



## **Learning To Let Go: The Role of the Public Sector in Cluster Building in the Basque Country and Scotland**

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## **Preface**

The working paper was presented at the Regional Studies Association International Conference, *Regional Transitions*, in Gdansk, Poland, on 17 September 2001.

## **Abstract**

At a regional level, ideas of cluster development provide a way to structure the business environment, facilitating more effective interactions between defined sub-sets of actors held to be integral to innovation systems (including private sector firms, generators of knowledge and innovation, and organisations within the public sector). They have also significantly influenced economic development policy, in some contexts enabling a better targeting of public sector support to facilitate these interactions. The main objective of policies to develop clusters has been to create industry clusters which are self-aware, self-governing and self-sustaining as well as more vigorous, innovative and, ultimately, competitive than their constituents would be acting alone. The concept has multiple attractions to policy-makers. Public sector policies to encourage and enable clustering can be designed to be catalytic and limited in scope, allowing early public sector exits from interventions. In addition, the fact that the participants in the clusters created work together to better identify and articulate their strategic needs provides the public sector with enhanced intelligence, potentially enabling it to design more relevant, targeted and thus, effective economic development policies in general (structured through a cluster logic).

The processes involved in creating self-aware, self-sustaining clusters are multiple and complex. Cluster development in practice implies an intensive process of community or identity building, forging new mental maps of a region's industrial structure within the region and outside it, engendering a sense of ownership among members of clusters and encouraging new patterns and characters of interaction between their constituents. It also poses risks which may need to be assessed and, if appropriate, managed, not least the threat of cartelisation, where privileged communities of interest effectively crowd out other individuals or groups.

Cluster policies facilitate a process of cluster building which involves three sets of tasks. First, if a cluster is to have the capacity to carry itself forward, there must be a core group of agents who recognise that their individual competitiveness partly derives from their collective economic activities. Second, mechanisms need to be put in place to allow this group to identify their sources of competitive advantage and act collectively to address any problems, doing so in a way which minimises public sector financial involvement and the risk of anti-competitive behaviour. Lastly, the agents within a cluster need to be able to adapt to the changing sources of the cluster's competitiveness and its principal constituents over time.

In order to explore some of the practical implications of cluster building, and draw lessons of potential relevance to other contexts pursuing policies with similar objectives, this paper examines two concrete examples of regions where the cluster concept has been applied over a sustained period as an instrument of regional development. Original case study research has been undertaken on Scotland in the UK, where Scottish Enterprise has

been the key public sector initiator, and the Basque Country in Spain, where the locus of the policy initiative has been departments of the Basque regional government. Both Scotland and the Basque Country had ostensibly similar roots in taking up the cluster approach. Both regions (at least, at first) were strongly influenced by Michael Porter's cluster ideas, evidenced by both having commissioned studies from his consultancy, Monitor, to identify sources of regional competitive advantage. In both regions, there has been a relatively high degree of regional policy-making autonomy and a context of strong regional/national awareness which encouraged distinctive and innovative policy choices. Lastly, both have also developed their policies facilitating cluster development using highly interactive approaches, engaging intensively with other actors, notably the private sector.

From these common roots, the design and delivery of cluster policy – and the cluster building activities which have resulted - have taken distinctive paths in both regions. Among the key organisational and methodological differences has been the division of roles and responsibility between the public sector (as champion of the concept) and the private sector (as the privileged protagonist) in selecting clusters, fostering cluster identity and determining the specific initiatives through which clusters are to be further developed. In terms of the allocation of responsibilities, a further fundamental difference has lain in where responsibility has been placed for driving each cluster forward (with free-standing cluster co-ordination organisations steered by a board of members in the Basque Country, and with mixed public-private partnerships overseeing cluster programme activity in Scotland).

The paper examines the differences and similarities of cluster building in both regions. It reviews: how clusters have been selected in each region; how the participants have been identified and engaged in cluster development; the mechanisms put in place to enable the cluster participants to identify issues of common relevance; the extent to which they are able to act collectively; the provisions made to enable them to adapt to changes in the cluster over time; and public sector exit strategies. The paper focuses in particular on the limits on the role of policy, considering the wider question of whether policy can create self-sustaining cluster groups.

