

REPORT OF THE ADVISORY COMMITTEE
TO THE
CENTRE FOR THE RESEARCH AND TECHNOLOGY OF
AGRO-ENVIRONMENTAL AND BIOLOGICAL SCIENCES
(CITAB)

VILA REAL

10th Sept 2012

INTRODUCTION

The Advisory Committee's first report in 2010 made a number of recommendations for improving the overall output of the research. These included:

- Reconsidering the titles of the main Working Groups such that communication with outside customers clearly indicated the main purpose of the research and the unique character of each group.
- Analysing present and future activities for each group and analysing where overlaps were occurring and where synergies could be built.
- Considering what purpose was served by the number of groups and sub-groups and how they might be better balanced.
- Ensuring the names reflected the interaction and continuum between the groups
- Constructing a roadmap that took into account the actions required following a SWOT analysis and other actions designed to improve the overall success of the research
- Clearly identifying the main stakeholders who could benefit from the research undertaken.

The DIRECTORS of CITAB responded to our recommendations by producing a proposal for ACTIVITIES PLANNING in 2012 where the major objectives for the immediate future were to:

1. **Improve international visibility in the 3 main Groups**
2. **Ensure that there was greater scientific coherence within the Groups**
3. **Increase scientific productivity (through publications in JCR journals)**
4. **Increase collaboration with stakeholders; and**
5. **Increase human resources to obtain a critical mass in all area**

1. IMPROVING INTERNATIONAL VISIBILITY.

CITAB had 3 *international research fellows* from Canada, the UK and Germany who are advising and working with the research teams in biodiversity and climate change mitigation in high value Portuguese crops. ***This reflects an important development and should be extended as much as possible throughout the Working Groups.***

To date there have been 2 *newsletters* produced which detail important advances in the S&T being undertaken and these have been given wide circulation internationally and amongst Portuguese stakeholders. ***This activity should continue.***

In addition CITAB might go further and ***continue to improve external communications*** both with their current activities and by demonstrating how they are delivering useful outputs. ***The***

potential to expand their consultancy work and to assist industry in exploitation should also be given a high priority.

Unfortunately CITAB have been **unable to secure current support under the existing EU Framework Programme**. This is a major source of funding for many leading laboratories. There should be a more concerted attempt to inform the Centre's staff of the potential calls that are relevant to their overall goals. Many laboratories have a dedicated service that alerts staff and assists them with the applications. **CITAB needs an International Office to help research teams** in these tasks. This function could be shared with other regional research centres and /or through the development of strong links with Portuguese consultants with a wide knowledge and experience of how to identify the relevant initiatives, identify partners, write proposals and manage consortia.

2. ENSURING GREATER SCIENTIFIC COHERENCE WITHIN THE GROUPS.

The number of tasks between each project area has been reduced in line with the recommendations of the Advisory Committee.

The major scientific activities of CITAB have been divided into 3 main Working Groups_

- **Sustainable Agro-Food Chains**
- **Ecointegrity**
- **Biosystems Engineering**

Each one of these groups has distributed their main focus between 2 main strategic projects which, in turn, have been divided into 4 specific tasks. **All of these Groups are now clearly focused on areas of work which can be seen to be directly of relevance to the Portuguese economy.** This is a very positive step to assuring a greater coherence of CITAB as a whole.

The overall tasks that have been outlined by each Working Group are quite general in scope and would enable much of the existing work to continue without an analysis of which areas of activity are likely to be of greater importance in 10 years time and why. A focus on deliverables that can clearly be seen to help the development of the Portuguese economy in the next decade is important and **CITAB should continue to critically analyze the scope of their individual research tasks so that they are more goal-orientated** and less targeted on research themes.

Some overlap in tasks is noted (e.g. Project 1 Task 4 has links with Project 2 Task 2; Project 3 task 1 has overlaps with Project 1 Task 1). It is not evident whether this is because there is a direct interaction between the Working Groups in these areas or not. This should be clarified. **In general it is not very clear to the Advisory Committee where the Working Groups do act cohesively in project formulation and implementation.**

Apart from developing more interactive projects **CITAB has stated its wish to create multi-disciplinary teams and introducing new technologies** where relevant. **The Centre should define where skills are lacking and actively recruit these skills** to ensure that all research objectives can be met. **This may also extend beyond the issue of research skills into the area of administration and management.** Identified gaps will need to be filled either through recruitment or through effective collaboration with other Centres.

3. INCREASE SCIENTIFIC PRODUCTIVITY (THROUGH PUBLICATIONS IN JCR JOURNALS)

The Centre's commitment to teaching is heavy and this limits the time senior staff are able to devote to research and development and outreach activities.

As the basis for improving general and individual scientific productivity **there has been an increase in the number of scholarships in 2011** compared with previous years. This will enable CITAB's integrated members to be more productive and is a worthwhile investment for both students and the research output.

