



Australian Government

Department of the Environment, Water, Heritage and the Arts

**Marine and Tropical Sciences Research Facility (MTSRF)
December 2007 Milestone Report**

Project 4.9.4 – Integrating ecology, economics and people in forest and landscapes

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Summary

The planned release of the landholder survey in September was delayed until November due to the need for further stakeholder consultations and delays in obtaining required information about landholders' postal addresses. Due to this delay the interim results of the survey are not yet available. This should not delay the preparation of the final report for the survey results which are due in June 2008. Work on developing improved understanding and modelling of the growth of native tree species has progressed with the commencement of a PhD student who is refining growth equations for native tree species in the region.

For reference: Milestone extracted from Project Schedule

Date 1st December 2006

Report 1 submission

- Completion of landholder interviews
- Interim report on results of landholder survey released 1 Dec 2007

Project Results

Description of the results achieved for this milestone

The landholder survey was sent out on the 26th of November to a total of 1600 landholders within the Wet Tropics regional NRM region. The development of the sampling framework is described in Appendix A, and the final questionnaire is presented in Appendix B. Originally it had been planned to send out the survey in September and to have the interim report completed by December. The delay in sending out the survey was associated with further extensive consultation with stakeholders, their sometimes slow responses to requests for feedback and because of problems in gaining access to landholder databases. As such the interim results of the survey are not yet available to report but should be available by the end of January. This will still allow the project team to complete the final report from the survey and hold workshops with interested stakeholders early in 2008 as forecast in the ARP2.

Explanation of Activity changes

Commencement of a PhD candidate (Vu Duc Nang) who will examine growth rates of native tree species in revegetation and plantation programs which will be used to produce improved growth models for the restoration module of the Australian Farm Forestry Financial Model.

Problems and opportunities

The release of the survey was later than earlier anticipated for two main reasons. First, difficulties were experienced in gaining access to landholders' names and postal addresses. Data in the DCDB data supplied by terrain did not include the owners names and postal address. Sending mail questionnaires to unidentified people (e.g. 'the land owner' or 'occupant') has been found to result in lower response rates than when the desired respondents' name can be used to address the mail. In addition, many rural areas do not have home delivery services through Australia Post and many land owners do not live at the address of the property they own. It was decided that it would be necessary to obtain the names and postal addresses of the selected sample of land owners in order to obtain the best possible response rate to the survey.

The information regarding land owners names and addresses is held by the Queensland Department of Natural Resources and Water. The department was not willing to release details of landholders' names and addresses in a bulk form. They quoted a figure of approximately 15 dollars per respondent to supply the required details, a cost (\$24,000) that was beyond the budget of the project. Repeated enquiries finally revealed in September that terrain Pty Ltd have access to a website known as 'Property data services' which provides details about properties in Queensland, including the owners names and addresses. The website was used to ascertain the land owners names and addresses, but this was a time consuming process as it took several minutes to get the information for each respondent as several web pages had to be negotiated before the required data was revealed.

A second reason for the delay in the release of the survey was the need to ensure adequate consultation with industry associations. The author has attended all of the meetings of the terrain Industry Advisory Group (IAG) this year (held every three months) and members of this group have provided feedback on the content and application of the survey. An initial draft questionnaire was provided to the IAG members for comment in late June. Few comments were received, other than that the survey was too long.

At that stage the team had put all the issues relating to each main agricultural industry into the questionnaire with the idea that the industry representatives could provide guidance as to the issues on which to concentrate.

Following this the team worked closely with John Reghenzani to reduce the size of the survey to a manageable level for a self-administered mail survey. The last IAG meeting was held on the 9th of September and a second draft questionnaire was provided to all those at the meeting to test the survey instrument. It took several weeks to get the trial questionnaires returned before the questionnaire could be finalised. While this protracted consultation phase has delayed the survey, the research team believe that it was important to allow community members and stakeholders adequate opportunity to provide their opinions about the survey.

The advantage of having prepared a comprehensive (but overly long survey instrument) initially is that it provided an opportunity to thoroughly review previous research on the topic and gauge the priority issues. The reduction in the size of the questionnaire has slightly reduced the value the information collected will have for reporting on terrains regional NRM plan review in June 2008. The details that were dropped from the survey were largely those that related to industry specific practices, although questions about key practices for various industries have been retained. The industry specific questions, many of which were not included in the final survey, are presented in Appendix C. Despite having dropped many of these questions from the current mail based survey these questions will be available for use in subsequent research by the project. The advantages are that:

- the questions for specific industries are now all collated in one place (having been drawn from studies undertaken by a variety of agencies including Qld DPI, CSIRO, Mossman Ag Services, terrain and other);
- the questions are now, were appropriate, formatted to be consistent between industries, which will make it easier to compare industries;
- The questions are based on lists of currently recommended practices that were defined by the industries themselves in conjunction with the QLD DPI and others; and
- The questions are comprehensive, covering all aspects relating to land and water management practices raised in the regions NRM plan as well as issues raised in research by the above mentioned agencies.

It is hoped that, having established contacts with various industry representatives, there will be opportunities in 2008 to work with industry sectors to develop their own industry codes of practice for NRM using the detailed questions as a basis for within industry studies. The development of voluntary codes of practice is clearly the direction that the State and Federal governments desire to see industries take in preference to using highly unpopular command and control measures to improve NRM practices and impacts. The newly formed Federal Labour government has promised M\$150 to assist landholders in the GBR catchments to improve their practices and information gathered in the current and future surveys will certainly be relevant in assisting the targeting of this funding. If the questions with the level of detail presented in Appendix C were to be included in subsequent surveys the information provided would enable:

- modelling of the sediment and nutrient loads in catchments across the region;
- comprehensive assessment of the present adoption of currently recommended practices as listed in the regions' NRM plan; and
- improved understanding of landholders perceptions of the utility of the recommended practices.

Other issues

Communications, major activities or events

During milestone reporting period

- RRRC operations committee meetings dates on the 21st June and 25th Oct 2007
- On-going collaboration with terrain Pty Ltd. through John Reghenzani, Rachel Wick, David Hinchley and others
- Meetings with the IAG on the 28/6/07 and 20/9/07
- Meetings with research team (discussions with David Pullar and Krishna)
- Meetings with Penny Scott, David Skelton, CSIRO (Steve Turton, Isla Grungy) and Mike Berwick to develop a new research proposal to undertake research on the growing of native tree species that complements the research undertaken through MTSRF
- Meeting with Dan Metcalfe, Steve Turton, David Westcott and others to discuss the synergies between the teams undertaking vegetation studies, points of difference in the studies and opportunities to work together.
- Press releases sent through the RRRC to a broad range of local media outlets prior to the release of the survey. These resulted in an interview between Nick Emtage and Pat Morish on the Local ABC Morning program (7/11/07), plus articles about the survey in the Cairns Post, Herbert River Express and the Tablelander newspapers.

During next milestone reporting period

Release of results from the landholder survey. The local ABC radio producers requested another interview to discuss the results of the survey early in 2008.

Development of a review and discussion paper related to vegetation management issues in high population growth regions.

Appendix A

Development of the sampling framework used for the survey of private rural landholders in the Wet Tropics NRM region

The sampling framework was based on the selection of lots rather than owners as there was no complete information about land ownership available. The sample framework for the survey was developed by analysing the digital cadastral database of Qld Department of Natural Resources and Water (QDNRW). Under a data sharing agreement between terrain and the QDNRW terrain has access to the digital cadastral database (DCDB) maintained by QDNRW. The data was supplied to the UQ research team in the form of a series of Excel spreadsheets that list the lot and plan numbers for all land parcels within nine main shires in the Wet Tropics NRM region. The information within the Excel sheets also included data about the size of the lots, the tenure type and other information used to link the data to GIS programs.

As a first step the lots that are within the terrain NRM region were identified using a GIS (ArcMap vers. 9) with help from Bob Peever (terrain GIS officer) and David Pullar (part of the UQ research team for project 4-9-4). This was necessary the boundaries of the Wet Tropics NRM region do not match those of Mareeba shire, excluding the western parts of the shire. Following this action the data bases were sorted to identify and extract only those lots that are held under freehold tenure.

Next a series of size classes were defined (as listed in Table 1) and the number of lots within each size class was calculated. The number of respondents needed for the survey was determined to be a minimum of 380-400 based on calculations of what would be considered to be a representative survey (as assisted by Allan Lisle, statistical expert with the faculty of Natural, Rural and Veterinary Sciences at UQ). Given the types of statistical testing envisaged, as well as the probability that response rates for the self-administered survey would be between 25 – 60 %, the research team settled on targeting an initial sample of 1,600 landholders. This represents approximately 8% of all lots in the region. The number of lots of various sizes needed to sample 8% of the lots of each size class in each shire within the region was next calculated. A macro (computer code) was written to randomly select the required number of lots from each size class in each shire.

Initial enquiries to the QDNRW revealed that they were unwilling or unable to supply bulk data related to the DCDB or the valuations database (linked to the DCDB and used to record unimproved land values for the purpose of levying local government rates. Continued negotiation with QDNRW resulted in their offering to generate the data for individual records at a cost of approximately \$15 per lot. This would have resulted in a total cost beyond the resources of the research team. Eventually it was revealed that terrain Pty Ltd actually has a licence to use a web-based service called 'Property data services' that can be used to generate land owners names and addresses once the lot and plan numbers and types for a lot are typed into their web page. This service was used to generate the names and addresses for the owners of the 1,600 freehold lots that were selected.

Some iteration in the selection of included lots was required as many landholders own more than one lot. Once the lot owners names were obtained for the initial sample, each record was checked to assess that each person was only included once in the sample (as the questionnaire refers to all lots owned by a potential respondent). For potential respondents that had more than one lot who had been selected in the initial sample, only one record was retained in the final sample list and other lot records relating to that owner were removed

from the sample. Replacement records were then re-sampled from the DCDB. The theoretical and final samples are presented in the tables 1 and 2.

