

THE RESPONSE OF HEIs TO REGIONAL NEEDS *

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Introduction

Within advanced economies, there is a growing concern that teaching and research within universities should be directed towards specific economic and social objectives. Nowhere is this demand for 'specificity' more clear than in the field of regional development. Whilst they are located 'in' regions, universities are being asked by a new set of regional actors and agencies to make an active contribution to the development 'of' these regions. These demands are driven by new processes of globalisation and localisation in economic development, whereby the local environment is as relevant as the national macro economic situation in determining the ability of enterprises to compete in the global economy. Within this environment, the local availability of knowledge and skills is as important as physical infrastructure and as a result, regionally engaged universities can become a key locational asset and powerhouse for economic development.

Whilst universities have always contributed to the social and cultural development of the places in which they are located through a sense of civic responsibility, the emerging regional development agenda requires regional engagement to be formally recognised as a "third role" for universities not only sitting alongside but fully integrated with mainstream teaching and research. The requirements for regional engagement therefore embraces many facets of the "responsive university" which are being generated by evolving priorities within the higher education system. These priorities include: meeting the needs of a more diverse client population; for lifelong learning created by changing skill demands; for more locally based education as public maintenance support for students decline; for greater links between research and teaching; and, for more engagement with the end users of this research.

For many universities regional engagement is therefore becoming the crucible within which an appropriate response to overall trends within higher education is being forged. Responding to the new demands requires new kinds of resources and new forms of management that enable universities as institutions to make a dynamic contribution to the development process in the round. Within the university the challenge is to link the teaching, research and community service roles by internal mechanisms (e.g. funding, staff development, incentives and rewards, communications) and within the region to engage the university with all facets of the development process (e.g. skills enhancement, technological development and innovation, cultural awareness) in a region/university "value added management" process within the "learning region". Within this context, the principle objective of the paper is to provide an understanding of the ways in which higher education institutions (HEIs) are seeking to respond to regional needs. The secondary objective is to guide the formulation of policy by national and regional governments seeking to mobilise HEIs towards the achievement of regional development goals.

To achieve these objectives, this paper falls into three parts. The first expands upon the discussion of regional development and the territorial dimension to higher education policy. The second part, discusses the response of HEIs to the changing context in relation to

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teaching, research and community service. The final part provides the conclusions and recommendations. It summarises the factors driving the adoption of a regional role by HEIs and the barriers that might be inhibiting progress on this front. Some final remarks about the contribution of universities through critical debate to the creation of a common understanding of priorities for regional development amongst regional stakeholders.

HEIs AND TERRITORIALITY

The capacity of an HEI to respond to regional needs is influenced by conditions which result from the inter-relations between several geographic scales from the global to the local and also from the historical legacy of each HEI and its region. Policy makers need to be aware of the demands exerted upon HEIs from each of these different spatial scales. These include: restructuring in the global economy; changing national contexts for higher education; the particular characteristics of the region in terms of the regional economic base; regional policy; the regional educational system and the particularities of each institution. This first part of this paper discusses this context for HEIs through a review of territoriality and HEIs.

Problematising territoriality

Territoriality is an extremely complex and problematic concept for HEIs. Universities, in particular, exist as autonomous institutions which are often characterised by low levels of local territorial embeddedness, regulation at the national level and preoccupation with international and national academic and research communities. All HEIs embrace some notion of territoriality within their mission statements and institutional plans; these range from general notions of contributing to ‘society’ and international research to more precise commitments to local and regional communities. A report for the Committee of Rectors of European Universities stressed the growing urgency for HEIs to take engagement with external partners seriously:

in order to respond better to the needs of different groups within society, universities must engage in a meaningful dialogue with stakeholders... universities which do not commit themselves to open and mutually beneficial collaboration with other economic, social and cultural partners will find themselves academically as well as economically marginalised (Davies, 1998).

Moreover, the UNESCOs ‘Framework for priority action for change and development of higher education’ (1998) has stated that HEIs should:

develop innovative schemes of collaboration between institutions of higher education and different sectors of society to ensure that higher education and research programmes effectively contribute to local, regional and national development.

In spite of these positive statements, the issue of how they should respond to regional needs is relatively uncharted territory for most HEIs, especially for the older and more comprehensive universities. Most HEIs strive towards teaching and research activity of national and international significance. Thus a recent survey of UK universities asked senior managers to comment on how they could best describe the territorial role of their institution. Only 2% described their university as “a community-based institution serving the needs of the local area/region”, whilst nearly half described it as “an institution seeking to contribute to the local area and also develop international strengths” and one-third described it as “an international

research institution seeking to provide support to the local community where it does not conflict with international research excellence” (DfEE, 1998).

Research within HEIs tends towards an international/national rather than a regional perspective and this reflects the priorities of governments and their research councils as the main funders of research. Clearly, research with a regional perspective can increase as the funding base of HEIs is diversified, but most universities are reluctant to increase regionally-based teaching or research as they see this as the role of the non-university higher education sector. Moreover, it is often the opinion of regional partners that the best way for HEIs to meet regional needs is by functioning as a national and international centre of teaching and research excellence. The institutional profile (such as subject mix, funding sources, balance between teaching and research, size etc.) of an HEI is an important influence on its territorial focus. However, the connections between institutional profile and territoriality is extremely complex. For example, HEIs that are highly specialised as training or technical institutions, may either be local or globally orientated institutions. Moreover, large comprehensive universities whilst developing strong international and national teaching and research activities also have the resource base to engage with the region.

Consideration of territoriality also raises the issue of institutional independence. HEIs which operate within nationally regulated and funded regimes generally function as autonomous institutions and have control over the nature of teaching and research. However, the introduction of a regional agenda within such national systems is likely to require a stronger regional planning framework which brings together a number of regional stakeholders to co-manage and co-ordinate and regulate the management and funding of teaching and research. Such mechanisms may pose a challenge to institutional autonomy.

HEIs, then, operate within multiple and overlapping territories and usually manage a portfolio of activities ranging from the global to the local. The advantage of the presence of one or more HEIs in a region, is that expertise from these different scales can be a major asset to the community. The challenge is to simultaneously manage the various territorial portfolios so that they reinforce each other and to establish mechanisms through which the national and international connections of HEIs can be mobilised to benefit the region.

Although, many HEIs are adopting a rhetoric of regionalism within their mission statements, the term ‘region’ can be equated by some academics with parochialism and be seen as the antithesis of metropolitanism and cosmopolitanism - adjectives which are heavily associated with the historical development of many old universities. Moreover, the term region can refer to many different scales. It can refer to the immediate hinterland, a large part of a country, a state in federal countries or wider pan-national areas. In particular, regions are emerging, or are being defined, which cross national boundaries and consist of elements from several national territories. Thus there are pan-national regions such as the Baltic and Scandinavian regions, the Pacific region incorporating Australia and south east Asia, and the European Community.

It is also important to appreciate the multiplicity of ways in which an explicitly regional role for an HEI can be interpreted. For example, a self-conscious regional HEI may be defined by associating itself legally or through its name with a particular territory; by operating within a regional recruitment area; by interacting with regional research partners and the regional industrial base; or by offering service and outreach facilities to the regional community. HEIs, then, have many justifications for calling themselves ‘regional’ institutions according

to the way in which the relationship with the region, and its stakeholders, is prioritised. It is clear, then, that the issue of territoriality for HEIs is not unproblematic. It is vital for all those who work in, or come into contact with, HEIs to appreciate these issues of territoriality and the ways in they are addressed within HEIs compared to most other public and private institutions.

Reconceptualising territorial development and governance

The changing role of HEIs in regional development must be seen within a broader context of globalisation and the changing nature of regional development and governance, notably the shift in emphasis from material to non-material assets (knowledge, skills, culture, institutions) and the resurgence of the region as an important arena for political and economic activity. This section briefly reviews this changing context and outlines new forms of territorial governance based upon the concept of the learning region.

