

EDUCATION, SCIENCE AND TRAINING

SENATE LEGISLATION COMMITTEE - QUESTIONS ON NOTICE 2006-2007 ADDITIONAL ESTIMATES HEARING

Outcome: 3
Output Group: 3.2 – Assistance for collaboration and innovation

DEST Question No. E762_07

Senator Carr provided in writing.

Question:

DEST management of CRCs

1. I'm sure that you have closely read the Productivity Commission's draft report on Science and Innovation, particularly the finding that says: "the original objectives of the [CRC] program- the translation of research inputs into economic, social and environmental benefits- should be reinstated." It has been suggested by some Chairs of CRCs that discussions with departmental officials emphasise that there is no prospect of any change to the current policy of favouring commercially-directed CRCs. Is that correct?
2. Such senior CRC participants now believe that with the prevailing policy no public good or distributed good CRCs will be funded beyond those currently in existence. Have you had any discussions with CRC leaders on that issue?
3. Do you think that this expectation is correct?
4. The list of public good and distributed good CRCs that have been dumped or refused funding is growing longer: Reef CRC, Rainforest CRC, Weeds CRC, Tropical Savannah CRC, Dairy CRC. Can you tell me which public good CRCs have received new funding in the last round?
5. There seems to be increasing concern that DEST staff and the CRC Committees are second guessing major research organisations and research proposals, even though they lack specific expertise in key fields. Are you aware of such concerns? Do you believe that there is any basis to them?
6. One CRC participant has commented that: "The Dairy CRC also didn't get up ... It was rejected because the Committee decided a major research program was so adventurous that it could not deliver in the 6-7 year time frame. Again, this was a case where the Committee did not understand how fast technology is moving (it was in the field of genetic markers) and wouldn't accept the peer scientists assessment of risk". Is that an accurate assessment? If not, what is wrong with it?
7. In this case, what did the peer assessment say about risk?
8. Did the CRC Committee accept or reject the peer assessment?
9. In how many instances in the last round were applications rejected because you did not believe that the research project was practical or because peer review assessment was not accepted?
10. What recourse do CRCs or CRC applicants have if they believe their case had not been understood or fairly assessed? Is there a formal mechanism?

11. There seem to be too many instances where CRCs or bids for CRC funding have called into question the reasons or logic of their rejection. To that end, could you please provide this Committee with the assessment report for all successful and unsuccessful bids considered during the last round?

Answer:

Cooperative Research Centres

1. The Department is currently conducting a review of the 2006 CRC Programme Guidelines. The review includes consultations with key stakeholder representatives.
2. The Department consults with a variety of stakeholders, including CRCs. These stakeholders express a range of views on a large number of issues, including the current focus of the Programme.
3. The 2006 selection round guidelines specifically stated that business cases that rely largely on public benefit outcomes are unlikely to be competitive.
4. Several successful applicants in the 2006 selection round will be undertaking research and development that will result in public good outcomes, including The Hearing CRC, the CRC for Cancer Therapeutics, the CRC for Biomarker Translation, Future Farm Industries CRC, the CRC for National Plant Biosecurity and the CRC for Greenhouse Gas Technologies.
5. No. We are not aware of such concerns. We do not believe there would be any basis to support them.
- 6-9 The Dairy CRC has agreed to provide a copy of the CRC Committee's assessment report of its application to the Senate Standing Committee on Employment, Workplace Relations and Education (refer to Attachment B). The report sets out the CRC Committee's assessment of the Dairy CRC's Stage 2 application against the criteria in the *CRC Programme 2006 Selection Round Guidelines for Applicants*.

The selection process for CRC Programme funding is a competitive one for limited funding.

10. The 2006 CRC Programme selection process was a multi-staged process. Applications were assessed by the CRC Committee, with input from its Appraisal Panel and other independent assessors. The CRC Committee and its Appraisal Panel have wide, high-level expertise in research, industry and venture capital.

The *CRC Programme 2006 Selection Round Guidelines for Applicants* stated that unsuccessful applicants would receive written feedback on their application. The guidelines also provided for unsuccessful applicants to request a verbal de-briefing of their application.

11. The Department has written to all applicants in the 2006 CRC Programme selection round seeking their permission to provide a copy of their CRC Committee's assessment report to the Senate Standing Committee on Employment, Workplace Relations and Education. A summary of responses from applicants is at Attachment A and the relevant assessment reports are at Attachment B.

**Summary of replies to request from Australian Parliament's Senate
Standing Committee on Employment, Workplace Relations and Education
(February 2007) CRC Committee assessment of 2006 CRC Selection Round
applications**

The following applicants agree to the release of the information:

- Australian Seafood CRC
- Capital Markets CRC
- CRC for Biomarker Translation
- CRC for Cancer Therapeutics
- CRC for Rail
- CRC for Sheep Industry Innovation
- Future Farm Industries CRC
- Smart Services CRC
- The HEARing CRC
- CRC for Advanced Composite Structures
- CRC for Greenhouse Gas Technologies
- CRC for National Plant Biosecurity
- CRC for Spatial Information
- CRC for Australian Medical Devices
- CRC for AusWheat
- CRC for Construction Innovation
- CRC for Learning
- CRC for Logistics and Supply Chain Management
- CRC for Marine Technology
- CRC for Technology for Independent Living
- CRC for Dairy Biotechnology
- CRC for Future Advanced Rural Manufacturing
- CRC for Integrated Resource Solutions
- CRC for Invasive Plants
- CRC for Tropical Savanna Futures
- CRC for Innovative Grain Food Products

2006 CRC SELECTION ROUND

**AGREED FOR RELEASE
CRC COMMITTEE ASSESSMENT REPORTS**

Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case

**20060035 Australian Seafood Cooperative Research Centre
(Seafood CRC)**

Overall Rating: A+ Excellent (Band 1)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

This CRC aims to play a vital role in the seafood industry by developing technologies to improve productivity and quality in the high-end of the market, and delivering improvements to the entire value-chain.

The Committee was impressed with the engagement of key players representing 90% of the industry value with significant cash contributions, at \$37m cash.

The applicants clearly distinguished the proposed programmes from those existing in the Aquaculture CRC which is complementary and an appropriate precursor to this application.

The bid aims to deliver an NPV of \$1.05b over 12 years. There is potential for a greater return on the investment.

The Committee appreciated the end-user enthusiasm and engagement in the process and their conversion to use research as a tool to underpin economic development.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The Committee was more than satisfied by the high level commitment of such a significant percentage of the Australian industry to adopt, commercialise and utilise research outputs.

The Committee gained confidence from the statement from the industry partners that they were substantially attracted by the successful track record of the Aquaculture CRC and the Fisheries Research and Development Corporation which had persuaded them on the benefits of research and development in a CRC.

The Committee was satisfied that the path to adoption was well thought out and is likely to achieve the identified outcomes and is responsive to immediate market demand. The Committee was also satisfied that the IP arrangements were effective, building on the successful track record of the Aquaculture CRC.

The research programme was developed with strong end-user focus and input which will facilitate ready market uptake. The CRC has clearly captured all the main players in the high-end seafood value chain.

The proponent has been particularly successful in engaging SMEs.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

Research Programmes 1 and 2 comprise appropriate research driven by end-user participants. The Committee was particularly impressed by the representation from the whole of the value chain within the CRC partners. It was clear that the participants were all committed and work together cohesively.

The Committee was impressed with the education, training and skills development programme, particularly the training initiative that included a novel CRC diploma for continuing professional development in the industry.

While the overall corporate governance provisions were adequate and standard the Committee was concerned that no Chair, CEO, Programme Manager, Business Manager/Company Secretary, and Commercial Manager had been identified. However, at

interview the proponents did present a strong pro-tem team and the absence of formal identification of key personnel was to avoid pre-empting decisions by the Board when established. The Board will need to appoint a world class CEO.

In relation to Research Programme 3, the Committee was concerned that several named key personnel from the University of Adelaide were listed at only 0.1 FTE time commitments. The reasons for this were explored but not resolved to the satisfaction of the Committee. The Committee fears that this poses a threat to effective delivery against Programme 3 where the University of Adelaide appears to be the lead research contributor. The Committee noted, however, that the proposed expenditure on Programme 3 constituted only 4% of total expenditure. The Committee considered that should this application be selected for funding, Programme 3 should be removed on the basis of the low time commitment and total contribution from the University of Adelaide, the standing of the researchers, and the apparent lack of awareness of the other functional food programmes. A perceived weakness in this area should therefore not reflect negatively on the overall application in a disproportionate manner.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The Committee was satisfied that the funding sought will generate a good return on investment. However, the Committee was concerned at the apparent imbalance in resource allocation between programmes particularly the low level of support in Programme 3 – Health Benefits, that was promoted strongly at interview in the presentation to the panel.

If the CRC was to strengthen its engagement in Programme 3 it would need enhanced commitment in cash and in-kind key researchers. The Committee recommends that this be done through a subsequent supplementary bid.

The Committee had some concerns on the robustness of the economic assessment that was addressed adequately at interview. It was clear from the end-user contribution that they considered real substantial gains would be achievable. It was evident that end-users based this assessment on real achievements witnessed during the tenure of past CRCs in which they had also been participants.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,670,000	5,220,000	5,660,000	5,610,000	5,610,000	5,280,000	4,950,000
Recommended	4,670,000	5,220,000	5,660,000	5,610,000	5,610,000	5,280,000	4,950,000

Budget Comments

Research Programme 3 is equivalent to 4% of the total budget but the breakdown on an annual basis is not available so the Committee is unable to recommend appropriate budget profile adjustment (refer to 'Additional Funding Conditions').

The final offer should be reduced by 4%, with the opportunity given to the applicant to reprofile within the total funding offer. Therefore, the total offer of funding should not exceed \$35,520,000.

