

REPORT ON AUDIT OF SELECTED SRDC PROJECTS AT QUEENSLAND UNIVERSITY OF TECHNOLOGY

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INTRODUCTION

This report deals with a focussed audit of selected recent projects that are undertaken by Queensland University of Technology with funding provided by SRDC.

SRDC requested the audit as part of its ongoing requirement to satisfy itself and its stakeholder funding organisations about the quality of project work undertaken. Five recent projects were selected by SRDC management and the reviewer to provide a sample. Projects range in size, scope and percentage completed.

The scope of the audit is:

- Investigate project expenditure against agreed budget
- Identify staffing arrangements and the impact teaching, training, consulting and support services by third party funder/coordinators have on the projects' funding and timelines.
- Investigate the impacts of third party funders/coordinators on SRDC funded projects and project syndicates and the implications of their involvement.
- Characterise IP developed in SRDC projects at this institution and what IP protection has occurred or is required
- Document licensing arrangements that have occurred as a result of developed IP
- Analyse adoption of technologies arising from SRDC projects undertaken in QUT, including economic advantages to QUT and the Australian Sugarcane Industry
- Report significant Communication activities and their impact.

QUT and SRDC management have a mutually respectful relationship, characterised by deep understanding and appreciation of each other's roles and functions. Senior management of both organisations regularly exchange general information on the industry and are active in keeping each other informed about progress of projects. This allows them to forewarn each other about potential issues.

Against this background, QUT has been very cooperative in facilitating this review. Thanks to Professor Ross Broadfoot and his colleagues for generously making time and resources available. They also shared their insights on project details, opportunities for improved administrative processes and systems, and provided background information on the interrelationship of the various organisations which operate at QUT in the sugar research and development sphere.

As stated above, this review was initiated as a result of a policy of regular review and monitoring of projects across the SRDC portfolio. In addition, there were recent indications of a possible trend of project slippage developing at QUT and it was decided to enquire into the causes, identify possible options to address any problems and present recommendations for consideration by SRDC. The Executive Director has indicated a desire to communicate SRDC's response to stakeholders, as a basis for shared understanding and action.

THE UNIQUE ORGANISATIONAL STRUCTURE AND ENVIRONMENT AT QUT

Academic research functions at most Australian and international universities operate as an adjunct to fully-funded teaching roles. Consulting and research work serves to provide external knowledge, opportunities and income as important but generally subsidiary inputs to the core work of teaching.

QUT's sugar industry research and development activities are conducted as part of the Centre for Tropical and

Biocommodities (CTCB). Sugar Research and Innovation staff within the centre perform research, consulting and academic supervision of postgraduate students. Sugar Research Limited staff coordinate consulting work by SRI and sell licences to intellectual property owned by QUT. The present structure has developed over many years. Its net result is that SRI's mandate from QUT is to ensure that it is always fully funded in advance, through consulting and R&D project income. SRDC project income forms about 25% of SRI's annual budget or about \$600k p.a.

Such an operating approach has several outcomes:

- It ensures a thoroughly commercial approach to revenue earning and expenditure.
- It increases the developmental bias of work undertaken. This is a positive in that sugar milling organisations continually seek work done which results in operational and financial improvements for them. It can have negative impacts too, for example in sometimes biasing project work more towards development than research at the expense of long term knowledge acquisition. It can also bias work more towards incremental improvements rather than technological breakthroughs.
- It tends to create long term employment insecurity for current research staff, whose contracts of employment tend to be much shorter than in other research institutions. It does not appear to create engagement issues for present staff but does appear to create potential issues in attracting and retaining new high quality researchers. This is a problem that should concern the whole industry; if milling related expertise continues to reduce it will eventually, if it has not already, lose critical mass and have severe impacts on the industry going forward. The issue is exacerbated by the steady reduction of in-house milling expertise over many years. In an environment where food security is becoming increasingly critical for the sustainability of the world's population, the loss of these resources would be very damaging.

The potential reorganisation of industry R&D structures currently being investigated may resolve some of these tensions and issues at QUT, whilst maintaining the good aspects of the commercial focus that SRI currently has.

