

FUTURE FOOD SYSTEM AND AGRIBUSINESS CHALLENGES FOR EDUCATION

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Introduction

For this presentation I have chosen to consider the nature of 'change'. Not only the significance of change for future agribusiness and food industry development, but also the implication of change for education. The development of appropriate agribusiness education programs hold the key to continuing business and industry progress - and I will discuss this contention with particular reference to agribusiness courses at the Royal Agricultural College (RAC).

Changing Times

As the old saying goes - 'nothing is as permanent as change' (Heraclitus). Change has always been with us - but the rate of change is certainly accelerating these days. All we can say is that future will continue to be unpredictable - and will certainly be very different to today. For these reasons of uncertainty, some agribusiness companies do not attempt to predict the business environment beyond the next 3 to 5 years (Taylor, 1995). The extent of the challenges of change for agribusiness and the food system were recently highlighted by Goldberg (1995) - as we approach the new millennium and attempt to prepare ourselves for the next century.

It is essential, therefore, to try understand the nature of change, and the pressures contributing to change, to be able to formulate appropriate education programs in particular, of greater relevance to our future needs.

Pressures for Change

Change is multi-dimensional. No one single facet changes on its own. There are also different dimension to a changing environment - most of which are changing at the same time. Understanding these changing can provide a much better basis for planning the approach, content and delivery of agribusiness education to meet future requirements.

Changing pressures on the agribusiness and food industries have recently been reviewed (Golberg, 1995; Boehlje, Akridge and Downey, 1995; Rabobank, 1995; Strak and Morgan, 1995), and can only be considered in outline in this account as justification for continuing education development. Pressures for change in the food industry web, which have been grouped as technological; consumer orientated; market-driven; institutionally-linked, and globalization influences (Taylor, 1995), illustrate the challenges.

Technology Change

New products, which may be derived increasingly through genetic engineering, biotechnology and agrotechnology (Fowden, 1994), and new methods of food preparation, packaging and storage systems will continue to be developed. Added-value providing more novelty, freshness, and convenience characteristics in food products will also be increasingly marketed as a result of new food technology processes.

Methods of shopping through supermarkets, hypermarkets and electronic means based on new information technology (such as E-mail) and the Internet will increase in importance, in particular perhaps in developed countries.

Food preparation in the home will continue to be revolutionised by such developments as micro-wave ovens and new cooking equipment.

The rate of development and adoption of new technology is unlikely to get any the less, and will continue to rapidly change the food industry worldwide.

Consumer demand

Changes in population behavior, fashion and cultural influences in society will continue to markedly affect consumer demand.

Recent examples of such changes include :

- increasing numbers of working womens, reducing food preparation times
- increasing leisure time (enforced or otherwise)
- increasing sophistication of tastes
- increasing income resulting in more meals taken outside of the home.

Some of these changes prevail in some countries more than others, and many of these trends are conflicting - being more significant for some sectors of particular societies

than others.

Markets Factor

Changes may be brought about through market power and position, of the retailer sector in particular.

Competitions through own-brand development by supermarket retailer in the United Kingdom, for example, has generated considerable consumer choice. The increasing size of supermarket groups in European in recent year has contributed substantially to their status and financial powers in the marketplace.

The 'Cola Wars' represent a classic example in recent years of radical changes in marketplace (Taylor, 1995) and these types of challenges will continue to the old order.

Institutional Issues

Continuing government interference in the food industry in most countries seems inevitable. Regulatory influences - both national and international - will continue to prevail on trade. Changes in laws relating to health requirements; nutritional status and the transport of food will continue to be enacted. International agreements on trade, such as the Uruguay Round of the General Agreement on Tariffs and Trade, (GATT), or expansion/change of trading blocks such as the European Union can markedly influence the international food web.

Globalization

The worldwide sourcing and distribution of food products and raw materials is subject to continuing development and change, and the future business environment will be increasingly international.

It is this globalization emphasis, and its increasing impact on world business and trade, that reinforces the significance of international understanding derived through the activities of associations like IAMA.

