



LOCAL RESOURCES FOR BETTER LIVING

ENAVA

LOCAL RESOURCES FOR BETTER LIVING



Activity Report
2021

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FOREWORD

Our organisation was able to run another successful year in 2021, with many milestones achieved. After covid restrictions were lifted, our sensitization program on the importance of indigenous trees in primary schools returned to normal. The number of trees and tree species that we have produced and distributed has never been greater and the processes of ensuring that they are well cared for has steadily improved. And this year again, the number of improved stoves that we've built in households and institutions has increased.

Among other improvements, notable progress was the creation of a media department with the capacity of producing movies, designs and captions for social media and managing posts in order to get the best visibility. It is equipped with video-, photcamera and drone, that are meant to better enable followers to grasp the extent of our work on the ground. A drone for instance enables us to show a newly planted forest, while a camera would have hidden it behind trees standing in front. The tremendous progress made in the past 2 years thanks to our social media presence has made us realise the potential that dwells in social media outreach.

A cornerstone of the recent improvements has been our self-hosted crowdfunding strategy. It enabled us for the second consecutive year to double the number of trees planted and increase the scope of each activity, thus directly upgrading how we deliver impact to our beneficiaries. Moreover, the expansion of our capacity has direct results on our ability to strategize for the long term.

I would sincerely like to express gratitude to our hard-working team, working intensely to achieve our mission. I'm grateful as well to the volunteers involved in making our work possible. My gratitude also goes to all the donors who finance our work and who keep on supporting us year after year.