Emerging patterns in regional development - the learning region

For effective regional engagement it is vital that those steering the regional interests of HEIs develop an understanding of the enormous transformations which have occurred in the capitalist world economy since the mid-1970s. This can be viewed in terms of a shift in phases of capitalist development from a system based upon mass production, Keynesianism, macro economic management and the welfare state to one characterised by widespread economic and political de-regulation and the emergence of more decentralised forms of economic organisation. These changes have had major implications for economic development strategies and territorial governance especially in terms of the dynamics which have been brought to bear upon securing regional economic success from the twin processes of globalisation and localisation.

The post-war period until the mid-1970s represented a highly regulated economic and political regime in the west known as Fordism which was characterised by the mass production of standard goods, a strong state-led social welfare system and a strong division of labour tasks. However, it is posited that this system has now given way to an emerging regulatory system of post-Fordism characterised by a new, and more regional, geography of capitalist activity.

One approach to understanding this new economic environment can be found in the concept of the learning economy which emerges from studies of national systems of innovation (Lundvall, 1992; Lundvall and Johnson, 1994). Lundvall defines the learning economy as an economy where the success of individuals, firms and regions, reflects the capability to learn (and forget old practices); where change is rapid and old skills get obsolete and new skills are in demand; where learning includes the building of competencies, not just increased access to information; where learning is going on in all parts of society, not just high-tech sectors; and where net job creation is in knowledge intensive sectors (high R&D, high proportion with a university degree, and job situation worsens for the unskilled). The learning region depends upon network knowledge which refers not only to the skills of individuals but the transfer of knowledge from one group to another to form learning systems - the institutional infrastructure of public and private partnerships. Because network knowledge is highly dependant on interpersonal relations, it can most readily be developed within a particular region.

Moreover, the link between the information society, Information, Communication Technologies (ICTs) and learning regions is considered to be mutual and self-reinforcing. Regions with strong learning cultures that support the development and uptake of ICT applications may be able to develop competitive advantages and utilise the information society as a mechanism for growth, whilst the ICTs themselves are constructed through certain social networking processes and contexts to be found in particular regions (the Silicon Valley phenomena). For less favoured regions the implications are clear: without some attempt to make better use of ICTs the prospects of cohesion and convergence are poor.

A number of features can be discerned within this system, all of which have resonances for the management of HEIs. First, that the economy itself is becoming more regionalised in that there is a new geography of capitalist activity associated with, on the one hand, the growing internationalisation of production and the mobility of global capital flows and, on the other, the declining regulatory capacity of the nation-state. This shift entails a resurgence of the region through the integration of production at a regional level and the decentralisation of large corporations into clusters of smaller business units and the greater role of smaller businesses as sub-contractors, suppliers and franchisees. Economic activity, then, is dominated by interfirm relationships, or what Sabel et al. (1989) termed 'collaborative manufacturing' which emerges at the regional level and allows both competition and collaboration to flourish. While nation-states remain the basic unit of economic and political organisation, they are losing their monopoly on policy making, representation, legitimacy and questions of identity.

Secondly, in the context of the lifelong learning agenda, learning and teaching activities have moved away from a linear model of transmission of knowledge based upon the classroom and are becoming more interactive and experiential, drawing upon, for example, project work and work-based learning much of which is locationally specific. Within this changed context, learning and knowledge creation take on different characteristics. In particular, it is important to differentiate between codifiable knowledge (know-what such as data etc.) and tacit knowledge such as know-how (skills), know-who (networking) and know-why (experience). These latter forms of 'hybrid knowledge', then, become the most valuable type of knowledge depending upon interpersonal relationships, trust and co-operation and most readily developed within the region.. Moreover, according to the hypothesis presented by Gibbons et al. (1994) there has been a shift from Mode 1 knowledge creation which is homogeneous, disciplinary and hierarchical and which characterises the autonomous and distinct academic disciplines, to Mode 2 knowledge which is heterarchical, transient, transdisciplinary, socially accountable and reflexive and undertaken in a context of application.

Thirdly, in the wake of the declining regulatory capacity of the nation-state, the institutions which regulate economic activity are being regionalised. At a regional level, then, an array of intermediate organisations are emerging which create in any particular locality an 'institutional thickness' (Amin and Thrift, 1994) comprised of a membership of institutions which will typically include firms, chambers of commerce, government agencies, R&D laboratories, training and educational institutions including universities. This membership constitutes the basis for 'associative governance' (Hirst, 1994) which signifies a shift from state regulation to regional self-regulation. Moreover, these networks rely upon amateurs who generate dialogue between the various organisations. The success of this network of organisations is underpinned by a 'soft infrastructure' or what has been called 'social capital' (Putman, 1995) and 'untraded interdependencies' (Storper, 1995), which includes aspects

such as trust, norms, values and tacit and personal knowledge. These are key elements of the socio-cultural milieu within which regional networks of interfirm organisation are embedded (Cooke, 1998, 9).

Universities in the learning region

So where do universities fit into this? Firstly, in the light of this regionalisation of the economy, universities are confronted by a new client bases in terms of both teaching and research. Traditional relationships with large corporations and nationally-based firms and research organisations are being supplemented by a new regional client base comprised of clusters of firms and the emergence of regionally-based supply chains of SMEs. Such trends have important implications for the skills required of graduates and the way in which universities manage the interface between degree courses and the labour market. In particular, there is a greater demand for the provision of vocational and professional education from universities which reflects the needs of the regional economy. Universities have much to gain in adapting to these evolving realities of a more regional economy. In particular, regional networking can be thought of as an institutional survival or strengthening strategy for universities. As Morgan comments: "Learning, of course, is worth little if there are no opportunities to implement what has been learned" (1997, 501). In this sense, a strong and supportive regional economy will create a competitive university, and a strong university has more to offer a region. However, it should be emphasised that universities, whatever their missions, remain autonomous institutions with allegiances to multiple territories rather than specific regions. In this regard, their relationship with territory is more ambivalent than that of public authorities with a legally defined domain.