Overall Comments

The Committee considers the proposal is a generally high quality and well supported bid that will deliver on its key outcomes and through this generate significant benefit for the Australian seafood industry. However, the Committee did have reservations about the capability to deliver a major outcome from Research Programme 3 (Health Benefits of Seafood). The Committee considered this programme required further development and improved resourcing as well as acknowledging the competition from other researchers in the field.

Additional Funding Conditions

Research Programme 3 should not be funded.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060007 Capital Markets CRC

Overall Rating: A+ Excellent (Band 1)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

A conservative estimate of the economic impact is \$1.9b. The achievements of the existing CRC and its spin-off companies have demonstrated an established track record. On this basis they are arguing \$780m (over 10 years) cross market revenue, which appears to be conservatively assessed (they are already achieving market share ahead of target). To this they have added estimates of job creation, skills development and education, and relocation of overseas business functions to Australia (over 25 years). This figure explicitly did not include benefits due to early detection of fraud. Such benefits could easily be of comparable or greater scale. Estimates of fraud in world markets are in the area of \$420m per day.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The new CRC plans to grow from single market emphasis to cross market surveillance in the majority of global capital markets. This is a very significant step up in outcomes. The CRC has managed to attract an array of global partners to help manage significant risk. Their performance to date suggests likely success. The planning was excellent with the overall strategy for adoption carefully thought through. The IP management is satisfactory for the present but will need increased emphasis as the CRC exploits its global strategy. End-user participant involvement is very strong and the approach to identifying and engaging future partners is highly credible (in fact is in progress). The growth of existing and new SMEs is fundamental to their strategy. One high value Initial Public Offer is likely in the near to mid term.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The CRC bid offers an outstanding balance of domain knowledge and technology to achieve the goals. The existing CRC has been a pioneer in the area and has achieved a world leading position. The CRC bid has put together an impressive list of the right Participants from the world's capital markets. Without doubt this large number of active researchers would contribute very significantly to the Australian intellectual capital and skills base in the field of international market surveillance and fraud detection. The existing CRC has over 70 PhD students; the new CRC would have at least 100 PhD students. Without doubt their output would contribute very significantly to global intellectual capital in this field. The current PhD programme is oversubscribed by a ratio of 2:1 such that intake consists only of top class candidates. The proposed education programme in the new CRC is very well resourced. The governance and management of the CRC, while currently appropriate, will

face increasing challenges as the CRC expands globally. The Committee considers that the CRC will need to have more international representation if it is successful in its application. The application includes high quality key personnel with good time commitments indicating a well focused team, which will be able to deliver on the outcomes set out in the application.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

The funding sought will generate significant return and represents excellent value. The participant contributions and untied cash are excellent. The intention is to evolve the CRC into a Capital Markets Institute, funded from spin-off companies. This provides a novel solution for long-term continuity and justifies the flat funding profile. The CRC management exposed full details of their business model which appeared highly appropriate to meet objectives. It is noted that a 20% drop in cash between Stage 1 and 2 is more than compensated for by increased in-kind commitments. The reduction in cash is explained by the departure of two prospective participants and conversion of tied university cash contributions into in-kind contributions. On balance, this change was not viewed by the Committee as having any significant negative impact on the ability to deliver. A cash contribution by one of the participants was declined as it was tied to a specific programme not entirely aligned with the proposed priority directions of the new CRC. The Committee agreed with the CRC management assertion that the plan was enhanced by this move.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	3,647,000	3,697,000	3,750,000	3,806,000	3,864,000	3,926,000	3,990,000
Recommended	3,647,000	3,697,000	3,750,000	3,806,000	3,864,000	3,926,000	3,990,000

Budget Comments

The Committee strongly supports the funding sought.

Overall Comments

The team has pioneered a new area and has achieved a dominant market share in surveillance for capital markets. The plan for the new CRC significantly extends the outcomes of the existing CRC. The existing CRC has a very strong track record and the Committee was extremely impressed with almost every aspect of the new proposal and how it amplifies on the outcomes of the existing CRC. With increasing global scope during the next phase of CRC development, the CRC may need greater international representation on its Board and in the management structures outside Australia.

Additional Funding Conditions

None recommended.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060047 CRC for Biomarker Translation

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The Committee noted that the CRC is intending to work in a developing area and the potential benefits could be large.

The application was strengthened at interview by the applicant providing clearer indications of the likelihood of success of the outcomes. The input from Becton Dickinson Biosciences and Amgen Australia Pty Ltd in particular clarified issues of commercial development, perceptions of risk and the validity of the applicants' estimate of likely resources.

The Appraisal Panel advised the Committee that at interview they were reassured of the competitive technical advantage and soundness of the novel scientific strategy proposed.

The Committee noted substantial contributed intellectual property, which gave considerable comfort in terms of short-term revenue generation.

The application contributes to the following National Research Priority Goals: a healthy start to life; ageing well, ageing productively; preventative health care; breakthrough science and frontier technologies.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The involvement and level of contributions of two leading pharmaceutical companies – Becton Dickinson Biosciences and Amgen Australia Pty Ltd was considered a strength of the application, to some extent offset by the conditional (three year) support from Amgen.

However, the Committee felt that the position relating to the underlying rights to intellectual property flowing from the existing CRC for Diagnostics was not clearly established noting that while there had been an exchange of letters, negotiations for the licensing of IP have not yet been finalised. The Committee considered that unless the intellectual property from the existing CRC was secured, the possible early success of the application would be in jeopardy. The intellectual property must be assigned at a valuation that does not compromise the finances of the CRC, and this negotiation must be agreed expeditiously by the boards of the two entities.

The Committee noted that the nature of the commercial relationships were not fully able to be specified, but drew comfort from the undertaking to approve a commercial board for the CRC and the track record in this area of many of the leaders.

The Committee welcomed the provision of fuller details on the 35 novel human leucocyte membrane biomarkers from the CRC for Diagnostics, one monoclonal antibody to a new cancer membrane biomarker and the 600 mouse immune system biomarkers for bioinformatics and identification of human homologies.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Excellent

Comments

The Committee considered that the proposal included proven high achievers with strong track records in the biomarker field and diagnostics, with an impressive history of collaboration and clear evidence of collegiality at interview. This was not merely between the academic partners, but included those from Amgen and Becton Dickinson.

The Committee noted the cash and in-kind contributions committed by the Child Health Research Institute (CHRI). The Committee was satisfied by the response given to the question raised in its letter of 31 October 2006 seeking confirmation of CHRI's commitments, which includes funds being provided by the government of South Australia through CHRI.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

Despite the relatively low level of cash contributions participants have committed to the CRC, the Committee upgraded the application to excellent, noting the untied nature of cash contributions and the very significant contributions of non-staff in-kind (eg Becton Dickinson cell sorter). The Committee is confident that the proposal will deliver a return on the investment.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,242,000	4,245,000	4,213,000	4,472,000	4,611,000	4,421,000	4,395,000
Recommended	4,242,000	4,245,000	4,213,000	4,472,000	4,611,000	4,421,000	4,395,000

Budget Comments

Nil.

Overall Comments

Nil.

Additional Funding Conditions

Nil.

Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case

20060028 CRC for Cancer Therapeutics

Overall Rating: A+ Excellent (Band 1)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The Committee confirmed the rating as excellent and, whereas research outcomes cannot be predicted, there is a high probability that within the seven year timeframe commercial returns (eg from licensing and spin-offs) at least commensurate with the annual investment will be generated, with good chances of an eventual much higher return on the investment.

In the opinion of the Committee this application is an outstanding proposal in terms of its ability to make substantial contributions to Australia's industrial, commercial and economic growth.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The collaboration already has a selection of research outputs with commercial prospects available to the CRC. This will assist the CRC in generating commercial returns early in the life of the CRC.

The involvement of Cancer Research Technologies was considered an essential component of the application given their excellent track record in commercialising research outcomes. In addition Cancer Research Technologies provided the interview panel with a degree of confidence that the commercialisation outcomes are achievable.

A particular strength noted by the Committee was the level of cash and in-kind contributions committed by the commercial end-users of the proposed CRC. It was pleasing to note that this is the first external investment where Cancer Research Technologies has invested cash. The Committee was particularly impressed by the rigour with which the CRC embraced project selection and performance review towards progression or otherwise of individual drug candidates. The large amount of work which had been put into negotiating and establishing Intellectual Property arrangements was favourably noted by the Committee.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Excellent

Comments

The key staff identified were outstanding and the stated extent of the time commitment was considered excellent. The role of each of the participants was clearly outlined and their complementarity and the value-add of their input into the collaboration was described appropriately. It also appears that some of the participants are either working collaboratively already or have done so in the past. The research programme is very focussed on small molecule drug discovery and development. The application has a good balance of participants from the eastern states. Plans include mechanisms for introducing other institutes where appropriate contributions may be made to the aims. In terms of governance, the Appraisal Panel advised that the applicants answered all the questions at interview with clarity and impressive evidence of having devoted considerable attention to the issues explored. The Committee confirmed the obvious commitment of key research staff across all areas involved.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

The Committee rated the application as excellent against this criterion. The applicant's proposal indicates that the CRC will be generating income throughout its 7 year life, not relying on a single 'big ticket' item.

The unique contribution of Cancer Research Technologies was viewed as critical to the success of the proposed CRC and may well provide a model for translation in other drug discovery areas. CRT is a UK based not-for-profit organisation which provides translational capacity for the UK cancer research community and has an excellent record in achieving drug development outcomes.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	5,082,000	4,436,000	4,460,000	6,326,000	5,778,000	5,879,000	5,730,000
Recommended	5,082,000	4,436,000	4,460,000	6,326,000	5,778,000	5,879,000	5,730,000

Budget Comments

The budget proposed by the applicant is appropriate given the cost of establishment and starting work.

Overall Comments

An excellent application backed up by a superb presentation and response to questions.

Additional Funding Conditions

Nil.

Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case

20060045 Rail CRC

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Good

Comments

The Committee believe the proposed research has the potential to bring additional economic activity to Australia. However, the Committee had difficulty in distinguishing the benefits that would result from the research of the CRC from industry's own capital investment, management initiatives, improved skills development, industrial relations changes and new systems development. The Committee recognises the opportunities for research by the CRC in each of these areas has the potential for benefit across the industry as a whole. The Committee recognises significant research is to be conducted in engineering and safety that builds on and extends the work of the existing CRC. For the new CRC two new additional programmes on social and operating related research are included with the outcomes being more speculative.

The Committee was impressed with the need for Australia specific solutions as opposed to adapting technologies from overseas solutions because of Australia's unique rail environment.

The Committee felt the magnitude of the outcomes from the research as claimed in the application failed to recognise the essential capital investment required to implement most of the new technologies. Also, the benefits claimed by the CRC placed great emphasis on improving intermodal operations for general rail freight yet there was little representation from other transport logistic operators (example: port operators, stevedores, ship owners, freight forwarders, trucking companies, etc). The Committee noted that involvement of SMEs would be driven by the ARA with project development being driven by the large industry providers.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The Committee recognises that the approval of each new research project requires the involvement of at least one major end-user and the identification of the opportunities for implementation of the new technologies by that organisation. This includes the capital investment required for implementation of the project and the likelihood of the end-user supporting that investment. The strategy to engage SMEs was through the ARA with little specific mention of any examples where potential SME involvement exists. However, the role of the ARA is fundamental to achieving the path to market. The structure of the CRC will mean the technology developed will be principally focused on providing unique Australian solutions to problems or in areas where nothing currently exists. End-user participants will be reluctant to lock themselves into using CRC outputs if options are available elsewhere. Commercialisation of some technologies will be impeded by the large capital investments required. In other cases there will be management and industrial relations issues to be resolved. Overall, the Committee was satisfied the ongoing commitment of the key partners and the track record of the existing CRC support the likely uptake of research outputs.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The Committee identified the particular strengths in this application as being:

The Committee noted the existing CRC had a good track record. The fifth year review provided examples of successful projects and commercialisation, together with a sound education programme. A total of 18 PhD and Masters students have graduated from the current CRC and the governance and management arrangements have adequately delivered the research programme.

The new proposal will expand the existing research into social and human sciences which will provide new and different challenges. The development of training competencies as foreshadowed in the application appears outside the scope of a normal CRC, however at interview greater emphasis was placed on the identification of the technical requirements which underpin the competencies.

The research programme consists of a large number of individual projects with minimal integration both in content and over time. A number of projects appear to interface with programmes conducted in other CRCs and research centres that will require particular attention to encourage collaboration and to avoid duplication (example: biodiesel, dryland behaviour, road accidents, soils, safety – terrorism). The Committee is concerned that a number of the research programmes being proposed would not be completed without appropriate collaborations, such as other modal sectors and customers. The Committee was also concerned about the achievability of such a large number of research projects.

The new CRC has additional end-user participants in BHP Billiton and Pilbara Iron as well as more active participation by ARA which will greatly support the proposed outcomes.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The Committee recognise the scale, importance, and challenging problems of the existing rail industry. Clearly research is important to realise the potential return on investment, however the extent to which research alone will contribute remains unclear, particularly noting the large capital investment in industry including capital required to commercialise the research. The indicative economic outcomes claimed seem very high, however the Committee accepts that there is potential for a large return on investment.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	2,700,000	4,000,000	4,200,000	4,200,000	4,200,000	3,700,000	3,700,000
Recommended	2,700,000	4,000,000	3,200,000	3,200,000	3,200,000	2,700,000	2,000,000

Budget Comments

The Committee recommends the funding be reduced from the \$26m requested in the Stage 2 application back to the original request of \$21m. While, the Committee notes that in-kind (non staff) contributions increased by \$11m, participant cash contributions fell by \$4.5m in Stage 2 and the Committee does not consider that the \$5 million increase in CRC Programme funding is justified.

Overall Comments

There is considerable potential for the growth of rail services in Australia and much of this growth will need to be underpinned by research suited to Australian conditions. The Committee believes that CRC Rail is worthy of continued support at the lower level of funding but should be more focused in its research strengths in R1 and R3 projects.

Additional Funding Conditions

Nil.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060022 CRC for Sheep Industry Innovation

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Good

Comments

This CRC aims to play a vital role in the rural economy by developing technologies such as individual precision sheep management, targeting that proportion of sheep producers who wish to improve productivity in an integrated manner. The applicants clearly distinguished the proposed programmes from those existing in the current CRC and have a detailed management plan in place to handle the transition. The total NPV benefit is computed at \$1.337b over 25 years. Whilst clearly significant, and in the Committee's view not unreasonable, nevertheless such a long timeframe necessarily dilutes the value of the estimate. However, the Committee noted that risks had been incorporated in this assessment and that technological risks were conservative. Furthermore, there may well be intangible benefits in the field of education and training.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The Australian Sheep Industry CRC has demonstrated capacity to lead adaptation and pioneer innovation in a major Australian export industry including both wool and meat. The new application builds on this strength, and there is a clear drive towards market driven research. In particular the close involvement as core participants of AWI and MLA clearly demonstrates a sophisticated understanding of the market dynamics. The Committee was satisfied that the path to adoption in the sheep meat sector was well thought out and is likely to achieve the identified outcomes and is responsive to immediate market demand. The long-term reluctance of the wool production sector to innovate, a particular concern for the assessment panel, has been addressed successfully by the current CRC. The new CRC is poised to capitalise on this advance by targeting the medium to fine wool sector, estimated at 30% of wool production. The Committee recognised the difficulty in engaging this sector (35,000 SMEs) and felt confident that the CRC approach has been well developed. The inclusion of the consultant sector among participants should represent a significant advance in paths to adoption for this CRC by comparison with the existing CRC. The Committee noted that the delivery of some outcomes would take several years although genetic information collected through the Information Nucleus will be fed directly to Sheep Genetics Australia (SGA) and become available to producers within the first year. Producers can modify their flocks to achieve particular qualities within a remarkably short time.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Excellent

Comments

The Committee was impressed with the integrated approach which seeks to unite wool and sheep meat primary producers in an innovative way, in particular the novel proposition for a single Information Nucleus to feed into the industries to maximise the use of information and genetic potential in the industry. It was clear that the participants were all committed and work together cohesively. By developing the Information Nucleus the CRC is optimizing the opportunity presented by new genetic technologies to rapidly incorporate desirable traits in the Australian sheep population.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The Committee was impressed by the creation of options for the development of either wool or meat product flocks. Given the precarious economics of the industry currently, this flexibility will enable future decision making on an individual producer basis in relation to regional circumstances. The proposed CRC recognised that risks applied both to the marketing aspects of wool and meat and to the environmental constraints in the production, and planned their programme accordingly. The economic assessment has met all guideline principles and the Committee considered that the internal rate of return was appropriately calculated and that the risk could therefore be considered manageable.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	5,968,000	6,952,000	7,250,000	6,834,000	4,624,000	3,688,000	184,000
Recommended	5,968,000	6,952,000	7,250,000	6,834,000	4,624,000	3,688,000	184,000

Budget Comments

The Committee was satisfied that the cost analysis had been diligent and the allocations were appropriate. In particular first year expenditure was well justified by the CRC proponents with a view to commencing operations immediately at a high level of activity and taking advantage of the first year lambing season. Whilst the last year funding request is low the CRC intends to rely mainly on industry funding at this stage.

Overall Comments

The proposed CRC represents a very competitive research infrastructure without peer within the international community. The CRC proponents had a very realistic view of the field in which they operate and the realities of what they can achieve. The presentation was professional and enthusiastic. The Appraisal Panel advised that the interview team demonstrated breadth as well as depth in their knowledge of the science and the industry. They have capitalised on the knowledge gained by the Beef CRC and had appropriate linkages with other relevant CRCs.

Additional Funding Conditions

None recommended.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060043 Future Farm Industries CRC

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Good

Comments

This application proposes profitable, low risk farming systems, new rural industries and a new natural resource management skills base. If successful this would contribute substantially to Australia's industrial, commercial and economic growth; reasonably estimated at \$1.26b NPV with an additional \$710m in exports and further unquantified benefits in regional employment, environmental and economic sustainability. However, the economic benefits are quantified over a 30 year adoption period. Of significance is the emphasis on developing resilience of production in the relatively low rainfall crop/livestock zone of southern Australia, as a means of providing effective risk management systems.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The Committee was impressed by the strength of the commitment from potential end users and their agents. In particular, the RDCs are making a substantial cash commitment (\$14m) with a strong commitment to contribute more as programmes develop. The RDCs have a well defined understanding of the adoption and uptake processes in their particular industries and have, or are developing, appropriate measures for monitoring uptake. In the industrial New Woody Crops Programme there is an expectation of further small company investment, stimulated by their presence as supporting participants. These small companies are ideally placed with a commitment to invest on a project by project basis as the projects mature. The quality of planning and proposed resourcing appears exemplary but the intellectual property arrangements, whilst adequate, need more detailed consideration. The proposed CRC is well connected displaying a keen understanding of their operational context and their market. They had detailed knowledge of allied research in other CRCs and showed a willingness to collaborate when appropriate. They also have approached other Catchment Management Authorities and Regional Economic Development Authorities who are likely to collaborate in the future. The Committee was impressed by the ability of the proposed CRC to address the diversity of scientific, technical, regional and social challenges with an integrated team approach. DEST should seek confirmation of the verbal assurance given to the Panel at interview that the proposed CRC would have freedom to operate in relation to partners' and externally held background IP.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The research programmes are well positioned to achieve the intended outcomes. This is reflective of the partnerships developed around research problems, the quality of the researchers and the high individual FTEs. The track record of the proposed management team is acknowledged in their market place. Whilst the Committee understands the constraints imposed by biological systems, it remains concerned by the relatively long time for commercialisation given this proposal builds on outcomes from the previous CRC. The Committee commends the concept of targeted professional development to 250 to 300 Landmark personnel as a foundation for programed extension activity to primary producers and regional communities. However, less thought appears to have been given to differentiating post-graduate education. The new CRC clearly builds on the work of the existing CRC for Plant Based Management of Dryland Salinity, but with new programmes and an integrated supply chain approach. On the basis of the independent assessment, the track record of the existing CRC has been good with identifiable outcomes and a satisfactory response by the Board to most of the issues raised by the independent review committee. However, the Committee noted that the review committee suggested that the CRC should have a better relationship with commercial breeders - this was not evident in the application. The Committee suggests that this issue could be discussed with the CRC for Molecular Plant Breeding.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

A strength of this CRC application is the presence of an agricultural/environmental economist as an integral member of the team enabling a more grounded analysis of economic assumptions. The independent economic assessment supports the valuations proposed. The Committee considered the bid represents good value for money.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,000,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	4,125,000
Recommended	4,000,000	5,200,000	5,200,000	5,200,000	5,200,000	5,200,000	4,125,000

Budget Comments

Nil.