Agricultural Development

The previous considerations have related directly to changes in the food sector, but similar impacts on agribusiness derive from continuing changes in agriculture. These influences include increasing concerns for environmental issues and more sustainable farming systems; animal welfare; pesticide and fertilizer-use. All of which can impact on consumer preference and the sourcing of produce.

Challenges for Education

The rapidly changing environment for business and continuing challenges for successful agribusiness development demand appropriate education and training support. The approach, content and delivery of education programs needs to be kept under constant review to meet the changing circumstances. Education system need to continually adapt and to be as dynamic as the industries, business and professions being served.

The responses of higher education to a changing world should be guided, according to UNESCO (1995), by three issues in particular - relevance, quality and internationalization. The three factors can provide essential elements for a new vision, equally applicable to agribusiness education as to future provision more generally.

Relevance

Agribusiness education is essentially vocational and applied in nature - of clear benefit to Society in general, and organizations involved in the food supply and agricultural industry support in particular. It has clear links with the world of work (Harling, 1995). Appropriate agribusiness education should provide, therefore, for career opportunities and job creation in a wide range of private sector and public organizations involved in agriculture and the food sector.

In the pursuit of relevance close links have been developed by agribusiness education providers with commercial companies, of many types. These include Visiting Speaker Programs; staff exchange between industry and academia; collaborative research; consultancy; case-study development, and student work experience.

These links are particularly valued for enriching teaching programs. The Royal Agricultural College has established an Industry Associate Scheme with the School of Business and particular companies, which provides executive speakers and research support for agribusiness programs. The College also has an active sandwich (internship) programme, involving student work experience

with agribusiness organizations worldwide. Recent placements include, as examples, a plantations company in Sarawak, a prawn farm in Thailand, a flower farm in Columbia, a research station in Mexico and exotic game farm marketing company in Texas. Other institutions have similar initiatives, and these often result in improved employment prospects for the students - sometimes with the same sandwich employers.

The Case-Study approach to participate teaching and research involving active company involvement's has been particularly well developed by some institutions, such as Harvard and PENSA, University of Sao Paulo (Zylberstajn and Farina, 1995).

More Opportunities need to be found to foster active links between academia and commerce (and/or the public sector) - to the benefit of students, agribusiness as a discipline, and industry. there are many benefits to the private sector of such co-operation, to the mutual benefit of all parties.

Strong commercial links provide a basis for on going professional development initiatives beyond graduation for employees as part of continuing education programs for 'cradle-to grave' provision. An approach which is increasingly important for competitiveness during times of rapid change.

Quality

Quality assurance with in education has become an increasingly important issue, and it seems likely that it will be

come increasingly significant with the further development of mass higher education. It begs the questions, however, of the nature of 'quality' - and what it means in relation to education provisions. Agreement needs to be reached on the basis of 'quality' - before a quality assurance system can be established, and quality measured.

The active ingredients of a higher education experience include the development of scholarship and relevant knowledge; the development of vision and ability to cope with new challenges; the encouragement of self-learning, and the development of powers of mature judgement (Davies and Glanfield, 1995). If these elements are agreed objectives of a degree experience - then the 'fitness' of a particular programme to meet these objectives can be assessed as basis for quality measurement.

The quality assurance system can differ between institutions, but it must be clear in its specifications and procedures and enable the institutional aims to be achieved. It should, preferably, be free from individual personal bias; be repeatable over time; involve all teaching staff; include the specification of standard, and prompt continuous improvement. It should, therefore, be clearly understood both internally and by external authorities. Because of the emphasis being put on quality issues it is important that we are clear on definitions and approach.

At the Royal Agricultural College we measure degree course quality in several ways through a mixture of internal and external audit procedures. The internal processes include :

- the monitoring of course programmes by students and staff
- teaching assessment by students
- peer review of teaching
- appraisal of staff performance by institution management.

The external audit influences include :

- External Examiners reports
- review by external validation authorities and professional bodies
- industry report through Advisory Councils and invited responses
- feed back from graduate surveys
- feed back from employers.

