

**CHARITY NUMBER: 1107507
COMPANY REGISTRATION NUMBER
04645806**

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
(A COMPANY LIMITED BY GUARANTEE)**

CONSOLIDATED REPORT AND FINANCIAL STATEMENTS

31 DECEMBER 2018

GLOSSARY OF TERMS

Company Registration No. 04545806

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AATF	African Agricultural Technology Foundation
AGRA	Alliance for a Green Revolution in Africa
AIARC	Association of International Agricultural Research Center
AMELIA	AATF Monitoring Evaluation, Learning and Improvement and Align
BASF	Baden Aniline and Soda Factory
BBSRC	Biotechnology and Biological Sciences Research Council
BMGF	Bill and Melinda Gates Foundation
BXW / BW	Banana Xanthomonas Wilt / Bacterial Wilt
CAMAP	Cassava Mechanisation and Agro-processing Project
CFT	Confined Field Trial
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
COMPRO-II	Commercial Products-II
DFID	UK Department for International Development
EIAR	Ethiopian Institute of Agricultural Research
FARA	Forum for Agricultural Research in Africa
FAW	Fall Army Worm
FOCAC	Forum for Chinese Africa Collaboration
FRC	Financial Reporting Council
FRS 102	Financial Reporting Standards 102
GBP	Great British Pound
GM/ GMO	Genetically Modified / Genetically Modified Organisms
HGBF	Howard G. Buffett Foundation
HEAL	Hybrids East Africa Ltd
IITA	Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IP	Intellectual Property
IR	Imazapyr-resistant
LLP	Limited Liability Partnership
MCMV	Maize Chlorotic Mottle Virus
MISS	Market Information Support System
MLN	Maize Leaf Lethal Necrosis
NARO	National Agricultural Research Organisation
NARS	National Agricultural Research Systems
NCRI	National Cereal Research Institute
NEPAD	New Partnership for Africa's Development
NERICA	New Rice for Africa
NEWEST	Nitrogen Use Efficiency, Water Use Efficiency and Salt Tolerant
NGO's	Non-Governmental Organisations
NI	National Insurance
NPTs	National Performance Trials
NUE	Nitrogen Use Efficient
OFAB	Open Forum on Agricultural Biotechnology in Africa
OPV	Open Pollinated Varieties
QBS	Qualibasic Seeds
PI	Principal Investigator
PPPs	Public Private Partnerships
SFSA	Syngenta Foundation for Sustainable Agriculture
SSA	Sub-Saharan Africa
SOPs	Standard Operating Procedures
SORP	Statement of Recommended Practice
spp	Species Plural
US	United States
USAID	United States Agency for International Development
VAT	Value Added Tax
WEMA	Water Efficient Maize Africa

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LEGAL AND ADMINISTRATIVE INFORMATION

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CHARITY NUMBER
1107507

COMPANY REGISTRATION NUMBER
04645806

REGISTERED OFFICE AND OPERATIONAL ADDRESS

African Agricultural Technology Foundation
C/O Arnold and Porter (UK) LLP, Level 30,
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London, United Kingdom

REGISTERED KENYA OFFICE ADDRESS:

ILRI Offices
Old Naivasha Road
P.O. Box 30709 – 00100
Nairobi

BOARD OF TRUSTEES

Ousmane Badiane, (Chair)
McLean Sibanda (retired 31 Oct 2019)
Kwame Akuffo-Akotto (retired 31 Oct 2019)
Rory Radding (Retired 15 Dec 2018)
Denis Kyetere
Johnson Irungu Waithaka (Government Representative)
Ingrid Wüning Tschol
Sylvia Horemans (Appointed 15 Dec 2018)
Shey Tata (Appointed 31 Oct 2019)
Dhalia Garwe (Appointed 31 Oct 2019)

Jennifer Thompson (Board Chair Emeritus)
Larry Beach
Stanford Blade (Retired 15 Dec 2018)
Justin Rakotoarisaona (Retired 15 Dec 2018)
Jeremy Ouedraogo
Anne Glover
George Sarpong (Appointed 15 Dec 2018)
Jessica Colaco (Appointed 15 Dec 2018)
Noble Banadda (Appointed 31 Oct 2019)

SENIOR MANAGEMENT TEAM

Ousmane Badiane	Chair
Denis Kyetere	Executive Director and Trustee
Emmanuel Okogbenin	Director Technical Operations
Moussa Elhadj Adam	Director Finance & Administration
Alhaji Tejan-Cole	Director of Legal Affairs & Board Secretary
Donald Mavindidze	Director of Commercialisation (Resigned – 29 June 2018)
Sofia Tesfazion	Director of Resource Mobilisation

LEGAL AND ADMINISTRATIVE INFORMATION (CONTINUED)

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AUDITOR

Grant Thornton UK LLP
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London EC2A 1AG

SOLICITORS

BDO Seidman, LLP
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7101 Wisconsin Avenue Suite 800
Bethesda MD 20814, USA

Ivory & Wellington
Barristers and Solicitors
Lagos: 19, Town Planning Way, Ilupeju
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Chams City, First Avenue
Central Business District – Abuja
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Arnold & Porter LLP
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BANKERS

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PO Box 30437-00100
Nairobi, Kenya

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
REPORT AND FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2018**

STRATEGIC REPORT

The Trustees present their consolidated report and audited financial statements for the year ended 31 December 2018, which disclose the company's state of affairs.

Financial review

This year's financial review incorporates two of the Charity's subsidiaries namely Qualibasic Seed (QBS) Kenya Ltd and Agridrive Nigeria Limited. The subsidiaries' details are as below: -

Qualibasic Seed Company Limited
Country of Incorporation: Kenya
Company Registration Number: PVT/2016/031638
Eastgate Road, off Mombasa Road
P.O. Box 28897 - 00100
Nairobi, Kenya

Agridrive Nigeria Limited
Country of Incorporation: Nigeria
Company Registration Number: RC 1474799
Registered Office Address: No 3, Idris Ibrahim Street, Jabi, Abuja, FCT
Head Office Address: No 1 J Allen Avenue, Bank Road,
J- Allen Bus Stop, Dugbe, Ibadan, Oyo State

AATF also works to address some of the obstacles to technology access and delivery across the food value chain from research, production, processing through to market linkages. A priority area is to improve Africa's seed system where one bottle neck is foundation seed. In 2017, in order to address this bottleneck, AATF established and is currently incubating a foundation Seed company called QualiBasic Seed Company (QBS) with the support of BMG. This will help to mitigate the problem of Foundation Seed supply, a vital missing link in the maize seed value chain in most SSA countries. Currently AATF is holding the shares in trust with the agreement to divest its shares to future shareholders by 2022. Currently there is a review to determine the optimal capital investment and shareholding and later in 2020 there will be a process to solicit and bring new shareholders onboard. The aim is to have seed companies (current customers of QBS) to form the majority of the new shareholders. In this review, there is a high likelihood that AATF will retain a shareholding of between 10-20% as compared to its current shareholding of 99%.

Agridrive is a social enterprise incorporated in Nigeria and Kenya in February 2018 as Agridrive Nigeria Ltd and Agridrive Kenya Ltd respectively. They are both owned 100% by AATF. The purpose of Agridrive is to engage in various commercial ventures in the agricultural sector for transformative agriculture development. It is operating as a separate and distinct legal entity from AATF, however, some of the profits generated by the company will be re-invested back into AATF's not-for-profit work to ensure support and sustainability of AATF institutional mission. Agridrive's first business venture is mechanisation services in Nigeria. Building on the work with CAMAP, Agridrive offers ploughing, harrowing, planting, herbicide application and harvesting to farmers on commercial basis across various crop value chains. Agridrive Kenya Ltd did not have any trading activities in the current reporting period.

AATF ownership structure in these subsidiaries is highlighted in the Notes to the accounts.

Financial review - Charity

Incoming resources for the year under review decreased marginally from US\$20.7 million in 2017 to US\$19.8 million in the current year. The reduction was majorly because the WEMA project which had a substantial annual budget came to an end during the year. TELA project which took over the transgenic portion of the WEMA project commenced during the year with a significantly reduced budget. Notably, USAID grant for the current year was substantially higher than that of the prior year. The Charity undertook four new projects during the year; three funded by the African Development Bank (AfDB) through IITA and one was funded by Alliance for a green revolution in Africa (AGRA). These four new projects contributed \$964,708 in voluntary income.

The funding received during the year was mainly from Bill & Melinda Gates Foundation at US\$11.8 million (2017: US\$15.06m). There was continued support from all past investors. Contributions from Bill & Melinda Gates Foundation, USAID, DFID and AfDB accounted for 97.5% of the total donations and legacies received in 2018.

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Total expenditure decreased to US\$16.39 million as compared to US\$22.29 million in the previous year. The expenditure largely related to outsourced research activities costs which represented 44% of expenditure for the year. There was a 30% increase in the Charity's other costs (governance) during the year under review; (2018: US\$428,508), (2017: US\$317,757). This was largely attributable to the costs incurred in the development of a new strategic plan and in implementing a new brand strategy.

Restricted funds carried forward at the end of the year are US\$4,968,013 (2017: -US\$3,405,861). Total Funds now stands at US\$11,490,032 up from US\$8,162,858 as at the end of 2017.

Financial review – Group

The group recorded a net operating income after tax for the year ended 31 December 2018 of \$ 4,220,412 against net expenditure after tax of the prior year of \$(1,517,263) mainly because of the parent company's improved performance. The subsidiaries contributed net income of \$893,238 in the current year as compared to \$82,482 in the prior year, primarily due to the effect of deferred and income tax for the period.

Group revenue decreased marginally by (1.01) % from \$ 20,813,591 in the prior year to \$ 20,603,239 for the year ended December 31, 2018. Group expenditure decreased to US\$16.38 million as compared to US\$22.33 million in the previous year.

Group cash flows from operating activities increased by 7.27% from \$ 2,208,638 in the prior year to \$ 2,369,210 for the year ended December 31, 2018. The cash flows from operating activities for the Charity increased by 54.4%. However, the subsidiaries had a negative cash flow movement due to high initial operating costs incurred in incubating these entities as compared to the revenue collected from operations. The Charity aggressively adopted a project approach in the management of costs, ensuring that all costs attributable to projects were duly allocated to restricted grants.

Key Performance Indicators for the Board of Trustees

The Key Performance Indicators of the Board of Trustees as stipulated in the Board Manual are as follows: -

- Timeliness in providing the policy decisions needed by management;
- Adequacy of documentation for decision making and adequate time to consider major issues in Board and Committee meetings;
- Quality and openness of discussions;
- Quality of decision making;
- Adequacy of planning to ensure continuous high-quality leadership for the Board and its Committees;
- Appropriate Board composition for Board functions associated with the oversight of both program and management;
- Appropriate committee structure; and
- Adequate orientation for new Trustees.

Financial risk management

The Foundation's activities expose it to a variety of financial risks, including credit risk and the effects of changes in foreign currency exchange rates. The Foundation's overall risk management programme focuses on the unpredictability of changes in the business environment and seeks to minimise the potential adverse effect of such risks on its performance by setting acceptable levels of risk.

Risk management is carried out by a committee made of staff from the organisation's finance department, technical department, legal department and the Executive Director's office.

Market Risk

(i) Foreign exchange risk

The Foundation receives its income (donations) mainly in US Dollars (US \$) and Great Britain Pounds (GBP) but incurs and pays for expenses in either Kenya Shillings or US Dollars. However, the Foundation's exposure to foreign exchange risk is minimal, and is mainly related to Kenya Shilling transactions. Invoices are settled in the currency in which they are received, hence minimal foreign currency gains/losses. Balances held in currencies other than US Dollars are as follows:

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STRATEGIC REPORT (CONTINUED)

	<i>2018</i> <i>US\$</i>	<i>2017</i> <i>US\$</i>
Cash and bank balances in KShs	198,008	270,079
Cash and bank balances in GBP	37,235	744,794
Cash and bank balances in NGN	<u>13,161</u>	<u>214,830</u>
	<u>248,404</u>	<u>1,229,703</u>

(ii) Interest Rate Risk Management

The Foundation uses a fixed negotiated rate for both fixed and call deposits to avoid such risks related to floating rate.

(iii) Price Risk

The Foundation does not hold investments that would be subject to price risk; hence this risk is not relevant.

Credit Risk

The Foundation's credit risk is primarily attributable to its unexpended grants receivable. The credit risk on liquid funds with financial institutions is also low because the counter parties are banks with high credit-ratings.

The amount that best represents the Foundation's maximum exposure to credit as at 31 December 2018 was made up as follows:

	<i>Current</i> <i>US \$</i>	<i>Past due</i> <i>US \$</i>	<i>Impaired</i> <i>US \$</i>
Grants Receivable	648,816	-	-
Other Receivables	1,548,175	-	-
Cash and short-term deposits	<u>10,479,562</u>	<u>-</u>	<u>-</u>
	<u>12,676,553</u>	<u>-</u>	<u>-</u>

The amount that best represents the Foundation's maximum exposure to credit as at 31 December 2017 was made up as follows:

	<i>Current</i> <i>US \$</i>	<i>Past due</i> <i>US \$</i>	<i>Impaired</i> <i>US \$</i>
Grants Receivable	548,427	-	-
Other Receivables	867,245	-	-
Cash and short-term deposits	<u>8,001,806</u>	<u>-</u>	<u>-</u>
	<u>9,417,478</u>	<u>-</u>	<u>-</u>

Liquidity Risk Management

Ultimate responsibility for liquidity risk management rests with the board of directors through the senior management of the Foundation. Management has built an appropriate liquidity risk management framework for the management of the Foundation's short, medium and long-term funding and liquidity management requirements. The Foundation manages liquidity risk by maintaining banking facilities through continuous monitoring of forecast and actual cash flows.

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The table below analyses the Foundation's financial liabilities that will be settled on a net basis into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table below are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances, as the impact of discounting is not significant.

	<i>2018</i>	<i>2017</i>
	<i>US\$</i>	<i>US\$</i>
Payables	<u>1,610,868</u>	<u>1,090,878</u>

Achievements and performance

AATF has made tremendous progress against performance indicators which include strengthening AATFs commercial pipeline, gender and inclusion, achieving and assessing impact at scale and financial sustainability. The following are highlights of the key achievements.

Operationalisation of Agridrive

AgriDrive Ltd, is a social enterprise wholly owned by AATF to engage in various commercial ventures in the agricultural sector as a business platform that complements AATF's initiatives in agricultural development of Africa mechanisation services, inputs and agribusiness support to farmers in Nigeria. The mechanisation services include ploughing, harrowing, planting, herbicide application and harvesting and these services are being offered on commercial basis across various crop value chains.

Qualibasic Seed Company (QBS)

QualiBasic Seed Company (QBS) has now been in operation for just over 2 years. QBS is well recognised among its customers and other stakeholders including BMGF. Significant progress has been made in this respect with seed being sold to over 30 customers in 10 countries.

Enhancing capacity of seed companies in the commercialisation pathway of AATF products

AATF continued strategic engagements with private seed companies and conducted capacity building in several areas. A total of 106 companies were reached for various interventions.

Gender and inclusion

Gender mainstreaming and inclusion continues to be an integral part of AATF. Since the approval of gender strategy (2018-2022), AATF has made significant strides in ensuring that gender is mainstreamed throughout the life project cycle. Building from the gender staff training September 2018 two major changes that have been evident is the collection of gender disaggregated data from projects; realisation of gender inequalities by staff within the countries of operations. This awareness and collection of gender disaggregated data is a major factor in conducting further analysis for effective project implementation. AATF intends to conduct gender analyses from the data collected. This is imperative in mainstreaming gender.

Implementation of the AATF strategy and business plan

The implementation of the AATF Business 2018 – 2022 is now in full swing. The branding of AATF took a center stage of the transformed AATF. Implementation has also focused on how to maximize impact through the development and socialisation of the results framework and the impact areas as well as the collection of data around the new results framework. The progress is shown in how project managers report internally on alignment with the strategy and the results framework.

AATF has also intensified its effort in commercialisation of agricultural technologies through the commercialisation strategy.

In the year 2018/2019, a total of 631,600 farmers were reached directly through AATF products/technologies, an increase from 529,363 in 2017/2018. Cumulatively a total of 1,160,963 farmers have been reached translating to about 30% of the 5-year strategy targets. Advocacy, outreach and regulatory interventions have also greatly contributed AATF reaching about 1,681,905

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STRATEGIC REPORT (CONTINUED)

beneficiaries in 2018/2019 compared to 853,100 in 2017/2018. Cumulatively at least a total of 3,695,968 beneficiaries have been reached through AATF technology options and the support in enabling environment.

Reach / scale of AATF products

The development of the institutional results framework has been a critical success factor in linking projects activities to institutional targets in the strategy. Projects such Cowpea, CAMAP, WEMA/TELA, Striga and TAAT have made good progress. AATF will continue putting systems in place to maintain high standards to ensure projects meet their required targets and support institutional improvements.

Fund raising

Fundraising results in the year 2018 show a total of 33.7M USD where 29M USD is in renewal of existing projects and 4.7M is new projects and donors. AATF continues to expand its engagement with AFDB and the TAAT program. In addition to the Maize and Policy Compact, which AATF is leading and the TAAT Cassava Compact which AATF is supporting on Mechanisation, AATF has been supporting the FAW Compact with the chemical dressing of maize seed.

Strategy and plans for future

While AATF endeavours to continue with its traditional role of accessing and adapting innovative agricultural technologies, the Strategy for 2018–2022 places more emphasis on rapid and effective deployment of these innovations to optimise impact at the farmer level.

AATF's Strategy for the next five years seeks to solidify the organisation's position as a centre of excellence for agricultural technology transfer in SSA, while continuing to excel in its established niche of negotiating technology access, stewardship and the creation of an enabling environment for innovative technologies.

During the next five years, AATF activities will be anchored in the Strategic Objectives indicated in the trustees report below.

To structure AATF's work more strategically around impact, quality and knowledge management, AATF will employ a program approach. Under this approach individual projects will contribute to common impact Areas. This will help organise and guide the design and implementation of individual projects to achieve common outcomes and maximise delivery against the Strategic Objectives. Five impact areas have been selected due to their potential to effect a broad and lasting change as well as their fit with AATF's strengths. Project clusters will be selected to align with each of the five impact areas:

1. Productivity and Stress Management
2. Mechanisation and digital agriculture
3. Market systems for commercialisation
4. Policy environment and public acceptance
5. Nutrition, food quality and post-harvest management

This new taxonomy will be incorporated into the project planning process to create a more complementary portfolio coalescing around the five areas. This will also serve to facilitate cooperation across the organisation and align the outputs/outcomes of different projects. In addition, it will serve to break down the silos of project-based work, unlocking staff potential by encouraging information sharing and the seamless portability of talent across the organisational structure, thereby creating synergy and operating efficiencies within the organisation.

The impact areas will be mainstreamed into AATF results framework and constitute a set of key performance indicators (KPIs) that will be tracked in each project.

Risk Management

Purposes and General Considerations

It is generally accepted that the full Board of Trustees has overall responsibility for risk oversight. One of the purposes of the Board as stated in the AATF Board Manual is that "Its role shall be to ensure that the future well-being of AATF is not jeopardized by exposing its financial resources, its staff or its credibility to imprudent risks".

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STRATEGIC REPORT (CONTINUED)

By establishing a Risk Management Committee (The "Committee"), AATF management wants to provide its Board with an understanding of the critical risks inherent in the Foundation's strategy. The Board will find useful information about the critical assumptions underlying that strategy that will enable it to remain alert to organisational dysfunctions that can lead to excessive risk taking. The Board will therefore be in position to provide input to executive management regarding critical risk issues on a timely basis.

The risk oversight process enables the board and management to develop a mutual understanding regarding the risks the Foundation faces over time. The AATF Executive Management has established a risk management committee to assist the Board of trustees in fulfilling its oversight responsibilities with regard to the risk appetite of the Foundation and the risk management and compliance framework and the governance structure that supports it. Risk appetite is defined as the level and type of risk the Foundation is able and willing to assume in its exposures and business activities, given its business objectives and obligations to stakeholders.

The Committee has the responsibility to:

- Review and assess risks facing the and the steps management has taken to monitor, control and report such exposures, including, without limitation, financial, technological, reputational, operational, fraud, strategic, business-continuity risk, etc
- Arrange risk assessment and management forums involving AATF Trustees and Staff
- Review reports and significant findings of the Internal and External Audits with respect to the risk management and compliance activities of the Foundation, together with management's responses and follow-up to these reports
- Review significant reports from regulatory agencies relating to risk management and compliance issues, and management's response
- Advise AATF Trustees on risks facing the AATF twice a year during normal sessions of Board
- Recommend to the Audit Committee of the Board to arrange audits pertaining to subject matters identified through risk assessment
- Recommend any necessary strategic or organisational changes as determined during risk assessment
- Prepare and issue risk assessment and management reports (on individual cases and for the year)
- Review and evaluate the Foundation's policies and practices with respect to risk assessment and risk management and twice a year present to the Audit Committee of the Board a report summarizing the Committee's review of the Foundation 's risk assessment and management reports
- Make semi-annual reports regarding, among other things, the Foundation's compliance with laws and regulations to the Audit Committee of the Board
- Escalate to the Audit Committee for discussion at a joint session of the Audit and Risk Committees items that have a significant compliance impact or that require significant financial statement/regulatory disclosures

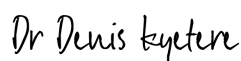
A full risk register is established annually, and the audit committee of the Board reviews the risk register two times a year.

