Outsourced Environmental Scoping Study Report

Unilever Australasia

PROJECT GENESIS

Environmental Sustainability Strategy For the Processing Tomato Industry

14 January 2000
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Preamble…

**DISCLAIMER:**

While every care has been taken by Outsourced Environmental in preparing this document, by virtue of this being a scoping report, the outcomes, recommendations and budget estimates for this project are subject to change. The implementation plan and project cost estimates are subject to fine-tuning in the ramp up phase of the project.

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Preamble …

REPORT ASSUMPTIONS:

In preparing this report, Outsourced Environmental has not seen it necessary to provide a dissertation of:

• ISO 14001 International Environmental Management System Standard and the road to Certification and BS7750
• SQF 2000 and Food Safety Quality Assurance
• ISO 9001 & 9002 and Quality Assurance
• AS 4804 and Occupational Health and Safety Assurance

However Outsourced Environmental can demonstrate competency and proficiency in these areas if required.

GLOSSARY OF TERMS & DEFINITIONS:

AS/NZS 4804:1997 Occupational, Health & Safety Management Systems - General guidelines on principles, systems and supporting techniques
BS7750: British Standard for Environmental Management Systems
CRAFT: Choice of Products, Rate of Application, Application Method, Frequency of Application, Timing
DIFOT: Delivery in Full & On Time
EMS: Environmental Management System
  • The people and the overall culture of a company that achieves net and continual environmental improvement
  • An approach to managing Environmental Issues built on the Internationally Standard ISO 14001
  • The part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy
GIS: Graphic Information System
ISO: International Standards Organisation
KPI's: Key Performance Indicators
OE: Outsourced Environmental
PDMI: Plan Do Measure and Improve
QA: Quality Assurance
Sustainable Agriculture means the use of farming practices, which maintain or enhance the economic viability of agricultural production, natural resources and other ecosystems
SQF 2000: Safe Quality Food Standard
THE CORPORATE CONTEXT & STRATEGIC CONSIDERATIONS

Apart from the scoping study brief & field interviews, the reference point for the preparation of this report is the Unilever Australia Environment Policy issued 29th July 1998. This policy statement, after detailing the Unilever environment aims, explains how the aims will be achieved and says;

• "...encourage our suppliers to develop environmentally superior processes and ingredients and co-operate with other members of the supply chain to improve overall environmental performance
• Work with industry bodies, government agencies, business partners, and other concerned organisations to promote environmental care, increase knowledge, and disseminate best practice;"

On the basis of these policy statements, this report assumes that Unilever:

1. Has a commitment to see a continuing future for the processed tomato industry in Victoria & New South Wales
2. Accepts the partition of effort between the growing and the processing of tomatoes are two (2) complementary, specialist areas of expertise
3. Has no interest or intent to vertically integrate "downwards" to engage in the growing of field tomatoes for processing.

The implications of these assumptions are significant for Unilever's sustainability strategy in that it follows from them that: -

(a) Unilever has a vested interest in facilitating the long term development of a stable pool of grower expertise to supply it with processing tomato product

(b) There is in practise a symbiotic (win:win) relationship to be developed between the processor and the grower

(c) The notion of a "partnership" between processor and grower within the framework of supply chain management can be formulated

(d) The development of goodwill and better relationships between Unilever & growers is advantageous & relevant to a mutually sustainable & profitable tomato processing business.

It is concluded then that, in the interest of developing an environmentally sustainable tomato processing business, consideration is given as to how to strengthen, formalise and articulate a supply-chain "partnership" between Unilever & the contracted tomato grower. This report tables a strategy that attempts to achieve this.
EXECUTIVE SUMMARY

PROJECT GENESIS PROVIDES A MULTIDISCIPLINED STRATEGY TO ENHANCE SUSTAINABILITY AT BOTH GROWER AND PROCESSOR LEVEL. (UNILEVER'S RETURN TO EDEN!)

This scoping report was commissioned by Unilever Australia to develop a multidisciplinary strategy to research and apply sustainable environmental management practices to the processing tomato value chain.

Outsourced Environmental’s focus as evident throughout this report has been to develop a strategy to deliver on-farm and processor sustainability improvements. This report has been written from a business sustainability and growth perspective and as such embraced an array of issues including Quality Assurance, Food Safety, Occupational Health and Safety. The basic question addressed is "...Is sustainability achievable?" & if so, "what are the steps to achieving it?"

Two Golden Rules apply to answers offered to the sustainability question:

1. What will the tomato grower and processor do differently as a result of this research initiative?
2. How can Unilever capitalise on this research in terms of industry recognition (positioning) and product differentiation (brand strength)?

**Key Findings:**

- Given the general legal exposure growers and processors face on a range of issues (environmental, safety and food safety), an integrated approach to research, systems and tools development is recommended. A framework consistent with the range of systems and international standards requirements needs to be driven through each area of the project.

- Both growers & processors were found to be exposed at present given current systems and external pressures requiring exhaustive due diligence/duty of care assurance. The lack of safety and food safety/QA systems coupled with environmental sustainability pressures has yet to impact on the operational activities of growers (& to a lesser extent processors), however growers in particular exhibit concern and seem responsive to change.

- Consumer, community & regulator expectations are changing at a more rapid pace than growers are embracing change. A gap appears to exist and seems to be widening.

- Unilever Australia has put a new environmental policy in place (1998), however systems & action required to facilitate this policy throughout the supply chain, and in particular at the supplier/grower end appear to be absent.

- The processing tomato industry in Australia has had a significant academic and Government research focus in recent years. Research into sustainability has yielded several keys to sustainability, however the lack of a multi-disciplined focus has prevented many new advancements and breakthroughs, particularly at the grower level. Unilever's approach needs to be holistic and to engage a fresh resourcing strategy to drive project Genesis effectively.

- Grower gross margins and business performance was found to be very poor, compromising grower ability to invest in long term sustainability initiatives.

- In addition to other business & operational pressures, 4 new external pressures (EMS, QA, SQF2000, and Safety Map) are now competing for resources and time from all industry stakeholders. There is a lack of integration between these systems at present.
Executive Summary (continued)…

- At present, there appear to be no clear industry leaders at the Australian Processor Level in terms of Environmental Sustainability.
- Environmental and business sustainability, securing their supply chain (long term) and satisfying demanding third party interests (shareholders, consumers) are essential to Unilever.
- All of the five growers interviewed seemed concerned about environmental sustainability issues and were looking to Unilever for support in finding positive resolutions.

**Key Recommendations:**

In order to build a sustainability model which achieves the outcomes required, a 7-part strategy is recommended (each part being analogous to a “plank” in a wooden structure) to research and achieve sustainability of Unilever’s Australian Processing Tomato Value Chain.

These planks are as follows:

1. **Risk Assessment** - Identifying & Quantifying the Hazards and Risks from Grower to Processor
2. **Industry, Consumer & Community Benchmarking** - Harvesting Existing Knowledge and Systems for Maximum Unilever Benefit
4. **Development of Grower & Processor Management Tools** - Driving Activity Based Outcomes from previous Planks
5. **Training & Implementation - Where the Rubber Hits the Road** - Making it Work Where it Counts
6. **Social/Human Capital & Industry Incentive Schemes** - Investing Back into the Supply Chain
7. **Market Positioning Strategy** - Reaping the Benefits

**Next Steps:**

A detailed implementation plan (see Appendix 1 attached) details implementation timelines over a 5 year period and cash flow estimates for a $2.5 million AUD sustainability investment required for the Australian Processing Tomato Project (Project Genesis).

Given the time and scope provided for this initial planning phase of the project a ramp up phase is required to clarify strategic intent, collaboration and interaction with Brazil sister project, and to fine tune cost estimates. A ramp up investment of $56,900 will be required.
PROJECT GENESIS

• EXECUTIVE SUMMARY

• INTRODUCTION

• ENVIRONMENTAL SUSTAINABILITY STRATEGY
  – PLANK 1: RISK ASSESSMENT
  – PLANK 2: INDUSTRY, CONSUMER & COMMUNITY BENCHMARKING
  – PLANK 3: R&D INTO KPI'S FOR ENVIRONMENTAL SUSTAINABILITY
  – PLANK 4: DEVELOPMENT OF GROWER & PROCESSOR MANAGEMENT TOOLS
  – PLANK 5: GROWER & PROCESSOR TRAINING & IMPLEMENTATION
  – PLANK 6: SOCIAL/HUMAN CAPITAL & INDUSTRY INCENTIVE SCHEMES
  – PLANK 7: MARKET POSITIONING STRATEGY

• RECOMMENDATION & IMPLEMENTATION PLAN

• APPENDICES
SOME WORDS OF WISDOM

• **Sustainability involves living on nature's income rather than its capital!**

• The nation behaves well if it treats the natural resources as assets, which it must turn over to the next generation increased and not impaired in value. (Theodore Roosevelt - December 3, 1907)

• To waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining the days of our children the very prosperity which we ought by right to hand down to them amplified and developed (Theodore Roosevelt - December 3, 1907)

• Each generation has only a temporary rendezvous with the land; despite the fee titles and documents of ownership we are no more than brief tenants on this planet

• A cleanup often costs 100 times more than preventing the waste and pollution in the first place

• The significant problems we face cannot be solved at the same level of thinking we were at when we created them (A. Einstein - *as cited in the Unilever Sustainable Agriculture Workshop, Rotterdam April 1998* )
INDUSTRY EXPOSURE & CHANGES IN LEGISLATION ARE DRIVING THE NEED FOR ENVIRONMENTAL REFORM IN THE PROCESSING TOMATO INDUSTRY AT ALL LEVELS