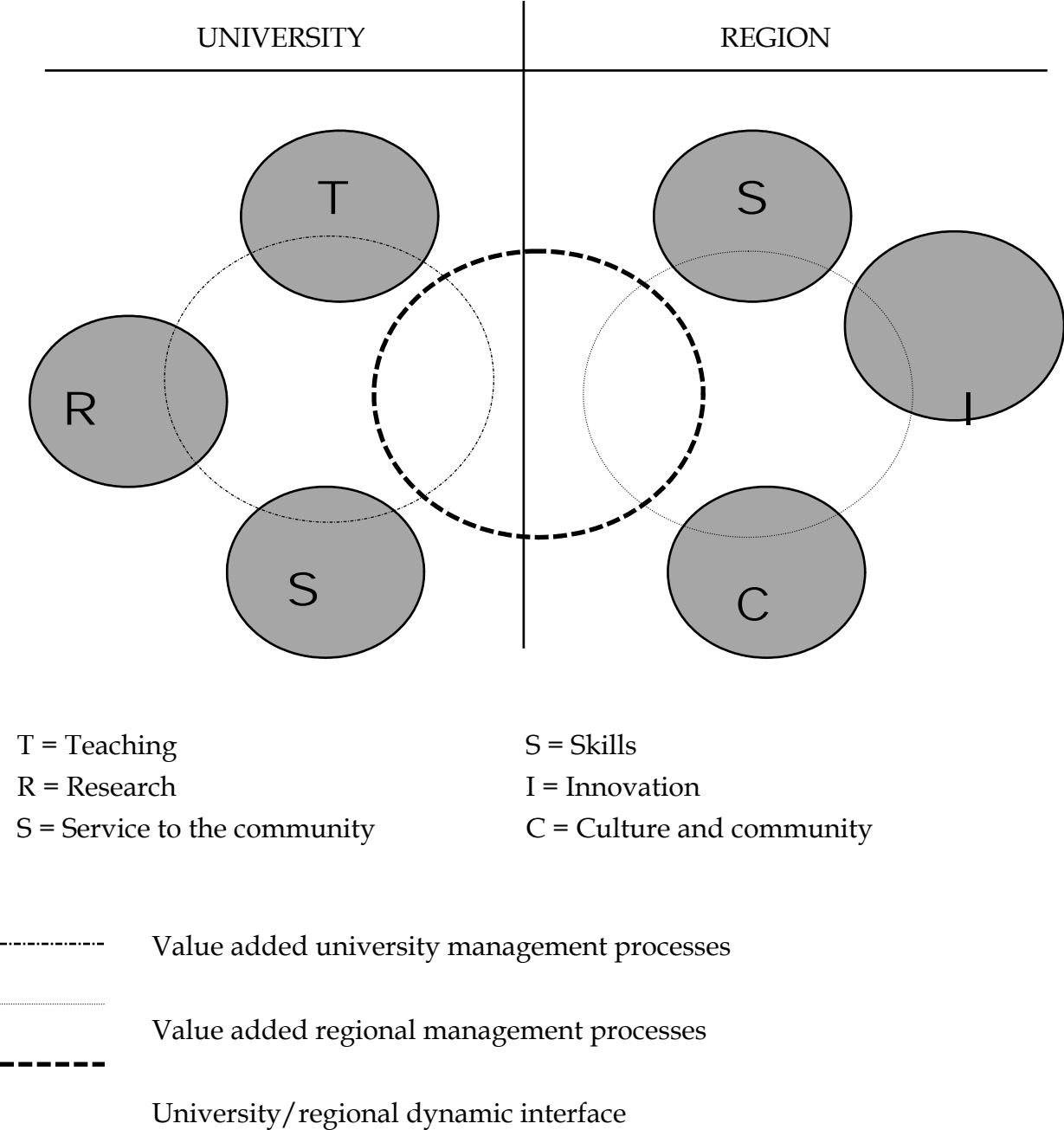
Secondly, the emergence of inter- and trans-disciplinary research centres within universities which engage with external research partners and increasingly rely on external funding sources can be situated within the shift to a new mode of knowledge production (Gibbons et al., 1994). Because interactive forms of learning are inherently bound in time and space, university teaching and research shows tendencies towards localisation, or regionalisation. It is within this new regional context for learning and knowledge that connections can be forged between the teaching and research agendas of universities. In particular, the university acts as a conduit through which research of an international and national nature is transferred to specific localities through the teaching curriculum.

Thirdly, historically, universities have played a key role in nation building and continue to underpin a wide range of national institutions through the participation of academic staff in numerous public bodies. However, as the institutions which regulate economic activity become more regionalised, universities, through their resource base of people, skills and knowledge, increasingly play a significant role in regional networking and institutional capacity building. Staff, either in formal or informal capacities, can act as regional animateurs through representation on outside bodies ranging from school governing boards and local authorities to local cultural organisations and development agencies. Universities also act as intermediaries in the regional economy by providing, for example, commentary and analysis for the media. Universities, then, make an indirect contribution to the social and cultural basis of effective democratic governance, and ultimately, economic success through the activities of autonomous academics. A key challenge is to enhance the role which universities play, through their staff and students, in the development of these networks of trust and civic engagement, and hence in the wider political and cultural leadership of their localities.

This new environment confronting universities from within higher education and from regions contains important implications for institutional management. In the past, higher education in most countries has been primarily funded by national governments to meet national labour market needs for skilled manpower and to provide a capacity to meet national research and technological development needs. In terms of higher education management this has generally meant a single paymaster, relatively secure long term funding, the education of a readily identifiable and predictable population of full-time students in the 18-24 year age range and destined to work in the corporate sector and public service and the provision of a well-founded infrastructure to support the pursuit of individual academic research and scholarship. Such a regime imposed limited demands on university management and indeed supported the ethos of academic self management and collegiality. The new agenda in higher education requires universities to act corporately and to respond to the demands of a new and diverse set of clients and agencies representing them, many of whom are directly or indirectly concerned with regional development.

Figure 1 attempts to summarise the above discussion in diagrammatic form. It focuses upon the processes which link together all of the components within the university and the region into a learning system. Within the university, the challenge is to link the teaching, research and community service roles by internal mechanisms (funding, staff development, incentives and rewards, communications etc.) which make these activities more responsive to regional needs. These linkages represent 'value added management processes'. Within the region, the challenge for universities is to engage in many of the facets of the development process (such as skills enhancement, technological development and innovation and cultural awareness) and link them with the intra university mechanisms in a 'university/region value added management process'. Put another way, the successful university will be a learning organisation in which the whole is more than the sum of its parts and the successful region will have similar dynamics in which the university is a key player.

Figure 1: The university/region value-added management process



However, one issue which is problematising the engagement of universities with their regions is the use of ICTs to harness new forms of educational provision. In particular, the idea of the 'virtual university' as an extension of the traditional place-based institutions and the development of the information society could be seen as a threat to the university wherein its potential role in a region is countered by its weakened setting as a 'place' of learning. In particular, access to the internet for students may affect the status and authority of university teachers, undermining their knowledge monopoly. The emergence of electronic management of university education with the "hollowing out" of existing universities through on-line course provision by self-employed academics may therefore disembed learning from its regional setting. All such major developments will pose threats and opportunities for regions struggling to adapt to the needs of the learning economy, and policies for education, training, innovation, research and regional development all need to take into account how HE systems might be affected by such developments.

Such dynamics concerning global economic and political restructuring and the concomitant emergence of new forms of territorial governance based upon the 'region' are a vital backdrop, then, for those steering HEIs in their efforts to formulate strategies to meet regional needs. However, the extent to which the regional organisation of economic activity as set out above implies sustainable regional development is unclear, especially in the light of the dependency of many regional economies on footloose global inward investment and branch-plant activity. In this sense, there are trends towards a heightened differentiation of performance between core and peripheral regions as a result of a more open and unregulated global economic and political system. HEIs can play an important brokerage role within regions in terms of promoting debate on the suitability of different models of regional development and their ability to meet the needs of the regional population.

RESPONDING TO REGIONAL NEEDS

Nevertheless, HEIs are responding to this changing environment by establishing new institutional management structures to meet more effectively the demands of various regional stakeholders. Such changes are occurring not only within the traditional teaching and research roles of universities, but also within their community service role. These three roles are discussed below.

Teaching

Universities have always played a role as a source of, and repository for, knowledge. Access to this knowledge base has been achieved through the development of teaching. A core function of HEIs, then, has been to educate through the dissemination of its knowledge base. Whilst this teaching function was initially offered to a national elite, of politicians, industrialists, the clergy and civil servants, through the 20th century access has continually been widened to much larger groups. In spite of this extension of access, the development of the teaching function within long established HEIs has not been influenced by regional needs as most still recruit from, and provide graduates for, national and international markets.

However, the context for education provision is changing as a result of demands to create more regionally relevant education systems. Such demands are a result of policy changes from national governments, especially those associated with the concept of the 'learning society', and from impulses within regions to enhance the relevance of the teaching function. Newer institutions and those incorporated into the higher education sector from outside are creating or have inherited a tradition of providing locally relevant education. For all types of

HEIs the challenge is to balance the need to meet regional labour needs with the need to encourage the national and global mobility and competitiveness of staff and students and to position the institution in the global market. In order to realise the potential of HEIs for regions, there is a requirement to bring together all regional education providers to reduce duplicative functions, enhance collaborative provision and create a regional learning system by expanding the overall size of the education market. However, this agenda is problematic as there are tendencies towards the localisation and delocalisation of teaching and learning as the regionally embedded HEI is renegotiated with the emergence of the virtual or placeless HEI. HEIs are adapting in a number of ways to anticipate the changing nature of teaching.