While all risks are taken seriously, the Board and Management have identified the following to be the most critical

- Inability to attract donors and retain donors
- Reduction or Loss of funding.
- Failure to demonstrate impact

The root causes were identified and the mitigating measures put in place

Approved by the Board of Trustees
and signed on behalf of the Board



Denis T. Kyetere
Executive Director

Date 13/10/2020

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
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TRUSTEES' REPORT

The Trustees present their report and audited financial statements for the year ended 31 December 2018, which disclose the Charity's state of affairs.

Our vision, objectives, aims and activities

The Charity's vision is a prosperous and a food secure Africa. The Charity's mandate is to transform livelihoods in Sub-Saharan Africa through innovative agricultural technologies. The Charity's specific objectives are: -

- Diversify agricultural technologies accessed for use in SSA
- Accelerate commercialisation of agricultural technologies for improved farmers livelihoods
- Create an enabling environment for increased uptake and use of agricultural technologies in SSA

The Charity achieves its specific objectives above by affecting the following implementation objectives: -

- Mainstreaming Women and Youth Empowerment
- A revamped partnerships approach will take into account lessons from on-going relationships and establishment of new networks including those critical new areas such as digital agriculture and gender and youth.
- Restructuring the organisation and re-aligning skills to respond to the dynamic environment.
- Increasing and diversifying the funding base.
- Implementing a monitoring and evaluation system based on an effective knowledge management system.

African Agricultural Technology Foundation (AATF) aims to ensure food security and reduce poverty in Africa. AATF is designed to facilitate public-private partnerships to access, develop, adapt and deliver appropriate agricultural technologies for sustainable use by smallholder farmers in Sub-Saharan Africa through innovative partnerships and effective stewardship along the entire value chain. It provides expertise in the identification, access, development, delivery and use of appropriate agricultural technologies. In its quest to ensure food security and reduce poverty in Africa, AATF draws upon the best practices and resources of both the public and private sectors. It also contributes to capacity building in Africa by engaging institutions on the continent in the diverse partnerships through which it executes its mandate.

AATF uses a medium to long-term strategy to achieve its objectives. This strategy focuses on the access of appropriate technologies, developing and adapting these technologies and deploying and commercialising these technologies for impact. These strategic focus areas are the key aspects (key performance parameters) to attaining the Foundation's objectives. We anchor our activities on a strong and effective institutional programming and a conducive environment through: -

- Institutional capacity building for technology access, development, adaptation and deployment; and
- Creation of an enabling environment for technology access, development, adaptation and deployment.

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TRUSTEES' REPORT (CONTINUED)

The significant activities that contribute to the achievement of the above objectives are as follows: -

- Developing Striga control technology for smallholder maize fields.
- Developing *Maruca*-resistant cowpea varieties for use by smallholder farmers.
- Improvement of bananas resistant to banana bacterial wilt disease.
- Implementing the Water Efficient Maize for Africa (WEMA) Project.
- Developing Nitrogen-Use Efficient, Water-Use Efficient and Salt Tolerant (NEWEST) rice varieties.
- Implementation of the Cassava Mechanisation and Agro-processing Project (CAMAP).
- Open Forum for Agricultural Biotechnology (OFAB).
- Developing Hybrid Rice for use by smallholder farmers
- Seeds2B Project.
- Maize Lethal Necrosis (MLN) Diagnostics and Management.
- Development and testing of transgenic potato with resistance to bacterial wilt
- Qualibasic Seeds Project
- Technologies for African Agricultural Transformation (TAAT)

THE STRIGA CONTROL IN MAIZE PROJECT

Objective

The objective of this project is to sustainably improve maize productivity among smallholder maize producers in Kenya, Tanzania, and Uganda who rely on maize for household food security and income through control Striga weed infestation. To accomplish this, the project is scaling the commercialisation of IR-maize seed in Kenya, Tanzania, and Uganda. The implementation of this project will result in widespread access to and adoption of StrigAway technology by smallholder maize producers who rely on maize for household food security and income. StrigAway, the combination of herbicide resistant maize treated with herbicide, is a high-potential, market-proven technology that transforms productivity and income.

The Problem

The damage caused annually by Striga in SSA is estimated at US\$ 1 billion, affecting the livelihoods of more than 100 million people. Fifteen countries of eastern, southern and western Africa account for 95% of the continent's Striga infested fields. The challenge is to expand commercial access of StrigAway technology.

AATF interventions

AATF has technical expertise in commercializing IR-maize seed, having completed pilot activities since 2005 in Kenya. AATF has worked in Uganda and Tanzania with other technologies and has already developed partnerships in those countries for the commercialisation of IR-maize seed. AATF is providing support in market development, farmer training, and technology stewardship to private seed company partners who are producing, distributing, and marketing IR maize seeds to smallholder producers. Overall AATF is in charge of oversight and coordination of project partnership.

Specifically, this is done through:

- Formulation of IR maize dissemination plans in target countries
- Mobilise and build capacity of stakeholders in IR maize technology handling and use, thus assisting in product stewardship
- Addressing any bottlenecks in technology transfers to ensure effective access, delivery and uptake of the IR maize technology by seed companies, agro-dealers and farmers
- Facilitating demand creation for the IR maize technology among farmers through sustained on-farm product demonstrations, outreach and awareness campaigns, thereby encouraging investment in certified seed production by seed companies
- Support for variety evaluation, release and nomination by seed companies, so as to bring new higher yielding hybrids to market
- Facilitating compliance to seed and herbicide registration regulations in target countries
- Sustaining technology uptake and use through effective training, monitoring and evaluation, and feedback workshops, thereby enabling compliance to technology user guidelines and its long-term benefits to farmers.

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TRUSTEES' REPORT (CONTINUED)

Achievements

AATF intensified activities to drive up commercialisation by backstopping private seed companies and undertaking more engagement in market development, product awareness, farmer training, and technology stewardship. The disseminated seed is expected to boost productivity in Kenya, Uganda and Tanzania, as yields from IR resistant maize seed in Striga infested fields are significantly better (2 t/ha) than those of non-IR maize (0.5 t/ha).

Through efforts by the partner private seed companies, the Striga Control Project reported a 60% improvement in the supply of certified IR maize seed. Data from farmer fields shows that the maize grain yield advantage of the IR maize varieties over the farmers' variety averaged 2 tonnes per hectare, with the extra grain being worth about US\$ 660 per ha. The volume of seeds recently produced under this project is estimated as sufficient to reach over 150,000 households at 4kg per household. The project continued with promotion activities involving seven partner seed companies to enhance commercialisation of the IR maize in addition to seeking additional seed company participation to build high demand for the IR maize varieties.

A critical bottleneck in commercialisation being the capital cost required by the need to have separate herbicide coating dedicated treatment equipment, AATF provided cost share for the purchase and installation of a seed treatment processing lines by one private seed company partner in Kenya in 2016.

Crucial statistics:

Striga, commonly known as witchweed, is a parasitic plant that requires a living host for germination and initial development. Maize, the staple food for the majority of East Africans, has significant susceptibility to Striga and continuous cereal mono-cropping has intensified the Striga problem. Severe Striga infestations can cause between 20%-80% crop loss in maize and farmers have abandoned farmland and areas of fields with heavy Striga infestation. Striga affects approximately 1.4 million hectares in Kenya, Tanzania, and Uganda.

AATF's experience in Kenya and Tanzania has shown that the IR maize technology has great impact in the reduction of Striga effects. The technology can increase yields from 0.5 tonnes to 3 tonnes per hectare and in effect increase income and reduce poverty. Thus, IR technology is viable in addressing food security and poverty reduction across SSA especially given the importance of maize in the region. Based on the overwhelming results from Kenya, AATF is putting in place mechanisms to scale-up the technology in other countries for smallholder farmers to be food secure.

Challenges & Lessons learnt

- Open Pollinated Varieties (OPV) which were the first varieties available and commercialised could control Striga weeds but were not of exceptional high grain yield. However, seed companies in Kenya and Uganda are now embracing new high yielding hybrids.
- Capital cost required by the need to have separate herbicide coating dedicated treatment equipment.
- Funds are still required to continue with scale out activities in new countries for wider impact in Africa.

AATF is proactively engaging seed companies with binding milestone-based contracts to assist monitoring and foster compliance to agreed targets. AATF is also continuing with resource mobilisation efforts to expand the reach and impact of the StrigAway™ maize technology.

Due to lack of funds for the continuation of the Project, the AATF Management and Board have decided to discontinue the project hence will not be part of AATF projects from year 2019. We have commissioned a full impact evaluation of the project in 2019.

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THE POD BORER RESISTANT (PBR) COWPEA PROJECT

Objective

The project aims at contributing to food security and improving livelihoods of small holder farmers in sub-Saharan Africa by developing and deploying improved, high yielding farmers-preferred cowpea varieties that are resistant to the insect pest *Maruca vitrata*, commonly known as Podborer.

The Problem

The pod borer (*M. vitrata*) is a Lepidopteran pest that inflicts severe damage to cowpea. In severe infestations yield losses of between 70–80% have been reported.

AATF Intervention

AATF is addressing these problems through a combination of conventional breeding and genetic engineering of the crop to improve its productivity and utilisation.

Achievements

The first set of PBR cowpea varieties developed in the project had only one gene for resistance. Given the need to strengthen durability of cowpea resistance to *Maruca vitrata*, the project developed new PBR-lines carrying a second gene for resistance. Efficacy trials for the second gene are still ongoing. Transformation with both genes is still being optimised. Expressions of both genes when pyramided are not yet optimal and efforts towards solving this challenge are still underway. Efficacy trials for the second gene were undertaken in Ghana and Burkina Faso.

Farmer-managed confined field trials: The objectives of the trials are to expose farmers to PBR cowpea before its release and to assess the performance of PBR cowpea under farmers' production management. The trial was conducted at three sites each in Nigeria (Zaria, Minjibir and Bakura), and Ghana (Nyankapala, Mango and Damango) while the trial was conducted at two sites in Burkina Faso (Farakoba and Pobe Mangao).

Reduction of insecticide application: To control insect pests of cowpea, farmers generally spray insecticides 5–10 times to ensure a reasonable amount of grain yield, 400 kg on average. With the development of PBR cowpea, the number (frequency) of sprays are anticipated to reduce, thus saving cost and enhancing productivity. Hence, a trial was conducted in Malawi to determine the extent of reduction of sprays which the PBR technology can offer to farmers.

The project has also made advances in the development of the regulatory dossiers for the release of the transgenic PBR cowpea. The Environmental Protection Agency of the US has cleared PBR cowpea of any risks to human or animal health.

The biggest milestone is that the Federal Government of Nigeria has approved registration and release of a new Pod Borer Resistant (PBR) Cowpea variety for commercialisation. The new cowpea variety, SAMPEA 20-T, was developed by scientists at the Institute for Agricultural Research (IAR), Ahmadu Bello University, Zaria in collaboration with several partners under coordination of the African Agricultural Technology Foundation (AATF). PBR Cowpea event AAT709A was earlier in the year granted environmental release approval by the National Biosafety Management Agency (NBMA), which confirmed the product was safe for human, livestock, and the environment. This approval paved the way for submission to the National Variety Release Committee for consideration and registration of the first variety containing the PBR Cowpea trait as a commercial crop in Nigeria.

The newly registered SAMPEA 20-T is highly resistant to *Maruca vitrata*, an insect pest that causes up to 90 percent yield loss in severe infestation cases.

This new variety is early maturing (70 - 75 days) with semi-erect growth habit, insensitive to day-length, and has medium large white seeds. It is also resistant to Striga and Alectra, two notorious parasitic weeds.

The decision to release the variety means that farmers will have access to the seed that will help them significantly reduce the number of sprays they currently apply to their crop from 6 to 7 times to only 2 per cropping season and as a result realise better yield in quantity and quality. It will also contribute to addressing the national cowpea demand deficit of about 500,000 tonnes and also improve the national productivity average of 350kg/hectare.

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Expected Impact

- Increased production in Africa by at least 50 percent from 6.675 million tons to 10.150 million tons which translates to US\$ 4,567,500,000 at an average price of (\$450/tons)
- Increased yields of local varieties from 0.3 – 0.6 t/ha to 0.6 – 2.0 t/ha resulting in increased income of at least US\$270-US\$ 900
- Improved nutrition - cowpea contains 22 percent protein.
- Reduce regional grain prices by 9.5 percent, resulting in increased regional trade volume and demand by between 8.5 percent and 19.2 percent.
- Improved health linked to the reduction in insecticide herbicide sprays from about 6 to 2 times

THE BANANA IMPROVEMENT PROJECT

Objective

- To negotiate access to genes for banana bacterial wilt resistance
- To develop transgenic resistant banana varieties to bacterial wilt disease
- To conduct efficacy tests of the accessed genes for resistance to bacterial wilt disease
- To evaluate consumer acceptance, agronomic characteristics and environmental and food safety of the transgenic banana in target countries
- To deregulate transgenic banana for commercial release in Africa
- To facilitate deployment and stewardship of transgenic banana in target countries

The Problem

Banana is a major staple crop in East and Central Africa produced mostly by smallholder subsistence farmers. This crop is severely attacked by Banana Xanthomonas wilt (BXW) disease which threatens the stability of food security in the region. About 20 million people depend on bananas or plantains as their major source of dietary carbohydrates. The disease affects all banana varieties, including both East African Highland Bananas (EAHBs) and exotic dessert and beer bananas. The economic impact of the disease is potentially disastrous because it destroys whole plants leading to complete yield loss. The disease has caused estimated economic losses of about \$2–8 billion over the past decade. There are currently no commercial pesticides, biocontrol agents or resistant cultivars available to control BXW. Given the rapid spread of the disease in Africa and the lack of known genetic resistance to BXW, IITA is partnering with AATF in exploring transgenic research to improve banana resistance to the disease. Genetic transformation using three transgenes has been successfully demonstrated as effective in controlling the disease. These transgenes are now being used to develop resistant cultivars

AATF Interventions

- License and execute service agreements with IITA and partners
- On accessing genes, AATF then undertakes the issuance of sublicense to partners (IITA and NARO). AATF also ensures a Service Level Agreement is made with partners. Along terms of the agreement, AATF undertakes IP Management for all forms of IP and
- General License Compliance including license compliance visits for the genes covered under the agreements.

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THE WATER EFFICIENT MAIZE FOR AFRICA (WEMA) PROJECT

The Problem

Drought is the most important constraint of African agriculture severely affecting maize, the most important African staple food crop. Three-quarters of the world's severe droughts over the past 10 years have occurred in Africa. The WEMA partnership was formed in response to a growing call by African farmers, leaders and scientists to address the effects of drought in a way that is cost effective to African smallholder farmers.

Objective

To develop and deploy royalty-free African drought-tolerant and insect-pest protected white maize hybrids using conventional, marker assisted, and genetic modification approaches, giving at least 20–35% yield advantage under moderate drought conditions compared to commercial hybrids developed in 2008.

AATF interventions

AATF works with the internationally funded non-profit International Maize and Wheat Improvement Center (CIMMYT), the private agricultural company Monsanto, and five National Agricultural Research Systems (NARS) in five countries in eastern and southern Africa in this partnership. AATF contributes its leadership, unique experience in public-private partnership management, technology stewardship, regulatory affairs and intellectual property management, and project management expertise. CIMMYT provided high-yielding maize varieties that are adapted to African conditions and expertise in conventional breeding and testing for drought tolerance.

Monsanto provided several proprietary germplasm, advanced breeding tools and expertise, and drought-tolerance transgene developed in collaboration with Baden Aniline and Soda Factory (BASF) and insect-pest resistant transgenes. The varieties developed through the project will be distributed to African seed companies through AATF without royalty and made available to smallholder farmers as part of their seed business. The national agricultural research systems, farmers' groups, and seed companies participating in the project will contribute their germplasm, expertise in field testing, seed multiplication and distribution. The project also involves local institutions, both public and private, and in the process expands their capacity and experience in crop breeding, biotechnology and biosafety.

Summary of Achievements and Impact / Achievements

Based on the results of the independent NPTs carried out by the seed certification agency (Kenya Plant Health Inspectorate Service (KEPHIS)), three medium-maturity, DroughtTEGO® hybrids were recommended for commercial release in Kenya.

Three sets of trials using WEMA hybrids, one set from Monsanto and the others from CIMMYT, established to identify hybrids adapted to Ethiopia to fast-track their conversion into transgenics using Bt and DT (CspB) traits were harvested in quarter four (Q4) of 2017. Two WEMA hybrids ranked among the best with 10%–19% higher yield than the popular commercial check hybrids. The trials with CIMMYT germplasm were planted at three sites and mean yield ranged from 3.6–7.6t/ha depending on the site.

Selected WEMA hybrids were evaluated in the Kenya highlands to identify some commercially released DroughtTEGO® hybrids that are adapted to highland agroecologies at altitudes >1,600m above mean sea level (AMSL) to help farmers mitigate drought in this agroecology. The WEMA materials were developed for lowland and mid-altitude agroecologies. But in recent years, the project has seen farmers taking the varieties to the highlands with variable responses. The trials were, therefore, carried out to educate farmers and seed companies on suitable materials for the highlands. This will also guide in targeting transgenic drought-tolerant and insect-protected (TELA®) hybrids to the highlands in the future.

The WEMA-Wide Trials (WWT) were carried out to identify hybrids for entry into 2018 NPTs. Early- and medium-maturing hybrid sets were planted at 25–30 locations in Kenya, Uganda and Tanzania.

Significant progress has been made in breeding for combined tolerance to Maize Lethal Necrosis and drought-stress for better products to mitigate yield losses under the two stresses. New drought-tolerant hybrids were evaluated under artificial inoculation at Naivasha in Kenya to identify MLN-tolerant hybrids.

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Confined field trials (CFTs) were primarily established to test the efficacy of the Bt to control stem borer, a major insect pest of maize. The recent outbreak of FAW has rapidly spread across Africa with huge negative impacts reported on maize production. Preliminary results of the trials under natural infestation of both stem borer and FAW in Uganda and Mozambique showed that the stacked drought-tolerant (DT) and Bt insect-protected (stacked DT+Bt) TELA® hybrids yielded more than the same (isogenic) hybrids without the transgenes, with some showing statistically significant yield advantages ranging from 9%–98% better.

Expected Impact

- Increased maize yields by 20–35 percent over 2008 commercial varieties under moderate drought stress.
- Additional 2 million metric tons of maize during drought years to feed about 14 to 21 million people in the long-term.
- Improved yield stability under moderate drought to encourage investments in best management practices.
- The conventionally bred seed has been available royalty-free to small-scale farmers in SSA since 2013; while limited quantities of transgenic hybrids were available in South Africa in 2016.
- Reduced risks of crop failure during moderate drought

Key Challenge

- Outbreak of Maize Lethal Necrosis (MLN) disease and Fall Army Worm (FAW) in East Africa has limited the project's progress in terms of hindering or delaying trans-boundary seed movements and cultivation bans in certain areas. This has slowed down seed production activities and affected cultivation targets and timelines beyond the project's control.

The WEMA project activities ended on 31 March 2018 and was replaced by TELA Project that took effect from 01 April 2018.

TELA MAIZE PROJECT

The Problem

Africa is a drought-prone continent, making farming risky for millions of smallholder farmers who rely on rainfall to water their crops. Maize is the most widely grown staple crop in Africa – more than 300 million people in Africa depend on it as their main food source. Maize is severely affected by frequent drought and irregular rainfall, which lead to crop failure, hunger, and poverty. Climate change is worsening the situation. Like drought, insect pests present a challenge for smallholder maize farmers in Africa who have limited resources to effectively manage them. During drought, maize is particularly susceptible to insect pests and farmers can experience complete loss. The TELA Maize Project is, therefore, addressing the problem of drought and destructive insects including stemborers and fall armyworm.

Stemborers are known to reduce maize production in several countries in Africa. Example, in Kenya, stemborers reduce maize production by an average of 13% or 400,000 tons of maize, equivalent to the normal yearly amount of maize imported by Kenya. This damage is valued at more than USD 90 million.

The Fall Armyworm (FAW) is a new devastating, transboundary pest of maize that was first observed in Africa in 2016. If solutions are not put in place quickly, projections estimate that it could destroy up to 20 million metric tons of maize in Africa each year. This is enough to feed 100 million people. Big producers of maize, such as Nigeria and Tanzania, could lose half or more of their harvests to fall armyworm, which can decimate an entire field in just a few days.

Objective

Successful commercialisation of TELA® maize varieties through local seed companies for use by farmers to mitigate effects of climate change especially moderate drought stress and losses to stem borers (Spotted stem Borer [*Chilo partellus*] and African stem borer [*Busseola fusca*]) and Fall Armyworm (FAW; *Spodoptera frugiperda*) insect pests.

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AATF interventions

The TELA Maize Project is a public-private partnership that started in April 2018, working towards initiating commercialisation of transgenic drought-tolerant and insect-protected maize varieties to enhance food security in Sub-Saharan Africa. The TELA Maize Project builds on progress made and lessons learnt from a decade of excellent breeding work under the Water Efficient Maize for Africa (WEMA) Project. Through WEMA, over 100 conventional drought-tolerant maize hybrids (DroughtTEGO®) have been released to farmers since October 2013. In addition, five insect resistant (*Bt*) TELA® maize hybrids were released and commercialised to smallholder farmers in South Africa end of 2016.

