

A photograph of three African nuns in blue and white habits, smiling and engaged in conversation. The nun on the left is wearing a white habit with a blue headband. The nun in the center is wearing a blue habit with a blue headband and a blue necklace with a cross. The nun on the right is wearing a blue habit with a blue headband. They are standing in front of a building with white columns.

# MISSION INVEST

## 2022 Impact Report

Sr. Christiana Archibong (left), Sr. Mary Ogbe and Sr. Mary-Patrick Dimlong (right)  
from the Congregation of the Sisters of Our Lady of Fatima Diocese of Jos at OLF Academy, Nigeria

Over the course of 2022, Missio Invest continued to expand its support for inspiring Church entities across Africa that run so many farms, schools, health facilities and microfinance institutions. These entities are run by religious women and men that have dedicated their lives to providing for basic services to the most needy in their local communities, often, the only provider or provider of choice given the embedded trust they have developed locally, the high quality of support and services they provide, and the emotional and spiritual support they offer, many times, in moments of crisis and emergency.

Via the 64 loans disbursed—nearing \$10 million cumulatively—our borrowers were able to have extraordinary social impact via the 2,139 schools, 402 healthcare and social facilities, 38 farms, and 2 microfinance institutions they operate. With average loan sizes at around \$200,000, this is an incredible multiplying affect of impact with 4 million students educated, over 5 million patients cared for and another 600,000 people served with other basic services such as elderly care, childcare, emergency support and so on.

What we continue to see is that the Missio Invest model of providing medium-sized loans with very present pre-investment business advisory support and post-investment technical and financial management support really works to help our borrowers successfully

grow their social enterprises, and reduce their reliance on unpredictable and dwindling access to grant funds. As you will see in this impact report, the social impact footprint is growing immensely, loan repayment remains exceptional, and 10 loans have already been fully repaid.

All that said, serious challenges remain, including the lingering effects of COVID-19, ongoing pressures of climate change, high inflation and unpredictable currency exchange rates, and the global consequences of the Ukraine war. Through close contact with all borrowers and Church leadership on the ground, support from our forward-thinking investors, and a strong Board, we do our best to navigate these challenges and find solutions. We hope you find this annual impact report informative and inspiring. We certainly do as we see on a daily basis the dedication of all of the “Changemakers” we invest in who have committed their lives to reducing poverty, protecting the environment, building stronger communities and leading of life filled with grace.

**Keith Polo**  
Managing Director,  
Missio Invest



*“Missio Invest continues to show that ensuring sufficient resources are in the hands of those who know how to use them well, especially for the good of others, is the best use of the Church’s gifts.”*



**Father Andrew Small, OMI,**  
Founder Missio Invest, at right with  
**Cardinal Antoine Kambanda,**  
Archbishop of Kigali, Rwanda

# Our Impact FOCUSES

**Missio Invest is a social impact fund that has been providing patient capital and technical assistance to institutions of the Catholic Church in Africa since 2016.**

**53**

Borrowers

**10**

Operating Countries

**6,600**

Hours in Technical Assistance  
provided in 2022 by Missio Invest

**\$9,007,835**

Loan Principal Outstanding  
at the end of 2022

## Resilience



Investment finances irrigation, clean energy and infrastructure to combat climate change

Sustainable farming practices promote environmental stewardship

Local production reduces costs, protects against supply chain disruptions and forex issues, reduces the carbon footprint

## Shared Prosperity



Farm expansions create new local jobs, MFI have more funds to support local economic growth

Investees provide communities with free training in agriculture & financial management

Farms buy and sell local, bolstering regional economic growth

## Food Security



Investments in capital equipment, strategic crop selection & updated farming methods provide higher yields

Irrigation enables year-round production, preserves resources, mitigates climate change

Increased local production ensures availability of affordable foods in times of crisis

## Strengthened Church Entities



Through investment, training & technical advisory, investees become financially self-sufficient

Increased farm income supports expansion of investees' schools, hospitals and other social institutions

Strengthened church entities remain at the heart of their communities

# Redefining Social Impact

*"Impact investing has the potential to be a powerful tool for social transformation. It can help to reduce poverty, protect the environment, and build stronger communities. I urge you to use your resources to help the poor and vulnerable, and to build a more just and sustainable world."*

