



Malawi Water Stewardship Masterclass

Event summary and evaluation report

Serendib Hotel, Blantyre, Malawi. 11 – 14 March 2019



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Project contact details:

Nick Hepworth, nickhepworth@waterwitness.org

Doreen Chanje, doreenchanje@waterwitness.org

Tyler Farrow, tylerfarrow@waterwitness.org



Water Witness International (Malawi)
4th Floor, Livingstone Towers
Glyn Jones Road
Blantyre

www.waterwitness.org

Water Witness International is a charity registered in Malawi which carries out research and advocacy and takes action so that water resources are managed equitably and sustainably.

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Executive summary

Water stewardship enables water users to work together to identify and achieve common goals for sustainable water management. In Africa, a region which faces some of the greatest water-related risks on earth, water stewardship has emerged as a promising means of engaging water users in good governance and proactive action to ensure shared water security. Building on experience and momentum in the region, the Malawi Water Stewardship Masterclass brought together practitioners to learn about and share best practice in water stewardship.

Hosted in March 2019 by Water Witness International and the Alliance for Water Stewardship Africa, the Masterclass delivered the first Alliance for Water Stewardship (AWS) training to take place in Malawi. The AWS Standard is the ISEAL compliant, global framework for implementing water stewardship, helping water users to understand and mitigate water risks facing sites, supply chains, local communities and basins of operations. The Masterclass also featured the first Championing Water Stewardship Seminar, a one-day session designed to equip participants with additional skills and knowledge to promote uptake of water stewardship and the AWS Standard in their own organisations and sectors.

The Masterclass was supported by the Scottish Government and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ). The event brought together 21 participants (10F, 11M) from five countries (Malawi, Zambia, Ethiopia, South Africa, and United Kingdom). Participants included representatives from businesses, government institutions, consultancies, civil society organisations, conformity assessment bodies, and academia.

The training combined expert led sessions and group work with hands-on application of the AWS Standard using the real-life case study of Kaombe Estate, which is implementing the standard at its site in Nsanje, Malawi. The hands-on nature of the Masterclass was a major contributing factor to the quality of the training and depth of learning generated. Participants rated the event highly, as indicated by evaluation results and feedback:

- 95% of participants rated the training as very good (55%) or excellent (40%).
- 95% of participants indicated that they were confident that they could use the information and skills gained via the training.
- 100% of participants indicated that they would recommend AWS training to colleagues and clients.

1. Advanced and Specialist AWS training

From 11th – 13th March 2019, 21 participants (10F, 11M) from five countries (Zambia, Malawi, Ethiopia, South Africa, United Kingdom) took part in the Advanced and Specialist AWS training in Blantyre, Malawi. Participants included representatives from leading businesses, government institutions, consultancies, conformity assessment bodies, civil society organisations, and academia.

The training was a 3-day course for water management and sustainability professionals, for people implementing water stewardship in their own operations or providing consulting, auditing or training services. The training merged the Foundation, Advanced and Specialist training requirements of the Alliance for Water Stewardship for people seeking accreditation as AWS auditors, consultants and trainers.

The program introduced participants to water stewardship and the AWS Standard and helped them to understand how it can support water management goals, business sustainability and risk management. The program took an in depth look at the steps involved in implementing the AWS Standard by working through a real-life case study of Kaombe Estate. The training built on knowledge generated during the first applications of the AWS Standard in Africa, and combined hands-on, practical engagement with group work and expert led workshop sessions.

Table 1: Advanced and Specialist AWS training learning objectives

- Develop understanding of water stewardship and the AWS Standard, how they contribute to shared objectives on water management;
- Achieve a deeper knowledge of the Standard's steps, criteria and indicators and how they are applied at a site and catchment level;
- Build confidence in working with the Standard through experience with the application of criteria and indicators and group exercises to raise and resolve questions and ambiguities;
- Deepen understanding about the relationship between water stewardship and other water initiatives at a site and catchment level;
- Equip service providers with a deeper knowledge of the application of the AWS Standard to sites and an understanding of the AWS verification system.

The underlying logic of the training was: **understand, apply, evaluate**. Participants developed an understanding of key concepts and processes through expert led sessions. Mark Dent of the Alliance for Water Stewardship facilitated sessions covering the terminology, steps, criteria and indicators involved in the AWS Standard, as well as the AWS accreditation requirements and verification programs, 3rd party auditing and certification, and claims. Tyler Farrow and Walter Chinangwa of Water Witness International facilitated complementary sessions on the application of the AWS Standard in the broader context of water resources management.

Participants also gained hands-on experience in applying their learning to the real-life case study of Kaombe Estate. Kaombe Estate is one of the biggest sugarcane growing estates in the Southern Region of Malawi and the management team of the estate are implementing the AWS Standard as a proactive response to the water risks faced at their site and in the catchment. In addition to being provided with unprecedented access to Kaombe data and insight into the process of AWS Standard implementation, participants also took part in a field visit to Phata Sugarcane Growers Cooperative (an alternative site, as Kaombe Estate was flooded). This live case study provided the basis for group work throughout the duration of the training, including application of the 5 steps of the Standard, the development of water stewardship plans, and 3rd party auditing role plays.

To consolidate learning and stimulate discussion, participants provided feedback on and evaluated the work of their peers throughout the training. The water stewardship plans developed by the participants' teams were subjected to a peer review panel, and participants engaged in a 3rd party auditing role play to test their findings from the field visits as well as their understanding of the AWS Standard. The water stewardship plans created by the participants are provided in Annex 4.



Gap analysis at Phata



Field visit at Phata

2. Championing Water Stewardship Seminar

The one-day Championing Water Stewardship Seminar built on the Advanced and Specialist AWS training to further equip participants with the skills and knowledge to promote uptake of water stewardship within their respective organisations and sectors.

The Seminar featured hands-on sessions to explore the value proposition of water stewardship and the AWS Standard (Annex 3), as well as promotion strategies. Participants received coaching on public speaking and negotiations and refined their skills through delivering presentations and taking part in a fictionalised negotiation role play. Throughout the Seminar, participants developed their own personal water stewardship strategies which were refined through feedback from their peers.