AATF works in this partnership with the internationally funded non-profit International Maize and Wheat Improvement Center (CIMMYT), the private agricultural company Bayer, and seven National Agricultural Research Systems (NARS) in Ethiopia, Kenya, Mozambique, Nigeria, South Africa, Tanzania, and Uganda. AATF contributes its leadership, unique experience in public-private partnership management, technology stewardship, regulatory affairs and intellectual property management, and project management expertise. CIMMYT provided high-yielding maize varieties that are adapted to African conditions and expertise in conventional breeding and testing for drought tolerance and insect protection.

Bayer provided several proprietary germplasms, advanced breeding tools and expertise, and drought-tolerance and insect protection transgenes. The varieties developed through the project will be distributed to African seed companies through AATF without royalty payment (technology fees) and made available to smallholder farmers as part of their seed business. The national agricultural research systems, farmers' groups, and seed companies participating in the project will contribute their germplasm, expertise in field testing, seed multiplication and distribution. The project also involves local institutions, both public and private, and in the process expands their capacity and experience in agricultural biotechnology and biosafety.

Summary of Achievements

- Confined field trials (CFTs) on the efficacy of the transgenes conducted in Ethiopia, Kenya, Mozambique, Tanzania, and Uganda demonstrated the ability of Bt gene (MON810) to provide excellent protection against stem borers and partial but significant protection against the invasive FAW with yield advantage of over 50% of the genetically modified (GM) relative to the non-GM varieties.
- In South Africa, the newer version of Bt (MON89034) showed excellent protection against the FAW pest based on results of the five TELA® hybrids already being commercialized among smallholder farmers in South Africa. The varieties are helping farmers in South Africa to control FAW and it is making positive impacts in protecting yields that would have been lost to the pest.
- Environmental approval of Bt gene has been granted in Kenya and six TELA® Bt hybrids have been identified to enter national performance trials for variety certification or release in Kenya.
- The application for environmental approval of drought tolerance and insect protection transgenes has been submitted in Mozambique and pending approval decision.

Expected Impact

- By the end of five years, the Project will have availed to smallholder farmers through licensed seed companies at least 250 tons of certified seed of a compelling set of ten transgenic TELA® maize varieties that combine drought tolerance, insect resistance, and other important yield and disease-resistance traits.

Key Challenge

- Anti-biotechnology activism and limited political will in some countries to adopt agric-biotechnology in Africa remain the key challenge to the TELA Maize Project.

DEVELOPING NITROGEN-USE EFFICIENT, WATER-USE EFFICIENT AND SALT TOLERANT (NEWEST) RICE VARIETIES FOR USE BY SMALLHOLDER FARMERS IN SSA

Objective

This project is designed to develop transgenic farmer preferred rice varieties that are water-use efficient, nitrogen-use efficient and salt tolerant. By 2018, the project will show proof of concept, identify lead events for both NUE and NEWEST rice, chose farmer preferred varieties for introgression and carryout introgression and backcrosses.

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The Problem

Rice consumption in SSA has been growing by 6 percent per annum over the years, more than double the rate of population growth resulting in demands that far exceed local supply in SSA. The rising demand for the commodity has been largely attributed to changing food preferences in both urban and rural areas coupled with high population growth rates and rapid urbanisation in Africa. This demand and consumption rate indicate that rice is an important staple food and a commodity of strategic significance across most African countries, requiring specific interventions that target production constraints.

AATF Intervention

The NEWEST Rice project was launched by AATF in 2008 as a strategic pathway to addressing food insecurity in the face of many abiotic constraints to rice production and impending challenge of climate variability in Africa. The initiative strives to genetically transform some varieties of the New Rice for Africa (NERICA) using plant transformation technologies to improve their productivity in nitrogen-deficient soils, drought prone regions and in soils with high salinity. To ensure adoption the project will introgress the gene into the farmer prefer varieties in the respective country of deployment and commercialisation.

Achievements

The NEWEST rice project has concluded transformation activities. A total of 33 events comprising 15 Nitrogen Use Efficient (NUE) and 18 Nitrogen-use Efficient, Water-use Efficient and Salt Tolerant (NEWEST) events were developed by Arcadia Biosciences and distributed to all partners for CFTs. The 15 nitrogen-use efficient transgenic lines comprises of six and nine lines from four co-transformation pipelines respectively. While the 18 triple stacked genes events for nitrogen-use efficient, water-use efficient and salt tolerance are from two product pipelines. Both the 15 NUE and 18 NEWEST events were shipped to the partners in Crops Research Institute (CRI) Ghana, National Crops Resources Research Institute (NaCRRI) Uganda, National Cereals Research Institute (NCRI) Nigeria and International Center for Tropical Agriculture (CIAT) Colombia. The NUE events have been tested in 12 Confined Field trials in four locations (Ghana, Uganda, Nigeria and Colombia). The events were tested at four nitrogen levels (0kg, 30kg, 60kg and 90kg). As a result of all the trials, a major milestone was achieved in the NEWEST Rice Project, by completing a combined analysis of the data collected since 2012 when the confined field trials started to date. Events NUE 12, NUE 9 and NUE 2 had consistently outperformed the Bulk Sibling Nulls (BSN) and NERICA 4 (not transformed) with an average of 15% yield increase from a GGE biplot analysis. This has positioned these three as potential lead events, subject to molecular characterisation of the plants and the final results to come from Nigeria, the best will be selected as the lead event. Also, the regulatory process has commenced with the completion of the early food safety evaluation (EFSE) for NUE protein with results now in the public domain on the website of the Food and Drug Agency of America.

Expected Impact

- A total welfare gain of more than \$0.5bn could potentially be achieved if farmers adopting rice technologies are able to increase their yields by at least 30 percent.
- A reduction in rice imports leading to foreign currency savings of more than US\$300 million per year.
- Increase of household income of at least \$400 per annum.
- At least 500,000 households will be accessing or adopting the new rice varieties within the first three years after commercialisation.

Challenges and Lessons Learnt

The major obstacle in the project was the level of noise experienced in the data collected in 2013, which was identified to be caused by the small plot size used in the trials. The protocol has been reviewed and the plot size increased.

Key Benefactors of Project

This project will have direct benefit to the resource poor farmers (mostly women) in Africa, especially those with lands of poor soils, that could produce little or nothing from their lands due to low nitrogen level, drought or salinity. It will also empower African scientific and agricultural communities to better deliver other improved technologies and services to farmers in the future."

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CASSAVA PRODUCTIVITY THROUGH MECHANISATION AND AGRO-PROCESSING (CAMAP)

Project Goal

Cassava Mechanisation and Agro-processing Project (CAMAP) aims to improve cassava productivity, increase efficiency in agronomic operations, reduce drudgery as well as create market linkages for smallholder farmers in three project countries (Nigeria, Zambia and Uganda). The project is facilitating best-bet production practices among farmers by promoting the planting of improved stem varieties, timely weeding, fertiliser and herbicide application. With a view to providing sustainable environment for cassava mechanisation in the partner countries, the project has initiated mechanisms to build and support agro-service platforms which provide commercial mechanisation operations to farmers and training to service providers on enhanced mechanisation delivery and efficiency. In line with the agribusiness concept of the project, farmers are being linked to existing markets to stimulate a functionally efficient supply and demand chain for cassava. The project therefore builds a strong pull effect to strengthen needs for increased production. The project works along the whole value chain while also addressing gender issues to meet other project goals like improved income and employment for youths and women.

Project Objectives

- Negotiate access and transfer of cassava mechanisation and agro processing technologies for use by smallholder farmers
- Increase cassava production through mechanisation across the entire value chain and thus reduce post-harvest losses and demand for intensive labour
- Add value to the cassava industry through value addition and the creation of market linkages between smallholder farmers and agro processing centres
- Build the capacity of local entrepreneurs to design prototypes machines, manufacture, maintain and repair equipment for planting, harvesting and processing cassava
- Expand the utilisation of safe, quality, diversified, value added cassava products and derivatives.

The Problem

Cassava is a staple crop for 500 million people in Sub-Saharan Africa (SSA) with Nigeria accounting for 55% of the world's cassava production. Although Nigeria is the highest cassava producing country in the world with over 40 million metric tonnes, the output per unit area is still very low (9–12 tons/ha) as compared to over 25 tons/ha recorded in Asia and Latin America. The yield level on farmers' field (for landraces and improved varieties) has remained very low in SSA due to inefficient production systems. Cassava production in Africa predominantly remains manual and labour intensive; and employs traditional tools in all operations. One of the key constraints to cassava production in Africa is lack of mechanisation or appropriate production and processing tools. This remains laborious to women, and less attractive to the youths who want to go into cassava production. Yet market opportunities for cassava in Africa are limited compared to other cassava-producing regions. This situation has hindered value addition because it is farmers who have access to markets that are likely to adopt technologies which enhance productivity.

Project Overview

Mechanisation of cassava production and processing has been identified as the most important constraint to the development of the cassava sector in Africa. High labour requirement for cassava production operations include land clearing, land preparation, planting, weeding and harvesting. These high labour requirements of cassava production come with high cost over a long growing season that makes cassava production less attractive to farmers, especially youths compared with other staple crops that are less labour-intensive and require less operational costs. Other high operation costs are those related to transportation, storage and post-harvest processing. To address the problem, the New Partnership for Africa's Development (NEPAD) has launched the Pan-African Cassava Initiative, while several countries, such as Nigeria and Ghana, have started national initiatives to promote the use of cassava in industries. Cassava for large-scale use such as the mandated incorporation of 10 percent cassava flour in wheat flour for bread making in Nigeria requires a large number of small-scale cassava processing units. However, the existing capacity for manufacturing of cassava processing equipment is limited and unless it is upgraded, Africa's farmers and entrepreneurs are unlikely to benefit from the new market opportunities. The project, therefore, aims to stimulate cassava mechanisation along the product value chain to ensure increased production and value addition and on the other hand reduce post-harvest losses. Improvement of cassava production systems will be critical to maximizing its full potential as a cash crop especially for smallholder farmers.

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AATF Intervention

AATF is negotiating access, building capacity for local fabricators, backstopping enterprise development, providing stewardship of the technologies, deploying and creating market linkages through CAMAP. AATF has been providing resources for the project development, testing of the technology, overall partnership management, business enterprise development and market linkage expertise. Manufacturers in regions with appropriate technologies, but who are reluctant to supply equipment to African businesses for fear of piracy and subsequent loss of market, have been approached and they have shown interest in partnering with African entrepreneurs to produce high quality equipment.

CAMAP is a value chain approach to addressing constraints faced by smallholder cassava farmers in which not only mechanisation and agro-processing is involved, but it is a systems approach where there is the use of improved high-yielding and disease resistant cassava varieties and best agronomic practices (including optimum plant density, fertiliser and herbicides application, weeding, scheduled dates for planting and harvesting) is incorporated into the mainstream project activities. Through market linkages, CAMAP is assisting in reducing post-harvest losses by over 80%, reduce labour drudgery by 90% and significantly increase farmer income from \$700 – 900 per ha to \$2,000 - \$3,000 per ha.

Achievements

a. Mechanisation in the project countries

Nigeria: There is a strong traction in Nigeria with increasing number of farmers receiving mechanisation services directly from the project (AATF and private companies allied to CAMAP) or through other initiatives. The project is collaborating closely with the International Fund for Agricultural Development (IFAD) (through its Value Chain Development Project), Niji Farms and the National Center of Agriculture Mechanisation (NCAM). The project targeted mechanisation operations (ploughing, harrowing, spraying, planting, weeding and harvesting) in eight states (Oyo, Ondo, Kwara, Ogun, Osun, Ekiti, Delta and Edo). For the period Nov 2017 and Mar 2018, the project harvested 1240 ha (with average yield of 26 t/ha).

Zambia: Between Nov 2017 and March 2018, a total of 327ha was identified to be suitable for mechanisation. In addition to these operations a total of 120ha was harvested through mechanised diggers.

CAMAP created market linkages with two companies (GroAfrica and Total Land Care) for its farmers. In the business linkage created, all CAMAP farmers in Zambia were able to sell their cassava roots (as dry chips) and stems. GroAfrica purchased more than 540 tons of dried cassava chips while Total Land Care purchased cassava stems. Approximately USD 79,693 was generated from this market linkage and this has resulted in increased mechanisation services in Zambia for 2017/2018 production season. Within the reporting period, CAMAP received a new request from the Kaputa Royal Establishment for the mechanisation of 500ha of cassava. CAMAP is currently providing technical guidance on the request.

To solve the problem of persistent broadleaf weeds on farmers' fields, the project team with technical assistance from Syngenta Company recommended a combination of herbicides to control the weed challenge on the field. This application has been very effective as most cassava farms have shown improvement in weed control.

Uganda: A total of 250ha was validated as suitable for mechanisation. The areas of land covered per operation were 260ha ploughed, 100ha harrowed, 60ha sprayed, and 110ha planted. A total area of 80ha was mechanically harvested.

b. Revolving Fund

The revolving fund began full swing operation in 2016 where smallholder farmers would pay for mechanisation services for their pieces of land on full cost recovery. This noble idea contributes to the sustainability of the project as the money paid by the farmers is used to reach out to more farmers and for servicing the project equipment. This approach to implementation of the project is helping to reinforce the concept of agri-business among smallholder cassava farmers. The revolving fund provided that farmers pay up 50% of the total sum of all mechanisation operations (ploughing, harrowing, herbicide application, cultivation, and harvesting) before commencement of works and the balance is paid upon completion of activities or harvest of their cassava. The 50% payment approach was meant to have financial inclusion aimed at motivating small holder farmers who are not financially able to mechanise their farms. Through this method, farmers have the opportunity to raise the needed funds over a period.

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c. Demonstration Farms

CAMAP in partnership with three smallholder farmers established demonstration farms on cost sharing basis at a ratio of 50:50 (two are 40ha each and the third farm is 16ha). The idea of the demonstration farms is to create awareness on the benefits of mechanisation and generate income generation for both CAMAP and farmers. AATF's part of the income from the demo will be ploughed back through the Revolving Fund set for the project. The demos also served as a learning platform for farmers. The project is driving for full commercialisation of mechanisation with client farmers with a view to achieving, in the minimum, a full cost recovery for all its operations.

Market Information Support System (MISS)

AATF designed a Market Information Support System (MISS) which is an interactive marketing platform where all cassava value chain players can access information vital to trade. These value chain players include financial providers, input suppliers, farmers, mechanisation service providers, processors as well as machine technicians. The MISS will allow users to log in and access information on value chain parameters, for example a processor will be able to access the list of farmers around his area with ready tubers for market. Farmers can access price information of various cassava products on the system. Farmers can do query search on the system regarding available input providers, locations of service providers, cost of service and which financial institutions can support them. Financial service providers may log into the system to track farmer activities and progress before guaranteeing them a loan for expansion. This system will be moderated by the project team to guarantee credibility of the information provided on the platform.

Challenges and Lessons Learnt

The challenges faced during the year included the following.

- Reluctance and unwillingness of (Small-Scale Enterprise) SME cassava farmers in Uganda to apply inputs. Some farmers argue that the land in Uganda is fertile and does not need additional fertilisers.
- Machines transportation from one location to another especially if the distance is long

THE OPEN FORUM ON AGRICULTURAL BIOTECHNOLOGY IN AFRICA (OFAB)

Objective and AATF Role

- Establish and manage a range of platforms to enhance understanding of biotechnology in agriculture for productivity;
- Contribute to informing policy decision making processes on matters of agricultural biotechnology through provision of factual, well researched and scientific information;
- Forge strategic alliances for optimisation of resources through convening and encouraging inter-institutional networking and knowledge sharing in the agricultural biotechnology space;
- Enhance targeted capacity strengthening that will improve communication across all sectors interested in biotechnology for African agricultural development.

The Problem

AATF established OFAB in recognition of the potential that biotechnology offers towards agricultural development in SSA and the need for its active participation in creating an enabling environment for adoption of new technologies by smallholder farmers in order to support it effectively implement its strategies and catalyse change in African agriculture.

Achievements

OFAB is globally recognised as a credible biotech advocacy platform in SSA and has built a global network to bolster its advocacy and communication efforts in Africa. For example, OFAB is a founding member of the Cornell Alliance for Science Growth and has expanded its mission from one chapter in 2006 to seven chapters - Kenya, Nigeria, Ghana, Uganda, Burkina Faso, Tanzania, and Ethiopia –

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currently. AATF advocacy platform significantly contributed towards creating an enabling environment for biotech uptake in SSA. OFAB successfully engaged grassroots communities on benefits and safety of GMOs through sustained community mobilisation program in collaboration with relevant local bodies in target countries. It has enhanced media outreach campaigns leading to significant positive changes in media coverage of biotechnology in all the countries where it operates. This has increased biotech awareness and knowledge in the OFAB countries. OFAB raised additional funds to drive up its advocacy efforts at the grassroots and 'grasstops' (policy advocacy). It has leveraged resources from partner institutions to expand its reach.

As part of its high-level policy outreach activities, OFAB organised a high-level conference on use of science, technology and innovation (STI) in harnessing African agricultural transformation in Kampala, Uganda on 27–29 September 2017. The event brought together several high-level policy makers, including Uganda's Prime Minister, Agriculture Minister and Science, Technology and Innovation Minister (Figures 28 and 29). Over 150 delegates from all over the world attended the meeting. The conference created the necessary momentum that led to the passage of the Uganda Biosafety Bill 2012 into an Act of Parliament.

Since 2017, OFAB has successfully held annual OFAB Africa Media Awards in recognition of the role of the media in enhancing knowledge on agricultural biotechnology and rewarding excellence in science journalism -- particularly reporting on agricultural biotechnology in Africa. The annual Media Awards by the project is conducted first at country level (in each of the seven chapters) and winners from three categories; Television, Radio and Print and Online from the chapters compete for the overall Africa-wide award that is held annually. The OFAB Africa Media Awards has contributed immensely to enhanced quality and frequency of media reporting on biotechnology in Africa while at the same time building the capacity of journalists to understand agricultural biotechnology and improve evidence-based policies on agricultural biotechnology in the continent.

A book on OFAB successes over the last 10 years, OFAB: A Decade of Success, 2006–2016, was officially launched by the Ugandan STI Minister

Challenges and Lessons Learnt

Political will (political support) for biotech has been found critical for biotech adoption. AATF has therefore intensified high-level policy advocacy and communications campaigns to mobilise political goodwill and support for biotech through OFAB. Efforts are being made to enhance high level outreach to build visibility and inclusion in decision making.

Grassroots support for biotech is vital for two reasons: boost confidence of policy makers to support the technology and back up their support with science-based policies. AATF made a strategic decision to engage grassroots communities on benefits and safety of GMOs through sustained community mobilisation programs through OFAB in Kenya, Uganda, Tanzania, Ethiopia, Burkina Faso, Ghana and Nigeria.

Information sharing and awareness creation without a sustained, well-designed advocacy campaigns is not enough to bring about strong public acceptance that would lead to adoption of the technologies. All country partners are now strongly encouraged to build awareness as part of policy change advocacy.

The media (mass and social) support for biotech is a strong booster of public acceptance of biotech products. Proactive engagement and capacity strengthening of journalists on science reporting is helping in building informed and empowered reporters. Involvement of project communications staff at AATF and country levels in advocacy has further helped to expose them to a bigger perspective on biotech; and have also given them a chance to communicate issues raised in outreach efforts to a wider public (masses) for awareness creation and transparency i.e. CFTs in Kenya, Uganda, Tanzania and Mozambique.

Advocacy is an expensive exercise which requires adequate resources to undertake and achieve desired results. As mentioned above, OFAB raised additional funds to drive up its advocacy efforts at the grassroots and 'grasstops' (policy advocacy) levels. Efforts for more funding ongoing and to leverage resources from partner institutions to expand its reach.

The anti-biotech movement has been globalised and efforts to counter it ought to be globally networked as well, but with strong local presence and action. OFAB has built a global network to bolster its advocacy and communication efforts in Africa. These partnerships are encouraged and will continue to ensure global presence with local attention. To reduce public distrust of government institutions due to the history of compromise on the part of its officials, AATF has encouraged officials to engage with media more often to showcase their capacity to regulate GM technology especially. Encourage government agencies to engage the public more frequently. Endorsement of biotech by National and regional trade associations, farmer organisations has also significantly helped to boost chances of acceptance of GM technology.

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DEVELOPING HYBRID RICE FOR USE BY SMALLHOLDER FARMERS IN SUB-SAHARAN

Objective

The hybrid rice project aims to improve food security and rural livelihood among African small-scale rice producers, by developing hybrid rice, with its significant yield advantage and create sustainable hybrid rice agro-businesses to support rice farming in East, West and Southern Africa. Over a 15-year period the project expects to enable African researchers and seeds producers to reach 500,000 rice farmers with hybrid rice that delivers a yield advantage of at least 1 ton per hectare over the most competitive inbred varieties.

The Problem

Rice (*Oryza spp*) is an important staple food and a commodity of strategic significance across much of Africa. Driven by changing food preferences in the urban and rural areas and compounded by high population growth rates and rapid urbanisation, rice consumption in SSA has increased by 5.6 percent per annum over the years, more than double the rate of population growth. However, the area under rice production in SSA has stagnated at about 8 million hectares producing about 15.5 million tonnes per year against an annual consumption of 27 million tonnes. These production and consumption trends imply a production deficit of about 11.5 million tonnes per year valued at US\$ 4 billion that is imported annually. Thus, the rice production deficit presents a great development challenge to governments and development agencies in SSA. The slow growth in domestic rice production has been attributed to mostly to the very low yield being achieved by rice farmers in SSA.

