of 4,000 pupils were trained in the establishment and care of tree nurseries.

The agroforestry activities included distributing seedlings to selected farmers and the wider community, conducting regular technical meetings with farmers, preparing and monitoring tree plots, and evaluating tree growth and survival rates.

AMNGO PLOT IN MANG'ULA A

AMNGO owns a 1,000m² plot in Mang'ula A, where it plans to establish its office, a demonstration tree nursery, an agroforestry plot, and relocate biomass briquette production. In 2024, the area was fully fenced, and a storage building and washroom were completed. A designated space for a water tank was also prepared to support seedling irrigation.



Nursery worker © S. Ricci

PLANS FOR 2025

- Explore new sustainable agriculture practices
- Distribute and plant the seedlings produced in 2024 under the supervision and monitoring of AMNGO
- Investigate innovative sustainable farming methods (syntropic agriculture, climate-smart practices, regenerative agriculture, permaculture)
- Extend the agroforestry and reforestation program to more villages and new districts
- Launch an awareness campaign to motivate local farmers to transition from monoculture to sustainable agricultural practices



Trainers teaching how to make briquettes © S. Ricci

SUSTAINABLE ENERGY-EFFICIENT TECHNOLOGIES (SEET)

WHY PROMOTING SEET

- Reduce reliance on firewood and charcoal as primary fuel sources
- Minimize dependence on firewood and charcoal for household energy needs
- Cut fuel costs by introducing cleaner, smokeless technologies in line with Tanzania's national initiatives
- Enhance indoor air quality and overall community health
- Reduce carbon emissions linked to deforestation and open burning
- Raise awareness about sustainable resource use, alleviating the burden of cooking-related tasks, particularly for women and girls

The Udzungwa Landscape Strategy (ULS) began in 2024. During consultations held in 23 villages, local communities identified four conservation priorities to improve their livelihoods.

WHAT WE DO

- Construction of mud stoves in schools and house-by-house
- Production and sale of alternative charcoal
- Build mud stoves in schools and individual households
- Organize awareness events to promote sustainable energy-efficient technologies (SEET)
- Provide training and technical assistance to local women
- Conduct monitoring and evaluation activities

Among these, 85% of participants selected sustainable energy-efficient technologies (SEET) as the top priority, while 46% identified 'alternative charcoal' as the fourth priority. AMNGO was ap-

pointed to promote and construct SEET in five villages in Kilolo and Mlimba districts, under the ULS program.

In parallel with ULS, and thanks to funding received from Pennsylvania State University and the Hamer Foundation, AMNGO promoted SEET in five villages of the Kilombero Valley (Kisawasawa, Mang'ula A, Mang'ula B, Magombera, and Tundu) from September to December 2024.

SUSTAINABLE ENERGY-EFFICIENT TECHNOLOGIES (SEET)

With the funding received to introduce and foster SEET in the Udzungwa area, AMNGO trained a total of 48 stove makers (33 women and 15 men) in 2024, across 10 villages in the Kilombero, Mlimba, and Kilolo Districts. These artisans constructed 1,090 improved mud stoves, benefiting 4,840 people (2,223 men and 2,617 women). At the end of the training, stove makers were equipped with essential tools.

Fourteen village leaders also received training to support sustainability and local follow-up. Pre- and post-training assessments showed a marked increase in participant knowledge.

To expand adoption and create income-generating opportunities, AMNGO developed a movable clay stove model designed to be fueled with alternative charcoal and promoted across all 10 villages.

Monitoring was conducted using KOBO Toolbox and field visits to model farmers in five villages. Supervision visits helped address and collect feedback.

A final review meeting brought together all stove makers to share experiences, best practices, and lessons learned across districts.

ALTERNATIVE CHARCOAL AND BRIQUETTE SCALE-UP

Since 2019, AMNGO has operated a small-scale briquette production facility in Mang'ula B, using carbonized agricultural biomass. In 2024, the Tanzania Industrial Research and Development Organization (TIRDO) conducted a feasibility study to identify production challenges, address barriers, and outline market strategies for scaling up.