Firstly, HEIs face choices in terms of prioritising different student markets. Most HEIs operate, or would like to operate, in nationally and competitive student markets. In particular, larger comprehensive, urban universities and subjects such as medicine are generally very competitive and over-subscribed and, as a result, are more selective and nationally/internationally focused in terms of student recruitment. Many HEIs then, would regard the attraction of the best students to the region from any source as a positive influence on regional development.

However, there are compelling arguments for making greater provision for more locally-based HE, not least because of the circumstances facing certain groups seeking higher education. For example, the steady shifting of costs in recent years away from the taxpayer and onto a full-time student's present or future family is a powerful reason why more full-time British students have each year chosen to go to a university close to their home (Robson, 1997). Further, most full- or part-time mature entrants (aged 25 and above on admission) are home-based and choose a local institution and most employed people seeking short courses or continuing professional development (CPD) activity prefer a relatively local supplier. Many HEIs already function as distinctly local institutions, or have histories which connects them with the regional community and consequently have developed a strong role in educational provision for the region. In addition many national systems such as the USA have regionally defined catchments for student recruitment. Further, it is essential that rural, sparsely populated and old industrial regions retain the best students from the regional school system rather than losing them to other more prosperous regions.

Secondly, graduate retention is an important mechanism through which a region can retain people with innovative, entrepreneurial and management capabilities. However, the levels of graduate retention in a region reflect an interplay of several different factors such as: the ability of HEIs to provide courses and skills training which reflect the needs of the regional economy; the robustness, diversity and size of the regional economic base; the pull factor of 'core' regions; the current state of the national economy; whether the student originates from the region; the type of higher education institution attended; and, the socio-economic background of the student.

HEIs are a major influence on the functioning of the regional labour market. When considering their relationship with employers in a regional context it is useful for HEIs to consider themselves as being located at the head of an 'education supply chain' which produces educated people for the region. However, unlike a business enterprise situated in a similar supply chain position, HEIs devote relatively few resources to 'marketing' their products (graduates) or to responding to signals about what the market wants. This lack of marketing can be partly attributed to student funding regimes which reward 'production' but not 'sale' and the poorly developed mechanisms to undertake the marketing function outside

careers services. If HEIs were in part rewarded for the delivery of graduates into employment, including local employment, they would clearly have an incentive to put more effort into marketing and economic development.

HEIs are confronted by a complex market place which consists of a variety of enterprises with a variety of skills needs which have to be catered for. These include the mature organisation (Type A) provides well established career routes and vocations for graduates, can choose to have relationships with selected universities and can influence the curriculum; the rapid developing company (Type B) will normally be inexperienced in graduate recruitment and there may not be the sectoral coherence of Type A organisations; and finally, the traditional small enterprise (Type C) employing less than 50 and probably less than 20, are unlikely to have mechanisms for selecting and screening graduates or to provide induction and this makes articulation of needs problematic. As a result, such companies generally do not want or cannot cope with “green” graduates and there may be the poorest coherence between traditional degree programmes and the skills/knowledge which type C companies require.

Small firms with less than 250 employees account for the vast majority of firms in most national contexts. Increasing numbers of graduates are finding their way into such smaller firms via a number of routes such as pre-university placements, based learning and sandwich courses, vacation placements, part-time work, recruitment fairs, apprenticeships, teaching company programmes, recruitment at masters degree level and schemes for unemployed graduates. Because of the great diversity of these small firms, it is very difficult to identify common needs. However, they generally require graduates to have acquired key transferable skills through their studies and work-based education, especially since SMEs do not have the resources, personnel and time to undertake skills training. Yet, it is unrealistic to expect HEIs to have the ability or knowledge to prepare graduates for the diversity of employment situations which they may encounter within SMEs. A vast array of programmes have emerged to bridge the gap between the disparate worlds of HEIs and SMEs. Building partnerships and support mechanisms such as apprenticeship, matching and induction schemes, marketing and curriculum modification can ease the transition between the different institutional cultures and work practices. The challenge remains to develop a regional graduate Labour Market Information (LMI) system to systematically collect, process and disseminate information on the movement of graduates in the region.

Thirdly, HEIs can localise the learning process by drawing upon the specific characteristics of a region to aid learning and teaching. The creation of specialist locally-oriented courses which draw upon the characteristics of the region can give HEIs a competitive advantage in national and international student recruitment pools. Further, locally-oriented courses, especially those which are closely connected to growing industries in the region, can offer graduates greater chances of success and mobility in the regional labour market. Locally-based teaching, then, is an effective way of exposing the region to the work of HEIs and the skills and talents of its students. Such teaching often draws upon representatives from local industry to add practical experience to the teaching process. Moreover, project and course work, particularly at the post graduate level can be undertaken collaboratively with regional partners and can be focused upon regional issues.

However, overly localised teaching programmes can have several shortcomings; if tied too closely to the economic base of the region, courses can be susceptible to cycles of growth and contraction in the regional economy; regionally-oriented courses may have a limited appeal in terms of attracting non-local students and could also adversely affect the performance of

students in national labour markets; and finally, many HEIs regard their role as generating expert knowledge and providing graduates of the highest quality. One cannot assume that young people in (or outwith) a region will be attracted to study those courses which are particularly in the region's economic interests. Indeed, there is evidence that in areas of economic hardship, home-based students will see a degree as a way of escaping from the region and will explicitly reject area. There is a real tension here. HEIs have always enabled young people to leave their home region in search of the kinds of jobs they want elsewhere, as well as being a means of matching the acquisition of knowledge and skills to the region's developing economy. HEIs, then, have to seriously consider the problems associated with localising the curriculum.

Fourthly, HEIs are increasingly playing a regional role in meeting professional and vocational educational demand in the labour market. Technological change means that skills acquired are soon rendered obsolete and career progression is no longer linear. The implication is that there is a significant increase in the demand for adult and continuing education and a greater emphasis on lifelong learning, and on the critical role of skills development in maintaining and increasing national competitiveness. As a result of such changes, there have been many efforts to ensure that HE provision more closely matches what are seen to be local, regional and national skills needs though adult liberal education and tailored and specialist continuing professional development courses for regional organisations, often undertaken in partnership with other local bodies. However, in the absence of lead agencies to articulate the skills needs of the region, it is often difficult for HEIs to organise suitable provision.

Finally, HEIs are moving away from traditional forms of course delivery and the standard three year bachelor degree in order to provide flexible packages of higher education to a variety of audiences. Most HEIs have extended their teaching activities to offer access to HE for traditionally under-represented groups and in many national contexts, HE provision is being tailored to meet the specific requirements of indigenous groups and ethnic minority/cultural groups. HEIs are also experimenting with new forms of course delivery especially to those located in rural or marginal areas hitherto poorly served by higher education.

As noted earlier, developments in telecommunications networks (such as broadcasting, cable, Internet, World Wide Web) are challenging the role of the place-based university in the creation, preservation and transmission of knowledge. Developments in ICTs enable a whole host of actors, including HEIs and other public and private institutions – individually or in partnership, to mould, and respond to, educational needs in radical ways. Thus, the monopolistic position of many HEIs in a regional and national context is being supplanted by external education providers, such as Western Governors University and the University of Phoenix in the USA, who can enter the regional learning system and offer courses via mediums such as the internet. HEIs are responding to such threats by offering web-based courses around the globe, creating a patchwork of internal and external HE provision in regions delivered by a range of actors. The concept of the 'virtual university', then, suggests that the role and remit of HEIs are in a period of complex re-negotiation. However, it is unclear whether such developments represent a disembedding of HEIs from particular places and communities.

