



Final Report

August 2013

Please e-mail to research@crdc.com.au

Part 1 - Summary Details

Please use your TAB key to complete Parts 1 & 2.

CRDC ID: 1121

Project Title: myBMP Lead Audit Role

Project Commencement Date: 18 July 2012 **Project Completion Date:** 30 June 2013

Research Program: 3

Part 2 – Contact Details

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30/09/2013

Part 3 – Final Report

Background

The Cotton Industry's myBMP program includes an option for growers to achieve certification by undertaking a certification audit.

This project provided activities to ensure the cotton industry had a consistent, robust and credible audit certification system.

The project provided a lead for the myBMP Audit function, including providing suggested amendments and improvements to myBMP Audit function, developing and leading a team of auditors to achieve a professional approach to auditing as well as providing the training and mentoring of new auditors.

No farm names are mentioned in this report as they maybe commercial in confidence.

Objectives and Milestone Requirements.

The project objectives and milestones are listed below with a brief report against it. Detailed reports against each Milestone were provided during the project milestone reports

Milestone 1: Become fully capable on the myBMP Audit Process (Oct 2011)

This was achieved by Guy Roth through participation in discussions with myBMP staff, by reviewing the myBMP criteria, participation in training, and using the on line system.

Milestone 2: Make contact with existing Auditors and establish availability to Audit (Oct 2011)

This Milestone was completed and reported in the Milestone report. Of the 8 potential previously trained myBMP auditors in 2010 only two remain active.

Milestone 3: Propose at least 6 candidates for Auditor training, and Organise Training during October 2011

This training was completed. Ten people participated in the 2 day training course. Trained in October 2011 were; Meg Kumerow, David McClure, Geoff McIntyre, Rachel Holloway, Sally Ceeney, Andrew Gourlay, John Temperley, plus Cotton Australia had new staff (3 people) in attendance.

Milestone 4: Conduct at least 2 audits and be mentored and scrutineered on these by James Houlahan or other nominated experienced Auditor.

These two audits were completed and reported in the Milestone report.

Milestone 5: Improve Audit system

Suggestions were made in the milestone report how to improve the myBMP computer aided audit system. This is an ongoing process and will be discussed again later in the report.

Milestone 6: Propose at least 10 people for audit training in October 2012 and mentor audits by 30 Jan 2013.

It was agreed by CRDC that this course would not be run as there was no significant increase in demand for auditing services.

Milestone 7-10: Improve audit system, provide progress reports and oversee 2013 audits until 30th June 2013.

Suggested improvements and progress reports were provided. Prior to this project two farms had achieved myBMP certification status. This project has led to 15 more farms having undertaken a myBMP certification audit.

Additional Milestone: 3rd Australian Cotton Industry Environmental Review Steering Committee

This was a new milestone added to the project by CRDC as a contract variation.

Guy participated in all steering committee meetings of this project (Jan, March, April, July, & August) as well as attending to matters via email/phone with Bruce Pyke and Rachel Holloway. This included reviewing several written drafts of the environmental review from the consultants.

Guy also drafted the initial response (64 pages document) to the 2nd environmental audit for Cotton Australia and CRDC to provide to the review team during the environmental review.

Additional Milestone: Review Better Cotton Initiative Standards against myBMP standards.

The project reviewed the ***Better Cotton Initiative (BCI) standards*** for Cotton Australia & CRDC and produced a detailed report that was passed onto Cotton Australia.

Observations between BCI and Australian Cotton included;

- BCI should accept myBMP certification as BCI certified.
- myBMP standards are higher or are “better practice” than BCI is applying globally, which is good news for an Australian my BMP certified farmer.
- BCI indicators appear “overweight” on workforce practices like child labour & collective bargaining and underweight on occupational health & safety. If necessary, myBMP could be easily tweaked to cover a few BCI priorities like child labour.
- BCI indicators are perhaps underweight in land and water matters that are important to Australian stakeholders and presumably the world. For example, salinity and water quality. Others like energy use, carbon balance, greenhouse emissions, and life cycle analysis are also currently important in Australia.
- BCI rightly has a lot of focus on agricultural chemicals. There seems to be some ambiguity if the indicators are targeting insecticides or all pesticides. Greater clarification around herbicides & weeds could be considered given global focus on some herbicides and manual chipping practices in some countries. Transgenic trait stewardship is not mentioned.
- The annual reporting requirement of BCI of many indicators will keep the administration system busy. Expectations that yields, fertiliser rates and other outcomes are going to trend in the appropriate direction as a result of a better practice each year are false. Climatic variation, which impacts yields, crop growth, pests, fibre quality etc. will mask annual movement in some indicators. Collecting the data annually is important for most of them, but to expect a consistent trend direction to remain certified is risky.
- Some indicators like biodiversity are not responsive to annual change. A better practice may take five years for the outcome to be measurable and attributable.