<table>
<thead>
<tr>
<th>Category</th>
<th>ISSUES</th>
<th>IMPLICATIONS &amp; POTENTIAL EXPOSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material Supplier</td>
<td>• Use of Agricultural Chemicals &amp; Fertilizers in Field&lt;br&gt;• Effective Instruction&lt;br&gt;• Product Quality &amp; Impurities&lt;br&gt;• Down Stream Effects of Products&lt;br&gt;• Build up and impact of products in food chain&lt;br&gt;• Snake oils being trialled with end-use impact ill-defined&lt;br&gt;• Seed suppliers&lt;br&gt;• Genetically modified crops &amp; long term implications&lt;br&gt;• Disease &amp; pest resistance&lt;br&gt;• Efficacy of raw materials in field in some cases unclear due to inadequate field research and testing</td>
<td>• Raw material suppliers being forced into greater accountability for the enduse/environmental fate of their products&lt;br&gt;• Residues as a consequence of products being traced throughout food and supply chains&lt;br&gt;• Greater research emphasis into environmentally sound products.</td>
</tr>
<tr>
<td>Growers</td>
<td>• On farm use of chemicals &amp; fertilizers (MRL's)&lt;br&gt;• Off site impacts associated with operational activities&lt;br&gt;• Air Quality due to aerial spraying of crops&lt;br&gt;• Stream, Storm Water &amp; Ground Water&lt;br&gt;• Biodiversity decline due to land clearing etc&lt;br&gt;• Lack systems to identify legal compliance requirements or strategies to gain compliance&lt;br&gt;• Inadequate Environmental Systems to monitor onsite/offsite impacts of cropping practices&lt;br&gt;• Regulators, particularly in NSW, targeting grower groups over off site impacts (down stream effects).&lt;br&gt;• Financiers requiring environmental impact &amp; due diligence guarantee's.</td>
<td>• Regulations relating to offsite impacts of farming activities becoming tighter (lower allowable discharge limits in water + MRL's) for chemicals and nutrients.&lt;br&gt;• Food safety legislation and the power of end user consumers will increase requiring improved systems and external verification.&lt;br&gt;• Farming Activities (Processing Tomato) may become licensable activities in time requiring on farm EMS to demonstrate compliance and sustainable management.</td>
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<tr>
<td>Food Processor</td>
<td>• Food hygiene &amp; food safety concerns - physical, biological &amp; operational&lt;br&gt;• Quality Assurance systems fragmented&lt;br&gt;• Process Waste Management pressure by Regulators&lt;br&gt;• ECO packaging options required to satisfy end user expectations and to ensure full waste resource recovery</td>
<td>• Food safety, QA and Environmental regulations having greater day to day influence on operational activities.&lt;br&gt;• Greater risk and compensation awareness of retailers&lt;br&gt;• Environmental sustainability of processing activities, cleaner production and waste minimisation high priorities</td>
</tr>
<tr>
<td>Consumer</td>
<td>• Food safety concerns&lt;br&gt;• Residues in food (heavy metals, chemicals)&lt;br&gt;• Genetically modified food crop issues</td>
<td>• Consumers are expected to demand more effective food safety systems and assurance. Assurance also that raw material inputs are grown in an environmentally sustainable manner.&lt;br&gt;• Consumers expected to respond favourably to ECO labelling and organic/green product solutions.</td>
</tr>
</tbody>
</table>
### CONSUMER, COMMUNITY, REGULATOR AND SHAREHOLDER EXPECTATIONS ABOUT ENVIRONMENTAL & FOOD SAFETY MANAGEMENT ARE CHANGING RAPIDLY

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>1970’S</th>
<th>1990’S</th>
<th>2005 (Prediction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>• Limited knowledge &amp; Awareness about food safety and environmental issues</td>
<td>• Growing awareness fuelled by food safety concerns (Garibaldi, Kraft)</td>
<td>• Responsive to green ECO marketing</td>
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<tr>
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<td></td>
<td>• Environmental issues and concerns high on the list of public (SA Teenagers in survey - 19/99 were most worried about the environment, then finding a job, then guns in community)</td>
<td>• Demanding traceability and food safety</td>
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<td></td>
<td></td>
<td></td>
<td>• Seeking assurance of environmental stewardship &amp; sustainability</td>
</tr>
<tr>
<td>Community</td>
<td>• Little concern for environmental performance of farmers and processors</td>
<td>• Growing concern by Australian public towards Environmental Sustainability of agricultural industries</td>
<td>• Demanding sound and sustainable management practices throughout the value chain</td>
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<td></td>
<td>• Some isolated green groups activity with main focus on logging, mining and heavy industry</td>
<td>• Land care movement engaging over 60% of Australian farmers + local community and growing</td>
<td>• Greater power to impact operational activities on farm &amp; processors</td>
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<td></td>
<td></td>
<td></td>
<td>• Taking direct action where chemical over spray and other impacts occur</td>
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<tr>
<td>Regulators</td>
<td>• Laws prevented direct enforcement and control, particularly for non-point source pollution</td>
<td>• New tighter more focussed environmental laws in Victoria and NSW impacting on farm gate and processor performance</td>
<td>• Regulating all irrigated horticultural activities</td>
</tr>
<tr>
<td></td>
<td>• Food safety concerns existed but limited enforcement &amp; traceability very poor</td>
<td>• Food safety issues and associated laws gaining increased focus &amp; influence</td>
<td>• Prosecuting key supply chain stakeholders for ineffective management strategies</td>
</tr>
<tr>
<td>Shareholders</td>
<td>• No significant for environmental Management concerns</td>
<td>• Requiring systems and behaviours to demonstrate due diligence and to preserve shareholder value</td>
<td>• Closely monitoring streams, ground water, residues in food, air quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Starting to respond well to environmental and sustainability strategies</td>
<td>• Demanding ECO and sustainability strategies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Green companies providing sustainable investment assurance</td>
<td>• Demanding activity driven systems to ensure compliance and liability management</td>
</tr>
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- Awareness of Green Issue has accelerated in 1990’s, with regulators have greater power to influence farming and processor practices
- Laws are now targeting diffuse pollution sources (agriculture) as well as point sources (processors & others)
**Strictly Confidential**

**Introduction…**

**IN 1998, UNILEVER AUSTRALIA INTRODUCED A NEW ENVIRONMENTAL POLICY PROVIDING A SOUND BASIS FOR IMPROVED ENVIRONMENTAL PERFORMANCE ACROSS CORE OPERATIONS AND GROWER GROUPS.**

<table>
<thead>
<tr>
<th>Policy Objective</th>
<th>Policy Implications</th>
<th>Unilever Australia Today</th>
<th>Unilever Australia 2005</th>
</tr>
</thead>
</table>
| Safety of Products & Operations for the Environment | - Food Safety is Critical throughout Supply Chain & Unilever have controls in place at all levels  
- All Operations & Activities Protect or Enhance Environment | - Some food safety controls present from farm gate to consumer, however not formally managed via integrated QA system  
- No on farm food safety controls evident (except chemical logs) | - Integrated QA throughout value chain  
- Environmental risks & impacts quantified  
- Environmental management & sustainability systems in place & active |
| Same Standards of Environmental Management World Wide | - Consistent Methods & Systems Employed for Sustainable Resource & Environmental Management  
- EM Strategies able to be Leveraged World Wide | - Project Genesis provides first formal process for development of tools for World Wide leverage  
- Joint pilot sustainability projects in Australia & Brazil | - A consistent methodology, Sustainability Indicators, Systems, Training Tools etc applied across growers and processors World Wide |
| Development of Innovative Products & Processes to reduce Environmental Impact | - Environmental Innovation applies across all areas of activity (Farm to Consumer)  
- Strategies employed to identify & quantify Environmental Impact and to Mitigate Issues on a Risk Basis | - Limited application across Unilever today  
- No clear tools for Environmental Impact Assessment or Mitigation | - Leads the food industry in the development of vertically integrated EMS  
- Environmental impact plans with risk mitigating strategies in place  
- Environmental tools 100% adopted |
| Eco Packaging Strategies for Waste Minimisation | - Cradle to Grave Waste Minimisation Plan exists & is actioned for all waste streams  
- Research into Eco Packaging solutions is evident throughout organisation | - Limited work on cradle to grave waste management evident, particularly at a grower level  
- Research initiated at processor level, no action at grower level | - Cradle to grave plan of action with $ savings clearly evident  
- Research findings into ECO packaging resulting in alternative product delivery mechanisms with price point benefits |
| Reduce Waste, Conserve Energy, Reuse & Recycle | - Cradle to Grave Waste Minimisation Plan exists for all waste streams throughout value chain  
- Energy & Waste audit conducted with Strategies for Minimisation Identifiable | - Tangible plan at Tatura Plant and on farm not evident at this stage  
- No energy efficiency analysis or results evident | - Energy & waste audit analysis complete providing tangible savings |

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**Project Genesis will provide a comprehensive & transparent strategy to fulfill these policy objectives for the processing tomato value chain in Australia, linking also to Brazil initiative.**
Introduction…

A DISTINCT LACK OF A HOLISTIC APPROACH TO ENVIRONMENTAL & SUSTAINABILITY EXISTS WITH CURRENT RESEARCH INITIATIVES BIASING SPECIALIST INTEREST AREAS RATHER THAN ON FARM PRACTICAL SOLUTIONS AND NET SUSTAINABILITY IMPROVEMENTS

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<tbody>
<tr>
<td>1. Survey of Farm Practices &amp; associated environmental changes</td>
<td>• Management Practices  • Cultivation &amp; Machinery  • Irrigation Application  • Fertilizer &amp; Chemical  • Crop Rotation  • Crop Protection  • Economics &amp; Profitability</td>
<td>• Overlooks tomato crop as a study target</td>
</tr>
<tr>
<td>2. Review of international practice and research into sustainable processing tomato production</td>
<td>Biological  • Biodiversity  • Indigenous Fauna &amp; Flora  • Introduced Fauna &amp; Flora  • Pests &amp; Diseases  • Micro Fauna &amp; Flora  • Crop Physiology  • Crop Genetic Characteristics</td>
<td>• Overlooks weather as a determinant of crop output</td>
</tr>
<tr>
<td>3. Benchmarking management practices</td>
<td>Physical  • Soil Type  • Soil Moisture  • Nutrition &amp; Fertility  • Climate &amp; Weather  • Tillage &amp; Compaction  • Erosion &amp; Degradation</td>
<td>• Overlook Ecology &amp; Biodiversity issues in broad sense (only soil microbes &amp; pathogens)</td>
</tr>
<tr>
<td>4. On farm experimental evaluation of current best bet practice  • Establishment of on farm experimental sites and application of treatments  • Monitor of Sustainability Indicators</td>
<td></td>
<td>• Disciplinary bias towards soils at expense of other components of a sustainable system</td>
</tr>
<tr>
<td>5. Detailed experiments to clarify choice of management practices upon sustainability  • Compare management systems  • Predictive modelling</td>
<td></td>
<td>• Acknowledges conflict advice of discipline specialists but offers no solution or strategy</td>
</tr>
<tr>
<td>6. Dissemination of project outcomes via  • Publishing papers  • Field Days  • Seminars</td>
<td></td>
<td>• Project outcomes, strategy and results are not specific</td>
</tr>
</tbody>
</table>

- Model generated may be limited as a tool due to the narrow range of environmental variables considered
- Does not address the need to integrate the variables for decision making at the farm level
- Inability to directly engage the grower (Customer) in research initiatives - distinct communication barrier between research staff and growers
Introduction...

4 SEPARATE SYSTEM REQUIREMENTS ARE APPLYING COMPETING "NEW" PRESSURES ON ALL INDUSTRY STAKEHOLDERS. AN INTEGRATED APPROACH IS REQUIRED PROMOTE MANAGEMENT EFFICIENCY & AVOID DUPLICATION OF EFFORT.