Overall Comments

The presentation at interview was very professional and the proposed management team inspired confidence

The Committee was satisfied that this application addresses issues relevant to climate change, drought and decline in infrastructure, terms of trade and rural communities in agricultural industries.

Additional Funding Conditions

None recommended.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060013 Smart Services CRC

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Good

Comments

The bid is proposing to develop enabling technologies and a new delivery paradigm for services.

There is a well argued return of \$250m (over 10 years) to three of the key Participants. Four of the Participants in addition provided a verbal indication of substantial potential returns but no evidence was provided and the returns were not quantified. There was no real evidence or quantification provided for the overall impact on the Australian economy. The Committee has reason to believe that the impact of work in this area could be very substantial; however, the proposal is focused on delivery of services predominantly through the Participants.

Widespread diffusion beyond the immediate Participants could well occur. In fact the current commercialisation plan is predicated on a return to key Participants and will limit the areas of considered research.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The path to adoption relies strongly on an active role of the Participants. Due to some last minute changes not all Participants were able to give firm commitments. One (SAP) expressed strong views about the potential of the CRC and its value to their global strategy. Another (Westpac) supported that view. These Participants will be important contributors to the further development of commercialisation strategies for the CRC and are a major component of the good rating for paths to adoption. Subject to the final plan reflecting commitments from SAP and Westpac consistent with undertakings given at the interview, the Committee rates this criterion as good.

It appeared to the Committee that the full potential of commercialisable opportunities was not completely considered. As the CRC proceeds the management and Participants may see more opportunities, and are encouraged to explore these should the application be successful. The involvement of SMEs by the bid looks quite promising though not well defined from a management systems point of view. There is an opportunity to substantially enhance the contribution to SMEs as the CRC develops.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The multidisciplinary research being undertaken is moving into new ground in terms of integrating IT and services. There are some high quality researchers. There will be serious international competitors in this rapidly developing field. Industry Participants are impressive and their commitment levels significant. The involvement of the SAP research group, revealed at the interview, significantly strengthens the bid. The mechanisms for interaction with end-users were excellent and the flexibility to adjust the research programmes was well developed. The management of the research and applications (shown as a matrix) however could prove challenging in a CRC environment. The explanation of the research management approach was unclear to the Committee. The governance and management structure appeared underdeveloped relative to the commitments to the Participants. The track record of the existing CRC was good. The notable commercialisation outcome has been the creation of spin-off company Enikos. There are a number of patents actively managed by the CRC held in common for the Participants.

The CRC proposed a normal transition in the case of refunding, although the Board of the existing CRC had not finalised all IP issues. In the event the bid is not successful, the CRC has identified sufficient funds to enable commercialisation of the existing IP. The Training Programme is acceptable and includes a mix of social science, business and ICT graduates.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The recent inclusion of Westpac and SAP brings the Participant contributions to an acceptable level. The CRC targets a very important area of economic growth but will face competition and challenges in capturing the market. The budget allocations appear appropriate for the research and commercialisation activities. The applicant's estimate of the benefits to the economy appeared conservative so the Committee assessed the return on investment as good.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000
Recommended	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000	4,400,000

Overall Comments

The CRC addresses an area of rapidly growing economic importance and has strong Participants commitments. The full potential is not reflected in the bid. Should this application be funded, the Committee recommends that consideration be given to strengthening governance, management structures and the commercialisation strategy. The Committee has noted that commitments of Infosys, Westpac, SAP and NSW State Government are not firm; the Committee made the assessment on the assumption that their commitments were firm.

Additional Funding Conditions

There was a reduction in commitments by Participants between Stage 1 and Stage 2 which was redressed at interview. The Committee made its assessment on the basis of these assurances.

Commitment by Westpac, SAP, Infosys and Fairfax consistent with the information provided in the application and supplemented at interview should be a condition of funding. The leadership of these companies in commercial aspects is also critical.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060049 The Hearing CRC

Overall Rating: A+ Excellent (Band 1)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The Committee considered that the outcomes will clearly contribute substantially to Australia's industrial, commercial and economic growth through significant royalty revenues, industry exports, domestic earnings and jobs growth. The assessment of industrial, commercial and economic growth appears to be robust and indicates an NPV in terms of return to the CRC of \$424m over the period 2008-2017; the total value of the project in terms of economic benefit to the Australian community was convincingly demonstrated to be at least ten times this figure. In addition, the applicant has stated that they will deliver a cost-benefit ratio of 5:1 for commercial and clinical benefits and 70:1 for hearing benefits (productivity gains, carer sparing, improvement in healthy life gains). The application will contribute substantially to the following National Research Priority goals: a healthy start to life; ageing well, ageing productively; preventative health care; and strengthening Australia's social and economic fabric.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Excellent

Comments

The application clearly identifies the parties that will undertake commercialisation activities. The track record of the CRC is outstanding and it has developed a world class capability in the area of cochlear implant and hearing aid innovation. The inclusion of Siemens in relation to hearing aid innovation is considered very positive and the commitment to the CRC very apparent at interview.

Five SMEs are currently involved in the aspects of commercialisation, and the applicant has wide experience and facility in establishing these relationships. The involvement of community/audiologist partners for translation and diffusion of the research and technological advance will assist enormously in the uptake and path to commercialisation/utilisation.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Excellent

Comments

The Appraisal Panel advised that the possible concern that the hearing aid and cochlear implant programs were quite distinct was addressed to its satisfaction and the areas of converging synergy were outlined at interview, as well as the inevitable differences. The Committee recognised the cochlear implant/hearing aid/noise reduction/software areas as relatively mature and already showing clear evidence of achieving the intended results. The close and enthusiastic involvement of audiologist education, dissemination of information and diagnostic, training and treatment modalities is a particular strength in terms of ultimate results. The biomolecular/genetics program is inevitably high risk, but potentially high return. The involvement of the Murdoch and Murigen adds a new and exciting dimension to this CRC proposal. This last program has the clear advantage of being at the international forefront, with only one equivalent effort along a parallel rather than competitive track. The Committee was very impressed with the proposed establishment of HEARNet, a network of clinics, as a means of disseminating information.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

The initial impression that there would be a return on investment was confirmed at interview, across the variety of programs proposed. The apparent low level of un-tied cash contributions was effectively mitigated by loosely tied cash, royalty and licensing inflows and substantial revenue from day one. The Committee concluded the relative contributions from the partners as compared to the ask from the Commonwealth (\$80m compared to \$32m) represented excellent value to the taxpayers.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,151,000	4,214,000	4,461,000	4,727,000	4,729,000	4,857,000	5,415,000
Recommended	4,151,000	4,214,000	4,461,000	4,727,000	4,729,000	4,857,000	5,415,000

Budget Comments

Nil.

Overall Comments

Nil.

Additional Funding Conditions

Nil.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060003 CRC for Advanced Composite Structures

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The aim of the supplementary bid is to add helicopter component manufacture, repair and design to the CRCs research programme. The level of economic activity is concentrated in the region of south east Queensland. The total financial impact of around \$200m over 10 years, together with the possibility of larger amounts through additional exports is significant in this specialised industry.

The new technologies being developed have the potential to be applied in different industries. The programme on developing repair capability adds an additional component to underpinning the development of the aerospace and defence industries.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The Committee identified the particular strengths of this application as the quality of the planning and proposed resourcing of commercialisation/utilisation strategies and the strength of the commitments by end user participants.

The Committee considered the immediate focus of the three research programmes involving Australian Aerospace and other partners was eminently achievable, however, the path to adoption of other activities such as developing a repair business or further engagement of SMEs was less clear.

The Heavy Transport Helicopter opportunity is at the concept stage and will rely on a tender and contract process being developed. The pursuit of alternative opportunities, should the contract for the Heavy Transport Helicopter not eventuate, was not addressed and the Committee notes that this would require the development of an aggressive commercialisation process seeking alternative markets.

The Committee was convinced that the supplementary activities were additional to the mainstream activities of the CRC funded under its current agreement.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Excellent

Comments

The supplementary programme introduces to the CRC new major participants in the form of Australian Aerospace, QMI Solutions, Buchanan Advanced Composites and the University of Queensland. The Panel queried the level of research involved and, the basis for judgement that the probability for technical success was relatively high and was satisfied that an adequate risk assessment process had been employed. Effort will concentrate on adapting and maturing existing technologies.

The Education Programme was further strengthened with the involvement of the UQ School of Engineering providing both research expertise as well as basing part of the academic programme around work being done by the CRC.

The CRC is adequately resourced to begin the supplementary programme immediately.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The Committee believed that the funding sought is appropriate and represented excellent value for the taxpayer provided the tender for the Heavy Transport Helicopter is called. The Committee was confident that the composites developed could be used in other industries, such as boating, if it is not picked up by the helicopter industry. The CRC should explore these alternatives.

