

**Submission to the Productivity Commission Inquiry into the
Australian Government Research and Development Corporations
Model**

BSES Limited

Introduction

BSES Limited is the principal provider of R,D&E to the Australian Sugar Industry. It is now an industry owned (50% Grower, 50% Miller) company limited by guarantee.

BSES Limited was formed in 2003 and replaced the previous Bureau of Sugar Experiment Stations (a Queensland Government Statutory Authority). Combined, these organisations have conducted R,D&E in the sugar industry for nearly 110 years. For much of this time (1900-1997), revenue was largely derived from a compulsory levy shared equally by Grower and Miller. Since 1997, the industry contribution has been raised through a voluntary service fee (currently 20 c/t for Growers) and Service Level Agreements with most Millers (12.5-20 c/t). Together, these raise 59% of BSES revenue for 2010/11 (Figure 1).

The R,D&E conducted by BSES has evolved with the development of improved technologies (enhanced conventional breeding techniques, molecular breeding, increased emphasis on biosecurity and the development of sustainable farming systems).

Ordinary Activities Revenue Total \$21.2M

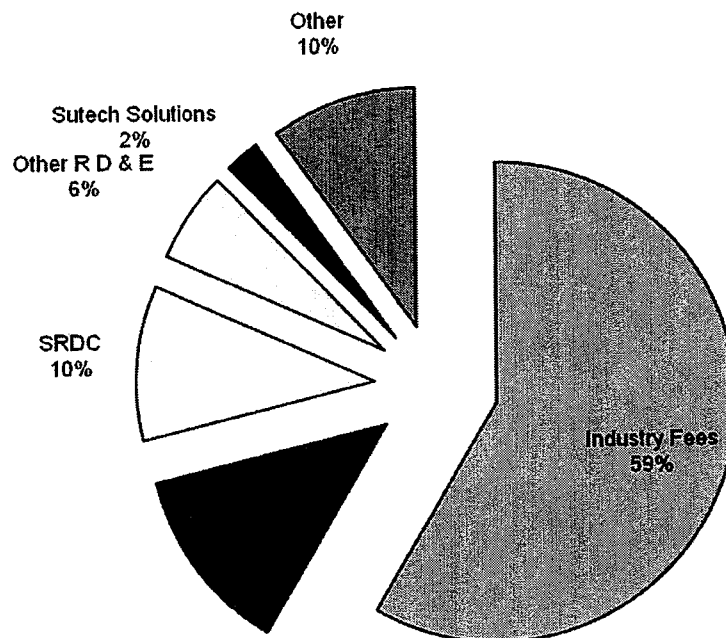


Figure 1

BSES is budgeting to spend \$24m in 2010/11 on our ordinary activities (Figure 2).