Current Operational Activity

**Grower:** Tomato Industry Growers reduced from 220 in 1990 to 44 in 1997, average farm size increased as did average farm production output & number of FTE's/ha produced decreased.

**Transport:** Industry trend from wooden bins to bulk handling. Number of transport companies reduced from 5 to 1.

**Processor:** 5 processors operating in the local industry. Unilever facility operating at below capacity (50-60%).

**Wholesaler/Retailer:** Customer reactive to demands of end consumer. Concerns over food safety, clean produce, traceability and assurance that core ingredients are fit for purpose.

4 New & Competing Systems Pressuring All Aspects of Value Chain

**Environmental Management Systems**
- ISO 14001 (& BS7750)
- Environmental Sustainability
- Cleaner Production
- Greenhouse Challenge
- Legal Compliance & Due Diligence
- Training & Record Keeping

**Quality Systems**
- ISO 9001 & 9002
- Traceability and Repeatability
- Operational Processes Mapped & Controlled
- Training & Record Keeping

**Food Safety Systems**
- SQF 2000 & Others
- Critical Control Point Identification
- Chemical & Input Logs
- Housekeeping & Infrastructure
- Training & Record Keeping

**Farm Safety (Workcover) & AS4804**
- Victorian Workcover Safety Map
- Australian Farming Community has worst safety record of any working sector
- Increased regulator focus is occurring with Vacerious Liability linkages between Grower and Unilever
- Training & Record Keeping

An Integrated Systems Approach

- Activity & core operational driven systems
- Identifying and ensuring legal compliance throughout value chain
- Consistent process of systems management for all requirements
- Process driven on basis of risk and hazard identification and mitigation
- Externally auditable and certifiable for transparency
- Driven from bottom up & develop with all key stakeholders
- One integrated and consistent record management system (possibly via Unilever website)
- Incorporating framework for environmental management, QA, food & farm safety
- Systems delivering improved/enhanced value chain efficiency & effectiveness with $ savings & gains evident for all stakeholders

AND THIS IS FURTHER COMPOUNDED BY THE FACT THAT ...
PROFITABILITY AT A GROWER LEVEL IS MARGINAL AT PRESENT WITH EXTRA CARE ESSENTIAL IN PROVIDING AN INTEGRATED APPROACH, ENHANCING EFFICIENCY AND EFFECTIVENESS

**TODAY**

**1996 Grower Profitability Benchmark**

- Income/ha
- Profit/ha
- Expenditure/ha

- Lowest 25%
- Average
- Highest 25%

- 1996 Benchmark study indicated significant variability with on farm profitability
- At best growers were averaging $2,100/ha profit.
- Generally margins are considered to be very tight

- Grower margins are price & yield sensitive and can vary significantly from year to year

**THE FUTURE - 2005**

**Grower**
- Trend to larger planted areas & product specialisation
- Pressure to achieve higher yields (from 60t/ha to 120t/ha)
- Pressure to achieve increased fruit quality standards
- Commercial climate of stable-falling prices for fruit & rising costs of inputs forces a more professional stance toward contracts and the farm business
- Increased gap between growers in their disposable income
- Pressure for Value Chain Food Safety Assurance

**Processor**
- Offering larger contracts to selected growers
- Pressure to improve cost efficiencies (Aust. Processor costs = 30% higher than US in 1996)
- Pressure to achieve economies of scale by greater volume of through-put in factory
- Forced to look at plant equipment upgrade for greater efficiencies
- Logistics of grower to factory location & transport logistics may be reviewed?
- Pressure for Food Safety Assurance
- Pressure to help stabilise grower margins to assure future continuity of supply and quality

**Consumer**
- Increased demand for environmentally friendly & safe products
- Increased sensitivity and reaction to chemical residues in food
- Increased tendency to litigate grievances
**Introduction...**

THERE ARE NO CLEAR LEADERS AT PRESENT AT THE AUSTRALIAN FOOD PROCESSOR LEVEL ON THE SUSTAINABILITY FRONT, WHICH OFFERS UNILEVER A SIGNIFICANT MARKET POSITIONING OPPORTUNITY...

<table>
<thead>
<tr>
<th>Industry Players</th>
<th>Focus on Sustainability</th>
<th>Unilever Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unilever</strong></td>
<td>• Project Genesis World Wide provides the first comprehensive sustainability project channelled throughout the value chain</td>
<td>• Be the first processor in Australia to provide an integrated holistic strategy to farmers</td>
</tr>
<tr>
<td></td>
<td>• No evident focus on field sustainability or food safety</td>
<td>• Build stronger Grower-Unilever partnerships &amp; loyalty by providing environmental, food safety and quality assurance assistance</td>
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<tr>
<td><strong>Ardmona</strong></td>
<td>• Currently evaluating need for a food safety program with growers, however no sustainability initiatives</td>
<td>• Gain sustainability assurance throughout supply chain</td>
</tr>
<tr>
<td><strong>Heinz</strong></td>
<td>• Currently evaluating need for a food safety program with growers, however no sustainability initiatives</td>
<td>• Leverage the learning, research and tools from this project across other Unilever sectors</td>
</tr>
<tr>
<td><strong>Simplot &amp; Cendeco Aust</strong></td>
<td>• Currently evaluating need for a food safety program with growers, however no sustainability initiatives</td>
<td>• Develop end user product branding opportunities for market differentiation and price advantage</td>
</tr>
<tr>
<td><strong>SPC</strong></td>
<td>• No evident focus on field sustainability or food safety</td>
<td>• Raise the community profile of Unilever as a environmentally caring company during project implementation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Deliver efficiency &amp; effectiveness gains at grower &amp; processor level thereby providing value chain sustainability</td>
</tr>
</tbody>
</table>
**Strictly Confidential**

TO UNILEVER, SUSTAINABILITY IS ESSENTIAL TO SECURING THE SUPPLY CHAIN LONG TERM & IN SATISFYING END CONSUMERS & SHAREHOLDERS.

### SUSTAINABLE AGRICULTURE

*Sustainable Agriculture is the use of farming practices and systems which maintain or enhance:*

(a) The economic viability of agricultural production;
(b) The natural resource base; and
(c) Other ecosystems which are influenced by agricultural activities.

*Sustainability allows for the provision of current needs without compromise of the ability of future generations to meet their own need.*

### SUSTAINABILITY INVOLVES

- Ensuring the land is managed so as to guarantee ongoing yields of agricultural produce overtime
- Minimising inputs and costs in terms of fossil fuel, fertilizers, pesticides, herbicides and/or other auxiliaries
- Ensuring output is economically sustainable & profitable compared with other industry sectors
- Ensuring environmental impact is reduced
- Guaranteeing quality & safety of products
- Being responsive to changing consumer demands
- Good stewardship - helping protect and improve current resources,

### SUSTAINABILITY DELIVERS

- Economic stability
- Environmental enhancement & protection
- Reduction in Liability & Exposure
- Product brand differentiation and premium price point opportunities
- Satisfied multigenerational consumers
- Strong grower partnerships (The Unilever Sustainable Partner Program)
- Satisfied shareholders
- Life & future success
Plate 1: (Above) Drip Irrigated Crop (40+ t/acre yield estimate), Gino Gugliotti

Plate 2: (Below) Irrigation channel on John Kennedy Property

Plate 3: Close-up of Geof Spencer’s early processing tomato crop - note: leaf curl & disease infestation by pathogens

Plate 4: Graeme Asby on a Mission
Plate 5: Above ground fuel tank on grower new pump shed, within 5 metres of water course, no bunding, surface diesel contamination. John Kennedy's property.

Localised soil type, surface sealing, prevented seedling emergence

Plate 6: Crop failed to emerge as a consequence of sticky clay, surface sealing and poor weather conditions on Troy Mutto's property.

Plate 7: Poly tank used to store liquid fertilizer on John Kennedy's property. Overall facility is excellent, tank needs some kind of bunding given proximity to irrigation channel.

Leaking liquid fertilizer valve, water source <5m, no bunding
**Introduction…**

During this scoping phase 5 growers were interviewed and the findings were as follows….

<table>
<thead>
<tr>
<th>Grower</th>
<th>Current Operations</th>
<th>Views on Sustainability</th>
<th>Recommendations</th>
</tr>
</thead>
</table>
| Geof Spencer       | • Used drip irrigation for >20 years.  
• Continuously crops land for 3 years, 8 year total rotation (cereals)  
• Water table risen to 1.8 m in general area since land clearing (from >20 m)  
• Typical yields 40T/acre  
• Self-mulching clay soil  
• High performing grower | • Increased pressure on water reserves  
• No systematic irrigation scheduling  
• Weed/disease problem worsens with continuous cropping  
• Too much phosphate/nitrate used so have to lime. Nutrient balances are important  
• Soluble solids an issue with drip irrigation  
• Chemical spraying a problem with wind/wet weather (occasionally use aerial sprays) | • Want bulk for product transport  
• Keen for better grower-processor relations (prefers Unilever)  
• Better spray machinery needed  
• Available to participate in driving project Genesis |
| John & Pat Kennedy | • Drip irrigation  
• 4 years continuous cropping  
• Yield stable @ 40T/acre.  
• Forward plans 1-2 years for paddock use (fertiliser).  
• Uses 2-man Italian harvester.  
• Self-mulching clay soil  
• High performing grower | • Need to do trials on one block with grower driven trials  
• No systematic irrigation scheduling  
• Need hassle-free management record system  
• Staff continuity a problem with training  
• Sodium levels may have increased, no records  
• Unpredictable weather an issue for crop yields & quality  
• Concerned about chemical & farm safety | • Keen for better grower-processor relations  
• Sustainability linked to profitability - growers need profit to re-invest into farm system  
• Available to participate in driving project Genesis |
| Sergio & Glenn Rorato | • Furrow irrigation  
• Water use (2.5MGL/Ha/crop)  
• Crop land 1 year only with Tomato, then 3 year rotation - cereal/canola.  
• Soil has high clay content, deep cracking, clay pans/plough pans  
• Property laser levelled  
• Water table >18metres  
• Farm = GPS mapped & yield mapped (yield varies from 2-90T/acre over paddock) | • Need to rest ground for crop nutrient loss  
• Disease/build-up with Tomato crops  
• Recycle tail water  
• Chemical risks & machinery safety of concern | • Need to forecast/explain yield variation more effectively (maturity dates)  
• Irrigation scheduling  
• Integrated systems approach essential given current pressures with Workcover, Food Safety etc  
• Available to participate in driving project Genesis |
| Troy Muto          | • Laser levelled  
• Furrow irrigated, recycle irrigation tail water  
• High clay soil  
• Water table >15 metres  
• Weed problems & soil seedings problems.  
• Multiple processor contractors: Unilever, Heinz & Cedenco. | • Lower Chemical use & achieve good pest control is a key to future  
• Weather risks (wind) for spraying  
• Endosulfan used in early sprays  
• Aerial sprays with wet weather  
• Food safety a concern however no controls other than fuel log | • Irrigation scheduling could be improved  
• Need to understand drivers to sustainability  
• Need community awareness & management plan as part of sustainability  
• Available to participate in driving project Genesis |
| Gino Gugliotti     | • Drip + furrow irrigation  
• 80 acres owned + ease land  
• Exclusive Unilever contract (8000T)  
• Yields = 40T/acre (Drip) c.f 20T/acre (Furrow), TSS >4.8% | • Local community concern with aerial chemical sprays | • Doesn’t want multiple systems  
• Available to participate in driving project Genesis |
IN TERMS OF PROJECT GENESIS, 3 MANAGEMENT OPTIONS WERE CONSIDERED....