In sum, one of the most important challenges facing HEIs is to create a coherent system, in which regional stakeholders work together to develop the overall capacity of human resources in the region. The potential for developing such regional learning systems varies significantly

between countries. There are few examples outside of the USA of systematic regional co-operation between different segments of the educational system, such as schools, universities and other higher education institutions, and even fewer examples which demonstrate an awareness of the links between education provision and economic development at a regional level. At best, many HEIs display a reactive approach to linking teaching with regional development issues. One particular problem is to establish a national system which links FEIs and HEIs on a regional basis as this has the potential disadvantage of blurring the distinctive missions of institutions within the two sectors.

Research Management

Research within HEIs, especially the university sector, has traditionally focused on the generation of 'basic' knowledge for the national/international academic community and avoided the application of established knowledge for the local/regional community. Some researchers in HEIs have been reluctant to seek external research sponsors and have often been guarded towards collaborative research activities. Furthermore, many national funding regimes exacerbate inter-institutional competition rather than collaboration in terms of research activity and funding. However, there are a number of trends which are encouraging HEIs to develop mechanisms to commercialise their research base and link their research and expertise more closely to the external environment.

Firstly, it is important to understand the ways in which the shifting production of knowledge (Gibbons et al., 1994) is being reconfiguring and how this is altering the conduct of research within HEIs. HEIs no longer have a monopoly on knowledge production and must enter into strategic alliances with a range of knowledge producers in order to remain at the cutting edge of research. HEIs, then, are increasingly seeking external research partners to tap into wider knowledge networks and meet the rising costs of research. This is being achieved by expansion of research activities away from traditional academic units to new collaborative units such as research centres and science parks. The important point for HEIs is that these new vehicles for knowledge production have significant organisational implications. In particular, research centres often have an explicit regional *raison d'être* and function on a multi-disciplinary and collaborative basis. The expansion of such centres is also a strategy from HEIs to compete with the growing number of private research institutes. In this new context of knowledge production, HEIs can become involved in the co-creation, co-ownership and co-use of research knowledge with the partners who cohabit its learning region (Duke, 1998).

Secondly, HEIs have responded to opportunities provided by, for example, the historical, cultural, political or economic context of the region by developing research agendas which reflect these characteristics. The region is often used as a test bed/laboratory for research which gives them a competitive advantage both nationally and internationally. A key question to pursue is the extent to which university research can draw down new ideas into the region to aid its development. Research activities can also be directed towards promoting the growth of regionally-based industrial clusters. From the perspective of many development agencies, universities are seen as key actors to promote the establishment and development of new clusters of economic activity

HEIs have established a number of mechanisms to manage their research interface with the outside world. However, the transfer of research between HEIs and other stakeholders is a complex process. Rather than regarding research and knowledge transfer as a simple linear

model between HEIs and their partners, there are a number of simultaneous flows between clusters of stakeholders and HEIs which occur on a spectrum from individual and ad-hoc interaction and consultancy work to centrally organised activities. Explicit mechanisms through which research is transferred between HEIs and regional stakeholders include single-entry points such as regional development offices, research centres, spin-off companies, incubator units, advice and training services, science parks and mechanisms to exploit intellectual property rights (IPR). However, there needs to be a recognition that the most effective technology and knowledge transfer mechanism between HEIs and the external environment is through the teaching function of HEIs; that is to say through staff and students via the teaching curriculum, placements, teaching company schemes, secondments, etc. This reinforces the intimate relationship between the teaching and research functions of HEIs.

Research interfaces such as University Research Centres can be considered as a developing 'dual structure' within most HEIs in which basic units such as departments are supplemented by new units and forms of activity linked to the outside world. They are responsible for introducing new ideas and promoting a more entrepreneurial culture in HEIs which have spread to more traditional units such as academic departments. These interfaces depend more upon entrepreneurially-sought, locally and regional based funding sources and collaboration with a wide range of partners to capture such funds. Moreover, new research interfaces are challenging existing HEI structures and management forms, especially in terms of introducing entrepreneurialism into traditional disciplinary-bound departments.

Many HEIs have approached their contribution to regional development through a multi-faceted approach which combines a number of the above mechanisms and which in turn reflect the evolving needs of the region. The research relationship between an HEI and its region must therefore be a dynamic one utilising a diversity of tools - spin outs, science parks, centres of excellence and other gateway mechanisms, and last but not least, teaching and learning through work based experience and professional development which is linked to research. However, technology transfer between HEIs and region should not be seen as a panacea for regional development. In particular, initiatives need to demonstrate their 'added value' to the region; for example do they lead to a net increase in innovation, employment, wealth creation and linkages than would otherwise have occurred in the regional economy.

Community Service

The contributions that HEIs have always made to civil society through the extra-mural activities of individual staff (e.g. in the media, politics, the arts, advising government bodies, socio-economic and technological analyses) and through providing liberal adult education and evening classes and access to facilities like libraries, theatres, museums and public lectures is being bundled together and recognised as a 'third role' alongside teaching and research. Perhaps more than the other roles, it is this third role of community service which embeds HEIs in the region. In certain contexts, this role reflects the nineteenth century paternalism of industrialists and philanthropists who gave endowments to establish HEIs in their home area in order to create a 'cultured' and 'civilised' local and regional population. In other contexts, this service role to the local community stems from the obligations on HEIs which arise from being major recipients of local taxes.

A number of trends are converging which are increasing this traditional service role of HEIs. Firstly, the increasing awareness of the global, or pan-national, nature of many problems such

as environmental degradation, poverty and economic development has created a number of inter-connected local responses such as 'Local Agenda 21'. HEIs, because of their multi-territoriality and inter-disciplinarity, are institutions which are strongly placed to interpret global issues on a local scale. Second, is the rise of the local state and local voluntary/community groups in response to the declining influence of national structures. Moreover, fiscal constraints at both local and national government are creating partnerships between the public, private and voluntary sectors to meet community needs. In this context, HEIs, their staff and students, are heavily involved in community service through volunteering, project work, mentoring, leadership and commentary. In sum, through this third role of service, HEIs are one of several actors involved in the governance of local civic society. What the third role highlights is the increasing embeddedness of HEIs in their regions and their duty as responsible local, as well as national and international agents. This is evident in several ways.

First, regional development and promotional organisations are increasingly looking towards HEIs to provide leadership, analysis, resources and credibility. In this sense, HEIs contribute to the less tangible aspects of the development process by building social networks that link key actors in the local community and feed intelligence into these networks. HEI participation can inject an element of unbiased and informed realism into such networks. This 'partnership principle' is increasingly a prerequisite for securing certain forms of funding and for creating an effective platform for enhancing inward investment activity. Further, HEIs provide the region with commentary, analysis, information and access to wider networks, through mechanisms such as media links and public lectures. They also provide a framework through which ideas and cultures can be shared and transmitted. In this sense, HEIs can play an important role in opening up and internationalising regions.

Another aspect of the third role of HEIs is their role in community and voluntary action in the region. In particular, the student population represents a significant resource to the local community in terms of volunteer workers. The USA offers many lessons for student community service through the 'education for citizenship' model. This partly reflects the historic legacy of municipality throughout the federal states and the tradition of Land-Grant universities which are dedicated to serving the community.