AATF Intervention

AATF is working with to develop hybrid rice, with significant yield advantage. The partnership is developing hybrid rice germplasm that is adapted to African conditions using the 2-line hybrid rice technology, which uses only 2 breeding lines to produce rice hybrids. Also being developed in the project is, an information technology tool with interpolated weather surfaces to predict temperature regimes and manage 2-line hybrid rice production risk. The project is being managed by AATF in a way which ensures that technology partners focus on their technical work and that the outputs of the project contribute to global public goods. AATF is also providing a connection to the African seed sector researchers and seed firms. AATF provides an in-depth understanding of African seed companies and the NARS; and provide links between the partners - Hybrids East Africa Ltd (HEAL), and the researchers and seed firms that the project trained. The widespread testing of hybrids in association with regional collaborators will result in global public goods by selecting successful germplasm for global distribution along with the data, to create a strong, viable and sustainable 2-line rice hybrid breeding platform which will add value to hybrid rice breeders and seed producers all over Africa and the globe.

Achievements

The hybrid rice project has recorded good progress in the management of public private partnerships (PPPs), breeding activities and the development of IT tools to successfully predict where and when to breed and produce seed.

The project continued with advanced activities towards the release of the first-generation indigenous products of hybrid rice for Africa. The distinctiveness, uniformity and stability (DUS) testing of the four recommended hybrid rice genotypes was completed in Kenya. The results led to the release of three out of the four hybrids submitted to the National Varietal Release Committee in February 2018. The released hybrids were exclusively allocated to three private seed companies which committed their resources to the testing of the hybrids at trial stages of the development research. Additional breeding activities for the development of superior parental lines towards producing a second generation of hybrid products is planned for the second phase of the project.

The project

The project has led to a change in practice on hybrid rice system in Africa. Hybrid rice is now being developed in Africa by an African company for use in Africa. This is in comparison to the former practice of importing hybrid rice developed outside Africa for evaluation in Africa. Four seed companies (local and regional) that had never been involved rice production before are now involved in the testing of the rice hybrids as potential crop for the diversification of their crop portfolio. In this regard, the companies have already acquired the parental lines from the project and are currently conducting performance test in Tanzania, Nigeria, Ghana, Kenya and Zimbabwe. The project has trained 49 rice value chain personnel in key areas of 2-line hybrid rice production system – evaluation

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and selection of rice hybrids, production of quality seeds, breeding and development of 2-line rice hybrids and establishment of hybrid rice demos, to ensure sustainability.

Expected Impact

- Development of 2-line hybrid rice germplasm that is adapted to African conditions.
- Increased yields of at least one ton over the best commercial varieties available for use by smallholder farmers.
- Development of skills of seed companies in 2-line hybrid rice technology
- Development of web-based IT tool for predicting hybrid rice production environment

Challenges and Lessons Learnt

A major constraint is that it is difficult convincing small (or even a large) African seed companies to invest in hybrid rice seed business. Also, although the product of the project is meant to be public goods, most seed companies want exclusive right to those products. The companies are going to have exclusive right to any hybrids they develop using only one parental line from the project.

Key Benefactors of Project

The key benefactors are seed companies, scientist, rice farmers (Male and Female), millers and research Institutes in Africa."

SEEDS2B / PASTA PROJECT

Objective

The Seeds2B / PASTA Project aims to engender agricultural transformation in Sub-Saharan Africa (SSA) by leveraging public-private partnerships to bridge the gap between breeders, local seed companies and smallholder farmers in SSA. The project purpose is to develop and implement scalable business models that will enable technology donors across the globe, from the private and public sector, to license appropriate improved crop cultivars to seed companies in SSA. By adding new commercially viable products to the portfolios of local seed enterprises, the Seeds2B Project helps smallholders in the region access improved seed and therefore serve existing and new markets with the best of locally grown produce.

The Problem

Limited smallholder farmer access to quality seed of a range of new improved varieties of key cash and subsistence crops presents a major bottleneck to food security in sub-Saharan Africa (SSA). Adoption rates of modern crop varieties remains low across the region. This situation persists despite increased global public and private investment in the development of innovative improved crop cultivars with potential to address challenges faced by smallholders in SSA. Scalable business models that sustainably expedite smallholder access to quality assured planting materials of such improved crop cultivars is critical for the enhancement of agricultural productivity in SSA.

AATF interventions

Facilitated by the Syngenta Foundation for Sustainable Agriculture and USAID, AATF is developing scalable business models founded on equitable public-private partnerships to expedite deployment of quality seed of new better-performing, locally adapted and market-appropriate crop cultivars to smallholder farmers in SSA via local seed enterprises. The Foundation is focused on enhancing yields of non-core crops with significant local demand and high value vegetables. Through the Seeds2B Project, AATF aims to contribute towards improving smallholder productivity, facilitating returns on investments in crop breeding for technology owners and enhancing business performance of Africa's seed enterprises.

AATF will negotiate on behalf of seed enterprises in Africa for access to appropriate improved crop cultivars. The Foundation will also oversee the management of ensuing business relationships between participating local seed enterprises and technology owners to ensure benefit for all project partners and more so smallholders in SSA. Supported by AATF, participating seed enterprises will impart sustainability to the project by availing improved seed varieties to farmers. The local seed enterprises will benefit from reaching new markets through an expanded variety catalogue. The Foundation will also facilitate recovery of investment to technology owners

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leading to enhanced returns on investments in technology development. The returns will either be monetary or non-monetary in nature depending on the mandate of the technology owner. While monetary returns will primarily be realised as seed royalties, non-monetary returns will be in the form of data on farmer livelihood enhancement on technology adoption. AATF and local commercial partners will promote commercially viable products accessed by the project to farmers. This will be carried out during on-farm trials demonstrations and open-days in research fields. The Foundation will also carry out capacity enhancement on best agronomic practice towards ensuring that farmers benefit from adopting products commercialised by the project.

AATF will sustainably scale the seeds2B concept across SSA by implementing a scalable business-based approach to technology transfer and promotion of farming as a business.

Achievements

A first season of registration trials for sorghum and pearl millet trials were established in Zimbabwe. Pre-commercial tomato trials were also established in Zimbabwe. The project also conducted first season soybean and groundnut trials in Malawi and Zimbabwe. Field management and data collection is currently ongoing. With a view to catalysing product commercialisation, seeds of selected sorghum, pearl millet and tomato hybrids (from finalised project trials) were provided to 7 local seed companies in Zimbabwe for their evaluation, selection and uptake of their most preferred lines. In Malawi, tomato seeds of selected varieties (from finalised project trials) were provided to a seed company in Malawi for their evaluation.

In efforts to expand project impact, Uganda was selected from a list of four Feed the Future target countries by a Steering Committee comprising representatives of USAID, AATF and SFSA. Seed sector stakeholders in Uganda, including USAID, seed enterprises, non-governmental organisations and the national agricultural research system were engaged in February 2018 to facilitate project initiation in the country.

AATF successfully facilitated the evaluation of high potential tomato (25), sorghum (16), pearl millet (10) and soybean (6) cultivars in Malawi and Zimbabwe. The evaluated cultivars were accessed from 11 breeders and developed through public and private funded conventional plant breeding initiatives. The participating breeders are based in the global south and SSA, specifically Nigeria, Mozambique, Brazil, India, China and Australia.

The performance, adaptability and market acceptance of accessed cultivars was benchmarked against local checks in small-scale on-station field trials. The trials aimed to identify commercially viable products based on positive interactions between genotype, environment and markets. The outcomes of these trials determine suitability to farmer and market preferences as well as commercial potential, which is key for commercialisation by seed companies. The trials inform nomination of products for on-farm and on-station regulatory and marketing trials.

Evaluation trials identified 11 sorghum, 5 pearl millet and 8 tomato cultivars with potential to offer benefits to smallholders in Malawi and Zimbabwe. Compared to local checks applied, the promising sorghum and millet cultivars offer yield enhancements ranging from 5% to 40%, drought escaping properties; suitability for mixed farming systems; and potential for applications in beer processing. The promising tomato cultivars offer yield enhancements ranging from 10% to over 100%; early fruiting; high fruit counts; and competitive shelf-life. Second season evaluation trials of 6 soybean varieties and first season evaluation trials of 3 groundnut varieties were also initiated in 2016.

Expected Impact

- Access to quality seeds leading to improved yields, increased household income, better livelihoods and food security for African farmers.
- Strengthened African seed systems through increased competition, better quality seed, higher seed volumes, stronger market linkages and increased income/ profits fostering a virtuous circle of investment in African seed companies.
- Effective link with untapped markets in Africa for international technology owners leading to more returns on their investment in technology development.
- Reduced barriers to trade and investment in the African seed industry.
- Enhanced capacity for partner institutions, particularly national agricultural research systems and technical trial partners, on technology transfer and seed business management.

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Challenges

The full potential of the trial entries may have not been achieved during the evaluations due to unprecedented drought and floods as well as elevated disease and pest pressure which negatively affected trial outcomes. These stresses were brought about by global climate change. Engagement of trial partners with irrigation capacity and limited trial establishment during affected seasons were strategies applied to manage associated risks.

MLN DIAGNOSTICS AND MANAGEMENT PROJECT

The Problem

Caused by synergistic infection of the Maize Chlorotic Mottle Virus (MCMV) and any of the Potyviruses infecting cereals, the Maize Lethal Necrosis (MLN) disease is among main challenges affecting maize production in Sub-Saharan Africa since its first detection in 2011 in Kenya. The disease causes yield losses of up to 100% (De Groote et al. 2016), thus raising food insecurity and affecting grain trade. Epidemic modelling predicts probable outbreaks in the entire SSA, including the Southern and Western Africa (Isabirye et al., 2016) if the disease is not kept at bay. The MLN disease has previously been reported and is active in Eastern and Central Africa – Kenya, Uganda, Tanzania, Ethiopia, Rwanda, South Sudan and Democratic Republic of Congo.

Objective

The USAID-funded MLN Diagnostics and Management Project coordinated by the International Maize and Wheat Improvement Centre (CIMMYT) and co-implemented by AATF and the Alliance for Green revolution in Africa (AGRA) has 3 main objectives; (i) to prevent the spread of MLN, especially Maize Chlorotic Mottle Virus (MCMV), from the MLN-endemic countries to non-endemic countries in Sub-Saharan Africa; (ii) to Support the commercial seed sector in the MLN-endemic countries in producing MCMV-free commercial seed and promote the use of clean hybrid seed by the farmers; and (iii) to establish and operate an MLN Phytosanitary Community of Practice in Africa, for sharing of MLN diagnostic and surveillance protocols, and best management practices for MLN control in Africa. AATF implements the second objective which is mainly to support the commercial seed sector in target countries (Kenya, Uganda, Ethiopia, Rwanda and Tanzania) to produce MCMV-free seed, as well as promote the use of clean certified seeds by farmers in respective countries.

AATF Interventions

The project's bedrock was AATF's vast network of seed stakeholders including the private sector and National Breeding Programs across the 5 target countries. During the inception of the program, AATF in collaboration with seed stakeholders in respective target countries developed harmonised standard operating procedures (SOPs) specific to on-farm MCMV-free seed production and MLN management (available in the MLN disease portal <http://mln.cimmyt.org/>). The proven SOPs were appropriately refined and adapted to suit respective countries' geography, existing seed laws, governance and local agricultural practices. AATF has since continued to provide technical backstopping including numerous trainings and meetings to relevant seed stakeholders in target countries to efficiently execute the MLN management SOPs. AATF also actively participates in the MLN Community of Practice (COP) in Africa which was formed and operational since 2016.

Summary of Achievements

Over 1137 maize seed out-growers were trained on MLN disease management including the use of Rapid diagnostic kits in target countries. The program also made over 153 on-farm visits to monitor seed company and NARS implementation of MLN management checklists as well as 336 farmer visits to learn on MLN management practices and MLN status in their fields. An Open Data Kit (ODK) tool was developed to ensure real time monitoring of 66 seed companies on implementation and use of SOPs since 2016-2019. From analysed ODK data, 100% of partner seed companies have since put MLN management SOPs in place, and 94% of these are actively implementing the SOPs that were developed in collaboration with AATF.

To further reinforce MLN internal quality control systems in seed companies, 4,800 MLN rapid Diagnostic Kits were procured and distributed to partner seed companies coupled by one-on-one trainings. Notably, 3 major trainings focusing on MLN disease scouting, sampling and diagnosis using RDK were held in Kenya, Rwanda and Ethiopia where about 78 companies and 3 NPPOs were engaged. The program organised 6 major field days where a total of over 1,600 farmers attended and were trained of matters related to MLN management. The field days also focused on promotion of MLN tolerant hybrids in established demonstration plots where farmers were linked to seed companies commercialising MLN tolerant varieties, especially those from the WEMA pipeline. The MLN project has also developed and distributed a total of 19,000 Information, Education and Communication (IEC) materials (fliers and posters) on MLN management to relevant stakeholders during all forums. These IEC materials were translated to Amharic and Swahili for better comprehension of stakeholders in Ethiopia and Tanzania/Kenya respectively.

Notably, The University of Cambridge (Baulcombe Lab) recognised AATF as a go-to institution on GM crops deployment, regulatory affairs and expertise in MLN management. This led to the incorporation of AATF in the University of Cambridge led project titled

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Development and delivery of MCMV resistant maize lines' in collaboration with the Kenya Agricultural and Livestock Research Organisation (KALRO) and Kenyatta University. This project aimed to use genetic engineering to develop maize resistant to the maize mottle chlorotic virus (MCMV - the dominant MLN disease causing virus). Through this collaboration, a book chapter has been developed, aimed to be published in 2020 by The American Phytopathological Society (APS) titled 'Emerging Plant Diseases and Global Food Security'.

Challenges

- Farmers and seed companies had a major challenge in accessing MLN tolerant varieties. Seed companies expressed high interest in accessing MLN tolerant varieties but indicated that they did not know where to acquire them for licensing, bulking and commercialisation.
- English language comprehension among target stakeholders was a major problem in Ethiopia, Rwanda and Uganda. However, the project explored in-country partners to convey messages in local languages to stakeholders in addition to assisting in translating communication materials.
- Emerging threats such as Striga weed and FAW distract attention from MLN management issues hence compounding maize production challenges. However, this has been mitigated by an integrated management practice schedule during partner trainings.

DEVELOPMENT AND TESTING OF TRANSGENIC POTATO FOR RESISTANCE TO BACTERIAL WILT USING *PFLP* AND *EFR* GENES

Objective

The main goal of this project is to develop transgenic potatoes of the farmer-preferred variety with field resistance to bacterial wilt. The project presently focused on demonstrating proof of concept of the efficacy of transgenes in the control of bacterial wilt in potato. The aim of the Bacterial Wilt Potato Project is to modify at least one farmer-preferred variety with the following specific objectives of the project:

- To develop a plant transformation vector with the *pflp*, and *EFR* genes under the control of the 35s promoter and the *nptII* selectable marker gene
- To produce and identify at least 30 transgenic events from each of the variety 'Shangi' and 'Jalena' bearing the *pflp* gene alone, and *pflp* + *EFR* genes.
- To assess resistance to bacterial wilt of the best transgenic events bearing the *pflp* gene alone, and the *pflp* + *EFR* genes in the greenhouse.

The Problem

Potato is an important food and cash crop in Africa that is also an ideal food security crop due to its year-round production. However, its production is hampered by bacterial wilt (BW) disease caused by the soil borne pathogen, *Ralstonia solanacearum*. An investigation into the potato production system in Kenya, Uganda and Ethiopia identified that bacterial wilt (BW), seed quality and soil fertility management are among the key constraints that must be addressed to improve potato yields (Gildemacher *et al.*, 2009).

CIP and national potato experts estimated a 40% adoption of a BW-resistant potato resulting in an average 30% yield increase after a 10-year period of adoption lag time (Hareau *et al.*, 2014). However, probability of successfully developing tolerant/resistant potatoes was estimated to be 50% through conventional breeding. A much higher probability for a biotech potato since the level of resistance will be much higher, durable, using an existing popular potato variety which will also lead to higher adoption level among farmers since it is already preferred.

AATF interventions

Genetic engineering offers the advantage of introducing genes of any kind directly into a farmer-preferred variety. Not only that it overcomes species sexual incompatibility barriers it averts decades of breeding cycles involving crosses required to reduce the linkage drag of negative alleles from un-adapted varieties or wild species. Sweet pepper genes *hrap* and *pflp* genes, when transferred into potato and tomato respectively, were shown to enhance resistance against *R. solanacearum* (Huang *et al.*, 2007; Huang *et al.*, 2011). Hence, AATF partnered with CIP to transfer *Pflp* gene into at least one farmer-preferred variety and test in laboratory and greenhouse conditions to determine whether the genes confer bacterial wilt disease resistance in potato. The Project is using the farmer preferred Shangi variety that is known and grown by more than 75 percent of potato farmers in Kenya, and also has a good transformation efficiency. 'Shangi' is also reported to have spread to neighbour countries lately. It has oval tubers with cream skin and white flesh and very short, if any, dormancy. The crop has medium maturity (3-4 months) and a low yield (30-40 t/ha).

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The specific AATF interventions include:

- AATF accessed license for the genes and have the responsibility for IP management
- Core funding support to the partnership for product development
- Provide advisory on regulatory activities by identifying necessary legal and regulatory gaps including existing or missing guidelines and enhancing them.
- AATF sits on the Technical Advisory Committee to review results and project progress.
- AATF chairs the project OPSCOM.
- Leading the stewardship component of the project.

Achievements

- Approval from NBA: Contained use activity of resistance genes to BW in potato: NBA/GMO/C09/18/31 (26th January 2018 to 26th January 2023).
- Propagation of *in vitro* of 'Shangi' variety was carried out and is maintained at CIP-BecA.
- 94 transgenic events have been confirmed to have *pflp* gene and no backbone vector sequences.
- RNA extraction and cDNA synthesis has been done on all the 94 putative events for confirmation of *pflp* gene integration and to determine the correlation between *pflp* expression level and tolerance to Bacterial Wilt and affects to yield.
- The first round of greenhouse bioassays has been done to test the level of resistance of the transformed plants to bacterial wilt and three events showed higher percentages of delayed wilting symptoms compared to the Bacterial Wilt tolerant control 'Cruza-148'.

Crucial Statistics

The east and central Africa region is an important potato growing region with a combined total cultivated area estimated at 740,000 ha largely dominated by small-scale potato farms where the same diseases causes huge production losses.

Potato cultivated area in Ethiopia was estimated at 300,000 ha in 2016 and is predominantly grown during the minor season with the possibility of extension into the main season when using disease resistant varieties. In Kenya BW is found on 74 percent of the farms and can cause yield losses of up to 100 percent according to the Seed Potato Subsector Master Plan for Kenya. Similarly, in Ethiopia Bacterial Wilt disease is widespread. The crop has received increasing interest by farmers as it showed price resilience during the food price crisis of 2007/8.

Challenges & Lessons Learnt

The stacking of EFR and *pflp* genes in one construct encountered technical difficulties and hence, it was postponed to a later time and this activity was substituted by EFR-lpora events sourced from Uruguay.

QUALIBASIC SEED (QBS) PROJECT

Problem and AATF Intervention

The supply of early generation seed and more specifically foundation seeds has been a major bottleneck to the sustainable production of improved seeds of various crops for the benefit of smallholder farmers in Sub-Sahara Africa (SSA). In an effort to address this problem, the African Agricultural Technology Foundation (AATF) is incubating and nurturing a commercial for-profit company which will specialise in the production of quality foundation seeds, modelled along the same lines as other successful foundation seed entities from other parts of the world. The company's name is QualiBasic Seed Company (QBS). AATF is the shareholder and provides incubation services in Sales & Production, Legal & Secretarial services, HR, ICT, Communication and Finance. In addition, it works with seed companies to demonstrate the benefits of hybrid seed to farmers to stimulate increased demands for hybrids leading to increased demand for foundation seed from QBS.

Achievements, Challenges and Lessons Learnt

The year 2018 confirms that there is demand from seed companies to buy foundation seed from QBS. The orders, 65 tons, were well above the target of 36 tons and there were also repeat orders from 6 customers. This is reassuring and confirms the original business plan. However, the fact that actual sales were only 25.9 tons and that the projection at the end of the year were 41 tons, indicates a need of production planning and projection tightness. AATF will increase its support and attention to the production area. In addition,

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cash collection of sales is an area of concern as only 10% of the sales have been collected. QBS has established payment plans with the customers, however cash collections need to be a key KPI to ensure it is constantly monitored and reported on. Further it needs to be changed to a high probable and severity risk in the risk register as well as mitigation measures updated. Cash-flow management will be a major challenge in QBS way to sustainability, operating in a cyclical business with small to medium sized customers similarly being cash strapped. This area needs further attention to be systematically managed going forward and considerations made looking at future capital needs and investors. AATF will through its finance support look at the long-term management of this area, ensure its part of board discussions and that it gets analysed further in relation to the future capital needs underlying investor considerations.

TAAT MAIZE COMPACT

The Problem

The maize crop is a leading staple crop and important source of calories and food security to over 300 million people in Sub-Saharan Africa (SSA). However, its production is impacted by a myriad of challenges including erratic rainfall patterns due to climate change, pests and diseases. Elite climate smart maize hybrids have been developed through various breeding programs including the Water Efficient Maize for Africa (WEMA) partnership, which has released over 100 drought-tolerant (*Climate-smart*) hybrids trademarked *DroughtTEGO®*. Efforts are required to ensure that farmers can access, adopt and use these varieties. Scale up efforts need to be revamped, and more importantly facilitation of market linkages for maize grain farmers to incentivize them to adopt these elite varieties. This will ensure that small holder farmers are not only food secure, but they economically benefit by planting high yielding *Climate smart* maize hybrids.