DETAILED FINDINGS AND RECOMMENDATIONS

- **INVESTIGATE PROJECT EXPENDITURE AGAINST AGREED BUDGET**

The short-form standard process for developing budgets for project proposals is as follows. When SRDC advertises for Expressions of Interest, SRI researchers develop short responses, backed by quite detailed preliminary financial and staffing budgets. Chief Investigators for each project have many years' experience in budgeting; some researchers run up to 20 research and consulting projects each year, so their knowledge of how to identify and budget the resources required is high.

If a proposed project succeeds in SRDC's evaluation and approval processes, a more detailed budget is developed for use in detailed work planning of SRI staff resources and for incorporation into the final project agreement with SRDC. The CTCB has skilled and experienced financial staff to manage all aspects of project accounting and reporting. CTCB has very adequate financial systems to track revenues and expenditures and provide accurate and timely information for Chief Investigators and CTCB management.

Because of the unique structure of CTCB, detailed time allocation processes have been established and record how each staff member's time is used in increments as small as 15 minutes. There is an expectation that about 80% of each person's time will be billable to a research or consulting project. This creates a good commercial discipline. It also highlights the importance of accurate budgeting. There is little, if any, contingency built into project budgets.

Five projects have been examined. They indicate good practice in accounting for expenditures against project funds. The process for accounting for projects once they have formally commenced is as follows:

1. Milestone reports are developed and delivered by the Chief Investigators to SRDC's Investment Managers.
2. On acceptance by SRDC of the Recipient Created Tax Invoice, funds are remitted to CTCB and then to QUT's Office of Research, which oversees the funding agreements and handles the finances.

3. On the fund expenditure side, Chief Investigators allocate the expended hours of each researcher involved in projects. This process is accurate to increments as small as 15 minutes. Other items of expenditure such as travel and materials are handled through purchase orders with appropriate approval processes. Overheads are allocated on an agreed basis.
4. The CTCB financial accounting and reporting system allows Chief Investigators and University management to produce productivity reports on activities within each project; this allows detailed scrutiny of the efficiency of each project conducted.
5. QUT audit the process and project finances each year through internal and external audit. In addition the university has a Governance Committee which meets regularly and oversees the financial system and processes.

The administrative accounting processes seem efficient and cost effective.

Two potential issues of significance to SRDC arise at this point.

Firstly, SRDC allows a multiplier of 1.4 to be applied to budgeted labour costs, to provide some offset for on-costs in running SRI. The multiplier applies to all research institutions and has the effect of making it a lot easier for other institutions to cover their on costs and cope with project contingencies. This is because most other institutions start with the position that staff salaries are already covered. For SRI it increases the pressure to obtain higher margin consulting work, to enable them to meet all their annual costs.

Recommendation 1: It is recommended that further consideration be given by SRDC's management and Board to the multiplier. Options include:

- Leave as is
- Increase generally
- Increase for SRI
- Await outcomes of the industry restructure and re-evaluate

Secondly, milling-related R&D projects tend to suffer even larger potential for operational disturbances than other projects. The annual project selection and management process conducted by SRDC operates to a tight calendar that seeks to strike a balance between stakeholder annual financial year reporting requirements, natural weather patterns, crushing and maintenance plans and the like. If projects are approved by end March or early April at latest there should be sufficient time for the administrative and contractual requirements to be put in place so that projects can coincide with the start of the crushing season, although the start dates can be as early as June, making the timetables very tight. If administrative problems cause delays, QUT's requirement is that projects cannot start until agreements are fully signed off and project revenues are assured. When this requirement meets wet weather, operational difficulties at mills, staffing issues, contractor availability and a host of other potential delaying factors, the contingency factor, if any has been allowed and the potential to make operational corrections becomes both critical and subject to an increased risk that project budgets will be missed. There is no evidence that this is the result of any lack of skill or diligence on the part of the Chief Investigators.

