



**Biodiversity Risk &
Opportunity Assessment
Research Study Report For
Northern Tobacco
Operations in Guruve
Region 2017
Implementation Feedback.**



ABSTRACT

Guruve Region Biodiversity Research Study Aim, Objectives, Methodology, Findings, Corrective Action Plan, Management Program, Monitoring and Evaluation 2017 Implementation Feedback.

Abbreviations and Acronyms

NT	Northern Tobacco
STP	Sustainable Tobacco Program
BAT	British American Tobacco
SAFL	Sustainable Agriculture Farmer Livelihoods Program
EMA	Environmental Management Agency
CBO	Community Based Organizations
PPE	Personal Protective Equipment
M & E	Monitoring and Evaluation
SDA	School Development Administration
KMs	Kilometers
NSSA	National Social Security Authority
AGRITEX	Agriculture Extension Services

1. Aim of Biodiversity Study

The main aim of biodiversity study is to comply with Section E7 of the Sustainable Tobacco Programme Environment Guide which ultimately will be audited by ab.sustain (United Kingdom).

2. Objectives of the study were clearly explained to the participants as follows:

- a) To identify environmental risks, impacts and opportunities of tobacco production on biodiversity.
- b) To evaluate the effects of tobacco production on natural ecosystem, forests, soil, water, energy, social and biological resources within NT business footprint.
- c) To assess and prioritise the risks, impacts and opportunities arising from those impacts and risks.
- d) To produce Biodiversity Corrective Action and Monitoring Plan to address identified negative risks and impacts which is technically feasible, socially acceptable and financially viable to guide operations.

3. Methodologies used for Biodiversity Study

The study applied a comprehensive survey in Guruve region where Northern Tobacco contract farmers. The following data collection methods were applied:

- i. Focus Group Discussions with the following target audience:
 - a) 18 selected employees from NT commercial farm.
 - b) 19 selected small scale growers including Agritex Officer.
 - c) One Headmaster, one teacher and two school development administration (SDA) committee members from Kondo Primary School.
- ii. Key Informant Interviews were conducted with the following:
 - a) Two Farm Managers from NT commercial farm.
 - b) One Supervisor from NT commercial farm.
 - c) One Primary Care Nurse from Ruyamuro Clinic.
 - d) One NT Guruve Regional Assessor.

- iii. Observation was done through onsite physical mapping exercise within NT business footprint in Guruve Region.

4. Number of Participants

44 participants took part in this research study and participation list is attached as Annexure 1 on this report on page 9 - 10.

5. Research Ethical Considerations

The exercise ensured the three basic principles governing ethics in human sciences research which are: (i) Respect for persons (ii) Beneficence and (iii) Justice. These include among others; voluntary participation of the respondents; establishing good rapport; confidentiality, anonymity and the right for respondents to opt out of the study at any stage. To ensure voluntary participation of the respondents, informed consent forms were explained and signed by participants prior to data collection.

6. Table 1: Risk assessment for Guruve site

Site	Biodiversity Risk Topic	Description and Evidence of Impacts and potential impacts.	Assessment Scale Risk/Probability/Magnitude L=Low, M=Medium, H=High			Corrective Action: Recommendations developed with input from team on how to improve on annotated impacts.
			Risk	Probability	Magnitude	
Guruve	Natural Ecosystem & Biological Systems	i. High level of deforestation activities and loss of native forest corridors for wildlife such as tree lines, indigenous trees and exotic trees due to tobacco curing.	H	H	H	i. To design a robust reforestation program using STP Best Practice Guide including the following strategies: <ul style="list-style-type: none"> Engagement of regional Forester to oversee the program. Establishment of tree nursery at identified local schools and provide growers with seedlings rather than S Develop and comprehensive monitoring and evaluation program
		ii. Climate change such as global warming contributed from forest destruction activities largely due to tobacco production.				
		iii. Honey production within the region is negatively affected by late destruction of tobacco stalks.				

Commented [D1]: Not yet done but afforestation 2018 plan is in place.

Commented [D2]: 28 000 seedlings has been disbursed in Nyazura region where growers, local schools and community members received Croton, Paw Paw and Moringa seedlings.

Commented [D3]: Monitoring structure in place through field technicians/assessors' monitoring visits and STP unannounced monitoring visits. Impact of the initiative to be done through episodic evaluations.