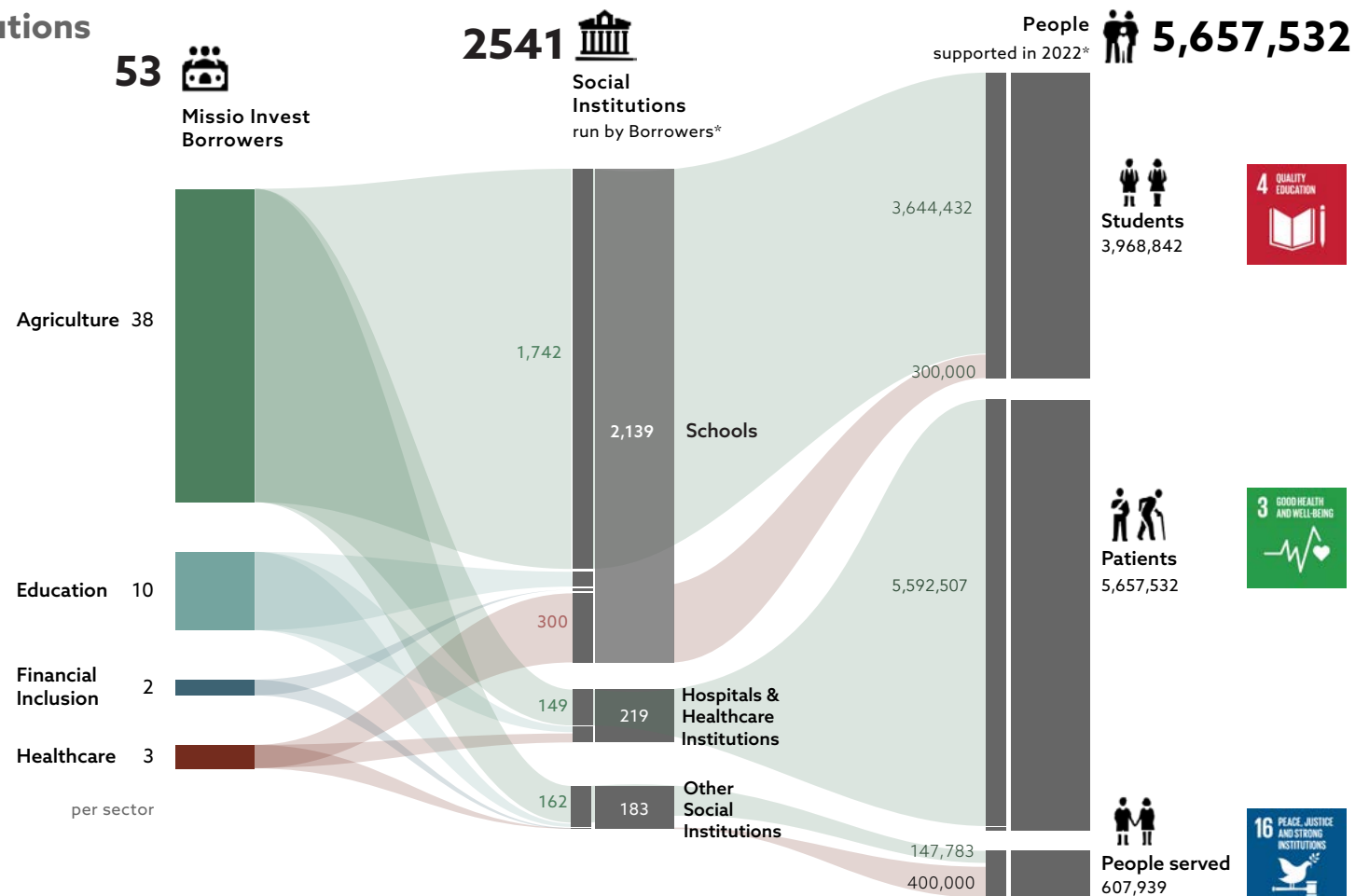
Pope Francis, in his 2016 address to the Vatican Impact Investing Conference

## Strengthening Social Institutions

Our borrowers are social entrepreneurs who use their institutions to create positive social change in their communities. When we help them succeed in one area, it has a positive ripple effect on all of their other enterprises.

For example, our 38 agribusiness borrowers also run over 1,742 schools and 149 hospitals and healthcare institutions. By helping them to be successful in their agribusinesses, we are creating an exponential positive impact on their social institutions and the people they support.

The Marian Brothers case study on the next page is a powerful example of how supporting a farm translates into educating students, feeding refugees, training future agriculturalists, and contributing to a better future for all.



\* based on 52 borrowers that provided data for 2022. Streams under 50,000 people were omitted for visual simplicity.



# A Case In Point

Marian Brothers Case Study

## The Farm That Inspired the Bishop

Marian Brothers in Uganda have been farming on Odokibo Farm for the last 45 years, but only used ~20% of their 333 acres for mixed farming when they applied for a \$140,000 loan with Missio Invest in 2020.

The following is a summary of a recent interview by Country Investment Manager Benson Agwena with project leader **Brother Aloysius Tugumisirize**. To see the very worthwhile [\*video of the interview please click here\*](#).

"When we got a loan from Missio Invest, we were able to expand our farm from 30 acres to 250 acres. We also purchased a tractor and a truck, which helped us to plant crops more efficiently, lower costs and transport our produce to market more easily.

We used income from the farm to expand our primary school from 90 to 403 children, and build a vocational training center on our farm. We also used the loan to provide scholarships to students from the refugee camp near our farm. The school fees at our technical school are very low. The farm supplements the school with meals.

Many of the students at our schools are refugees who contribute through labor instead of paying school fees. We train students on the job, and agricultural courses from other schools come here for one to two weeks to do their practical training.

Our biggest challenge now is marketing. We are currently working with NARO (National Agricultural

Research Organization) to multiply cassava stocks. We sell cassava stock for planting, and we process cassava ourselves for students to eat. We also do seed multiplication for rice, and we sell the rice seeds to farmers. We buy back the rice to process it and sell it as a finished product. We sell to organizations that are working in the big refugee camp close by. We also have a contract with Uganda Breweries to supply sorghum for brewing beer.

The loan from Missio Invest has allowed us to expand our farm and provide education and training to many people in our community. We are grateful for the opportunity to partner with Missio Invest, and we would encourage other prospective borrowers to consider this a good investment.

The success of our farm has inspired the Bishop to also take on a loan with Missio Invest. We are confident that he will be successful as well."

**Brother Aloysius Tugumisirize**

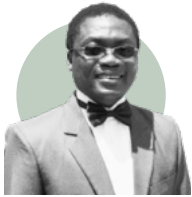


# Meet the Changemakers

## Part 1

Missio Invest is helping real changemakers fulfill their vision. These changemakers are there for the long-term, taking care of their communities, the people, the land, the social fabric - and thereby our future.