As can be seen in Tables 1 and 2, there is some discrepancy between the number of lots in various size classes in the calculated sample and the number of lots in each class in the final sample. The primary reason for this is that many landholders with rural properties own more than one parcel of land. For example, if a lot was randomly selected for the 2 – 5 ha size class and this lot was actually only one of several owned by the person or persons, in the final sample they would appear in a higher size class than the class that was first anticipated. Examination of the differences in the number of lots in each size class between the calculated and final samples reveals a consistent under representation of the smaller size classes and corresponding over representation in the larger classes. One reason for this might be commonly observed need for those landholders who do operate commercial enterprises to continually expand their operations in an attempt to capture economies of scale in their production activities.

Table 1: Calculated and final (in brackets) sample numbers per lot size class and shire

	Atherton	Cairns	Cardwell	Douglas	Eacham	Herberton	Hinchinbrook	Johnstone	Mareeba	Total
2 - 5 ha	25 (22)	45 (33)	30 (25)	36 (25)	34 (32)	47 (39)	41 (17)	58 (35)	90 (84)	407 (312)
5 to 10 ha	20 (16)	33 (16)	22 (16)	20 (15)	15 (12)	16 (17)	36 (8)	45 (25)	20 (15)	225 (140)
10 to 20 ha	20 (9)	37 (19)	30 (16)	21 (8)	19 (11)	12 (11)	49 (18)	74 (33)	19 (15)	281 (140)
20 to 50 ha	36 (23)	58 (44)	50 (33)	23 (22)	34 (24)	19 (20)	102 (72)	77 (58)	24 (24)	424 (320)
50 to 100 ha	15 (23)	21 (46)	20 (28)	9 (20)	49 (35)	19 (15)	31 (82)	25 (77)	18 (21)	207 (347)
100 to 200 ha	1 (21)	4 (33)	7 (23)	2 (11)	3 (29)	5 (4)	10 (49)	5 (41)	4 (10)	40 (221)
200 to 500 ha	0 (5)	0 (5)	3 (18)	0 (10)	0 (11)	2 (9)	4 (21)	1 (11)	2 (8)	13 (98)
500 to 1,000 ha	0 (0)	0 (3)	1 (6)	0 (0)	0 (0)	1 (2)	1 (7)	0 (4)	0 (2)	3 (16)
1,000 to 2,000 ha	0 (0)	0 (1)	0 (2)	0 (0)	0 (0)	0 (2)	0 (3)	0 (0)	0 (2)	1 (10)

Table 2: Variation between initial sample frame and final sample

	Atherton	Cairns	Cardwell	Douglas	Eacham	Herberton	Hinchinbrook	Johnstone	Mareeba	Total
2 - 5 ha	-3	-12	-5	-11	-2	-8	-24	-23	-6	-95
5 to 10 ha	-4	-17	-6	-5	-3	1	-28	-20	-5	-85
10 to 20 ha	-11	-18	-14	-13	-8	-1	-31	-41	-4	-141
20 to 50 ha	-13	-14	-17	-1	-10	1	-30	-19	0	-104
50 to 100 ha	8	25	8	11	-14	-4	51	52	3	140
100 to 200 ha	20	29	16	9	26	-1	39	36	6	181
200 to 500 ha	5	5	15	10	11	7	17	10	6	85
500 to 1,000 ha	0	2	3	0	0	1	3	4	0	13
> 1,000 ha	0	1	2	0	0	2	3	0	2	9

APPENDIX B – Final Landholder Questionnaire

SECTION 1. YOUR PROPERTY

What is the **total area of land managed by yourself and your immediate family in your local district?**

Number of separate titles or lots managed _____

If more than one title is managed, please indicate the distance between these and your residence:

Land parcel	Distance to residence (km)	Size of land (ha)	Land parcel	Distance to residence (km)	Size of land (ha)
1			4		
2			5		
3			6		

Total farm size _____ (hectares) (1 hectare = 2.47 acres)

* *Note: we will assume that the answers given are in hectares unless otherwise indicated.*

What area of your farm do you **usually lease out or agist to others?** _____ (ha)

What areas of land do you **lease from others?** _____ (ha)

Primary purpose for managing properties: (please tick appropriate box)

<input type="checkbox"/>	Agricultural production (e.g. grazing, horticulture, viticulture etc)
<input type="checkbox"/>	Conservation of native plants and animals
<input type="checkbox"/>	Hobby/lifestyle farm
<input type="checkbox"/>	Residential
<input type="checkbox"/>	Other [please list]

Land uses

Do you have any of the following land covers or enterprises on your property? [Please tick the appropriate box and where relevant provide an estimate of the total area (the land you own and the land you usually lease from others) devoted to the following land uses].

Land uses	NO	YES	If YES, area covered (in hectares)
Grazing pastures (not irrigated)	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Grazing pastures (irrigated)	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Native vegetation	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Production forest areas	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Timber plantation areas	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Annual horticulture (e.g. vegetable, sugar cane) (not irrigated)	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Annual horticulture irrigated in 2006	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Perennial horticulture (e.g. fruit tree crops) non irrigated	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Perennial horticulture irrigated in 2006	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Viticulture (not irrigated)	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Viticulture irrigated in 2006	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha

Other activities (please list) _____ ha _____ ha

SECTION 2. PERCEPTION OF SUSTAINABILITY ISSUES ON YOUR PROPERTY

To what extent are the following land and water issues a problem on **your property**?
 [Examine each issue and tick the most appropriate box on the scale ranging from 'very small' to 'very large' problem].

Sustainability issue	Very small ←————→ Very large					Not applicable	Don't know
	problem				problem		
Soil pH (acidic/alkaline)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil compaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrient deficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of soil health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water logging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrient toxicity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduced pest animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native pest animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of good quality water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health of waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduced native vegetation cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decline in the health of remnant native vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decline of native animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acid sulphate soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impacts from neighbouring properties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list)							

SECTION 3. ASSESSMENT OF ISSUES IN THE REGION GENERALLY

To what extent are the following issues a problem in your local government area? [Examine each issue and indicate the importance to you by placing a tick in the most appropriate box on the scale provided]

Regional issue	Very small problem	←—————→			Very large problem	Not Applicable	Don't know
Lack of employment opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing cost of agricultural inputs (e.g. fuel, fertiliser, labour)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decline in soil health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rural community decline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Higher land prices limiting future options for property expansion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patchiness of native vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government interference or excessive regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of affordable housing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control of weeds/pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to important services (e.g. banks, schools, medical)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profitability of farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of native plants and animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of young people entering farming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor commodity prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to advice and support for natural resource management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of skilled farm labour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduced water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urban expansion impacting on the area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing climate variability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to public transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to communications including broadband	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of agriculture extension services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others – please list							

SECTION 4. GOALS FOR PROPERTY MANAGEMENT

What priority do you give to the following **goals for managing your property?** [Tick the box that best indicates the priority you give to each issue.]

Goals	Low priority ←————→ High priority					Not applicable
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Maintain the lifestyle I/we want	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide most of the household income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintain/improve natural resource conditions on the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pass the property on to family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build/maintain a financially viable business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contribute to the environmental health of the region	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to work outdoors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build/maintain an asset that can fund my/our retirement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide habitat for native animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to live in an attractive natural or rural environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintain family tradition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides an opportunity to be innovative/creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build a sound long-term economic investment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintain/improve soil health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Be part of a close knit rural community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase on-property production / net income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conserve water and improve water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have the freedom to work for myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other goals [please specify]						

SECTION 5. FUTURE PLANS FOR YOUR PROPERTY

Have you prepared a written property plan or a business plan that includes a map and/or other documents that address the existing property situation and includes future management and development plans?

YES <input type="checkbox"/>		IN PROGRESS <input type="checkbox"/>		NO <input type="checkbox"/>	
↓				↓	
If YES: How often does this plan influence the decisions made about your property or your business?			If NO: Would you be interested in preparing a written property or business plan if there were advice and assistance available to you?		
ALWAYS <input type="checkbox"/>	OFTEN <input type="checkbox"/>	SOMETIMES <input type="checkbox"/>	YES <input type="checkbox"/>	MAYBE <input type="checkbox"/>	
RARELY <input type="checkbox"/>	NEVER <input type="checkbox"/>		NO <input type="checkbox"/>		

What advice and assistance would you consider to be of most value to you when completing a written property plan?

—

Please indicate **your future plans for your property**. [For each option tick the box that best describes your plans for the future of your property.]

Action	Very Unlikely	Unlikely	Not sure	Likely	Very Likely
The property will be sold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part of the property will be sold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will continue to live on and farm a rural property in the Wet Tropics region	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All of the property will be leased out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part of the property will be leased out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property will be passed on to family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expand by purchasing or leasing more land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will live off-farm but continue to work the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will live on excised house block but will no longer farm the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intensify current enterprises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diversify enterprises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Set part of the property aside (e.g. covenant)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scale back operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list)					

Do you use a **recognised farm or environmental management system**?

YES <input type="checkbox"/>	NO <input type="checkbox"/>
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Name of system? _____
 Year started using? _____

If no, would you be interested in using a **recognised environmental management system**?