## Introduction

At a regional level, ideas of cluster development provide a way to structure the business environment, facilitating more effective interactions between defined sub-sets of actors held to be integral to innovation systems (including firms, generators of knowledge and innovation, and organisations within the public sector). They have also significantly influenced economic development policy, in some contexts enabling a better targeting of public sector support to facilitate these interactions. The main objective of policies to develop clusters has been to create industry clusters which are self-aware, self-governing and self-sustaining as well as more vigorous, innovative and, ultimately, competitive than their constituents would be acting alone. The concept has multiple attractions to policy-makers. Public sector policies to encourage and enable clustering can be designed to be catalytic and limited in scope, allowing early public sector exits from interventions. In addition, the fact that the participants in the clusters created work together to better identify and articulate their strategic needs provides the public sector with enhanced intelligence, potentially enabling it to design more relevant, targeted and thus, effective economic development policies in general (structured through a cluster logic).

The processes involved in creating self-aware, self-sustaining clusters are multiple and complex. Cluster development in practice implies an intensive process of community or identity building, forging new mental maps of a region's industrial structure within the region and outside it, engendering a sense of ownership among members of clusters and encouraging new patterns and characters of interaction between their constituents. It also poses risks which may need to be assessed and, if appropriate, managed, not least the threat of cartelisation, where privileged communities of interest effectively crowd out other individuals or groups.

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Research on European cluster policies has only begun to appear in sizable volume over the last few years (see, for example, OECD, 1999, den Hertog, Bergman and Charles, 2001, and Mariussen, 2001). It is timely then to consider what the experience of recent cluster policies reveals about the extent to which the public sector can develop cluster communities and what this means more generally for its role in economic development intervention. In order to explore the practical implications of cluster building, and draw lessons of potential relevance to other contexts pursuing policies with similar objectives, this paper examines two concrete examples of regions where the cluster concept has been applied over a sustained period as an instrument of regional development: Scotland and the Basque Country. Derived from the Euro-Cluster project undertaken by the European

Policies Research Centre at the University of Strathclyde (Raines, 2000), the case-study research is based on extensive interviews with policy-makers involved in cluster policy in both regions and a review of relevant historical documentation.

Following this introduction, the paper is divided into six sections. In the next section, the theoretical and historical roots of cluster policy are reviewed with a view to drawing out the significance of both public-private sector links in policy-making and the development of self-aware, self-sustaining industrial communities within clusters. Section 3 outlines the economic and political contexts of Scotland and the Basque Country and the two subsequent sections discuss separately the experiences of each territory in cluster building under a series of standardised headings. Section 6 highlights the main comparative points in the two cluster policies and the last section extends these points to a wider discussion of the role of the public sector in economic development.

### **Regional economic development and cluster policy**

The role of the public sector in regional economic development – and the balance between private and public sector responsibilities - has witnessed significant reformulation over the last decade. Not only has the form and range of policy interventions changed, but so too has the scale and the level at which they take place. With the prompting of EU regional policy and its focus on developing strategic approaches to local economic development, regional development policy has been increasingly characterised by greater sensitivity to the economic and social interactions at a spatially localised level which support the emergence of robust, innovative economies. A wider and more sophisticated range of instruments has become part of regional policy-makers' toolkits and they have been employed in ever more targeted and tailored ways to influence regional economic trajectories.

In Europe, the regional development approaches which have resulted have been both diverse and complex. They have also been ideal for the application of the cluster concept. To understand why the cluster concept has been so appealing to regional development policy-makers, it is important to examine recent three key policy trends: (i) the decentralisation of policy-making responsibilities to a sub-national level; (ii) the focus of public sector intervention shifting to more systemic approaches to development; and (iii) a greater private sector involvement in the design and implementation of policy.