● Ghana ● Kenya ● Malawi ● Nigeria



**Fr. Paul Kwaku Davor**  
Obuasi Diocese -  
Archbishop Mesah  
Catholic School, Obuasi



**Sr. Mackline Adema**  
Sisters of Mary of  
Kakamega - Chebukaka  
Farm, Bungoma



**Martha Joseph**  
Holy Family Mission  
Hospital, Nakuru



**Sr. Judith Wayua**  
Little Sisters of St. Francis  
- Divine Mercy Green Farm,  
Nakuru



**Sr. Mary Magdalene**  
Nazareth Sisters of the  
Annunciation, Meru



**Sr. Angeline Nyaosi**  
Sisters of Mary of  
Kakamega - Babiton  
Farm, Bungoma



**Father Eliud Kaburu**  
Holy Family Parish -  
Mukothima Farm, Meru



**Fr. Vincent Ngatia**  
Kakamega Diocese,  
Mukumu Farm,  
Kakamega



**Fr. Boniface Mwangi  
Wambui**  
Archdiocese of Nyeri  
Nyeri Hill Farm, Kenya



**Br. Paul Kabiti**  
Brothers of St. Joseph  
- Mweiga Hay Farm,  
Nyeri



**Br. Mark Kitili**  
Contemplative Evangelizers  
of the Heart of Christ  
- Rongai Farm, Nakuru



**Br. Melitus Juma**  
Brothers of St. Charles  
Lwanga - St. Martin  
Despores Farm, Bungoma



**Fr. Lawrence Mandere**  
St. Andrew's Parish -  
Maurice Cardinal Otunga  
Farm Kisii



**Sr. Mariarosa Phiri**  
Sisters of the Holy Rosary  
Chigwere Farm, Mzuzu



**Sr. Agnes Jonas**  
Sisters of Saint Teresa  
of the Child Jesus  
- Female Students  
Hostel at the Catholic  
University of Malawi



**Br. Daniel Banda**  
Marist Brothers -  
Marist Farm, Dedza



**Rev. Fr. Peter Gift  
Ntayamanja**  
Chikwawa Diocese  
Ndakwera Cattle Ranch,  
Chikwawa



**Fr. Michael Msosa**  
Zomba Diocese  
Namitembo Farm



**Sr. Ijeoma Okoye**  
St. Dominic Catholic  
Hospital



**Sr. Theresa Oni**  
Sisters of St. Michael  
the Archangel -  
SSMA Novitiate Farm



**Fr. Mike Adebo**  
Kano Diocese  
Tagastan Rice Farm



**Fr. Stephen Dumbiri**  
Archdiocese of  
Benin City -  
CABEN Farm



**Fr. Gabriel Adeleke**  
Oyo Diocese  
CADI Farm &  
Ave Maria  
Multipurpose  
Investment LTD



**Rev. Fr. Emmanuel Zinsu**  
Society of African  
Missions (SMA),  
Nigeria Province -  
SMA Fathers Farm



## Success story from Busasasama Farm, Diocese Nyundo in Rwanda

My name is Father Thaddée Musabyimana, Project Leader of Busasamana Integrated Farm (BIF Project).

Before coming into contact with Missio Invest, the Busasamana Parish carried out agro-pastoral activities on a small scale of 12 out of 51 available hectares and without professionalism.

The absence of an agronomist led to a lot of loss and inefficiency in the use of fertilizers, the soil was deteriorating due to lack of good agricultural techniques. Our pig farming had started in 2015 with 6 modern sows, but after only two years, we experienced a failure there.

Through the loan agreement that the Diocese of Nyundo concluded with Missio Invest in October 2021, BIF managed to launch farming activities supported and monitored by an agronomist and a veterinarian. The use of the organic manure produced by our restarted pig farming instead of chemical fertilizers has increased the production of seed potato from 11 to 24 tons per hectare. With the use of crop rotation technique we are able to benefit from the harvest of maize for pig feeding.

The presence of a veterinarian in the pig farming has enormously reduced mortality from 62% to 11% and now tends towards the reasonable rate. The step following the successful pig reproduction would be, according to our projections, the set up of the modern slaughterhouse with value-added process on pig products.

We are burning with good hope that our projections will come true through due to the good collaborations with Missio Invest.

*Father Thaddée Musabyimana,*

Project Leader of Busasamana Integrated Farm (BIF Project)



Father Thaddée Musabyimana



A rice field of Busasamana Integrated Farm

# Meet the Changemakers

## Part 2

● Nigeria
 ● Rwanda
 ● Tanzania
   
● Uganda
 ● Zambia

*For space reasons, changemakers that are featured in images and impact stories throughout the report are not shown again here.*



**Fr. Kenneth Adesina**  
SS. Peter and Paul Major  
Seminary -  
Saints Peter and  
Paul Integrated Farm



**Fr. Peter Olabamiji**  
Seminary of St.  
Peter the Apostle  
Farm (SPAF)



**Rev. Fr. Esibor J.  
Idogho-Noba**  
The Missionaries  
of Divine Mercy  
Congregation -  
Divine Mercy Farm



**Sr. Dancille  
Mukamusoni**  
Congrégation des  
Sœurs de Sainte Marie  
de Namur au Rwanda  
Crèche des Agnes



**Sr. Catherine Kazibera**  
Congregation of  
Benebikira Sisters -  
College Immaculate  
Conception / SAVE



**Fr. Jean Claude  
Twizeyumukiza**  
Ruhengeri Diocese,  
Ruhengeri Farm



**Sr. Lucia Wande**  
Michaud Girls  
Secondary School



**Sr. Sara Luwumba**  
The Congregation of  
the Missionary Sisters  
of St. Therese of the  
Child Jesus -  
St. John Paul II