Presentation of group work



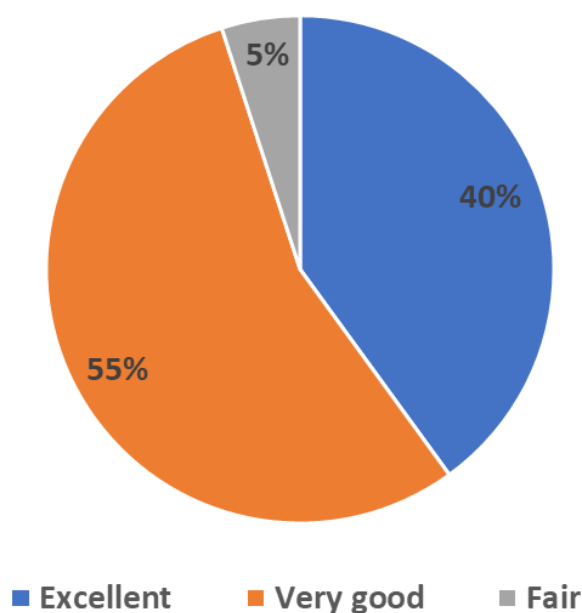
Preparation of personal stewardship plans

3. Participant evaluation

At the end of the Advanced and Specialist AWS training, 20 participants (9F, 11M) filled out an evaluation questionnaire, designed to gather critical feedback on the training, and inform development priorities for the Alliance for Water Stewardship and future training events. An additional evaluation (15 respondents) was conducted for the Championing Water Stewardship Seminar to further develop and improve on this new training module. Feedback generated from the evaluations is displayed below:

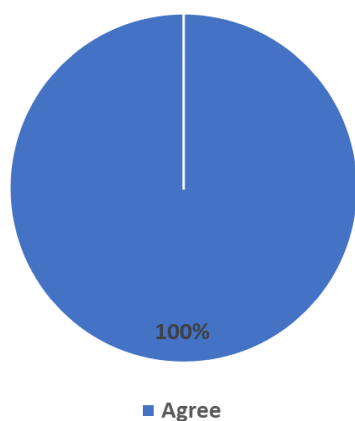
AWS Advanced and Specialist training

1. How would you rate the training overall?

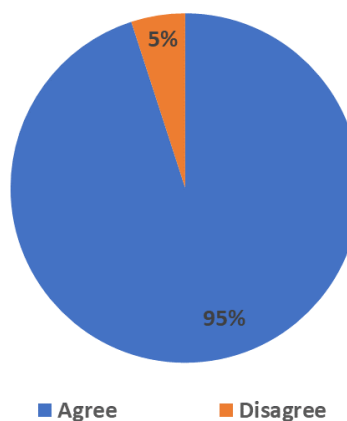


2. How much do you agree with the following statements?

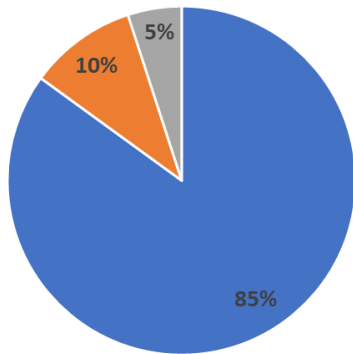
a. Training aims clearly stated



b. Presenters were easy to understand

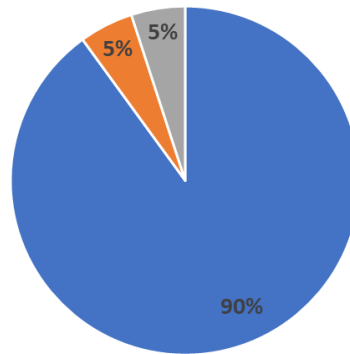


c. Time was managed effectively



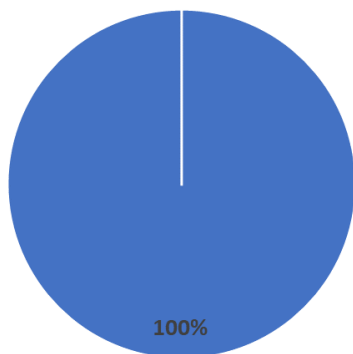
■ Agree ■ Disagree ■ Unsure

d. The pace of the training was appropriate



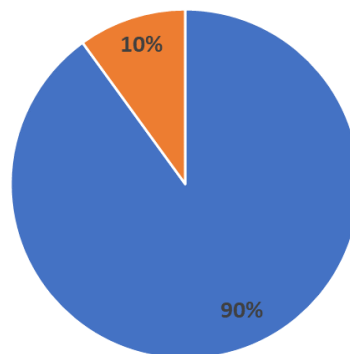
■ Agree ■ Disagree ■ Unsure

e. Facilitators encouraged participation



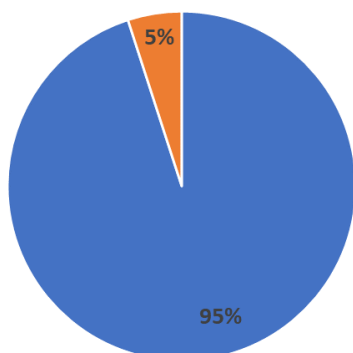
■ Agree

f. Facilitators kept the attention of all participants



■ Agree ■ Unsure

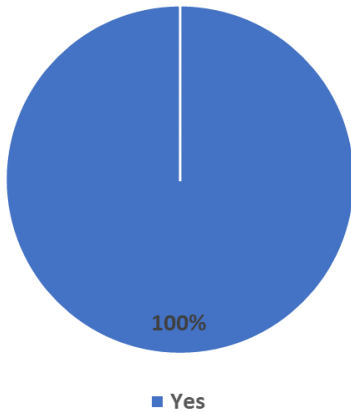
g. I am confident I can use the information and skills gained in the training



■ Agree ■ Unsure

3. Would you recommend this AWS training for colleagues or clients? Why?

Feedback highlights



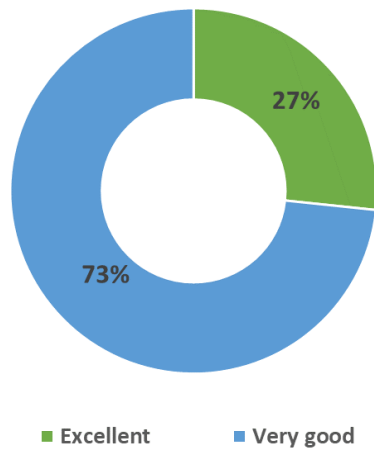
“The training provides the bigger picture on water issues, and how to address them sustainably”.

“AWS training provides a holistic tool to evaluate water stewardship, while providing the means to aid organisations and individuals to become certified and acknowledged for good water management”.

“This will help people at the community level to manage their water effectively”.