Objective

Funded by the African Development Bank (AfDB) under its Feed Africa Strategy (2016 -2025), the TAAT Maize Compact (TMC) aims to scale out and disseminate Water Efficient and other climate smart maize technologies from WEMA, DTMA, DTMASS, STMA, IITA and NARS breeding programs across 12 countries, with a possibility of expansion to other countries. The technologies are scaled out in collaboration with both the public and private sector, and notably, with significant participation of commercial seed companies. Initially, TMC began working in Kenya, Uganda, Tanzania, Ethiopia, Rwanda, Malawi, Mozambique, Zambia, Nigeria, Cameroon, Ghana and Benin but has a potential of expanding to Togo, Democratic Republic of Congo and Central African Republic through AfDB leverage programs in 2020.

AATF interventions

AATF directly implements TAAT Maize activities in the Eastern and Southern Africa while IITA implements activities in Western and Central Africa. However, AATF conducts the overall coordination of the maize value chain. In-country supervision is conducted by appointed National Agricultural Research Systems (NARS) personnel (*TAAT Maize NARS Leads*) in respective countries.

AATF, through its expertise in deployment and in consultation with key stakeholders in maize production, has identified proven high yielding maize varieties, which were earlier licensed to partner seed companies under the WEMA project, DTMA & other breeding pipelines and facilitates scale out activities such as demo establishments, field days, distribution of small packs and conducting good agricultural practices (GAP) and post-harvest management trainings in a bid to stimulate interest and adoption by farmers, hence motivating seed companies to produce more seed due to the high demand created by AATF and its partners

Notably, AATF engages farmer groups and leverages on ongoing programs to facilitate market linkages for farmers who have adopted the promoted Climate Smart hybrids so that they can sell surplus produce with ease at profitable prices. This strategy too is in efforts to incentivize farmers to adopt these varieties due to the promise of markets for their surplus production.

Summary of Achievements and Impact / Achievements

The primary beneficiaries of maize technology transfer efforts are smallholder farmers. The maize compact endeavours to involve women and youths in the maize value chain aiming at increasing their participation by 20% and 10%, respectively. The Maize Compact identified and deployed 8 maize technology toolkits to increase productivity of maize by 2t/ha across the target countries.

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Through its PPP, the Maize Compact has currently reached 1, 027, 379 direct beneficiaries with climate smart maize hybrids commercialised, and accompanying, field days, open days, hands-on training sessions and small seed packs distribution, etc. In partnership with 50 seed companies, the Maize Compact has so far facilitated the establishment of 4,256 demonstration plots, conducted 757 field days, distributed 84,321 free small pack seeds to boost the scale up of over 16,252 tons climate smart maize seeds produced in partnership with the seed companies.

The TAAT Maize Compact also facilitated the deployment of 35,460 litres of Fortenza Duo (FD) seed treatment in Southern Africa to control the Fall Armyworm (FAW) menace which is a huge hinderance to maize productivity. The FD deployed was taken up by 14 seed

companies to treat over 6,114 tons of climate smart maize hybrids, expected to reach over 611,400 farmers by the end of 2019. Worthwhile to note, yield data collected in 2019 by the TAAT Maize team showed that FD treated seeds had a yield advantage of about **1.6t/ha** over the non-FD treated seeds.

Expected Impact

- Reach at least 2 million households; 12 million farm family members in the 12 countries.
- Increase maize productivity by at least 30%
- Enhance incomes by at least 20% for those households involved in the maize value chain
- At-least 20%-women and 10%-youth involvement in the maize value chain by 2020
- 12 million tons of maize grain generated from the Maize value chain

Key Challenge

- Budget cut within the TAAT Program.

Mitigation: Tapping into AfDB Country leveraged funds as well as postponement of other activities to TAAT II (2020)

- Emerging challenges such as MLN disease and recently FAW discourage farmers from maize farming.

Mitigation: Training on disease and pest management practices to ensure farmers get optimum production, hence willing to continue with maize production. Accompanying FAW control technologies into the TAAT Maize tool-kits ensures farmers can access these technologies with ease.

TAAT POLICY ENABLER COMPACT

The Problem

The poor agricultural productivity growth witnessed across Africa can be attributed to a large extend to weak policy, regulatory and market system that does not create a conducive environment for technology diffusion and adoption. Three challenges related to the policy and regulatory environment stand out and these underpin the work program of the TAAT Policy Compact. *First*, in most countries in Africa, the seed systems are inefficient therefore making the process of variety release unnecessarily too long and the mechanisms for quality control too inefficient. *Second*, although most Regional Economic Commissions (RECs) (ECOWAS, COMESA, SADC and EAC) have harmonised regulations on seed trade in place, cross border movement of seeds and allied agricultural technologies across similar agro-ecological zones is still weak. This is because most member states of these RECS have not domesticated regionally harmonised regulations. *Finally*, most farmers in Africa are exposed to fake and counterfeit inputs often sourced from unaccredited agro-input dealers and suppliers.

Objective

The objective of the Policy Enabler Compact is to support TAAT Commodity Compacts and other enablers by facilitating processes towards creating of an enabling policy environment for technology deployment. This broad objective will be achieved through activities that are organised along four inter-related work streams: *Seed industry assessment*; *Accreditation of Agro input dealers*; *Harmonisation of regional Seed Policies and Regulations* and *Value chain assessments to identify regulatory choke points in order to advocate for policy and regulatory interventions for enhancing value chain performance*.

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AATF interventions

AATF collaborates with CORAF, IITA, and Market Matters Inc. to implement project activities geared to creating a conducive environment to facilitate the deployment of productivity enhancing technologies in Africa. AATF and collaborating partners seek to achieve the stated objectives through a sequenced approach that starts with a rapid assessment of the seed sector and agricultural value chains to identify policy and regulatory gaps and challenges. These gaps and challenges are then subjected to stakeholder review and validation before they are packaged into appropriate dissemination media. Finally, through targeted advocacy, policy and regulatory gaps are brought to the attention of policy makers for redress. The TAAT Policy Compact also supports Ministries, Departments and Agencies (MDAs) in the process of establishing regulatory reforms through technical support and capacity building.

Summary of Achievements and Impact / Achievements

Facilitating efficient seed systems in target countries in Africa:

Seed industry assessments to identify bottlenecks around seed policy implementation were completed in 8 African countries Tanzania, Uganda, Ethiopia, Kenya, Malawi, Nigeria, Ghana, Mozambique, DR Congo and Uganda. This assessment primarily sought to identify chokepoints in the seed delivery systems that will help focus discourse with governments on policy interventions to engender efficiency in quality seed supply. Through the assessment and related advocacy, three key achievements have been recorded in the seed sector: (i) Updating the National Seed Catalogue in DRC, (ii) Strengthening provincial seed associations in DRC was achieved through the revival of the Association of Seed Producers in Katanga (APSKA) in Haut-Katanga province; (iii) The Plant Variety Protection Act was passed in Malawi and (iv) National Seed Policy was adopted in Uganda.

Supporting Harmonisation of regulations in COMESA, ECOWAS and EAC

To facilitate the implementation of regionally harmonised seed regulations in Africa, the compact managed to convene high-level policy dialogue events for both COMESA and ECOWAS regions where challenges on domestication of these regulations were identified and action plans towards addressing these challenges prioritised for implementation. In ECOWAS region, a *Regional List of Quarantine Pests for Seed* was completed and validated by the West African Seeds and Seedling Committee. Within the East African Community, the compact facilitated the completion of *Guidelines for the Testing and Registration of Biopesticides and Biocontrol Agents*. These guidelines were further adopted by the council of Ministers paving way for implementation by the partner states.

Supporting efforts towards elimination of counterfeit agro-inputs in Target Countries

To support efforts on facilitating accreditation of agro-input dealers, the Compact developed protocols for accreditation of Agro-input dealers and used these protocols to initiate the process of developing a catalogue of accredited dealers in Tanzania and Nigeria. The Compact also developed policy briefs and shared the same for consideration by regulators in Tanzania and Togo in addressing counterfeiting of agro-inputs. A highlight of actions addressed in the briefs included (i) Options for improving the capacity of quality assurance agencies, (ii) use of E-Verification (E-Tag), (iii) options for better surveillance for counterfeit products and (4) modalities for education and awareness amongst farmers.

Value chain assessments to identify policy choke points and propose regulatory interventions to enhance value chain performance.

In a bid to strengthen individual value chains, the Policy Compact completed assessment of the Small Ruminant and Poultry value chain in Mali and Ethiopia and shared the outcomes with the TAAT Livestock Compact and the wider livestock stakeholders in Ethiopia. The assessment identified key areas of convergence from past studies on critical issues that are of policy importance for this value chain. The issues were summarised into policy priority areas that will help to re-focus policy related interventions to improve efficiencies along this value chain. The TAAT Policy and Livestock Compacts are jointly planning a stakeholder workshop/policy dialogue event in Mali to validate the outcomes to set the stage for policy advocacy engagement with policy decision makers.

Expected Impact

- Better access to quality seeds facilitated by efficient seed systems in project countries. It is expected that the duration of variety release will be shorter and quality control will be enhanced.
- Access to wider range of technologies in Africa as a result of enhanced cross border movement of plant varieties and faster registration of pesticides.
- Reduced exposure of farmers to fake and counterfeit inputs as a result of tightened accreditation of agro-input dealers.

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Key Challenge

Slow response by the necessary policy decision makers coupled with long bureaucratic procedures that slows down the process of policy and regulatory reforms

Grant Making Policies

The Foundation's grant making policy for achieving its objectives is to facilitate collaboration and partnerships among competent institutions in Africa and elsewhere, responding on a project-by-project basis to the expressed needs of African farmers.

The nature of AATF's collaborations and partnerships will vary depending on the specific requirements of each project. Some AATF partnerships are primarily strategic in nature while others are operational. They may involve organisations from both the public and private sectors (public/private) or public-sector entities only (public/public) or private sector organisations (private/private). In all of its activities, AATF acts as a facilitator, with delivery and implementation carried out by public, private and NGO partners.

Management of partnerships is guided by the different partnership models that will be defined by each relationship. For each partnership entered into, AATF seeks to have clearly defined agreements that will guide expectations of the partners. It invests in understanding what it takes to make such partnerships effective and seeks to identify areas of common interest shared by different entities in order to benefit all involved.

Principal Funding Sources

During 2018, AATF continued to receive considerable support from members for programs across Africa. In addition, strong internal policies and controls have contributed to maintaining administration costs at reasonable levels. While AATF's focus is on SSA, it nevertheless offers the prospect and potential for its activities to benefit a wide range of stakeholders worldwide. AATF will facilitate partnerships and networks that link food security, poverty reduction, market development and economic growth in ways that will change the conventional approaches employed by African producers engaged in agri-business, to make these activities sustainable over time.

Investment Policy

AATF's investment objective is to maximise the return of its investment funds while generating a high degree of liquidity to allow a response to operational needs. To meet this objective AATF invests in fixed term or call deposits with a high security rating and either fixed interest rates or with a fixed relationship to base rates. Our interest rate is of course lower than what the market can offer due to our cautiousness on ensuring capital protection. During the year, there was no equity investment held by AATF. The Board of Trustees review AATF's investment policy annually.

Reserves Policy

The Trustees have examined the requirement for free reserves which are those unrestricted funds not invested in fixed assets, designated for specific purposes or otherwise committed. The policy objective is "to maximise the programme impact to beneficiaries and maximise the value of net income". The Trustees consider that given the nature of AATF's work; ideally the general reserve should preferably be in surplus, which gives flexibility to cover temporary timing differences for grant claims, adequate working capital for our core costs and will allow AATF to respond quickly in unexpected situations. As at 31st December 2018, the free reserves stood at \$5.44 million. The Trustees review the reserves policy on an annual basis in light of the new strategic policies and future commitments.

As per AATF Finance Manual, the Foundation "will maintain a general cash reserve equivalent to at least four months of annual budget unless explicitly authorised by the board to operate on a lower reserve level". The 2018 approved budget by the Board is \$20,949,605 making the total reserves to maintain be a minimum of \$6,983,202. As at the end of the reporting period, the Charity had a fund balance of US\$ 11.49M of which US\$4.97M are unrestricted funds and the balance of US\$6.52M being restricted funds. Of these funds, US\$5.44M relate to internally generated funds hence by using the budget of 2018 as the base, we had a gap of US\$1.54M in order to achieve the desired threshold of reserves (internally generated funds).

All AATF reserves are unrestricted and free upon which the Foundation can freely draw when necessary and particularly to cover:

- 1) Costs AATF will incur in case the organisation has to close down.
- 2) Seed money for AATF to continue funding new projects or new initiatives not funded by donors restricted grants
- 3) Cost of operating expenses to incur while waiting for funding
- 4) Cost of operating expenses not covered by any restricted donors' funds.

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COVID-19 and going concern

Background:

The analysis shows that the short-term effects of COVID-19 will come from the containment measures. Massive closure in business, loss of jobs and income is the results of the lockdowns. This has affected demand of agricultural produce from the rural areas. In addition, transport and logistics disruptions for agricultural commodities have also affected supply, which has led to interruptions in input supply and difficulties in accessing markets, due to restrictions of movement and border closures. This is already threatening the livelihoods of small-scale farmers. The implication is reduction in revenue for smallholder producers due to shrinking demand and disruptions in supply mechanisms. There is also a likelihood of increased post-harvest losses due to reduced market opportunities. Reversing these losses will need interventions that will support the sustainability of the production systems. (May 2020, FARA)

Further there are limited extension services except for the skeletal visit-and-train system. Farmers and processors are left without field demonstrations. Many seed companies have cancelled the annual meetings with farmers as they do not have the means to hold virtual meetings and make online purchases. For example, in Mali the process of certification and provision of seeds to be distributed to producers of certified seeds will be delayed this year. This will lead to a lack of availability of seed for the production of certified seeds by individual farmers, associations and cooperatives. (ICRISAT June 2020)

An obvious impact of the pandemic is that it has the potential to distract stakeholders from addressing pre-existing threats, such as climate change and change in ecological dynamics. It may also reduce focus on long term strategies to embrace innovative technologies. With countries focusing all the attention the crisis, they are bound to be diverted from long-term strategic goals such as CAADP and the SDGs. This may cascade into unintended negligence of clear and existing threats to food and nutrition security. For example, the first quarter of 2020 saw the number of malnourished people around the world rising due to conflicts and climate change particularly in Sahel region. In addition, the ongoing threat posed by desert locusts in East Africa remains real as swarms have been projected to grow later in the year. (May 2020 FARA)

There is no doubt that the effect of COVID-19 will have an impact on AATF's vision of a prosperous and food secure Africa and its mission to transform livelihoods in Africa South of the Sahara through innovative agricultural technologies. AATF 5 years strategy 2018-2022 seeks for food and nutrition security to increase adoption by farmers of commercialised technologies with increase yields of 20% and increase incomes of 15%. In order to still achieve these targets AATF are planning the following interventions:

1. Diversify Technologies and Accelerate Commercialisation: fast-tracking mitigation of food shortages and extending storability of food commodities

Short term interventions:

- Within the Tego maize varieties there are high-yielding short season crop variety seeds that can be planted under constrained conditions of COVID-19, including drought tolerant crop varieties. The yield advantage can be promoted and disseminated in the target WEMA countries, however also in additional countries. Additional funds are required to cover additional countries.
- In order to improve access to seed and other inputs such as pesticides and fertilizers AATF plans for its projects to create linkages with input suppliers and negotiate subsidies prices to ensure farmers can get adequate yields. This will be done first for cassava/CAMAP/AgriDrive in Nigeria, Uganda and Zambia, followed by Seeds2B project and countries Uganda, Malawi and Ghana.
- AATF will promote digital extension and advisory services, online payments and fund transfers, and virtual learning platforms.
- Linking technology adoption with financial incentives

Medium to long term interventions:

- Scaling food-bulk storage technologies to conserve the harvest (Storage infrastructure is lacking systematic maintenance and functionality)
- Nutrition enhancing commercialisation strategies. Technology roll-out should give attention to nutritional issues. Post-harvest technologies viz., the processing and storage techniques and facilities need to be compliant with human nutrition requirements and safety standards.

2. Creating an Enabling Environment: Promote sustainable food supply systems, trade and labour markets in the agri-food sector

Short term interventions:

- AATF will promote the SeedAssure, the digital seed certification and quality assurance scheme to improve efficiencies and to limit face to face interaction and travel. This will also improve access to national and international markets as it becomes easier to understand what is required and to adhere to required standards. (This will be scaled up to two additional countries with a required investment of 250k per country)
- AATF will also promote the Samawati Compliance E-Notebook which ensures compliance with Project Collaboration Agreements in terms of Governance, Biosafety Laws and Stewardship Plans.

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- Advice policy makers and government in general on policy issues evidence to support policy on various incentives to enable affordability of food, such as zero VAT rating, elimination of customs duties and other taxes on basic food; incentives on energy inputs (e.g. diesel rebate, investment into renewable energy etc.).
- Review of phyto-sanitary systems for facilitated access to essential foods (e.g. advanced pest risk analysis, harmonised regional regulatory systems for transboundary trade etc.).

Medium to long term interventions:

- Develop agribusiness capacity for processing, storage, logistics and wholesale functions, within African countries, to increase incomes, employment and improve resilience to global shocks in the medium to long term.
- Stronger focus on value addition within Africa to increase inter-regional trade and contain price fluctuations
- Promotion of emarket/traceability and pack houses to mobilise produce from producers, store and make necessary preparation for marketing.
- AATF will continue to advocate for addressing pre-existing threats, such as climate change, Locusts and change in ecological dynamics, as well remind the countries of the focus on long term strategies to embrace innovative technologies.

While AATF is taking all measures to respond to COVID-19 impact, the Foundation financials will not be impacted, rather the cash flow will be high due to reduced expenditures while the revenue will be stable.

The Foundation will be in position to meet its financial obligations for the current year 2020 and the next year 2021 and maybe beyond.

Structure, Governance and Management

The African Agricultural Technology Foundation (AATF) is a company limited by guarantee, not having a share capital and a registered Charity governed by a Memorandum and Articles of Association.

Article 8 of the Articles of Association deals with the Appointment of Trustees. The Trustees may appoint a person to be a Trustee, either to fill a vacancy or as an additional Trustee, for terms of a maximum of two terms of 3 years each (Article 8.1 read with Article 8.2). Article 8.2 shall not apply to the Executive Director or to the representative for the time being of the host country of the Charity. The term of service of the ex-officio Trustee being the representative of the host country of the Charity shall be determined by the government of the host country of the Charity. The name of host country's (Kenya) ex-officio Trustee is Johnson Irungu Waithaka.

In accordance with the AATF Articles of Association and Board Decisions, the Board shall consist of not less than seven nor more than twelve trustees. Up to ten trustees-at-large shall be drawn from academia, public sector organisations, international and local private sector companies, donor agencies, major non-governmental organisations and the Consultative Group on International Agricultural Research community; the representative of the host country; and the Executive Director (ex officio).

The Nominating Committee, which is a standing committee advisory to the Board, advises the Board on the nomination of new trustees. The Nominating Committee maintains a data bank of potential candidates for future trusteeship and considers candidates for trusteeship several years in advance in order to maintain a balanced Board in terms of the list of qualifications. The list of qualifications are geographical distribution, field of expertise, gender, availability, language and suitability for Board leadership and Committee assignments.

The decision of the full Board on the Nominating Committee advice is normally reached by consensus. In the absence of a consensus at a meeting of the Board, the Board Chairperson may, and at the request of any two trustees not including the Executive Director or the representative of the host country, shall, put the proposal to a vote.

Trustees are elected for terms of no more than three years as determined by the Board in advance of the election, with appointments staggered to ensure continuity. Trustees are eligible for re-election to a second term, also of three years, but shall not serve more than two successive terms. The term of office and the selection of the trustee appointed by the government of the host country shall be determined by the government.

At the time an individual is invited to be a candidate for trusteeship, he or she is provided with information on Board responsibilities and a sample schedule of meetings. In most cases the trustee nominee will be invited to attend a Board meeting as an observer prior to election. Following election to the Board, the new trustee receives a letter from the Board Chairperson welcoming him or her to the Board as well as background information from the Board Secretary, including the Board Manual with all annexes, minutes of the last two Board meetings and the most recent AATF Annual Report. At the first Board meeting the new trustee attends, either as a trustee

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elect or observer, he or she also has an opportunity for briefings from the Board Chairperson, senior management and program staff. The senior management are responsible for arranging the orientation briefings.

The members of the Board of Trustees are required to be experts in relevant fields such as agricultural research, agribusiness, agricultural extension, marketing, biotechnology, intellectual property law, and biosafety. New Trustees are inducted in the governing documents and policies of the AATF. The Board of Trustees is occasionally trained on emerging governance and policy management issues. Whenever need arises, the Trustees are also trained on resource mobilisation, business negotiation skills among others. The Foundation is in the process of incorporating a Trustees Training Policy into the existing Board of Trustees Manual to streamline the procedures and processes of training Trustees.

The general business of the Charity is managed by the Trustees who are charged with exercising all the powers of the Charity. The Trustees are specifically charged with expending the funds of the Charity in such manner as they consider most beneficial for the achievement of the objects, to invest in the name of the Charity such part of the funds as they may deem fit, to direct the sale of any such investments, to expend the proceeds of any such sale in furtherance of the objects of the Charity, and to enter into contracts on behalf of the Charity. The Trustees delegate the day to day management of the Charity to the Executive Director.