First, spatial policy is no longer the sole preserve of central government departments, reallocating economic activity within a strictly national macroeconomic framework (Armstrong and Taylor, 1993). Over the past two decades, sub-national organisations have been taking greater responsibility for policy-making, reflecting a re-focusing of regional development. Traditional regional policy – with its emphasis on incentives to influence the location of capital investment – tended to regard regional economic development as an outcome of redistributing business activity, both nationally and – with the rise of foreign investment promotion – internationally. Such an externally-oriented approach to regional development was complemented and has now been superseded by a more localised approach, in which the goal has been to harness the existing *internal* resources of a locality to develop its competitiveness (or in the case of foreign investment, to localise the external resources attracted into the region).

The trend can be seen in the general shift in decision-making in national policies of economic development, such as financial assistance to businesses in designated areas. Increasingly, decisions on incentive awards have been passed to sub-national levels in many countries (Yuill, 1999). However, it has been most apparent in the increasing autonomy of regional-level bodies in developing region-specific development strategies. In particular, the rise of Regional Development Agencies and other regionally-based policy bodies in Europe underlines this change (Halkier and Danson, 1997). Such agencies have had strong roles in developing spatially-differentiated regional development strategies in several European countries, including Spain (through the transfer of policy powers to the Autonomous Regions) and the UK (through political devolution) in recent years. Greater independence of regional economic strategy-making is linked to the role of the European Structural Funds in encouraging such region-specific approaches, providing regions with adequate resources to undertake the resulting strategies and giving more experience in policy-making to partnerships of regional policy actors (Bachtler and Taylor, 1996).

Second, policy interventions have shifted from simply influencing the inputs in business activity – typically through incentives for capital investments, labour training and property/site developments – to being more concerned with the relationships within and between businesses which underpin competitiveness. Rather than policies which concentrate on supporting individual companies with subsidies, economic development policy has given greater emphasis to supporting the regional business environment as a whole. In what Lagendijk (1999) has described as a ‘knowledge-oriented regional policy’, policy measures are increasingly aiming to improve the underlying regional conditions for internationally-competitive enterprises by influencing the relationships between existing assets rather than redistributing such assets between regions (through financial incentives, etc.). In particular, it is the knowledge- and innovation-based relationships that determine a region’s competitiveness (or lack thereof) which have become a key area of policy activity. As a result, more attention has been given to the role of business innovation in economic development and the factors and structures in the region which encourage innovation.

Overall, the policy shift reflects a greater awareness of the role of knowledge and innovation in sustaining the competitive advantage of sectors and, more importantly, the structures in place to ensure that such knowledge can be generated on an on-going basis, diffused throughout a particular sector/region and transformed into products and services which will enhance individual businesses’ competitiveness (Temple, 1998). Innovation is no longer seen as a linear process, but part of a complex series of interactions involving different functions within a company (such as marketing, human resource management, etc), and external agents. Moreover, there has not only been a renewed interest in the sources of innovation – with increased attention on innovation occurring *between* businesses (and other organisations) rather than simply *within* them – but its transfer within (and between) sectors and regions. As noted by the OECD (1998, p.5), innovation has increasingly been viewed as “an incremental and social process of knowledge networking”.

At the same time, it also proceeds from an understanding that such knowledge and innovation are *localised* processes, made possible by the geographical proximity of a

range of innovation institutions (including businesses, universities and policy organisations) (Storper, 1997). Innovation is perceived to be the function of a local *system* of inter-linked businesses, research institutes and other agents rather than the output of isolated firms. Policy-makers have increasingly realised that such systems are more likely to occur in a regional group of firms and other institutions which have achieved a certain critical mass, where linkages can be denser and stronger and the local environment/milieu can underpin these networks. Moreover, regional policy institutions are seen as a key part in developing such innovation systems, acting as critical ‘animateurs’ (Cooke and Morgan, 1998). As a result, there have been a series of regional policy initiatives in the last two decades which have not just focused on technology transfer and the innovation capacity of individual businesses, but on encouraging linkages amongst firms (as well as between firms and local centres of research expertise) and affecting the RTD infrastructure in the region.