YES <input type="checkbox"/>	MAYBE <input type="checkbox"/>	NO <input type="checkbox"/>
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SECTION 6. DECISION MAKING

How **useful** are the following sources of information and/or advice in helping you make decisions about the management of **your property**? Please rate the level of usefulness of each:

Information source	Not useful	←—————→			Always useful	Never used
Agri-business agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private agricultural consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mass media (e.g. newspapers, radio, TV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other farmers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Landcare group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Books/magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accountant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market trends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field days, workshops and Agricultural shows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brochures/leaflets/newsletters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Banks/financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government Agencies (DPI-F, DNW etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AgForce, Growcom, QLD Farmers Federation or Industry groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry associations (e.g. cane and banana farmers associations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benchmark or best practice groups (e.g. Future Cane program, Grazing Land Management group)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wholesalers/purchasers/customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Catchment/natural resource management groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training courses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (<i>please list</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 7. YOUR VIEWS

In this section we would like to know **how closely the statements presented below reflect your feelings or views**. There are no right or wrong answers and there is no need to think at great length about your responses. *[Examine the response options underneath this paragraph. For each statement in the table below, circle the letter(s) of the best response option in the **Your view** column.]*

Response options

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

Statements	Your View				
It is important to consider how actions undertaken on my property may impact on my neighbours' properties	SD	D	N	A	SA
Most of my neighbours would consider how actions undertaken on their property may impact on my property	SD	D	N	A	SA
I would not be able to enjoy a good quality of life if I did not live on a rural property	SD	D	N	A	SA
Increasing regulations leave less time to manage other aspects of my property/business	SD	D	N	A	SA
Most landholders in my local area are prepared to undertake practices that benefit the environment but may not have a direct benefit to them	SD	D	N	A	SA
What I do on my property can have an important impact on other landholders in this region	SD	D	N	A	SA
I am very attached to my property	SD	D	N	A	SA
Landholders should receive incentives for providing environmental services (eg. clean air and water) that benefit the wider community	SD	D	N	A	SA
Natural resources on my property are less degraded than many others in the local area	SD	D	N	A	SA
Reduced production in the short-term can be justified where there are long-term benefits to natural resources	SD	D	N	A	SA
Current activities carried out on our property will not compromise the use of the property by future generations	SD	D	N	A	SA
Overall, I think my property is well suited to achieving the goals I have for my property or business	SD	D	N	A	SA

Please indicate the **level of trust you have in other people and organisations in the rural community**. *[Tick the box that best describes your level of trust in each group.]*

Stakeholder	Low trust	Moderate trust	High trust	Not applicable	Don't know
Local government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DPI &F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DNRW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local state government officers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My neighbours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landholders in this region	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
terrain (formerly FNQ NRM Ltd)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BSES Ltd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Productivity Board staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landcare groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list)					

SECTION 8. LAND USES – VEGETATION MANAGEMENT

Have you undertaken any of the following practices on your property? [Please tick the appropriate box and where relevant provide an estimate of the total area under that practice.]

Management practices	NO	YES	If YES, area covered in hectares
Encouraged regrowth of native vegetation	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Thinned regrowth of native vegetation	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Established improved pasture in forest areas	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha
Established fencing around remnant vegetation areas	<input type="checkbox"/>	<input type="checkbox"/>	_____ ha

*** IF YOU HAVE NO AREAS OF NATIVE VEGETATION ON YOUR PROPERTY PLEASE GO TO SECTION 9 ***

In this section we would like to know **how closely the statements presented below reflect your feelings or views.** [Examine the response options underneath this paragraph. For each statement in the table below, circle the number of the best response option in the **Your view** column.]

Response options

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

Managing native vegetation	Your View				
Lack of finances greatly limits my ability to properly manage my forest areas	SD	D	N	A	SA
Native forest areas improve the look of my property	SD	D	N	A	SA
Government regulations often prevent necessary management activities	SD	D	N	A	SA
Having native forest decreases the value of my property	SD	D	N	A	SA
I have access to sufficient labour to properly manage my forest areas	SD	D	N	A	SA
Harvesting timber or other forest products from my native forest areas could be profitable in the long term	SD	D	N	A	SA
Public forest areas provide enough habitat for native animals	SD	D	N	A	SA
I do not have the necessary equipment to manage my forest areas effectively	SD	D	N	A	SA
It is better to clear forest regrowth where possible so the government does not prevent use of that land for agriculture in future	SD	D	N	A	SA
I have a personal interest in native forests	SD	D	N	A	SA
Native forest areas harbour more animals that badly affect my farming enterprises than good ones	SD	D	N	A	SA
My forest areas are suitable for timber production	SD	D	N	A	SA
I can easily access information and advice on how to manage forests	SD	D	N	A	SA
I would like to clear forest to expand areas available for other enterprises	SD	D	N	A	SA
I do not have the knowledge and experience to manage my forest areas well	SD	D	N	A	SA
I can protect my native forest areas from fire and pest risks	SD	D	N	A	SA

Do you have a **map of the native vegetation types** on your land? **Yes** **No**

Please indicate **what types and areas of native vegetation are on your land?**

- Rainforest** _____ **ha** (if known)
Wet Eucalypt _____ **ha** (if known)
Dry Eucalypt _____ **ha** (if known)
Woodlands _____ **ha** (if known)

Please indicate which of the other following **forest or woodland management activities** you undertake and estimate the time and money spent on each activity **as an average for each year over the last 4 years**:

Management practices	Average interval between activities					
	NO	YES	Weekly	Monthly	Every few months	Yearly
Pruning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walking track maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other <i>please list...</i>						

Native Forest or woodland uses

Please indicate whether you undertake the various recreation and activities listed in the following table

Use your family forest areas for recreation (e.g. walking, cycling, hunting etc)?	YES <input type="checkbox"/> NO <input type="checkbox"/>	If Yes : Average time spent per month _____ (person hours)
Gather any non-timber forest products from your forest areas? (e.g. flowers, leaves etc)	YES <input type="checkbox"/> NO <input type="checkbox"/>	If Yes : What types of products were gathered:
Allow others to access your forest areas for recreation purposes?	YES <input type="checkbox"/> NO <input type="checkbox"/>	If Yes : Do you receive any payment for access? YES <input type="checkbox"/> NO <input type="checkbox"/> Average time spent per month _____ (person hours)
Use any native forest areas for timber production purposes?	YES <input type="checkbox"/> NO <input type="checkbox"/>	If Yes : Area of forest last logged _____ (ha) Was the timber sold? YES <input type="checkbox"/> NO <input type="checkbox"/>

SECTION 9. LAND USES - LIVESTOCK

Do you have any of the following land uses/enterprises on your property? [Please tick the appropriate box and where relevant provide an estimate of the total number]

Livestock	YES	NO	Number
Beef cattle (Please specify breed)	<input type="checkbox"/>	<input type="checkbox"/>	
Dairy cattle (Please specify breed)	<input type="checkbox"/>	<input type="checkbox"/>	
Intensive livestock (e.g. chicken, pigs) <i>Please specify type</i>	<input type="checkbox"/>	<input type="checkbox"/>	
Horses	<input type="checkbox"/>	<input type="checkbox"/>	

Other livestock [Please list] _____

*** IF NO to all please go to SECTION 10 ***

For all graziers: Have you undertaken any of the following practices on your property? [Please tick the most appropriate box.]

Management practices	None	Some paddocks	Most paddocks	All paddocks
Fenced waterways to control stock access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenced native vegetation to control stock access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quarantined new stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used controlled grazing (e.g. rotational, management of pasture residuals etc.) to maintain surface cover in stocked paddocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used feedlots in times when paddock cover is too low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recycled effluent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used soil testing to determine fertiliser requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use fire as a management practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your evaluation of practices

How do you feel about the following statements?

*[Examine the response options underneath this paragraph. For each statement in the table below, circle the letter(s) of the best response option in the **Your view** column.]*

Response options

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

Statement	Your view				
Fencing sensitive areas to control stock makes it harder to manage these areas (e.g. fire, flood, weeds, pests)	SD	D	N	A	SA
Controlling stock traffic is critical to improve soil water health	SD	D	N	A	SA
Installing off-stream watering points is not always viable	SD	D	N	A	SA
The costs associated with fencing are outweighed by benefits to stock, soil and water conditions	SD	D	N	A	SA
Fencing to allow controlled grazing interferes with other operations on my property	SD	D	N	A	SA
Maintaining good surface cover will improve the long-term productive capacity of the land	SD	D	N	A	SA

Do you use any of the following practices:

Management practices	If used?	Does or could the practice help you achieve your goals?	Is the practice appropriate for your property and available resources?	Will you continue or take up the practice in the future?
Laser fencing	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Improved pasture species	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Slow release fertilisers	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>

SECTION 10. LAND USES – CROPPING AND HORTICULTURE

Which of the following **land uses/enterprises do you have on your property?** [Please tick the appropriate box and where relevant estimate the % of your property under the land use.]

Land uses	YES	NO	If YES, % of property
Cropping	<input type="checkbox"/>	<input type="checkbox"/>	%
Dryland pasture (in 2005)	<input type="checkbox"/>	<input type="checkbox"/>	%
Irrigated pasture (in 2005)	<input type="checkbox"/>	<input type="checkbox"/>	%
Fodder (eg. silage, hay)	<input type="checkbox"/>	<input type="checkbox"/>	%

What **percentage of your property is able to be cropped** (including areas not currently cropped)?
 _____ %

*** If NO to all, please go to section 11 ***

What crops are you presently growing in 2007?

Crops	Area under crop (ha)	Nitrogen application rates (kg/ha)	Phosphorus application rates (kg/ha)	Potassium application rates (kg/ha)	Mg, sulphur and others application rates (kg/ha)
1.					
2.					
3.					
4.					
5.					

Is any **cropping land fallow** this season?
 Area under fallow this season: _____ha

Evaluation of practices

How do you feel about the following statements? [Examine the response options underneath this paragraph. For each statement in the table below, circle the number of the response option that best describes your practice in the **Your practice** column.]