Methods

The myBMP program includes an option for growers to achieve certification by having an external audit completed of their practices.

To become an auditor, my BMP policy requires them to;

- undertake a five day environmental auditing course
- undertake a two day myBMP training course (provided by this project)
- undertake two supervised mentored audits (provided by this project)

myBMP Training Course

This project conducted a two day training course in Narrabri.

Dates and Venue

Auditor Training 1st and 2nd November 2011

CRDC Board Room , plus on farm Auditing day 2; Aусcott Narrabri.

Attending

Meg Kumerow, David McClure, Geoff McIntyre, Rachel Holloway, Sally Ceeney, Andrew Gourlay, John Temperley, plus Cotton Australia had new staff (3 people) in attendance.

The Training Team

Guy Roth Lead Auditor, James Houlahan CA, Jim Wark CSD, Rebecca Rogan Cotton CRC, Sandra Deutscher CSIRO, Peter Verwey Cotton CRC, Ken Flower Cotton CRC

The training covered the myBMP system, but specifically what auditors might look for.

- Interview – what types of questions would you ask?
- Observation – what would you look for / look at?
- Records – what types of records might exist?

Table 1: The training program

Day One Tuesday 1 st Nov 2011			
	Time	Session	Input
1	8.30am 9am	Coffee and a chat Welcome and introductions (15m) Training program structure and overview Objectives of the training session	KF & GR
2	9.15am	Overview of myBMP Program (45m) myBMP Objectives myBMP team - roles Implementation & Delivery arrangements myBMP certification program Transition of growers from old to new systems	JW, GR
3	10.00am	Soils module (30m)	GR
	10.30am	Morning tea (20m)	
4	10.50am	Biosecurity module (20m)	SD
5	11.10am	Water module (80m)	GR

	12.30pm	Light Lunch on site(45m)	
6	1.15pm	IPM module (30m)	SD
7	1.45pm	Natural Assets module (60m)	GR, PV
8	2.45pm	Fibre quality module (15m)	GR
	3.00pm	Afternoon tea (15m)	
9	3.15pm	Auditing procedures, requirements and arrangements (120m) Audit period AODs and SODs Training, mentoring and scrutineering requirements Requirements for auditors (training, insurance, performance monitoring, etc.) Audit office function and auditor interaction with it Roles and expectations of industry auditors Random surveillance audits and requirements Proposed fee structure and arrangements	GR, JH
10	5.00pm	Questions and close (address 'parking lot' issues - if any)	GR
	6.30pm	Dinner – Bowling Club	KF

Day Two Wednesday 2nd Nov 2011

	Time	Session	Input
11	8.00am	Issues from day 1 (10m)	GR
12	8.10am	Pesticides module (25m)	J H
13	8.20 am	Energy and input efficiency (10m)	JW
14	8.30 am	HR module (10m)	JH
15	8.50 am	Biotechnology module (20m)	GR
16	9.10 am	Petrochemicals module (20m)	GR
	9.30 am	Morning tea (15m)	
17	10.00am 11am	myBMP site navigation – accessing grower information from assessments and reviewing documents prior to audit (45m) Desk review of Audit requested Preparing for field Audit	JW, RR
	11.30pm	Light Lunch on-site(45m)	
18	11.45pm	Farm visit; Break into 3 groups and cover the on site Field work required	GR
19	2.15pm	Inputting Field info onto Audit Assessment for Scrutinizing Questions, wrap up and issues (15m)	CR

myBMP Audit Mentoring

- Guy Roth was mentored by James Houhlan (Cotton Australia) for one audit and Jim Wark (Cotton CRC)
- Geoff Macintyre and Renee Anderson were mentored separately by Guy Roth in Goondiwindi and Emerald.