Ordinary Activities Expenditure by Program - \$24.0M

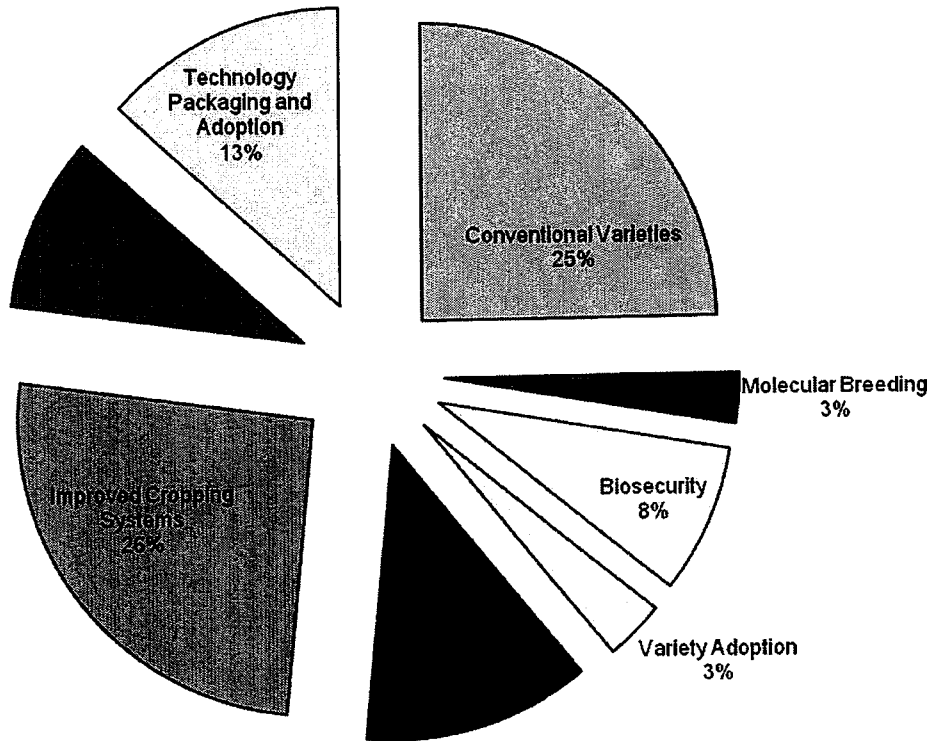


Figure 2

BSES is seeking a greater commitment from industry to balance the budget but will use reserves to meet the shortfall in 2010/11.

BSES has recently entered into a Strategic Alliance with DuPont to develop genetically modified varieties and improved planting technologies. These activities are excluded from the data in Figures 1 and 2.

BSES has been a recipient of SRDC funding since its inception. The proportion of the SRDC expenditure with BSES has fallen over time (Figure 3). BSES has also received small amounts from the former LWRDC and is a partner in a project that has funding from GRDC.

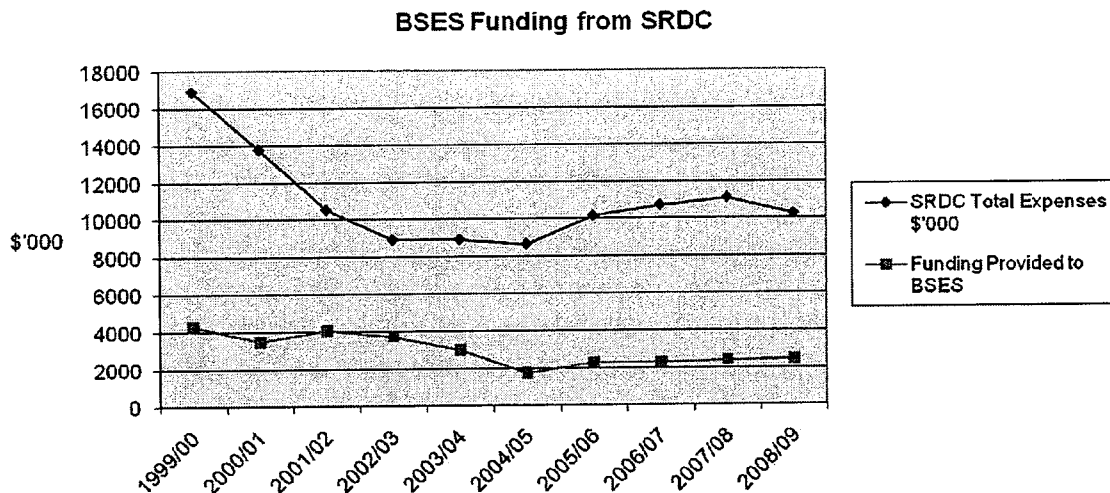


Figure 3

The key contact for this submission (ES Wallis) is currently CEO of BSES Limited (10 years) but was previously Executive Director of SRDC (10 years). BSES staff have broad experience in preparation, submission, implementation, monitoring and reporting on externally funded projects, including those funded by SRDC.

We feel that we are well qualified to comment on the issues raised in the Productivity Commission Issues Paper.

Some of the issues raised in this submission were discussed with Productivity Commission staff at BSES on 25 May 2010.

This submission addresses specific issues raised by the Commission and does not cover all aspects in the Issues Paper.

Issues

- **Model Operation**

The RDC model, as described in Minister Kerin's second reading speech for the PIERD Act, was clearly not designed to be one model. Each RDC was set up independently with the intention of moving the research agenda (funding and priority setting) from the researchers to focusing on industry needs.