Lastly, the implications of a more localised policy approach which focuses on inter-business relationships is that policy-making needs to be more participatory. This has resulted in greater private sector involvement in the design – and in many cases, delivery – of such policies. Whether it is Structural Fund strategies or local innovation policies which are under discussion, there appears to be a general recognition of the need to involve key agents within the private sector in policy consultation (Raines, forthcoming). This trend has been reinforced by the increasingly ‘market’-based approaches to economic development policy by the public sector. Economic policy as a whole has been marked by a gradual withdrawal of the public sector from intervention in some areas of the economy, largely through deregulation and privatisation (Osborne and Gaebler, 1992). It has been matched by a more market-led approach to regional economic development, demonstrated by the ‘market’ ethos evinced by many RDAs.

Cluster development policy can be seen as an extension of these trends. There has been an upsurge of cluster-based policies at regional and national level in Europe over the past decade (Raines, 2000). However, its greater visibility may be less a result of a dramatic shift in policy thinking than a highlighting of deeper trends. As a policy area, it can be difficult to distinguish ‘cluster policy’ from other policies; indeed, it has been argued that it is an evolution – or more properly, a merger – of separate trends in existing regional and business development policies. As Boekholt and Thuriaux (1999, p384) noted: “Cluster policies are situated at the boundaries of industrial policy (including SME policy), regional development policy, and science and technology policy.” Consequently, from regional policy, cluster policies adopt the awareness that regional economic growth is dependent on the interaction of businesses, research institutions (such as universities) and wider ‘environmental’ factors such as the labour market and infrastructure: indeed, Lagendijk (1999) described cluster policy as a specialised, ‘knowledge-oriented’ form of regional policy. From traditional industrial policy, cluster policies take the sectoral focus of policy and industry-specific measures. Lastly, from policies concentrating on SME development, cluster policies acknowledge the importance of developing the capacity of individual (particularly smaller) businesses to overcome their growth challenges. In bringing together the role of technological development, relationships within the regional economy and individual business growth – as well as the different instruments associated with each policy area - cluster policies recognise that regional competitive advantage is based on these different policy areas working in combination.

The role of Michael Porter's work in the popularity of the cluster approach to economic development is important here, though Porter himself – at least, initially - played down the role of public sector interventions. While building on earlier traditions of research into growth-pole agglomerations and industrial districts (dating back to Alfred Marshall's work in the late 19<sup>th</sup> century), Porter's work was critical in showing that the sources of competitiveness in industrial clusters derived from factors which were not addressed by existing government policies in support of industry (as described in Porter, 1990). In his well-known 'diamond' description of what makes clusters competitive, Porter argued that clusters extended beyond traditional sectoral definitions, involving value chains that reached into supporting industries. He also emphasised that the specific economic geography of the cluster was crucial for its success, by highlighting the role of supply and demand conditions. While Porter's main interest was on the development of clusters at a national level, these insights had strong appeal to policy-makers at regional and local levels. They also implied scope for policy actions to influence the four parts of the diamond and the ways in which the different parts linked together.

Perhaps most significantly, Porter focused on networking relations as the key feature of clusters. Encapsulating insights which could be found in economic geography work by the GREMI group (eg. Maillat, 1991) and Cooke and Morgan (1998) *inter alia*, Porter noted how the competitive advantage of the most successful sectors in particular nations – though the insights held true for regions as well - did not reside within individual enterprises, but networks of localised businesses. Such networks are meant to combine the beneficial impacts of internal rivalry on long-term competitiveness with the ability of firms in such networks to cooperate in addressing market failures in the cluster as a whole. Subsequent research has presented a variety of typologies for such cluster-based business networks, discussing clusters in terms of their maturity, company density, sectoral breadth and value chain depth (Enright, 2000) as well as in terms of how the cluster is organised and its key participants are linked together (Markusen, 1996).