The Audit Procedure

The audit procedure is documented in detail on the myBMP operating documents. Growers are audited on the five core modules (soils, water, petrochemicals, natural assets and pesticides), plus one of the other modules, which are allocated at random by the myBMP office two days prior to the audit. There are approximately 360 individual practices to check depending on the random module selected.

The auditor can review the grower's self-assessment and any documents they have loaded onto the BMP system prior to visiting the farm. A farm visit is undertaken where records are checked and a farm tour is conducted as per the myBMP operating documents. The auditor then enters their findings on the myBMP online system. The grower then has 3 months to complete any matters requiring attention to the satisfaction of the auditor to obtain certification. As expected with any new system there has been a number of start-up issues associated with myBMP certification. These will be discussed in the next section.

Discussion

The Auditing Process

The main issue with the initial farm audits has been the time required to complete the task. The aspiration of the cotton industry, is for this task to take one day in order to keep the costs down. Depending on how organised the grower was, most of the audits completed have taken 3 days each. This includes travel time, reviewing documents on the on line my BMP program, a farm visit, and completing audit report on line. While some of this additional time is due to the nature of start-up projects, the auditing process needs streamlining to meet the aspirations of completing the task in a day.

The current myBMP procedures require the auditor to audit the five core modules, plus one other module. This involves around 360 practices or “line items” that each have to be reviewed as part of the audit. In essence, this is a full systems audit of those 360 practices.

It is likely an experienced auditor could possibly check most of these things off with say 2 – 4 hours on the computer (depending on the information quality) before the visit, and 4-5 hours at the farm (if the grower is organised). At present it takes 2 days to type in the required report into the myBMP system (360 practices at five minutes each is 30 hours) and action any follow up in relation to non-conformances. Plus travel time (egg 3-4 hours).

The purpose of typing up detailed notes after the audit requires consideration. Is it to provide the grower a report on every practice? Generally growers want a concise report on what they need to fix to obtain certification. Another reason to type up detailed notes is it to provide a paper trail and evidence of the certification process.

The time taken for audits will flow on to the grower cost. At the moment the industry requires auditors to complete an environmental auditor’s course (four days), two days of myBMP course and two mentored audits all at their own cost. Clearly a consulting auditor will need to feel there are market drivers for them to wear this upfront cost. Professional indemnity insurance maybe another cost that needs to be factored into their decision to provide audit services.

Suggestions improve the myBMP audit system include.

- Discontinue the use of the word “audit” as it creates a negative impression. Rename or badge it “certification” or compliance review.
- Continue to review the auditing process. This has been discussed with the my BMP office and a new process will be implemented in October 2013 which will reduce the number of entries an auditor needs to make on line.
- Review the costs and expectations, including other funding sources to cover the cost.
- Simplify the myBMP system by reducing the number of practices required to obtain certification. This has been discussed with the myBMP office and is currently being implemented.
- Improve the quality of some of the on line resource materials (some are cluttered with every report ever produced on a topic, while others such as the petrochemicals are almost blank). This would save auditors time when they need to check any detail and no doubt would make it more user friendly for growers.

Examples of practices growers have not met prior to audit

Listed below are some examples of practices that growers have not met at the initial audit. Since the audit the growers have fixed these and provided sufficient evidence to the auditor to gain their certification. These are just examples and include (in no particular order);