The Committee was satisfied that the CRC had executed appropriate export controls on IP management.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	1,207,000	1,207,000	1,207,000	0	0	0	0
Recommended	1,207,000	1,207,000	1,207,000	0	0	0	0

Budget Comments

The Committee found the budget appropriate.

Overall Comments

Nil.

Additional Funding Conditions

Nil.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060010 CRC for Greenhouse Gas Technologies

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

There is an international scientific and growing political consensus that without substantial greenhouse gas mitigation measures there will be severe economic penalties experienced throughout the world. The economic outcomes from this program depend on government policies putting such measures in place. This project will provide a significant contribution to greenhouse gas abatement from fossil fuel through the validation of current research and development being undertaken by the CRC. Australia is a direct beneficiary as a major fossil fuel user and exporter.

The additional funding should enable the CRC to achieve the outcomes planned in the original CRC submission. It will provide a test bed for developing monitoring and injection separation technologies for future identified major commercial projects. While there are other related international projects the applicants provided convincing arguments that this project would provide more comprehensive monitoring and validation and establish Australia as an international leader.

The project will create new opportunities for Australian firms to develop and exploit the technologies. By influencing the design of future large scale projects, it will protect Australian exports of fossil fuels against reductions stemming from a future environment where carbon needs to be constrained and could mitigate negative impacts on other sectors of the Australian economy. For energy generation from fossil fuels to remain competitive against nuclear and other clean industries the adoption of CO₂ sequestration seems inevitable. Climate change is an international issue and this technology will assist Australia in meeting its likely future international obligations.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

Particular strengths of the proposal are the identification of the market or end-use potential and the strategies to engage SME end-users in the CRC's additional activities. There is a strong end-user support from the developers of the next two Australian large scale projects. The nature of the problem to be addressed is such that there is strong industry support within the CRC from fossil fuel producers but not from end-user energy generators. In addition there is strong support from government to support the development of future policy objectives and develop future regulatory frameworks.

The Committee noted this proposal represents only the first but important step towards the full utilisation of the commercial technology within diverse end-user environments. Full commercial utilisation will require further site specific research and development which will be influenced by the technologies developed through this project.

Apart from the engagement of SMEs in the new technology services, the drive for commercialisation and the path to adoption by end-users will depend on new government policies to meet future greenhouse commitments.

Future adoption and acceptance of this technology will be greatly assisted by the CRC's community education and awareness program.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The Committee was satisfied with:

- the expertise and track record of any new participant organisations and the complementarity of their input to that of the existing CRC's participants;
- the originality and achievability of any additional research, the integration of any additional research with the CRC's existing research programmes; and the time commitment and quality of additional key researchers;
- the quality of the key staff and industry participants; and
- the effectiveness of any changes to the collaboration arrangements involving the inclusion of new participants (including SME participants).

The creation of the corporate identity CPPL by the industry partners will enable the project to proceed on a strong commercial basis entering into long term agreements and accepting liabilities beyond the current term and capacity of the CRC, and its individual members within a joint venture.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The commercial outcomes from the development of services and products by SMEs based on the demonstration technologies are estimated at \$100m per annum. The Committee believes there will be a direct impact on the two planned Australian sequestration projects which will protect the WA LNG exports.

With respect to the reduction in the threat to a portion of Australia's commodity export earnings, the claimed benefits would accrue to the industry partners and to the nation but are difficult to quantify.

The funding structure and requirements for the supplementary CRC request have a number of concerns:

- Total expenditure is split \$12.0m private to \$23.0m state/federal government funding with the private funding including the assumed \$4.0m offset for the AusIndustry/Vic government \$8.0m. The Panel considers this to be higher than normal ratio between public and private funding;
- Most of the funding reported is in the first year and is required to assist in the sinking of an additional well to allow the monitoring programme to be put in place; and
- The monitoring process is funded for only 18 months with no commitment to continue this monitoring beyond the life of the CRC.

The Committee recognises that the funding is directed towards research into monitoring and injection processes which will directly assist in the development of future identified projects.

The applicant indicated that, as this is a research project and will not in itself reduce CO2 emissions, it is not eligible for the Low Emissions Technology Development Fund.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	4,800,000	745,000	600,000	0	0	0	0
Recommended	4,800,000	745,000	600,000	0	0	0	0

Budget Comments

Nil

Overall Comments

Nil.

Additional Funding Conditions

Nil.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060025 CRC for National Plant Biosecurity

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The Committee believes that biosecurity in this industry is fundamental to its future to maintain and enhance the current level of export earnings.

The total NPV of \$980m over 20 years is modest, but the cost of not having new methods to protect Australia's stored grain could potentially result in a 25% decrease in stored grain production which would cost billions of dollars, as Australia currently exports approximately \$6b worth of grains annually.

The Committee agrees that this research is important for maintaining Australia's competitive advantage in international export markets.

The risk to both short-term denial of market access and long-term escalation of costs to maintain the quality of grain exports would be addressed by this research programme. The risks are both real and likely to increase and threaten the viability of Australia's grain industries.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The Committee was convinced the CRC has a good knowledge of the magnitude and scope of the biosecurity problems facing the post-harvest grains industry and the likely progression of these problems over time.

The Committee was impressed with the strong level of funding commitment and representation from key State departments and industry players. However, the Committee thought the CRC could have articulated better how the research outcomes would be delivered to and by these participants.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The Committee considered the research programme was clearly thought out and articulated with strong links to existing programmes and end-user participants.

The Committee acknowledged there has been a reduction in post-harvest grain related research since 1995 and thus there exists a shortage of skilled researchers in the field. The Committee was happy with the degree to which the CRC plans to address training and to support post-doctoral research, noting that improved engagement of universities was a primary objective.

The Committee did question the current level of university researchers involved in the proposed programme and thus the availability of appropriate PhD supervision and research mentoring. Despite the sum sought the Committee had some reservations that there were sufficient resources for the broad research projects proposed.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Excellent

Comments

The Committee agrees the funding sought is significant, almost doubling the current annual DEST (CRC Programme) contribution.

The Committee believes that the CRC will need to continue its recent success in increasing its external funding from the industry sector to effectively bring all the proposed research projects to fruition.

The Committee noted the CRC has addressed the withdrawal by AWB and that remaining industry partners have increased their contributions to compensate.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	0	0
Recommended	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	0	0

Budget Comments

Nil

Overall Comments

The Panel advised the Committee that they were impressed with the CRC interview presentation and the clear articulation of the business need that is supported by a good research programme and strong industry support.

The Committee was happy with the education and training but noted that the CRC would have to work on getting a stronger number of key researchers from the Universities to lend to student supervision, mentoring and research.

While it is unusual for a CRC to seek additional funds early in its life (year 1) the emergence of this supplementary bid is directly attributable to the industry partners who saw a clear need. Industry recognised the emerging CRC as the best vehicle for scaled up strategic research in this area.

Additional Funding Conditions

None recommended.

**Cooperative Research Centres Programme
2006 Selection Round
CRC Committee Assessment Report - Full Business Case**

20060005 CRC for Spatial Information

Overall Rating: A Excellent (Band 2)

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.*

Score: Excellent

Comments

The supplementary proposal builds on research that is being carried out by the CRC and aims to extend the application and adoption to a new set of end users. Estimated NPV is \$139m (by 2012) and \$240m per annum thereafter. The Committee felt the claims are plausible, and in view of this being a supplementary bid its outcomes compare well with a full CRC bid.

A key aim of the supplementary bid is to access government data stores anywhere in near-real time. The scientific or technical problems have largely been solved. The bid correctly focuses on research and creativity to address policy and legal issues. All Participants made it clear that in their view only the CRC structure would enable this technology.

Access to government data stores underpins many of the outcomes of this bid. In the absence of that component other outcomes will be reduced, for example the application in the utility industry and in agriculture.

With demonstration of applications in energy and agriculture in Queensland, there is potential to extend to other areas of Australia and other industries and partners. The Committee sees scope for new and improved goods and services as well as the creation and growth of businesses using or providing those services. The benefits are additional and complementary.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes.*

Score: Good

Comments

The Committee was particularly impressed by the engagement of end users and in particular the involvement of an additional ten SMEs. The Committee considered that the thrust towards utilisation and uptake was excellent. However, the challenge is to further engage the SMEs in commercialisation activities.

The addition of further Queensland partners and the focus on Queensland government and end users is a good starting point from which to expand with national and international applications.

The Committee was satisfied with the CRC's handling of IP issues.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results.*

Score: Good

Comments

The Committee was satisfied that time commitments of key personnel were adequate. Those that were low for some key personnel will be deployed in blocks.

The mix of Participants is considered to be highly appropriate.

The Committee had difficulty in assessing the quality of the legal researchers but the key area of licensing appears to bring together government and academic lawyers with relevant experience, impressive qualifications and international links.

In other areas the Committee was satisfied the quality of the researchers is good.

An external assessor questioned the completeness of the data sets. The Committee was satisfied that access to even incomplete data would be valuable.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer.*

Score: Good

Comments

The value of the outcomes relative to the costs is good. The budget and resource allocations are well considered. The funding requested appears modest for the activities proposed. There is significant untied cash and staff commitments from the Participants.

Budget

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Requested	900,000	900,000	900,000	0	0	0	0
Recommended	900,000	900,000	900,000	0	0	0	0

Budget Comments

The funding requested appears modest for the activities proposed.

Overall Comments

The Committee was very impressed with the overall enthusiasm and commitment of all the Participants.

The point was made several times that this CRC structure provides an ideal framework for public/private participation in what will become an infrastructure of the future.

Additional Funding Conditions

None recommended.