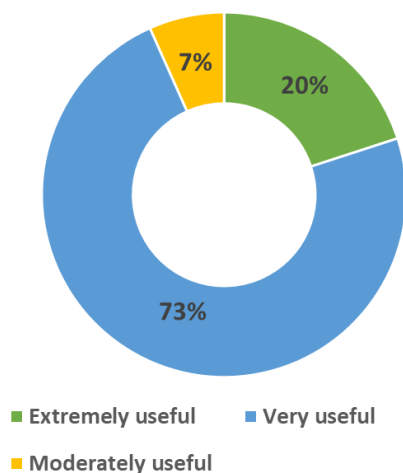
Championing Water Stewardship Seminar

1. How would you rate the seminar overall?

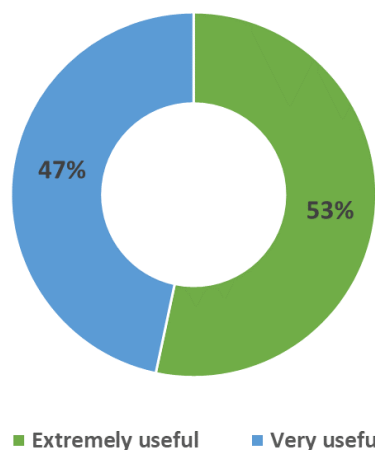


2. How would you rate the following sessions?

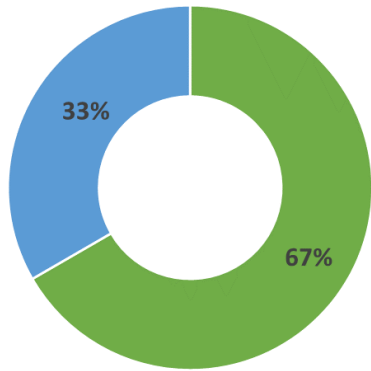
a. Overview of AWS global/Africa strategies



b. Mapping personal water stewardship objectives

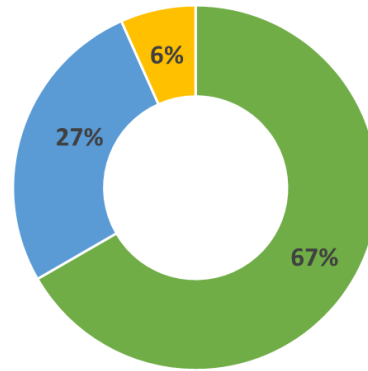


c. Value proposition and promotion strategies



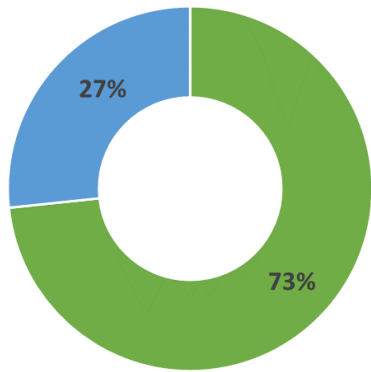
■ Extremely useful ■ Very useful

d. Public speaking skills and perfecting your pitch



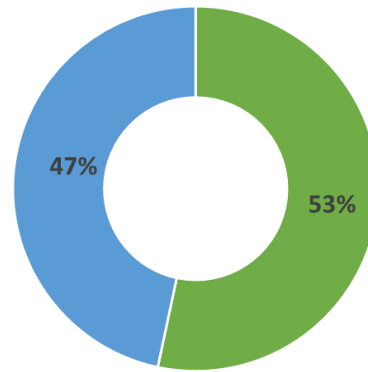
■ Extremely useful ■ Very useful
■ Moderately useful

e. Negotiation skills and role play



■ Extremely useful ■ Very useful

f. Strategy consolidation and review



■ Extremely useful ■ Very useful

Annex 1: Malawi Water Stewardship Masterclass agenda

	Day 1 – Monday 11 th	Day 2 – Tuesday 12 th	Day 3 – Wednesday 13 th	Day 4 – Thursday 14 th
	Foundation and Advanced course		Specialist course	Championing Water Stewardship Seminar
AM	<p>Welcome and registration (8:30)</p> <p>Opening remarks and official welcome (9:00):</p> <p>1. Participant introductions and objectives (9:15)</p> <p>2. Introduction to water stewardship and the AWS Standard (9:45): Key terminology and introduction to steps 1-5 of the AWS Standard.</p>	<p>8. Field trip (6:30): Groups will conduct visits to the Kaombe site. During the visit they will gather the necessary information to:</p> <p>a) Conduct a gap analysis against standard requirements</p> <p>b) Better understand water risks and opportunities and potential responses</p>	<p>10. Water stewardship strategy presentations, and peer review panel (8:30): Groups will present their water stewardship strategies which will be subjected to a peer review panel</p>	<p>1. Introductions and objectives (8:30)</p> <p>2.. Overview of AWS Global and Africa strategies (9:00)</p> <p>3. Mapping personal water stewardship objectives (9:30)</p> <p>4. Value proposition and promotion strategies for water stewardship and the AWS Standard (10:00)</p>
	Break 10:30 – 10:45	Break 10:30 – 10:45	Break 10.30 – 10:45	Break 10.30 – 10:45
	<p>3. Water risk and opportunity analysis – Group work (10:45): Using a fictional case study, groups will conduct an analysis of water risks and opportunities as they relate to the five AWS outcome areas and present their findings</p>	Continued...	<p>11. Interim Accreditation requirements (10:45): Expert led session on:</p> <ul style="list-style-type: none"> • Expression of Interest • Consultant, Trainer or CAB? • Accreditation <p>12. AWS Verification and Self-verification programs (11:15) – Expert led session</p> <p>13. Multi-site and group certification (11:30) – Expert led session</p> <p>14. Claims (11:45) – Expert led session</p>	<p>5. Public speaking skills (10:45)</p> <p>6. Perfecting your pitch – presentations and peer review (11:00)</p>
	Lunch 12:00 – 13:00	Travel to Blantyre	Lunch 12:00 – 13:00	Lunch 12:00 – 13:00
PM	<p>4. Practitioners view of the AWS Standard (13:00): Session to discuss the Standard in the broader context of WRM, and link to real world application</p> <p>5. Applying the AWS Standard – Steps 1-5</p>	<p>Lunch upon arrival in Blantyre (14:00)</p> <p>9. Field trip findings – group work (15:00): Based on their findings from the field visit, participants will work in their original groups</p>	<p>15. 3rd party auditing – Overview and mock audit role play (13:00) – Following an overview of 3rd party auditing, groups will carry out a mock audit role play based on the Kaombe case study using the results</p>	<p>7. Negotiation skills and strategies (13:00)</p> <p>8. Championing water stewardship role play (13:30)</p>