- Having a current PAMP that is edited for the current season and reflects new chemistry, neighbours etc.). This usually requires just a light edit.
- The last preseason agreement with consultant / aerial operator is not signed.
- It is understood you maintain contact with your neighbours. It would be best practice to keep a note in your diary when you hold these conversations. Ie keeping some sort of record.
- Eye wash at the chemical storage.
- Ensure there is a first aid kit where the chemical mixing occurs
- It is best practice to ensure weather conditions are recorded and records kept.
- Calculating the farm gross farm water use efficiency. Ie all water data (rainfall, crop water use, stored soil.
- At the chemical shed / mixing pad ensure an emergency plan is displayed.
- At the chemical shed ensure unlabelled drums are labelled.
- Obtain an MSDS sheet for diesel / oil.
- Put on display in the workshop or appropriate area the Emergency plan / contact info up for chemicals and petro chemicals.
- Add appropriate sticker unleaded petrol sign to the second unleaded petrol tank.
- Investigate the need for a form of bunding for the large fuel storage tank in the middle of the farm. We understand this tank has 45,000 litres of diesel at certain times. BMP states *“All large tanks of petrol (greater than 5,000 L), diesel (greater than 10,000 L), or engine oil (greater than 10,000 L) are **bunded** to contain at least the volume of the tank, or the volume of the largest tank if more than one tank is kept at the site.*
- Water quality monitoring of groundwater

It is suggested CRDC or Cotton Australia commence a campaign to remind growers of their obligations of adequate monitoring of weather conditions during spraying. It is also suggested a campaign on eye wash and clean water availability is conducted.

Examples of best practice

These are some examples of things myBMP farmers have been doing as best practice; they include;

- comprehensive and detailed documentation of all property management records, plans, maps, contracts and agreements, staff employment contracts and handbooks and contractor management records, induction and communication processes
- soil management complied with myBMP standards
- continual improvement in energy management,
- fire extinguishers were up to date,
- first aids kits were in place, and there was good signage around the farms.
- improvements to petrochemical storage.
- advances in water management were noted, including metering, soil moisture monitoring, correct field design,
- good communication with consultant and aerial applicator,
- IPM approach to crop management,
- sound chemical storage facility and management
- The following pictures provided other examples.....

A few pictures of what myBMP certified growers are doing on their farms.



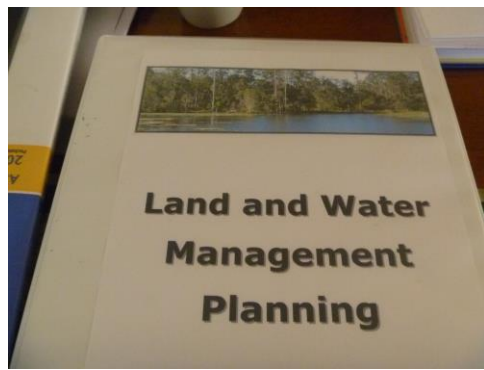
Clean water on spray rigs for staff.



An earth bunding of a large petrochemical tank



Riparian area protected



Land and water management plans



Waste oil management. Good area for draining oil filters



First aid kits available



Weather monitoring during sprays

Attached: Spray Order and Farm Map

Field Information:

Field Number(s): A4 + A5

Crop Height: 30 cm

Is the Crop Stressed? Yes (No)

Area Treated (ha): 21.1-23

Percentage Band Sprayed: 100%

Time Since Last Irrigation (Days): 7

Water Standing in Furrows at Application? Yes (No)

Endosulfan Sprays (inc. this one):

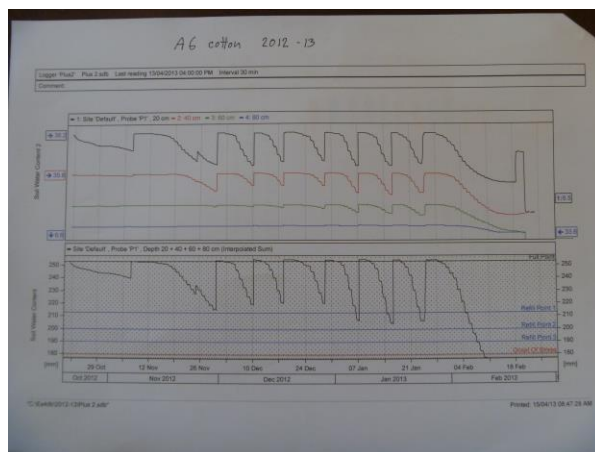
Weather:

Time	Speed (mph)	Wind Gusty or Steady	Direction	Variable or Steady	TEMP (Celsius)	Humidity %	Smiles Check ✓ or X
5:45	3.0	S	E	S	20.8	78.7%	X
6:05	3.4	S	E	S	21.1	77.7%	X
6:20	2.8	S	E	S	21.4	77.2%	X
6:35	3.1	S	E	S	21.5	77.2%	X