Recommendation 2: SRDC give consideration to how to improve the cycle time from project idea stage through to actually starting a project. Possible actions which could improve the situation include:

- Developing a firmer understanding with QUT management about the need to keep financial and legal agreement-making processes to tight timetables, with the expected crushing season start date being used as a deadline.
- Ensuring that Investment Managers at SRDC take a very proactive stance in driving the development of the administrative side of projects, once they are approved by the SDC Board early in the calendar year.
- Concentrating the project approval process even further so that the SRDC Board can finalise approved projects earlier, ideally prior to the end of the calendar year

- Accepting that more milling-related than cane growing-related projects are likely to arise at short notice and allow easier processes to be developed for adopting out-of-cycle approvals. Some projects arise at mills in the course of a current crushing season and it would be ideal to allow project work to be done at short notice. It sometimes takes as many as two to three crushing seasons for projects to proceed from idea stage through to actual project commencement; this is lamentable. Any improvements in project administration efficiency would be welcomed by the industry.
- **IDENTIFY STAFFING ARRANGEMENTS AND THE IMPACT TEACHING, TRAINING, CONSULTING AND SUPPORT SERVICES BY THIRD PARTY FUNDER/COORDINATORS HAVE ON THE PROJECTS' FUNDING AND TIMELINES.**

SRI staff operate as part of the QUT Centre for Tropical Crops and Biocommodities. The CTCB has a Director and Deputy Director, three administrative staff and three laboratory staff who provide services and management of the Bioprocessing Group (effectively SRI) and the Biocommodities Group. A detailed Organisation Chart is attached as Appendix 1.

In addition, there are important relationships with QUT through QUT Bluebox (which manages intellectual property matters for the university), and QUT Legal.

The Bioprocessing Group (SRI) has a staff complement of 18, comprising experienced researchers and consultants, student researchers, support staff and staff at the Mackay research facility adjacent to Mackay Sugar. At most universities, academics typically have teaching loads which pay their salaries and on costs; consulting and research work provides top-up funding. SRI staff do not teach, so paid consulting and research activities have to cover all their costs. This is a requirement of the CTCB and the University. In a typical year SRI's funds would be:

Consulting	30%
Training for clients	6%
Research and Development	60%
Student supervision	1% (N.B. additional supervision occurs within R&D but is difficult to separate out)

Because of this rather unusual funding method the challenge for senior SRI staff is to maintain a maximum amount of paying work. Whilst their desired focus is on fully funded research and development work, their practical focus is to obtain paid work wherever it may be found. In this regard SRI staff assist where they can, through their regular contact with Australian and international milling companies. The outcomes of these combined efforts mean that SRI never declines paid work. The nature of the work required by clients means that there is often a requirement for short term and urgent action, particularly in relation to consulting assignments. In terms of R&D funded work, including that funded by SRDC, there is often a juggling act required to balance workloads. In this environment it is not surprising therefore that the tyranny of the urgent and the immediately funded tends to take precedence over the work where funding is already much more assured and in place. It may be useful for SRDC and CTCB to develop a shared understanding of whether SRDC should be regarded and treated as a customer or supplier of SRI.

There are several implications that arise from this approach.

Firstly staff spend a large proportion of their annual cycle seeking R&D funding, settling the terms and conditions for projects that are successfully bid and then meeting regular reporting and administrative requirements of R&D funders. The time available for actual on-the-ground research in a typical year would be of the order of 50%. This seems wasteful of resources and talent and is likely to be less attractive to new researchers.

A second implication from this approach is that project collaboration and staffing becomes very much dependent on the immediate project being addressed. Senior staff are accountable for bringing in sufficient funds to allow support staff to be maintained.

A third implication is that since the University requires the CTCB to be fully funded before the start of each year, staff must demonstrate that they have sufficient forward income.

A further implication of this for both senior and support staff is that this uncertainty generates job insecurity. Many staff are on short term contracts.

When combined with the often uncontrollable outages that occur at mill sites, the nett result of this situation can be that R&D projects are sometimes placed under pressure to be delayed.

In the reviewer's view, the way this model operates seems more a result of historical accommodations rather than the product of good organisation design per se. This comment is not about individuals; rather the current model is more likely a result of the history of SRI and its incorporation into QUT some years ago. R&D funders, including SRDC, have a legitimate expectation that funded projects will be conducted as agreed.

It is incumbent on the University to ensure that the CTCB is so designed in every respect so as to meet the agreements embodied in each R&D project. The alternative scenario that SRDC and other R&D funders does not maintain the same expectations of SRI as it does of other R&D providers does not seem likely to be tenable or acceptable to its own stakeholders, particularly the Federal Government.

Recommendation 3: In conjunction with part of Recommendation 2, it is suggested that SRDC and the University talk to see what can be done about the design of funding approaches by CTCB regarding milling related R&D. It may be that new arrangements can be put in place as a result of the planned amalgamation of sugar research and development organisations in 2012.