<table>
<thead>
<tr>
<th>OPTIONS</th>
<th>BENEFITS</th>
<th>WEAKNESSES</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
</table>
| ① Unilever Participating in an Industry Run Project (APTRC or Department of Natural Resources) | • Build industry good will  
• Industry is well informed  
• Unilever project cost is reduced  
• Unilever's status as an industry benefactor is increased | • Difficult to build consensus  
• Complicated project leadership  
• No market positioning advantage  
• Old industry relationship interfere with project & may be reinforced by it.  
• Likelihood of optimal outcome reduced by the number of decision-makers & conflicting self-interests  
• Likelihood of achieving a holistic sustainability tools & outcomes to apply in other environments is low  
• Project focus diluted by the number of paying stakeholders | Since unity of purpose, singularity of focus & the concentration of resource is vital to success of this project, **option ③ is recommended**  
A cohesive, well-led team backed by adequate resources has the highest likelihood of success.  
The complex nature of the sustainability challenge demands a simple administration which can respond quickly in terms of decision-making and the movement of resources (enabling full advantage of the opportunities during implementation).  
An external managed project simplifies vendor management and provides a range of expertise not financially viable given an internally resourced project. |
| ② Unilever Inviting Competitors to Jointly Fund Project & Outsourced Project Manager or Government Run Initiative | • No. of decision makers reduced for easier consensus building.  
• Common interests of processors & growers addressed  
• Build industry good will  
• Industry is well informed  
• Project cost to Unilever reduced by it's spread across all processors | • Traditional competitive roles difficult to suppress - potential interference with management  
• The need for shared ownership of outcomes reduces their value  
• Interests of other stakeholders ignored/or patronised  
• Likelihood of achieving a holistic sustainability tools & outcomes to apply in other environments is **medium**  
• Risk of endangering grower & other stakeholder interests/relationships |  |
| ③ Sole Unilever Initiative & Outsourced Project Manager or Government Run Initiative | • Build Good will  
• Industry is well informed via Unilever filter  
• Unilever owns project outcomes & products  
• Greater stakeholder engagement  
• Powerful focus on the core issues of concern to Unilever  
• Greater flexibility in project design & development  
• Sole publicity benefits for Unilever  
• Simplified decision making & leadership  
• Results leveraged world wide | • Cost to Unilever for the project is high  
• Effort for Unilever or contractor is high  
• Need for high level of accountability by Outsourced project manager  
• Risk of endangering grower & other stakeholder interests/relationships |  |
PROJECT GENESIS

- EXECUTIVE SUMMARY
- INTRODUCTION
- ENVIRONMENTAL SUSTAINABILITY STRATEGY
  - PLANK 1: RISK ASSESSMENT
  - PLANK 2: INDUSTRY & CONSUMER BENCHMARKING
  - PLANK 3: R&D INTO KPI'S FOR ENVIRONMENTAL SUSTAINABILITY
  - PLANK 4: DEVELOPMENT OF GROWER & PROCESSOR MANAGEMENT TOOLS
  - PLANK 5: GROWER & PROCESSOR TRAINING & IMPLEMENTATION
  - PLANK 6: SOCIAL/HUMAN CAPITAL & INDUSTRY INCENTIVE SCHEMES
  - PLANK 7: MARKET POSITIONING STRATEGY
- RECOMMENDATIONS & IMPLEMENTATION PLAN
- APPENDICES
TO ENSURE MAXIMUM REALISABLE BENEFIT FOR UNILEVER WORLD WIDE, A SEVEN (7) PLANK STRATEGY IS RECOMMENDED.

| PLANK 1 | RISK ASSESSMENT |
| PLANK 2 | INDUSTRY, CONSUMER & COMMUNITY BENCHMARKING |
| PLANK 3 | RESEARCH & DEVELOPMENT INTO SUSTAINABILITY KPI'S AND MANAGEMENT PRACTICES |
| PLANK 4 | DEVELOPMENT OF GROWER & PROCESSOR MANAGEMENT TOOLS |
| PLANK 5 | GROWER & PROCESSOR TRAINING & IMPLEMENTATION |
| PLANK 6 | SOCIAL/HUMAN CAPITAL & INDUSTRY INCENTIVES SCHEMES |
| PLANK 7 | MARKET POSITIONING STRATEGY |
A VALUE-CHAIN RISK & IMPACT ASSESSMENT IS RECOMMENDED AS A KEY STARTING POINT IN DEVELOPING THE SUSTAINABILITY STRATEGY FOR UNILEVER GROWER AND PROCESSING INTERESTS

### THE RISK & IMPACT ASSESSMENT PROCESS

<table>
<thead>
<tr>
<th>Analysis of Core Activities &amp; Operations (Grower &amp; Processor Level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Identification</td>
</tr>
<tr>
<td>• Environmental</td>
</tr>
<tr>
<td>• Food Safety</td>
</tr>
<tr>
<td>• Occupational Health &amp; Safety</td>
</tr>
<tr>
<td>Likelihood</td>
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<tr>
<td>Consequences</td>
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<tr>
<td>Risk Estimation</td>
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<tr>
<td>Risk Evaluation</td>
</tr>
<tr>
<td>Risk Controls via</td>
</tr>
<tr>
<td>• Research &amp; Development</td>
</tr>
<tr>
<td>• Sustainability Tools Development</td>
</tr>
<tr>
<td>• Training &amp; Implementation</td>
</tr>
</tbody>
</table>

### Key Principles

- Comprehensive analysis of supply chain, activities & processes
- Involvement of all key stakeholders in audit processes to secure buy-in and facilitate rapid uptake of audit outcomes
- Plank 1 provides sound basis for research and development and subsequent EMS development, filtering key issues, setting project strategic direction
- 1<sup>st</sup> Step to Grower and Unilever Director due diligence defence
- Evaluation of Grower & Processor behaviours toward Environmental Management, providing a benchmark for change.

AND TO FACILITATE THIS ASSESSMENT WE NEED ....
TO FACILITATE THIS PRAGMATIC RISK ASSESSMENT SEVERAL KEY STEPS NEED TO OCCUR

<table>
<thead>
<tr>
<th>WHAT NEEDS TO BE DONE</th>
<th>BENEFITS TO UNILEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>① Form a Unilever Sustainability Council (USC) to provide value chain representative reality check and guide throughout this and consecutive phases</td>
<td>• Ensures grower and key stakeholder buy in from the start</td>
</tr>
<tr>
<td>② Develop a comprehensive audit checklist based on core operational activities, international standards &amp; legal obligations relevant to the supply chain</td>
<td>• Checklist &amp; risk tools can be utilized across Global Unilever Network once complete</td>
</tr>
<tr>
<td>③ Conduct a workshop with USC to validate checklist</td>
<td>• Provides opportunity for critical review and signoff by Unilever and other key stakeholders</td>
</tr>
<tr>
<td>④ Develop risk assessment methodology, risk calculators, data sorting protocol and risk reporting guidelines</td>
<td>• Provides a methodology consistent with Unilever World Wide Sustainability Indicators, however expanding logic for analysis to incorporate other Worlds Best Practice Techniques.</td>
</tr>
<tr>
<td>⑤ Build a database for audit checklist, data population, data sorting and risk reporting</td>
<td>• Build a tool with application across all Unilever Sustainability Projects and Grower Groups</td>
</tr>
<tr>
<td>⑥ Conduct pilot assessments</td>
<td>• Test robustness of audit assessment tool</td>
</tr>
<tr>
<td>⑦ Modify checklist and approach based on pilot learnings</td>
<td>• Application of QA and PDMI principles</td>
</tr>
<tr>
<td>⑧ Conduct audit of supply chain</td>
<td>• Outsourced Resource conducting audit</td>
</tr>
<tr>
<td>⑨ Enter results into data base &amp; analyse</td>
<td>• Independent Review</td>
</tr>
<tr>
<td>⑩ Report to USC</td>
<td>• Growers provided with onfarm audit report and actions at time of audit to ensure immediate action on critical risks</td>
</tr>
</tbody>
</table>

THIS RISK ASSESSMENT WILL FILTER ISSUES, FOCUS DIRECTION & OUTPUT OF CONSECUTIVE STRATEGY PLANKS
BENCHMARKING WILL CAPTURE & HARVEST EXISTING OFFSHORE SUSTAINABILITY TOOLS APPLICABLE TO BOTH GROWER & PROCESSOR

<table>
<thead>
<tr>
<th>Benchmarking Sustainability Tools Involves;</th>
<th>Benefits to Project Genesis &amp; Unilever</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finalise risk assessment (the core activities, risks and sustainability issues become clear by this process)</td>
<td>• Identify research methods &amp; tools appropriate for a holistic approach to sustainability</td>
</tr>
<tr>
<td>2. Benchmarking targets identified;</td>
<td>• Evaluate potential for simultaneous &quot;Tandem&quot; Unilever trials across continents to verify/confirm application of project outcomes to different environments</td>
</tr>
<tr>
<td>• Unilever USA, Brazil, UK etc</td>
<td>• Identify existing best practice applicable today at operational level</td>
</tr>
<tr>
<td>• Californian growers</td>
<td>• Review existing sustainability research initiatives with benchmarking partners</td>
</tr>
<tr>
<td>• Californian research authorities</td>
<td>• Avoid duplication of research initiatives &amp; investments</td>
</tr>
<tr>
<td>• Canadian growers and industry (Ontario)</td>
<td>• To provide a platform for focussed R&amp;D</td>
</tr>
<tr>
<td>• Birds Eye Walls project (UK)</td>
<td>• Engage growers to reinforce involvement and buy-in to sustainability process</td>
</tr>
<tr>
<td>• Tomato growers Israel &amp; Italy (equipment manufacturers)</td>
<td></td>
</tr>
<tr>
<td>3. Benchmarking checklist and criteria identified</td>
<td></td>
</tr>
<tr>
<td>4. Unilever Sustainability Council workshop &amp; signoff</td>
<td></td>
</tr>
<tr>
<td>5. Reconnaissance benchmarking study</td>
<td></td>
</tr>
<tr>
<td>6. Grower representatives participate in benchmarking initiatives to ensure engagement</td>
<td></td>
</tr>
<tr>
<td>7. Benchmarking study involving selected key stakeholders</td>
<td></td>
</tr>
<tr>
<td>8. Compilation of findings, reporting and work-shopping</td>
<td></td>
</tr>
<tr>
<td>9. Conducting GAP analysis. Upon completion of risk assessment and industry benchmarking a GAP analysis can be conducted to identify research &amp; knowledge gaps</td>
<td></td>
</tr>
<tr>
<td>10. Initiate research plank</td>
<td></td>
</tr>
</tbody>
</table>
CONSUMER SUSTAINABILITY EXPECTATIONS NEED TO BE CLARIFIED AS DO THEIR RESPONSIVENESS TO GREEN LABELLING AND SUSTAINABILITY INVESTMENTS (WILL THEY PAY MORE FOR A GREEN PRODUCT)