Australian Government

Department of Education, Science and Training

Dr Anna Lavelle
Chief Executive Officer
AusBiotech
Level 1, 322 Glenferrie Road
Malvern VIC 3144

Dear Dr Lavelle
Australian Medical Devices CRC (20060053)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

The Committee noted that as all participants had not signed the intention to participate and the response to selection criterion 3 was significantly over the required page limit, the application was technically non-compliant. Despite the application's non-compliance, application was assessed against the selection criteria.

Overall your application was assessed as not adequately meeting the selection criteria. In particular:

- The Committee was concerned at the extreme diversity of the areas of interest of the participants and the difficulty in achieving any real focus in the CRC.
- The application does not demonstrate that the outcomes have the potential to make a substantial contribution to Australia's economic growth. The application does not adequately justify the need for the research. In part this was because it was unclear how the proposed research would combine to contribute to specific commercial outcomes.
- There is little information in the application to show how the participants would collaborate to achieve the desired outcomes and the value-add of the participants to any collaboration.
- Two of the research programmes are not research – they focus on training and promotions.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman
CRC Committee
May 2006



Australian Government
Department of Education, Science and Training

Mr Peter Vaughan
Chief Executive Officer
Value Added Wheat CRC Ltd
Locked Bag 1345 Post Office
North Ryde NSW 1670

Dear Mr Vaughan
AusWheat CRC Ltd (20060027)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

The Committee judged that this application did not meet the following selection criteria:

- the outcomes will contribute substantially to Australia's industrial, commercial and economic growth;
- the path to adoption will achieve the identified outcomes; and
- the collaboration has the capability to achieve the intended results.

The Committee felt the quantitative assessment of economic benefit was weak. The Committee was unconvinced of the basis for the economic growth identified in the application or that a strong market case was made.

There was no indication that the CRC has made appropriate connections with seed company/companies that could deliver on the commercial aspects of this proposal.

The Committee noted that this area of research is highly specialised. The proposal did not adequately describe how key players could deliver on programme outcomes, particularly their capacity in the field of genomic research. The Committee did not feel the application demonstrated the strength of the collaboration for this area of research. Further, the programmes themselves were not altogether new or innovative and the application did not demonstrate there was significant difference between the existing CRC and the proposed CRC.

The Committee noted that while the applicant sought to correct its application in relation to the level of contributions that would be provided to the proposed CRC, this information would not have altered the decision made by the Committee.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman, CRC Committee
May 2006



Australian Government

Department of Education, Science and Training

Dr Keith Hampson
Chief Executive Officer
CRC for Construction Innovation
GPO Box 2434
Brisbane QLD 4001

Dear Dr Hampson

CRC Application: CRC for Construction Innovation (20060009)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

The Committee judged that this application did not meet the following selection criteria:

- the outcomes will contribute substantially to Australia's industrial, commercial and economic growth; and
- the path to adoption (commercialisation/utilisation) will achieve the identified outcomes.

Overall the application did not convince the Committee there was a clear market need and that private sector support would be strong.

The path to adoption requires extensive collaboration from all parties including local/state government, small and large players in the industry and in particular requires substantial commitment from the major builders and developers.

While there was a high level of private sector involvement in the CRC, the resources to be provided from private parties is minor which does not indicate a high level of commitment or support especially when considering that this application is from a CRC that is bidding for a second round.

The potential outcomes that were indicated were based on the size of the industry and did not address the specifics of the research thus it was not possible to assess why this would be more successful than the earlier CRC.

Furthermore, there was little to differentiate ongoing programmes and new programmes or to indicate why Commonwealth funding support was needed outside of sector investment.

It was also not clear that there was a strong and viable research programme underpinning this application, as opposed to a strategy to promote the adoption of a range of tools which appear to have been partially if not wholly developed by the existing CRC.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman, CRC Committee
May 2006



Australian Government

Department of Education, Science and Training

Emeritus Professor Lauchlan Chipman
Chair
StudyGoldCoast
P O Box 8844
Gold Coast Mail Centre QLD 9726

Dear Professor Chipman
CRC for Learning (20060024)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

Overall the application was assessed as not meeting the selection criteria.

The main reasons leading to this assessment are that:

- The application did not demonstrate the economic benefit that this CRC would bring to Australia.
- A strong path to commercialisation was not clearly articulated.
- The research programme needed to be more focused given the complexities of neuroscience, cognitive science, brain research and the diversity of factors that can impact on learning. The Committee did not feel that the research programme was achievable or that it would deliver the required outcomes. In particular the Committee felt that the pharmaceutical component was at odds with the remainder of the application. While this is an area in which commercial benefits can potentially be delivered, it would require a much larger investment with broader involvement to be likely to succeed.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman
CRC Committee
May 2006



Australian Government
Department of Education, Science and Training

Professor Pieter Nagel
Director
Institute of Logistics and Supply Chain Management
PO Box 14428
Melbourne VIC 3001

Dear Professor Nagel
CRC in Logistics and Supply Chain Management (20060032)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

The Committee judged that this application did not meet the following selection criteria:

- the path to adoption (commercialisation/utilisation) will achieve the identified outcomes; and
- the collaboration has the capability to achieve the intended results.

The Committee was unconvinced that the application demonstrated a clear path to market. While intermediaries such as industry peak bodies were involved in this CRC, the Committee noted that the leading players in the logistics field and end users were not involved. This meant the path to adoption/commercialisation was weak. It also meant the collaboration was unlikely to achieve the intended results.

The proposed research programme was very general without sufficient focus so it was not possible to determine its likelihood of success. Further, the Committee was not convinced that it was innovative.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman
CRC Committee

May 2006



Australian Government

Department of Education, Science and Training

Mr Peter Coad
Executive Director
Australian Institute of Marine Technology
PO Box 105
Sandy Bay TAS 7006

Dear Mr Coad
CRC for Marine Technology (20060052)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round.

The Committee judged this application to be non-compliant as only one signed intention to participate was lodged and it was therefore excluded from further consideration by the Committee. While a letter of support from the University of NSW was provided, the Committee felt this was not a firm intention to participate endorsed by the University as required by paragraph 2.2.4 of the CRC Programme 2006 Selection Round Guidelines for Applicants.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman
CRC Committee

May 2006



Australian Government
Department of Education, Science and Training

Dr Lloyd Walker
Director
Novita Children's Services Inc
PO Box 2438
Regency Park SA 5942

Dear Dr Walker
CRC Application: Technology for Independent Living (2006003)

Thank you for submitting your Stage 1 application for the 2006 CRC Selection Round.

The CRC Committee has considered all Stage 1 applications. Unfortunately the CRC Committee did not select your application for further consideration in this Selection Round. The process is highly competitive and on this occasion there were other applications that were judged to be more competitive than yours.

The Committee recognises that this application covers an important area that does not currently receive strong financial support. However, overall the application did not meet the selection criteria relating to:

- The outcomes will contribute substantially to Australia's industrial, commercial and economic growth.
- The collaboration has the capability to achieve the intended results.
- The funding sought will generate a return on investment and will generate good value for the tax payer.

The application did not clearly demonstrate that the CRC would contribute to commercial, industrial and economic growth:

- The Committee was not convinced that replacing imported assistive technology was a sufficiently significant outcome given the relatively small size of the market and the fragmented nature of the industry in Australia.
- Since the activities of the CRC were not clearly outlined, it was difficult to judge the likelihood and potential value of outcomes.
- The case for establishing a CRC was not adequately presented because there was not a strong commercial focus.

Further, the research programme was too broad and diffuse. A strong case was not made that the research programme would achieve the proposed outcomes.

The application listed only one core industry participant and consequently industry contributions to the proposed CRC were very low. The application did not provide a convincing strategy for obtaining additional financial resources.

The CRC Committee felt that the CRC Programme was not the appropriate mechanism to achieve what this application is seeking to do.

If you would like to receive further feedback, please contact me through Kylie Emery on 02-6240-7675.

Thank you for your interest in the CRC Programme.

Peter Jonson
Chairman, CRC Committee
May 2006



Australian Government
**Department of Education,
Science and Training**



COOPERATIVE RESEARCH CENTRES COMMITTEE

Dr Paul Donnelly
Chief Executive Officer
CRC for Innovative Dairy Products
Level 1, 84 William Street
MELBOURNE VIC 3000

Dear Dr Donnelly

Application No: 20040037 – Dairy Biotechnology CRC

I am writing concerning your application for the Dairy Biotechnology CRC in the 2006 Selection Round.

Following consideration of the CRC Committee's recommendations, the Minister for Education, Science and Training, the Hon Julie Bishop MP, has decided on the applications to be funded in this round.

The selection round is a competitive process with all applications being carefully considered against the selection criteria set out in section 4.2 of the *2006 Selection Round Guidelines for Applicants*.

As a result of this process, I regret to advise you that your application was not selected for funding. Your application was not considered as competitive as other applications. For your information, I have attached the CRC Committee's scores and comments against each of the selection criteria for your application.

Should you wish to discuss the issues raised in the feedback, I will be available from 20 January 2007. If you would like to receive further feedback, please contact Kylie Emery on (02) 6240 7675 or at email Kylie.Emery@dest.gov.au and Kylie will arrange a time for me to contact you. Alternatively, Kylie is available to talk about your application with you.

I wish you well in achieving the goals that you have set for the CRC under your existing contract.

Yours sincerely

Dr Peter Jonson
Chair
CRC Committee
22 December 2006

COOPERATIVE RESEARCH CENTRES PROGRAMME
2006 SELECTION ROUND
CRC COMMITTEE ASSESSMENT REPORT – FULL BUSINESS
CASE

20060037 **Dairy Biotechnology CRC**

Overall rating **B** **Suitable**

Selection Criterion 1 *The outcomes will contribute substantially to Australia's industrial, commercial and economic growth*

Score: Satisfactory

The Dairy Biotechnology CRC aims to increase the productivity and export potential of the Australian dairy industry through three programs.