The relationship between the Charity and collaborative institutions is that of independent entities. Nothing in the Charity's collaborative agreements shall be construed as constituting any collaborative institution to be the agent of another or shall be construed so as to constitute a legal partnership or joint venture of any kind between the collaborative institutions.

Major Risks

The major risks to which the Charity is exposed (managing existing potential liabilities) have been identified and reviewed by the Trustees. The production and use of genetically modified organisms (GMOs) can create many potential liabilities. The producer or user of GM crops may be liable for damage caused by GM crops to the person or property of another person or to the environment. Pollen flows from transgenic crops to non-transgenic crops cause crop damage. For instance, transgenic pollen flow may ruin the "organic" status of crops or the purity of the genetic material of other seeds. Questions may arise as to whether transgenic crops or their food products are toxic, allergenic or pose a long-term health threat. Claims for compensation in actions for personal or property damage could be based on a theory of negligence, trespass, nuisance or strict liability.

The producer or user of GMOs may also be liable for infringement of intellectual property (IP) rights. This liability might even extend to farmers whose crops are accidentally affected by the presence of GMOs as a result of pollen flow or seed comingling.

The Charity has instituted the following systems or procedures to manage those risks:

- The Charity ensures compliance with IP, license and regulatory requirements for its Projects. The Charity adopts appropriate scientific and technical safeguards for all GMOs and advises stakeholders, including smallholder farmers, as to the appropriate use of GMOs.
- The Charity uses indemnification clauses in its contracts with collaborative institutions. Indemnification is a promise, usually contractual, to protect a party from financial loss.
- The Charity also uses warranty disclaimers in its contracts with collaborative institutions. A warranty, either express or implied, is a guarantee that a particular product or technology will serve a specified purpose.
- Another risk mitigation measure available to the Charity is a letter of non-assertion. A letter of non-assertion assures the user that the technology owner will not enforce its IP rights.
- The use of technology and product stewardship procedures including comprehensive risk analyses for Projects and/or phases of Projects, appropriate risk-mitigation strategies (including appropriate insurance coverage, outlining specific uses for technology, management and oversight protocols, procedures to protect confidential information, etc.), and compliance with all applicable laws.

In shaping the objectives and planning the activities of the Charity, The Trustees have considered the Charity Commission's guidance on public benefit.

The financial statements have been prepared on the going concern basis, which the Trustees consider to be appropriate in the context of the Charity's ability to meet its obligations as they fall due in the period of 12 months following the date of approval of these financial statements.

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Risk Management

In addition to the risks mentioned above in the "Structure, governance and management" section, the Board of Trustees reviews AATF's key risks regularly as part of the monitoring process. This regular review, combined with the review of controls over key financial and other operational systems carried out through a structured audit program of each country of operation have, in the past, provided AATF with adequate risk assurance. However, a more comprehensive mechanism to manage the operations of AATF has been incorporated in the new monitoring and evaluation system known as "AATF Monitoring Evaluation, Learning and Improvement and Align (AMELIA). AATF has a dedicated Regulatory Affairs Unit in charge with technological risks. Through this mechanism, risk mapping, analysis, and mitigation processes are carried out by the Trustees and management in a more structured way. It is generally accepted that the Board of Trustees has overall responsibility for risk oversight. One of the roles of the Board as stated in the AATF Board Manual is that it shall be to ensure that "the future well-being of AATF is not jeopardized by exposing its financial resources, its staff or its credibility to imprudent risks".

As such, a risk management committee has been established with the purpose of assisting the Board in executing its oversight responsibilities with regard to the risk appetite of the Foundation; the risk management and compliance framework; and the governance structure that supports it.

Financial Risk Management

The Foundation's activities expose it to a variety of financial risks, including credit risk and the effects of changes in foreign currency exchange rates. The Foundation's overall financial risk management program focuses on the unpredictability of changes in the business environment and seeks to minimise the potential adverse effect of such risks on its performance by setting acceptable levels of risk. Risk management is carried out by the organisation's finance department under policies approved by the Board of Trustees. A detailed analysis of the financial risk management for the year is described in the Strategic Report.

We do recognise however, that the nature of some of AATF's work in marginalised areas of Africa often affected by extreme poverty and conflict requires active acceptance and management of some risks in undertaking activities in order to achieve the objectives of the Charity.

To achieve AATF's vision "Prosperous Farmers and a Food Secure Africa" we endeavor to:

- Have AATF's footprint on as much of SSA as possible. To achieve this, AATF must spread its projects and activities throughout SSA beyond the current concentration in east Africa and parts of southern and west Africa;
- Broaden the range of technologies accessed beyond novel breeding techniques including Genetically Modified technologies to encompass agro-processing (value addition), biological control, etc;
- Expand the donor portfolio - to all our current and planned activities; and
- Work at ensuring exemplary relationship management of key stakeholders.

Guiding Principles

- AATF responds to a growing sense of urgency demanding that agriculture plays a stronger role in Africa's economic development. The response includes the recognition that new approaches to technology development and delivery are required.
- AATF believes that if African agriculture is to provide secure livelihoods for farm households and contribute to economic growth then the private sector must play a much more important role in technology development for and delivery to smallholder farmers.
- This strong belief in the potential of the private sector is combined with a commitment to re-invigorate public sector roles in African agriculture, ensuring that public institutions support both markets and policies for equitable development.
- AATF focuses its attention on proprietary/innovative technologies because much of it is currently unavailable to African farmers. Because such technologies encourage commercial activity, it can bring new energy to African agriculture; its importance lies in the incentives it provides for the delivery of a product.
- AATF is committed to the adoption of new technologies and to facilitating the adoption process by intervening to mitigate risks and ensure that the new technologies are deployed and used appropriately.
- AATF is committed to fostering partnerships that are based on real incentives, including the desire of emerging African enterprises to grow and prosper; the interest of farmers in acquiring the most productive technologies to improve their food security and incomes; and the commitment of donors and governments to see that those farm households with insufficient resources are helped to build their assets and experience in order to prosper.

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Core Values

As pioneers to brokering innovative agricultural technologies to farmers, and in particular to resource-poor smallholder farmers, in SSA, AATF staff uphold the following core values: integrity, dedication and accessibility (IDA).

Integrity: We uphold integrity; we keep our word and do what we say we will do by when/how. We adhere to moral principles in dealing with ourselves and partners. We seek to be honest, transparent and accountable. In recognition of our facilitative role, we provide accurate information to our partners while respecting confidences. We also base our actions on facts and present accurate reports of our progress, thus showing credibility and thriving to become the partner of choice for stakeholders in the agricultural sector.

Dedication: We are responsible partners, committed to ensuring our intended beneficiaries are well served. We seek to maintain good relations with our partners, investors, staff and other stakeholders to ensure we maximise their potential for delivering public goods. We undertake to seek required resources to ensure the success of accessing and delivering required technologies.

Accessibility: We are available and approachable to discuss and/or provide information that will support technology transfer in SSA. AATF has specialised expertise to address niche issues related to technology transfer such as technology stewardship, partnership management, regulatory compliance and intellectual property management. In recognition of the capabilities and contribution of the

various entities involved in overall agricultural revival for SSA, AATF will avail its knowledge and provide necessary information in discussions and in requests for information to support best decisions and inform opinion on the issues at hand. We respect our stakeholders' opinion and seek to learn from their experiences.

Donated Services

The Trustees are grateful to Federal Ministry of Agriculture who has provided office space in Abuja as part of their support of our work in Nigeria. It is estimated that AATF makes savings amounting to over \$18,000 on rent annually.

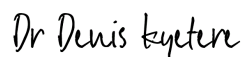
Remuneration Policy

All AATF staff pay is dictated by a salary survey among comparators, funds availability and Board approval. The survey is conducted every three years by an independent consultancy firm. Management provides the Board with the results of the survey and suggestions of what is feasible taking into account the budgetary situation of the Foundation. The Audit Committee of the Board examines the survey together with management's proposal and make its recommendation to the Board for approval.

Trustees' Indemnity Insurance

AATF has granted an indemnity to its Trustees against liability in respect of proceedings brought by third parties, subject to the conditions set out in the Companies Act 2006. Such qualifying third-party indemnity provision remains in force as at the date of approving the Trustees' report.

Approved by the Board of Trustees
and signed on behalf of the Board



Denis T. Kyetere
Executive Director

Date 13/10/2020

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
REPORT AND FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2018**

TRUSTEES' RESPONSIBILITIES STATEMENT

The trustees (who are also directors of African Agricultural Technology Foundation for the purposes of company law) are responsible for preparing the Trustees' Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the trustees to prepare financial statements for each financial year. Under that law the trustees have elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law), including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland. Under company law the trustees must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and of the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period. In preparing these financial statements, the trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP (FRS 102);
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

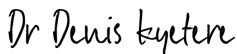
The trustees are responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The trustees confirm that:

- so far as each trustee is aware, there is no relevant audit information of which the charitable company's auditor is unaware; and
- the trustees have taken all the steps that they ought to have taken as trustees in order to make themselves aware of any relevant audit information and to establish that the charitable company's auditor is aware of that information.

The trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Approved by the Board of Trustees
and signed on behalf of the Board



Denis T. Kyetere
Executive Director

Date 13/10/2020

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION****Opinion**

We have audited the financial statements of African Agricultural Technology Foundation (the 'parent charitable company') and its subsidiary (the 'group') for the year ended 31 December 2018, which comprise the Consolidated Statement of Financial Activities, the Consolidated and Parent Balance Sheets, the Consolidated Statement of Cashflows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102; The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- give a true and fair view of the state of the group's and parent charitable company's affairs as at 31 December 2018 and of the group's and the parent charitable company's incoming resources and application of resources including, the group's and the parent income and expenditure for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We have been appointed as auditor under the Companies Act 2006 and report in accordance with regulations made under that Act. We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Auditor's responsibilities for the audit of the financial statements' section of our report. We are independent of the group and parent charitable company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

The impact of macro-economic uncertainties on our audit

Our audit of the financial statements requires us to obtain an understanding of all relevant uncertainties, including those arising as a consequence of the effects of macro-economic uncertainties such as Covid-19 and Brexit. All audits assess and challenge the reasonableness of estimates made by the directors and the related disclosures and the appropriateness of the going concern basis of preparation of the financial statements. All of these depend on assessments of the future economic environment and the company's future prospects and performance.

Covid-19 and Brexit are amongst the most significant economic events currently faced by the UK, and at the date of this report their effects are subject to unprecedented levels of uncertainty, with the full range of possible outcomes and their impacts unknown. We applied a standardised firm-wide approach in response to these uncertainties when assessing the company's future prospects and performance. However, no audit should be expected to predict the unknowable factors or all possible future implications for a company associated with these particular events.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

In our evaluation of the directors' conclusions, we considered the risks associated with the company's business, including effects arising from macro-economic uncertainties such as Covid-19 and Brexit, and analysed how those risks might affect the company's financial resources or ability to continue operations over the period of at least twelve months from the date when the financial statements are authorised for issue. In accordance with the above, we have nothing to report in these respects.

However, as we cannot predict all future events or conditions and as subsequent events may result in outcomes that are inconsistent with judgements that were reasonable at the time they were made, the absence of reference to a material uncertainty in this auditor's report is not a guarantee that the company will continue in operation.

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION (CONTINUED)****Other information**

The trustees are responsible for the other information. The other information comprises the information included in the Consolidated Report and Financial Statements on pages 1-37, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Opinion on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Directors' report, prepared for the purposes of company law, included in the **Trustees' Report** for the financial year for which the financial statements are prepared is consistent with the financial statements.
- the Strategic Report and the Directors' Report included in the Trustees' Report have been prepared in accordance with applicable legal requirements.

Matter on which we are required to report under the Companies Act 2006

In the light of the knowledge and understanding of the group and parent charitable company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report or the Directors' Report included in the Trustees' Report.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent charitable company, or
- returns adequate for our audit have not been received from branches not visited by us; or
- the parent charitable company's financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of trustees for the financial statements

As explained more fully in the Trustees' Responsibilities Statement set out on page 37, the trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the trustees are responsible for assessing the group and the parent charitable company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the trustees either intend to liquidate the group or parent charitable company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists.

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION (CONTINUED)

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charitable company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charitable company and the charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Grant Thornton UK LLP

Stephen Dean
Senior Statutory Auditor
for and on behalf of Grant Thornton UK LLP
Statutory Auditor, Chartered Accountants
London

13/10/2020

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES (INCLUDING INCOME & EXPENDITURE ACCOUNT)
FOR THE YEAR ENDED 31 DECEMBER 2018

	Notes	Restricted funds 2018 US\$	Unrestricted funds 2018 US\$	Total funds 2018 US\$	Total funds 2017 (Restated)* US\$
Income and endowments from:					
Donations and legacies	2	16,571,361	1,754,296	18,325,657	19,648,016
Charitable activities		-	1,214,555	1,214,555	849,631
Other trading activities		-	53,326	53,326	8,083
Investment income		39,490	140,602	180,092	188,527
Other					
- Gain on disposal of fixed asset		-	59,277	59,277	-
- Taxation credit		-	395,792	395,792	119,334
- Capital asset transferred-in		-	374,540	374,540	-
Total		16,610,851	3,992,388	20,603,239	20,813,591
Expenditure on:					
Raising Funds		-	1,395,491	1,395,491	502,677
Charitable activities:					
- Direct Costs	3	10,330,070	203,666	10,533,736	16,436,294
- Support Costs	3	3,164,623	860,469	4,025,092	5,074,126
- Governance expenditure	18	-	428,508	428,508	317,757
Total		13,494,693	2,888,134	16,382,827	22,330,854
Net operating income/ (operating expenditure)		3,116,158	1,104,254	4,220,412	(1,517,263)
Other gains and losses					
Exchange difference on translating foreign operations		-	28,684	28,684	(7,315)
Net income/ (expenditure)		3,116,158	1,132,938	4,249,096	(1,524,578)
Attributable to the owners of the parent		3,116,158	1,135,471	4,251,629	(1,524,062)
Attributable to non-controlling interest		-	(2,533)	(2,533)	(516)
Reconciliation of funds					
Total funds b/f – attributable to owners		3,405,861	4,832,680	8,238,541	9,762,603
Total funds carried forward		6,522,019	5,968,151	12,490,170	8,238,541

*The analysis of the 2017 comparatives has been amended to better reflect the substance of the transactions in line with the meaning of the SORP. The net expenditure remains unchanged from what was previously reported

All activities are continuing and all recognised gains and losses are included in the consolidated statement of financial activities

There were no other recognised gains or losses other than the total consolidated net income for the year of \$4,249,096 (2017: total consolidated net expenditure \$1,524,578) out of which the total net income for the charity for the year was \$3,327,174 (2017: total net expenditure \$1,599,745)

N/B: Please refer to Notes 2, 3, 14, 15 & 18 below for further details

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
CONSOLIDATED BALANCE SHEET
AS AT 31 DECEMBER 2018

Company Registration Number 04645806

	Notes	Group Consolidated 2018 US\$	Group Consolidated 2017 US\$	Charity 2018 US\$	Charity 2017 US\$
Non-current assets					
Intangible assets	9a	6,044	1,368	5,785	1,040
Tangible assets	9b	1,115,640	140,304	175,559	27,530
Investment in subsidiaries	21	-	-	12,556	9,685
Loans to group companies		-	-	432,444	-
Deferred tax asset		502,742	119,567	-	-
Biological assets	9c	68,562	5,822	-	-
		<u>1,692,988</u>	<u>267,061</u>	<u>626,344</u>	<u>38,255</u>
Current assets					
Grants debtors	10	648,816	548,427	648,816	548,427
Other debtors	11	2,742,196	710,980	1,548,175	867,245
Short term deposits		5,021,875	-	5,021,875	-
Cash at bank and in hand		5,854,010	8,764,190	5,457,687	8,001,806
Inventories		129,534	5,374	-	-
		<u>14,396,431</u>	<u>10,028,971</u>	<u>12,676,553</u>	<u>9,417,478</u>
Current liabilities					
Unexpended grant creditors	10	(9,685)	(9,685)	(9,685)	(9,685)
Capital grant		(273,914)	(70,246)	-	-
Current tax payable		(456)	-	-	-
Other creditors	12	(1,859,977)	(1,171,724)	(1,610,868)	(1,090,878)
		<u>(2,144,032)</u>	<u>(1,251,655)</u>	<u>(1,620,553)</u>	<u>(1,100,563)</u>
Net current assets		<u>12,252,399</u>	<u>8,777,316</u>	<u>11,682,344</u>	<u>8,316,915</u>
Non-current liabilities					
Provision for liabilities		(192,312)	(192,312)	(192,312)	(192,312)
Deferred grant		(1,265,940)	(614,025)	-	-
Total assets less liabilities		<u>12,487,135</u>	<u>8,238,040</u>	<u>11,490,032</u>	<u>8,162,858</u>
Unrestricted funds		<u>5,968,151</u>	<u>4,832,680</u>	<u>6,522,019</u>	<u>4,756,997</u>
Restricted funds		<u>6,522,019</u>	<u>3,405,861</u>	<u>4,968,013</u>	<u>3,405,861</u>
		<u>12,490,170</u>	<u>8,238,541</u>	<u>11,490,032</u>	<u>8,162,858</u>
Non-controlling interest		<u>(3,035)</u>	<u>(501)</u>	<u>-</u>	<u>-</u>
Total funds	14&15	<u>12,487,135</u>	<u>8,238,040</u>	<u>11,490,032</u>	<u>8,162,858</u>

These financial statements are prepared in accordance with the Companies Act 2006 and are approved by the Board of Trustees and signed on its behalf:

Dr Denis Kyetere

Denis T. Kyetere
Executive Director
DATE 13/10/2020

N/B: Please refer to Notes 9a, 9b, 10, 11, 12, 14 & 15 below for further details

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION

CONSOLIDATED STATEMENT OF CASHFLOWS
FOR THE YEAR ENDED 31 DECEMBER 2018

		Group Consolidated 2018 US\$	Group Consolidated 2017 US\$	Charity 2018 US\$	Charity 2017 US\$
	Note				
CASH FLOWS FROM OPERATING ACTIVITIES					
Cash provided by operating activities	16	2,369,210	2,208,638	3,033,639	2,003,476
Tax received		46,796	-	-	-
Net cash provided by operating activities		<u>2,416,006</u>	<u>2,208,638</u>	<u>3,033,639</u>	<u>2,003,476</u>
INVESTING ACTIVITIES					
Investment income		53,633	32,059	53,633	32,059
Purchase of assets	9	(1,197,931)	(151,249)	(225,901)	(28,217)
Purchase of intangible assets	9	(8,678)	(365)	(8,678)	-
Purchase of biological assets	9	(62,740)	(5,822)	-	-
Proceeds on disposal of equipment		60,037	10,640	60,378	10,640
Loan advanced to group companies		-	-	(432,444)	-
Investment in subsidiaries		-	-	(2871)	(9,685)
Net cash (used in) / provided by investing activities		<u>(1,155,679)</u>	<u>(114,737)</u>	<u>(555,883)</u>	<u>4,797</u>
FINANCING ACTIVITIES					
Movement in deferred grant		651,915	614,025	-	-
Net cash provided by financing activities		<u>651,915</u>	<u>614,025</u>	<u>-</u>	<u>-</u>
CHANGE IN CASH AND CASH EQUIVALENTS		1,912,242	2,707,926	2,477,756	2,008,273
CASH AND CASH EQUIVALENTS AT 1 JANUARY		8,764,190	5,993,533	8,001,806	5,993,533
Effect of translation on foreign entities		199,453	62,731	-	-
CASH AND CASH EQUIVALENTS AT 31 DECEMBER		<u><u>10,875,885</u></u>	<u><u>8,764,190</u></u>	<u><u>10,479,562</u></u>	<u><u>8,001,806</u></u>

N/B: Please refer to Notes 9 & 16 below for further details

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

1 ACCOUNTING POLICIES

Statement of compliance and basis of preparation

African Agricultural Technology Foundation is a public benefit entity, a private company limited by guarantee, registered in England and whose headquarters is in Nairobi, Kenya. The Registered Office is c/o Arnold and Porter (UK) LLP, Level 30, Tower 42, 25 old Broad Street, EC2N 1HQ, London, UK. The main country of reporting is Kenya where financial statements are prepared in accordance with the International Financial Reporting Standards (IFRS). This is also where the audit exercise is undertaken. However, since the organisation is a registered company and charity in the UK, we are required to prepare financial statements in compliance with the Charities SORP (FRS 102) "Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standards applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2015)".

The principal accounting policies adopted in the preparation of the financial statements are set out below. The financial statements are prepared on a going concern basis.

Basis of accounting

The financial statements have been prepared under the historical cost convention. The financial statements are prepared in US dollars which is the functional currency of the Company and rounded to the nearest \$, with the exception of the analysis of highest paid staff which is given in GBP sterling for clarity of disclosure compliance.

Judgements and key sources of estimation uncertainty

The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the amounts reported for assets and liabilities as at the balance sheet date and the amounts reported for revenues and expenses during the year. However, the nature of estimation means that actual outcomes could differ from those estimates. Specific areas of judgement include depreciation and useful economic lives of assets and provisions. The nature of the estimation means that actual outcomes could differ from those estimates. None of the judgements have a significant effect on the financial statements. These judgements and key sources of estimation uncertainty are set out in this section i.e. Note 1 (accounting policies) and specifically as set out in pages 44 – 47.

Income

Income is recognised in the accounts when all of the following criteria are met:

- Entitlement – control over the rights or other access to the economic benefit has passed to the charity.
- Probable – it is more likely than not that the economic benefits associated with the transaction or gift will flow to the charity.
- Measurement – the monetary value or amount of the income can be measured reliably and the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

Interest income is accrued on a time basis by reference to the principal outstanding and at the effective interest rate applicable.