Response options

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

Statement	Your practice				
Reduced tillage improves soil health and reduces erosion	SD	D	N	A	SA
The cost of new machinery constrains practice change	SD	D	N	A	SA
Conventional tillage more effectively maintains soil fertility and increases yields	SD	D	N	A	SA
Benefits of stubble retention outweigh problems with pests and diseases	SD	D	N	A	SA
Reduced tillage increases the need for herbicides	SD	D	N	A	SA
Overall, using herbicides is better than using mechanical cultivation	SD	D	N	A	SA

Please indicate whether you use any of the following practices and how well they do or may fit with your goals, current practices and the resources available to you:

Management practice	If used?	Does or could the practice help you achieve your goals?	Is the practice appropriate for your property and available resources?	Will you continue or take up the practice in the future?
Used no till or reduced tillage practices (i.e. 3 passes or less)	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Used soil testing and/or nutrient budgeting to decide on crop rotation or fertiliser application practices in the last 3 years	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Used a legume rotation to maintain soil health or protect soil from rain splash erosion	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Retained stubble or pasture residue	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Maintained grass on headlands	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>
Earthworks for soil conservation and water management	Yes <input type="checkbox"/> Partly <input type="checkbox"/> No <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	No <input type="checkbox"/> Partially <input type="checkbox"/> Yes <input type="checkbox"/> Not sure <input type="checkbox"/>	Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No <input type="checkbox"/>

Please indicate whether the following management practices are used [Please mark the box that indicates the best option in the **Your practice** column in the table below.]

Your practice	None	Some paddocks	Most paddocks	Don't know
Used GPS or precision cropping techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applied lime and/or gypsum in 2006	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applied lime and/or gypsum over previous 5 years	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retained stubble or pasture residue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earthworks for soil conservation and water management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you use irrigation, please indicate whether the following types of irrigation management practices are used. [Use the number that indicates the best option in the **Your practice** column in the table below.]

Your practice	None	Some paddocks	Most paddocks	All paddocks
Drip irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low pressure irrigation (e.g. centre pivot, overhead, fixed, travelling)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High pressure (e.g. travelling gun)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used an irrigation schedule to determine the timing/volume of water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fertilised through irrigation system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used mulch to help improve water use efficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitor soil moisture to schedule irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have an automated irrigation controller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evaluation of practices

How do you feel about the following statements? [Examine the response options underneath this paragraph. For each statement in the table below, place the number of the best response option in the **Your view** column.]

Response options

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

Statement	Your view				
Drip or low pressure irrigation is not appropriate for all soil types	SD	D	N	A	SA
Drip or low pressure irrigation and irrigation scheduling improve water use efficiency	SD	D	N	A	SA
The cost of changing irrigation practices outweighs water savings	SD	D	N	A	SA
The water savings associated with using mulch outweigh the risk of fungal infection	SD	D	N	A	SA
Changing irrigation practices requires major alterations to the layout of my property	SD	D	N	A	SA
Better irrigation practices are needed to improve water use efficiency	SD	D	N	A	SA

SECTION 11. BACKGROUND INFORMATION

We appreciate that people may be reluctant to divulge personal information so answers to these questions are, like the rest of the survey, purely voluntary. However, as some information about personal matters is important for this research we would appreciate your assistance. Names are not linked to answers and no individual information will ever be made available.

Please indicate your level of involvement with the groups in your local community listed below. [Please tick the most appropriate box.]

Your involvement	None	Once a year or less	A few times a year	Every month or two	Weekly or fortnightly
Sporting groups/clubs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Civic groups (e.g. Rotary, Lions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency services (e.g. Bush Fire Brigade, SES)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
School committee (e.g. P&C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Neighbourhood/rural watch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Landcare group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Catchment/sub-regional NRM group (e.g. Barron Integrated Catchment Management Association)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Political/lobby group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special interest group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Church group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Country Women's Association	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list)					

Have you spent **time or money controlling non-crop weeds and pests** on your property in the last year? Yes No

IF YES THEN: *Please estimate how much effort is spent controlling pests and weeds in areas of remnant vegetation on your property over the past year. Money spent on weed and pest control should include materials bought for the activity and any wages paid.*

Pests _____ person days \$ _____

Weeds _____ person days \$ _____

Are you male or female? MALE FEMALE

What is your age? *[Please indicate years.]* _____ years

What **level(s) of education** have you completed?

Primary school <input type="checkbox"/>	Diploma / degree <input type="checkbox"/>
High school Yr 10 <input type="checkbox"/>	Post-graduate degree <input type="checkbox"/>
High school Yr 12 <input type="checkbox"/>	
Other (please list)	

What is your main occupation? (e.g. farmer, accountant, teacher, retiree)

In the past 5 years have you completed a short course relevant to property management? [e.g. *integrated pest management, property planning, chemical handling, irrigation management, small landholder workshop.*]

YES NO

If YES: please list course name(s): e.g. Six Easy Steps, GLM plus, Chemcert, etc. and who provided the course(s)?

Course Name	Course provider

What topics would you like covered in future courses?

Estimate the average **number of hours per week you worked on farming/property** related activities over the past 12 months
 _____ **hours per week**

How many people have worked on your property in the past 12 months (Full Time Equivalent, paid and unpaid)?
 _____ Full time equivalent persons

Did your household receive a **net income from any source other than the property** (e.g. work, pension, investments etc) in the 2006/2007 financial year?
 YES NO

If YES:

What **proportion of your total income comes from your farm** (before tax) for you and your partner in the 2004/2005 financial year. _____ %

Which of the following best describes **your average level of paid off-property work** over the past 12 months? [Please tick].

NONE PART TIME FULL TIME CASUAL

How long have you **lived on a rural property?** _____ years
 How long have you **lived in your local district?** _____ years
 How long have you **lived on your current property?** _____ years
 How many **people live on the property?** _____ people
 How many **people are at least partly supported by income from the property?** _____ people

In the past 5 years has there been work on your property that has been at least **partially funded by federal or state government programs?** These programs would include Landcare, Natural Heritage Trust, National Action Plan for Salinity and Water Quality (NAP), Envirofund and Greening Australia's incentive programs.
 YES NO

Please indicate the **level of equity** you have in your property by selecting from the following classes:

0 – 20 % 21 – 40 % 41 – 60 % 61 – 80 % 81 – 100 %

Did your property return a net pre-tax profit (income from your property exceeded all expenses before tax) **in the 2004/2005 financial year?**

YES **NO**

If YES:

Indicate the **approximate figure for the on-property net pre-tax profit** (excluding subsidies or government allowances) from your property in the 2006/2007 financial year. *[Please tick the box beside the appropriate dollar range.]*

up to \$10,000	<input type="checkbox"/>	\$40,001 - \$50,000	<input type="checkbox"/>
10,001 - \$20,000	<input type="checkbox"/>	\$50,001-\$60,000	<input type="checkbox"/>
\$20,001 - \$30,000	<input type="checkbox"/>	\$60,001-\$100,000	<input type="checkbox"/>
\$30,001 - \$40,000	<input type="checkbox"/>	above \$100,000	<input type="checkbox"/>

How does this compare to the **average on-property income** over the past 5 years?

N/A **HIGHER** **SIMILAR** **LOWER**

OTHER COMMENTS

Are there any other management changes or activities that you have undertaken or would like to undertake on your property that you would like to tell us about? **Please use the space provided below or overleaf to make any other comments.**

APPENDIX C

Industry specific NRM questions

Drafted 22nd August 2007

Nick Emtage and John Reghenzani

The following questions were those originally drafted for the landholder survey in relation to industry specific practices. These questions retain the level of detail that would be required to monitor and report on the practices listed in the 2004 – 2008 Wet Tropics Region NRM plan

Timber plantations and fruit tree crops

Please circle the letter indicating the most appropriate answer for the following questions:

Establishment methods – what cultivation was used prior to planting?

- A. Area worked to fine tilth
- B. Area ripped, ploughed and mounded
- C. Area prepared with deep ripper only

Were the rows established along contours?

- A. Planting rows not aligned to land contours
- B. Planting rows aligned to land contours

In which month(s) were the trees planted? _____

Management of land between rows:

- A. Between rows not managed
- B. Between rows treated with herbicides
- C. Between rows treated with herbicides regularly
- D. Grass strips left between rows and maintained

Fertiliser practices:

- A. Area not fertilised
- B. Soil testing used to identify the required fertilisers
- C. Broad spectrum fertilisers used evenly across whole area according to recommended rates of application
- D. Broad spectrum fertilisers used only on tree rows according to recommended rates of application

Pruning and thinning – What is done with the trimmed and pruned material?

- A. Material collected and burnt
- B. Material collected and put through chipper
- C. Material placed under rows either chipped or not chipped

Pest management – what pest management practices are used in the plantation?

- A. Pesticides not used
- B. Pesticides applied at regular intervals as recommended by manufacturer
- C. Pesticides applied following identification of problems
- D. Pesticides applied at times when pest attacks likely
- E. Pesticides used based on regular monitoring of plantation with species selection partly guided by pest resistance and untreated areas maintained to harbour pest prey species.

Chemical use, handling and storage

- A. I have never obtained Chemcert accreditation
- B. My Chemcert accreditation has lapsed
- C. I have current Chemcert but have yet to bring all my storage & mixing facilities etc up to prescribed standards
- D. I maintain current Chemcert accreditation and adhere to prescribed principles for usage, handling, storage, and waste disposal.

Please indicate which chemicals you use for managing your plantations

Chemical	Under trees	Between rows	At time of establishment	Application rate? (L/ha)	When applied? (month)
2-4-D (or 2-4-D Amine)					
Atrazine					
Gesapar Combi					
Diuron					
Glyphosphate					
Paraquat					
Stomp					
Trifluralin					
Velpar K-4					

Fungicide use

Do you use mercury or non-mercury based fungicides?