Thirdly, HEIs own a number of facilities such as libraries, sports facilities and arts and cultural venues which are often significant regional facilities offering public access. Since the funding for such facilities at many HEIs is discretionary and not provided for in ear-marked government block-grants, their economic viability often depends upon partnership, especially financial-based ones, with regional stakeholders. Regional access to facilities at HEIs may be a more pressing issue in lagging regions which have a less developed educational, social and cultural infrastructure. Many regional cultural facilities are offered through students' unions which often play a central role in entertainment provision in the region by providing comedy, live-music, dance events and late-night drinking and can increase the overall 'popular' cultural reputation of a city or region. As in the area of teaching and research it is often necessary for HEIs within a region to work together with external partners in developing a portfolio of facilities and services which can be tailored to regional needs. Regional funding levered in this way can widen the range of facilities available on campus to students, so enhancing the learning experience; at the same time active engagement in the community can enrich the life of both students and teachers. In short, the third role is not a one way street.

CONCLUSIONS

This paper has highlighted the ways in which HEIs are responding to regional needs in terms of teaching, research and community service. The following conclusion raises a number of issues. Firstly, each HEI has to confront its own set of drivers and barriers to regional engagement which are determined by the characteristics of the national and regional context and the institution's own evolution. These drivers and barriers in terms of both teaching and research are outlined below. Secondly, a number of recommendations are presented aimed at those actors and agencies which have the resources and responsibilities to either enhance or inhibit greater regional engagement. Finally, some comments are made concerning the role of universities within the regional development process.

Drivers and barriers to regional engagement

Drivers - Teaching

- Historical roots linking the institution firmly to its local economic base, its city or local authority which may or may not coincide with a formally defined region.
- To attract inward investment of firms with potential to collaborate with academics.
- To increase the uptake of graduates into employment within the region in order to enhance key institutional performance indicators, and likelihood of building collaborations with firms.
- To increase postgraduate, professional development and part-time teaching in order to attract more revenue.
- Recruitment of senior management on to boards of regional agencies and initiatives.
- To engage in revenue-earning regional initiatives which demonstrate flexibility in offering new provision.
- More undergraduate students studying from home to avoid debts.
- To create new “ladders of opportunity” for students through access, franchise, compact, and other arrangements.
- More demand from eligible mature and non-traditional students, who are rooted in the region and likely to stay in it.
- Momentum created by significant levels of graduate placement in local firms and students involved in the local economy through part-time jobs, placements, vacation work and project work.

Drivers - Research

- Perceived thrust of government policy towards promoting industrial links.
- Regionalisation of national technology development and transfer policy in regional fora concerned with economic development.
- Demand from government and others for HEI involvement as a pre-condition of competitively awarded industrial assistance.
- The close links between HEIs and the health sector.
- In the context of Europe, ERDF/ESF funding.

Barriers - Teaching

- Demand for courses which are not particularly congruent with the development needs of the region — at least as defined by existing agencies.
- Government caps on the number of publicly funded students which can lock HEIs into an historic pattern of nationally-driven subject provision.
- Weakly developed regional economic development strategies which embrace all actors.
- Academic promotion and other reward systems which work against investment of time in design and delivery of professional development short courses, non-award bearing initiatives, or more open/distance learning opportunities.
- Content and mode of delivery of courses at undergraduate and postgraduate level determined by external accreditation from professional bodies with little regard for regional development needs.
- Anxiety about the “decline in standards” believed to be attendant on the increased diversity of course provision at undergraduate and postgraduate levels and a consequent desire for stiffer national/international benchmarking.
- Too few executive/implementation links between the senior management team and individual academics such that regional policy initiatives agreed by senior management team members are not in fact followed through at the level of teaching.
- Formula for funding teaching not reflecting any regional criteria.
- Costs of regional collaborative projects which have high start-up costs or require substantial amounts of time from senior staff and offer only short term funding.
- Perception that new programmes which address regional needs at undergraduate level can only be introduced at the expense of established programmes.
- Insufficient regional funding to bear the full costs of developing new programmes.
- Too few stakeholders willing to contribute to the development of a pool of high level skills in the region, fearing that enhanced skills only make people more mobile and therefore part of national and international, rather than regional, labour markets.
- Shortage of publicly funded postgraduate studentships with the distribution of those which exist historically determined with little or no account taken of regional needs in their allocation.
- Difficulty of matching the attributes of graduates and the skill needs of local employers, especially SMEs.

Barriers - Research

- Research agenda heavily influenced by the Research Councils and national Government priorities.
- Academic staff promotion depending on original research of national/international significance with no incentive for applying the research findings to the solution of problems in local companies.
- The absence of linkages between policy formation at senior management team level and the research agendas adopted by individuals and groups lower in the hierarchy (who have a less well developed sense of corporate identity) which weakens the effectiveness of “agreed” regional priorities.

- Base funding for research in HEIs is selective, and likely to get more so, to the advantage of institutions in the ‘superleague’ who tend not to have regional concerns at the heart of their mission.
- Research funding from the EU R&D Framework programmes, from national government departments and from most charities does not generally require or reward a close identification with regional development or regional issues.
- Research sponsors base their funding decisions mainly on the quality and on the reputation of key individuals; regional impact is not taken into account. It does not necessarily fund such research in HEIs in areas which have particular developmental needs.
- Regional agencies do not command sufficient funds to commission research programmes of substance focused on regional needs.
- Judgement of research quality by academic peers is deeply entrenched. This may militate against the success of projects that have a regional focus either because they look parochial, or because they are replicative of work elsewhere rather than breaking new ground, or because they look too “applied” as opposed to “basic”.
- The informal networks which usually can be powerful determinants of the success or otherwise of research have a national, and international, base maintained through research conferences or subject associations, the external examiner system, and co-membership of national committees.
- Funding from industry tends to come from R&D units at HQ rather than reflecting the needs of branch units. This is a particular problem in peripheral regions where there are very few R&D units belonging to big companies.

Policy Recommendations

The following recommendations are targeted at those actors and agencies which have the resources and responsibilities to enhance regional engagement or eliminate barriers. They emphasise ‘processes’ of institutional management and regional development. Because of the diversity of national and regional contexts and of individual institutional profiles, no attempt is made to prescribe what specific priorities should be identified by HEIs and regions. What teaching and research and management initiative programmes should be pursued to maximise their regional benefits is something that has to be worked out on a case by case basis.

National governments

In unitary states without regional structures of governance, territorial development poses a fundamental challenge to the division of responsibility between ministries organised on a functional basis. In such situations, enhancing the responsiveness of HEIs to regional needs inevitably requires inter-ministerial dialogue and collaboration. While the primary responsibility for funding universities is likely to rest with the Ministry of Education or a quasi-independent funding body reporting to it, the regional agenda for universities is also likely to touch on the concerns of a number of different ministries - such as industry, science and technology, employment and the labour market, home affairs/local government, and culture and sport. Insofar as these ministries already deal with universities it may be with different parts of the institution (e.g. one Vice Rector responsible for research and industrial liaison and another for cultural affairs). Thus, HEIs reproduce the functional divisions within the national government. The following discussion focuses on the education ministry but with reference to other ministries where appropriate.

1. Mapping the geography of higher education

Just as individual institutions need to undertake their own mapping of regional engagement, so too the ministry of education needs to compile basic information on the geography of higher education within the national territory. Whilst most ministries do collect a great deal of statistical information about the characteristics of their higher education system, this often lacks geographical detail. A fundamental task therefore is to identify, for the higher education system as a whole, which courses are taught where, the home origins of students and where graduates enter into the labour market. Such analyses need to be benchmarked against regional data on participation in higher education and industrial and occupational structure to identify areas of under and over provision. A particular concern of this mapping task will be to identify the steps between different levels of the education system - schools, further/vocational education/community colleges, higher education, post graduate institutions - in order to assess how far the regional pattern of provision assists/inhibits access and progress of students. In short, geographical analysis should highlight the fact that lifelong learning is an agenda that should be responsive to the needs of *people in places*.