These last two elements of customer reaction following graduation, on the appropriateness of their courses to career aspirations, and feed back from employers relate closely to the relevance of degree programme - and fitness in relation to the world of work.

In the United Kingdom quality assessment is required by statute for all degree programmes, with responsibility to the Higher Education Quality Control (HEQC). Judgments are made on academic grounds, following institutional reviews. Until recently institutions had to undertake a further quality audit in relation to funding from the Higher Education Funding Council (HEFC). These bodies have recently been combined to reduce duplication of efforts and pressures on institutions.

Requirements for quality control in the United Kingdom were established to maintain the academic reputation and standards British degrees, and to provide a better basis for accountability for public funding support.

Codes of practice and quality assurance systems have recently been agreed in United Kingdom for international higher education, involving collaboration with overseas institutions (HEQC, 1995).

The customer (the student), receiving a degree education, can be reassured by quality assurance of not only relevance, but responsiveness to their influence as well as institutional requirements.

Internationalism

To effectively support the increasing globalisation of business and trade, agribusiness education programmes must provide an international perspective.

There are many persuasive arguments for internationalising the agribusiness curriculum. Baker and Woolverton (1994) justifiably include the need for greater inter-cultural awareness; the requirement for a better understanding of the global environment, and the development of an international perspective in students. Benefits include improvements in the employability of students as a result of their higher value to business, following international exposure and development.

An international perspective can be provided in agribusiness programmes in several ways through a curriculum emphasis (in particular subjects); through faculty development overseas, student exchange or internship in other countries, and the inclusion of foreign language instruction in the degree programmes.

Internationalism is being fostered in various ways in my own College (Tuner, 1994). Language tuition is provided, mainly in french, german and spanish to all students - which is compulsory for students on the BSc (Honours) International Agribusiness Management programme. The MBA in European Agribusiness degree is taught on three campuses in different countries, which provides an in-depth understanding of the European Community, and the research element of the MSc in Business Management for the Agriculture and Food Industries is undertaken in various countries by students following the taught postgraduate diploma element. Overseas project involvements of this particular type can provide the basis for continuing international co-operation of the benefit to international agribusiness experience (Davies and Newton, 1992)

The RAC has formal links with 50 organizations and education institutions worldwide, and is actively through an International Centre in consultancy and training overseas. Co-operative research programmes between countries (e.g. Turner, Davies and Junid, 1995) can also provide a particularly useful basis for future integration into teaching, in particular through the case study approach.

Other Education Issues

Different approaches to higher education, in an attempt to improve access, through part-time study, distance and/or open learning provide their own challenges for quality consideration.

Increasingly, however, flexibility is being introduced into education programmes through modular credit-based structures and greater emphasis on 'student-centred' learning.

Funding pressures on education, and the conflicting need to continue to expand education provision is providing a particular challenge in most countries. The need for 'enterprise' and commercial initiatives in education is becoming more significant - these influences can also impinge on teaching approaches (Davies, 1995).

Each of these issues, and other, will continue to change the face of future education systems - and affect agribusiness and food industry development, hopefully for the better.