As part of the Udzungwa Landscape Strategy (ULS), a TIRDO consultant assessed raw material availability and gathered demographic data in five villages across Kilolo and Mlimba Districts. Business plans were developed for three villages — Ching'anda, Ipalamwa, and Kidete — to support the future expansion of briquette production and the establishment of new local facilities.

PLANS FOR 2025

- Expand the SEET initiative to five additional villages in Mlimba and Kilolo Districts
- Launch income-generating activities (IGAs) for stove makers focused on the production and sale of movable clay stoves in 10 villages within Mlimba and Kilolo Districts
- Enhance the capacity of all project staff in the use of data collection tools to improve monitoring and reporting
- Construct an alternative charcoal briquette factory in one of the three villages where feasibility studies and business plans have been conducted

On the following page:
Clay movable stoves, stove makers, cooking with a clay oven, alternative charcoal production, construction of a mud stove in a school © S. Ricci



INCOME-GENERATING ACTIVITIES

To promote sustainable livelihoods, AMNGO implemented income-generating activities (IGA) centered on clean energy solutions. Forty-eight stove makers were trained and received a small contribution to construct improved cookstoves. A movable clay stove model was also introduced and promoted across 10 villages, offering additional income opportunities.

In parallel, feasibility studies and business plans were developed to support the scale-up of alternative charcoal briquette production in three villages. The aim is to create local employment, reduce reliance on traditional charcoal, and build a sustainable green economy at the community level.

PLANS FOR 2025

- Support trained stove makers in scaling up production and sales of movable clay stoves across 10 villages
- Establish a second alternative charcoal briquette factory
- Facilitate access to raw materials and equipment for briquette production
- Monitor and evaluate the economic impact of IGAs to shape future interventions

VILLAGE-SENSITIZATION

As part of the ULS, village sensitization promoted community ownership and supported the implementation of sustainable energy solutions.

To strengthen coordination, a working group of eight members (3 women, 5 men) from local governments and conservation institutions (TANAPA, Kilombero Nature Forest Reserve - KNFR, and Udzungwa Scarp) was formed to align on objectives and develop implementation plans for Kilolo and Mlimba Districts.

Introductory meetings in five villages engaged 528 community members and 25 local leaders, raising awareness, aligning activities with local priorities, and encouraging transparency. Consultations confirmed strong community interest, with 85% prioritizing sustainable energy-efficient technologies (SEET) and 46% identifying alternative charcoal as a key livelihood opportunity.

PLANS FOR 2025

- Hold sensitization meetings in five new villages to raise awareness of ULS activities
- Involve local leaders and stakeholders in participatory planning to align conservation and livelihood goals
- Use culturally relevant materials (posters, flyers, radio) to strengthen outreach
- Monitor feedback and lessons from 2024 to refine engagement approaches

ECO-TOURISM

After several years of interruption, the ecotourism program was successfully relaunched in 2024. Two ecotours were organized in Tanzania, bringing a group of 10 and another of 15 Italian visitors to explore AMNGO's community and conservation initiatives.

Participants visited villages, schools, and the forests of the Udzungwa Mountains, gaining first-hand insight into local conservation efforts and development projects. The tours then continued with a safari experience in Ruaha National Park and concluded with a few days in Zanzibar, allowing guests to experience three distinct Tanzanian environments in a sustainable and culturally respectful manner.

Each tour package included a contribution to support AMNGO's ongoing projects, making ecotourism not only a source of awareness but also a valuable tool for fundraising. The trips were organized in collaboration with the Italian tour agency *Viaggi e Miraggi* and the cooperative *Biosphaera*, with local staff supporting the Italian guides throughout the journey, especially during the Udzungwa visits and beyond.

Ecotourism continues to be a meaningful way to connect international visitors with the realities of conservation and community challenges in Tanzania.