**Fr. Esperius  
Hamenyande**  
Diocese of Kigoma -  
Nzimano Soap  
Industries (NSI)



**Fr. Joseph Shio**  
Libermann Boys  
Secondary School



**Rev. Prof. Philbert  
Vumilia**  
Mwenge Catholic  
University -  
St. John Paul II  
Professional College



**Rev. Fr. Engelbert  
Kilasara Moshia C.P**  
Passionist Fathers -  
Passionist  
Philosophicum  
House Farm



**Fr. Aidan Paul Ulungi**  
St. Dominic Savio  
Schools -  
Magunga Farm



**Fr. Ansgarius  
Shumbusho**  
St. Mary's Minor  
Seminary -  
St. Mary's Rubya  
Seminary



**Fr. Renatus Karumuna**  
SUMA Engikaret  
Secondary School



**Br. Ismail Edward  
Michael**  
Uchama Secondary  
School -  
St. Justin Uchama  
Piggery Project



**Sr. Goretti Birungi**  
Banyatereza Sisters  
Agroenterprise,  
Fort Portal



**Br. Isidore Luyinda**  
Bannakaroli  
Brothers - Kiteredde  
Dairy Farm &  
Mityebiri Beef Farm



**Charles Isingoma**  
Hofokam Ltd.,  
Hoima



**Fr. Nsaale Deusdedit**  
Sembabule Balunzi  
Cooperative Society  
Ltd, Masaka



**Dr. Alfred Lumala**  
St. Joseph's Hospital  
Kitovu, Masaka



**Very Rev. Fr. Herman  
Kituuma**  
St. Thomas Aquinas Major  
Seminary - Katigondo  
Seminary Farm, Masaka



**Sr. Mary Chilengwe**  
Sisters of Child Jesus  
Farm, Kasama



**Fr. Leonard Kalyoti**  
Kasama Archdiocese  
Lua-Luo Farm, Kasama



**Subject:** Nigeria Personal Story

**Date:** Thursday, January 12, 2023 at 16:26:20 Central European Standard Time

**From:** Father Michael Kagarko, Diocesan Administrator for Zaria Diocese in Zaria, Nigeria and Project Leader for Cathdiza Farm

I have been a Priest in northern Nigeria for 23 years. [...] Our diocese's largest farm, Cathdiza Farm has been a source of distress, but also hope. Back in June 2020, we received a \$72,500 loan from social impact investor Missio Invest to expand our rice cultivation and construct a rice processing factory. The project aimed to employ over 200 local workers while also improving food security in an area where affordable, local grown rice is scarce.

Initially, we had great success, but just over a year after we had completed the factory construction, the State Government demolished it, along with several of our parishioners' houses, to pave the way for a new airport. When this happened, I cried. I went to my late Bishop in tears, wondering how are we going to repay our loan, and will we even be able to rebuild again? My Bishop gave me the assurance that God will do it for us, reminding me that every disappointment is a blessing.

With a heavy heart, I went to Missio Invest's Nigerian Country Investment Manager and told him what had happened. He assured me that he would discuss the situation with the Missio Invest team, and much to my surprise and relief, they offered us a \$40,000 follow-on loan to rebuild the factory. When Missio Invest's help came, we rebuilt a bigger and better rice factory with more modern machines and are even working on expanding the factory further.

This project has had a widespread impact on the community. It has created employment for over 200 local workers, many of them youths, provided training to farmers from surrounding areas, and distributed food to widows and orphans. We also sell our rice subsidized rates below the prevailing market price to ensure that we can feed a broader section of the population.

Cathdiza Farm has also served as a rare source of interfaith collaboration in the region. 75% of my staff are Muslim. During the commissioning of the project, the Emir of Zaria was represented, all of the traditional Muslim rulers were present, all of the pastors from different Christian denominations were present, and the Commissioner for Agriculture in Kaduna State represented the Governor. All of the attendees commended our progress and community impact.

Our major challenge now is that the demand for rice is higher than what we can supply. We need another two sets of milling machine and parboiling machines to be able to meet the demand of our customers. We're looking to invest in these new pieces of equipment soon so that we can feed even more people.

Following the passing of my diocese's Bishop last year, I became the Diocesan Administrator for the Catholic Diocese of Zaria. I find joy in my work as a Priest and as a farmer. Despite my many pastoral responsibilities, I still work in our farm, monitor what is going on at the rice factory and attend to our customers. My personal spiritual life is paramount in all that I do.



Fr. Michael (2nd from the right) in the newly constructed rice factory and some youth workers, May 2023

To read the full story Fr. Michael shared, which includes a harrowing description of how he was once attacked by kidnappers, please [click here](#).



Participants in Missio Invest's weeklong Sisters workshop in Kenya in May 2022.

## Supporting Sisters

Sister Mary Mbaci, Caritas Director for the Archdiocese of Nairobi, has been leading a smallholder farmer program on improved milk production at the Limuru Archdiocesan Farm since 2014. The farm was founded in 1902 by the Holy Ghost Fathers and is owned and operated by the Archdiocese. Located in the outskirts of Nairobi, the farm is 300 acres, 250 acres of which are currently being farmed. The farm grows tea and horticultural crops, keeps dairy cattle, and purifies and bottles safe drinking water.

Missio Invest invested \$300,000 for the completion of a milk processing plant, providing farmers access to a ready market. Since the disbursement of the loan, the project serves 1,600 farmers, and collects and pasteurizes over 10,000 liters of milk a day which is distributed to 20 different supermarket stores and other retailers.

In addition to guaranteeing a market for their milk, the farmers receive agricultural extension services through the program. The services help them improve their cattle breeds, increase

***"Women are essential to building a more just and sustainable world."*** Pope Francis, Address to the World Meeting of Popular Movements, Rome, 2015.

milk production, and the quality of milk. Some of the farmers have embraced renewable energy and farm organically using bio slurry and organic manure. The project has successfully empowered youth by hiring them to collect milk from the farmers.

The leadership and management strategies Sister Mary Mbaci uses include setting up a clear management structure, compliance with all legal requirements, hiring staff with the right attitude and expertise, continuous mentorship and coaching, leveraging existing church structures, and continuous consultation with higher leadership. She urges religious sisters to "learn to survive without grants". Missio Invest's loan is helping her lead by example.