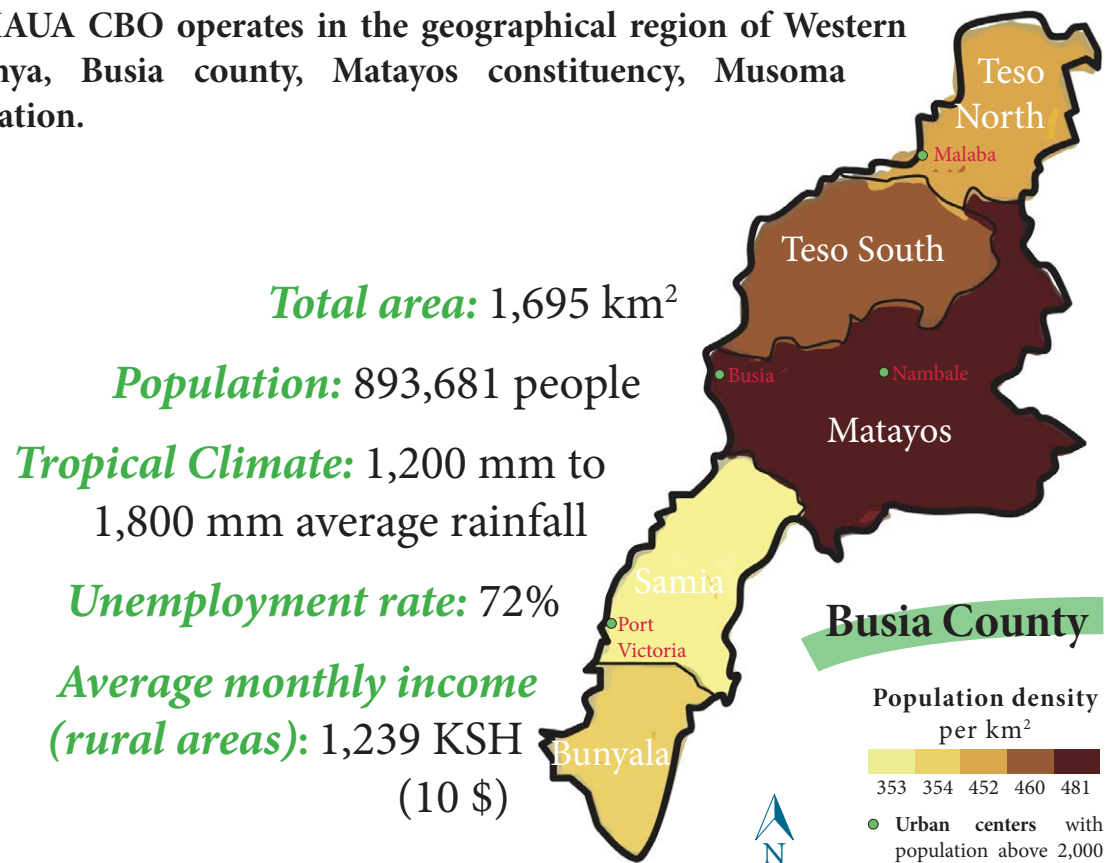
Julien Kauer

Chairman and founder

Local Resources Integration
Open Source Traditions
Science Agroecology
Biodiversity
Peer Teaching
Sustainability
Education Research for Development
Education
Open Source Agroecology
Food Local
Empowerment
Collaborative
Sustainability
Design Local
Resources
Health Tree Planting
Carbon Farming
Local Resources
Better Living
Integration
Sustainable Development
Goals Biodiversity
Transdisciplinary


SITUATIONAL FACTS & KEY FIGURES

EMAUA CBO operates in the geographical region of Western Kenya, Busia county, Matayos constituency, Musoma location.



Busia county experiences a tropical humid climate with two rainy seasons, long rains March to June and short rain August to October. The weather pattern favours agriculture as the main socio-economic activity. However, climate change and conventional agricultural practices have caused seasons and droughts unpredictability, resulting in food insecurity and water scarcity.

The larger population in Busia lives within low incomes (10\$ per month in average per person). Income generating activities include small-scale subsistence agriculture, small-scale commercial farming (sugarcane, tobacco, maize), daily wage casual labour, motorcycle transportation, and small-scale enterprises selling general commodities.



In the specific context of Busia county, EMAUA works with the community by **focusing on the following aspects:**

Better Living

Addressing the levels of people living in critical poverty by improving food security and developing capacity of the members of the community.

Climatic action

Addressing climate change through innovative climatic action and other environmental friendly practices (eg. afforestation, agroforestry, soil organic matter content increase, etc.).

Local resources

Adapting and developing techniques and technologies that leverage locally available resources.

Knowledge dissemination

Sensitizing local communities on the importance of the conservation and multiplication of indigenous trees, with a strong focus on youth.

TEAM AND ORGANIGRAM

The most important aspect allowing EMAUA to execute its mission is its people, who mostly originate from our areas of activities. Our team in 2021 was composed of 13 employed staff who were supplemented by casual laborers and interns. We have a strong belief in investing in our staff by developing their capacity to handle project duties and administrative tasks.

GENERAL ASSEMBLY

COMMITTEE

PROJECTS & PROGRAMS

- Organic Farming Training
- Community Education
- Tree Nursery
- Improved Stoves

ADMINISTRATION

- Finance
- Administration
- Communication
- Fundraising

EMAUA'S TEAM

Julien Kauer *Chairman and founder* | **Zablon Milengo**

Resp. Education & Tree Distribution | **Charles Wanyama** *Administrator* | **Godfrey Muleka** *Accountant* | **Violet Amoiti** *Resp. Welfare* | **Evans Chemiat** *Improved Stoves*
Albert Iwowo *Improved Stoves* | **Leonard Aserwa** *Resp. Tree Nursery* | **Apollo Okochi** *Media Production* | **Hope Akodoi** *Resp. Fundraising & Communication* | **Meshak Ekachul** *Staff* | **Bonface Olusa** *Staff* | **Kelvin Etyang** *Staff* | **Jemima Wandera** *Staff*

ESSENTIAL FACTS

The year 2021 marks the 7th year of our existence. Since the relocation to our new land, we have upscaled and improved activities within the organisation. This year, we managed to distribute 61,113 trees of 32 different species, construct 402 stoves for privates and institutions and conduct community sensitization program that reached 10,789 students among other community residents.