PLANS FOR 2025

- Increase number of ecotours to enhance visibility and fundraising opportunities
- Develop and promote new trekking routes and cultural trails
- Collaborate with local homestays and eco-lodges to strengthen community involvement in tourism
- Train local staff to assist with tours and ensure high-quality visitor experiences



Eco-tourists on a trek © S. Ricci

UDZUNGWA LANDSCAPE STRATEGY (ULS)

In 2023, with support from the Hempel Foundation, a coalition of partners developed the Udzungwa Landscape Strategy (ULS) — a 20-year vision to safeguard this vital biodiversity hotspot. Shaped through broad consultations with local communities and protected area managers, the strategy aims to harmonize biodiversity conservation with social equity, human rights, and inclusive, cross-sector collaboration. It promotes balanced investment in both protected areas and surrounding communities, with a strong emphasis on community-led implementation through local civil society organizations.

The ULS is guided by four Strategic Objectives (SOs):

• SO1 – Protected Areas

Strengthening the effectiveness and conservation capacity of the three core protected areas.

• SO2 – Communities

Enhancing local livelihoods and wellbeing while encouraging sustainable forest stewardship.

• SO3 – Collaboration & Governance

Fostering improved relationships and participatory governance among communities and all stakeholders in the Udzungwa landscape.

• SO4 – Monitoring, Evaluation, and Learning (MEL):

Establishing a centralized, transparent MEL system to support adaptive and effective implementation.

Within this framework, AMNGO is responsible for implementing activities under SO2, SO3, and

SO4, while STEP leads the efforts under SO1.

In 2024, ULS implementation began, and several important steps were achieved:

• Under SO2 – Communities

Efforts focused on promoting sustainable livelihoods and reducing dependence on forest resources. These included: training 30 local artisans (14 women and 16 men) in constructing energy-efficient mud stoves; supporting the installation of 506 stoves in selected communities, directly benefiting 2,415 individuals (1,175 men and 1,240 women); conducting a feasibility study on alternative charcoal production methods across five villages; and organizing community meetings in three wards and five villages — both indoors and outdoors — to facilitate dialogue and secure approval for stove construction sites, reaching a total of 846 people

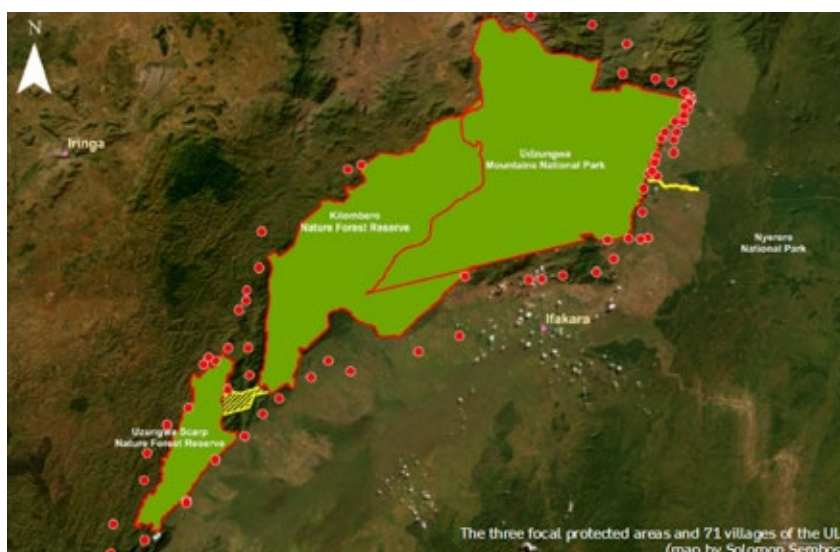
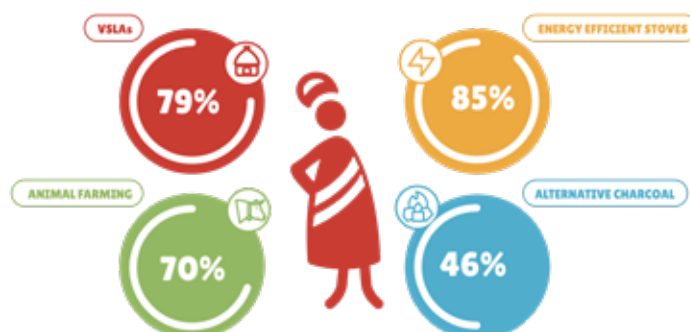
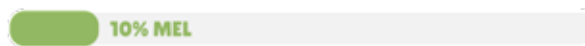
• Under SO3 – Collaboration & Governance