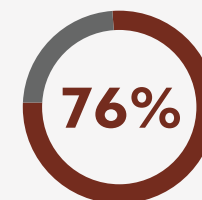
*Case study by Carly Cameron - Intern*

Sr. Mary Mbaci (L) with Virginia Nyamu (R), Member of Missio Invest's Oversight Group



## 2X Challenge

Missio Invest is recognized as a **2X investment** under the US International Development Finance Corporation's (DFC's) 2X Women's Initiative.



of our **portfolio fulfills 2X** criteria for women in leadership  
30% = 2X threshold

### female employees



**37%** in agriculture  
**49%** across all sectors

### senior management positions held by women



**34%** overall  
**48%** in agriculture

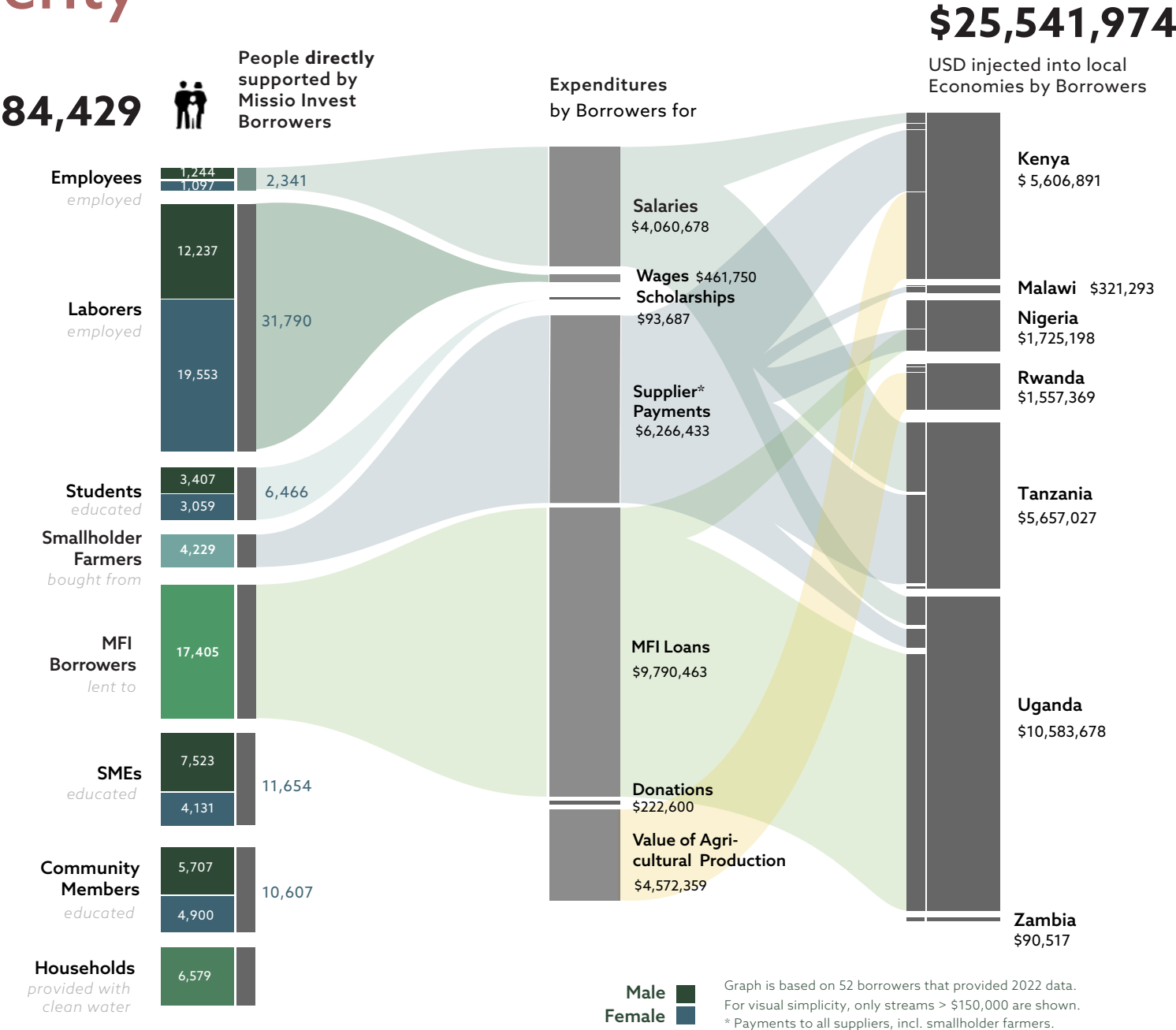
as of Dec 2022

# Shared Prosperity

Missio Invest supports borrowers with loans, as well as with extensive technical assistance pre- and post-disbursement, to make sure their businesses can become financially self-sufficient and reach their full potential long-term.

Our borrowers have a measureable, direct positive economic impact on the communities they are based in: They hire employees, use laborers for short-term work, educate students, provide microfinance to small businesses, make purchases from local suppliers and train smallholder farmers.

These activities create monetary flows that directly benefit and support local economies. Our borrowers' successes translate into shared prosperity for many.



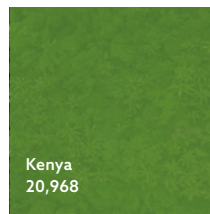


# Laudatio Si'

Caring for our Common Home



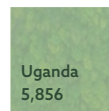
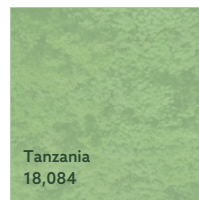
One of the smallest countries, Rwanda, planted the most trees:  
Fr. Jean Claude of Ruhengeri Farm planted 42,500 trees in 2022.