JANUARY

Pot filling for 60K tree preparation
Start of 2021 improved stoves building campaigns

FEBRUARY

Purchase of 2 bulls
Borehole digging

MARCH

Solar system upgrade with 500 W solar panels

APRIL

Start of seedling distribution

AUGUST

JULY

Purchase of a Honda Ace Tuff 125cc motor-bike for field work

JUNE

Showcasing event in Busia Women Prison

MAY

Pilot project tree survival in a hilly area (Kabosokipi)

SEPTEMBER

OCTOBER

Hire of a responsible for media production
Beginning of 2022 tree seedlings production

NOVEMBER

All schools reopen for visitation
Start of 2021 sensitization campaign
End of tree distribution with 61,113 seedlings

DECEMBER

Money maker pump purchase
Launch of crowdfunding

COMMUNITY EDUCATION

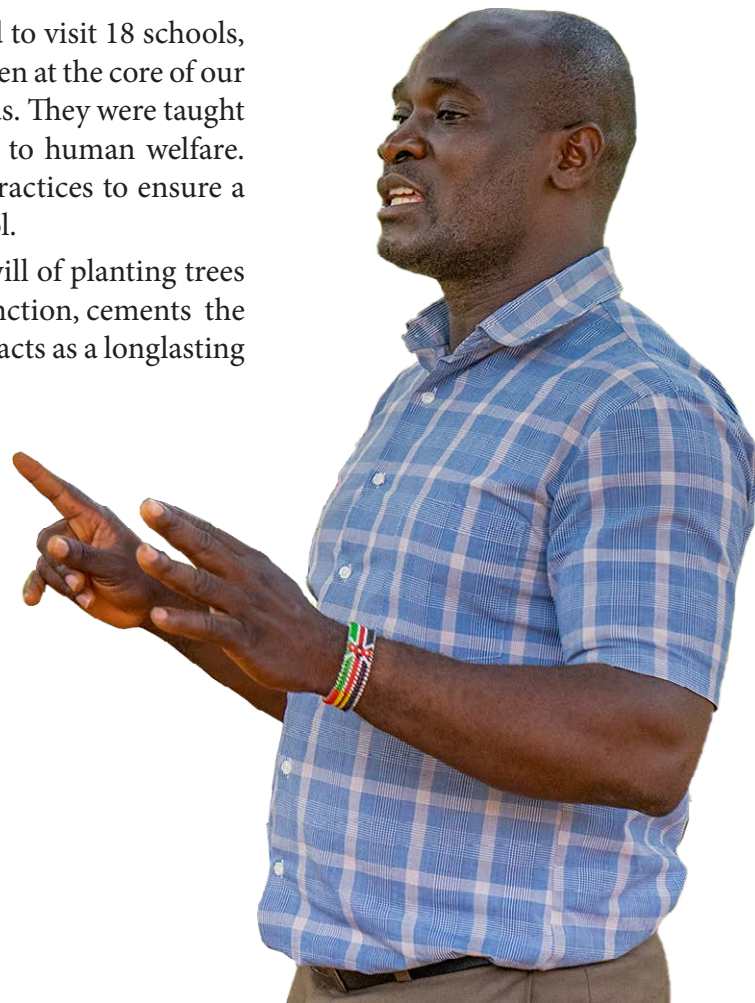
The community education program focuses on the importance of trees for human livelihood. We sensitize youths and adults on indigenous tree planting for reforestation and biodiversity enhancement. Consequently, the program provides guidelines on effective practices to ensure high survival rates for our tree seedlings. This is aimed at improving the results of our plantations with them as well as encouraging them to take care of the already existing trees on their lands. Of particular importance is firewood management.