Overhead income represents revenue derived from projects' grants to support these indirect costs meant to cover administrative or other expenses related to general operations that are shared among projects and/or functions and which cannot be directly allocable to a particular activity. These may include executive oversight, existing facilities costs, accounting, grants management, legal expenses, utilities and audit.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

1 ACCOUNTING POLICIES (CONTINUED)

Income (continued)

Grants are recognised as revenue upon the fulfilment of donor-imposed conditions or restrictions attached to the grants as explained below:

Structure of funds

Where there is a legal restriction on the purpose to which a fund may be put, the fund is classified in the accounts as a restricted fund. Funds where the capital is held to generate income for charitable purposes and cannot be spent are accounted for as endowment funds. Other funds are classified as unrestricted funds. Funds which are not legally restricted but which the Trustees have chosen to earmark for set purposes are treated as designated funds. The major funds held within these categories are disclosed in note 2.

Expenditure

Expenditure is recognised on an accrual basis as a liability is incurred. Expenditure includes any VAT which cannot be fully recovered and is reported as part of the expenditure to which it relates.

Other costs include those costs associated with meeting the constitutional and statutory requirements of the Charity and includes the audit fees and costs linked to the strategic management of the Charity.

Support costs

All costs are allocated between the expenditure categories of the Statement of Financial Activities on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly, and support costs are apportioned on an appropriate basis e.g. estimated usage, as set out in Note 3.

Tangible assets

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. Items of lasting value with an initial acquisition cost of less than US\$1,000 are charged to operating expenses in the year of purchase. For some donors like Bill & Melinda Gates Foundation all items valued less than US\$ 5,000 are considered operational expenses and not capital expenses.

Depreciation is provided on all property, plant and equipment, at rates calculated to write off the cost, less estimated residual value, of each asset on a systematic basis over its expected useful life as follows:

Computers and related equipment	3 years
Motor vehicles	4 years
Furniture and equipment	5 years

The carrying values of tangible fixed assets are reviewed for impairment when events or changes in circumstances indicate the carrying value may not be recoverable.

Biological assets

An entity shall recognise a biological asset or agricultural produce when, and only when:

- the entity controls the asset as a result of past events;
- it is probable that future economic benefits associated with the asset will flow to the entity; and
- the fair value or cost of the asset can be measured reliably.

Biological assets are measured at their fair value less costs to sell

A gain or loss arising on initial recognition of agricultural produce at fair value less costs to sell is included in surplus or deficit for the period in which it arises.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

1 ACCOUNTING POLICIES (CONTINUED)

Where market determined prices or values are not available, the present value of the expected net cash inflows from the asset, discounted at a current market-determined rate is used to determine fair value.

An unconditional government grant related to a biological asset measured at its fair value less costs to sell is recognised as income when the government grant becomes receivable.

Where fair value cannot be measured reliably, biological assets are measured at cost less any accumulated depreciation and any accumulated impairment losses.

Intangible assets

Intangible assets acquired separately from a business are capitalised at cost. Subsequent to initial recognition, intangible assets are stated at cost less accumulated amortisation and accumulated impairment. Intangible assets are amortised on a straight line basis over their estimated useful lives. The carrying value of intangible assets is reviewed for impairment if events or changes in circumstances indicate the carrying value may not be recoverable.

The useful economic lives of intangible assets are as follows:

Computer software	3 years
-------------------	---------

If there are indicators that the residual value or useful life of an intangible asset has changed since the most recent annual reporting period previous estimates shall be reviewed and, if current expectations differ the residual value, amortisation method or useful life shall be amended. Changes in the expected useful life or the expected pattern of consumption of benefit shall be accounted for as a change in accounting estimate.

Operating leases

Rentals payable under operating leases are charged to the Statement of Financial Activities on a straight line basis over the lease term.

Pension contributions

AATF operates a defined contribution pension scheme. The assets of the scheme are held separately from those of the company in an independently administered fund. The amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period.

AATF makes pension contributions to an offshore defined pension contribution scheme (Vanbreda International) for expatriate staff and to a local defined pension scheme (Liberty) for all Kenyan staff. The contribution made is 15% equivalent of each employee's basic salary.

Currency translation

The Foundation's financial statements are presented in United States Dollars (US\$), the functional currency. Transactions and balances expressed in currencies other than the US Dollar are treated as follows:

- Non-US Dollar grants and donations received in the year are converted to US dollars at the rates of exchange prevailing on the dates of receipt. Non-US Dollar grants and donations pledged for the year but not received by the period-end are recognised in the financial statements at the rates of exchange prevailing at the period-end.
- Non-US Dollar denominated expenditures are recorded at the average rates of exchange for the month in which they are incurred and are accumulated in US Dollars.
- Assets and liabilities that are denominated in currencies other than the US Dollar are restated into US Dollars at the rates of exchange prevailing at the period-end.
- Gains and losses arising from changes in exchange rates are charged or credited to the statement of comprehensive income in the period in which they arise.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

1 ACCOUNTING POLICIES (CONTINUED)

- Emoluments to key employees are translated from US Dollars to Great British Pound using the rate of exchange prevailing at the period-end. This disclosure is in compliance with the requirements of the SORP reporting with regard to employees whose total emoluments exceed £60,000 annually. The emoluments have been presented in bands of £10,000.

Taxation

As a Charity, African Agricultural Technology Foundation is exempt from tax on income and gains falling within Chapter 3 of Part 11 to the Corporation Tax Act 2010 to the extent that these are applied to its charitable objects. No tax charges have arisen in the Charity. The Charity is exempt from corporation tax.

Donated services

The Trustees are grateful to ARCN who has provided office space in Abuja as part of their support of our work in Nigeria. No value has been placed on this in the SOFA as it is not material in the context of the accounts.

Financial instruments

The company recognises financial instruments when it becomes a party to the contractual arrangements of the instrument. Financial instruments are de-recognised when they are discharged or when the contractual terms expire. The company's accounting policies in respect of financial instruments transactions are explained below:

Financial assets

The company classifies all of its financial assets as loans and receivables.

Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise principally through the provision of goods and services to customers (e.g. trade receivables), but also incorporate other types of contractual monetary asset. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost using the effective interest rate method, less provision for impairment. Impairment provisions are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterparty or default or significant delay in payment) that the company will be unable to collect all of the amounts due under the terms receivable, the amount of such a provision being the difference between the net carrying amount and the present value of the future expected cash flows associated with the impaired receivable. For trade receivables, which are reported net, such provisions are recorded in a separate allowance account with the loss being recognised within administrative expenses in the income statement. On confirmation that the trade receivable will not be collected, the gross carrying value of the asset is written off against the associated provision.

Financial liabilities

The company classifies all of its financial liabilities as liabilities at amortised cost. Financial liabilities at amortised cost including bank borrowings are initially recognised at fair value net of any transaction costs directly attributable to the issue of the instrument. Such interest-bearing liabilities are subsequently measured at amortised cost using the effective interest rate method, which ensures that any interest expense over the period to repayment is at a constant rate on the balance of the liability carried into the statement of financial position.

COVID-19 financial reporting

The company is aware of COVID-19 possible impacts in going concern, financial instruments, business interruption and possible delays in achieving targets. The company will develop the impact of COVID-19 accounting policies disclosures from the 2020 financial statements.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

2 INCOME FROM DONATIONS AND LEGACIES

	Restricted funds	Unrestricted funds	Total funds	Total funds
	2018	2018	2018	2017
	US\$	US\$	US\$	US\$
Voluntary Income				
USAID	3,505,414	-	3,505,414	2,638,027
DFID	-	1,754,296	1,754,296	1,863,986
Bill & Melinda Gates Foundation & Howard Buffet Foundation – WEMA Project	846,943	-	846,943	9,812,623
Bill & Melinda Gates Foundation – TELA Project	6,700,000	-	6,700,000	9,812,623
Bill & Melinda Gates Foundation – QBS Project	2,867,294	-	2,867,294	-
Bill & Melinda Gates Foundation – Other Projects	1,410,255	-	1,410,255	5,242,848
CIMMYT	55,141	-	55,141	82,626
International Institute for Tropical Agriculture (IITA)	789,822	-	789,822	-
Alliance for a Green Revolution in Africa (AGRA)	174,886	-	174,886	-
Syngenta Foundation for Sustainable Agriculture (SFSA)	214,705	-	214,705	-
Cambridge University (BBSRC)	6,901	-	6,901	7,906
	16,571,361	1,754,296	18,325,657	19,648,016

Income is analysed by geographical source of origin

	2018 US\$	2017 US\$
North America	15,599,752	17,776,124
Europe	1,761,197	1,871,892
Africa	964,708	-
	18,325,657	19,648,016

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

3. CHARITABLE EXPENDITURE

Currency USD \$	TELA / WEMA*	QBS	OFAB	COWP	HYBRID RICE	TAAT COMPAC TS**	NEWEST RICE	SEEDS2 B	STRIGA	CASSAVA	AGRA POLICY	POTATO	MLN*** /BBSRC /BANAN A	NEW PROJECT INITIATIV ES	2018 Total	Restated 2017**** Total
Outsourced Research Activities	1,269,567	933,752	1,095,791	833,804	644,872	222,647	103,002	35,238	248,052	125,110	-	163,434	-	13,202	5,688,470	10,984,554
Project Supplies	18,901	56,608	-	4,910	-	-	-	33,848	-	31,296	-	-	186	-	145,749	839,965
Travel	27,086	7,172	43,372	57,512	5,121	56,297	1,775	38,395	2,156	37,630	14,553	-	5,627	4,912	301,607	291,323
Conference & Workshops	305,477	12,894	423,458	77,558	79,150	176,172	-	83,272	-	36,932	103,561	-	20,163	8,844	1,327,481	1,767,098
Rentals	113,973	-	23,720	-	10,445	27,975	-	18,875	4,216	-	12,937	-	-504	-	211,637	223,399
Direct Staff Costs	731,464		141,717	303,246	123,243	217,693	64,088	53,024	-	20,995	6,127		8,845		1,670,441	1,538,048
Institutional Support	369,345	196,403	273,978	159,034	110,608	-	32,152	30,628	-	-	13,814	-	2,389	-	1,188,350	791,907
Cost directly allocated to activities	2,835,811	1,206,830	2,002,037	1,436,065	973,438	700,784	201,016	293,280	254,423	251,963	150,991	163,434	36,706	26,957	10,533,736	16,436,294
General Personnel Costs	995,163	274,634	227,632	316,583	58,458	-	282,714	-	-	195	129,125	-	94,757	-	2,379,259	3,214,793
Consultancy and other professional services	333,300	5,660	282,536	46,793	24,688	124,618	7,260	49,979	68,211	4,356	4,000	-	8,635	351	960,388	1,226,531
Depreciation	20,392	-	25,668	615	31,508	-	-	2,099	-	422	-	-	-	-	80,704	42,357
General expenses and supplies	123,618	1,882	96,252	127,708	31,027	20,949	6,508	17,055	35	32,058	6,932	-	35	-	463,988	566,535
Forex Losses on revaluations	86,308	-	-	54,407	-	37	-	-	-	-	-	-	-	-	140,753	23,910
Support costs allocated to activities	1,558,781	282,176	632,088	546,106	145,680	145,604	296,482	69,134	68,246	37,032	140,056	-	103,357	351	4,025,092	5,074,126
Total resources expended	4,394,592	1,489,006	2,634,125	1,982,171	1,119,118	846,388	97,498	362,414	322,669	288,995	291,048	163,434	140,063	27,308	14,558,828	21,510,420

*TELA project expenses amounted to \$3,315,364 whereas WEMA project expenses amounted to \$1,019,228. TELA Project deals with the transgenic aspects of the former WEMA Project.

** TAAT Compacts expenses are made-up of (i) TAAT Maize Compact - \$455,381 (ii) TAAT Policy Compact - \$384,512 (iii) TAAT Cassava Compact - \$6,495

***MLN Project expenses - \$66,555, Banana - \$48,579 and BBSRC - \$24,929

****The analysis of the 2017 comparatives has been amended to better reflect the substance of the transactions in line with the meaning of the SORP. Total expenditure in this Note has changed but the total expenditure in the SOFA remains unchanged from what was previously reported.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

4. PERSONNEL COSTS				
Personnel Costs - Group	2018 US\$	2017 US\$	2018 £	2017 £
Salaries and wages	4,069,855	4,339,798	3,174,487	3,237,489
NI social security costs	200,995	216,776	156,776	161,715
Pension costs	400,909	385,552	312,709	287,622
	<u>4,671,759</u>	<u>4,942,126</u>	<u>3,643,972</u>	<u>3,686,826</u>
Personnel Costs - Charity				
	2018 US\$	2017 US\$	2018 £	2017 £
Salaries and wages	3,587,948	4,177,290	2,798,599	3,116,258
NI social security costs	170,102	209,710	132,680	156,444
Pension costs	351,651	365,840	274,288	272,917
	<u>4,109,701</u>	<u>4,752,840</u>	<u>3,205,567</u>	<u>3,545,619</u>

The Charity had an average of 45 employees during the year (2017: 54). The Group had an average of 69 employees during the year (2017: 57).

The directors consider that key management personnel are the senior management (executive directors). Remuneration for key management personnel for the Charity totalled \$1,194,521 / £931,726 (2017: \$1,307,900 / £975,693).

The number of employees for the Charity with total emoluments for the year of over £60,000 (approximately USD 80,000) was as follows:

	2018	2017
	No.	No.
USD100,001 - USD120,000	2	-
USD120,001 - USD140,000	2	1
USD140,001 - USD160,000	-	2
USD160,001 - USD180,000	6	4
USD180,001 - USD200,000	2	6
USD200,001 - USD220,000	2	1
USD220,001 - USD240,000	1	-
USD240,001 - USD260,000	-	1
USD260,001 - USD280,000	1	1
USD280,001 - USD300,000	-	-

Contributions in the year for the above higher paid Charity employees to defined contribution pension scheme totalled US\$ 250,994 / £195,775 (2017: US\$ 255,749 / £190,789)

Number of the above higher paid employees to whom retirement benefits are accruing under defined contribution pension schemes for the Charity totalled 16; (2017: 16).

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

5. CONSULTANTS' AND PROFESSIONAL EXPENSES

	Group		Charity	
	2018 US\$	2017 US\$	2018 US\$	2017 US\$
Consultants' fees	858,352	1,183,144	858,352	1,183,144
Consultants Travel, Accommodation and reimbursements	13,477	25,295	13,477	25,295
External audit (Various - See Note 7)	129,188	41,514	98,846	27,434
Internal audit (KKCO)	11,046	9,780	11,046	9,780
Legal fees	87,717	115,842	61,580	76,690
Taxation and secretarial services	75,671	25,125	63,088	25,125
	1,175,451	1,400,700	1,106,389	1,347,468
Allocated:				
Charitable expenditure (note 3)	900,389	1,226,530	900,389	1,226,530
Other costs (note 18)	206,000	120,938	206,000	120,938
Trading expenses - subsidiaries	69,062	53,232	-	-
	1,175,451	1,400,700	1,106,389	1,347,468

6. GENERAL EXPENSES AND SUPPLIES

	Group		Charity	
	2018 US\$	2017 US\$	2018 US\$	2017 US\$
Office and computer supplies	317,974	408,018	298,107	395,700
Communication	78,017	95,443	65,918	88,030
Vehicle expenses	56,354	39,572	39,802	37,524
Other office expenses	283,675	157,570	60,161	44,119
	736,020	700,603	463,988	565,373

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

7 NET INCOME/(EXPENDITURE) FOR THE YEAR

This is stated after charging:

	Group		Charity	
	2018	2017	2018	2017
	US\$	US\$	US\$	US\$
Depreciation	132,295	50,517	76,771	40,277
Amortisation	4,007	2,116	3,933	2,080
External Audit - Charity (Grant Thornton - UK)	8,083	-	8,083	-
External Audit - Charity (Grant Thornton - KE)	16,500	-	16,500	-
External Audit - Agridrive Nigeria Ltd (Grant Thornton - NIG)	5,116	-	-	-
External Audit - QBS Kenya Ltd (BDO KE / BDO ZIM & BDO RSA)	25,226	14,080	-	-
Fees payable to company auditors for other services	3,700	-	3,700	-
Operating lease costs	201,550	209,862	201,550	209,862
Unrealised Exchange Loss	-	-	-	-

AATF has entered into a hosting agreement with International Livestock Research Institute (ILRI). This agreement includes among other things a lease arrangement for office space by AATF payable on a quarterly basis. The hosting agreement is renewable annually. The current agreement expires on 31 December 2019, therefore the total of future minimum lease payments made under non-cancellable operating leases for the next year is \$201,550 (2017: \$201,550)

8 TRUSTEE REMUNERATION AND RELATED PARTY TRANSACTIONS

The Board of Trustees (BOT) were paid honoraria of US\$71,100 (2017: US\$60,000) for their role in meetings and other corporate activities of the Foundation. Travel allowances amounting to US\$87,967 (2017: US\$ 88,741) were reimbursed to 11 members of the Board to cover travel costs incurred in attending the Foundation's Board meetings. Indemnity Insurance for Trustees was paid during the year of US\$ 10,047 (2017: US\$10,045). Other board meeting expenses were: - non-BOT per diem US\$974 (2017: US\$0), accommodation and meals US\$36,571 (2017: US\$32,219) and other board expenses US\$15,849 (2017: US\$5,814).

No Trustee or other person related to the Charity had any personal interest in any contract or transaction entered into by the Charity during the year (2017: Nil).

The Charity has advanced loans to senior management personnel, the balance outstanding at the year-end totalled US\$11,790 for 2 employees (2016: US\$63,125 for 5 employees). Such loans are interest free.

No one party has ultimate control over the Charity and all transactions are on an arm's length basis.

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

9a INTANGIBLE ASSETS - GROUP

	Computer software US\$	Total US\$
Cost		
At 1 January 2018	43,210	43,210
Additions	8,678	8,678
At 31 December 2018	51,888	51,888
Depreciation/Amortisation		
At 1 January 2018	41,842	41,842
Charge for the year	4,002	4,002
At 31 December 2018	45,844	45,844
Net book value		
As at 31 December 2018	6,044	6,044
As at 31 December 2017	1,368	1,368

9a INTANGIBLE ASSETS - CHARITY

	Computer software US\$	Total US\$
Cost		
At 1 January 2018	42,846	42,846
Additions	8,678	8,678
At 31 December 2018	51,524	51,524
Depreciation/Amortisation		
At 1 January 2018	41,806	41,806
Charge for the year	3,933	3,933
At 31 December 2018	45,739	45,739
Net book value		
As at 31 December 2018	5,785	5,785
As at 31 December 2017	1,040	1,040

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

9b TANGIBLE ASSETS - GROUP

	Motor Vehicles, trailers, m/bikes, scooters	Furniture and office equipment	Computers and related equipment	Tractors	Farm Equipment and Implements	Work in Progress (WIP)	Total
	US\$	US\$	US\$	US\$	US\$	US\$	US\$
Cost							
At 1 January 2018	464,473	171,361	224,345	-	-	-	860,179
Additions	348,917	118,041	30,950	377,091	318,375	4,557	1,197,931
Disposals	(121,250)	(20,790)	(20,388)	-	-	-	(162,428)
Foreign exchange movements	431	238	168	(2,840)	-	-	(2,003)
As at 31 December 2018	692,571	268,850	235,075	374,251	318,375	4,557	1,893,679
Depreciation/Amortisation							
At 1 January 2018	380,607	143,564	195,705	-	-	-	719,876
Charge for the year	104,170	15,654	21,645	34,018	45,182	-	220,669
Disposals	(121,250)	(20,790)	(19,287)	-	-	-	(161,327)
Foreign exchange movements	(224)	(38)	(46)	(360)	(510)	-	(1,178)
As at 31 December 2018	363,303	138,390	198,017	33,658	44,672	-	778,040
Net book value							
As at 31 December 2018	329,268	130,460	37,058	340,593	273,703	4,557	1,115,639
As at 31 December 2017	83,866	27,797	28,640	-	-	-	140,303

9b TANGIBLE ASSETS - CHARITY

	Motor vehicle	Furniture and office equipment	Computers and related equipment	Total
	US\$	US\$	US\$	US\$
Cost				
At 1 January 2018	383,225	144,524	209,399	737,148
Additions	193,500	14,403	17,998	225,901
Disposals	(121,250)	(20,790)	(20,388)	(162,428)
As at 31 December 2018	455,475	138,137	207,009	800,621
Depreciation/Amortisation				
At 1 January 2018	373,811	142,100	193,707	709,618
Charge for the year	57,788	4,382	14,601	76,771
Disposals	(121,250)	(20,790)	(19,287)	(161,327)
As at 31 December 2018	310,349	125,692	189,021	625,062
Net book value				
As at 31 December 2018	145,126	12,445	17,988	175,559
As at 31 December 2017	9,414	2,424	15,692	27,530

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

9c BIOLOGICAL ASSETS

	Group US\$	Charity US\$
Cost		
At 1 January 2018	5,822	-
Additions	62,740	-
Disposals	-	-
As at 31 December 2018	68,562	-
Depreciation/Amortisation		
At 1 January 2018	-	-
Charge for the year	-	-
Disposals	-	-
As at 31 December 2018	-	-
Net book value		
As at 31 December 2018	68,562	-
As at 31 December 2017	5,822	-

10 GRANT DEBTORS/ (UNEXPENDED GRANTS)

Donor	Grant Debtors brought forward 01.01.2018 US\$	Unexpended grants brought forward 01.01.2018 US\$	Receipts US\$	Grant Income Recognised US\$	Grant Debtors carried forward 31.12.2018 US\$	Unexpended grants carried forward 31.12.2018 US\$
DFID	-	-	1,754,296	1,754,296	-	-
USAID	548,427	-	3,405,025	3,505,414	648,816	-
BMGF & HGBF - WEMA	-	-	846,943	846,943	-	-
BMGF-TELA, Hybrid Rice, OFAB, QBS	-	(9,685)	10,977,549	10,977,549	-	(9,685)
IITA	-	-	789,822	789,822	-	-
CIMMYT	-	-	55,141	55,141	-	-
SFSA-SEEDS2B	-	-	214,705	214,705	-	-
AGRA	-	-	174,886	174,886	-	-
CAMBRIDGE UNIVERSITY-BBSRC	-	-	6,901	6,901	-	-
Total	548,427	(9,685)	18,225,268	18,325,657	648,816	(9,685)

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

11 OTHER DEBTORS

	Group		Charity	
	2018	2017	2018	2017
	US\$	US\$	US\$	US\$
Staff loans	134,522	204,135	134,522	204,135
Advances for travel and expenses	52,933	29,480	52,933	29,480
ILRI	30,979	-	30,979	-
AIARC current account	16,486	290,468	16,486	290,468
Prepayments	1,358,209	140,701	81,348	56,278
Trade debtors	135,794	13,905	296,146	277,180
USDA-FAS	448,966	-	448,966	-
Credit cards	22,263	9,704	5,486	9,704
Other receivables	542,044	22,587	481,309	-
	<u>2,742,196</u>	<u>710,980</u>	<u>1,548,175</u>	<u>867,245</u>

Loans are provided to staff, after approval in accordance with AATF's policies, as part of AATF's staff retention strategy, as such incentives are provided by other similar local organisations.

