

LOCAL RESOURCES FOR:
AGROECOLOGY – HEALTH – EDUCATION

ENAVA

LOCAL RESOURCES FOR BETTER LIVING



Activity Report
2020

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FOREWORD

EMAUA has experienced great progress in 2020, with a significant achievement being the relocation to its new 4-acre land, acquired in 2019. The tree planting program produced and distributed 30,000 trees to the local community (twice the number compared to 2019) and the improved stoves program was able to take the total to 732 stoves built for free since 2017. However from March, the COVID-19 pandemic temporarily interrupted our sensitization program.

The settling in our land enabled us to minimize food production and focus on mobilizing more resources to impact the community. The agriculture and tree nursery departments mainly benefited from this shift. The tree nursery department upscaled its activities, and the agriculture department benefited from a 7-month visit of a volunteering agronomist, who further enhanced our compost production and introduced us to a Cuban raised bed technique for vegetable production.

A successful crowdfunding at the end of 2019, which aimed at financing the free distribution of 30,000 trees in 2020, also marked the beginning of a scalable expansion strategy for our organization. The efforts put in the previous year and the experience gathered by our staff enabled us to self-host a crowdfunding campaign seeking monthly donations without requiring professional help, whereby also contributing to our sensitization efforts and the free building of improved stoves in households and institutions.

We are indebted to our hard-working team of 11, who dedicated themselves to fulfilling EMAUA's mission. We would also particularly like to thank all of the 97 donors who trusted us throughout the year to accomplish our mission. We would also like to thank our team of volunteers in Switzerland, who have worked, gathered people, and organized themselves to make our work possible.



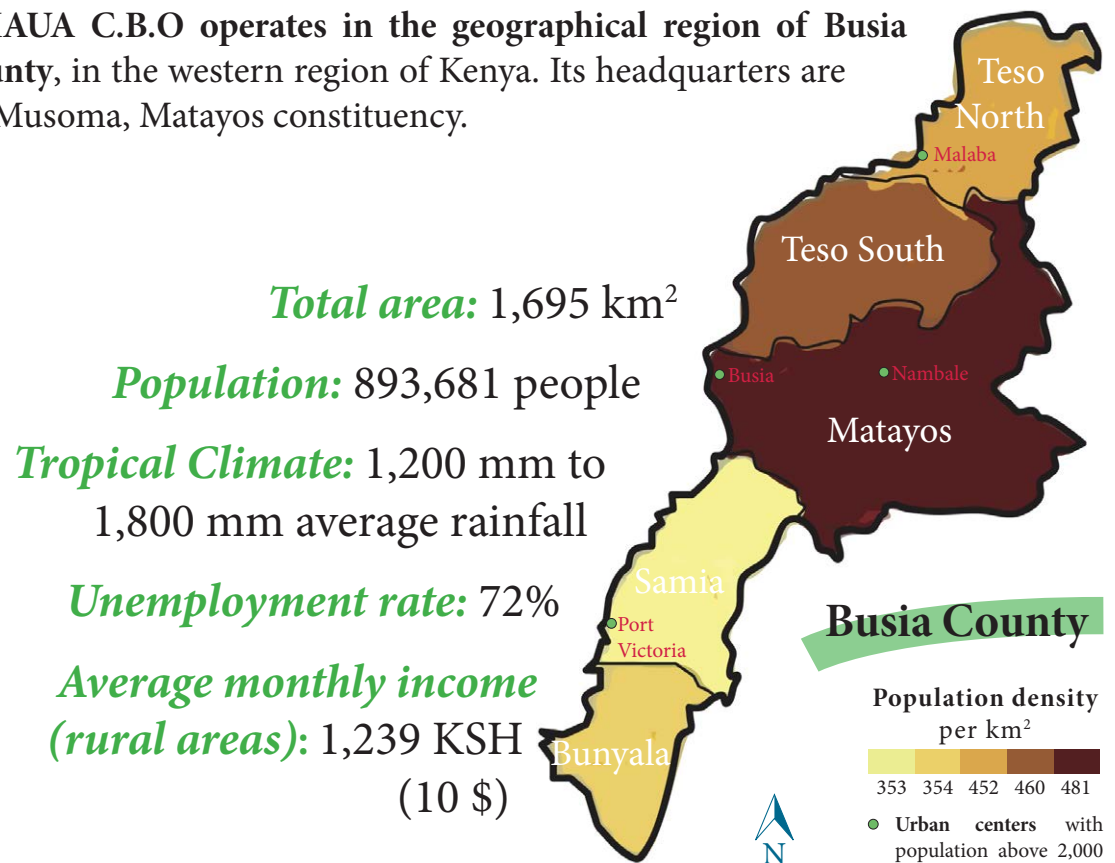
Julien Kauer

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 C.B.O operates in the geographical region of Busia county, in the western region of Kenya. Its headquarters are in Musoma, Matayos constituency.