Understanding Current Consumer Sustainability Expectations will involve

1. Engage Unilever marketing team to evaluate consumer concerns
   - Food safety
   - Heavy metals & chemical residues in food & environment
   - Recycling & waste minimisation
   - Green or sustainable product differentiation (product &/or price)
2. Evaluate existing competitor green marketing strategies at end user level
3. Evaluate retailer responsiveness to the above and willingness to participate

Benefits to Project Genesis & Unilever

- Ensure that project focus & outcomes are relevant to the market place
- Generate motivational incentive for grower & to other key stakeholder co-operation through out the tomato processing supply chain
- Provide insight into changing needs of consumers
- Provide direct feedback to Unilever growers concerning the perception consumers have about their operational activities and end products
- Provide information critical to developing comprehensive branding & price differentiation strategies for tomato paste etc
- Develop market intelligence with application to other Unilever products & market places
The local community has in the past had secondary consideration at a grower and processor level. To enable a sustainable platform to exist, effort needs to be given to identify community attitudes & concerns & to develop improved relationships.

<table>
<thead>
<tr>
<th>KEY ISSUES</th>
<th>POTENTIAL IMPLICATIONS (If no action)</th>
<th>KEY STEPS TO IMPROVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Increased community awareness about chemical sprays, residues in waterways and decline in local biodiversity</em></td>
<td><em>Increasing grower / community tension</em></td>
<td><em>Meeting with community</em></td>
</tr>
<tr>
<td><em>Litigation resulting from disputes &amp; concerns</em></td>
<td><em>Litigation increasing</em></td>
<td><em>Listening respectfully &amp; understanding their needs &amp; concerns</em></td>
</tr>
<tr>
<td><em>Growers antagonistic &amp; short tempered with community</em></td>
<td><em>Regulator fines &amp; prevention of some farming practices may occur</em></td>
<td><em>Improving on farm operational practices</em></td>
</tr>
<tr>
<td><em>Community voice &amp; political power increasing</em></td>
<td><em>Increase regulation of chemical use, with possible black banning of some environmentally hazardous chemicals due to industry misuse or downstream impacts, despite no other control methods being available (resulting in possible crop yield &amp; quality declines)</em></td>
<td><em>Providing more open communication between growers &amp;/or processors and community</em></td>
</tr>
<tr>
<td><em>Australian law enhancing power of community &amp; capturing biodiversity issues - the law of the day reflects the public opinion and concerns</em></td>
<td></td>
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<td></td>
<td></td>
<td><em>Development of training and communication tools for growers/processors</em></td>
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<td></td>
<td></td>
<td><em>Develop social &amp; human capital strategy to include community &amp; other interested parties</em></td>
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<td></td>
<td></td>
<td><em>Involve all key stakeholders in environmental planning and management</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Involving community in biodiversity &amp; offsite research as well as on farm environmental improvement plans &amp; action</em></td>
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<tr>
<td></td>
<td></td>
<td><em>Collaborative effort breaking down barrier &amp; contributing to sustainability</em></td>
</tr>
</tbody>
</table>
Environmental Sustainability Strategy - Plank 3 …

**RESEARCH & DEVELOPMENT INTO KPI’S FOR ENVIRONMENTAL SUSTAINABILITY WILL ESTABLISH A SOUND, PRACTICAL AND QUANTIFIABLE FRAMEWORK TO DEVELOP AND APPLY GROWER MANAGEMENT TOOLS**

**THE PROCESS**

- Tomato Physiology Research
- Soil Management & Conservation Research
- Leaching & Nutrient Runoff Research
- Agricultural Chemical Impact on Waterways Research
- Residues in Food Chain Research
- Streams, Groundwater & Salinity Research

<table>
<thead>
<tr>
<th>Proposed Unilever Sustainability Indicators (As per Peas Project)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soils - Physical:</strong></td>
</tr>
<tr>
<td>- Soil Cover Index</td>
</tr>
<tr>
<td>- Soil Erosion</td>
</tr>
<tr>
<td>- Soil OM Content</td>
</tr>
<tr>
<td><strong>Soil - Fauna:</strong></td>
</tr>
<tr>
<td>- Earthworm Density</td>
</tr>
<tr>
<td>- Rhizobium</td>
</tr>
<tr>
<td>- Ground Beetles</td>
</tr>
<tr>
<td>- Collembolla</td>
</tr>
<tr>
<td><strong>Pesticides:</strong></td>
</tr>
<tr>
<td>- Amount Applied/ha</td>
</tr>
<tr>
<td>- Leachate to Ground Water</td>
</tr>
<tr>
<td>- Combined Toxicity Rating</td>
</tr>
<tr>
<td><strong>Nutrients:</strong></td>
</tr>
<tr>
<td>- Amount Applied/ha</td>
</tr>
<tr>
<td>- N Ratio (Fixed/Total)</td>
</tr>
<tr>
<td>- Leachate to Ground Water (N,P)</td>
</tr>
<tr>
<td><strong>Energy:</strong></td>
</tr>
<tr>
<td>- Input/Output Ratio</td>
</tr>
<tr>
<td><strong>Water, Wastes &amp; Air:</strong></td>
</tr>
<tr>
<td>- Irrigation WaterVolume/ha</td>
</tr>
<tr>
<td>- Farm Waste Streams</td>
</tr>
<tr>
<td>- Green House Gas Emissions</td>
</tr>
<tr>
<td><strong>Product Quality:</strong></td>
</tr>
<tr>
<td>- Brand market position</td>
</tr>
<tr>
<td>- Pesticide Residues</td>
</tr>
<tr>
<td>- Contaminants in Product</td>
</tr>
<tr>
<td><strong>Biodiversity:</strong></td>
</tr>
<tr>
<td>- % TTL Farm Area with Native Fauna/Flora</td>
</tr>
<tr>
<td>- Ornithological Profile</td>
</tr>
<tr>
<td>- Bird Nest Survival</td>
</tr>
<tr>
<td><strong>Social Capital &amp; Local Economy:</strong></td>
</tr>
<tr>
<td>- Farmer Group Dynamics</td>
</tr>
<tr>
<td>- Consumer/Farmer Interface</td>
</tr>
<tr>
<td>- Rate of Innovation</td>
</tr>
<tr>
<td>- Jobs (FTE's)/ha</td>
</tr>
<tr>
<td>- Spend/ha &amp; % Inputs Sourced Locally</td>
</tr>
</tbody>
</table>

**Where to from here**

- Need to clearly define the methodology used to calculate these KPI's (working with Unilever International to detail methodology)
- Additional KPI's may be required to suit Australian Ecosystems (Biodiversity) and Local Environment
- Resolve and test a set of sustainability indicators
- Use a holistic approach is to embrace the full scope of issues involved and better reflect the plant / environment production system as it functions in the field
- Risk analysis will further assist in detailing KPI's
FROM A GROWER PERSPECTIVE IN ORDER TO RESOLVE AND TEST A SET OF SUSTAINABILITY INDICATORS, A HOLISTIC APPROACH IS NEED TO EMBRACE THE FULL SCOPE OF ISSUES INVOLVED AND TO BETTER REFLECT THE PLANT / ENVIRONMENT PRODUCTION SYSTEM AS IT FUNCTIONS IN THE FIELD.

**Biological**
- Biodiversity
- Indigenous Fauna & Flora
- Introduced Fauna & Flora
- Pests & Diseases
- Micro Fauna & Flora
- Crop Physiology
- Crop Genetic Characteristics

**Physical**
- Soil Type
- Soil Moisture
- Nutrition & Fertility
- Climate & Weather
- Tillage & Compaction
- Erosion & Degradation

**Operational**
- Management Practices
- Cultivation & Machinery
- Irrigation Application
- Fertilizer & Chemical
- Crop Rotation
- Crop Protection
- Economics & Profitability

**KEY ISSUES**
- The tomato plant is the "sensor" which reflects by its growth and yield what is happening in its environment
- The productivity & health of the tomato crop is central "indicator" of sustainability
- The sum of biological, physical and operational impacts determines the overall sustainability of the crop and the surrounding environment
- A balanced approach to research & sustainable development is needed
Environmental Sustainability Strategy - Plank 3 …

A HOLISTIC APPROACH SEEKS TO SHOW THE INTERACTIVE NATURE OF THE TOMATO/ENVIRONMENT SYSTEM, AND REQUIRES A MULTIDISCIPLINED APPROACH TO CREDIBLY ADDRESS THE MANY ASPECTS OF THE SUSTAINABILITY PROBLEM WHICH GROWERS FACE

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Research Focus</th>
</tr>
</thead>
</table>
| Environmental                     | • Environmental risk assessment  
• Measuring on & off farm environment Impact  
• Engineering tools for improved farm practice tools for improved farm practice                                                                 |
| Zoology & Botany                  | • Changes in flora & fauna pre- & post tomato production  
• Monitoring changes during the growing season with different management regimes.  
• Assess of “off-target” impact of tomato production  
• Biodiversity research                                                                                                                          |
| Soil Science                      | • Soil management & conservation  
• Soil organic matter & erosion  
• Leaching & nutrient run-off research  
• Streams, ground water, salinity & agricultural chemical impact on water ways, ground water                                                  |
| Crop Agronomy                     | • Evaluation of crop agronomic’s (leaf area index etc) under continuous cropping  
• Evaluation of implications of findings for tomato breeding programs.                                                                             |
| Plant Physiology                  | • Evaluation of internal changes in tomato plant under continuous cropping (root/shoot/fruiting impact & adaptation)  
• Evaluate chemical residues in food chain                                                                                                          |
| Plant Pathology & Entomology      | • IPM program & monitoring  
• Assess impact of crop protection chemicals on target & off-target species  
• Agricultural chemical impact on water ways, ground water                                                                                     |
| Micro Biology                     | • Impact of tomato production upon micro-flora & fauna                                                                                               |
| Biometry                          | • Cross-linking data within & between research disciplines  
• Modelling project inputs & outcomes  
• Confirmation of indices for Sustainable tomato production                                                                                      |
| Economist                         | • Cost-benefit analysis for sustainable management options  
• Estimation of financial impact of sustainable tomato production for the environment & grower/processor  
• Assess the threshold of environmental & economic sustainability  
• Sensitivity analysis for sustainability                                                                                                          |
| Project Manager                   | • Contract research disciplines for the project  
• Manage & co-ordinate the project participants, drive project outcomes & objectives  
• Communicate & report to sponsors on project progress  
• Participate in Unilever Sustainability Council                                                                                                  |
Environmental Sustainability Strategy - Plank 3 …