In the context of the above description of the design and approach adopted by SRI, it is small wonder that milestones sometimes slip. It may be that concerted action by SRI researchers to pay more attention to the creation and setting of milestones and to have them only varied under the most exceptional circumstances will improve performance in this regard. This approach does seem however to focus more on a symptom of the underlying problem i.e. the design of the CTCB funding model. In the environment of shared purpose amongst all industry stakeholders it is not recommended that SRDC engage in creating adverse consequences for missed milestones.

On a slight but important tangent, milestone reporting, including final reporting, was acknowledged by all researchers as an important and largely useful discipline which creates valuable information for use by the researchers themselves and the funders. That said, it is sometimes very difficult to accurately identify milestone dates and anticipated progress far in advance. Adopting a slavishly consistent requirement to preserve milestone reporting as determined sometimes more than several years in advance does not seem to support the underlying concept of milestone reporting. It is suggested that SRDC's Investment Managers could be given more flexibility to endorse progress on a more general basis, which does not require such tight adherence to milestone reporting requirements.

There is another important reporting piece: the detailed documentation of research activities during the research itself, so that future researchers can see the steps and processes of what was actually done. Since one of the key desires by SRDC is to increase the traction of R&D, it may be worth the SRDC Board considering ways to allow some extra leeway in funding grants in order to allow sufficient time and attention to be given by researchers to generate this documentation. It would then presumably be part of the project itself and covered by the terms of the agreements as to ownership, dissemination etc.

- **INVESTIGATE THE IMPACTS OF THIRD PARTY FUNDERS/COORDINATORS ON SRDC FUNDED PROJECTS AND PROJECT SYNDICATES AND THE IMPLICATIONS OF THEIR INVOLVEMENT.**

Third party funders are involved in projects in two different types of ways: In the first way, they might be involved either as co-researching educational facilities e.g. CQU, RMIT, UQ or as co-researching organisations who are independent of universities e.g. KWA, an organisation collaborating on QUT 040 in developing innovative Syscad software models.

This type of third party funding can increase the administrative burden and the time taken to get projects established. Of particular concern is the apparent process whereby the detailed project agreements are established and then the collaboration agreement follows only afterwards. It would be in everyone's interest to have all the agreements developed in parallel, so that they can all be signed off when each funding arrangement is finalised. In many cases the content is conventional. Goodwill and planning would make the process easier and faster for all.

Recommendation 4: SRDC adopt a standard procedure requiring all aspects of the project formation process to be coordinated and streamlined as outlined above. It would also be helpful if the coordination process was begun immediately after project approvals are given by the SRDC Board. In the case of QUT, this would require concerted action by SRI, SRL, CTCB management, QUT Bluebox and Legal and any external collaborators. Whilst SRDC is a primary funder, SRI Chief Investigators need to ensure that they drive the progress of the agreement-making process so that projects can start on time.

The second type of third party funding occurs where syndicates of mills agree to collaborate with SRI on a project. The usual process is that SRI conducts meetings in July each year with the main milling groups, having done significant legwork in advance to identify some possible research areas, identify links with current and past projects and the like. SRDC managers often attend these meetings. Regional or organisation priorities for research projects are identified and categorised:

- some projects are likely to only require SRDC funding,
- others require both SRDC funds and funds from participating mill syndicate members,
- others are identified as "seed projects" where small amounts of money will be directly contributed by interested members to further explore ideas that might mature later into formal projects and
- some projects are identified as requiring another funder e.g. ARC.

SRDC projects and syndicate/SRDC projects are submitted as Expressions of Interest to SRDC in August. In October presentations are made to the SRDC-coordinated selection panels. Once approval to proceed is given, SRI CI's then go back to syndicate members to get their indicative vote to approve each project. CI's then prepare formal applications and once signed off by SRDC's Board, potential syndicate members formally vote on their participation. SRL then sets up a syndicate of those mills voting in support and a project schedule is developed. Further delays and complications occur if variations to projects are required, either before or after the projects have actually commenced. This process lends itself to coordinated process improvement by all involved in the interests of ensuring that projects are well designed and managed and can start as expected.

Recommendation 5: In conjunction with part of Recommendation 2, bring all parties involved together and design a best practice process for establishing SRDC/ mill syndicate projects, including the annual timetable. (For example, could the parties cooperate to enable the SRI meetings with milling groups to occur earlier in the season, thus allowing projects to be identified, refined and proposed for funding well before the end of the calendar year?)