**107,838**

Trees Planted  
in 2022

up from 91,140 in 2021



UN SDGs

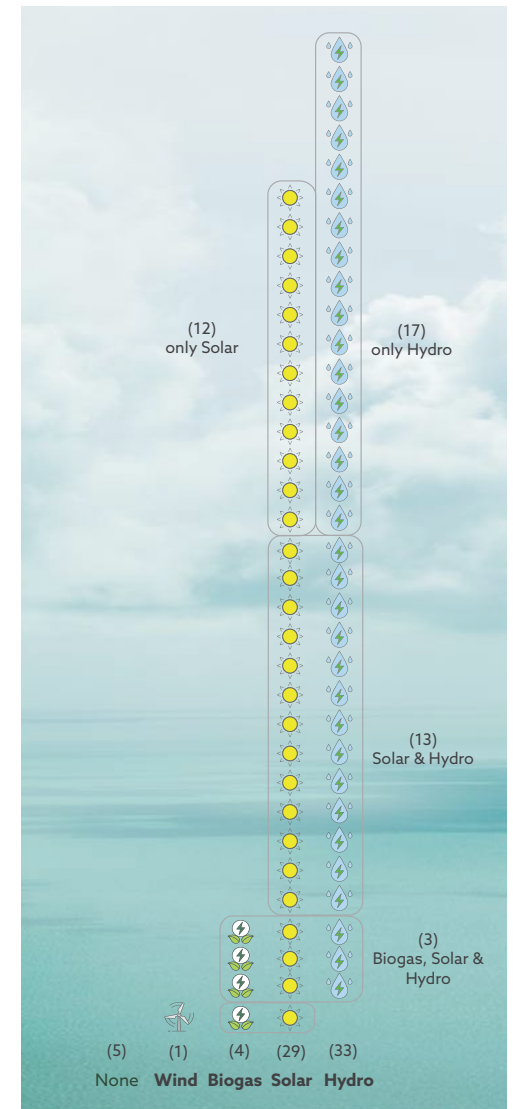
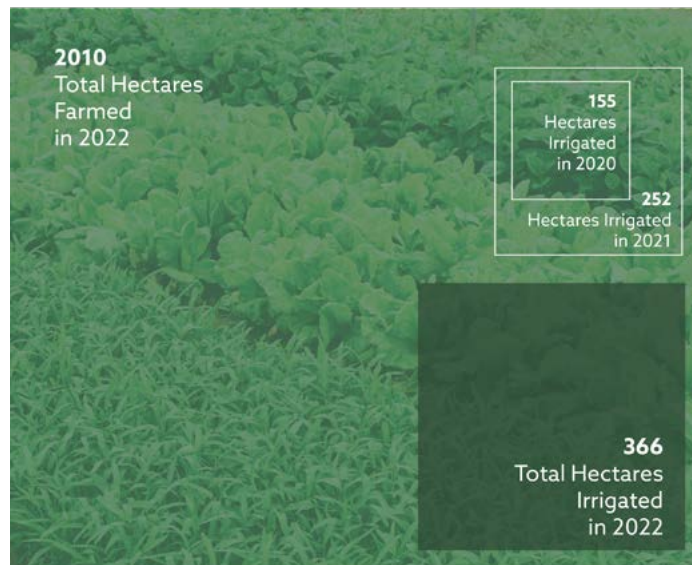


*"Climate change is one of the most serious challenges facing humanity today.... We must take action to address climate change, for the sake of the environment and for the sake of humanity."*

Pope Francis, in *Laudato Si'* (23)

Climate change disproportionately affects disadvantaged communities and the agriculture they depend upon. Missio Invest investees tackle climate change by planting trees and using renewable sources of energy. Working with our agricultural experts, they implement sustainable agriculture practices such as crop rotation, organic farming, agroforestry and integrated pest management.

The majority of land our borrowers manage is rain-fed (without irrigation), and we are supporting financing of drip irrigation systems to mitigate the effects of climate change.



**90% of our borrowers use renewable energy sources**

up from 84% in 2021

Using 3 sources of renewable energy (biogas, hydro, solar) in 2022 were

- The Passionist Brothers on their Philosophicum House Farm in Tanzania,
- St. Thomas Aquinas Major Seminary on their Katigondo Farm in Uganda,
- and Kasama Archdiocese on the Lua-Luo Farm in Zambia;

all data as reported by our investees.

Why Missio Invest's Model works

# A Recipe for Success

## Favorable Loan Terms

### Interest Rate

Competitive, single-digit interest rate for USD loans

### Loan Term

5 - 7 years, exceptions considered on a case-by-case basis

## Comprehensive Technical Assistance Services

Provided by Missio Invest Country Investment Managers, consultants and technical specialists

### Pre-financing

Holistic project evaluation - advisory on strategy, market access and loan structuring, business planning

### Post-financing

Implementation advisory & technical assistance through the loan term e.g financial management

## Free Cash Flow for Long-term Self-sufficiency

Missio Invest works with investees to generate annual cash flow equal to 1.5 times the annual repayments. This ensures that borrowers can comfortably repay the loan without financial strain, even if a project doesn't go according to plan. It also ensures that, after repayment, the borrower will be financially self-sufficient, with a steady stream of recurring income to drive further business growth and expansion of social programs.