	<p>(13:30): Expert led overview of steps 1-5 of the AWS Standard and group work to understand and apply each step</p>	<p>to:</p> <p>a) complete the gap analysis against the criteria of the standard</p> <p>b) develop a water stewardship strategy which addresses the identified water risks and opportunities</p>	<p>of the gap analysis conducted on day 2, with participants playing the roles of auditors and auditees.</p> <p>16. Knowledge evaluation (14:00)</p>	
	<p>Break 15:00 -15:30</p>	<p>Break 15:00 -15:30</p>	<p>Break 15:00 -15:30</p>	<p>Break 15:00 -15:30</p>
	<p>6. Introduction to Kaombe case study (15:30): Participants will be introduced to Kaombe case study and provided with written materials on the site and catchment context</p> <p>7. Field trip preparation (15:45): Groups formulate plans and determine roles for the field trip on the following morning</p>	<p>Continued...</p>	<p>17. Participant evaluation (15:30)</p>	<p>9. Putting it into practice: strategy consolidation and next steps (15:30)</p> <p>10. Participant's evaluation (16:30)</p>

Annex 2: Malawi Water Stewardship Masterclass participant list

No.	Name	Position	Company	Based	Advanced & Specialist training	Champions' Seminar
1	Ruth Phiri	Food Safety and Quality Consultant	Food Manufacturing Solutions BYR	Malawi	√	√
2	Chanda Mwale Kumwenda	Water Stewardship Manager	WWF	Zambia	√	√
3	Eunice Nkungula	Certification Officer	Malawi Bureau of Standards	Malawi	√	
4	Chimwemwe Mndelemni	Assistant Director of Engineering Services (Pollution Control)	Blantyre City Council	Malawi	√	
5	Genevieve Joy	Associate, Environmental and Social Responsibility	CDC Group	United Kingdom	√	
6	Edwin Banda	Customer Programmes Manager (Leaf Production Department)	Alliance One Tobacco Malawi	Malawi	√	√
7	Dessalegne Mesfin	Lead Consultant	DAY Eco-economy Service PLC	Ethiopia	√	√
8	Traci Reddy	Principal Consultant	Pegasys Institute	South Africa	√	√
9	Moffat Kayembe	Program Officer	Mulanje Mountain Conservation Trust	Malawi	√	√
10	Eugenio Blessings Tebulo	Maintenance Planning Engineer	Alliance One Tobacco Malawi	Malawi	√	√
11	Mekuria Tafesse	World Bank	Country Coordinator, 2030 Water Resources Group, Ethiopia	Ethiopia	√	√
12	Thokozani Chakhwantha	Safety, Health and Environmental Officer	Phata Sugarcane Outgrower Cooperative	Malawi	√	√

13	Thembisile Mkhize	Programme Manager	Strategic Water Partners Network	South Africa	√	√
14	Masangwi Mangandale	Association Business Manager	Kaporo Smallholder Farmers' Association	Malawi	√	√
15	Fredrick Mkwapatira	Chairperson	Sukambizi Smallholder Tea Association	Malawi	√	√
16	Odala Mphepoh	Student	University of Malawi Polytechnic	Malawi	√	√
17	Jonathan Barnes	Director	WYG/CRIDF	United Kingdom	√	√
18	Dorcas Pratt	Deputy Director	Water Witness International	United Kingdom	√	√
19	Lindsay Shand	Principal Environmental Geologist	SRK Consulting	South Africa	√	√
20	Fiona Sutton	Principal Scientist	SRK Consulting	South Africa	√	√
21	Derek Weston	Associate Director	Pegasys Institute	South Africa	√	√

Annex 3: Value proposition of water stewardship and the AWS Standard

VALUES	SITE IMPLEMENTERS	CATCHMENT STAKEHOLDERS	GOVERNMENT AUTHORITIES	INVESTORS	CIVIL SOCIETY	RETAILERS	DONORS
SOCIAL	<ul style="list-style-type: none"> • Support wellbeing of staff & local communities. • Reduced disruptions to operations • Reduced conflict with communities • Poverty reduction • Health improvement • Adequate access to water • Cost reductions • Knowledge transfer • Improved relationships with site workers, communities and stakeholders. • Improved hygiene • Leadership by example. 	<ul style="list-style-type: none"> • Good diversity • Protection of life & property • Improved living conditions • Sustained social development • Improvements in health leading to less conflict and social upliftment 	<ul style="list-style-type: none"> • Healthy social relations • Support for country inhabitants • Reduced burden of coordination • Recognition of government interventions by community 		<ul style="list-style-type: none"> • Cohesion of Implementation • Other opportunities for self-improvement • Support for community development. 		<ul style="list-style-type: none"> • More sponsors • Support efforts to uplift communities • Raise number of beneficiaries to support

VALUES	SITE IMPLEMENTERS	CATCHMENT STAKEHOLDERS	GOVERNMENT AUTHORITIES	INVESTORS	CIVIL SOCIETY	RETAILERS	DONORS
ECONOMICS	<ul style="list-style-type: none"> Improved efficiency Understanding of future risks Reduced costs (e.g. water treatment) Access to new markets and funding Maximized goods and services for business to business Increased profit & potential for growth. More customers through improved reputation New investment, contracts and customers 	<ul style="list-style-type: none"> Continue benefits derived from water resources Tourism value where applicable Increased productivity through improved environmental and human health Cost sharing for catchment initiatives Improved knowledge & understanding of water resources 	<ul style="list-style-type: none"> Support for national growth Support for achieving management objectives Reduced work load/costs for government when sites comply Increase economic productivity (GDP) Increased revenue (payment of water use and discharge fees) Better regulations Equity Reduced conflict 	<ul style="list-style-type: none"> Brand preservation & marketing opportunities Demonstrable impact investment 		<ul style="list-style-type: none"> Market growth Lower input costs Reputable commodities Increased market share 	<ul style="list-style-type: none"> Demonstrate value for money Poverty reduction Global environmental contribution Health improvement More opportunities to improve socio-economic activities
ENVIRONMENT	<ul style="list-style-type: none"> Environmental preservation Sustainability of water, land, habitat and human health. Improved water 	<ul style="list-style-type: none"> Reduced conflict Sustained goods and services. Water supply security Cohesion 	<ul style="list-style-type: none"> Compliance & governance Full compliance practically by AWS site Increased compliance 	<ul style="list-style-type: none"> Branding Reduced costs on accreditation & markets Reputation enhanced Reduced 		<ul style="list-style-type: none"> Green products Strategic alignment with commitment to `do no harm` and SDGS Sleep at night 	<ul style="list-style-type: none"> More likely to invest with improved environment Support efforts to protect natural heritage