Program 1: Innovative breeding systems. This program extends the work of the current Dairy CRC as recommended in its 5th year review. It aims to deliver key molecular markers to the industry to enhance the rate of genetic improvement in dairy herds, thereby increasing or maintaining Australia's competitive advantage.

Program 2: Healthier, more productive cows (smarter supply chains). This new program involves the application of more sophisticated tools of proteomics, genomics and metabolomics. It relies on complex developing technologies that have not yet generated commercial outcomes. Its delivery relies on an industry partner that is still inexperienced in this area.

Program 3: Milk product innovation. This is a bioactives program, to some extent an extension of existing work that does have a credible scientific and commercialisation strategy. However, the timeframes to market are unlikely to fall within the lifespan of the CRC.

The Committee was satisfied that the projected outcomes from Program 1 of an NPV of \$658m over 26 years was credible, however, the estimated NPVs of \$548m for Program 2 and \$159m for Program 3 are less credible. As Program 1 is a continuation of the current CRC, and given the Committee's conclusion on Programs 2 and 3, it did not consider that the industrial, commercial and economic growth as a result from this application was substantial. The Committee was sceptical of the claim that the CRC was the only source of competitive advantage in these areas. Specifically, Murray Goulburn is sourcing potential bioactives from other groups.

Selection Criterion 2 *The path to adoption (commercialisation/utilisation) will achieve the identified outcomes*

Score: Good

The path to adoption is greatly enhanced by the strong support and involvement of the dairy industry partners who have an excellent track record in adoption of innovation. This is exemplified by the support of the existing CRC. The Committee was convinced that this structure will enable adoption of all outcomes arising from the research programs with the exception of elements of Program 2.

The Appraisal Panel advised the Committee that as a result of responses to questions raised at interview, it was satisfied should commercial opportunities arise in non-dairy market sectors that plans are in place to establish appropriate linkages. However, the Committee was concerned that the breadth of ambition reflected in Programs 2 and 3 may reduce the likelihood of delivery.

The Committee considered that the IP arrangements, whilst adequate, needed further refinement.

As a result of responses to questions at interview, the Appraisal Panel advised the Committee that the inclusion of international industry collaboration was not appropriate in this CRC and that it would not be beneficial to the Australian dairy industry.

Selection Criterion 3 *The collaboration has the capacity to achieve the intended results*

Score: Satisfactory

The Committee was satisfied the CRC has the capability to deliver on Program 1 and 3 but has reservations with significant aspects of Program 2 and was unimpressed with Program 4.

The strength of the research lies in Program 1. This is an extension of an existing Program for the identification of bio-markers and the collaborations and delivery mechanisms are in place. The quality of the scientific input into this Program is particularly notable.

Program 2 involves the development of novel diagnostics based on proteomics and genomics. Given the stage of development and complexity of these technologies this represents a major challenge and carries high technological risk. The participants did not indicate that they recognised these issues. In Research Program 2, there was a failure to appreciate the complexity and high level of risk involved in the proposed research programme by both the researchers and industry partner.

Program 3 again builds on results from the previous CRC, and while the identification of potentially useful bioactives is certainly feasible, the timeframe presented was unduly optimistic. In Program 3, the applicant did not acknowledge the level of competition already active in the field.

Program 4 presented as superficial with very little in terms of innovative educational approaches and training development. It was not clear that value adding opportunities were optimally and/or systematically provided.

Selection Criterion 4 *The funding sought will generate a return on investment and represents good value for the taxpayer*

Score: Satisfactory

The Committee considered that delivery of Program 1 was feasible and would in itself represent good value for money. Outcomes from Programs 2, 3 and 4 are more speculative. However, Programme 1 by itself was not sufficient to justify a CRC.

Overall comment

The great strengths of this CRC are the industry support and Program 1.



Australian Government
**Department of Education,
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COOPERATIVE RESEARCH CENTRES COMMITTEE

Mr Evangelos Lambrinos
Operations and Business Development Manager
University of South Australia
Building M, Mawson Lakes Campus
MAWSON LAKES SA 5095

Dear Mr Lambrinos

Application No: 20060036 Cooperative Research Centre for Future Advanced Rural Manufacturing

I am writing concerning your application in the Cooperative Research Centres (CRC) Programme 2006 Selection Round.

The selection round is a competitive process and the CRC Committee has completed its consideration of all Stage 2 Full Business Cases. The Committee gave careful consideration to your application against the selection criteria specified in Section 4.2 of the 2006 Selection Round Guidelines for Applicants.

As a result of this process, I regret to advise you that the CRC Committee did not select your application for further consideration in the Selection Round. The Committee considered that your application was not as competitive as other applications. Following is feedback from the Committee against each of the selection criteria:

- **Selection criterion 1** - The outcomes will contribute substantially to Australia's industrial, commercial and economic growth: *Satisfactory*.

The proposal has an overly optimistic productivity target of 30% which does not appear to be realistic when the outcomes have not been clearly identified. The Committee was not convinced of the robustness of the economic returns, particularly in expecting an internal rate of return (IRR) of 58%.

- **Selection criterion 2** - The path to adoption (commercialisation/utilisation) will achieve the identified outcomes: *Unsatisfactory*

The Committee considered that the assessment of the market and other end-use opportunities was not robust. The quality of the planning and proposed resourcing

for commercialisation strategies, including communication activity was not adequate and lacked the strength of commitment by end-user participants.

There was also little discussion on strategies to engage additional end-users during the life of the CRC. Industry connectivity was weak, coupled with a lack of appropriate industry partners representing the spread of existing industries in the sector.

The proposal did not recognise that the path to adoption model described for these activities has been seen in Australia previously (i.e. mechanising agricultural systems) and has failed because of poor implementation and market take-up. The application did not address how the CRC would overcome this past poor implementation and this would seem to be exacerbated by the lack of appropriate spread of industry partners.

- **Selection criterion 3** - The collaboration has the capability to achieve the intended results: *Unsatisfactory*.

The time commitments proposed for programme leaders and key researchers was particularly low for the work proposed. There was also some doubt about the strength of the key staff and industry participants involved in the commercialisation/utilisation of the CRC's research outputs. Further, the CEO and four senior managers have not been identified.

The research described failed to recognise other relevant and related research activities, including those being undertaken by the Spatial Information CRC and the Beef Genetic Technologies CRC. Following Stage 1 of the selection round the applicant was asked to address their differentiation from other CRCs and this does not appear to have been done.

There was little evidence of substantial end-user involvement, particularly from the farming community. The training/education programme was not well supported and its success would be critical for the CRC to cultivate training and market development.

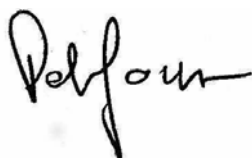
- **Selection criterion 4** - The funding sought will generate a return and represents good value for the taxpayer: *Satisfactory*.

If you would like to receive further feedback on the reasons for the CRC Committee's decision, please contact me on (03) 9223 2410 or by email

Peter.jonson@RoyMorgan.com

I thank you for your interest in the CRC Programme.

Yours sincerely



Dr Peter Jonson
Chair
CRC Committee

31 October 2006



Australian Government
**Department of Education,
Science and Training**



COOPERATIVE RESEARCH CENTRES COMMITTEE

Dr Martin Kumar
Leader
Integrated Resource Management & Biotechnology
SARDI Aquatic Sciences Centre
PO Box 120
HENLEY BEACH SA 5022

Dear Dr Kumar

Application No: 20060038 Integrated Resource Solutions (IRS) CRC

I am writing concerning your application in the Cooperative Research Centres (CRC) Programme 2006 Selection Round.

The selection round is a competitive process and the CRC Committee has completed its consideration of all Stage 2 Full Business Cases. The Committee gave careful consideration to your application against the selection criteria specified in Section 4.2 of the 2006 Selection Round Guidelines for Applicants.

As a result of this process, I regret to advise you that the CRC Committee did not select your application for further consideration in the Selection Round. The Committee considered that your application was not as competitive as other applications. Following is feedback from the Committee against each of the selection criteria:

- **Selection criterion 1** - The outcomes will contribute substantially to Australia's industrial, commercial and economic growth: *Satisfactory*.

While the concept is sound, the deliverables are optimistic. If the tasks could be implemented then the outcome would be satisfactory.

- **Selection criterion 2** - The path to adoption (commercialisation/utilisation) will achieve the identified outcomes: *Unsatisfactory*.

The Committee considered the assessment of market and other end-use opportunities was not robust. Further, the quality of the planning and proposed resourcing for commercialisation/ utilisation strategies, including communication activity, was unsatisfactory. While the proposal contained strengths in its waste management programme, it was weak in relation to the commercialisation of

products derived from waste processing and lacked clarity on the engagement with ultimate end-users.

Finally, in relation to biofuels, the acceptance by end users is speculative and adoption is open to a lot of competition. As large biodiesel and ethanol producers in Australia (Australian Biodiesel Group, Australian Renewable Fuels, CSR, and Manildra) are not involved in the proposed CRC, the Committee assessed that the path to adoption of the biofuels element to be poor. There is apparent overlap with the Environmental Biotechnology CRC and that relationship was either unknown or not addressed.

- **Selection criterion 3** - The collaboration has the capability to achieve the intended results: *Unsatisfactory*.

The proposal did not clearly address the specific request from Stage 1 to explain the capacity of the team to deliver the proposed tasks. There is low time commitment from several programme leaders and key researchers that raises questions on the ability to effectively conduct and complete the tasks suggested. The proposal did not address the competitiveness of the biofuels research in relation to that already funded in Australia under different programmes or the significant progress being made internationally in this field. There are no identified contributions from end users to the training/education programme. The education programme appears to rely only on the input of universities.

- **Selection criterion 4** - The funding sought will generate a return and represents good value for the taxpayer: *Satisfactory*.

The Committee assessed that the waste treatment programme may generate a satisfactory return. However, the application was not as convincing in relation to the biofuel component.