Mercury based Non-mercury based No fungicides applied **Don't know**

Who makes decisions about the harvesting time for the plantation:

- Self
- Self and other business/farm owners
- Third party i.e. plantation company.
- Other (please specify) _____

Have you harvested timber from timber plantations in the past? YES NO

If **YES**:

What month(s) was harvesting carried out? _____

What is done with the unusable material?

Burnt Mulched Left in plantation

What proportion of the plantation was harvested in one year?

- 0 – 25%
- 25 – 50%
- 50 – 75%
- 75 – 100%

Is a hard surfaced area used to store logs prior to transport? YES NO

Are roads designed with drains and culverts? YES NO

If you have timber or tree crop plantations, please complete the following section:

Plantation area	What species are planted?	Year established	What area covered?	Plantation management ^a
1				
2				
3				
4				

^a Is the plantation: self-managed (**SM**), on land leased to others now managed by third party (**LO**), on land leased to others in joint management agreement (**LJV**).

SECTION 8.1 NATIVE FOREST

How important are the following **possible objectives for managing native vegetation for you on your property**

Reason for keeping native vegetation	Not important	Slightly important	Quite important	Moderately important	Very important
To improve the look of the property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To protect soil resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To increase farm value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To provide on-farm or saleable timber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To diversify farm business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To attract wildlife and birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal interest in forests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To protect the local water catchment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To create windbreaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a legacy for children or grandchildren	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To create shade for stock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To make money in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate how important you feel are the following **constraints to managing native vegetation** on your property according to the scale in the following table.

Constraint to managing native forest areas	Not important				Very important
Lack of finance required to undertake management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of expert advice on how to manage forests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restrictions on management by government regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of labour required for management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Need to expand area available for other enterprises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty about future timber prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk of storm/cyclone damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides habitat for pest animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long wait for financial returns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of necessary machinery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk of pest or disease damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low profitability of harvesting timber and other forest products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk of fire damage to desired tree species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land is unsuitable for harvesting trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Known timber species do not grow well here	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list)					

Do you actively manage your forest area? YES NO

If **YES:**

Please indicate which of the following activities you undertake and estimate the time and money spent on each activity over the last 4 years:

Pruning Yes / No _____ person days \$ _____
 Thinning Yes / No _____ person days \$ _____
 Road maintenance Yes / No _____ person days \$ _____
 Walking track maintenance in the last year Yes / No _____ person days \$ _____
 Other (*please specify*)

Native Forest uses

Please indicate whether you undertake the various activities listed in the following table

Use your forest areas for recreation (e.g. walking, cycling, hunting etc)?	YES <input type="checkbox"/> NO <input type="checkbox"/>	Time spent per month _____(hours)
Gather any non-timber forest products from your forest areas? (e.g. flowers, ferns etc)	YES <input type="checkbox"/> NO <input type="checkbox"/>	Types of products gathered:
Allow others to access your forest areas for recreation purposes?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
Use any native forest areas for timber production purposes?	YES <input type="checkbox"/> NO <input type="checkbox"/>	

Have you harvested timber from the forest in the past?

YES NO

If **No**, please go to the following section (Section 8.2):

If **YES** please answer the following questions.

What **season is harvesting carried out** (month)? _____

What is done with the remaining material?

A. Material collected and burnt

B. Material collected and put through chipper

C. Material left in forest either chipped or not chipped

Is a **hard surfaced area used to store logs prior to transport?** YES NO

Are **roads designed with drains and culverts?** YES NO

Do you **carry out regular burning?** YES NO

If **YES:**

Which year was burning last carried out? _____

What are your main reasons for burning? _____

Livestock enterprises

DAIRY GRAZING MANAGEMENT

Do you have a soil nutrient testing program? Soil testing decisions	Do you use lime applications based on soil testing results?
<input type="checkbox"/> Never use soil samples <input type="checkbox"/> Soil samples taken on less than 50% of grazing blocks each year <input type="checkbox"/> Soils samples taken on more than 50% of grazing blocks each year <input type="checkbox"/> Soil sample each block at least once per year	YES <input type="checkbox"/> NO <input type="checkbox"/> <input type="checkbox"/> Do not apply lime. <input type="checkbox"/> All paddocks up to 10 years apart <input type="checkbox"/> All paddocks up to 5 years apart <input type="checkbox"/> Apply as required based on soil test only
How do you establish winter pastures?	How often do you apply nitrogen?
<input type="checkbox"/> Use full seed bed cultivation to establish winter feed pastures. <input type="checkbox"/> Mulch striking with mowing out of existing pasture.	<input type="checkbox"/> Do not apply N fertiliser <input type="checkbox"/> Apply once a year <input type="checkbox"/> Apply every three months <input type="checkbox"/> Apply every month when rainfall is adequate
What factors do you consider before applying nitrogen?	How do you renovate tropical pastures?
<input type="checkbox"/> Just apply a regular amount of N fertiliser based on my own experience. <input type="checkbox"/> Apply N Fertiliser based on my own experience, my own records, and climate. <input type="checkbox"/> Apply N fertiliser based on my own experience, my own records, general climate and anticipated stock numbers. <input type="checkbox"/> Apply N fertiliser based on my own records, anticipated stocking rate, temperatures and rainfall pattern, chances of leaching losses, outside advice and economic conditions	<input type="checkbox"/> Use full cultivation and fertilise to re-establish renovated pasture quickly. <input type="checkbox"/> Under sow with oats in winter. <input type="checkbox"/> Resurrect the existing pasture using multiple N applications and grazing management. <input type="checkbox"/> Resurrect the existing pasture using multiple N applications, grazing management and implementing weed control measures while the opportunity exists.

Has your irrigation system been **audited by R. Fry and R. Molloy** over the past 12 months?
YES **NO** **Not applicable**

Dairy shed effluent management

Effluent storage facilities and releases

Where does your dairy and yard effluent go?

- A. Pond.
- B. Pump and sump.
- C. Adjacent paddock.
- D. None of the above/not applicable.

Is your **milking shed connected to the storage facilities** by an impermeable drain or pipe?
YES **NO** **Not applicable**

Do you have a **solids trap** in your drain system? **YES** **NO**
 Do you use **storage ponds**? **YES** **NO**

If **YES** then please answer the following questions:

Are the ponds constructed from low permeable soils (i.e. clay soil) else lined with either bentonite, clay or a synthetic liner?

YES **NO**

Does the effluent pond fill eventually indicating there are **no or few leaks** through the banks or base of the pond?

YES **NO**

Is the **pond drained prior to the wet season** to prevent overflows?

YES **NO**

Pond drainage and irrigation practices

What types of pond drainage or irrigation practices are used?	How often do you move the system?
A. Not applicable B. Open-pipe C. Stationary sprinkler D. Travelling effluent irrigation system E. Shandy through standard irrigation system	A. Never move. B. Weekly. C. Fortnightly. D. Monthly. E. When think of it F Not applicable
Which of the following factors influence your effluent disposal decisions?	How do you decide when to move an effluent irrigation system?
A. Proximity to shed B. Slope C. Distance from watercourses D. Use of paddock E. Not applicable	A. Soil test B. Move system frequently to avoid over supply of nutrients C. Visual inspection of grass D. No management system in place at present
How soon after effluent irrigation do you graze a paddock?	Dairy irrigation practices
A. One week B. Two weeks C. Month D. Longer	A. Not applicable. B. Irrigate on a regular basis e.g. weekly, daily etc for a set time. C. Irrigate for a set time based on visual pasture inspection and time since last irrigation or rainfall. D. Irrigate for a set time based on visual inspection, weather conditions, apparent soil dryness, and time from last irrigation or rain. E. Irrigate based on strategic applications based on monitoring of soil moisture levels using probes, evaporimeters and records of previous applications, varying timing and amount of water applied

Effluent storage capacity

How long can you **store effluent** from the dairy and yards in your system?

- A. One day
- B. Two days plus
- C. Not applicable

Is **crusting visible** on less than 20% of the surface?

YES **NO** **Not applicable**

Is the **effluent holding system designed to ensure that it rarely overflows** (i.e. pond spills less than once every 10 years)?

YES **NO** **Not applicable**

Do you **assess the nutrient status of the receiving paddocks** to assess nutrient build-ups?

YES **NO** **Not applicable**

Do you have **current agricultural and veterinary chemical use certificates**?

YES **NO**

Beef Cattle graziers

How do you **control weeds** on your property?

- A. Property has weeds but no control program yet.
- B. Property has weeds and are controlled when they get bad enough.
- C. Property has some weeds such as lantana etc, and I regularly eradicate to prevent them becoming a problem.
- D. Property has some weeds and I have a regular control program involving herbicide, stocking rate, rotation management and fertiliser application.
- E. I am aware of P1, P2, and P3 weeds and have a program to control them

Have you installed any **off-creek/river watering points**?

YES **NO** **Not applicable**

If **YES**: Number installed _____
 Cost for each (average for materials)? \$ _____
 Time taken to install (average number of hours) ____

Have you established **controlled access to creeks** to limit access to hard surfaced areas?

YES **Partly** **NO**

If **YES**: Number installed _____
 Cost for each (average for materials)? \$ _____
 Time taken to install (average number of hours) ____

Have you established any **new pasture species to improve productivity**?