The last full year showed an average of 1,31 JCR publications / full member of CITAB. Three patent applications were lodged of which one has been successfully granted so far. The goal is to increase the average to 2,0 JCR publications per staff member. This target is less important than the publication of work in high impact journals. In addition, **credit need to be given to those individuals who have had their work patented and who are forging close links with stakeholders resulting in a direct uptake of the research.**

4. INCREASE COLLABORATION WITH STAKEHOLDERS

As an academic institution it is evident that there should be a strong research push as opposed to a technology pull. Nonetheless the connection of the research to the market (either social or economic) needs to be kept constantly in mind. **CITAB should wind down areas of research where there has been little success** in attracting funds in the recent past, where there is no evident customer for the work, or where the Centre is not at the leading edge of research nationally and internationally. These resources should be directed towards those areas of research with greater opportunities for funding and/or where there is a clear customer interest.

CITAB has now defined the relevant Portuguese stakeholders. What is still not clear is the extent to which these stakeholders are willing to contribute time and/ or resources to the costs of the research that is planned. **CITAB should set defined targets for engagement with their stakeholders that each Working Group should meet.**

In addition it is of the utmost importance that the overall thrust of the research is directed at solving future challenges rather than analyzing past impacts. Ecological research can investigate past impacts but **it is important to focus on analyzing how economic activity can be stimulated whilst minimizing environmental impact.**

5. INCREASE HUMAN RESOURCES TO OBTAIN A CRITICAL MASS IN ALL AREAS

In the current climate it is a major challenge to bring about change, especially when there are no new financial resources. It is notable that of the 74 integrated members **there is an imbalance in integrated members between the three Research Groups** with Sustainable Agro-food chains having twice the number of permanent staff compared with the Biosystems

Engineering Group. The Advisory Committee commented in its previous report that **the** EcoinTEGRITY Group was the most scientifically mature but this is not reflected in the number of permanent staff allocated to it. **CITAB needs to build on its strengths and, where necessary, run down those areas that are less successful.**

The Advisory Committee was made aware of the current FCT policy of encouraging research consortia amongst centres of complimentary research activities. This policy should enable create a critical mass of human resources for all relevant activities. However, as mentioned elsewhere in this report, it will pose management challenges.

In addition to the above five objectives it is essential that **CITAB should continue to focus on ways of increasing income.** A notable drop in income from projects occurred between 2011-12. The current economic problems in Portugal will have made the funding for new research initiatives much more difficult. It is noted that to date (Sept 2012) only 15% of the allocated FCT budget from 2011/12 has been received by CITAB.

It is evident that **there was a very significant rise in income from consultancy work.** This is laudable. The potential exists to satisfy a demand for postgraduate training from emerging economies as well as the EU. **CITAB must make a determined effort to secure all sources of funding including organizing workshops, international conferences, and training.** But given the current economic situation in Portugal CITAB must look to EU RTD funding as a major priority for income.

It is always easier to implement change when extra resources are made available, especially when there is a need to integrate new technologies into the Centre and to encourage greater multi-disciplinarity. **Strategic alliances with national and international research groups could help to improve funding opportunities.** Given the current economic challenges CITAB is responding to the challenges in a more creative way than in the past where FCT income was assured.

Finally **the Advisory Committee would like to see more attention paid to a detailed evaluation of the IMPACT of the research on Portuguese society and other stakeholders.** The value of investment in R&D is not measurable solely on the benchmarks of publications and patents. A detailed analysis should be made of how CITAB's research has had an impact on the economy and the social benefits that have accrued from past work and which current work is targeted on.

FUTURE STRATEGIES

The Centre has made contacts with five Research Centers based in the Northern region of Portugal and with 4 key stakeholders (Portugal Foods, ADVID, FIPA and CAP) as a basis for the formation of a Research Consortia in Agro-Food and Forestry.

The effectiveness of any strategic alliance must be bring together complementary skills that will add value to the research output in terms of its quality and its effectiveness in meeting societal and economic goals.

Complementary to any such alliance will be the development of an effective management plan. Any major alliance will require an effective Director who can command the respect of the research teams and who has the authority to steer the work to ensure that the defined goals and outputs are met. If this is an economic goal then it will be important to ensure that a representative from the industry is closely directing the research.

CITAB's rationale is the development of Agri-Food and Forestry Chains in Portugal. This rationale necessarily directs the research towards more applied S&T than giving a focus to pure academic research. Indeed it can be argued that the field is necessarily applied with the primary focus being on bringing together skills that are multidisciplinary.

ACKNOWLEDGEMENT

As on previous occasions we would like to thank the CITAB personnel for their very kind hospitality during our stay in Vila Real. We were given the opportunity to have a free and open debate with all of the research team and not solely the Directorate. This reflects on the Centre's good management practices.

We were very impressed by the quality and clarity of the presentations made to us. This greatly facilitated the review.

Jean-Marc CHOUROT

Gregorio Antolin GIRALDO

David Gordon LINDSAY