Recording of weather during spray operations



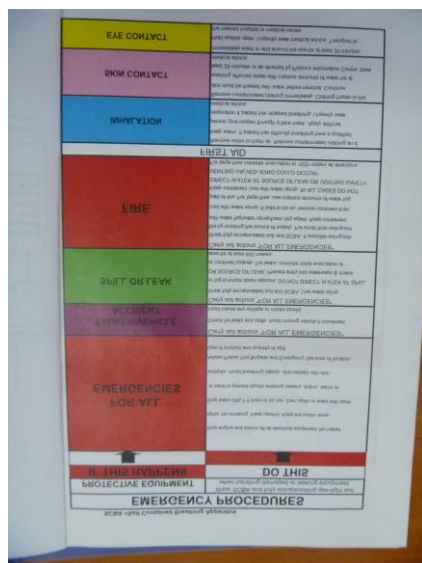
Pesticide application management plans



Soil moisture monitoring



Water metering



Emergency plans



Chemicals securely stored. Good ventilation.



Emergency shower



PPE equipment in place



Wash down pad



Bunded petrochemical storage

Outcomes

The project contributes to industry and community by providing an essential service to the myBMP program. That is, the myBMP audit service and oversight.

For industry, it ensures there is a practical, cost effective team of people capable of undertaking myBMP audit certifications according to industry policy.

For the community: there is strong evidence that certification process results in practice change so that growers achieve best practice. The community has confidence that the cotton industry is applying its practices to high standards, to achieve economic, environmental and social outcomes.

Economic benefits that arise from the project are better farming practices and less risk exposure.

Environmental benefits that arise from the project are increased adoption by growers of farming practices that have positive natural resource management outcomes such as riparian zone management, soil conservation, better water quality etc.

Social benefits include increased knowledge, skills of the human capacity of the industry. A further social outcome is contributing to the social licence to operate.

Outcomes and evidence of grower practice change by growers as a result of myBMP audits

There are obviously a number of projects and other initiatives that contribute to the overall myBMP cotton effort. The following photographs show how grower practice change as a result of the audit process specifically. ie the attribution of the practice change is specific to this CRDC project. Note the pictures have been edited so they remain anonymous and are in no particular order.



Empty pesticide drums stored in an improved facility



Floor in chemical shed (an old shipping container) is improved with the installation of metal bunding constructed on the farm.



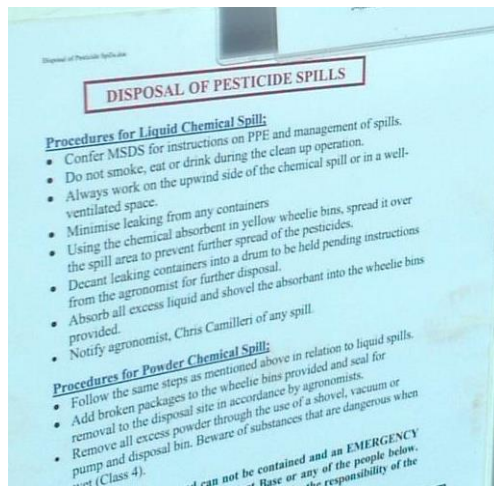
Fire extinguisher maintenance checked and updated



Improved MSDS sheets availability



Before (left) and after (right) signage of a pesticide storage. The faded signs replaced.



Emergency signage that had faded in the sunlight replaced



First aid kits updated and signage improved



Emergency shower fixed so that water flows



Eye wash fixed



Spill kit installed



Training register created

[illegible]

Consultants

Operating arrangements for the season should be discussed and documented. Use this form and keep as a record. **Ensure date and signatures are included if endosulfan is to be used.**

Name of your consultant:

Consultant's Phone, Fax and UHF:

Has a pre-season meeting been held with your consultant to determine this season's strategies and operating arrangements?

Yes	☒	No	☐
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Date of meeting: 17/10/12

Has a copy of your farm map been provided to your consultant?

Yes	☒	No	☐
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Have you provided your consultant with a list of neighbour requirements/sensitive areas/hazards?

Yes	☒	No	☐
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Are these sensitive areas / hazards considered when selecting chemicals for application?