VALUES	SITE IMPLEMENTERS	CATCHMENT STAKEHOLDERS	GOVERNMENT AUTHORITIES	INVESTORS	CIVIL SOCIETY	RETAILERS	DONORS
	<ul style="list-style-type: none"> quality Improved environmental management through knowledge generated Improved environmental image of site Energy and cost savings from cleaner raw water Improved health of staff Long term legal compliance 	<ul style="list-style-type: none"> socially Cost reduction Productivity The ecosystem will thrive Better preservation for future use. Less soil erosion and less pollution 	<ul style="list-style-type: none"> Revenue Conflict reduction Better managed catchment /water resources Strengthened protection and conservation of environment 	<ul style="list-style-type: none"> environmental risks Market opportunities Increased income Investment opportunities Best access to markets Due to diligence (efficient, water risk) 		<ul style="list-style-type: none"> (supply chain will net be front page news for wrong reasons) 	<ul style="list-style-type: none"> Sustainable water used on inclusion & sustainable development.

Annex 4: Malawi Water Stewardship Masterclass – Water stewardship plans for Kaombe Estate

Team 1

Water Stewardship Plan – Group 1

Kaombe 10-point Water Stewardship Plan



1. Improve resource allocation

2. Improve WASH

3. Improve on-site water security

4. Improve data and information collection, collation, storage and access

5. Improve water quality monitoring and management

6. Improved operation of Kaombe water-related equipment and infrastructure


7. Improve water use efficiency in irrigation

8. Broaden stakeholder engagement

9. Show leadership in the stewardship of the Elephant Marsh


10. Improve knowledge management

Water Stewardship Plan – Group 1




Objective (SMART)	Actions	Linkage to WS outcomes	Linkage to water challenges
1. Improve resource allocation	<ul style="list-style-type: none"> Develop a detailed budget for water related items Prioritise budget spend Understand potential funding/financing streams globally 	Good governance	Improved operation
2. Improve WASH	<ul style="list-style-type: none"> Introduction of running water and safe disposal of waste water Introduction of soap into toilet and kitchen facilities Collection and consolidation of attendance data Construction of pit latrines that can be de-sludged 	WASH	Health improvement and river contamination
3. Improve on-site water security	<ul style="list-style-type: none"> Develop and implement a risk response plan ✓ Undertake a water risk assessment (physical, regulatory, reputational) ✓ Internal (expansion of farm, flooding/drought) and external factors (climate change, population growth, economic development) 	Good governance	Water security

Water Stewardship Plan – Group 1



Objective (SMART)	Actions	Linkage to WS outcomes	Linkage to water challenges
4. Improve data and information collection, collation, storage and access	<ul style="list-style-type: none"> Consolidate water related data Implement a central database of all information (excel-based and hard-copy for office) Formalise and document the water balance Quantify water flows for site and catchment and ensure they are in line with licenses Understand embedded water in inputs and services Share information with relevant stakeholders 	Water Balance	Water security
5. Improve water quality monitoring and management	<ul style="list-style-type: none"> Understand potential sources of pollution and impacts on health, environment (marsh), ecosystems (fishing) including from upstream development at Lake Malawi Collect and record WQ of incoming and out-going streams Develop WQ monitoring protocol and WQM Plan (treatment of potable water) 	Water Quality, Good governance, Important Water-related areas	Water quality of resource (surface and groundwater)

Water Stewardship Plan – Group 1



Objective (SMART)	Actions	Linkage to WS outcomes	Linkage to water challenges
6. Improved operation of Kaombe water-related equipment and infrastructure	<ul style="list-style-type: none"> Develop and implement a Maintenance Plan ✓ Develop and maintain an equipment register ✓ Develop and implement protocol for boreholes Operation and Maintenance ✓ Replace old/broken pumps with new Variable Speed Drive pumps to improve energy efficiency ✓ Record equipment/maintenance issues ✓ Develop criteria for prioritization for fixing 	Good Governance, Water Balance, Water Quality	Water loss, water contamination, over-abstraction, health
7. Improve water use efficiency in irrigation	<ul style="list-style-type: none"> Develop a schedule for irrigation ✓ Formalise protocol on using weather forecast tools ✓ Understand climate trends Identify opportunities to improve WUE, including use of renewable energy and VSD pumps 	Water Balance	Water security

Water Stewardship Plan – Group 1



Objective (SMART)	Actions	Linkage to WS outcomes	Linkage to water challenges
8. Broaden stakeholder engagement	<ul style="list-style-type: none"> Strengthen stakeholder map and engagement plan with attention to inclusion of vulnerable groups ✓ Utilise partnership with Illovo as a strong influence and improve governance Identify shared water challenges and prioritise initiatives to address them Engage more strongly with Total, potential to bring Agricare/Illovo into discussions to improve diesel equipment and storage Utilitise existing committees to cover holistic water issues linked to agriculture, community needs, water quality, land and ensure abstraction/discharge licenses are appropriate Strengthen relationships with the communities by creating alternative opportunities for livelihood Engage with private sector and government upstream around water planning, security and quality Engage with international donors and lenders for technical assistance toward international standards 	Good Governance, Important Water-related areas	Water security and livelihoods

Water Stewardship Plan – Group 1



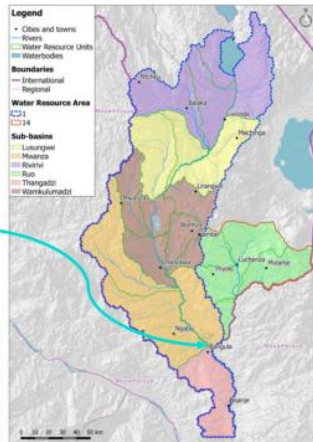
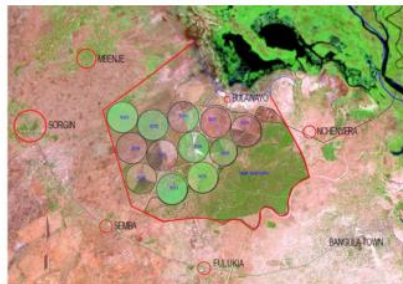
Objective (SMART)	Actions	Linkage to WS outcomes	Linkage to water challenges
9. Show leadership in the stewardship of the Elephant Marsh	<ul style="list-style-type: none"> Align activities with RAMSAR management plan Actively engage with stakeholders including government and communities Ensure water discharge into marsh is of appropriate quality 	Good Governance, Important Water-related areas	Water security and livelihoods
10. Improve knowledge management	<ul style="list-style-type: none"> Undertake a capacity needs assessment and include issues to address in existing Capacity Building Plan for farmers/staff Map sector and catchment best practice on: <ul style="list-style-type: none"> ✓ water balance and quality ✓ IWRA maintenance ✓ WASH Develop action plan to move toward best practice 	Good governance	Water security