- **CHARACTERISE IP DEVELOPED IN SRDC PROJECTS AT THIS INSTITUTION AND WHAT IP PROTECTION HAS OCCURRED OR IS REQUIRED**

All projects have QUT as the owner of intellectual property rights. In the case of third parties e.g. KWA in QUT 040, QUT still owns the IP but the rights of collaborators are identified and agreed in the collaboration agreement. Where mills participate as syndicate members, the usual practice is to grant 3 but sometimes as much as 6 years' exclusivity.

The amount of protection required varies with the nature, size and extent of each project. Some projects do not require patents at all and the parties rely on trade secrets protection. Other projects require full patent protection. These matters, including commercialisation arrangements conducted through SRL, are well handled by QUT Bluebox on behalf of SRI.

From SRDC's perspective there probably isn't a case for some of the costs in negotiating IP protection arrangements, since in many cases the true IP is quite limited; however it is expected that funded bodies like QUT would always want to minimise the risk of losing the value of some protectable IP and so they will remain keen to incur the cost of creating the IP protection arrangements.

- **DOCUMENT LICENSING ARRANGEMENTS THAT HAVE OCCURRED AS A RESULT OF DEVELOPED IP**

Licensing arrangements are handled on behalf of SRI by QUT Bluebox. Commercialisation rights are held by SRL in their identified field of interest which extends from cane through to sugar. The arrangements appear to work well, so further work was not done to document arrangements in detail.

- **ANALYSE ADOPTION OF TECHNOLOGIES ARISING FROM SRDC PROJECTS UNDERTAKEN IN QUT, INCLUDING ECONOMIC ADVANTAGES TO QUT AND THE AUSTRALIAN SUGARCANE INDUSTRY**

The following chart, kindly prepared by Prof Broadfoot, shows that 15 projects were completed between 2009-11 using SRDC funds. Of these 6 had a small benefit to QUT, 6 had a medium benefit and 3 had a large benefit. Benefit in this context was assessed on the following basis: (1) enhancing QUT's reputation as a provider of highly valued research and (2) providing future opportunities for undertaking follow on research. In terms of the value of projects to the sugar industry, 4 had a small benefit, 8 had a medium benefit and 3 had a large benefit. The impact small, medium and large refers to the benefit to the industry from implementing the outputs of the project. These benefits could be financial, social or environmental. To attempt to differentiate between small, medium and large a financial benefit is considered as the indicative guide with values arising from implementation being <\$250 k as small; >\$250K and <\$1 m as medium and >\$1 m as large.

In terms of conclusions from this analysis, comparative results from other research institutions are not available to the reviewer. Intuitively it would seem that a range of results is to be expected and that is the case here. It would also seem that the benefits broadly reflect the costs of the funds provided for each project i.e. larger funding generally goes to those projects expected to produce the largest benefits for the industry.

- **REPORT SIGNIFICANT COMMUNICATION ACTIVITIES AND THEIR IMPACT.**

SRI has a longstanding and effective suite of communications activities, including the following:

- Each new project is provided to SRDC and SRL for their records and follow-up communication activities. All work undertaken, including R&D projects is reported and stored in an e-library at QUT. Work back to 1949 has been entered. Access is provided to mills appropriate to their interest and access permissions.
- In April each year regional research seminars are conducted. This provides the main opportunity for SRI to communicate and discuss project progress, issues and outcomes to a wide range of participating mill staff. Generally three senior SRI staff conduct these seminars in the five milling regions. Snap shot reports and presentations are given on relevant projects. SRDC staff usually also attend. About 100 in total attend from the various mills. An example of a two page summary and a project presentation are attached as Appendix 2.
- Training courses provide a further opportunity for communication and education. There are two types of courses. In the first, a particular subject will be covered e.g. engineering supervision, chemical process supervision, advanced chemical process supervision, sugar quality and factory efficiency, traffic officer training. In the second, two day courses are run for operators, usually drawing participants from a common mill group e.g. Burdekin mill operators. Subjects include pan boiling, centrifuging, clarification, juice evaporation. Steps are being taken to get the courses on the web but the mills generally like to use the training as an opportunity to get people learning together in a common setting.
- Workshops are also conducted on particular areas of interest e.g. materials and maintenance, processing issues. At the workshops participants are asked to make short presentations on issues which are then discussed and summarised.
- In addition to these more formal education related communication activities, SRI have good communications formally and informally with SRDC and their milling contacts. SRL are also in regular contact with mill

managements. SRI staff are in regular contact with government departments, other researchers in Australia and overseas, all of which serve to promote the work that they do and to create further opportunities.