						<ul style="list-style-type: none"> Engage surrounding community members and growers into tree planting exercises, incentivized by low cost competition initiatives to foster a culture of afforestation. To continuously conduct awareness sessions on timely tobacco stalk destruction and consider penalizing non adherence cases in partnership with other organizations such as E
	Terrestrial Species	<p>i. Decline in native terrestrial population in terms of number and range due to hunting by some growers and surrounding community members.</p> <p>ii. Increase in terrestrial species disturbance by some growers and community members due to tobacco production which includes species behavioral change such as wild animal migration.</p> <p>iii. Loss of terrestrial species due to tobacco production such as zebras and giraffes among other wild animals which are no longer within the region as compared to previous decade.</p>	M	M	M	<p>To conduct awareness sessions on importance of terrestrial species using STP guidelines on protection of any endangered species.</p>
	Terrestrial Landscape & Habitat	<p>i. Poor storage of tobacco chemicals by some small scale growers due to limited storage trunks.</p> <p>ii. Poor disposal methods of empty tobacco chemical containers such as dumping them in termite mounds. Some use empty containers</p>	H	H	H	<p>i. To conduct continuous training using STP best practice guide on the following:</p> <ul style="list-style-type: none"> ➤ Proper use and storage of chemicals. ➤ Proper disposal of hazardous waste and

Commented [D4]: Tobacco Research Board pamphlets on stalk destruction and training of trainers on the topic was conducted on the 24th of May 2018.

Commented [D5]: Training of trainers was conducted inclusive of the topic during 2018 STP Overview training. The STP seminar scheduled for July 2018 shall include the environmental pillar training.

Commented [D6]: Done during the 24th of May 2018 STP People Pillar training.

		<p>for domestic purposes such as fetching water among other uses.</p> <p>iii. Use of tobacco chemicals on other crops such as vegetables, rape or tomatoes which are sold for human consumption. It is a health risk to humanity who eat the produce.</p> <p>iv. Loss of natural vegetation buffers around land edges for tobacco farming.</p> <p>v. Encroachment (5 km or less) to areas of biodiversity significance due to activities such as stream bank cultivation largely caused by irrigating tobacco seedbed.</p> <p>vi. Limited renewal of fire guards within tobacco fields among small scale growers.</p>				<p>empty chemical containers.</p> <p>➤ Waste management and recycling.</p> <p>➤ Importance of terrestrial habitat conservation training.</p> <p>ii. To consider provision of chemical storage trunks using STP Best Practice standard as part of small scale growers' inputs to plug existing gaps.</p> <p>iii. To continuously encourage small scale growers to construct and renew fireguards within the farm and surrounding area.</p>	<p>Commented [D7]: Communication done, actual implementation need follow up.</p> <p>Commented [D8]: Not yet done. A plan shall be developed during the STP July 2018 seminar.</p> <p>Commented [D9]: Communication done during STP overview training.</p> <p>Commented [D10]: Done in Gurube region.</p> <p>Commented [D11]: Communication done but actual implementation still have gaps.</p>
	Soil Erosion and Structure	<p>i. Leaching partly caused by excessive rainfall which was received in 2016.</p> <p>ii. Soil erosion caused mainly by the following:</p> <ul style="list-style-type: none"> Excessive rainfall. Limited construction and non-renewal of contour ridges. Road destruction due to activities such as dragging cattle plough on surrounding roads. <p>iii. Soil structure deterioration, loss of organic matter and increased soil acidification due to factors such as limited crop rotation among small scale growers.</p> <p>iv. Decrease of soil fertility among small scale growers' fields due to factors such as siphon of required fertilisers</p>	M	M	M	<p>Conduct continuous trainings on Sustainable Tobacco Program (STP) best practices on soil conservation practices and soil management.</p>	<p>Commented [D12]: STP Seminar to be held in July 2018 shall cover environmental pillar training. However communication was done during the STP Overview training conducted.</p>