Over time this vision has diminished to the point where the RDC model is often described as a single entity and considerable pressure applied to RDCs to achieve "collaboration", "joint activity" and "coordinated approach".

This Review comes at a time when the RDC Model is more than 20 years old and a fresh look at the PIERD Act and its contemporary application is appropriate.

It is our view that, notwithstanding the need to address broader issues than specific industry ones, the original concept remains highly relevant and applicable. SRDC should remain an independent entity and not amalgamated into a larger more diverse grouping of RDCs. We believe that the advantages of independence, especially focus, exceed the benefits perceived by some in amalgamation.

Some RDCs have moved to become Industry Owned Companies. Their R,D&E activities are specified in "funding agreements". These agreements essentially mirror the requirements of the PIERD Act. Proponents of this model see advantages in having the R,D&E planning process well integrated into the Industry Owned Company. This outcome could be achieved through other models and is seen as a highly desirable outcome yet to be achieved in the Sugar Industry.

Considerable effort has been expended by many RDCs in Project Evaluation through Benefit Cost Analysis. Whilst these analyses, even if conducted utilising current best practice, produce a result, it is our experience that the industry end-user does not believe the result. Enhanced (and convincing) methods of Project Evaluation are required.

- **Administrative Costs**

Good Project Management requires rigorous preparation, assessment of proposals, selection of a portfolio, monitoring and reporting.

These steps need to be conducted whatever the source(s) of revenue used for project activity is appropriate.

Industry participants often see these costs as "administration", but in reality these costs should rightly be attributed to the project itself. Whilst it is agreed that these costs need to be minimised they will exist. The task is to ensure that the funds provided by the RDC and the Research Provider are directed at delivering benefit to the Industry. An example where improvements could be made is in the management of Intellectual Property where considerable effort (time and money) could be better directed to achieving an Industry outcome rather than a discussion on the share of possible (but often unlikely) revenue between the RDC and the Research Provider(s).

BSES only seeks external funding for projects which align with its own Strategic Plan - the "partnership" funding provided by RDCs will only draw down our own resources into lower priority activities if this alignment is not strongly held.

- **Rationale for Government Funding**

The classical definition of "market failure" applies to many aspects of R,D&E in the agricultural sector.

BSES is the only breeder for the Australian Sugar Industry (with an important link to CSIRO Plant Industry). Previously, CSR ran a second program but they realised that the Australian industry is not large enough to support multiple breeding activities and they closed their program. Individuals within the industry cannot provide the resources required unless they act collectively.

The same failure exists in farming system development.

BSES supports the view that a user-pays system is sensible where individual benefit accrues, but accepts where industry and/or community benefits accrue the Government has a role to play (eg Reef Rescue where best practice on a farm greatly diminishes the risks of damage to the Great Barrier Reef).

- **"Free Riders"**

In the sugar industry, from the SRDC perspective, free riders do not exist. The mill deducts the grower contribution from the cane payment, matches this contribution and forwards the levy to the Government. One hundred per cent compliance would

be expected. However, regulations may have to be changed to capture growers and processors in prospective ethanol/cogeneration plants or other uses of the crop.

- **Maintenance of Core Research Skills/Infrastructures**

BSES considers this a critical point for the Productivity Commission to address.

The RDCs prefer to “value add” by co-funding priority time-bound projects. The RDCs expect research providers, such as BSES, to provide the “core activity”, for example plant breeding, to which they can add value.

BSES is finding it increasingly difficult to maintain “core activities” with decreases in State and Federal (through RDCs) funding to R,D&E.

Some RDCs (including SRDC in the past) have provided direct support to “core activities”. This practice is one way to support key Industry priorities and should be considered as part of the total investment strategy available to a RDC.

BSES also recognises that few new agricultural scientists (agronomists, entomologists, plant pathologists, plant breeders, etc) are being trained at the undergraduate and postgraduate level in Australia. There is an urgent need to address this growing deficit in research, development and extension.