## Track Record of Loan Repayments

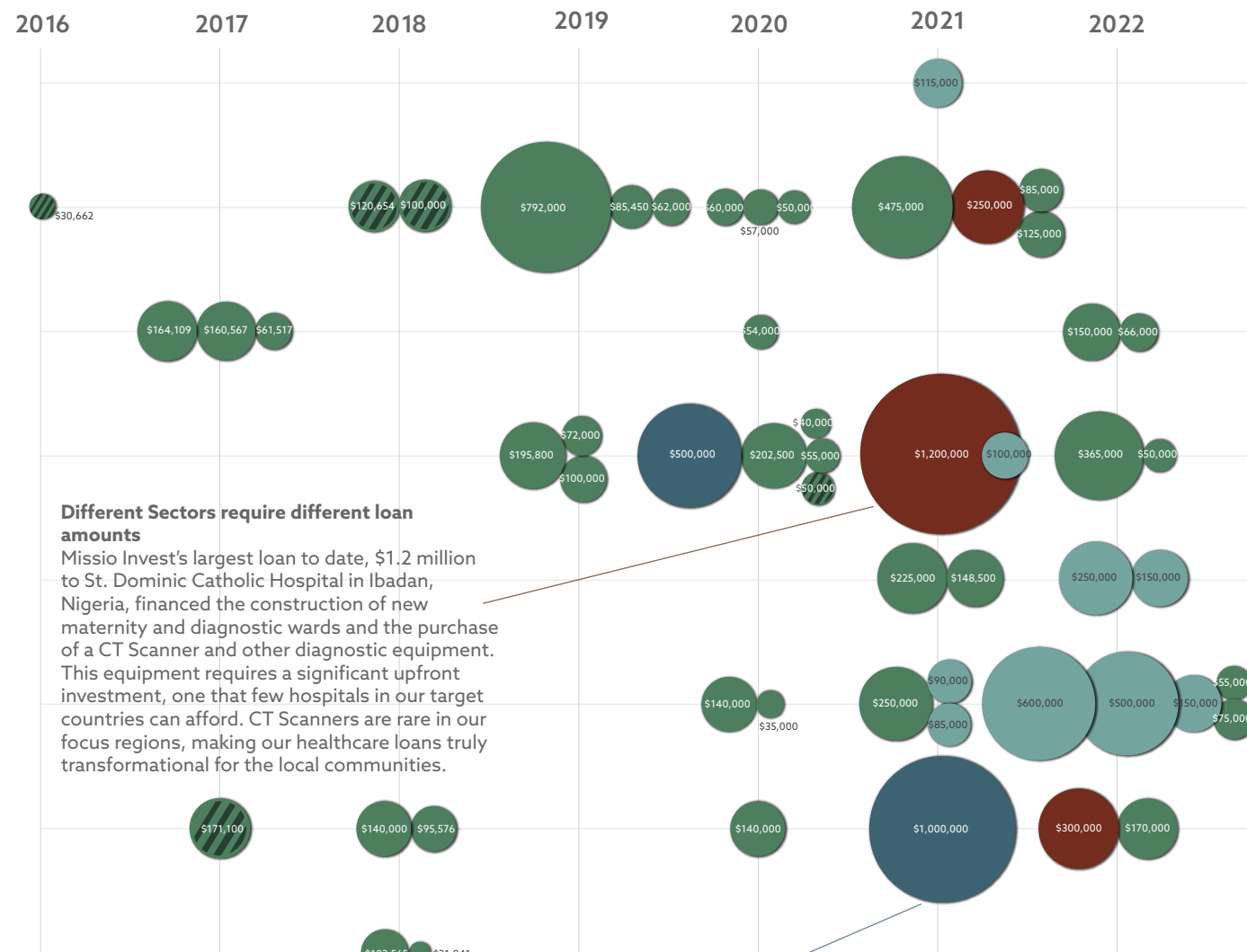
Missio Invest and our investees are building a strong track record of loan repayment. All the loans disbursed in the first year of operation in 2016 have been repaid in full. In 2022, 4 loans were repaid, bringing the total number of fully repaid loans to 9. As of January 2023, the total number of repaid loans stands at 10 from 64 disbursed to 58 unique borrowers so far.

Sister Mary Odbé demonstrates the use of a microscope to students at OLF Academy in Abuja, Nigeria, run by the Congregation of The Sisters of Our Lady of Fatima Diocese of Jos.

MISSIOINVEST

## Distribution of Missio Invest Loans across Time, Sectors and Countries

From a slower start to much momentum across all 4 sectors - showing initial loan amounts



### Sectors



Education loans account for our second-largest average loan size and are typically used to finance construction of new schools, dining halls, or classrooms, student hostels, or dormitories.