2. Fostering Inter-ministerial dialogue

There is a growing recognition in ministries of employment of the link between skills and regional competitiveness. For example in a recent OECD report on this subject the Deputy Secretary General noted that "the economic well-being of nations is embodied in the sum of the economic vitality and competitiveness of regions ...but ... some regions are dynamic and others have to cope with mis-matches between industries and institutions". However, whilst there is a developing dialogue between ministries of employment and industry around this agenda, higher education is often absent from the debate. This gap needs to be filled.

In sharp contrast the role of universities in technology transfer, including regional technology transfer, is now well established within ministries of technology. In part this has followed from the Silicon Valley phenomenon which has prompted numerous copycat experiments with science parks in universities and in part from a regional policy concern about the uneven distribution of technological development capacity, particularly within the European Union. The fact that technology can be transferred through processes of teaching and learning - and with more certain localised effects - needs to be addressed by a dialogue between technology and education ministries. A final national agenda in which universities are directly and indirectly involved at a regional level, but in which their contribution is seldom recognised by the relevant ministry, relates to culture and sport. University libraries, museums, art galleries and sport facilities and student audiences and participation in these activities with the university is a major contribution that needs to be recognised, planned for an financially supported.

3. Incentives and funding programmes for Regional Development and HEIs

Incentives and funding programmes need to be established to encourage HEIs to establish programmes/projects which have an explicit regional dimension and aim to strengthen co-operative activity within the region. Part of this includes fostering regional forums which bring together a wide range of regional stakeholders.

Moreover, governments need to promote partnerships and dialogue between regional education providers such as schools, FE and HE and other training providers. Such mechanisms are essential to support and encourage a regional learning system, in which educational providers co-operate to contribute to regional development.

Local and Regional Authorities

1. Understanding Higher Education

For many public authorities operating at the local and regional scale, the university remains a "black box". What drives academics as teachers and researchers, the way in which the institution is governed and managed, the mechanisms of central government funding are seldom well understood. Just as it is a key task for HEIs to explain this, so too regional authorities must attempt to learn about higher education. General understanding needs to be supported by detailed knowledge of the research and teaching portfolio of HEIs, such that when opportunities arise - for example, a potential new inward investor – the development agencies can quickly identify the appropriate part of the university to be engaged in the negotiation process. Such mutual knowledge and understanding is a necessary, if not sufficient, condition for effective action which mobilises university resources for regional development.

2. HEI expertise in regional analysis

Joint research between HEIs and local and regional authorities on the strength and weaknesses of the economy can be a useful way of building the relationship. HEIs are a repository of knowledge about future technological, economic and social trends that need to be harnessed to help the region understand itself, its position in the world and identify possible future directions. HEIs can also act as a gateway to global information and tailor this information to meet the needs of different sectors of the regional economy. Public authorities need to explore mechanisms with HEIs for tapping into this knowledge base at both strategic and operational levels. In terms of strategy, events like a regional future search conference involving staff drawn from across the university and the public and private sector within the region is one possibility. Such an event might be followed by inviting university staff onto a joint regional strategy formulation team. At an operational level, gateway offices which maintain an expertise data base will need to be established if SMEs and small public and private organisations are to gain access to university knowledge. Last, but not least, public bodies will need to actively recruit university staff onto advisory boards guiding the various aspects of economic and cultural development within the region.

3. HEI incorporation into regional action plans and programmes

Regional analysis and knowledge transfer must be followed by action plans and programmes which incorporate the expertise of the university. In each of the main themes within a development programme there is likely to be a requirement for active university participation. In the search for inward investment there will be room for university participation in overseas delegations. In regional technological development programmes there will be opportunities for universities to provide expertise to assist with product and process innovation through consultancies, student placements and management development. In skills enhancement linked to raising regional competitiveness there should be a place for targeted graduate retention and continuing professional development initiatives. In cultural development, there will be scope for joint planning of provision of non-vocational education and of opening up of university facilities to the general public. Finally, in terms of regional capacity building, university staff and facilities can be mobilised to promote public debate.

4. Financial support for collaborative projects

Just as there is a need for national funding bodies to earmark specific funds to enable HEIs to pursue a third role, regional authorities will likewise need to underpin their requirements for new relationships with HEIs by financial support. This could take many forms but perhaps the most vital need is help for HEIs to establish mechanisms for regional interface that can be sustained on a long term basis. Many of the initiatives outlined above are resource intensive and place considerable burdens on hard pressed senior management in universities. As more and more sources of funding from national governments and bodies like the European Union relevant to the third role of universities are short term and project based, local or regional authorities could play a key role in ensuring the sustainability of university engagement by financially underpinning the bidding process.

HEIs

This paper has outlined a changing role for HEIs in their regions. In particular, the concern for HEIs is not only to identify their passive impacts in terms of direct and indirect employment but also to create mechanisms through which the resources of universities can be mobilised to contribute to the development process. This undoubtedly amounts to a third role for universities (after teaching and research), the pursuit of which can challenge established traditions of institutional governance. The following paragraphs sketch out a possible programme of action for HEIs wishing to take this role seriously.

1. Economic, Social and Community audit

The starting point for any response should be a straightforward mapping of regional links in terms of teaching, research and participation in regional public affairs. A very basic task is to identify the home origin of students, what academic programmes they participate in and the destination of graduates by occupation, industry and geographical location. With the judicious use of external data, the university should be able to establish its share of national and regional student and graduate markets, its contribution to raising levels of participation in higher education in the region and graduate skills in the regional labour market. The university should aim to establish mechanisms that track students on a longitudinal basis, including their careers as alumni and use this information to guide the shaping of academic programmes. On the research side, the geography of collaboration with the users and beneficiaries of research needs to be established. Again, external bench marks will be required to make sense of these data, for example to identify regional companies and organisations absent from the list. The mapping should identify the participating departments within the university, again to reveal possible missing links.

2. Stakeholder mapping and analysis

Finally, the contribution of the university to regional public affairs can be mapped by identifying university participation in employers organisations, politics, the media, the voluntary sector, the arts and other educational institutions. An important distinction will need to be made between informal engagement where staff act in an individual capacity and formal university participation in partnership arrangements. Further, it is important to recognise the unique characteristics of each stakeholder such as organisational culture, territorial remit and funding sources.

Documenting the present linkages and publicising them within the region will be an important first step in raising the profile of the university. Publicity within the institution will be equally important to draw the attention of all of the staff to the extent and significance of regional engagement. Such documentation is an essential prelude to a self-evaluation of the institution's desire and capacity to respond to regional needs.

3. Self-evaluation of institutional capacity to respond to regional needs

There are a number of possible dimensions to a self-evaluation.

Synthesis: Does the university recognise that by its very nature the territorial development process is broadly based embracing economic, technology, environmental, social, cultural and political agendas? The university is capable of contribution to this process across a broad front, not least by highlighting the interconnections across these various areas. Indeed regional engagement provides an opportunity for reasserting the unity of the university as a place based institution.

Focus: What is the distinctive contribution of the university to the regional agenda? Notwithstanding the potential breadth of its contribution the university will need to prioritise those areas where it can make the most cost effective contribution to the development of the region.

Geographical Identity: What are the unique features of the region to which the university can contribute? While there are global, economic, technological, social and cultural drivers of the development processes, these interact very differently with specific regional development trajectories. The university will need to develop a collectively understanding of its region in order to identify particular opportunities for engagement.

Regional Policy: What are the main drivers of regional policy? Regional and national agencies have a suite of policies to address regional development. The university needs to understand these policies and identify areas where it can support and reinforce these policy objectives.

Teaching and Learning: Has regional labour market intelligence influenced the shape of teaching and learning programmes? Whilst mechanisms are being put in place in some universities to respond to the regional research agenda, less progress appears to have been made on linking teaching and learning to regional needs.