Capacity-building workshops were conducted for Village Natural Resources Committees (VNRCs) to enhance their roles in forest stewardship. These sessions not only raised awareness of human rights but also supported visioning and goal-setting exercises, and helped VNRCs develop action plans aligned with ULS priorities. Building trust and fostering collaboration between communities, protected area authorities, and implementation teams were key goals of these activities, which reached 45 participants, including VNRC members, Village Executive Officers, village chairpersons, Kilombero Nature Forest Reserve (KNFR) staff, and Kilolo District representatives. In addition, the first official ULS Steering Committee meeting was convened at Msolwa Dippa Lodge in Kilombero, Morogoro.

During this meeting, committee leadership was formally elected, and initial discussions were held with partners to guide ULS implementation, laying the groundwork for long-term coordination.

• Under SO4 – Monitoring, Evaluation, and Learning (MEL)

UEMC continued the key ecological monitoring efforts — including camera trapping, primate censuses, and invertebrate surveys — to ensure consistency in long-term biodiversity data collection. A new primate monitoring effort was also launched, with targeted surveys of the rare kipunji monkey and other primate species in the Ndundulu Forest within Kilombero Nature Forest Reserve. To support adaptive management, a comprehensive three-day MEL Dashboard training was organized at UEMC, equipping 15 stakeholders (4 women and 11 men) with the tools needed to select and implement effective monitoring systems aligned with ULS objectives. Such MEL dashboard has been set up and progressively incremented to store, visualize and analyse data from across all ULS activities so to assess socio-ecological impact of all interventions.



OUR PEOPLE

Since 2019, AMNGO has formally employed 27 staff members, reaching 38 members in 2024. Over the years, additional occasional labourers brought the total workforce to over 45 people.

AMNGO employed 27 core staff members, 3 volunteers, 3 interns, with the total workforce occasionally exceeding 45 through the engagement of short-term labourers. The organization is structured into three main departments:

- **Administration and Finance**
- **Research and Monitoring**
- **Community and Livelihood**

The **Administration and Finance** department plays a cross-cutting role, enhancing staff capabilities in leadership, logistics, financial literacy, and strategic planning. Its goal is to ensure transparent resource management and smooth coordination across the organization.

The **Research and Monitoring** department focuses on biodiversity conservation, supports scientific research, and provides higher education and training opportunities for both international students and TANAPA staff.

The **Community and Livelihood** department is dedicated to community-based interventions including environmental education, eco-tourism and awareness-raising, targeting school students, local villagers, and tourists. It also oversees long-standing initiatives in agroforestry and tree planting, and promotes sustainable environ-

mental practices through the adoption of sustainable energy-efficient technologies (SEET). This department also implements income-generating activities (IGAs) that support local economic development while maintaining ecological balance.

Since 2024, this department has been successfully led by a new female project coordinator with previous experience in community-based initiatives. The team consisted of 13 staff members and 3 volunteers.

The year 2024 also saw the integration of new personnel under the Udzungwa Landscape Strategy (ULS), including a Monitoring, Evaluation, and Learning (MEL) expert, enriching the organization's technical capacity.

AMNGO places strong emphasis on staff development, offering training, educational opportunities, and support for formal qualifications to build both personal and professional skills. It is equally committed to fostering a safe, inclusive, and respectful workplace, upholding gender equality, labour rights, and human dignity. These values are reinforced through traditions such as the annual celebration of International Workers' Day, which strengthens team cohesion and acknowledges individual and collective achievements in a relaxed, community-oriented setting.