LOCAL SOLUTIONS TO GLOBAL PROBLEMS

There has been a slow start to school visitation at the beginning of 2021 due to continued COVID-19 restrictions, making our responsible for community education shift his focus from schools to adults from the community. We sensitized 23 groups on the importance of indigenous trees, rocket stoves, and compost making using local resources.

In November, school visitation was allowed, and we managed to visit 18 schools, sensitizing 10,789 students. Sensitizing students has always been at the core of our activities because of their open-mindedness towards new ideas. They were taught on the importance of indigenous trees and their direct link to human welfare. Other topics have been biodiversity conservation and best practices to ensure a high survival rate of the tree seedlings received in their school.

A large majority of the visited schools have expressed their will of planting trees in the coming year. Tree planting, aside from its ecological function, cements the knowledge that school children acquire during teachings and acts as a longlasting reminder of our presence.





EMAUA'S TEAM

Back row, from left to right: Bonface Olusa, Meshak Ekachul, Leonard Aserwa, Julien Kauer, Charles Wanyama.
Middle row, from left to right: Apollo Okochi, Godfrey Wandera, Evans Chemiat, Jemima Auma, Albert Iwowo, Zablon Milengo.
Front row, from left to right: Amoit Barasa, Kelvin Etyang.



ORGANIC FARMING

The agricultural activities that we ran in 2021 have aimed to further improve our understanding of techniques initiated in the previous year. We particularly increased the quantity and quality of our compost, the size of the vermicompost facility, and the number of raised beds meant for food self-consumption. Our food forest produced fruits in sufficient quantities for the staff besides providing shade to the tree seedlings in the tree nursery. Finally, we didn't manage to perform organic farming teachings which are expected to start at full-scale in 2021.

LOCAL RESOURCES FOR BETTER LIVING

In the context of extreme poverty experienced in Busia county, numerous techniques involving a more efficient use of local resources have the potential to dramatically change one's life. In the context of agriculture, some wild plants can contribute to higher harvests when used as compost or insecticide. Intercropped with maize, the *Desmodium*, a nitrogen-fixing plant, can tremendously increase maize production. These plants, that are naturally found local resources, have the potential to raise people's living standards in Busia county, while techniques involving them require fairly low cash inputs.

In 2021, we have further worked on techniques acquired in the previous years, including organopónicos raised beds, compost and vermicompost production and natural insecticide production. We now have a total of 27 rainfed organopónicos raised beds, whose aim is to produce a big part of the vegetable consumption in our center during the rainy season. These beds produced cowpeas, nightshade, spider plant, slenderleaf, eggplant, capsicum, onions, amaranth, coriander, tomato, among other vegetables. The insect pest control was homemade using bird's eye chili (*C. annuum*) and the Mexican sunflower (*T. diversifolia*). The food forest, mainly composed of papaya, banana and mulberry, produced sufficient quantities of fruits for self-consumption over the year.

Our compost production has significantly increased, aiming to supply sufficient amounts to our farm. The main ingredients this year have been locally found reeds and Mexican sunflower biomass, that were supplemented with cow dung from our two bulls. We have noted a quicker decomposition than last year, and the cow dung has greatly improved the response of the crops in the field. The vermiculture on the other hand increased in volume and produced quality vermicompost.

Agricultural training didn't take place in 2021 for organisational reasons together with covid related challenges and is meant to resume in 2022. Training is an essential aspect of our work and we're looking forward to working with new beneficiaries towards implementing new self-sufficiency projects.



ROCKET STOVES

Open fires are used in developing countries by nearly 3 billion people.

In Western Kenya, families spend up to 20 hours weekly gathering firewood, while the widespread open fires cause numerous diseases because of the thick smoke they produce inside kitchens.

Our rocket stoves are made of 100% local resources, they greatly reduce firewood consumption and they eliminate smoke. We provide free building to particulars and institutions and we train them as well on how to build a stove. In 2021, we built a total of 402 rocket stoves, taking the total to 834 since 2018.