Teso North constituency region experiences a tropical climate marked by two rainy seasons, long rains (April to June) and short rains (August to November). This weather pattern supports agriculture as the main socio-economic activity. However, due to **climate change**, seasons and droughts are becoming unpredictable, resulting in food insecurity and water scarcity.

The economic demographic is characterized by a large part of the population living with **low incomes** (10\$ per month according to County Government Reports). The main activity practiced is **small holder subsistence agriculture** with an average of 0.6 ha landholding per household. Other income generating activities include daily wage casual labour, motorcycle transportation and small-scale enterprises selling general commodities.



In the specific context of Teso North sub-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

Adaptating 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 2020 was composed of 11 employed staff who were supplemented by casual laborers, occasional volunteers, 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

ADMINISTRATION

- Management/Finance
- Communication/Fundraising

PROJECTS & PROGRAMS

- Organic Farming
- Community Education
- Tree Nursery
- Research & Development Projects

WELFARE

- Housekeeping
- Volunteers

EMAUA'S TEAM

Julien Kauer *Chairman and founder* | **Adams Maase**

Operations Secretary | **Maureen Etee** *Accountant* | **Zablon Milengo**

Resp. Education | **Violet Amoit** *Resp. Welfare* | **Evans Chemiat** *Resp. Improved Stoves*

Leonard Aserwa *Resp. Tree Nursery* | **Meshak Ekachul** *Staff* | **Carolyn Atoo** *Staff* |

Charles Wanyama *Staff* | **Albert Iwowo** *Staff* | **Bonface Olusa** *Staff*

ESSENTIAL FACTS

2020 marks the 6th year of our existence. Notable aspects this year include relocating our project from Isegeretoto to a new land in Musoma, Busia county and upscaling our tree nursery. This year's activities were affected by the COVID-19 pandemic. We managed to plant and freely distribute 30,256 trees of 32 different species. We also managed to construct 380 stoves in 114 households and institutions. Our community education program was put on hold indefinitely, following the Kenyan government directive to close all schools, churches, and social gatherings.

JANUARY

EMAUA office moved to a new premise
Establishment of new tree nursery
Launch of improved stoves program 2020
Purchase of a car

FEBRUARY

Arrival of Florian Bin, a volunteering agronomist

MARCH

All schools closed due to COVID-19 pandemic
Start of sensitizing program

APRIL

Pilot project organoponics
Pilot project reed compost
Installation of solar system for energy self-sufficiency

AUGUST

Pilot project vermicompost

JULY

15,000 tree distributed milestone

JUNE

Team visit to Kakamega forest, Kenya's largest rainforest

MAY

Start of distribution for 30,000 tree project

SEPTEMBER

Rammed earth wall prototype

OCTOBER

NOVEMBER

DECEMBER

End of tree distribution with 30,256 trees distributed
Launch of crowdfunding

COMMUNITY EDUCATION

The growing demand for trees, commercially and for private use has contributed to the degradation of the environment and noteworthy deforestation in Busia county. Indeed, scientific knowledge on organic farming and agroforestry has continuously developed over the years. However, small-scale farmers and the rural population lack awareness and EMAUA aims to act as an agent that disseminates the knowledge freely in the community. Focussing on the importance of trees for human livelihood, we foster the practice of agroforestry and reforestation.

LOCAL SOLUTIONS TO GLOBAL PROBLEMS



The community education program is aimed at spreading knowledge and sensitizing youths and adults on the utilization of local resources to better their lives. Through our community education program, we strive to raise awareness of the need to plant indigenous species for reforestation and biodiversity enhancement. Consequently, the community education program also provides teachings on effective practices to ensure high survival rates for our tree seedlings.

Zablon Milengo, our responsible for community education, has tremendously improved the quality of our sensitization program since 2019. We also realised that he could be a valued asset towards finding beneficiaries for the tree distribution and the improved stoves construction programs. However, in March, our sensitization program was put on hold following the closure of all learning institutions and cessation of public gatherings due to the COVID-19 pandemic. The halt in our community education program stagnated the number of students reached. However, we managed to sensitize 400 people from different communities.



EMAUA'S TEAM

Back, from left to right: Charles Wanyama, Bonface Olusa, Julien Kauer, Albert Iwowo, Zablon Milengo, Meshak Ekachul.