12 OTHER CREDITORS

	Group		Charity	
	2018	2017	2018	2017
	US\$	US\$	US\$	US\$
Accrued leave	189,271	196,680	189,271	196,680
Accrued services	668,846	496,239	668,846	496,239
Other accruals	66,739	149,884	-	97,270
Creditors	318,273	71,591	135,903	43,359
Seed Revolving Fund	221,575	245,791	221,575	245,791
USDA-FAS	-	11,539	-	11,539
Collaborating Organisations	395,273	-	395,273	-
	<u>1,859,977</u>	<u>1,171,724</u>	<u>1,610,868</u>	<u>1,090,878</u>

13 PROVISIONS FOR LIABILITIES

	Group		Charity	
	2018	2017	2018	2017
	US\$	US\$	US\$	US\$
At 1 January	192,312	192,312	192,312	192,312
Provided	-	-	-	-
Payments out of the account	-	-	-	-
At 31 December	<u>192,312</u>	<u>192,312</u>	<u>192,312</u>	<u>192,312</u>

The provision relates to employee payments and is expected to be resolved next year.

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

14 MOVEMENT IN FUNDS

Fund name	Fund balances brought forward US\$	Incoming resources US\$	Outgoing resources US\$	Transfers* US\$	Fund balances carried forward US\$
Unrestricted:					
Rockefeller	266,910	-	1,222	-	265,688
DFID	230,726	1,754,296	606,769	(1,465,071)	(86,818)
Reserves Account	4,259,361	1,414,434	884,652		4,789,143
Sub-total Unrestricted - Charity	4,756,997	3,168,730	1,492,643	(1,465,071)	4,968,013
Restricted:					
USAID	(41,429)	3,505,414	3,326,276	-	137,709
Bill and Melinda Gates Foundation and Howard Buffet Foundation	3,360,789	11,862,381	8,951,510	-	6,271,660
Africa Harvest	89,076	-	-	-	89,076
NEPAD/FARA	17,083	-	-	-	17,083
Kirkhouse Trust	12,824	-	-	-	12,824
FOCAC	27,044	-	-	-	27,044
IITA	(1,045)	791,423	807,578	-	(17,200)
CIMMYT	(12,491)	55,141	50,179	-	(7,529)
SFSA	(51,882)	214,705	135,200	-	27,623
AGRA	-	174,886	211,157	-	(36,271)
Cambridge University (BBSRC)	5,892	6,901	12,793	-	-
Sub-total Restricted - Charity	3,405,861	16,610,851	13,494,693	-	6,522,019
Total Charity	8,162,858	19,779,581	14,987,336	(1,465,071)	11,490,032
Unrestricted					
Subsidiaries' Activities – Agridrive Ltd & QBS Ltd	75,182	823,658	1,395,491	1,493,754	997,103
	8,238,040	20,603,239	16,382,827	28,683	12,487,135

*Transfers relate to unexpended portion of the sub-grant disbursed by the Foundation to QBS (subsidiary). This amount has been reduced from the total Charity expenditure and reduced from the subsidiary's total income.

Some restricted funds are in a deficit position due to the timing of recognition of grant income under the SORP. In the short term the projects funded by these restricted grants are pre-financed from general funds for cash flow purposes, the project expenditure is then matched with further restricted grants received since the year end when such expenditure meets the criteria of the related grant funding.

Unrestricted funds can be used in accordance with the charitable objects at the discretion of the Trustees. Restricted funds are those given for particular projects, and they can only be used for the projects for which they are designated. Details are as given below:

- USAID grant is for Cowpea, NEWEST Rice, TELA and WEMA Projects. USAID also extended a sub-grant to AATF for Seeds2B Project through SFSA (Lead Grantee).
- Bill and Melinda Gates Foundation and Howard G. Buffet Foundations co-funded the WEMA project.
- Bill and Melinda Gates Foundation grant is for the TELA, OFAB, Hybrid Rice, Qualibasic seed enterprise and CAMAP projects
- The African Development bank extended a sub-grant to AATF for TAAT Compacts through IITA (Lead Grantee)
- AGRA extended a grant for support of AATF's agricultural policy work
CIMMYT sub-grant was for Maize Lethal Necrosis project

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

14 MOVEMENT IN FUNDS (CONTINUED)

- Syngenta Foundation for Sustainable Agriculture (SFSA) was for the Seeds2B project.
- BBSRC gave a small grant for market evaluation of MCMV resistant maize lines through University of Cambridge (Lead Grantee).

15 ANALYSIS OF NET ASSETS BETWEEN FUNDS

Group

	Restricted US\$	Unrestricted US\$	Totals 2018 US\$	Restricted US\$	Unrestricted US\$	Totals 2017 US\$
Tangible fixed assets	977,488	138,152	1,115,640	12,615	127,689	140,304
Intangible assets	259	5,785	6,044	-	1,368	1,368
Deferred tax asset	502,742	-	502,742	-	119,567	119,567
Biological assets	68,562	-	68,562	-	5,822	5,822
Grant debtors	-	648,816	648,816	548,427	-	548,427
Other debtors	2,220,502	521,694	2,742,196	374,925	336,055	710,980
Cash at bank and in hand	7,957,064	2,918,821	10,875,885	2,878,277	5,885,913	8,764,190
Inventories	129,534	-	129,534	-	5,374	5,374
Capital grant	-273,914	-	(273,914)	-	(70,246)	(70,246)
Current tax payable	-456	-	(456)	-	-	-
Creditors due within one year	-1,170,401	(689,576)	(1,859,977)	(408,383)	(763,341)	(1,171,724)
Provisions for liabilities	-192,312	-	(192,312)	-	(192,312)	(192,312)
Grant creditors	-	(9,685)	(9,685)	-	(9,685)	(9,685)
Deferred grant	-1,265,940	-	(1,265,940)	-	(614,025)	(614,025)
	<u>6,522,019</u>	<u>5,965,116</u>	<u>12,487,135</u>	<u>3,405,861</u>	<u>4,832,179</u>	<u>8,238,040</u>

Charity	Restricted US\$	Unrestricted US\$	Totals 2018 US\$	Restricted US\$	Unrestricted US\$	Totals 2017 US\$
Tangible fixed assets	138,152	37,407	175,559	12,615	14,915	27,530
Intangible assets	5,785	-	5,785	-	1,040	1,040
Investment in subsidiaries	12,556	-	12,556	9,685	-	9,685
Loans to group companies	432,444	-	432,444	-	-	-
Grant debtors	648,816	-	648,816	548,427	-	548,427
Other debtors	521,694	1,026,481	1,548,175	374,925	492,320	867,245
Cash at bank and in hand	3,907,827	6,571,735	10,479,562	2,878,277	5,123,529	8,001,806
Creditors due within one year	(689,576)	(921,292)	(1,610,868)	(408,383)	(682,495)	(1,090,878)
Provisions for liabilities	-	(192,312)	(192,312)	-	(192,312)	(192,312)
Grant creditors	(9,685)	-	(9,685)	(9,685)	-	(9,685)
	<u>4,968,013</u>	<u>6,522,019</u>	<u>11,490,032</u>	<u>3,405,861</u>	<u>4,756,997</u>	<u>8,162,858</u>

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

16 NET CASH GENERATED FROM OPERATING ACTIVITIES

	Group Consolidated 2018 US\$	Group Consolidated 2017 US\$	Charity 2018 US\$	Charity 2017 US\$	
Reconciliation of net income / (expenditure) for the year to net cash generated from operations					
(a) Net income / (expenditure) for the year	4,220,412	(1,517,263)	3,327,174	(1,599,745)	
<u>Adjustments for:</u>					
Depreciation	220,669	50,517	76,771	40,277	
Amortisation	4,002	2,117	3,933	2,080	
Loss / (Gain) on disposal of equipment	(58,936)	-	(59,277)	-	
Interest received	(53,633)	(32,059)	(53,633)	(32,059)	
Tax for year	(395,792)	(119,334)	-	-	
Working capital changes:					
Decrease / (increase) in grants debtors	(100,389)	2,765,738	(100,389)	2,765,738	
Decrease / (increase) in other debtors	(2,031,216)	263,047	(680,930)	106,782	
Increase in other creditors	688,253	791,564	519,990	710,718	
Increase in grant creditors	-	9,685	-	9,685	
(Increase) in inventories	(124,160)	(5,374)	-	-	
Net cash provided by operating activities	<u>2,369,210</u>	<u>2,208,638</u>	<u>3,033,639</u>	<u>2,003,476</u>	
Analysis of funds: Group	At 1 January 2017 US\$	Cashflow 2017 US\$	At 31 December 2017 US\$	Cashflow 2018 US\$	At 31 December 2018 US\$
Cash	5,993,533	2,770,657	8,764,190	(2,910,180)	5,854,010
Short term deposits	-	-	-	5,021,875	5,021,875
Analysis of funds: Charity	At 1 January 2017 US\$	Cashflow 2017 US\$	At 31 December 2017 US\$	Cashflow 2018 US\$	At 31 December 2018 US\$
Cash	5,993,533	2,008,273	8,001,806	(2,544,119)	5,457,687
Short term deposits	-	-	-	5,021,875	5,021,875

**AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018**

17. INCORPORATION/REGISTRATION

The Foundation is incorporated and registered as a private company limited by guarantee and not having a share capital. It has been registered in the United Kingdom (January 2003) and in Kenya (April 2003), respectively. It was registered as a Charity in England and Wales in January 2005. It was granted host country status by the Government of Kenya in June 2005.

18. GOVERNANCE COSTS

	2018 US\$	2017 US\$
Honoraria	71,100	60,000
Meeting expenses	151,408	136,819
Consulting and other services (note 5)	206,000	120,938
	<u>428,508</u>	<u>317,757</u>

19. PENSION COMMITMENTS

The assets of the defined contribution pension scheme are held separately from those of the company in a range of funds provided and administered by an independent plan provider. Contributions of \$351,651 (2017: \$365,840) were charged to the statement of financial activities during the financial year as they became payable in accordance with the rules of the scheme. There are no outstanding contributions at the current year-end (2017: \$nil).

20. FINANCIAL INSTRUMENTS

	Group Consolidated 2018 US\$	Group Consolidated 2017 US\$	Charity 2018 US\$	Charity 2017 US\$
FINANCIAL ASSETS				
Cash and receivables	14,266,897	10,028,971	12,676,553	9,417,478
	<u>14,266,897</u>	<u>10,028,971</u>	<u>12,676,553</u>	<u>9,417,478</u>
	Group Consolidated 2018 US\$	Group Consolidated 2017 US\$	Charity 2018 US\$	Charity 2017 US\$
FINANCIAL LIABILITIES				
Financial liabilities measured at amortised cost	1,869,662	1,171,724	1,620,553	1,090,878
	<u>1,869,662</u>	<u>1,171,724</u>	<u>1,620,553</u>	<u>1,090,878</u>

Financial assets measured at amortised cost comprise cash and cash equivalents, trade debtors and other receivables.
Financial liabilities measured at amortised cost comprise trade and other creditors.

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

21 INVESTMENTS IN SUBSIDIARIES

The following table lists the entities which are controlled by the group, either directly or indirectly through subsidiaries.

Company

	Held by	Carrying amount 2018	Carrying amount 2017
Agridrive Nigeria Limited		2,777	-
Qualibasic Seed Company Limited		9,779	9,685
		<u>12,556</u>	<u>9,685</u>

The above amount relates to share capital in QBS (US\$ 9,779) and Agridrive (US\$ 2,777).

Summarised consolidated statement of financial position as at 31 December

	Qualibasic Seed Company Limited		Agridrive Nigeria Limited		Total	
	2018	2017	2018	2017	2018	2017
	US\$	US\$	US\$	US\$	US\$	US\$
Assets						
Non-current assets	798,948	238,491	712,696	-	1,511,644	238,491
Current assets	1,922,535	888,536	93,490	-	2,016,025	888,536
Total Assets	2,721,483	1,127,027	806,185	-	3,527,669	1,127,027
Liabilities						
Non-current liabilities	1,265,940	614,025	861,168	-	2,127,108	614,025
Current liabilities	768,592	424,994	54,603	-	823,195	424,994
Total liabilities	2,034,532	1,039,019	915,771	-	2,950,303	1,039,019
Total net assets (liabilities)	686,951	88,008	(109,586)	-	577,365	88,008
Carrying amount of non-controlling interest	(3,034)	(501)	-	-	(3,034)	(501)

Summarised statement of profit or loss and other comprehensive income for the year ended 31 December

	Qualibasic Seed Company Limited		Agridrive Nigeria Limited		Total	
	2018	2017	2018	2017	2018	2017
	US\$	US\$	US\$	US\$	US\$	US\$
Revenue	167,613	13,744	127,984	-	295,597	13,744
Other income and expenses	31,701	(50,598)	(288,678)	-	-256,977	(50,598)
Loss before tax	199,314	(36,854)	(160,694)	-	38,620	(36,854)
Tax expense	348,994	119,334	46,798	-	395,792	119,334
Profit / (Loss) after tax	548,308	82,480	(113,896)	-	434,412	82,480
Other comprehensive income	23,985	-	298	-	24,283	-
Total comprehensive income	572,293	82,480	(113,598)	-	458,695	82,480

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

21 INVESTMENTS IN SUBSIDIARIES (CONTINUED)

Summarised statement of cash flows for the year ended 31 December

	Qualibasic Seed Company Limited		Agridrive Nigeria Limited		Total	
	2018	2017	2018	2017	2018	2017
	US\$	US\$	US\$	US\$	US\$	US\$
Cashflows from operating activities	(244,899)	816,042	(490)	-	(245,389)	816,042
Cashflows from investing activities	(277,784)	(129,219)	(776,839)	-	(1,054,623)	(129,219)
Cashflows from financing activities	66,429	79,931	863,902	-	930,331	79,931
Net increase (decrease) in cash and cash equivalents	(456,254)	766,754	86,573	-	(369,681)	766,754

Subsidiaries with material non-controlling interests

The following information is provided for subsidiaries with non-controlling interests which are material to the reporting company. The summarised financial information is provided prior to intercompany eliminations.

Subsidiary	Country of incorporation	% Ownership interest held by non-controlling interest	
		2018	2017
Agridrive Limited	Nigeria	99 %	- %
Qualibasic Seed Company Limited	Kenya	99 %	- %

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2018

22. GRANTS PAID TO INSTITUTIONS

	Group		Company	
	2018	2017	2018	2017
COWPEA				
IFPRI Malawi	33,622	-	33,622	-
Bunda College	49,698	37,744	49,698	37,744
INERA - Burkina Faso	-	35,875	-	35,875
IAR - Zaria, Nigeria	22,606	51,655	22,606	51,655
CSIRO Australia	706,030	-	706,030	-
CSIR - SARI, Ghana	21,847	50,285	21,847	50,285
Total COWPEA	833,803	175,559	833,803	175,559
CAMAP				
ZARI, Zambia	70,000	121,758	70,000	121,758
NaCRRI, Uganda	55,110	59,949	55,110	59,949
Total CAMAP	125,110	181,707	125,110	181,707
HYBRID RICE				
HEAL	584,872	341,606	584,872	341,606
aWhere Inc	60,000	139,793	60,000	139,793
Total Hybrid Rice	644,872	481,399	644,872	481,399
NEWEST RICE				
CIAT	-	123,552	-	123,552
Arcadia Biosciences, USA	-	112,575	-	112,575
NaCRRI, Uganda	45,002	66,006	45,002	66,006
NCRI	30,000	54,005	30,000	54,005
CRI, Ghana	28,000	40,133	28,000	40,133
Total NEWEST Rice	103,002	396,271	103,002	396,271
SEEDS2B				
Chitedze Research Station, Malawi	4,444	1,857	4,444	1,857
Agricultural Research Trust (ART) Farm, Zimbabwe	2,066	27,500	2,066	27,500
Horticulture & Food Crops (HFC), Malawi	3,500	-	3,500	-
Total Land Care, Malawi	10,149	-	10,149	-
Makerere University, Uganda	13,579	-	13,579	-
Total Seed2B	35,238	29,357	35,238	29,357
STRIGA				
Freshco, Kenya	26,775	10,000	26,775	10,000
CIMMYT, Colombia	201,277	-	201,277	-
Total STRIGA	228,052	10,000	228,052	10,000
CIP, Kenya	<u>163,434</u>	<u>160,782</u>	<u>163,434</u>	<u>160,782</u>
Total CIP	163,434	160,782	163,434	160,782

AFRICAN AGRICULTURAL TECHNOLOGY FOUNDATION
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FOR THE YEAR ENDED 31 DECEMBER 2018

GRANTS PAID TO INSTITUTIONS (CONTINUED)	2018	2017	2018	2017
OFAB				
OFAB Kenya, ISAAA	121,868	576,666	121,868	576,666
OFAB Uganda, UNCST	79,650	337,607	79,650	337,607
OFAB Nigeria, NABDA	350,373	279,163	350,373	279,163
OFAB Tanzania, COSTECH	197,000	255,800	197,000	255,800
OFAB Ethiopia, EIAR	109,000	138,792	109,000	138,792
OFAB Burkina Faso, INERA	100,000	115,550	100,000	115,550
OFAB Ghana	95,000	62,000	95,000	62,000
TRIDI, Uganda	42,900	-	42,900	-
Total OFAB	1,095,791	1,765,578	1,095,791	1,765,578
WEMA				
Monsanto, USA	(740,224)	2,851,354	(740,224)	2,851,354
CIMMYT, Mexico	-	1,807,487	-	1,807,487
EIAR - Ethiopia	126,264	647,443	126,264	647,443
ARC- South Africa	-	413,382	-	413,382
NARO - Uganda	-	390,030	-	390,030
KALRO - Kenya	-	377,124	-	377,124
COSTECH - Tanzania	95,000	361,250	95,000	361,250
IIAM - Mozambique	100,000	238,276	100,000	238,276
ROP	-	12,346	-	12,346
Kimeli - Kenya	-	2,378	-	2,378
Total WEMA	(418,960)	7,101,070	(418,960)	7,101,070
TAAT				
IITA, Nigeria	168,780	-	168,780	-
CORAF, Senegal	29,053	-	29,053	-
USTA, Uganda	6,814	-	6,814	-
NASECO, Uganda	3,000	-	3,000	-
Faida Seeds, Kenya	900	-	900	-
Multi Agroseed, Tanzania	1,800	-	1,800	-
Kibo Seed, Tanzania	2,400	-	2,400	-
Farm Inputs Care Centre (FICA), Uganda	1,800	-	1,800	-
Simba Seeds, Uganda	1,200	-	1,200	-
E. Africa Seed, Kenya	2,400	-	2,400	-
Namburi Agricultural Company, Tanzania	4,500	-	4,500	-
Total TAAT	222,647	-	222,647	-
TELA				
IIAM - Mozambique	227,150	-	227,150	-
NaCRRI, Uganda	57,250	-	57,250	-
KALRO, Kenya	37,000	-	37,000	-
Monsanto, USA	1,190,627	-	1,190,627	-
TARI, Tanzania	94,000	-	94,000	-
NARO, Uganda	102,500	-	102,500	-
Total TELA	1,708,527	-	1,708,527	-

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GRANTS PAID TO INSTITUTIONS (CONTINUED)	2018	2017	2018	2017
QBS				
QBS Company Kenya	2,398,823	1,140,573	2,398,823	1,140,573
Grant from AATF to QBS	(1,465,071)	(457,742)	-	-
Total QBS	933,752	682,831	2,398,823	1,140,573
MANGO				
KALRO - Kenya	13,202	-	13,202	-
Total MANGO	13,202	-	13,202	-
Total Sub-grants	5,688,470	10,984,554	7,153,541	11,442,296