- **Long Time Frame**

A further reason for Government support for R,D&E in the agricultural sector is the long time frame required to achieve the adoption of R and D. Adoption (benefit accrual) is often maximised well beyond the time frame of the “project” and often after a series of “mysterious events” that finally see adoption by a significant body of users. Bridging that time gap requires maintenance of core skills/infrastructure to enable the technology transfer.

- **Is the RDC Model Fundamentally Sound?**

Yes, for the sugar industry based on a single crop of 95% of production in one state.

This is a much simpler model than some of the RDCs.

Despite this, industry participants do not see the R,D&E priority-setting process successful as yet. Industry needs to set the broad targets, based on needs, but it is the research providers who better understand “how” these can/could be achieved. There will be many ways to achieve the targets, some of which may not be short term, obvious or successful!

- **Emerging Industries**

Investment in emerging industries is a matter of balance between risk and reward.

Experience in the introduction of a “new” crop indicates that the pathway to success is difficult and often involves over optimism/evangelism and always is more difficult/more expensive and longer than expected.

Appendix 1

Biosecurity for the Australian sugarcane industry

Introduction

Australia is one of the top three exporters of sugar on the world market, with the total production of sugar in Australia in excess of 4 Mt with a value of \$1-2 billion. Over 85% of the sugar is exported. The sugar industry is a major employer and component of the economy of regional coastal areas in northern New South Wales and Queensland.

Australia has remained free of several major animal and plant pests and diseases due to its isolation and its strict quarantine laws. This pest-free status has allowed Australia to provide agricultural products with lower pesticide usage and to produce these products more efficiently and at a lower cost than some of our competitors. Maintenance of this pest-free status is being threatened by the increasing ease of world travel and the growing demand for importation of agricultural products.

Throughout the world there are many insect pests associated with sugarcane. In Australia, there are at least 65 insects associated with sugarcane and the importance of these insects as pests ranges from negligible to high. FitzGibbon *et al.* (1998 a&b) identified 213 species of insects and mites as pests of sugarcane in areas to the immediate north of Australia. Of these, 39 were considered to pose significant threats to the Australian sugar industry, and, of these, 12 species were sugarcane moth borers. Commercial plantings of sugarcane in this country do not have stemborers as significant pests.

During the 1990s, the Standing Committee on Agriculture and Resource Management developed a general, non-specific, incursion management strategy (SIMS) to manage responses to exotic pest incursions. This strategy, which largely remains current, outlines the broad areas of an incursion management plan and the appropriate authorities involved. The key feature of the strategy is the operation of a National Consultative Committee on Emergency Plant Pests (CCEPP) that is convened under the auspices of Plant Health Committee after an incursion occurs. CCEPP is chaired by the Chief Plant Protection Officer (CPPO) in Agriculture, Fisheries and Forestry – Australia and its membership includes the State/Territory Chief Plant Biosecurity Officers. The CCEPP oversees the strategic management of the initial pest response and facilitates decisions on the feasibility of eradication and future direction of the response. It also makes recommendations on strategic response-management issues through Plant Health Committee and Primary Industries Health Committee to PISC, which comprises the chief executive officers of departments of agriculture/primary industries in the Commonwealth and States/Territories. The ultimate decision-making authority regarding pest responses is Primary Industries Ministerial Council, comprising the ministers of agriculture/primary industries in the Commonwealth and States/Territories.

In 2000, Plant Health Australia (PHA) was formed as a private company to coordinate policy development at the national level and facilitate improved biosecurity measurements for Australian plant industries. PHA is the developer and holder of PLANTPLAN, which is the generic emergency response plan for emergency plant pest incursions and is a guide to management of emergency plant pest incursions. The plan provides detailed description of the procedures to follow on local, state and federal levels following a pest incursion. Funding for responses is provided for in the Emergency Plant Pest Deed, which has been signed by governments (Federal, State and Territory) and by plant industries (CANEGRROWERS for the sugarcane industry).