Front, from left to right: Evans Chemiat, Violet Amoit, Maureen Etee, Leonard Aserwa, Adams Maase.



ORGANIC FARMING

The relocation to Musoma, Busia, saw an end to our 5-year Isegeretoto Organic Food Self-Sufficiency project. The insights gained from the project have improved our agroecological techniques and distended our appreciation for diverse farming practices. In March, we set up a 600m² forest to protect our seedlings from direct sunlight, of which half is an edible forest. A volunteering agronomist introduced us to the Cuban organopunicos technique, that we generalised for annual crops. In order to achieve high yields while maintaining biodiversity, we use local plants for pest control and soil fertility. Additionally, we make our organic compost to improve the soil structure and biodiversity.

LOCAL RESOURCES FOR BETTER LIVING

The year 2020 saw great improvements in our farm following our settlement in our new Musoma land. However, the heavy rainfalls occurring throughout 2020 considerably damaged some of our agricultural projects, thus aborting an organic tomato production project and affecting our tree nursery as well. Climate change is growingly threatening food security in regards to the unpredictability of seasons and the extremity of climatic events.

Moreover, the 8-month visit of a Swiss agronomist with considerable experience in organic, non-mechanised agriculture, greatly improved our practice. He helped us initiate the production of compost made of locally found reeds, whose slow decomposition feeds the soil with organic matter in the longrun. He also introduced us to the Cuban organopunicos technique, a high-yielding organic vegetable production technique that is widespread in Cuban urban centers. Organopunicos are raised beds filled with organic matter and soil. The affordability of its production costs compared to those of chemically produced vegetables made the success of the technique.

We also initiated a vermicompost unit aimed at fertilizing our beds and tree seedlings. Vermicompost is an excellent, nutrient-rich organic fertilizer and soil conditioner.

Finally, it is since 2015 that we've been handling pest control in our fields with a homemade insecticide, consisting of a water extract from a wild pepper (*Capsicum annuum*) and the Mexican sunflower (*Tithonia diversifolia*).



ROCKET STOVES

Nearly half of the global population cooks on open fires and many use firewood as a fuel source daily. However, with a mortality rate of 4 million people per year, cooking on open fires is a deadly activity due to its smoke.

Our rocket stove, made of local resources only – no cement – experiences a great demand that we're currently unable to meet. Its ingredients are not only environmentally friendly, but they also make our stoves cheaply replicable, therefore paving way for a widespread self-propagation by the community itself. In 2020, we managed to build 380 stoves in 114 households and institutions.

HOW WE WORK

Open fires, which in our region consist of three stone stoves, consume a high quantity of firewood, thus fostering deforestation. Therefore, aside from reforestation, EMAUA also develops activities meant to reduce deforestation. As the third year since the launch of the project, we have built 380 stoves, summing the total to 432 stoves.

Our rocket stove:

- Reduces by 2/3 the firewood use of a household compared to a traditional open fire
- Uses locally available and affordable materials
- Reduces smoke to an unnoticeable amount

The model is constructed within 2,5 hours using fired bricks, sawdust, and termite mounds soil and can be used after a drying period of 21 days. During the construction process, some youths from the beneficiaries' side were trained by our expert, with the hope of triggering a self-propagation of the program by the community itself.

The high demand for our rocket stove is encouraging as also confirmed from the users' side. We continuously follow up on our beneficiaries to collect feedback from them and to seek hints for potential improvements. We are also continuously working on increasing the scalability of the program.

TREE NURSERY

The establishment of our tree nursery in 2017 was aimed at promoting reforestation, conserving biodiversity, improving ground cover, and preserving valuable watersheds. We plant indigenous tree species collected within a 100 km radius of our site. The year 2020 marked the 4th year since the onset of the project. We managed to produce 30,256 indigenous tree seedlings, thus doubling our production compared to 2019 thanks to a self-based crowdfunding at the beginning of the year. Seedlings of 32 different species were freely distributed to 207 local farmers and beneficiaries in Busia county.

INDIGENOUS TREES FOR BETTER REFORESTATION

In the context of climate change, growing shortages of fuelwood, persistent soil erosion and degradation, as well as the loss of biodiversity, we established a tree nursery to promote the plantation and the conservation of indigenous trees. Indigenous tree planting enhances biodiversity and promotes cultural practices. This year we freely distributed 30,256 indigenous trees to privates within Busia county. We also introduced two indigenous vulnerable species – *Khaya anthotheca* and *Prunus africana* from Kakamega forest region – Kenya's largest tropical rainforest.