		and other chemicals to other uses.				
Soil Health	<ul style="list-style-type: none"> i. Limited soil analysis among small scale growers. More than 95% have never done soil analysis. ii. Poor tobacco farming methods among small scale growers due to factors which include limited knowledge on the crop. iii. Non adherence to required fertilizer, chemicals and lime. 	H	H	H	<ul style="list-style-type: none"> i. To consider conducting soil analysis using STP Best Practice standard. Phase one can be done at low cost such as regional group sampling for small scale growers. ii. To consider more fertilizer and chemical application processes with provision of continuous soil health education. 	<p>Commented [D13]: Not yet done. A plan in place to conduct soil analysis between June 2018 – August 2018. The process to start on the 14th of June 2018 during the STP Phase 1 training.</p> <p>Commented [D14]: Done through continuous crop pillar trainings.</p>
Aquatic Habitat	<ul style="list-style-type: none"> i. Loss of aquatic habitat such as fish, frogs among others due to stream bank cultivation largely caused by tobacco seedbeds. 	M	M	M	<ul style="list-style-type: none"> i. To consider provision of strategies on how small scale growers can drill boreholes for irrigation purposes with aim of minimizing stream bank cultivation. ii. To raise awareness on dangers of stream bank cultivation in line with STP guidelines on protection of conservation areas. 	<p>Commented [D15]: Not done</p> <p>Commented [D16]: Done through continuous training.</p>
Aquatic Health	<ul style="list-style-type: none"> i. Loss in water flow quantity and water quality of some surrounding water courses such as rivers and streams due to contaminated runoff, siltation and surface pollution. 	M	M	M	To continuously raise awareness on importance of aquatic health in line with STP standard with support from local community leadership.	<p>Commented [D17]: Started trainings during STP overview but need to scale up trainings is required.</p>
Social Impacts	<ul style="list-style-type: none"> i. Lack of personal protective equipment (PPE) among small scale growers which exposes them to a number of health related risks. ii. Experience of minor accidents such as fire burns during curing. iii. Improper use of tobacco chemicals among small scale growers such as suicide. Some reported to store them in bedrooms which is a health hazard. 	H	H	H	<ul style="list-style-type: none"> i. To consider provision of PPE to small scale growers in batches as part of inputs to minimize exposure to chemicals according to STP guidelines. To minimize cost, phase one can include gloves and masks which are critically required. ii. To conduct health and safety training using STP best practice guide and National Social Security Authority (NSSA) guidelines. iii. To encourage small scale growers to establish cost effective storeroom for chemicals. 	<p>Commented [D18]: Done.</p> <p>Commented [D19]: Not done but plan in place to be held in 2018 season.</p> <p>Commented [D20]: Communication was done however implementation still have gaps.</p>

		<div><div>iv. Involvement of smokers who use tobacco leaves straight from the ban which is a health risk.</div><div>v. Some of small scale growers experience hunger due to focus on tobacco only rather than both cash crop and staple food.</div><div>vi. Poor personal wealth management among small scale growers leading to some of the following cases:<div><div>▪ High credit rate.</div><div>▪ Excessive beer drinking.</div><div>▪ Polygamy</div><div>▪ Domestic violence</div><div>▪ Suicide</div><div>▪ Some of small scale growers' school going children only attend school during second term after tobacco sales. First term and third term there is high absenteeism due to lack of school fees.</div></div></div><div>vii. Child labor is high in some areas during tobacco peak season which leads to high absenteeism rate among local schools.</div></div>				<div><div>iv. To conduct awareness sessions using STP Best Practice guide on the following:<div><div>▪ Proper use of tobacco chemical</div><div>Commented [D21]: Done</div></div><div>▪ Proper disposal of tobacco chemical empty containers.</div><div>▪ Dangers of smoking unprocessed tobacco.</div><div>Commented [D22]: Done</div><div>▪ Dangers of using tobacco chemicals on gardening produce.</div><div>Commented [D23]: Done</div><div>▪ Staple food farming on top of tobacco production using BAT SAFL Program guidelines such as maize for food security.</div><div>Commented [D24]: Not done</div><div>▪ Budget priority</div><div>Commented [D25]: Not done but to be conducted during the STP July 2018 seminar.</div><div>▪ Dangers of labor on the farm</div><div>Commented [D26]: Done through the 24th of May 2018 STP People Pillar Training, Information/Communication/Education (IEC) material disbursement mostly in Shona through Best Practice Guide, Child Labour Booklet and Best Practice Note. Monthly unannounced monitoring STP People Pillar unannounced visits in place as part of complying to STP governance pillar are continuously conducted on a monthly basis.</div></div></div> <div>Commented [D27]: Scheduled for the July 2018 STP Seminar.</div> <div>Commented [D28]: Not done yet.</div>
Environmental Risks	<div><div>i. Atmospheric Pollution from dust and particulate matter (such as mineral dust, nitrates, black carbon) released into the atmosphere during combustion of fuels from curing and the operation of machinery during tobacco production such as tractors.</div><div>ii. Dust in tobacco bans.</div><div>iii. Poor Ban design which do not control humidity during</div></div>	M	M	M	<div><div>i. To continuously assess main source of pollution from tobacco production in order to implement responsive pollution management program and adhere to required STP standards</div><div>Commented [D29]: Not yet done</div><div>ii. To assess growers' ban design and put responsive program in place.</div><div>Commented [D30]: Partially done</div></div>	

		curing largely among small scale growers.				
	Veld Fires	Veld fire experiences due to activities such as mice hunting, human negligence and smoking among others.	H	H	H	To raise awareness on protection of natural conservation using STP best practice guide.