While the value of the current Emergency Plant Pest Deed is greatly acknowledged, as well as the high vigilance maintained by AQIS across the north, particularly the Torres Strait islands and Cape York Peninsula, we believe that a sugarcane biosecurity initiative should be undertaken for the industry to be better prepared and to remain competitive in the world market. The initiative should encompass a range of issues dealing with identifying major exotic threats, quantifying the likelihoods of their arrival into Australia and potential damage, preparing for their possible introduction via good coordination between the sugar industry and biosecurity organizations, and maintaining a first-class diagnostic capacity within the industry to facilitate quick identification and response to any introduced species.

BSES Limited is the principal provider of sugarcane research, development and extension in Australia. The company's strategic plan identifies "Support an effective biosecurity capability for the Australian sugarcane industry" as one of its nine high-priority actions.

The BSES Biosecurity program has developed detailed Incursion Management Plans for exotic key pests of sugarcane, mainly sugarcane stemborers (Sallam and Allsopp 2008a-e). These Plans outline appropriate responses, detail responsibilities, and provide a comprehensive review of the biology, ecology and management of each pest species. All Incursion Management Plans are available on the BSES website under "Biosecurity" (http://www.bses.org.au/bses_01.asp?page_id=1000). BSES is also involved in a wide range of overseas projects looking at the status and distribution of key exotic pests and working in collaboration with overseas institutions to breed resistant sugarcane cultivars to maintain high resistance levels within the current crops. In addition, several *BSES Bulletin* articles and publications have been issued to encourage sugarcane growers to be alert and to promptly report any signs of unusual damage.

However, further work still needs to be carried out to maintain a competitive and healthy sugar industry with the least number of pests and diseases to combat, hence assuring our status in the world market as a clean, safe and environmentally responsible industry. The following is a list of Research and Development areas that need to be addressed within the sugar industry and in relation with other important agricultural industries in Australia. These points if addressed would enhance the sugar industry's capacity to quickly deal with any unexpected pest and disease incursion and minimize their impact on the sugarcane crop and any other related crop. This core activity

Needs for Research and Development

Exotic pest and disease diagnostic capacity

To ensure quick and reliable pest or disease identification, a sound diagnostic capacity should exist within the sugar industry. The diagnostic capacity quickly identifies any detected disorder and confirms whether it is an indigenous/endemic problem, or an exotic one, in which case an Emergency Response campaign will be triggered promptly. Quick identification is essential to achieve prompt response - it could mean the difference between eradicating a pest or having to live with it forever.

Coordination between Biosecurity organisations

Following recent changes in the organisation of the Queensland Department of Employment, Economic Development and Innovation (formerly the Department of Primary Industries and Fisheries), the roles of the organisations that will be involved in an Emergency Response (ER) should be defined better. This will minimize confusion and lack of coordination between organisations in case of an incursion and will ensure a well coordinated response.

Discussions with other industries

Several sugarcane pests and diseases are also pests of other crops, such as wheat, corn, rice and, in some cases, very unrelated crops such as bananas and pawpaws. It is important that Plant Health Australia coordinates talks between these industries and establish clear Action Plans on issues of cost sharing, crop destruction, compensation and provisioning of eradication/containment expenses.

Education and training

Ensuring the existence of trained quarantine and response staff is a key principal in any Biosecurity initiative. BSES Limited has conducted several training campaigns aimed at quarantine officers, sugarcane productivity service staff, extension officers as well as sugarcane growers. Maintaining a good level of experience within Biosecurity organisations and their operational staff is a current, ongoing goal that should continue.

In conclusion, it needs to be emphasized that, with today's ease of travel and extensive tourism activities, the incursion by any pest or disease is an on-going threat. The sugarcane industry, being in the northern part of the Australian continent, is vulnerable to attacks from neighbouring countries. Our geographical isolation and quarantine measurements have helped us considerably to avoid several devastating pests. This status needs to be maintained through the investment in a detailed Biosecurity program. The program needs to encompass different activities, including the investment in a sound diagnostic capacity within the Industry R & D providers, coordination with other industries/Biosecurity organisations and continuous training of quarantine/response operational staff. This will ensure quick and coordinated Emergency Response and should minimize the risk and potential damage posed by these exotic threats.

SRDC has provided "add-on" investment in some of these activities. However, Biosecurity remains one of those "core" activities that require long-term, comprehensive commitment.

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