

Appendix 1

Framework for Brazil-UK Research Networks Pilot Programme

Context

1. In April 1998 the Minister for Education and Employment, Baroness Blackstone, together with the Chief Executive of the Higher Education Funding Council for England (HEFCE) visited Brazil.
2. Following the visit various possible collaborations between the two systems have been discussed. One attractive proposition is for UK universities to join in the Brazilian Collaborative Research Networks which are being put together to promote University-Industry-Government partnerships in that country. The objective of this is:

To establish networks in important sectors of scientific and technological research (where competence and capability already exist) and direct their efforts towards a specific problem posed by a client from the public or private sector.
3. The Brazilian Collaborative Research Network Programme was organised by the Ministry of Science and Technology as part of its policy of fostering technological innovation in industry. The State administrations have matched Federal funds for selected networks. In the State of Rio de Janeiro, for example, the State agency responsible for the scheme (Carlos Chagas Filho Rio de Janeiro State Foundation for the Endowment of Research – FAPERJ) has selected nine networks and additional funding of US\$2 million has been allocated.
4. The State of Rio de Janeiro has already selected projects and partners for the first nine networks and is keen to explore the possibility of turning some of these into international research networks with the UK Universities and industry as partners. Funding started in October 1998 and the interim evaluation after three months looks good. The Director of the Rio networks is now considering in which of the nine projects they would like to have British partners.
5. As a result of an invitation from the State of Rio de Janeiro to the HEFCE, a pilot project on international research networks has been devised and, if successful, this could act as a model for future cooperative activity.

Principles

6. In establishing a framework for this programme of collaboration, it is believed that activities and projects will be developed on the basis of shared values and principles such as the following:
 - build on the premise that there is medium to long-term mutual benefit
 - provide opportunities for sharing of experience

- encourage strategic innovation
- build on the success of existing links and their strengths, where these can be identified
- maximise opportunities and resources wherever possible
- focus on the production of tangible outputs with clearly identified benefits where possible
- use clear criteria for the selection of participants
- use expert contributions at all levels (national, institutional and department/subject), and encourage partnerships between national as well as international partners, wherever this is feasible and appropriate
- include monitoring and evaluation of activities and benefits to partners.

Strategic aim

7. The aim of this programme would be to contribute to the healthy development of higher education in the UK and Brazil by learning from each other's experience, and to strengthen our links and strategic collaboration.

Rationale

8. The principal aim of the pilot project is to test the propositions that consortia of UK university research programmes can be enhanced in priority areas through international collaboration and that university expertise can be exploited to the mutual advantage of the universities and industry in the partner countries. The activity will be highly focused around themes chosen to be of direct interest to industry or the public sector in both countries. This can also support UK Government initiatives to develop links with Brazil.

9. Each Brazilian network is organised around a central theme directed towards a specific problem posed by an industrial or public sector partner that commits resources. The research will be driven by the application. Some of the features considered to be essential for success are:

- The network is based on established competence and not on additional staff or infrastructure.
- At least three different institutions must be involved.
- The network should be organised so as to work on a well-defined problem that is of importance to the State.

10. In Rio nine themes were selected out of 79 original proposals. To develop the international network it was proposed that we map the UK research expertise and couple industrial or public sector interest onto the Brazilian themes to see which was the best fit and hence most likely to be successful. The nine Brazilian projects started in October 1998 and the director of the Rio scheme has chosen the three most likely to benefit from UK participation.

11. To link up with this structure to form the international network the UK component will need to adopt a similar strategy and in order to validate the model it will be important to have at least three networks linked with Rio de Janeiro. This will allow the pilot scheme to embrace several different types of research projects and to assess different networking strategies. The pilot study envisages the establishment of three networks. A typical UK component of one network might have the following characteristics:

- Based on a theme of current interest to Brazil and also the UK.
- Three University Departments/Research Units of international repute working on a topic in a subject area in which they are already national leaders.
- An industrial or public sector partner who is keen to exploit this topic area and prepared to support it financially.

12. HEFCE-funded international collaborative projects should include activities that have tangible outputs and clearly identified benefits. The advantages for the partner countries would be:

- Improvement of research and higher education links between Brazil and the United Kingdom.
- Positive outcomes of partnerships between higher education institutions and industry in each country.
- Pioneer a new form of international research collaboration with a strong applied focus.
- Encourage university groups to establish strategic partnerships.
- Exploitation of university expertise.
- Export potential for associated industrial partners.