YES **NO**

If **YES**: What proportion of your pastures are improved? ____ %

How do you decide on when to sell cattle?	How do you decide when to buy cattle?
A. When we need funds B. When the cattle are prepared for market C. When the property is unable to support them D. When cattle prices are high in the markets E. When season outlook is unfavourable	A. When funds are available B. When suitable cattle are available C. When surplus pasture is available E. When seasonal outlook is favourable

Do you use any of the following practices:

Management practices	If used? ^a	Does or could the practice help you achieve your goals? ^b	How well does or would the practice fit with your property and available resources? ^c	Will you continue or take up the practice in the future? ^d
Lazer fencing				
Improved pasture species				
Slow release fertilisers				

^a Specify as: Yes; Partly; No

^b Specify as: None; Some; All

^c Specify as: Not well; Partially; Very well

^d Specify as: Yes; No; Maybe

Bananas and papaya

* For landholders growing bananas or papaya please answer the questions in the following section (SECTION 11.1). For landholders who grow potatoes, peanuts, pasture grasses or maize please answer the questions in the following section (SECTION 11.2):

SECTION 11.1 Banana and papaya growers

Banana/papaya drainage management	Banana/papaya farm topography
<p>A. Speed and direction of farm run-off not managed (e.g. water runs down rows), sloping land under production without implementing recognised soil conservation practices.</p> <p>B. Sloping land is cultivated across the slope speed and direction of farm runoff is mostly unmanaged.</p> <p>C. Sloping ground is managed with contour banks, farm runoff is managed with broad grassed drains.</p> <p>D. Steep land not used, farm runoff is managed with conservation structures (grassed waterways, silt traps, drop structures, contour banks)</p>	<p>A. Farms very steep (more than 50% of the farm has slope equal to or greater than 5%) or frequently flooding (moving water on 10-20% of the farm 1 in 3 years).</p> <p>B. Farms where 25% - 50% of the farm has slope equal to or greater than 5% or frequently flooding (moving water on 10 - 20% of the farm 1 in 3 years).</p> <p>C. Farms where less than 25% of the farm has slope equal to or greater than 5% or frequently flooding (moving water on less than 10% of the farm 1 in 3 years).</p> <p>D. Farms with few sloping areas (more than 80% of farm has slope less than or equal to 4%) or flood frequency (still water on less than 10% of farm less than 1 in 10 years).</p>
Banana/papaya drain management	Stream bank management
<p>A. Less than 30% of drains wide, shallow and grassed.</p> <p>B. Between 30% and 70% of drains wide, shallow and grassed.</p> <p>C. Over 70% of drains wide, shallow and grassed.</p> <p>D. All drains wide, shallow and grassed</p>	<p>A. Banks with no vegetation.</p> <p>B. Banks vegetated, but no trees or shrubs beyond the top of the bank.</p> <p>C. Banks vegetated, trees, shrubs and grass extending less than 6 m from the top of the bank.</p> <p>D. Banks vegetated, trees, shrubs and grass extending at least 10 m from the top of the bank.</p>
Fungicide use	Herbicide use
<p>A. Applications based on regular program throughout year. Less than 20% of adjacent watercourses with vegetative buffer for off-site droplet capture.</p> <p>B. Applications based on regular program for most of the year. Interval between applications increased over cool and dry periods. Less than 20% of adjacent watercourses with vegetative buffer for off-site droplet capture.</p> <p>C. Applications based on objective monitoring. Less than 40% of adjacent watercourses with vegetative buffer for off-site droplet capture.</p> <p>D. Applications based on objective monitoring. Greater than 50% of adjacent watercourses with vegetative buffer for off-site droplet capture.</p>	<p>A. Applications based on regular applications throughout year, headlands and inter rows are kept free of vegetation with herbicide.</p> <p>B. Applications timed to avoid risk of wash by heavy rain, Inter rows kept vegetation free with herbicide, but headlands are managed mostly with slashing.</p> <p>C. Applications timed to avoid risk of wash by heavy rain, inter rows and headlands vegetated and managed mostly with slashing.</p> <p>D. Herbicide use integrated with other practices such as slashing and trash placement, applications timed to avoid risk of wash by rain, inter rows and headlands vegetated and managed through slashing.</p>

Banana and papaya crops fertilisers	Insecticides applied to soils
<p><i>Please indicate which option below best describes the way that you use fertilisers.</i></p> <p><i>Phosphates</i></p> <p>A. No soil testing, fertiliser applications rates based on previous practice</p> <p>B. One soil test for whole farm, fertiliser applications based on recommendation</p> <p>C. Soil testing in each block/cycle, application based on recommendation</p> <p>D. Soil testing in each block area/cycle, application aimed achieving constant soil P level (50-70 ppm).</p> <p><i>Nitrates</i></p> <p>A. No monitoring, high nitrogen applications 400+ kg/ha, monthly applications</p> <p>B. No monitoring, medium application rates, 3–400 kg/ha, monthly applications, leaf and stem trash left in rows</p> <p>C. Monitoring using leaf analysis one month before bunching, rate targets for nitrogen set to 250–400 kg/ha/year (adjusted from monitoring) mix of application methods including fertigation and broadcast depending on the season, specific trash management practices...</p> <p>D. Application rates based on crop development, monitoring N using leaf analysis (1 to 2 per crop cycle), target rates at 250–300 kg/ha/year (adjusted according to monitoring results), fortnightly fertigation, specific trash placement.</p>	<p>A. Application based on regular program throughout year</p> <p>B. Application based on regular program but avoid periods where risk of leaching or runoff from rainfall is high.</p> <p>C. Chemical applications based on subjective monitoring (presence or absence of pest), timing of applications to avoid periods of high rainfall risk.</p> <p>D. Chemicals applied strategically as part of integrated program (fallows, clean planting material), timing of applications to avoid risk of high rainfall, product solubility considered in decisions, targeted applications (e.g. stem injection) used where possible.</p>

Please indicate which chemicals you use for plant, return and fallow crops

Chemical	Plant crops	Return crops?	Fallow	Application rate? (L/ha)	When applied?
2-4-D (or 2-4-D Amine)					
Atrazine					
Combi					
Diuron					
Gesapar					
Glyphosphate					
Paraquat					
Stomp					
Trifluralin					
Velpar K-4					

Fungicide use

Do you use mercury based fungicides? **YES** **NO** **Don't know**

Cultivation practices	Fallow management
A. Cultivate whole area to fine tilth, cultivate for crop eradication, operations not specifically timed for dry season. B. As above except operations timed for June-December period. C. Cultivation for land preparation only, crop eradication with herbicide, cultivation operations timed for June – December period. D. Reduced tillage system using permanent beds with contours, only cultivation on bed, crop eradication with sprays.	A. Bare fallows, bare inter-rows, bare headlands, trash not kept on rows. B. Bare fallows, bare inter-rows, trash on rows and grassed headlands. C. Fallow crops used, grass headlands, trash on rows, bare inter-rows. D. Fallow crops used, managed vegetation in inter rows and headlands, trash on rows.

Do you use irrigation systems on your banana or papaya crops? If YES, then please answer the following questions:

Irrigation applications	Irrigation system type
A. Regular application frequency and duration based on prior history, no monitoring equipment used. B. As above except frequency/duration based on subjective monitoring (plant appearance, soil appearance). C. Use monitoring equipment in one place to guide irrigation practices for whole farm. D. Each block monitored and irrigation application is based on monitoring data.	A. All blocks irrigated using above canopy system, most of farm with travelling irrigators. B. As above except greater than 50% of farm area uses solid-set sprinklers. C. Irrigation system is a mixture of solid-set sprinklers and under-tree systems. D. 100% under-tree irrigation system (e.g. trickle/mini-sprinkler).

Cropping practices	If used? ^a	Does or could the practice help you achieve your goals? ^b	How well does or would the practice fit with your property and available resources? ^c	Will you continue or take up the practice in the future? ^d
Spray out old crops or fallow crops				
Fallow legume crops				
Put vegetation waste on rows (bananas and papaya)				
Tissue culture material (bananas and papaya)				

^a Specify as: Yes; Partly; No

^b Specify as: None; Some; All

^c Specify as: Not well; Partially; Very well

^d Specify as: Yes; No; Maybe

Do you use any of the following practices:

Management practices	If used? ^a	Does or could the practice help you achieve your goals? ^b	How well does or would the practice fit with your property and available resources? ^c	Will you continue or take up the practice in the future? ^d
Spray out old crops or fallow crops				
Fallow legume crops				
Put vegetation waste on rows (bananas and papaya)				
Tissue culture material (bananas and papaya)				

^a Specify as: Yes; Partly; No

^b Specify as: None; Some; All

^c Specify as: Not well; Partially; Very well

^d Specify as: Yes; No; Maybe

*** For landholders growing sugar cane, please answer the questions in the following section. For landholders growing peanuts, potatoes, pasture grasses, bananas or papaya, please go to the next section (SECTION 11).**

Cane crop cultivation and fallow management

Cultivation practices	Green trash blanketing
A. Cultivate entire block to fine tilth prior to planting. B. Cultivation prior to planting consists of less than 5 operations with no more than one rotary hoeing. C. Only cultivate zone where cane is to be planted. D. Pre-formed beds and double disc opener planting E. Plant cane directly without any cultivation.	A. Always burn before harvest B. Always burn trash after harvesting green C. Harvest green and burn more than once per crop cycle on some blocks D. Only burn blocks to be fallowed or replanted E. Harvest green and never burn trash
Fallow practices	Fallow practices – type of fallow used
A. All plough out/replant and no fallow B. Plough out/Replant area greater than fallow plant C. Fallow plant area greater than plough out/replant D. All cane planted into fallow	A. Weed fallow B. Managed non legume fallow C. Managed legume fallow D. Managed legume fallow planted zero till
For plant blocks only: controlled Traffic Strategies (Count dual rows as 1 row)	Drain management
A. Row spacing less than 5ft (1.52m) B. Row spacing from 5ft (1.52m) to less than 5ft 11in (1.8m) C. Row spacing 5ft 11in (1.8m) or greater	A. Less than 30% of drains wide, shallow and grassed (spoon drains) B. Between 30% and 70% of drains wide, shallow and grassed C. At least 70% of drains wide, shallow and grassed D. All drains wide, shallow and grassed
Block drainage	
A. All blocks have sections of poor drainage B. More than half of the blocks have sections of poor drainage C. Less than half of the blocks have sections of poor drainage D. All blocks well drained	

Soil testing and nutrient management

Which of the following best describes **your soil testing practices**?