Team 2

Kaombe Estate Water Stewardship Project

A Strategic Response Towards Improved Water Stewardship

Team 1: Mekuria, Thoko, Eugenio & Derek



- The Kaombe Estate is located in the Nsanje District of Malawi.
- The Estate includes 2,300ha of sugarcane with 800ha under cultivation.
- The Estate is located on the edge of the Elephant Marsh which is a Ramsar declared wetland of international importance.

Kaombe Estate Water Stewardship Project

Risks & Opportunities

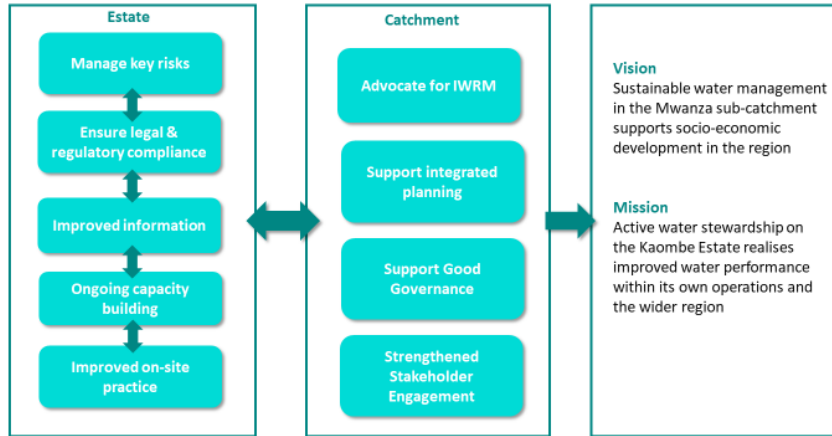


AWS Outcome	Risks	Opportunities
1. Sustainable Water Balance	<ul style="list-style-type: none"> WRU 1H known to have unreliable rainfall & high evapotranspiration Poor hydrological data sets resulting limited understanding of hydrology Periodic flooding and drought linked to climate change/variability Environmental flows are not being met 	<ul style="list-style-type: none"> Shire River Basin Management programme GW availability during dry-periods with recharge in summer months WRA Act 2013 calls for the development of a National Water Resources Masterplan
2. Good Water Quality	<ul style="list-style-type: none"> Poor WQ monitoring in the system Nutrient loads of concern Increasing soil erosion and sediment loads GW quality concerns linked to human settlements Drainage from Kaombe flows into Elephant Marsh 	<ul style="list-style-type: none"> Shire River Basin Management programme
3. Important Water Related Areas	<ul style="list-style-type: none"> Relatively poor ecological integrity Concerns about Elephant Marsh Fisheries inside Elephant Marsh 	<ul style="list-style-type: none"> Location next to a RAMSAR site Regional reserves: Lengwe, Majete and Elephant Marsh. Also Thangadza River Conservancy Elephant Marsh plan
4. Good Water Governance	<ul style="list-style-type: none"> Capacity of MoAIWD Capacity of NWRMA 	<ul style="list-style-type: none"> Shire River Basin Management Programme Sound policy and legislative framework WRA Act 2013 calls for the establishment of Catchment Management Committees
5. Safe WASH for all	<ul style="list-style-type: none"> WASH for many communities WASH facilities on the estate for workers 	<ul style="list-style-type: none"> Borehole water is treated for domestic use

Kaombe Estate Water Stewardship Project



Our Theory of Change



Kaombe Estate Water Stewardship Project



Action Plan

Objective	Action	Time frames	Link to AWS Outcome	Link to site & catchment water challenge
1. Improve the management of water supply	• Improve the monitoring of water use and capture data (metering plan and data capture protocols)	• Short	• Sustainable Water Balance	• Better understanding of water use as well as support a drive to water use efficiency
	• Develop a plan to ensure compliance with water use permits and report (monitor)	• Short	• Sustainable Water Balance	• Assess and ensure compliance with water permit conditions
	• Undertake local groundwater mapping/ analysis (study)	• Medium	• Sustainable Water Balance	• Improve understanding of available groundwater resources and assess availability for drier winter months
	• Develop improved understanding of site water balance (report)	• Short	• Sustainable Water Balance	• Better understanding of water use as well as support a drive to water use efficiency
2. Ensure improved flood preparedness	• Investigate innovative options for sustainable power supply (study)	• Medium	• Sustainable Water Balance	• Reduce power consumption and reliance on generators during power outages
	• Undertake flooding analysis (study and report)	• Short	• Sustainable Water Balance	• Support catchment level disaster management
	• Build improved system of dykes (construction)	• Short	• Sustainable Water Balance	• Support catchment level disaster management
	• Develop and implement a training plan based upon the emergency preparedness plan (plan and report)	• Short	• Sustainable Water Balance	• Support catchment level disaster management

Kaombe Estate Water Stewardship Project



Action Plan

Objective	Action	Time frames	Link to AWS Outcome	Link to site & catchment water challenge
3. Support the improvement of water quality	• Develop monitoring plan and protocols for estate (report)	• Short	• Good water quality	• Provide for routine WQ monitoring towards an understanding of impact upon regional water resources.
	• Implement monitoring plan and protocols and capture data (report)	• Short – Medium (phased)	• Good water quality	• Develop understanding of local WQ impacts noting regional degradation.
4. Improve catchment and land management	• Develop erosion management protocols and practices (study)	• Short	• Sustainable Water Balance	• Support improved land management in the region.
	• Develop priority erosion management plan (report)	• Short	• Sustainable Water Balance	• Reduce soil erosion/loss and impact of floods on estate and reduce sediment loads in Shire River.
	• Implement and monitor impact of erosion measures (report)	• Medium	• Sustainable Water Balance	• Reduce soil erosion/loss and impact of floods on estate and reduce sediment loads in the Shire River. Reduce impact on local roads and access.
	• Engage with conservancies and reserves (esp. Elephant Marsh) on plans and interventions (minutes)	• Short	• Important water related areas	• Support sustainable management of reserves and conservancies
	• Develop engagement protocol for more regular engagement on the management of Elephant Marsh (report)	• Short (Ongoing)	• Important water related areas	• Support sustainable management of reserves and conservancies • Improved water quality management • Reduce conflict over fisheries