HOW WE WORK

Other than reforestation projects, EMAUA also aims to address deforestation by incorporating the construction of rocket stoves into its activities. In Busia region, open fires, characterized by three stone stoves, consume a high quantity of firewood, contributing to deforestation. In 2021, the 4th year since the launch of the project, we have built 402 rocket stoves, summing the total to 834. We built 4 in primary schools, 3 in Busia women's prison, 4 in teachers' training colleges, and 391 in households. The little number of institutions in the list is due to the COVID-19 pandemic, which prevented them from benefiting from our services.

Our rocket stoves:

- Are constructed within 2.5 hours
- Use fired bricks, sawdust, and termite mound soil. These are 100% locally available and affordable materials
- Reduce by 66% the firewood use per household/institution compared to open fires
- Reduce smoke to an unnoticeable amount

The rocket stoves are ready to use after a drying period of 21 days. Willing members of the community are trained free of charge by our experts, which contributes to the propagation of awareness. The high demand and positive feedback from our beneficiaries are encouraging, and we are striving to increase the scalability of the program.

TREE NURSERY

We established a tree nursery 4 years ago, mainly to promote reforestation and conserve biodiversity through indigenous tree planting. As the 5th year since the onset of the project, we doubled our production compared to 2020, thanks to a self-based crowdfunding at the beginning of the year. We have freely distributed 61,113 indigenous tree seedlings of 32 different species to 335 beneficiaries. The adoption of the pigeon peas as a canopy provider shows promising results in protecting seedlings from the heavy sunlight. Moreover, changes in the composition of our substrate further improved our seedlings' health.

INDIGENOUS TREES FOR BETTER REFORESTATION

Deforestation in Busia county for private and commercial purposes threatens local biodiversity, soil fertility, increases temperatures and reduce water table replenishment. We plant indigenous trees because:

- They store more CO₂ than tree monocultures
- They enhance biodiversity
- They promote cultural practices
- They foster water percolation into water tables

Indigenous trees also enhance underground life – which comprises 25% of all known living organisms – by replenishing the soil's organic matter and fertility.

In 2021, we managed to distribute 61,113 seedlings freely to 335 beneficiaries of Busia county. The average project has been of 255 tree seedlings per beneficiary and most trees have been planted on land owned by privates. However, due to covid restrictions, few institutions benefited from our tree distribution. In an attempt to further improve the survival rates of seedlings once planted, we will strive to further reduce the average number of tree seedlings distributed per beneficiary. The fewer seedlings beneficiaries receive, the more care they can give to it and the higher the number of people who benefit.

This year, we introduced the pigeon peas, *Cajanus cajan*, a shrub to be sown alongside the planting of our seedlings by our beneficiaries. A fast-growing shrub, it attains a height of 1.5 m within 4 months, thus shading the saplings to enhance survival. Moreover, the pigeon peas establishes a deep root system extending 1 m depth and fixing nitrogen while increasing soil aeration. Finally, its protein-rich seeds are an excellent alternative to beans in rural communities, where its drought resistant properties are valuable.

This year, we improved our self-mixed substrate by slightly increasing its sand ratio to 14% in order to improve its porosity and therefore increase water intake, particularly during drought. We also extensively adopted composted bagasse from a neighbouring sugarcane factory in a circular economy perspective.



GENERAL TOPICS

The year 2021 was marked with further asset purchases, which either fundamentally changed some aspects of our work or came exactly in time of need to address specific challenges. Each additional vehicle usually opens ways for great progress, while an excellent manual pump came our way to help us deal with the longer than usual drought affecting our region end of 2021. We also greatly improved our compost production thanks to the purchase of bulls, while a new staff-led initiative enabled our team to gain knowledge through internet videos.