A FILTERED RESEARCH PLAN WILL ENSURE THAT RESEARCH OUTCOMES CAN BE HARVESTED AND APPLIED ACROSS DIVERSE ENVIRONMENTS

<table>
<thead>
<tr>
<th>Core research Objective</th>
<th>How</th>
<th>Outcomes/Benefits to Unilever</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop sustainability tools directly applicable to improved environmental management on farm. These tools must deliver practical and net tangible results applicable to the grower and processor. Research will drive at operational activity outcomes</td>
<td>• By driving a systems approach to achieve this initiative.</td>
<td>• Research efforts have relevance and application at a farm gate level.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Understanding and involving the key stakeholders from <strong>day one</strong>!</td>
</tr>
<tr>
<td><strong>Operational:</strong></td>
<td></td>
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</tr>
<tr>
<td>• Develop improved operational practices driving at improved efficiency and effectiveness</td>
<td>• Develop (grower compatible) management tools that incorporate occupational health, safety, environment and QA</td>
<td>• Establish world’s first web site for sustainable tomato production</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Evaluating linkages between operations data &amp; all other data</td>
</tr>
<tr>
<td><strong>Biological:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop enhanced understanding of biological factors affecting sustainability and harvest these learning’s into tools necessary for sustainability.</td>
<td>• Evaluate existing (&amp; develop new) grower compatible management tools</td>
<td>• Identify management-linked sustainability indicators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Evaluating linkages between Biological data &amp; all other data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use the tomato plant as the environmental measuring gauge or “sensor” of what is happening</td>
</tr>
<tr>
<td><strong>Physical:</strong></td>
<td></td>
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</tr>
<tr>
<td>• Develop enhanced understanding of physical factors affecting sustainability and harvest these learning’s into tools necessary for sustainability.</td>
<td>• Develop a data base to cross-link KPI’s with data gathered in other disciplinary studies</td>
<td>• Estimate biological &amp; physical thresholds of tolerance for sustainability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Develop a GSI for tomato sustainability</td>
</tr>
</tbody>
</table>
# Environmental Sustainability Strategy - Plank 3

## A FIVE (5) STEP STRATEGY WILL BE EMPLOYED TO ACHIEVE THE RESEARCH OUTCOMES

<table>
<thead>
<tr>
<th>Key Step</th>
<th>Research Strategy</th>
</tr>
</thead>
</table>
| **1. SEARCH** | Detailed literature review of tomato processing & related industry  
Undertake gap analysis  
1. What do we know now? (Where are we now?)  
2. What do we need to know? (Where do we want to be?)  
3. How can we fill-in the gap in our knowledge? (How can we get there?) |
| **2. WORKSHOP** |  
- Quantify, workshop/brainstorm to refine a methodology for sustainability indicators; liaise with Brazil  
- Determine Research focus |
| **3. FIELD TEST** |  
- Survey selected sustainability indicators across a range of environments (3 target locations)  
- Establish base-line assessment - set foundation (soil survey, land capability assessment, GIS grower properties)  
- Set-up “Tandem” trials with Brazil  
- Monitor data & evaluate - Season 1  
- Integrate results and propose a causal model for sustainability  
- Confer with Brazil - progress report - Consolidate, refine indicators & plan for season 2  
- Draft detailed research plan to test sustainability model  
- Monitor data & evaluate environment for Season 2  
- Integrate results and propose a causal model for sustainability  
- Confer with Brazil - progress report - Consolidate, refine indicators & plan for season 3  
- Draft detailed research plan to test causal model of sustainable tomato production  
- Monitored data & evaluate environment for Season 3  
- Integrate results and propose a causal model for sustainability  
- Confer with Brazil - progress report - Consolidate, refine indicators & plan for season 4 |
| **4. SUMMARIZE** |  
- Initiate tomato breeding trials  
- Monitor data & evaluate environment for Season 4  
- Integrate results and refine a causal model for sustainability  
- Confer with Brazil - progress report - Consolidate, refine indicators & plan for season 5 |
| **5. HARVEST RESULTS** |  
- Monitor data & evaluate environment  
- Integrate results and refine a causal model for sustainability  
- Confer with Brazil - progress report - Consolidate, refine indicators & Outcome |

**THIS IS INDICATIVE ONLY AND SUBJECT TO THE RESULTS OF RISK ASSESSMENT & BENCHMARKING EXERCISE. GENERALLY 4-5 YEARS IS CONSIDERED A MINIMUM TIME FRAME NECESSARY TO ESTABLISH ENVIRONMENTAL.**
TO ENSURE A HOLISTIC APPROACH IS TAKEN TO THIS RESEARCH SIX (6) FOCUS AREAS ARE REQUIRED

<table>
<thead>
<tr>
<th>ACTION PLAN</th>
<th>BROAD PLAN OF ACTION</th>
</tr>
</thead>
</table>
| **BIODIVERSITY**             | • Field survey existing biodiversity on cropping land versus existing nearby indigenous areas  
|                              | • Research into known net changes in biodiversity                                     
|                              | • Conduct gap analysis, develop and initiate biodiversity enhancement strategies for 3 pilot sites  
|                              | • Initiate on farm and local biodiversity enhancement strategies                      |
| **STREAMS, RIVERS & GROUNDWATER** | • Monitor inputs, runoff, ground water recharge quality                                    
|                              | • Evaluate downstream impacts of leaching and runoff                                    
|                              | • Evaluate net change since clearing of land                                           
|                              | • Develop on farm monitoring systems (test wells, tail water samplers etc)             |
| **RESIDUES IN THE FOOD CHAIN** | • Assess build-up of farm inputs in local fauna and flora (plus the crop)       
|                              | • Research into food residues related to inputs                                         
|                              | • Work with suppliers of raw materials to ensure effective and workable outcomes       
|                              | • Recommend alternative products &/or management practices                              |
| **CHEMICAL INPUTS**          | • Evaluate current management practices and application techniques                     
|                              | • Evaluate endocrine disrupters and biodiversity (food chain) interaction               
|                              | • Drive raw material suppliers to address key issues and concerns                      |
| **SOIL MANAGEMENT & CONSERVATION** | • Identify the effect of continuous cropping upon soil characteristics which affect tomato growth in a range of soil types  
|                              | • Evaluate linkages between soil characteristics & tomato "performance"                 |
| **TOMATO PHYSIOLOGY & CROP DEVELOPMENT** | • Identify the effect continuous of cropping upon the development of roots, shoots, flowers & fruit  
|                              | • Evaluate the effect of continuous cropping upon the per Ha. Leaf & fruit development in the field crop (SS./Ha., Brix/Ha. Tonnes/ha. Etc.)  
|                              | • Identify objectives/selection criteria for breeding "sustainable" tomato plants        
|                              | • Feed outcomes into Unilever plant breeding program                                    |

FURTHER INFORMATION ON IMPLEMENTATION RESEARCH & DEVELOPMENT STRATEGY CAN BE FOUND IN APPENDIX 1.
### ACTION PLAN

1. Select 3 distinct climate/environment areas (based on risk assessment & initial environmental review)
2. Research biodiversity via field observations, monitoring and study of existing regional data
3. Season 1: Pilot Study
   - Survey biodiversity & population of fauna & flora in cropping & local un-cleared locations
   - Assess impact in regional biodiversity since major land clearing
   - Conduct gap analysis
     Focus:
     - Birds (Native & Introduced)
     - Fauna (Native & Introduced)
     - Insects (Native & Introduced)
     - Flora (Native & Introduced)
     - Micro Fauna & Flora
4. Season 2, 3, 4: Replicate methodology over other field sites
5. Develop/redefine biodiversity indicators
6. Develop strategies to enhance local biodiversity & restore state of ecological balance
7. Monitor
8. Analyse results
9. Modify operational, biological and physical parameters
10. Integrate monitoring tools & key learning's into plank 4 management tools
DEVELOPMENT OF GROWER AND PROCESSOR MANAGEMENT TOOLS WILL LEVERAGE THE RISK ASSESSMENT, BENCHMARKING AND RESEARCH FINDINGS INTO TANGIBLE OUTCOMES RELEVANT AN A FARM GATE AND PROCESSOR LEVEL

- Based on risk assessment, benchmarking and R&D develop activity based systems & tools to mitigate critical risks
- Drive R&D outcomes into sustainability tools and products

Develop web based
- Information databases
- Key topic references
  - Environmental monitoring & biodiversity
  - Fertilizer use and management
  - Chemicals use and management
  - Food safety
  - Occupational health
  - Safety in the work place etc
- How to do's section
  - Conduct an audit
  - Design a equipment washdown bay
  - Etc etc etc
- Search facility
- Legal compliance system

Develop hard copy reference and archive folder

Customer buy in
- Reality check on project deliverables - will these tools really work in the field given resources, FTE's, economics

Have external certification bodies verify system as being suitable for external certification should growers and processors wish to take this step (OE's job is to ensure that systems can be certified)
- In field certification will occur post the implementation phase
ONCE TANGIBLE ON FARM AND PROCESSOR MANAGEMENT TOOLS HAVE BEEN DEVELOPED, COMPETENCY BASED TRAINING STRATEGY IS TO BE EMPLOYED TO FACILITATE AWARENESS AND DETAILED TRAINING FOLLOWED BY IMPLEMENTATION AND ADOPTION

- Once plank 4 is complete a competency based (off and on the job) training system should be developed to facilitate effective grower and processor adoption
- Detailing the training material will also capture additional learning's and knowledge developed in previous stages (add to Unilever knowledge management system)
- Once complete this package could then be leveraged across other Unilever projects and sectors

- Pilot training systems with selected growers (5 growers) to test design and delivery mechanisms
- Seek external certification of training under Australian National Training Authority criteria (ANTA)
- Perhaps pilot training in Brazil also?