If you would like to receive further feedback on the reasons for the CRC Committee's decision, please contact me on (03) 9223 2410 or by email Peter.jonson@RoyMorgan.com

I thank you for your interest in the CRC Programme.

Yours sincerely



Dr Peter Jonson
Chair
CRC Committee

31 October 2006



Australian Government
**Department of Education,
Science and Training**



COOPERATIVE RESEARCH CENTRES COMMITTEE

Dr Jim Cullen
CSIRO Entomology
GPB Box 1700
CANBERRA ACT 2601

Dear Dr Cullen

Application No: 20060023 Invasive Plants CRC

I am writing concerning your application in the Cooperative Research Centres (CRC) Programme 2006 Selection Round.

The selection round is a competitive process and the CRC Committee has completed its consideration of all Stage 2 Full Business Cases. The Committee gave careful consideration to your application against the selection criteria specified in Section 4.2 of the 2006 Selection Round Guidelines for Applicants.

As a result of this process, I regret to advise you that the CRC Committee did not select your application for further consideration in the Selection Round. The Committee considered that your application was not as competitive as other applications. Following is feedback from the Committee against each of the selection criteria:

- **Selection criterion 1** - The outcomes will contribute substantially to Australia's industrial, commercial and economic growth: *Good*.

The Committee acknowledged that if the outcomes proposed are achieved there would be a substantial return. However, the delivery of these outcomes is subject to the strength of the application against the other three criteria.

- **Selection criterion 2** - The path to adoption (commercialisation/utilisation) will achieve the identified outcomes: *Unsatisfactory*.

The Committee considered the assessment of market or other end-use opportunities was not robust or well addressed.

The path from science to commercialisation was not adequately presented, in particular the discussion did not build on examples from the two previous CRCs. The adequacy of intellectual property management arrangements was not clearly addressed; in particular Plant Breeders Rights (PBR) have not been mentioned.

Finally, the constraints imposed by GM issues in the Australian environment have not been addressed (regulatory constraints).

- **Selection criterion 3** - The collaboration has the capability to achieve the intended results: *Unsatisfactory*.

The Committee considered the originality and achievability of the research was poor and that whilst the researchers in the field of biological control were fully capable of continuing the research from the existing CRC, the CRC did not adequately provide concrete evidence that the previous 12 years of funding have led to large tangible reductions in weed infestations.

Although the time commitments were appropriate, there was little evidence presented to support the capacity to undertake the research in genetic modification and weed recognition systems. Moreover, there are formidable biochemical and molecular challenges to the identification of allelopathic genes and any subsequent expression in crops. There is no discussion as to how the CRC would aim to overcome these science barriers.

- **Selection criterion 4** - The funding sought will generate a return and represents good value for the taxpayer: *Unsatisfactory*.

It was considered unlikely that the proposed programme would be able to deliver outcomes of major value, as indicated under criteria two and three. While the proposal quotes the development of STUBBLE STAR as an outcome of the previous Weed CRC it is unclear as to the extent of adoption or the value of this development.

The proposed net benefit was considered ambitious and not appropriately justified.

If you would like to receive further feedback on the reasons for the CRC Committee's decision, please contact me on (03) 9223 2410 or by email Peter.jonson@RoyMorgan.com

I thank you for your interest in the CRC Programme.

Yours sincerely



Dr Peter Jonson
Chair
CRC Committee

31 October 2006



Australian Government
**Department of Education,
Science and Training**



COOPERATIVE RESEARCH CENTRES COMMITTEE

Mr David Garnett
Acting CEO
Tropical Savannas Management CRC
B42, Charles Darwin University
DARWIN NT 0909

Dear Mr Garnett

Application No: 20060021 CRC for Tropical Savanna Futures

I am writing concerning your application in the Cooperative Research Centres (CRC) Programme 2006 Selection Round.

The selection round is a competitive process and the CRC Committee has completed its consideration of all Stage 2 Full Business Cases. The Committee gave careful consideration to your application against the selection criteria specified in Section 4.2 of the 2006 Selection Round Guidelines for Applicants.

As a result of this process, I regret to advise you that the CRC Committee did not select your application for further consideration in the Selection Round. The Committee considered that your application was not as competitive as other applications. Following is feedback from the Committee against each of the selection criteria:

- **Selection criterion 1** - The outcomes will contribute substantially to Australia's industrial, commercial and economic growth: *Satisfactory*

The Committee recognised that the benefits of the proposal are hard to quantify in dollar terms. The projected NPV is claimed to be more than \$1 billion with almost half this (\$447 m) expected to be gained by reducing the lag time in getting approval for new mining and/or energy ventures through improved scientific argument.

The Committee considered that the proposal did not recognise specialist mining organisations, such as ACMER, who are heavily involved in this type of work. In addition the value proposition in savanna brand beef was not well justified.

The Committee considered that in the best case the implementation and uptake might generate a satisfactory contribution to economic growth.

- **Selection criterion 2** - The path to adoption (commercialisation/utilisation) will achieve the identified outcomes: *Unsatisfactory*

The Committee noted that the delivery of research outputs involved complex issues such as building relationships with the Indigenous community were not sufficiently addressed in the application. The work on building capacity and new enterprises within Indigenous communities is positive, however the values estimated are considered optimistic, due to the complexity of the issues and possible over-simplification of the estimates given the likely constraints to economic and social development. The success of the CRC is strongly dependant on the building of relationships with the Indigenous communities and the Committee did not consider that this was adequately addressed in the application.

The Committee was not convinced that the path to adoption was achievable, given the low level of involvement by industry partners.

On the track record of the existing CRC there was little in the way of existing examples that strengthen the path to adoption.

- **Selection criterion 3** - The collaboration has the capability to achieve the intended results: *Satisfactory*

The Committee considered the researchers identified were appropriate and the governance arrangements were satisfactorily addressed.

Each of the proposed programme areas appears to overlap with the Bushfire, Desert Knowledge and Tourism CRCs and the proposal did not address this issue.

- **Selection criterion 4** - The funding sought will generate a return and represents good value for the taxpayer: *Unsatisfactory*

Independent economic assessment rated the data provided as sound. While the Committee did not question the soundness of the economic assessment it was not satisfied that an investment in this CRC would represent good value for the taxpayer. The Committee was of the view that much of the work to be undertaken by the proposed CRC was already being done or could be undertaken by the individual partners (outside a CRC model) or by other CRCs already being funded by the Commonwealth.

There was little information on the allocation of resources to Programmes.

If you would like to receive further feedback on the reasons for the CRC Committee's decision, please contact me on (03) 9223 2410 or by email

Peter.jonson@RoyMorgan.com

I thank you for your interest in the CRC Programme.

Yours sincerely



Dr Peter Jonson
Chair, CRC Committee

31 October 2006



Australian Government
**Department of Education,
Science and Training**



COOPERATIVE RESEARCH CENTRES COMMITTEE

Dr Michael Southan
Platform Manager
Grain Foods CRC Ltd
PO Box 7
NORTH RYDE NSW 1670

Dear Dr Southan

Application No: SUPP20060024 CRC for Innovative Grain Food Products

I am writing concerning your application in the Cooperative Research Centres (CRC) Programme 2006 Selection Round.

The selection round is a competitive process and the CRC Committee has completed its consideration of all Supplementary Applications. The Committee gave careful consideration to your application against the selection criteria specified in Section 5.5 of the 2006 Selection Round Guidelines for Applicants.

As a result of this process, I regret to advise you that the CRC Committee did not select your application for further consideration in the Selection Round. The Committee considered that your application was not as competitive as other applications. Following is feedback from the Committee against each of the selection criteria:

- **Selection criterion 1** - The outcomes will contribute substantially to Australia's industrial, commercial and economic growth: *Unsatisfactory*.

The Committee did not believe the funding would generate a major direct return on investment for Australian business. There is little evidence to support the claim that exports of grain are likely to increase, given this would appear to be reliant on an international company opening its niche markets to Australian producers.

The commercial outcomes are highly speculative given the exclusive licence arrangement with World Wide Wheat (W3). Assumptions regarding acceptance and adoption of the new feed source in foreign markets are not justified. Competition from other wheat exporting countries is not adequately addressed.

- **Selection criterion 2** - The path to adoption (commercialisation/utilisation) will achieve the identified outcomes: *Unsatisfactory*.

There is no discussion of an Australian market, or Australian end-users and other market barriers are not addressed, such as what risks might occur in seeking export approval from the Wheat Export Authority.

The proposal has not indicated that there is any support from the National Aquaculture Council and the proposal is clearly not Australia focused and not in touch with the Australian aquaculture industry. Supply chain considerations have not been adequately addressed.

The principal research will be of direct benefit to a single international player with free access to all the intellectual property and the issue of future licence arrangements for Australian producers was not adequately addressed.

- **Selection criterion 3** - The collaboration has the capability to achieve the intended results: *Unsatisfactory*.

The Committee questioned the originality and achievability of the research, together with the time commitment and quality of the key individual researchers. There is similar work being conducted elsewhere both in Australia and by the USA Department of Agriculture (USDA) and these have not been recognised and addressed.

The time commitment by several key researchers and programme leaders is particularly low and raises questions as to the capacity to deliver on the research programmes.

- **Selection criterion 4** - The funding sought will generate a return and represents good value for the taxpayer: *Unsatisfactory*.

The Committee noted the economic analysis was not developed or validated independently. The proposal again is of principal benefit to a non-Australian company. It appears that the intellectual property is being developed for direct financial gain by an overseas organisation. The return on investment including the value of the proposed outcomes relative to the costs was considered to be poor.

If you would like to receive further feedback on the reasons for the CRC Committee's decision, please contact me on (03) 9223 2410 or by email Peter.jonson@RoyMorgan.com

I thank you for your interest in the CRC Programme.

Yours sincerely



Dr Peter Jonson
Chair
CRC Committee

31 October 2006