13. The programmes can be viewed on two levels. The first level provides an overview of suggested activities, with partners, funding and resources, outputs and potential benefits identified within a time-frame. The second level will include detailed costings in each area. These will be completed during the planning phase, once all the identified partners have agreed their respective contributions.

Inputs

14. Partners, contributors, funding and other resources will need to be agreed for each activity. Definitions, including the criteria for selection of participants, terms and actual inputs for funding and resources required will need to be approved by partners before individual projects start.

15. The most important characteristic that will be sought is synergy between the individual UK university groups and their Brazilian counterparts. There must be a community of interest. The successful UK university groups will have:

- enthusiasm to develop joint research with Brazilian counterparts
- vision to see advantage in access to specialist staff, facilities, natural resources or exploitation potential
- high academic standing as evidenced, for example, by the research ratings
- well established activity in the subject area
- established partnerships with an appropriate company or companies
- an application for the output of the research which will be used by the partner industry (which itself is prepared to invest in the project).

16. Each partner will have clearly defined roles and responsibilities in respect of input. These will also need to be agreed prior to commencement.

Processes

17. It is proposed that Professor Brian Clarkson, advised by subject specialists, identify those groups that best match the three Brazilian networks in objectives and methods of working and that fit the criteria above. They will then be invited to develop a specific proposal. The proposal would specify the:

- application of the joint work
- value added by working in this form of partnership
- structure of the group and its strengths in the chosen area
- methods, research plan
- work schedule
- project milestones and the expected outcome
- publication/dissemination of results and exploitation
- expected value to the company including export potential
- costed proposal.

18. Once the UK matching partners have been identified they would be invited to apply for a facilitating grant from the HEFCE for a three year period. Funding from the HEFCE over three years for three UK networks would be £100,000 each. It will be left to each network to propose the way in which the start-up funds might be deployed in its own particular circumstances. In addition to this it is hoped that further funding will be attracted for each network and that the UK networks will find additional sponsors. Where appropriate, applications could be submitted to one of the Research Councils for a programme grant for the UK partners. This would have to be judged in competition with other proposals.

19. The subject areas for the first three networks chosen to match the Brazilian expertise and industrial interest are:

- catalysis for the petroleum industry
- corrosion protection
- phytopharmaceuticals.

Outputs

20. Outputs should be identified for each stage of the programme. It should be clear how these will contribute to the achievement of the benefits identified.

Timing

21. The timetable should allow inputs, processes and outputs to be clearly identified within a workable time frame. The HEFCE will fund the pilot project for three years.

22. The initial activities proposed have been discussed with Brazilian national partners. Timings and thoughts on inputs, processes and outputs are now suggested in the attached table. Timings for all activities need to be agreed with those concerned.

Monitoring and evaluation

23. The programme of collaboration should be monitored and evaluated, and feedback to and from contributors should be scheduled into the monitoring process. The final evaluation report on the research collaboration model will be prepared by Professor Clarkson.

Dissemination

24. Outputs should be disseminated wherever this is appropriate.

Project management responsibilities

25. Consultation should take place with partners in Brazil on the framework and the contributions that can be provided. Professor Clarkson has been commissioned to oversee the pilot project and report back regularly to the HEFCE.

Next steps

26. The proposed activities in the attached planning spreadsheets now need to be reviewed, considered and agreed by all partners. Key contributors should agree detailed programmes and costings for individual projects/activities.

27. Detailed planning and preparation should be completed as soon as possible. In order that this might be achieved, the HEFCE proposes that members of its International Team and the consultant, Professor Clarkson, should undertake a planning visit to Brazil in November 1999. The terms of reference for their visit will be:

- to meet British Council officers and receive a briefing on current progress
- to meet representatives of Ministry of Science and Technology (and others as appropriate) and discuss with them and British Council the collaborative programme
- to discuss with Professor Clarkson the outcomes of the Network project meetings and evaluation seminars which he will attend in Rio de Janeiro and Brasilia

- to agree the resources which the partners are prepared to commit to the programme.

31. Following this visit, Professor Clarkson will report back to the HEFCE and begin the preparation of a proposal which will be submitted to the HEFCE in January 2000. This will be for the establishment of the International Collaborative Network with Brazil.