On the following page:
Village sensization © S. Ricci

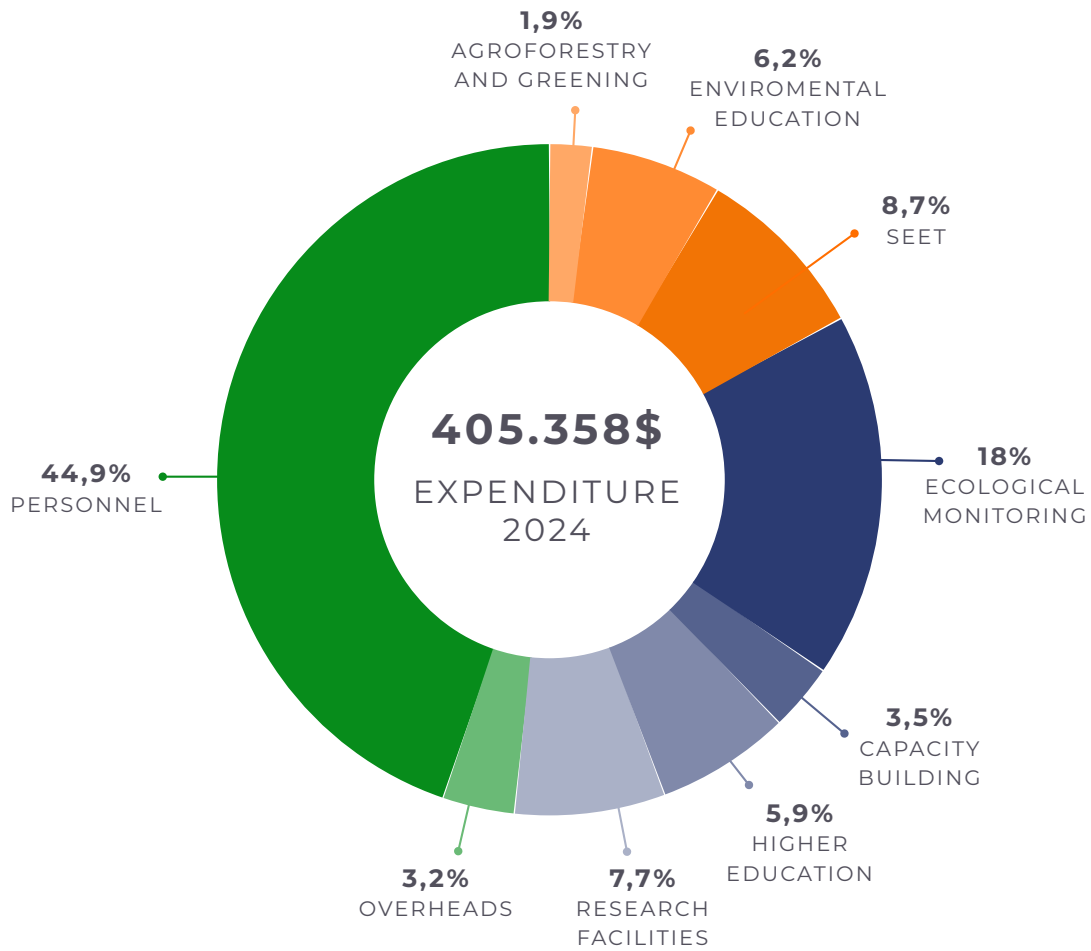


STEVEN SHINYAMBALA Research and Monitoring Coordinator
FELISTA MICHAEL MWALONGO Community and Livelihood Coordinator
ARAFAT SEIF MTUI AVJCF Programme Manager and ULS Coordinator
KELVIN MSONG'O Financial Officer
FAITH FRANK KALAMBO Financial Officer
JUMA LULANDALA Research and Monitoring Driver
STIVINI LOJINI Research and Monitoring Driver / Logistician
SAMSON MUSSA NGANDANGO Community and Livelihood Driver / Logistician
RICHARD LAIZZER Senior Research Technician
YAHAYA SAMA Senior Research Technician
EMILIAN NJAO Senior Research Technician
MOKORO KITENANA Senior Research assistant
ALFAYO OLOIDELE Research Assistant
BAKARI PONDA Research Assistant
RUBEN MWAKISOMA Research Assistant
HANS MERKIOR KADINDA Agroforestry and Greening Technician
MARTHA MWAKABONA Environmental Education Teacher
ANDEKILE GIBSON MLENGA Environmental Education Teacher
ISAACK ROMWARD SHONGA Agroforestry and Greening Technician
HOLLINESS MPANGALA Environmental Education Teacher
RESTITUTA VITALIS LUWANDA Sustainable Energy-Efficient Technology Technician
BIBIANA FILIP KAHWAGWA Sustainable Energy-Efficient Technology Technician
SUNA KASIMU KULOLELA Sustainable Energy-Efficient Technology Technician
LEONARD NGUNGULU Senior House Attendant
SHERIDA MREA House Attendant
SHABANI PONDA Gardener
NICKSON CHESCO Building Maintainer and Gardener
JUMA OMARI LUKANGA Security Officer
DALLA MFUMYA Security Officer
FADHILA MTONDA UEMC intern
PASCALINA LEONARD UEMC intern
SAMWELI HAULE UEMC intern
VEDASTO VAHAYE Volunteer
MOSES NYITTI Volunteer
MARIAM KURUFI Volunteer
PATRICK ALFONS SOKO Volunteer
SELEMANI ATHUMANI JUMA Tree Nursery Attendant
FREDRICK EMMILIAN HAFIGWA Tree Nursery Attendant
FORTUNATUS CHARLES LUSENGA Tree Nursery Attendant