Kaombe Estate Water Stewardship Project



Action Plan

Objective	Action	Time frames	Link to AWS Outcome	Link to site & catchment water challenge
5. Ensure suitable and safe WASH facilities for all staff	• Undertake analysis of existing facilities at an estate level (study)	• Short	• Safe WASH	• Support localised improvements in livelihoods and regional socio-economic development
	• Develop WASH improvement plan (report)	• Short	• Safe WASH	• Support localised improvements in livelihoods and regional socio-economic development
	• Implement urgent WASH improvements (report)	• Short	• Safe WASH	• Support localised improvements in livelihoods and regional socio-economic development
	• Annual assessment of conditions and satisfaction level (report)	• Medium	• Safe WASH	• Support localised improvements in livelihoods and regional socio-economic development
	• Undertake routine water quality assessments for domestic water (report)	• Short	• Safe WASH	• Support localised improvements in livelihoods and regional socio-economic development
6. Attain Water Stewardship Certification	• Finalise core documents: <ul style="list-style-type: none"> • Leadership Commitment • Water Stewardship policy • Water Stewardship Strategy and Plan (documents) 	• Short	• All outcomes	• Link strategic intent to broader planning initiatives such as the Shire Basin Management Programme, MG&D, NWWMP etc
	• Strengthen stakeholder analysis and develop engagement plan (study and report)	• Short	• All outcomes	• Garner support for WS. Support ongoing discourse on water, advocate for IWRM and WS, share lessons learned and build capacity

Kaombe Estate Water Stewardship Project



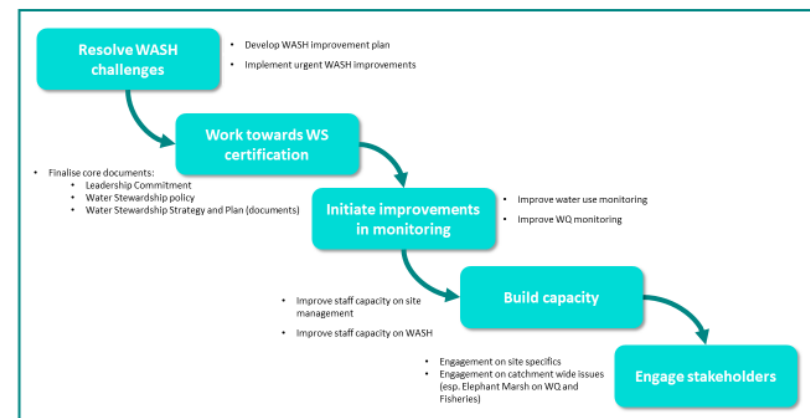
Action Plan

Objective	Action	Time frames	Link to AWS Outcome	Link to site & catchment water challenge
6. Attain Water Stewardship Certification	• Continue to gather site & catchment data (report)	• Short	• All outcomes	• Ongoing strengthening of knowledge base
	• Develop prioritised action plan for improved site management (report)	• Short	• All	• Improved site management and support to catchment initiatives
	• Develop risk mitigation plan (report)	• Short	• All	• Improved site management and support to catchment initiatives
	• Bi-annually review progress on site management performance and management of risks (report)	• Short (Ongoing)	• All	• Improved site management and support to catchment initiatives
	• Develop capacity building plan for staff	• Short	• All	• Improved site management and support to catchment initiatives
	• Implement capacity building and training interventions	• Ongoing	• All	• Improved site management and support to catchment initiatives

Kaombe Estate Water Stewardship Project



Priorities



Team 3



KAOMBE CURRENT STATUS

Kaombe is in an ecosystem comprised of Shire River, Elephant Marsh and Game Reserve

Kaombe is pro community development evidenced from the maize mill and borehole available for use by the community. Other farms dedicated to farming of food crops

Kaombe has the capacity and management team interested in water stewardship. It is linked to big organizations such as Fair Trade, Illovo, Water Witness International which can guide them accordingly

Kaombe practices are environmentally sustainable evidenced by the vertiver grass along the fields

OBJECTIVE: Multistakeholder approach on water stewardship

ACTION: Be on government advisory boards for Mo AIWD by liaising with the Mo AIWD group

WS LINKAGE: Good governance of water resources

CATCHMENT/SITE LINKAGE:

- Ensure compliance at site level which domino effect into catchment compliance
- Influence policy to look at catchment as a whole not use site and crop requirements. Think of downstream users.
- Compliance reporting on abstraction

OBJECTIVE: Water Quality

ACTION:

- Monitoring discharges against relevant standards – analysis
- Interpretation of data
- Take appropriate measures
- Improved sediment control (erosion)

W/S LINKAGE:

Improved water quality status

SITE/CATCHMENT LINKAGE:

- Improved water quality
- Better understanding of status of water resources
- Reduced salinity through improved quality

OBJECTIVE: To avoid over use/ excessive abstraction

Action: Introduce equipment/technology that will measure volumes

W/S Linkage: Sustainable water balance

Site/Catchment Linkages:

- To understand the catchment environment
- Reliable data for regulatory compliance

OBJECTIVE: To prevent contamination and excessive over use

Actions: Refer to water quality and water balance

Objective: To effectively implement WASH programmes

Actions:

- Expedite building of new pit latrines for farmers
- Drinking cups for each worker- no sharing
- Potable water to surrounding communities and adequate amounts
- Assess water quality of bore holes at communities- locality of pit latrines
- Out break awareness in communities as well as workers

W/S Linkage

- Safe water, sanitation and hygiene for all

Site/Catchment Linkage:

- Healthy work force and catchment community
- More commitment from people to ensure WASH

Team 4

Kaombe, Malawi – Water Stewardship Strategy and Plan

12 March 2019

Water Stewardship Strategy (AWS 2.3.1.)