Yes	☒	No	☐
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List any environmental restrictions on product selection or application method the enterprise may have.

Have these been conveyed to your consultant?

Yes	☒	No	☐
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Have you made your consultant aware of neighbouring intended uses of high risk chemicals (that you are aware of)?

Yes	☒	No	☐
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Actions in-season that should be clearly defined and documented pre-season:

Who makes the final decision on whether the application is to be made and of what product?

Who orders the application?

Will written insect scout reports and spray recommendations be provided?

Yes	☒	No	☐
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Will spray recommendations comply with

Contractor agreements signed



Date	16/10/12	Spray Order N°	118649		
Grower Address					
Field					
Crop					
Area					
Operator					
Accreditation	Commercial Operator ☐	Chemcert ☐	Other ☒		
Neighbours Notified	Yes ☐ N/A ☒	Label Conditions	Followed ☒		
Operator Protection	AC Cab ☒ ☒ ☒ ☐ ☒ ☒				
Chemical / Adjuvants	Rate	Batch	Total L	Sprayer	Boomspray
Round-up (alg)	2L/ha	3	40L	Water Volume	-6L/min
24D	3L/ha	3	6L	Nozzle Details & Configuration	AIR MX 110-02 (coarse)
Dant Gold	1L/ha	3	20L		
Detter	0.08L/ha	3	1.5L		
Pests				Pressure	3 bar
				Speed	14 km/h
Spraying Conditions					
Time	Wind Speed m/s / kph	Wind Direction	Temperature °C	Humidity %	
7:00am	3kph	269°	15.4°C	78%	
11:00am	9kph	16°	27.1°C	28%	
Notes	Weather similar to the 15/10/2012 (previous day) in the morning				

To satisfy specific situations, National or State legislation may require that this record be supplemented with further information



Weather monitoring for ground rigs re implemented

Transferring fuels and lubes	✓ Can the operator describe emergency procedures? • Make sure there is a clear escape route available in case of emergency. • Seek medical help if product is ingested, or call the Poison Information Centre on 131126. • Know where MSDS sheets for products are kept, as they may be required by the medical practitioner. • Avoid contact with eyes and skin. • Good ventilation of area must be maintained during transfer.
Spillage of Hydrocarbons	✓ Has the operator been trained in chemical and hydrocarbon spill management procedures?
Checking levels in fuel tanks	✓ Can the operator demonstrate how dip fuel tank levels? • Use ladders or steps supplied to climb up on fuel tanks. • Face the tank when climbing or descending, and maintain a good grip on handrails at all times. • Be aware that ladders, steps or tanks may be slippery due to oil spillage or leakage.

Risk assessment conducted for petrochemicals



Bunding of large fuel tank to be implemented.



Correct signage of petrol tanks

Acknowledgement

This project would like to acknowledge the significant contribution of Jim Wark, myBMP Manager and the support staff on the myBMP office Rebecca Rogan and Amy Brazier. In addition myBMP Auditors Geoff Macintyre and Renee Anderson. Management support from Ken Flower and Ian Taylor of the Cotton D&D team and some specific technical input from John Temperley, The University of Sydney.

Part 4 – Final Report Executive Summary

The project has developed three practising certified myBMP auditors. There are currently no growers waiting for a certification audit. Seven farms have now reached “Certification Status”, five of which were achieved via this project. Another 15 farms have been audited and at 30th June were implementing actions to obtain their “certification status”.

Training has been provided to 10 people who attended a two workshop on myBMP auditing. This led to many improvements to the myBMP system and the technical capacity of the people responsible for its implementation.

On farm improvements and practice change can be attributed to the myBMP projects in general. However, on farm practice change can also be demonstrated and directly attributed to the auditing process. There is strong evidence that certification process results in on ground grower practice change.

In turn this provides stakeholders confidence that the cotton industry is applying its practices to high standards, to achieve economic, environmental and social outcomes.

The project also participated in all steering committee meetings of the Australian Cotton Industry: Third environmental assessment project. Specifically, this project drafted the cotton industry’s response (64 pages) to the 2nd environmental audit. In addition, the project also reviewed and provided a report on the alignment of the Better Cotton Initiative and my BMP.