## Distribution in % across Sectors

Distribution of loans across sectors varies widely

Total Principal outstanding 31. Dec '22

**Ghana**  
\$100,768

**Kenya**  
\$1,567,999

**Malawi**  
\$619,297

**Nigeria**  
\$2,413,410

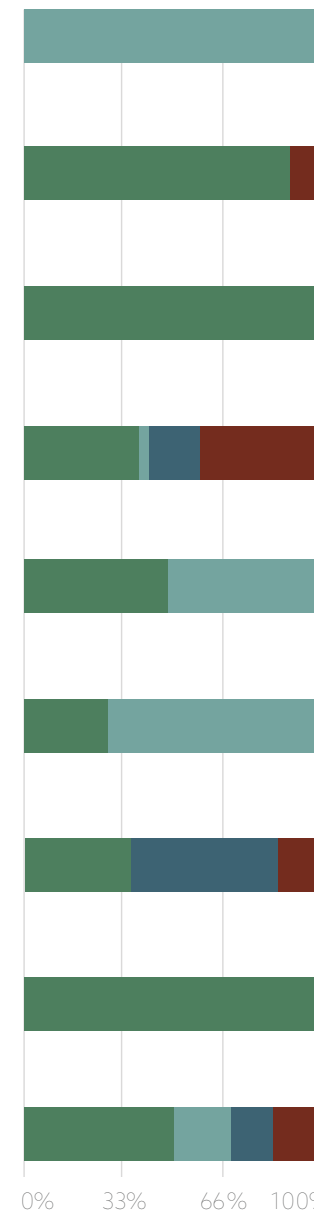
**Rwanda**  
\$668,083

**Tanzania**  
\$1,915,722

**Uganda**  
\$1,617,205

**Zambia**  
\$105,351

**Total**  
**\$9,007,835**





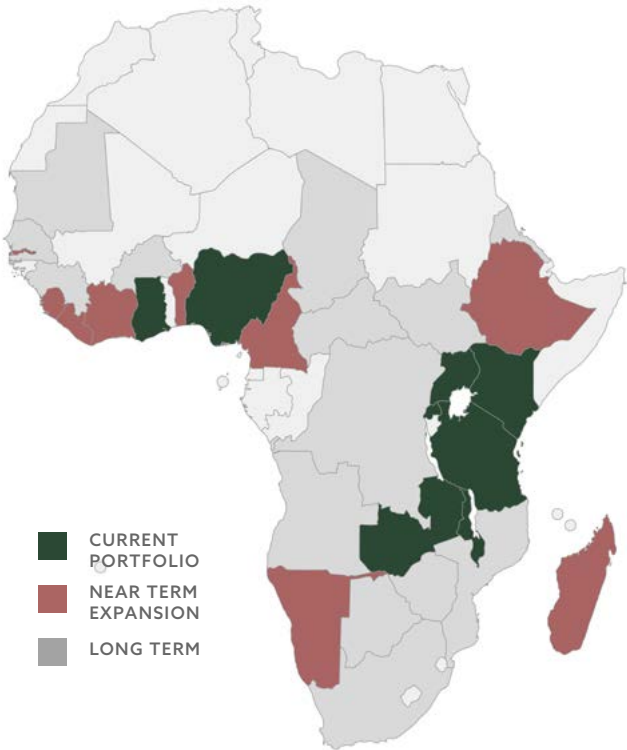
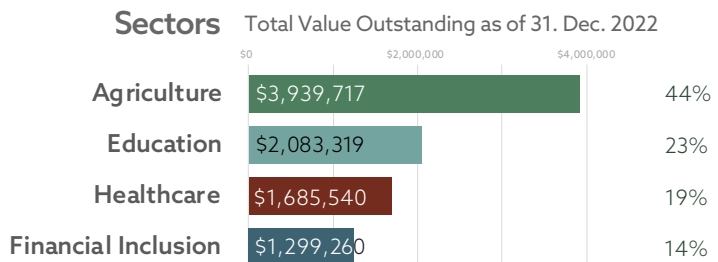
# Looking to the Future

In 2022, we saw much expansion in the recently added sectors, particularly Education and Healthcare, which now constituted a combined 42% of the portfolio as of December 2022. In both of these sectors, we finance well-established institutions that are looking for capital to expand and modernize. Schools are typically looking to add new dormitories, student hostels, dining halls, and classrooms so that they can accept more students. Hospitals are seeking to add new wards (diagnostic, operating, maternity) and to purchase costly diagnostic equipment. The impact of these loans is transformational – in Ibadan, Nigeria and Kitovu, Uganda, our borrowers are now the only private hospitals with working CT scan machines in the region.

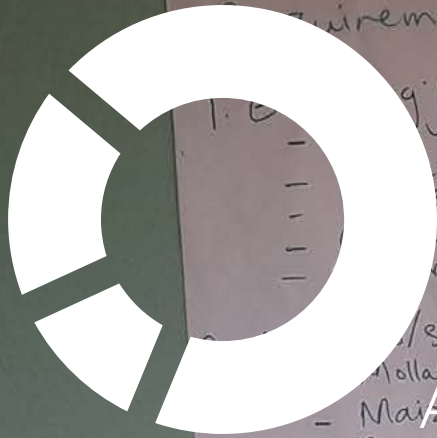
In 2023, we expect to see continued growth in Healthcare and Education, as well as expansion into new countries and new loan products. We’re currently evaluating pipeline opportunities in Benin, Senegal, Cameroon, and Namibia and hope to further extending our work in West and Southern Africa over the next year. We’re also developing innovative new loan products to suit our prospective borrowers’ needs. For example, we’re working on a potential revolving credit facility for an Archdiocesan coffee farm in Uganda.

As we expand, we’re starting to see an exciting ripple effect, as our growing pool of Missio Invest borrowers begins to cross pollinate, sharing ideas, tips and challenges. Many of our recent loans have come to us through referrals from existing borrowers. We’ve also seen borrowers sharing best practices, within and across countries. We’re planning to organize more regional workshops to help promote these opportunities, particularly among our women-led borrowers. We’re looking forward to a fruitful and impactful year ahead!

**Joelle Birge**  
*Investment Director*



A nurse at St. Dominic Catholic Hospital, Ibadan, Nigeria



A virtuous circle of sustainable impact.  
That's the power of Missio Invest.

## SILAGE MAKING

Requirements:

1. Growing materials (Crop pasture)

- Elephant grass
- Amala
- Cane tops

2. Substrates  
- Molasses (sugar molasses) / Maize plus /  
- Maize Bran / ERDymms  
- Rice Bran  
- Wheat Bran

3. Silage Bags/Silo

- Bags
- Bunker
- Drums

4. Forage chopping/cutting equipments

5. Labour

6. Weights:

Good qualities of silage crop

- Easily palatable to animals
- High Fibre content
- Less moisture content
- Free from poisonous parts/plants
- Free from plant diseases
- Easily ensiled
- High Biomass content

Stage of Harvest

Maize 1<sup>st</sup> - At milk stage of the grain.  
Sorghum 4<sup>th</sup> - At Just before flowering.  
Napier 2<sup>nd</sup> - When the first 4 nodes are a bit hard.  
Guatemala 3<sup>rd</sup> - After harvesting for human consumption but DO NOT include much of the nodes.  
Sugar cane 5<sup>th</sup> - At flowering stage.  
\*Any other grass: At flowering stage.

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Uganda, Banyatereza Sisters