Kaombe Estate has become a member of the Alliance for Water Stewardship (AWS), commencing in 2018. Kaombe's vision mission and goal relating to water stewardship are as follows:

Vision

Our **vision** as a leading agrigcane estate, has a top business priority of understanding that water is an essential resource, requiring careful management in order to sustainably utilise this valuable resource within the Catchment

Mission

Our **mission** in joining AWS is to develop an understanding of our water footprint within the Shire Catchment

Goal

Our **goal** is to partner with our staff and stakeholders to utilise water in an economically, environmental and socially sustainable fashion.

Kaombe Water Stewardship Plan – March 2019 (AWS 2.3.2.)

Target/Objective		AWS Outcome	Measurement and Monitoring	Action to be Achieved	Site and Catchment Water Challenge Links	Responsible Person	Timeframe	Budget
STAKEHOLDER	1.2.2. Stakeholder engagement commenced	Stakeholder partnership in terms of water use	Refer to BP Principals	- Increased consultation with small holders regarding water use	Unsustainable use of water from the catchment may detrimentally affect each other.	Kaombe Estate – GM, OHES	6 months	\$100
TRAINING	1.3.1. Emergency Response Plan in place	Training on water related incident response plans	80% staff trained	- Train field staff on emergency response plans, and mitigation measures to minimise impacts to site and surroundings.	Incidence prevention through emergency response training.	Kaombe Estate – GM, Farm Managers, OHES	3 months	\$100
WATER BALANCE	1.3.2. & 1.3.3. No accurate values available for current water use	Site water balance	Kl readings using flow meters	- Install flow meters to gauge use over time. - Compile site water balance	Sustainable use of water resource unknown	Kaombe Estate – GM, Farm Managers	6 months – due to funding constraints	\$50 000
	1.5.3. No catchment sustainable yield available	Catchment water balance		- Compile catchment water balance			12 months	\$5 000
	3.3. Implement site water balance targets.	Achieve site water balance.		- Develop site water balance.			18 months	\$100
WATER QUALITY	1.3.4. Limited water quality data available, only one known sample taken.	Site water quality	Laboratory analysis in mg/l To meet BP principals e.g. WHO, USEPA	- Source, site and discharge water quality monitoring to be undertaken to meet specific water quality objectives based on water use.	Compromised water quality could impact human health and crop production, water treatment requirements.	Kaombe Estate – GM, Farm Managers, OHES, Extension Officers	3 months	\$10 000
	1.5.3. No catchment water quality available along the	Catchment water quality		- Obtain water quality data from government and			12 months	\$5 000

Target/Objective		AWS Outcome	Measurement and Monitoring	Action to be Achieved	Site and Catchment Water Challenge Links	Responsible Person	Timeframe	Budget
	catchment – up and down gradient of the site.			neighbouring properties.				
	3.4. Implement site water quality targets.	Achieve site water quality.		- Develop site water quality.			18 months	\$100
POLLUTION	1.3.5. No pollution prevention measure in place.	Pollution sources	Refer to BP Principals	- Develop a chemical management and emergency response plan for chemical spills. - Train key personnel on emergency response procedures and safe chemical management.	Contamination of water resources resulting in impacts to human health, ecological health and crop production.	Kaombe Estate – GM, Farm Managers, OHES, Extension Officers	3 months – due to funding constraints	\$50 000
IMPORTANT WATER RELATED AREAS	1.3.6. & 1.5.5. Not all areas of cultural significance identified.	Identification of important water related areas	Refer to BP Principals	- Verify and map important water related areas through consultation with the local community.	Loss of areas of cultural significance.	Kaombe Estate –Extension Officers	12 months or Prior to any new development.	\$1 000
	3.5. Compile & execute implementation plan for important water related areas.	Maintain or improve important water related areas (site and catchment)		- Develop an implementation plan to maintain or improve important water related areas (site and catchment)				
WASH	1.3.8. WASH facility may be inadequate for number of users.	Assess adequacy of WASH facilities	Refer to BP Principals	- Determine and assess WASH facilities meet international standards.	Human health risks. Impact of contamination of water resources.	Kaombe Estate – GM, Farm Managers	6 months	\$50 000
	3.6. Compile & execute implementation plan for WASH requirements.	Provide safe WASH for all workers and site operations.		- Develop an implementation plan for WASH for all workers and site operations.				

Target/Objective		AWS Outcome	Measurement and Monitoring	Action to be Achieved	Site and Catchment Water Challenge Links	Responsible Person	Timeframe	Budget
INDIRECT WATER	1.4.1 & 1.4.2. Understand the site's indirect water use.	Determine embedded water use	Refer to BP Principals	- Assess chemicals in use and embedded water costs associated with these.	Accurately assessing the site's water use.	Kaombe Estate – OHES, Extension Officers	12 months	\$2 000
INFRASTRUCTURE	1.5.6. Understand water related infrastructure plans.	Identification of existing and planned water related infrastructure	Refer to BP Principals	- Interaction with government and neighbouring properties to understand future water related plans.	Downstream impacts on stream flow regimes and available water resource.	Kaombe Estate –Extension Officers	12 months or after any catastrophic events.	\$1 000
WATER CHALLENGES	1.6. Understand current and future shared water challenges within the catchment.	Understand shared water challenges within the catchment.	Refer to BP Principals	- Government and community liaison to understand catchment challenges.	Downstream impacts on available water resource and water quality.	Kaombe Estate –Extension Officers	12 months or after any catastrophic events.	\$2 000
	3.1. Implement plan to participate positively in catchment governance.	Participate in catchments governance.		- Engage and collaborate with catchment governance organizations.	Reputational risk and credibility.			
BEST PRACTICE	1.8. Understand best practice principals.	Determine best practice principals for water and catchment management.	Assess international BP	- With the assistance of WWI develop criteria to meet best practice principals for site conditions.	Reputational risk and credibility.	Kaombe Estate – GM, Farm Managers, OHES, Extension Officers	12 months	\$20 000
	3.9. Implement best practices in terms of AWS outcomes.	To achieve bet practice principals in line with AWS outcomes.		- Review and implement relevant actions to comply with best practice principles in line with AWS outcomes.				

Target/Objective		AWS Outcome	Measurement and Monitoring	Action to be Achieved	Site and Catchment Water Challenge Links	Responsible Person	Timeframe	Budget
LEGAL COMPLIANCE	3.2. Comply with water related legal and regulatory requirements.	Renew water use licence in time.	Refer to BP Principals	- Renew license 3 month prior to expiry date.	Reputational risk and credibility.	Kaombe Estate – GM, OHES, Extension Officers	1 months	\$1 000