CONCLUSIONS

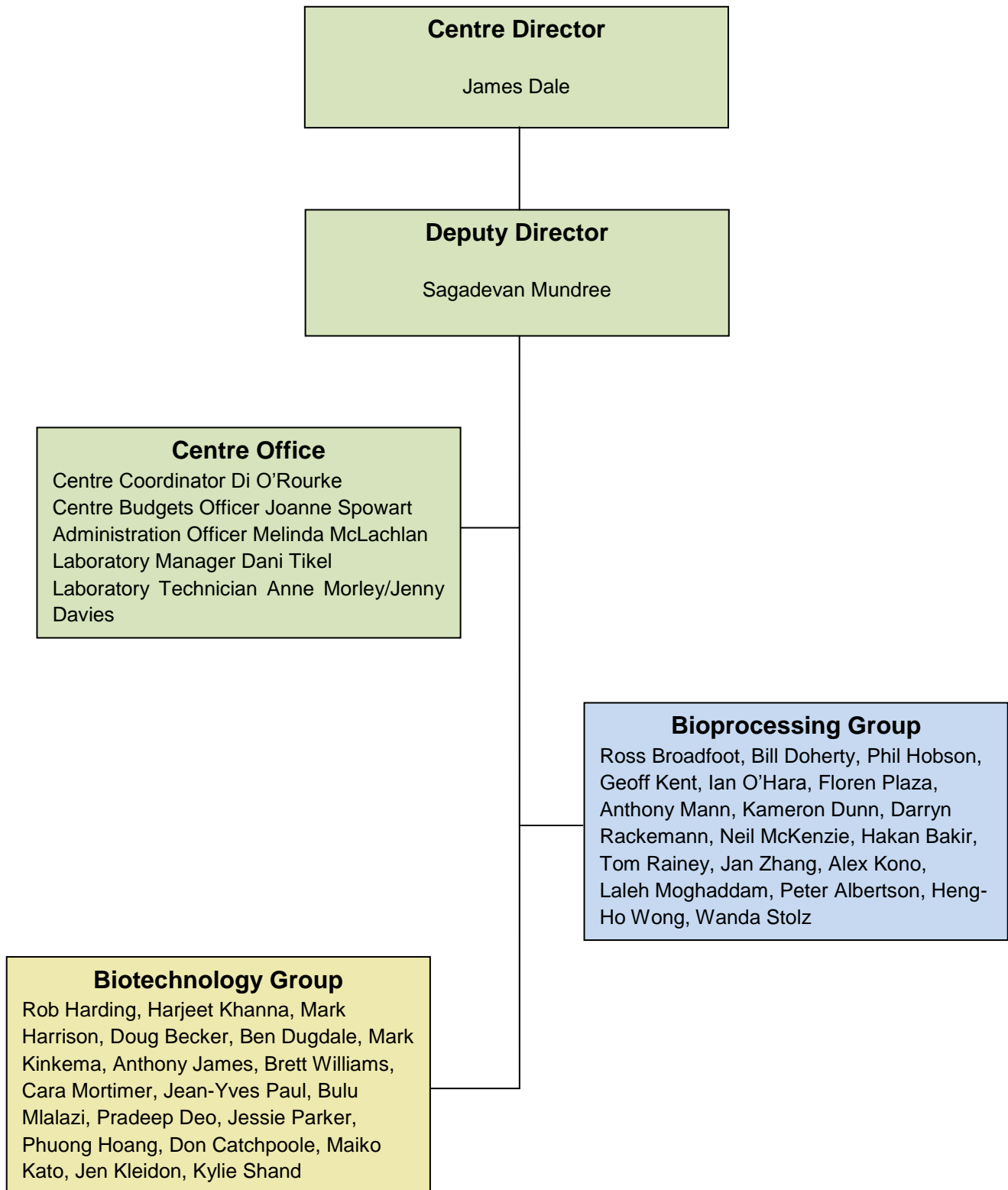
One of the principles of organisation design holds that each organisation is perfectly designed to give the results that are being produced. It therefore holds that if the results are not what are expected, the design needs to change. This review resulted at least in part from a concern that SRI/SRL may not be providing the outcomes that are expected of it as a research organisation, producing benefits for funders and the industry stakeholders. The review finds that results are being produced that reflect the design. Unfortunately the organisation design is producing complexity and delays. The question for the SRDC Board and the industry is whether those outcomes are acceptable. The ASA research and development restructure may produce improvements.