To achieve best survival rates of the tree seedlings once they've been planted, a good substrate and fertilization are mandatory. Besides using self-made vermicompost – a nutrient-rich organic fertilizer, we also use composted bagasse from a neighbouring sugarcane factory. Moreover, the new substrate composition (soil, compost and sand) used in the seedling bags improved its fertility and porosity thus enhancing the rooting.

The purchase of a car tremendously improved our logistics towards a more efficient distribution of tree seedlings. Where our motorbikes were able to carry 200 tree seedlings per trip, our car is now able to carry 2000, which saves fuel as well.

In 2019, we adopted bamboo tubes as a potting container in our tree nursery. However, we decided to halt this initiative due to the unevenness in size of the bamboo tubes whose smallest pieces prevented tree seedlings from expanding. Therefore, we decided to focus on doubling the tree production by using plastic planters as a potting means. However, the bamboo option remains very appealing from an environmental perspective. We're working on solutions towards its reintroduction.





GENERAL TOPICS

After 5 years spent at Isegeretoto primary school, we relocated to our new land in Musoma, Busia, where we established a permanent facility. The land purchase enabled us to develop long term projects and improve our capacity to deliver our mission. Despite the Covid-19 pandemic affecting our sensitization program, our finances remained stable, thus enabling us to upgrade most of our activities. We also hosted volunteers and guests, whose expertise and external points of view positively impacted our work.

VOLUNTEERS AND INTERNS

EMAUA continuously benefits from hosting guests, volunteers, and interns with whom we interact and share ideas, thus enabling us to progress significantly in our projects and programs. This year we hosted Florian Bin, a Swiss agronomist, for 8 months. He was able to train our team to a scalable compost production using locally available reeds and he introduced the Cuban technique of the organoponicos. Finally, we extensively exchanged ideas about market gardening.

PURCHASE OF A CAR

In February 2020, we purchased a Toyota probox, a station wagon type of car, with a 2000 tree seedling capacity compared to 200 tree seedlings for a motorbike. This increase of transportation capacity reduced our fuel cost as well as preventing damage to our seedlings. The car also improved safety and comfort for our staff. Moreover, the ease of movement enhanced our ability to visit and link up with other organisations and projects.

SETTLING IN OUR NEW FIELD OF MUSOMA

The purchase of a 4-acre parcel of land in Musoma, Busia has allowed us to expand the scope of our activities. We have developed longterm projects within our piece of land and significantly upscaled our tree nursery, which now consists of 32 species. Having our premise also allowed us to build natural structures including a house and an office, as well as install a solar system that supplies electricity while enhancing our self-reliance.