Commented [D31]: To be done through the STP seminar scheduled for July 2018.

7. Monitoring and Evaluation (M & E)

According to ab.sustain section E7.2, Biodiversity Management Program was explained to farm management. The following guiding principles were highlighted which the program shall continuously monitor and evaluate which can be adopted but not restricted to as follows:

Commented [D32]: Partially implemented but evaluation shall be required to assess impact, effectiveness and efficiency.

1	Protection of conservation areas.
2	Protection of any endangered species.
3	The conservation of natural habitats and corridors between natural habitats.
4	The protection and enhancement of unfarmed areas (field corners, woodland, verges, buffer zones etc.)
5	The provision of nesting platforms and nest boxes.
6	The provision of summer food for wild life e. g nectar-bearing plants, fruits and seeds.
7	The provision of winter food for wildlife e. g fruits and seeds.
8	The provision of clean water whether static or flowing.
9	Replanting of native tree species.
10	Management of invasive species which can vary on origin and may affect fields, watercourses and surrounding areas.

Annexure 1: Participation Register

Name of Participant	Department	Occupation	Male / Female
1. Kadzviti Courage	Management	Headmaster for Kondo Primary School	Male
2. Petro Clever	Teacher	Teacher for Kondo Primary School	Male
3. Viola Mubvumba	School Development	School Development Committee Member for Kondo Primary School	Female
4. Kondi Paul	School Development	School Development Committee Member for Kondo Primary School	Male
5. Gloria Machingura	Nursing	Primary Care Nurse for Ruyamuro Clinic	Female
6. Nyamadzawo Tafara	Assessor	NT regional assessor	Male
7. Green Rusere	Management	NT Commercial Farm Manager	Male
8. Mopian Mutero	Management	NT Commercial Farm Manager	Male
9. Stephax Kunyete	Management	NT Commercial Farm Manager	Male
10. Modias Mamid	Driver	Driver for NT Commercial Farm	Male
11. Emmanuel Katano	Health Worker	Health Worker for NT Commercial Farm	Male
12. Obvious Mandala	Workshop	Workshop Attendant for NT Commercial Farm	Male
13. Kunatsa Mcdonald	Agritex	Agritex Officer	Male
14. Edwel Chimbwerere	Grower	NT grower	Male
15. Gwera Chidhakwa	Grower	NT grower	Male
16. Tongesai Ngwarati	Grower	NT grower	Male
17. Misheck Misheck	Grower	NT grower	Male
18. Tongesai Robert	Grower	NT grower	Male
19. Ajida Twaya	Grower	NT grower	Male
20. Zanga Migai	Grower	NT grower	Male
21. Chataira Knowledge	Grower	NT grower	Male
22. Misheck Hazvinei	Grower	NT grower	Male

23. Cleopas Matemera	Grower	NT grower	Male
24. Mangwiro Arthur	Grower	NT grower	Male
25. Mutseka Courage	Grower	NT grower	Male
26. Chigwida Lucia	Grower	NT grower	Female
27. Mupeketura Everjoy	Grower	NT grower	Female
28. Maponga Franscesca	Grower	NT grower	Female
29. Persuade Chioneka	CSR Coordinator	NT regional CSR Coordinator	Male
30. Nyadzie Matope	Grading	Grading Shade Worker	Female
31. Mollen Kubaira	Grading	Grading Shade Worker	Female
32. Abigail Mutero	Grading	Grading Shade Worker	Female
33. Nesta Gukushu	Grading	Grading Shade Worker	Female
34. Rosina John	Grading	Grading Shade Worker	Female
35. Fiona James	Grading	Grading Shade Worker	Female
36. Ncume Taireva	Grading	Grading Shade Worker	Female
37. Sirai Seremwa	Grading	Grading Shade Worker	Female
38. Ranganai Paketi	Grading	Grading Shade Worker	Female
39. Sekai Yodani	Grading	Grading Shade Worker	Female
40. Teresa Boroma	Grading	Grading Shade Worker	Female
41. Yepudzai Dzangwe	Maid	Maid for NT Commercial Farmer	Female
42. Nixona Bikinos	Guard	Security Guard Commercial Farm	Male
43. Tapiwa Chipata	Clerk	Clerk for NT Commercial Farm	Male
44. Bonomati Martin	Mechanic	Mechanic for Commercial Farm	Male

Some photographs taken during the study.



Fig 1: Focus Group Discussions with some of NT commercial farm employees.



Fig 2: Focus Group discussions with some of NT small scale growers.



Fig 3: Key Informant Interview with one of NT Commercial Farm Manager.



Fig 4: Focus Group Discussions with selected small scale growers and community members.