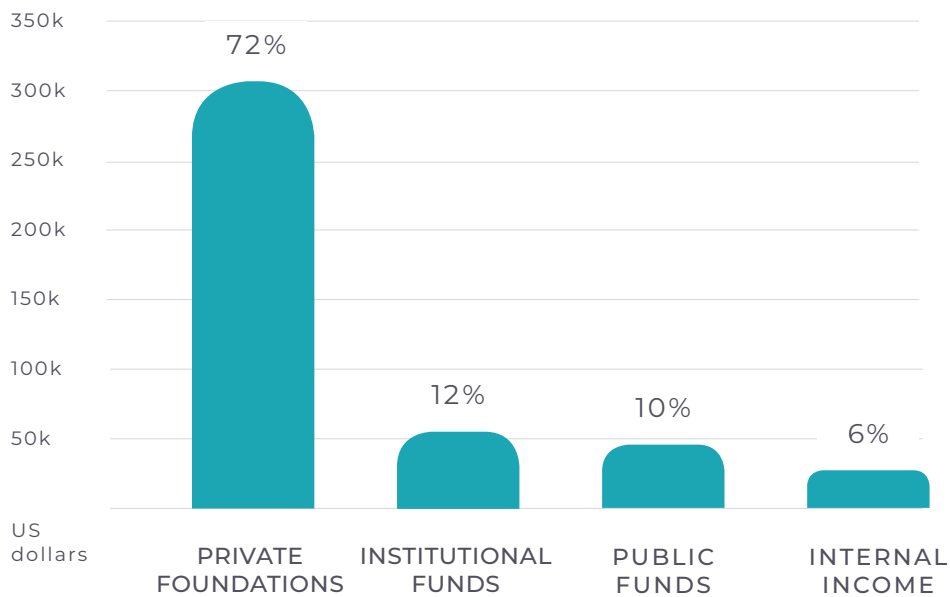


Top image: AMNGO staff © Vedasto Vahaye – Bottom image: Stove makers © S. Ricci

FINANCIAL OVERVIEW



437.549\$ INCOME 2024



ACKNOWLEDGEMENTS

WE WOULD LIKE TO THANK...

District Government authorities of **Mlimba**, **Kilolo**, **Mufindi**, **Kilosa**, **Kilombero** districts and **Ifakara** township authority

Local communities from adjacent villages in the Udzungwa Mountains

Kidete, **Ching'anda**, **Ipalamwa**, **Ukwega**, **Mkalanga** villages

Regional administrative secretary from **Morogoro** and Iringa regional authorities

Tanzania National Parks – **TANAPA**

Tanzania Commission for Science and Technology – **COSTECH**

Tanzania Wildlife Research Institute – **TAWIRI**

Tanzania Forest Service Agency – **TFS**

Kimboza Nature Forest Reserve – **KNFR**

Uzungwa Scarp Nature Forest Reserve – **USNFR**

Udzungwa Mountains National Park – **UMNP**

Ward and Village Government Authorities

Inside backcover image: Kilombero valley © S. Ricci

Backcover image: A group of students at the top of Sanje Falls admiring the view of the Kilombero Valley © S. Ricci







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