- A. Do not normally obtain a soil test OR
- B. Arrange for soil tests occasionally if there is a problem OR
- C. Arrange for soil tests to be carried out every time a block is fallowed and/or prior to planting or plough-out replanting

Soil testing and nitrogen application rates cane crops – Please tick the box which best represents the rates you use for Urea applications on plant crops and ratoon crops (under normal economic conditions).

Bags/acre	Or kg N/acre or	Or kg N/ha	Plant crop	Cane crops only - Ratoon
Up to 2 bags	Up to 46 kg/ac	Up to 115 kg/ha		
2-3 bags	47 to 69 kg/ac	116 to 173 kg/ha		
3 bags and over	Over 70 kg ac	Over 174 kg ha		

Soil testing frequency	Nitrogen application decision making
<ul style="list-style-type: none"> A. Never use soil samples B. Soils samples taken on less than 50% of blocks each cane cycle C. Soils samples taken on more than 50% of blocks each cane cycle D. Soil sample each block at least once per crop cycle 	<ul style="list-style-type: none"> A. Always exceed 160 kg N/ha B. Apply more than 160 kg N/ha on some blocks C. Do not exceed 160 kg N/ha on any blocks D. Use 160 kg N/ha or less adjusting to account for other inputs e.g. soil mineralisation index, legumes and/or mill mud

Nitrogen Application methods

Farm fertiliser program

- A. I do not have a farm fertility plan
 - B. My farm fertility plan is based on my own experience
 - C. I have attended the six easy steps course and I am following the plan developed
 - D. I have attended the six easy steps course, but am not following the plan because
-
- E. I have not attended the six easy steps course because
-

Which method describes best how you apply Urea:

- A. Apply fertilizer as close to the stool as possible (not in the interspace).
- B. Place fertilizer below ground.
- C. Surface apply nitrogen fertilizers when cane has reached 50 cm in height or I can irrigate it in with 20-25 mm of water (in the absence of likely rain showers).

For **ratoon** crops:

- A. A Urea surface applied on some blocks when cane less than 500 mm high.
- B. All urea broadcast when cane at least 500 mm high.
- C. All urea applied close to row when cane at least 500 mm high.
- D. All urea applied split stool or under ground beside stool.

Do you **change fertiliser applications** on blocks where **mill mud** has been applied?

No change Reduce Increase

If alter applications, by how much? _____ Kg N/ha

Do you **change fertiliser applications** on blocks where you have grown a **good legume crop**?

No change Reduce Increase

If alter applications, by how much? _____ Kg N/ha

Have you applied **lime or gypsum** in last 5 years?

If **YES** for lime: Time last applied? _____ Rate used: _____ kg/ha

If **YES** for gypsum: Time last applied? _____ Rate used: _____ kg/ha

Cane grub control

- A. Don't use any control measures
- B. Chemical control used on all plant cane
- C. Chemical control not used on all plant cane
- D. Adopted an IPM plan for grub control

Please indicate which chemicals you use for plant, ratoon and fallow crops

Chemical	Plant crops	Ratoon crops	Fallow	Application rate? (L/ha)	When applied?
2-4-D (or 2-4-D Amine)					
Atrazine					
Combi					
Diuron					
Gesapar					
Glyphosphate					
Paraquat					
Stomp					
Trifluralin					
Velpar K-4					

Fungicide use

Do you **apply fungicides**?

Yes **No**

If **YES** then:

Which fungicides do you use, either **mercury**
or **non-mercury**

Cane rat control

- A. No management measures used
- B. Rely solely on rat baiting for control
- C. Baiting is only part of my management strategy
- D. Adopted an IPM plan for rodent control

Planting material used

- A. Any cane used for plants
- B. Less than 50% of plant material sourced from cane that has been hot water treated in the last four years
- C. Greater than 50% of plant material sourced from cane that has been hot water treated in the last four years
- D. All plants sourced from cane that has been hot water treated in the last four years and are inspected for disease by productivity services.
- E. I select varieties that are recommended for my region based on previous production records.

Chemical handling and storage

- A. I have never obtained Chemcert accreditation
- B. My Chemcert accreditation has lapsed
- C. I have current Chemcert accreditation but have yet to bring all my storage and mixing facilities etc up to prescribed standards
- D. I maintain current Chemcert accreditation and adhere to prescribed principles for usage, handling, storage, and waste disposal.

Cane cropping practices

Cropping practices	If used?^a	Does or could the practice help you achieve your goals?^b	How well does or would the practice fit with your property and available resources?^c	Will you continue or take up the practice in the future?^d
Zonal tillage				
Controlled traffic zones				
Wide rows of 1.8m or more				
GPS guided tillage				
Dual row harvesting				
Green trash blanketing				
Use of variable fertiliser applications within paddocks				
Use of enzymes to promote N uptake				
Use of denitrifying inhibitors				
Fertigation				
Spray out old crops or fallow crops				

^a Specify as: Yes; Partly; No

^b Specify as: None, some, all

^c Specify as: Not well, partially, very well

^d Specify as: Yes, no, maybe

* **For landholders growing field crops (potatoes, pasture grass, peanuts and maize) please answer the questions in the following section.**

SECTION 11.2 All potato, maize, peanut and pasture grass growers

<p>Water use</p> <p>A. Do not monitor water used from streams and bores</p> <p>B. Monitor water used from streams and bores but do not have meters on pumps</p> <p>C. Have meters on pumps and often check and record the amount of water used</p> <p>D. Have meters on all pumps and always record the amount of water used. Use these records in farm planning</p>	<p>Soil conservation practices</p> <p>A. Do not use soil conservation practices as contours</p> <p>B. Have contour banks on the farm, but largely not maintained or replaced</p> <p>C. Have maintained contour banks and grass waterways on the farm</p> <p>D. Have an integrated soil conservation approach combining contour banks, grassed waterways, reduced tillage, silt traps and crop stubble retention</p>
<p>Soil erosion and water run-off</p> <p>A. Do not worry about soil erosion or water runoff from my paddocks</p> <p>B. Check soil erosion levels and look at water runoff from my paddocks and after major rainfall events</p> <p>C. Check soil erosion levels and water runoff after all rainfall events and take remedial action if needed</p> <p>D. I acknowledge my role in managing the flow of water off all my paddocks to reduce erosion on my farm and in the catchment</p>	<p>Drain management</p> <p>A. I regard drains as a council issue</p> <p>B. I have drains on my farm but do not maintain them</p> <p>C. I have drains on my farm and slash 1-2 per year</p> <p>D. I use wide shallow grassed drains that are regularly slashed and/or cleaned out to manage water flows</p>
<p>Controlled traffic</p> <p>A. Controlled traffic not used on farm</p> <p>B. Some equipment suitable for controlled traffic, some not</p> <p>C. Planning to move towards controlled traffic</p> <p>D. All equipment suitable for use in controlled traffic and implemented</p>	<p>Stream bank vegetation management</p> <p>A. Banks have no vegetation</p> <p>B. Banks are vegetated, but no trees or shrubs beyond the top of the bank</p> <p>C. Banks vegetated, trees and shrubs extending less than 5 m from top of bank</p> <p>D. Banks vegetated, trees and shrubs extending at least 10 m from top of bank</p>
<p>Headland vegetation management</p> <p>A. Grass sprayed out on headlands</p> <p>B. Headland grass slashed up to 3x per year</p> <p>C. Headlands slashed at least 5 times per year no lower than 10cm</p> <p>D. Headlands slashed at least 5 times per year, sufficient to stop grass from seeding and prevent rat problems</p>	<p>Chemical use</p> <p>A. Calibrate sprayer and check nozzle efficiency every 2 or more years</p> <p>B. Calibrate sprayer and check nozzle efficiency every year</p> <p>C. Calibrate sprayer and check nozzle efficiency for each crop</p> <p>D. Changing nozzles, altering spray application techniques (eg. Band spraying/dropper use) calibrating equipment to ensure maximum target penetration and minimal wastage of spray</p>

* Potato growers please answer the questions in the following section (SECTION 11.1.2). Peanut, maize and pasture growers, please proceed to the NEXT section.