- Implement on and off the job assessment across growers

- Assistance provided to growers & processors whilst implementing systems and moving to improved sustainability
- Periodic audits and checks on annual/biannual basis to ensure effectiveness of systems and net sustainability improvements
SOCIAL/HUMAN CAPITAL & INDUSTRY INCENTIVE SCHEMES

A SYSTEMS (HOLISTIC) APPROACH INCLUDES THE PARTICIPATION OF GROWERS AND RURAL COMMUNITIES IN THE PROCESSES OF PROBLEM ANALYSIS, TECHNOLOGY DEVELOPMENT, ADAPTATION AND EXTENSION

SOCIAL / HUMAN CAPITAL ENHANCEMENT PLAN

STRATEGIC INTENT

- Engage representative key stakeholders
- Incorporate findings of community benchmarking
- Formulate challenge issues
- Develop a plan to develop human & capital
  - "Amongst other things, sustainability depends on the ability of stakeholders to adapt to a changing environment"
- Develop strategies to harness and enhance local human capital and resources more effectively
- As stated in the Unilever "Sustainable Agriculture Workshop Report " (Rotterdam April 27-28 1998), "The need to develop people should be aligned with technology development." The aim of this sub plank is to develop a strategy to achieve people development
- There is a need to develop the people involved in the supply chain for processed tomatoes to enable them to achieve sustainability. In addition positive relationships between stakeholders in the Unilever sustainability challenge are considered pivotal to achieving overall project success!

AN INDUSTRY AWARD & INCENTIVE SCHEME IS RECOMMENDED TO COMMENCE BY YEAR 3 TO ACCELERATE GROWER ADOPTION OF PROJECT OUTCOMES.
Possibilities include: periodic evaluation of grower & processor sustainability as indicated in the following table …

<table>
<thead>
<tr>
<th>Natural Resource Indicators</th>
<th>Economic &amp; Operational Indicators</th>
<th>Other Indicators</th>
<th>Total Score</th>
<th>% Price Premium /tonne</th>
</tr>
</thead>
<tbody>
<tr>
<td>x y z Agg. Score</td>
<td>x y z Agg. Score</td>
<td>x y z Agg. Score</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grower

|     | 10 | 3  | 5  | 18 | 5  | 6  | 9  | 20 | 4  | 6  | 8  | 18 | 56 | 5.2% |

Processor

Where, x, y & z = the sustainability criteria under assessment, each being assigned a numbered score by an independent assessor

- Accredit growers as Unilever suppliers with ensuing incentives.

With appropriate stakeholder participation in the design & implementation of an award system and media promotion of the outcomes/"winners", a positive social dynamic may be inserted into the sustainability equation.

NOTE: THE DETAIL OF THIS PLANK WILL DEVELOP DURING RAMPUP PHASE AND WITH INITIAL PLANKS (1,2,3)
GIVEN THE SIGNIFICANT FINANCIAL INVESTMENT UNILEVER IS MAKING, A FOCUSED MARKET POSITIONING STRATEGY IS ESSENTIAL TO REAP THE TANGIBLE AND INTANGIBLE REWARDS AVAILABLE FOR THIS INITIATIVE.

The following initiatives are possible outcomes/benefits for Unilever….

<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grower Partnership Programs</td>
<td>• Develop strategic partnerships between growers, Unilever and other key stakeholders</td>
</tr>
<tr>
<td></td>
<td>• Develop and implement partnership agreements based on sustainability KPI’s and net improvements and Unilever Accreditation Program - “Genesis Accreditation”</td>
</tr>
<tr>
<td></td>
<td>• Develop long term &amp; high performing growers</td>
</tr>
<tr>
<td></td>
<td>• Enhance community, grower and Unilever relationships</td>
</tr>
<tr>
<td>Industry Positioning Gains</td>
<td>• Develop improved grower relations through Unilever sustainability investment, demonstrating commitment to improving grower economic viability</td>
</tr>
<tr>
<td></td>
<td>• Use field days, industry gatherings etc to provide a filtered (controlled) release of information to industry</td>
</tr>
<tr>
<td>New Green Products</td>
<td>• Based on research outcomes, consumer research &amp; improved environmental management performance develop new product label &amp; price point opportunities</td>
</tr>
<tr>
<td></td>
<td>• Use new “Green” product lines as a point of differentiation, reinforcing corporate and brand imaging/positioning, and enhance price point margins to improve profitability</td>
</tr>
<tr>
<td></td>
<td>• Reward growers according to their performance and success (&amp; performance of new products)</td>
</tr>
<tr>
<td>Leveraging Learning's &amp; Outcomes</td>
<td>• Leverage project outcomes in Australia (other markets) and world wide with other crops and process systems</td>
</tr>
<tr>
<td>Across Unilever Global Market</td>
<td>• Develop strategies to harvest the outcomes and products of Project Genesis</td>
</tr>
</tbody>
</table>

**NOTE:** THE DETAIL FOR THESE INITIATIVES WILL DEVELOP AS PLANKS 1, 2 AND 3 KICK OFF
PROJECT GENESIS

- EXECUTIVE SUMMARY
- INTRODUCTION
- ENVIRONMENTAL SUSTAINABILITY STRATEGY
  - PLANK 1: RISK ASSESSMENT
  - PLANK 2: INDUSTRY & CONSUMER BENCHMARKING
  - PLANK 3: R&D INTO KPI'S FOR ENVIRONMENTAL SUSTAINABILITY
  - PLANK 4: DEVELOPMENT OF GROWER & PROCESSOR MANAGEMENT TOOLS
  - PLANK 5: GROWER & PROCESSOR TRAINING & IMPLEMENTATION
  - PLANK 6: SOCIAL/HUMAN CAPITAL & INDUSTRY INCENTIVE SCHEMES
  - PLANK 7: MARKET POSITIONING STRATEGY
- RECOMMENDATIONS & IMPLEMENTATION PLAN
- APPENDICES
Recommendations …

TO ENSURE AN EFFECTIVE OUTCOME IS ACHIEVED FOR UNILEVER THE FOLLOWING PROJECT GOVERNANCE MODEL IS RECOMMENDED.

THE GOVERNANCE MODEL

<table>
<thead>
<tr>
<th>KEY STAKEHOLDERS</th>
<th>ROLES &amp; RESPONSIBILITIES</th>
</tr>
</thead>
</table>
| Unilever Australia | • Govern project Genesis  
                       • Participate as Chair of Unilever Sustainablility Council |
| Unilever Field Agronomist | • Liase with Growers, Outsourced Project Facilitator and R&D Team  
                                 • Participate on Unilever Sustainability Council |
| Outsourced Project Facilitator | • To drive the 7 phases of the project  
                                         • To ensure project objectives and outcomes are DIFOT  
                                         • To manage research and relationships with Government and other contributing agencies |
| Unilever Growers & Processors | • To ensure that research and management tool outcomes are practical and applicable to core operational processes  
                                         • To participate in workshops, research initiatives and USC |
| Unilever Sustainability Council | • To provide a review panel for research, development and project progress  
                                         • To act as the grower and processor representation panel  
                                         • To provide the practical Reality Check |

R&D Team
1. Government Agencies
   • Dept. Natural Resources & Environment – Tatura
   • Dept. Natural Resources & Environment – Knoxfield
   • State Chemistry Laboratories
   • Latrobe University
   • Melbourne University
   • Waite Institute (Adelaide Uni) & Flinders Uni
   • Parks Victoria
   • CSIRO
2. Private Consultants

Strictly Confidential
A DETAILED (DRAFT) 5-YEAR IMPLEMENTATION PLAN HAS BEEN PREPARED TO ENABLE UNILEVER TO INITIATE THE PROJECT IN THIS CURRENT SEASON, REAPING BENEFITS OF CURRENT SEASON LEARNINGS AND TRENDS.

Full details can be found in Appendix 1 (attached)

A ramp up phase is outlined in Appendix 1 and recommended to kick the project off formally.
Implementation Plan …

THE NEXT STEPS & KEY DECISIONS…

① Today we review scoping study document, the strategy and implementation plan

② Unilever sign-off scoping study

③ Dates locked in for Sikke Meerman & Ian Richie visit in February 2000

④ Mode of project management needs finalising (internal/external/government/private)

⑤ Ramp up phase initiated (including visit by Sikke and Ian Richie)

⑥ Proceed with implementation as per draft plan in Appendix 1 and outcomes of ramp-up phase
## APPENDIX 1: CASHFLOWS & FINANCIALS FOR PROJECT

### UNILEVER ENVIRONMENTAL SUSTAINABILITY PROJECT SUMMARY (DRAFT) FINANCIALS

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>5.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp Up Phase</td>
<td>$56,900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plank 1 Risk Assessment &amp; Auditing</td>
<td>$195,000</td>
<td>$50,000</td>
<td></td>
<td></td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Plank 2 Industry, Consumer &amp; Community Benchmarking</td>
<td>$119,500</td>
<td>$50,000</td>
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<td></td>
</tr>
<tr>
<td>Plank 3 R&amp;D</td>
<td>$104,500</td>
<td>$290,000</td>
<td>$265,000</td>
<td>$255,000</td>
<td>$205,000</td>
<td></td>
</tr>
<tr>
<td>Plank 4 Management Tools Development</td>
<td>$14,100</td>
<td>$160,000</td>
<td>$185,000</td>
<td>$245,000</td>
<td>$95,000</td>
<td></td>
</tr>
<tr>
<td>Plank 5 Training &amp; Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$150,000</td>
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<tr>
<td>Plank 6 Social Capital, Industry Incentives</td>
<td></td>
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<tr>
<td>Plank 7 Market Positioning</td>
<td>$10,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$500,000</strong></td>
<td><strong>$500,000</strong></td>
<td><strong>$500,000</strong></td>
<td><strong>$500,000</strong></td>
<td><strong>$500,000</strong></td>
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</tbody>
</table>

### NOTES:

1. These figures are subject to review in Ramp Up Phase.
2. Risk assessment auditing will occur at year 3 and 5 for all key stakeholders to reassess KPI's and Environmental Sustainability Improvements.
3. Social Capital & Industry Incentives will be funded via internal resources, hence not costed into these cash flow requirements.
4. Market Positioning investment of $10 K is to kick things off formally, activity with this plank will be ongoing and funded via other aspects of the project and by internal Unilever resourcing.