A proposal, strictly outside the terms of the review but offered in good faith, is attached as a possible complement to the work being undertaken by ASA or as an additional thought starter. The proposal is attached as Appendix 4.

In terms of the terms of reference for this review the overall conclusions are as follows:

1. Project expenditures appear to be well managed against budgets established and agreed in advance. Modifications where necessary are made according to well-established processes. The deviations from plan occur more as a result of the way the organisation has been historically structured and as a result of perhaps under-appreciated variations caused by administrative delays and changed procedures.
2. Staffing arrangements seem adequate for the amount of R&D currently being commissioned. If a breakthrough innovative milling technology was to be commissioned there would have to be some significant restructuring of resources, possibly involving the co-option of resources from other institutions in order to resource it. With expected retirements and the loss of appeal of agricultural research as a career option for the younger generation, unless the industry is prepared to provide ongoing R&D support at a level probably higher than it is today as a minimum, severe doubts would have to be had as to the R&D sector's ability to conduct ground breaking sugar milling and related technological research in, say, 5 years' time. At the present time SRI's structure reflects the need to operate on a commercial basis. Its current structure is complicated by the absence of funding from teaching, as applies in most other institutions of this nature.
3. Third party funders/coordinators do have an impact on SRDC funded projects and project syndicates. They increase the opportunity for complexity and delay. SRI generally manages these problems well. While the problems are frustrating, they are at a reasonably low level.
4. IP developed in SRDC projects at QUT is well managed. There are some opportunities for further simplifying the process, requiring some reasonably sophisticated decision processes to better determine which projects need what level of IP protection. It is expected that there will not be much appetite for this in the current environment where most organisations involved in IP protection would rather expend the administrative and legal costs involved than run the risk of losing out on IP benefits, no matter how small the chances of that occurring.
5. Licensing arrangements occur through a well-managed process involving SRL and QUT bluebox
6. As one would reasonably expect, the adoption of technologies arising from SRDC projects undertaken in QUT produces a wide range of economic advantages to QUT and the Australian Sugarcane Industry. SRI are able to leverage their previous research and development efforts through the use of a high quality data base when staff are consulting to milling companies. It may be possible that a consolidated research data base could be established as one of the by-products of the R&D reorganisation being undertaken by ASA.
7. SRI has a coordinated program of communication activities, allowing good exchanges of information and issues with the key stakeholders. The program needs to keep going.

QUT Centre for Tropical Crops & Biocommodities Organisational Structure



Appendix 2- Example of Project Summary and Presentation at Regional Workshops

Appendix 3-SRDC Projects completed in 2009 to 2011

Appendix 4- A Possible new way to provide R&D Funding for milling sector projects

1. Accept that milling project opportunities often arise as a result of short term issues. Accept that the current organisation design of SRI/SRL is not conducive to long term career engagement by staff, particularly younger researchers. Accept that there is a need to provide some level of critical mass to insure against the need for a significant R&D resource if and when the industry or key milling participants identify the opportunity for R&D leading to a step change in milling technology or indeed new technologies involving the use of sugarcane and related feed stocks.
2. Invite R&D organisations to tender for a five year funding program. Agree on a rolling five year funding program to be allocated to projects which are aligned to the industry's strategic plans. Commission projects through a combination of regularly scheduled and out of cycle processes.
3. Require preferred organisations to be prepared to co-opt resources from other R&D institutions as required. This may even allow them to contract sections or possibly whole pieces of research work to other institutions.
4. Develop project initiation and management processes that are best in class for speed, simplicity and effectiveness.
5. Review projects regularly, at least yearly, possibly through the auspices of the ASA R&D committee.
6. Following each review determine whether the five year rolling support will continue or whether the organisation will be on notice either to improve outcomes or prepare to lose their preferred status.