Mainstream: Has regional engagement become part of the academic mainstream of the university? Whilst many universities have established gatekeeper functions (e.g. Regional Development Offices) it remains unclear how far this has influenced mainstream teaching and research.

Communications: Are regional needs and priorities communicated through the university? In addition to strategic engagement, there will be opportunities for regional engagement generated externally and internally that will need to be communicated around the institution. Newsletters, electronic mail and established fora provide an opportunity for such communication.

Research and Intelligence: Is the university providing the region with intelligence for its forward planning? In order to shape the regional development agenda the university will need to draw upon its global network and external information and tailor this to regional needs.

Responsiveness: Is the university able to respond quickly to unanticipated regional needs? Economic development is opportunistic as well as strategic. If windows of opportunity (e.g. release of a new technology, mobile investment projects, new fiscal incentives, new regulatory regimes) are not seized regionally the advantages will be taken up elsewhere. The university will have to put mechanisms in place to respond, for example with new courses and research programmes.

Leadership: What role does the university play in regional leadership? In addition to responding to established policy, universities have the capacity to set regional and national agendas. This involves more than injecting good ideas into the policy process; it also requires building the institutional capacity to take these ideas forward.

Collaboration: Are procedures in place to support inter-university collaboration? All universities in a region have an interest in raising participation in the lifelong learning process. "Growing the market" is to be preferred to mercantilism and this will involve collaboration within and between levels in the education system, including schools and colleges.

Partnerships: Are the objectives of partnerships clear? Partnerships are for the long term and need to move beyond the identification of additional sources of funding to dialogue that affects the behaviour of participants.

Institutional cultures: Are the institutional cultures and working practices of HEIs and other regional partners similar enough to allow active engagement and dialogue? Moreover, trans-disciplinary units are an important route through which working practices which encourage greater regional engagement can be embedded in the institutional culture.

Answers to these questions are likely to point to changes in organisational structure and processes and these are discussed below.

4. Review of internal mechanisms for regional engagement

HEIs are characteristically loosely coupled organisations. Individual academics pursue their own research and teaching agendas, which may or may not involve regional engagement. Senior staff (Rectors, Vice Rectors, Heads of Administration) often have a responsibility to represent the university to regional interests but have limited capacity to "deliver" the university or particular parts in relation to evolving external agendas. Various central administrative functions (Estates, Communications and Public Affairs, Industrial Liaison, Centres for Continuing Education, Careers Guidance Services) often engage in quasi autonomous work with regional actors and agencies. Individual Vice Rectors/Pro Vice Chancellors may also deal separately with teaching and with research/industrial liaison.

In these circumstances there is an obvious requirement for the university to establish a regional office close to the Rector/President/Vice Chancellor. Such an office should:

- co-ordinate and manage regional links
- contribute to marketing of the university
- provide an input to strategic planning
- contribute to regional marketing
- develop frameworks for engagement and regional understanding within the university
- maintain pressure for mainstreaming of regional engagement through the normal channels of the institution

The effectiveness of the activity of the regional office is likely to be fundamentally influenced by the institutional incentives and the award mechanisms to individual academics and departments. It is widely recognised that the principal allegiance of most academics is to their discipline and not to their institution, with standing amongst peers being largely determined through publications. This standing is reflected within the institution through grading and salary rewards. More recently, some institutions have begun to reward achievement in teaching, drawing upon quality assessments and peer reviews. Universities wishing to encourage staff who are engaged in the regional agenda may therefore wish to consider how some of the indicators used in mapping regional links might be reflected in its internal reward system. Incentive systems to reward and stimulate staff involvement in activities which assist or co-operate with regional stakeholders need to be established, as well as an ability for

national assessments of higher education systems and staff promotional routes to include activities related to regional engagement.

One of the key factors of success in regional partnerships is the presence of "animateurs" who act as gatekeepers between different networks and organisations. If universities are to successfully mainstream regional engagement through the institution they will require a number of staff who develop skills as "animateurs". For the most part the necessary skills and attributes are intuitive and learnt through practice; however, some training and support will be required from the university staff development programme. Relevant competencies include: management of change; building and managing networks; facilitation and mediation; working with different organisational cultures; project planning and implementation; raising financial support; self directed learning; supervision and personal support techniques; organisational politics and dynamics.

Alongside the "know-how" aspects of such a programme, HEIs will need to ensure that the key staff have knowledge of the facts of regional development. These facts include the structure of the organisations involved in regional development; central and local government powers and responsibilities; the different time scales and drivers influencing these organisations; the overlaps between organisations and how these can be used to mutual advantage. Once they have the skills, the key staff need to mobilise the institution as a whole in an internal dialogue about its future regional role. This dialogue will need to draw upon data collected in the mapping exercise such that the institution learns from a collective analysis of its own position and uses this to inform future behaviour.

Universities and the regional development process

The regional development process can be conceptualised as a number of different components such as:

- Enhancing regional framework conditions — supporting the regional infrastructure, regulatory frameworks and underlying quality of environment and lifestyles.
- Business development processes — creation and attraction of new firms within the region, and encouraging firms to generate new orders and meet their orders more profitably, structuring finance for growth and developing new products, processes and markets.
- Interactive learning processes — encouraging co-operation between firms to generate technological, commercial and environmental advantage as well as developing new skills in individuals and helping firms to be better at training their staff.
- Redistributive processes — ensuring that the benefits of enhanced business competitiveness is widely shared within the community and that the health and welfare of the population is maximised.
- Regional cultural development — the creation, enhancement and reproduction of regional cultures, underpinning the other processes above, and interpreting culture both as activities that enrich the quality of life but also as patterns of social conventions, norms and values that constitute regional identities.
- Sustainability processes — long term regional development must be underpinned by processes seeking to improve the prospects for sustainability, even though some of these objectives may appear to conflict with business development objectives.

It is clear that universities contribute to many of these facets of the regional development process. However, due to the relative autonomy granted to academics, weak levels of corporate culture and different intellectual traditions within universities a number of different views on what constitutes 'regional development' exist. For example, there are those who pursue economic development through supply chains, business innovation, technology transfer and the formation of business schools and science parks and those who pursue social and community development, tackling educational under-achievement and addressing the needs of disadvantaged groups through open education, outreach work and community service. While the former approach offers tangible results in the form of outputs such as number of jobs created and property development, is highly attractive to an international audience and as a result can attract additional funding, the latter involves tackling often intractable problems with few tangible results and is often poorly resourced. As a result, a compartmentalist attitude can pervade University departments and research centres each focusing upon particular regional needs with few mechanisms for cross-fertilisation between them.

So, while many different 'communities of need' are addressed by universities in their regions, there are few mechanisms within universities or regions which foster joined-up thinking or dialogue. An issue for universities and regions, is to address inter-connections between issues such as economic growth and competitiveness on the one hand and widening participation and social and community regeneration on the other. The challenge for universities, then, is how it manages its institutional diversity and how it prioritises areas for strategic engagement which develops the region's knowledge base to the benefit of all its citizens.

The concept of the 'learning region' has been a central concern of this paper. Within the learning region, HEIs have a clear role to play and an incentive to participate, not least because the regional agenda provides a focus for the creation of more responsive, entrepreneurial and learning institutions of higher education that are seen to be meeting societal demands. The central role which HEIs play in the learning region is reflected in this quote:

For universities, the learning region may be the best kept secret of the dying days of this century. In practical terms this implies blending and combining competition in the "new enterprise environment" with collaboration; fostering and supporting "boundary spanners" who can work across the borders of the university in effective discourse with other organisations and their different cultures; fostering cultural change to enable universities to speak and work with partners from many traditions and persuasions as more learning organisations emerge and together enrich their various overlapping learning zones or regions (Duke, 1998, 5).

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