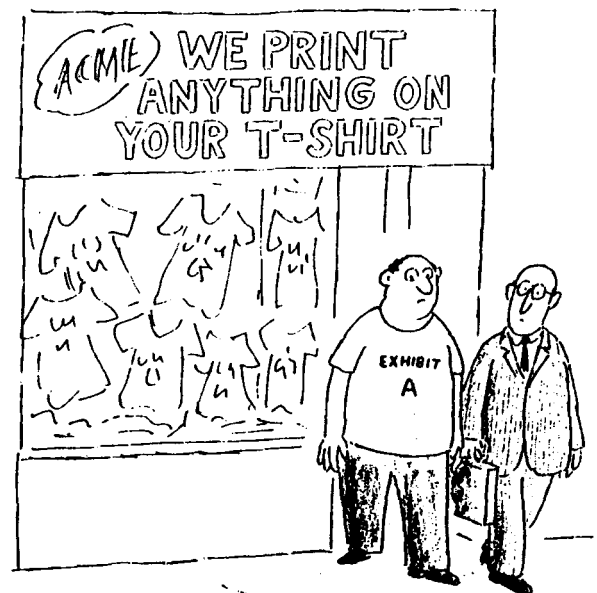
Conclusion

Coping with change, and preparing for future changes are the most difficult issues to face for the future. Adapting education programmes sufficiently rapidly to meet future challenges requires an in-depth understanding of the pressures for change, as discussed. IAMA provides an ideal forum for sharing understanding knowledge and ideas from different countries relating to the world's most important industries of agriculture, food supply and business. Education considerations and student involvements in IAMA simply reinforce its relevance and role.

References

- Baker, G.A. and Woolverton, M.W. (1994). Agribusiness Graduate Education: The International Component. *Agribusiness*, 10, 5, 443 - 449.
- Boehlje, M.; Akridge, J. and Downey, D. (1992). Restructuring Agribusiness for the 21st Century. *Agribusiness* 11, 6, 193, - 500.
- Davies, W.P. and Newton, D.J. (1992). Profiting in ASEAN Agribusiness and Agrotechnology through Education and Training. Proceedings of the First ASEAN Agribusiness and Agrotechnology International Conference. Asean bankers Association. Kuala Lumpur, Malaysia.
- Davies, W.P. and Glanfield, P. (1995). Quality Assurance in UK Higher Education: Audit Challenges and Performance Assessment of Agribusiness Programmes (Abstract). Proceeding of the International Agribusiness management Association Education Symposium, Paris, France. May.
- Davies, W.P. (1995). Encouraging Enterprise in Higher Education: A UK Perspective. Proceedings of the International Seminar - Developing an Enterprise Culture in Education. Institut Pertanian Bogor, Bogor Indonesia, April.
- Fowden, L. (1994). Agrotechnology: Past, Present and Future. Proceedings of the International Conference on Agrotechnology in the Commonwealth: Focus for the 21st Century. C.S. Ioh et al (Eds) Singapore Institute of Biology. 9 - 20. Singapore.
- Golberg, R. (1995). Issues and Challenges Facing the Food System in the 21st Century. *Forefront. IAMA Bulletin* 3, 2. December.
- Harling, K.F. (1995) Differing Perspectives on Agribusiness management. *Agribusiness* 11, 6, 501 - 511.

- HEQC (1995). Code of Practice for Overseas Collaborative Provision in Higher Education. Higher Education Quality Council, London.
- Rabobank (1995). The International Food Industry: developments and strategies. (Eds) A.M.A. Heijbroek; A.M. Nederhoed; A.J van Potten. Rabobank Nederland, Utrecht, Holland.
- Strak, J. and Morgan, W (Eds) (1995). The UK Food and Drink Industry. A sector by sector economic and statistical analysis. Euro PA and Associates, Northborough, Cambs, UK.
- Taylor, J.F. (1995). Influences Shaping the International Food Chain. Land, Food and People; The Challenges for Future Food Supply, Agricultural Development and the Environment. (Ed). W.P. Davies. RAC Publications, Cirencester, UK.
- Turner, C.J.; Davies, W.P. and Junid, S.B. (1995). Creating Internal Markets in Malaysia for Non-traditional Home-Produced Foods. *Agribusiness*, 11, 5, 391 - 403.
- Turner, C.J. (1994) Agribusiness Curriculum Development. (Abstract). Proceedings of the International Agribusiness Management Association Congress - Global Partnering in Agribusiness. 39. Caracas, Venezuela.
- UNESCO. (1995). Policy Paper for Change and Development in Higher Education. United Nations Educational, Scientific and Cultural Organization, Paris, France.
- Zylbersztajn, D and Farina, E (1995) Approaches to Agribusiness Education in Brazil. (Abstract). Proceeding of the International Agribusiness Management Association Education Symposium, Paris, France. May.



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