SECTION 11.2.2

Nutrient requirement assessment	Nitrogen application rates after summer fallow
<ul style="list-style-type: none"> A. Never use soil samples B. One soil sample taken each year covering all cropping areas C. Soil samples taken on more than 50% of potato crops/blocks planted per year D. Soil samples taken on each crop/block planted per year 	<ul style="list-style-type: none"> A. Usually exceed 120 kgN/ha on any crops. B. Use up to 120 kg N/ha without reference to soil tests. C. Use up to 120 kg N/ha on all paddocks with reference to a single soil test D. Use up to 120 kg N/ha in relation to a soil test for each individual paddock
Nitrogen application rates after good legume pasture	Atherton Tableland nitrogen rates after poor pasture
<ul style="list-style-type: none"> A. Usually exceed 150 kgN/ha on any crops B. Use up to 150 kg N/ha without reference to soil tests C. Use up to 150 kg N/ha on all paddocks with reference to a single soil test D. Use up to 150 kg N/ha in relation to a soil test for each 	<ul style="list-style-type: none"> A. Usually exceed 190 kg/ha on any crops B. Use up to 190 kg N/ha without reference to soil tests C. Use up to 190 kg N/ha on all paddocks with reference to a single soil test D. Use up to 190 kg N/ha in relation to a soil test for each individual paddock
Atherton Tableland nitrogen rates after peanuts	Atherton Tableland nitrogen rates after maize
<ul style="list-style-type: none"> A. Usually exceed 180 kgN/ha on any crops B. Use up to 180 kg N/ha without reference to soil tests C. Use up to 180 kg N/ha on all paddocks with reference to a single soil test D. Use up to 180 kg N/ha in relation to a soil test for each individual paddock 	<ul style="list-style-type: none"> A. Usually exceed 220 kgN/ha on any crops B. Use up to 220 kg N/ha without reference to soil tests C. Use up to 220 kg N/ha on all paddocks with reference to a single soil test D. Use up to 220 kg N/ha in relation to as soil test for each individual paddock
Irrigation system	Irrigation scheduling
<ul style="list-style-type: none"> A. Majority of farm irrigated with gun B. Majority of farm irrigated with solid set or hand shift C. Majority of farm irrigated with raindrop style irrigation (centre pivot, lateral) D. Majority of farm trickle irrigated 	<ul style="list-style-type: none"> A. Do not use any scheduling tools B. Schedule irrigation base on pan evaporation/ tensiometers but do not keep records C. In some blocks use pan evaporation/tensiometers/ Enviroscan® etc to schedule irrigation and keep records D. In all blocks use soil moisture monitoring equipment to schedule and record irrigation
Reduced tillage planting from grass, maize, peanut, potato or sugarcane history	Chemical use
<ul style="list-style-type: none"> A. Prepare ground for planting using 6 or more operations B. Prepare ground for planting using 5 operations C. Prepare ground for planting using 4 operations D. Prepare ground for planting using 3 or less operations 	<ul style="list-style-type: none"> A. No records kept B. Basic spray diary kept recording what used and when. C. Record of chemicals used, when and environmental conditions. D. Comprehensive documented record system covering all farm operations by block including chemical type, quantity, environmental conditions, who applied, equipment used and calibration record
Pest management	Rat management (if a problem)
<ul style="list-style-type: none"> A. Do not monitor pests or use any control measures B. Chemical application used on all crops as a precaution C. Chemical control used on some crops in relation to results of pest monitoring D. Adopted an Integrated Pest management (IPM) plan for pest control 	<ul style="list-style-type: none"> A. No management measures taken B. Rely solely on rat baiting for control C. Baiting and slashing is my management strategy D. Adopted an Integrated Pest Plan for rodent control (monitoring, slashing, owl boxes/perches, and if necessary baiting)

Weed management	Disease management
<p>A. Herbicides and/or cultivation used routinely without regard for weed range</p> <p>B. Herbicides and/or cultivation used in regard to weed range</p> <p>C. Manage weeds using appropriate pre and post-emergent chemicals in a timely manner</p> <p>D. Adopted an integrated weed management plan taking into account solubility of chemicals and other environmental aspects</p>	<p>A. Ad hoc chemical control</p> <p>B. Fungicides applied routinely following a calendar approach</p> <p>C. Fungicides generally applied using a calendar recipe approach with some consideration of existing environmental conditions</p> <p>D. Strategic fungicide program based on environmental conditions and the chemical's suitability to the situation with regard to implementation of a resistance strategy</p>

* Peanut growers please answer the questions in the following section

SECTION 11.2.3

<p>Nutrient requirement assessment</p> <p>A. Never use soil samples</p> <p>B. One soil sample taken each year covering all cropping areas</p> <p>C. Soil samples done in a strategic manner recognising potential carry over of nutrients</p> <p>D. Soil samples taken on each crop/block planted per year</p>	<p>Nitrogen application (if use nitrogen)</p> <p>A. Usually exceed 20 kg/ha on crops</p> <p>B. Use up to 20 kg N/ha without reference to soil tests</p> <p>C. For all crops use up to 20 kgN/ha in relation to a soil test result</p> <p>D. Inoculate at planting and only apply nitrogen in response to the soil test for the particular crop/block</p>
<p>Peanut hay management</p> <p>A. A A. Always remove hay</p> <p>B. B B. Remove hay from 1 out of 2 crops</p> <p>C. Remove hay from 1 out of 4 crops</p> <p>D. Never remove hay</p>	<p>Peanut irrigation (if used)</p> <p>A. Only irrigate peanuts in exceptional circumstances</p> <p>B. Majority of farm irrigated with gun</p> <p>C. Majority of farm irrigated with raindrop style irrigation (centre pivot, lateral</p> <p>D. Majority of farm trickle irrigated</p>
<p>Peanut irrigation scheduling</p> <p>A. Do not use any scheduling tools</p> <p>B. Schedule irrigation based on pan evaporation/ tensiometers but do not keep any records</p> <p>C. In some blocks use pan evaporation/tensiometers/Enviroscan® etc to schedule irrigation and keep records</p> <p>D. In all blocks use soil moisture monitoring equipment to schedule and record irrigation</p>	<p>Peanut cultivation practices when changing from grass</p> <p>A. Prepare ground for planting using 9 or more operations</p> <p>B. Prepare ground and plant using 7-8 operations</p> <p>C. Prepare ground and plant using 5-6 operations</p> <p>D. Prepare ground and plant using 4 or less operations</p>
<p>Peanut cultivation practices when changing from maize</p> <p>A. Prepare ground for planting using 9 or more operations</p> <p>B. Prepare ground and plant using 7-8 operations</p> <p>C. Prepare ground and plant using 5-6 operation</p> <p>D. Prepare ground and plant using 4 or less operations</p>	<p>Peanut cultivation practices when changing from potatoes</p> <p>A. Prepare ground for planting using 9 or more operations</p> <p>B. Prepare ground and plant using 7-8 operations</p> <p>C. Prepare ground and plant using 5-6 operations</p> <p>D. Prepare ground and plant using 4 or less operations</p>

Peanut cultivation practices when changing from sugar cane	Peanuts stubble retention
<ul style="list-style-type: none"> A. Prepare ground for planting using 9 or more operations B. Prepare ground and plant using 7-8 operations C. Prepare ground and plant using 5-6 operations D. Prepare ground and plant using 4 or less operations 	<ul style="list-style-type: none"> A. No stubble left before planting B. 0-30% stubble left at planting C. 31-60% stubble left at planting D. Greater than 60% stubble left at planting
Chemical use	Pest management
<ul style="list-style-type: none"> A. No records kept B. Basic spray diary kept recording what was used and when. C. Record of chemicals used, when and environmental conditions. D. Comprehensive documented record system covering all farm operations by block including chemical type, quantity, environmental conditions, who applied, equipment used and calibration record. 	<ul style="list-style-type: none"> A. Do not monitor pests or use any control measures B. Chemical application used on all crops as a precaution C. Chemical control used on some crops in relation to results of pest monitoring D. Adopted an Integrated Pest Management (IPM) plan for pest control
Rat management (if a problem)	Weed management
<ul style="list-style-type: none"> A. No management measures taken B. Rely solely on rat baiting for control C. Baiting and slashing is my management strategy D. Adopted an Integrated Pest Plan for rodent control (monitoring, slashing, owl boxes/perches, and if necessary baiting) 	<ul style="list-style-type: none"> A. Herbicides and/or cultivation used routinely without regard for weed range B. Herbicides and/or cultivation used in regard to weed range C. Manage weeds using appropriate pre and post-emergent chemicals in a timely manner D. Adopted an integrated weed management plan taking into account solubility of chemicals and other environmental aspects
Disease management	
<ul style="list-style-type: none"> A. Ad hoc chemical control B. Fungicides applied routinely following a calendar approach C. Fungicides generally applied using a calendar recipe approach with some consideration of existing environmental conditions. D. Strategic fungicide program based on environmental conditions and the chemical's suitability to the situation 	

* **Maize growers please answer the questions in the following section**

SECTION 11.2.4

Maize cultivation practices when changing from sugar cane, peanuts or grass:	Maize stubble retention:
<ul style="list-style-type: none"> A. Prepare ground for planting using 9 or more operations B. Prepare ground and plant using 7-8 operations C. Prepare ground and plant using 5-6 operations D. Prepare ground and plant using 4 or less operations 	<ul style="list-style-type: none"> A. No stubble left before planting B. 0-30% stubble left at planting C. 31-60% stubble left at planting D. Greater than 60% stubble left at planting
Maize nitrogen rates (not irrigated):	Maize nitrogen rates (irrigated):
<ul style="list-style-type: none"> A. Usually exceed 100 kg N/ha on any crops B. Use up to 100 kg N/ha without reference to soil tests C. Use up to 100 kg N/ha on all paddocks with reference to a single soil test D. Use up to 100 kg N/ha in relation to a soil test for each individual paddock 	<ul style="list-style-type: none"> A. Usually exceed 220 kgN/ha on any crops B. Use up to 220 kg N/ha without reference to soil tests C. Use up to 220 kg N/ha on all paddocks with reference to a single soil test D. Use up to 220 kg N/ha in relation to as soil test for each individual paddock
Maize chemical use records:	Maize pest management:
<ul style="list-style-type: none"> A. No records kept B. Basic spray diary kept recording what was used and when. C. Record of chemicals used, when and environmental conditions. D. Comprehensive documented record system covering all farm operations by block including chemical type, quantity, environmental conditions, who applied, equipment used and calibration record. 	<ul style="list-style-type: none"> A. Do not monitor pests or use any control measures B. Chemical application used on all crops as a precaution C. Chemical control used on some crops in relation to results of pest monitoring D. Adopted an Integrated Pest management (IPM) plan for pest control
Maize rat management (if a problem):	Maize weed management:
<ul style="list-style-type: none"> A. No management measures taken B. Rely solely on rat baiting for control C. Baiting and slashing is my management strategy D. Adopted an Integrated Pest Plan for rodent control (monitoring, slashing, owl boxes/perches, and if necessary baiting) 	<ul style="list-style-type: none"> A. Herbicides and/or cultivation used routinely without regard for weed range B. Herbicides and/or cultivation used in regard to weed range C. Manage weeds using appropriate pre and post-emergent chemicals in a timely manner D. Adopted an integrated weed management plan taking into account solubility of chemicals and other environmental aspects