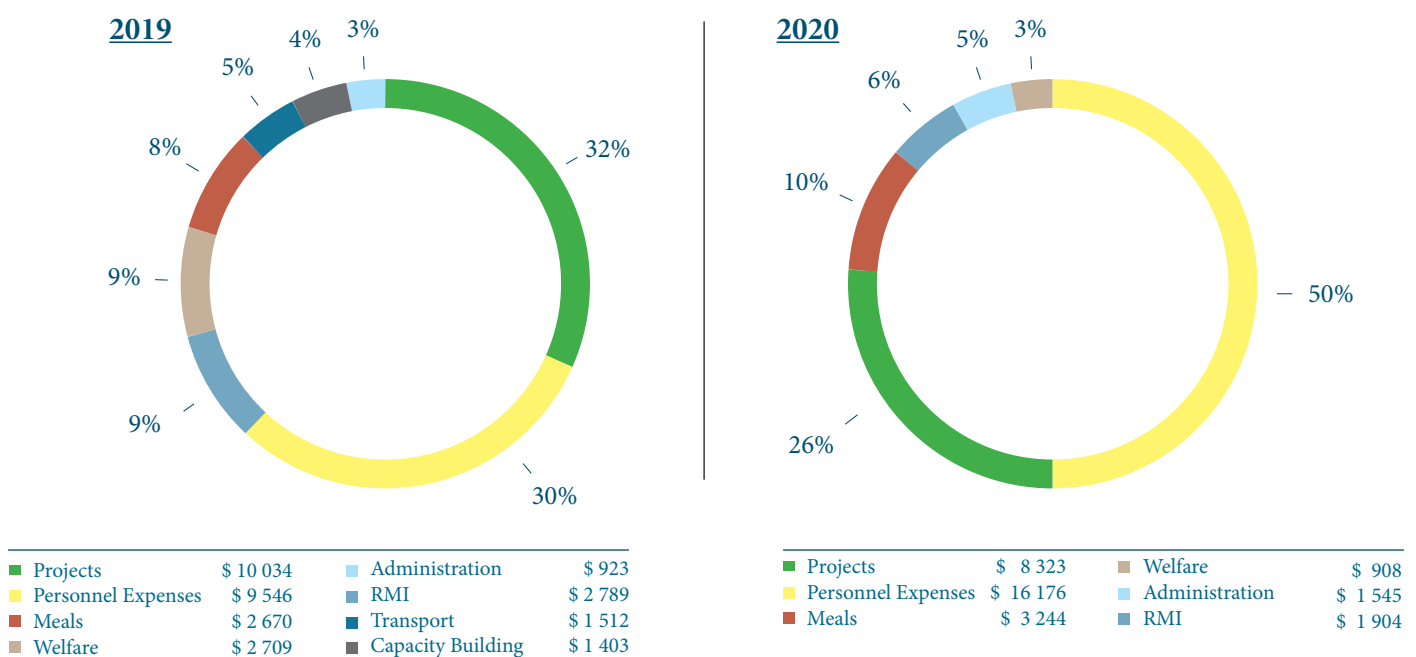
COVID-19

The Covid-19 pandemic had impacts on our activities even though it did not affect our finances. School closure and restrictions of movement, as directed by the Kenyan government resulted in a halt in our community sensitization programme. However, following the Kenyan government protocols and directives, we continued distributing trees and building stoves for our beneficiaries.

FINANCIAL REPORT

EXCHANGING RATE OF US DOLLAR TO KENYAN SHILLING : 1 USD to KSH = 109 AS AT 31.12.2020

We had an annual turnover of \$44 481 in 2020 - an increase of 79% compared to 2019 – which was received through EMAUA Switzerland, our sister organization. We saw an increase in our assets from \$24 989 to \$33 747 accounted for by the purchase of two vehicles in 2020. We used \$12 031 for capital expenses (27% of total income) while \$32 746 was spent on operating expenses (73%).



The acquisition of the motor vehicle Toyota Probox was a major milestone in 2020, that helped EMAUA to lessen the burden of transporting trees to farmers and also all other errands that come with day to day running of the organization. We also managed to acquire a Honda motorbike, which came in handy for sourcing tree seeds and also used on site by the staff for any activity not covered by our car.

The acquisition and installation of a solar 750W solar system catered for our power needs in a sustainable manner. It enabled us to run our computers, our internet connection and get enough light both day and night.

There was an increase from \$ 9 546 in 2019 to \$ 16 176 in 2020 in personnel expenses despite the organization maintaining its workforce of 10 employees. The increment is tallied by the organization's decision to remunerate its staff decently following its growing income.

Project-related expenses decreased from \$ 10 034 to \$ 8 323 following the closure of the Isegerototo project end of 2019 which was our major area of project expenditure. As opposed to 2019, we didn't carry out any capacity building activity in 2020 and the transport vote was accounted for under projects.

EMAUA COMMUNITY BASED ORGANIZATION

Statement of comprehensive income

Year ended 31st December 2020

		2020	2019
Revenue	\$	<u>44 480.73</u>	<u>24 783.49</u>
Expenditure			
Personnel expenses		16 176.20	10 334.47
Project expenses		11 135.08	9 495.85
Administrative expenses		4 608.46	4 296.51
Financial expenses		180.40	170.85
Depreciation		<u>3 273.09</u>	<u>1 033.61</u>
Total expenditure		<u>35 373 .24</u>	<u>25 331.30</u>
Surplus/deficit		9 107.49	-547.82
Retained income at 1 January 2020		26 226.49	26 774.31
Surplus for the year		<u>9 107.49</u>	<u>-547.82</u>
Retained income at 31 December 2020	\$	<u>35 333.99</u>	<u>26 226.49</u>

EMAUA COMMUNITY BASED ORGANIZATION

Annual Financial Statements

Year ended 31st December 2020

ASSETS		2020	2019
Non-current Assets	\$	<u>33 746.75</u>	<u>24 988.97</u>
CURRENT ASSETS			
Advances recoverable		1 503.28	857.80
Cash and cash equivalents		<u>83.95</u>	<u>379.72</u>
Total Assets	\$	<u><u>35 333.99</u></u>	<u><u>26 226.49</u></u>
 RESERVES AND LIABILITIES			
Reserves	\$	26 226.49	26 774.31
Accumulated surplus		<u>9 107.49</u>	<u>-547.82</u>
Total Reserves and Liabilities	\$	<u><u>35 333.99</u></u>	<u><u>26 226.49</u></u>