MOTORBIKE FOR FIELD WORK

The purchase of a Honda Ace Tuff 125 cc motorbike for our field work has tremendously eased movement in our visits to communities. It also facilitates movement across interior areas that are sometimes impassable by car. This expanded our outreach, thus greatly increasing the number of our beneficiaries. Subsequently, the motorbike also reduced our transport expenses compared to our officer's former means of transport which was to rely on motorbike taxi services.

PLOUGHING BULLS

We purchased 2 bulls in January to initiate an animal drawn tillage capacity as it is widely practiced in our region. Their young age meant that we needed to train them for some months before they could be operational. Among other benefits, the bulls' weight avoids soil compaction compared to heavy tractors, which fosters soil health. In addition to ploughing, bulls' rich dung benefited us tremendously as a manure, when mixed with other materials for compost production. The resulting compost is used in our tree nursery as well as in our farm.

"MONEYMAKER" IRRIGATION PUMP

In December 2021, we purchased a "Moneymaker" manual irrigation pump, whose mechanism consists of pedals that the user steps on to activate it. A climate neutral machine, this pump ensures a 700 litre per hour water supply in our tree nursery. Its efficiency enables us to reduce the workload associated with fetching water for our collaborators. We highly recommend it to small farmers of developing countries for its design and durability.

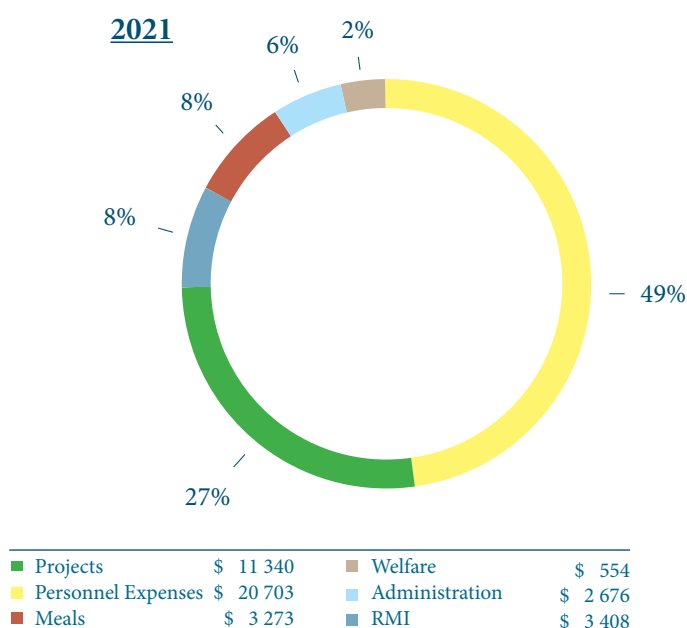
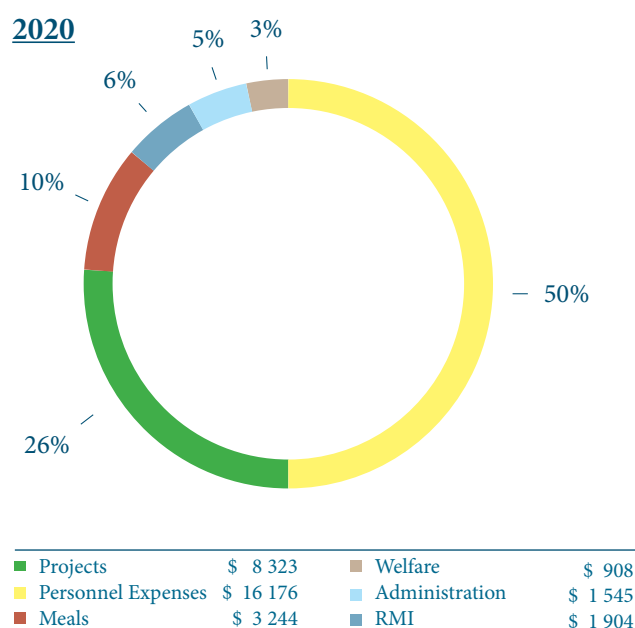
TEAM E-LEARNING

Every Monday afternoon, we allocated 2 hours for our team to attend a learning session on youtube. A responsible was in charge of identifying topics of need for the team, which would be further explored through these sessions. They entailed video watching, followed by discussions on topics such as market gardening practices, professional compost making and reforestation projects, to increase knowledge among our staff. The work dynamics also promoted a healthy work environment and collaboration among our staff.