See also the detailed spreadsheet attached - file = **Unilever Financials (Scoping 14-01-2000).pdf**
## UNILEVER ENVIRONMENTAL SUSTAINABILITY PROJECT GANT CHART & FINANCIALS (Initial Estimates ONLY)

(Dimensional: 200,000 GDP/yr = $502,728.56 AUD/yr @ 7/01/2000)

<table>
<thead>
<tr>
<th>No.</th>
<th>Task &amp; Project Phase</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 5.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Off the Job Training &amp; Assessment</td>
<td></td>
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<tr>
<td>2</td>
<td>On the Job Training &amp; Assessment</td>
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<td>3</td>
<td>On the Job Implementation Assistance</td>
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<td>4</td>
<td>Ongoing Support</td>
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<td>5</td>
<td>Social Capital &amp; Incentive Schemes</td>
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<tr>
<td>6</td>
<td>Development of Initiatives</td>
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<td>7</td>
<td>Implementation of Initiatives</td>
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<tr>
<td>8</td>
<td>Measurement of Initiatives</td>
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<tr>
<td>9</td>
<td>Market Positioning Strategy - Bringing Home the Bacon</td>
<td>$10,000</td>
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<tr>
<td>10</td>
<td>Developing Positioning Goals</td>
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<tr>
<td>11</td>
<td>Conduct Market Research</td>
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<tr>
<td>12</td>
<td>Implement Planks 1-5</td>
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<tr>
<td>13</td>
<td>Pilot Test Launch of Strategy</td>
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<tr>
<td>14</td>
<td>Launch Campaign for Industry Positioning &amp; Enhance Brand Awareness/Differentiation</td>
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<tr>
<td>15</td>
<td>Monitor Strategy Effectiveness</td>
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</table>

### Annual Expenditure

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 5.5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$50,000</td>
</tr>
</tbody>
</table>

### Notes

- **Task & Project Phase**
- **Year 1**
- **Year 2**
- **Year 3**
- **Year 4**
- **Year 5**
- **Year 5.5**

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Unilever Financials (Drafting 14-01-2000).xls  Page 2
APPENDIX 2: CURRICULUM VITAE

- Jamie McMaster, Project Manager & Director
- Lewis McMaster, Principal Horticultural Consultant
Jamie S McMaster

Objective
To build, develop and empower for mutual profit and reward.

Experience
Dec 1999 – Now  MAC Global Pty. Ltd  Melbourne, Vic

Project Manager & Director
Developed MAC Global and subsidiary Outsourced Environmental.

Major Clients:
- Incitec Fertilizers
- Unilever Australia
- Goodman Fielder

Nov 1998 – Apr 1999  Orica Limited  Melbourne, Vic

Company Representative – Safety, Health & Environment (SH&E)

- Selected to work with International Business Consultants “Booze Allen Hamilton” on significant Change Management Project across Orica (& Incitec Ltd)
- Conducted time and process analysis, resource strategy planning and systems redesign, change management
- Responsible for time study, IT enabler design, procedures and system development
- Project focussed on SH&E effectiveness enhancements and improved performance

Oct 1997– Sep 1998  Transpacific Marketing  Melbourne, VIC

Agricultural Export Consultant (Part Time – Extra Curricular)

- Assisted Transpacific Marketing establish significant network in Australian Food, Meat and Wine Industries for Export to Japan and Malaysia (Projected Sales of $200 Million AUD) and conducted feasibility analysis.
- Facilitated meetings and correspondence with Victorian, South Australian Governments and Commonwealth Government.

**Project Manager – Environmental Management Systems**

- Development and implementation of an Environmental Management System for 160 remote, dispersed fertilizer, agricultural chemical and rural merchandise sites (Adelaide to Cairns – 100 of which are 3rd party operated), including CD ROM, Legal Compliance System, full integration into QA, various creative communication techniques employed.
- First environmental system and behavioural change management project of its type (rural site management) in Australia.
- Development and implementation of competency based EMS Training Program.
- Developed unique risk analysis tools for issues and site exposure prioritisation.
- Strategic site rehabilitation.
- USA/Canadian/Australian benchmarks established and utilised.
- Certification to ISO 14001 under way.


**Market Development Agronomist**

- Developed an Analysis System for Soil, Plant and Water interpretation and recommendations in broad acre and intensive horticulture cropping situations for Victoria, South Australia and New South Wales.
- Managed project consultancy through liaison with the State Chemistry Laboratory, Agriculture Victoria and various extension offices in Victoria and South Australia.
- Developed and implemented curriculum, case studies examples and interpretation information and assisted with accreditation training courses.

Apr 1993 – Aug 1994 James Hardie Irrigation Pty. Ltd Vic & Tas

**Sales Representative**

- Management of $2 Million Sales Budget
- Increased regional turnover by 10% in Victoria and 23% in Tasmania in first 12 months.
- Successfully redistributed sales within product groups leading to sustainable sales turnover.
- Developed market sectors through direct mail and public speaking opportunities.
- Lead marketing intelligence on competitor products and strategies.
- Developed & implemented product and agronomic training courses.
- Actively involved with improvement to quality control mechanisms.
Agronomist (National)

- Developed an internationally accredited & endorsed water conservation publication “When Should I Water?” This success also lead to Victorian Young Achiever Finalist for Environmental Award 1993.
- National interaction with Agricultural and Turf irrigators, providing technical support.
- Conducted market research into improved methods of irrigation control and management.
- Investigated, revised and implemented of warranty & credit claims procedures.

Delegate Business Tour Representative

- I was fortunate to be selected as one of eight young high potential South Australian business people to attend a study tour of Japan. A number of high profile companies and Government Authorities were visited during tour of Japan.

Consultant – Technical Services

Lecturer – Irrigation Systems Design & Management

Consultant

Education

Master of Agriculture (Soil Conservation)

- Waite Agricultural Research Institute
- Thesis: Quantitative Soil Survey of the Keynes Catchment, Keyneton, SA
- Scholarship with CSIRO and CRC

University Exchange Program / Scholarship

- Selected to represent University.

Bachelor of Applied Science in Agriculture

- Major: Irrigation, Soils, Horticulture and Marketing.

1982 – 1985 Scotch College Adelaide, SA
1975 – 1981 Macclesfield Primary School Macclesfield, SA
Qualifications

- Bachelor of Applied Science in Agriculture
- Master of Agriculture (Soil Conservation)
- Certified Practising Agriculturalist – CPAg
- Certified Practising Soil Scientist – CPSS
- Certified Quality Society of Australasia Environmental Auditor (Compliance Audit, Contaminated Sites, Environmental Management Audit, Facilities & Processes).
- Train the Trainer Category 2 & Work Place Assessor

Date & Place of Birth
January 28th, 1970, ADELAIDE, S.A., AUSTRALIA

Marital Status
Married (No Children)

Health
Excellent

Interests
Asian Cooking, Music (Guitar), Tennis, Snow Skiing.

Awards - Industry & Academic

- PACIA (Plastics & Chemical Industries Association), Environment Australia & Australian Conservation Foundation - Environmental Innovation Award (December 1999) for Incitec Fertilizers Environmental Management System - Putting Words into Action Environmentally

- Victorian Channel 10 Young Achiever Finalist - “Environmental Award” (Oct. 1993).


- Cooperative Research Centre for Soil & Land Management - Scholarship (December 1991).

- Colorado State University - U.S.A. Scholarship (January 1990).

Industry Affiliations

- Member, Australian Institute of Agricultural Science (M.A.I.A.S. + CPAg).
- Member, Soil Science Society of Australia (CPSS).
- Certified Quality Society of Australasia Environmental Auditor (Contaminated Sites & Facilities and Processes).
- Member, Environment Institute of Australia, April 1997 - now.
- Member, International Fertilizer Society
- Member, Agricultural Christian Fellowship
- Secretary, S.A. State Executive, Irrigation Association of Australia, 1990-1993.
Referees

- Mr Tim Donovan, National OHS Manager – Baking Australia, Goodman Fielder (Former Incitec Fertilizer Materials Safety, Health & Environment Manager). (Mobile) 0417 756 882.

- Ms June MacDonald, Managing Director, June MacDonald Communications Pty. Ltd. (Work) +61 3 819 7712 – (Mobile) 019 186 338.

- Mr David Low, Managing Director, Transpacific Marketing Pty. Ltd. (Work) +61 3 9846 1831 – (Home) +61 3846 1509.

- Mr Alistair Hill, Product Manager, Incitec Fertilizers Limited. (Work) +61 7 3867 9300 - (Mobile) +61 412 146 473.
Lewis C McMaster

**Professional Experience**

*July 1986 – Now* 
**McMaster Consulting Pty. Ltd.** 
**Adelaide, SA**

**Managing Director & Principal Horticultural Consultant**

**Key Areas of Activity & Business Focus**
- Temperate Fruit & Nut Horticulture
- Irrigation Management
- Soil Survey
- Environmental Management
- Market Research
- Industry Survey & Liaison
- Personnel Training
- Project Management
- Crop Loss Assessment
- Farm Development & Planning
- Intercultural Studies

*Dec 1999 – Now* 
**Murray Bridge Christian College** 
**Adelaide, SA**

**Chairman - Board of Directors**

*Jul 1989 – Now* 
**Strathalbyn Christian Schools** 
**Adelaide, SA**

**Chairman - Board of Directors**

*Dec 1985 – July 1986* 
**MPW Australia Pty. Ltd.** 
**Adelaide, SA**

**Senior Horticultural Consultant**

*Dec 1985 – Now* 
**Emmanuel Christian Fellowship** 
**Adelaide, SA**

**Chairman - Board of Directors**

*1984 – 1986* 
**Australian Army Reserve** 
**Adelaide, SA**

**Battery Captain - 48 Field Battery (Keswick - SA)**

*May 1980 – Dec 1985* 
**SA Department of Agriculture** 
**Adelaide, SA**

**Senior Extension Officer - Temperate Fruits**

*1977 – 1986* 
**Australian Army Reserve** 
**Adelaide, SA**

**Officer - 48 Field Battery (Keswick - SA)**

*Jun 1972 – May 1980* 
**SA Department of Agriculture** 
**Adelaide, SA**

**Senior Research Officer**

*Feb 1967 – Jun 1972* 
**SA Department of Agriculture** 
**Adelaide, SA**

**Research Officer - Pome Fruit**
Directorships
- Strathalbyn Christian Schools Inc. (Chairman)
- Emmanuel Christian Fellowship Inc. (Chairman)
- McMaster Consulting Pty Ltd (Founding Director - Formerly "Irrigation Management Services Pty Ltd")
- Protea South Australia Pty Ltd
- B&M International Finance (Partner)
- Murray Bridge Christian College (Chairman)

Education
1962 – 1966 University of Adelaide Adelaide, SA
- Bachelor of Agricultural Science
- Waite Agricultural Research Institute

1968 – 1970 University of Adelaide Adelaide, SA
- Bachelor of Arts

Qualifications
- Bachelor of Agricultural Science (Majors: Horticulture & Plant Pathology).
- Bachelor of Arts (Majors: Economics & Philosophy)

Date & Place of Birth
May, 3rd, 1944, MELBOURNE, VIC., AUSTRALIA.

Marital Status
 Married (3 Children)

Health
Excellent

Industry Affiliations (Past & Present)
- Member, Australian Institute of Agricultural Science (M.A.I.A.S.).
- Member, Irrigation Association of Australia.
- Member, Australian Council of Professional Consultants.
- Officer, Australian Army Reserve, 48 Field Battery, Keswick, S.A. (1977-1986)