FINANCIAL REPORT

EXCHANGING RATE OF US DOLLAR TO KENYAN SHILLING : 1 USD = 113.17 KSH AS AT 31.12.2021

We had an annual turnover of \$ 44 155 in 2021 – a slight increase of 3% compared to 2020 – which was received through EMAUA Switzerland, our sister organization. We saw an increase in our assets from \$ 32 503 to \$ 34 704 attributed to the purchase of a Honda motorbike and office furniture in 2021. We used \$ 2 200 for capital expenses (5% of total income) while we spent \$ 41 954 on operating expenses (95%).



A honda ace tuff 125cc motorbike was purchased for use in the community sensitization department and tree distribution. It greatly improved the mobility of our officer, who could reach out to more beneficiaries as compared to when he was using taxi-motorbike services. Trough the purchase of the motorbike, the transport costs related to community sensitization and tree distribution were lessened by half.

The acquisition of new office furniture enabled the expansion of our administrative department and increased the comfort of the staff. Other purchases in the organization include a moneymaker water pump, which is used to manually pump water into the tree nursery thus easing watering procedures in the tree nursery. We also purchased two bulls to be trained for ploughing and their dung used for compost production.

An increase from \$ 15 580 in 2020 to \$ 20 703 in 2021 in personnel expenses is attributed to the organization's workforce expansion from 10 to 13 employees and an increase in staff remuneration. The increase bears in mind the organization's commitment to remunerate its employees decently in accordance with its growing income.

Project-related expenses increased from \$ 8 016 in 2020 to \$ 11 340 in 2021 due to upscaling activities related to tree production, distribution and follow-up, improved stoves building and community sensitization.

EMAUA COMMUNITY BASED ORGANIZATION

Statement of comprehensive income

Year ended 31st December 2021

		2021	2020
Revenue	\$	<u>44 154.81</u>	<u>44 480.73</u>
Expenditure			
Personnel expenses		23 976.08	16 176.20
Project expenses		15 302.35	11 135.08
Administrative expenses		2 542.86	4 608.46
Financial expenses		194.69	180.40
Depreciation		<u>2 855.91</u>	<u>3 273.09</u>
Total expenditure		<u>44 871.90</u>	<u>35 373 .24</u>
Surplus/deficit		- 717.09	9 107.49
Retained income at 1 January 2021		33 855.30	26 226.49
Surplus for the year		<u>- 717.09</u>	<u>9 107.49</u>
Retained income at 31 December 2021	\$	<u>33 138.22</u>	<u>35 333.99</u>

EMAUA COMMUNITY BASED ORGANIZATION

Annual Financial Statements

Year ended 31st December 2021

ASSETS		2021	2020
Non-current Assets	\$	<u>31 847.69</u>	<u>33 746.75</u>
CURRENT ASSETS			
Advances recoverable		484.23	1 503.28
Cash and cash equivalents		401.03	83.95
Unreconciled assets		582.00	
Audit fees		<u>-176.73</u>	<u>- 183.49</u>
Total Assets	\$	<u><u>33 138.22</u></u>	<u><u>35 333.99</u></u>
RESERVES AND LIABILITIES			
Reserves	\$	33 855.30	26 226.49
Accumulated surplus		<u>- 717.09</u>	<u>9 107.49</u>
Total Reserves and Liabilities	\$	<u><u>33 138.22</u></u>	<u><u>35 333.99</u></u>