Given such diversity, cluster *policies* have shown similar variety, though they are all distinguished by a shift of focus from support for individual enterprises to more collective assistance aimed at business networks. For many policy-makers, they can amount to little more than the promotion of business cooperation in which the ideas of Porter and others have been lashed onto existing policies. Some 'cluster' policies may consist of little more than an existing policy encouraging networking among businesses but with a new 'cluster' label (on the possibility of such policies being merely a 're-packaging' of existing policies, see Harrison, 1992). However, for other policies, the cluster concept has led to a range of more sophisticated approaches throughout Europe (Boekholt and Thuriaux, 1999).

An important goal of the latter set of policies has been encouraging networks between businesses and non-private sector agents of the cluster (such as universities) in specific sectors. It differs from traditional networking policy in that as well as supporting individual linkages between enterprises, it is also concerned with the links between those enterprises and the main sources of (actual or potential) competitive advantage in the cluster (eg. the research expertise of a local university). As a result, the policy can aim at addressing collective market failures in the cluster (especially with respect to key labour skill and research inputs).

The focus on business networks in clusters has another important goal. Cluster policies typically aim to create or reinforce clusters which are self-sustaining. One of the attractions to policy-makers is that this can allow the policy to operate over the short term and have a largely catalytic rather than a subsidising role for economic development. Consequently, one of the principal features of cluster policy is to develop a sense of *community* within the cluster, involving both a degree of inter-firm learning and institutional representation (Lagedijk and Charles, 1999). Such communality is important for several reasons. First, it ensures that policy-makers receive the required information and commitment from the private sector in designing the policy, a critical issue given the highly specific and localised nature of much cluster policy. It also helps in making the implementation of policy easier, especially where the private sector is expected to shoulder part of the burden of delivery.

A 'sense of community' can be felt in several ways. An *informal* community can emerge in a cluster through the linkages among its members, creating an awareness of other industry players, leading supporting organisations (such as universities and research centres) and government agencies with an important interest (such as the appropriate sectoral unit of a regional development body). The linkages can be direct, as in shared RTD cooperation or supplier relations which entail extensive collaboration between the partners. They can also be indirect, as in the individual contributions to and sharing of a common pool of specialised labour skills (through company training and the less formal job networks by which work opportunity information is disseminated). This may include a significant 'social' component, a major element of some clusters, such as software and computer development in Silicon Valley (Saxenian, 1994). Linkages like these enable the innovation capacity of the cluster to be incubated and maintained by reducing the transaction costs of knowledge transfer (Temple, 1998). The 'thicker' the network of such relationships, the more a cluster's competitive advantage will be solidified and the specialised tacit knowledge underlying that competitiveness codified and embedded in the cluster as a whole.

At the same time, a *formal* community can exist through a series of institutions set up to provide 'voice' for the cluster. These institutions can have highly specialised functions, such as business-led agencies set up to market the cluster abroad. They can also have representative responsibilities, as in industrial associations which aim to represent members' views to the public sector for intervention. For example, the origin of cluster policy initiatives in Arizona lay in private sector promotion of the concept through such an association (Waits, 1992, as quoted in Lagedijk and Charles, 1999). In other cases, the institutions can have an active role in identifying and tackling directly the areas of market failure in the cluster, for example, in terms of skills shortages, as, for example, the Chambers of Commerce and other industry-based associations have done in the North-Rhine Westphalia region in Germany (Ache, 2000).

In cluster development, both types of community may need to be developed in parallel, and indeed, may be dependent on each other: an association can deepen cluster interactions, but itself can only be effective with a minimum level of existing cluster cohesion. A decision to use cluster policy effectively requires a degree of formal community in the cluster, as its visibility will create a degree of 'self-consciousness' about the cluster. While such self-awareness may exist within an informal cluster

community – Silicon Valley is perhaps the pre-eminent example – it tends to be missing from clusters which policy targets. Policy normally acts on clusters where market failures can be identified and where the mechanisms for identifying and acting on those market failures are largely absent (such as emerging industries – in sectors built up around new research expertises – or stagnant, long-standing industries). As a result, whether explicitly or implicitly, cluster policy focuses on both the informal and formal aspects of a cluster community.

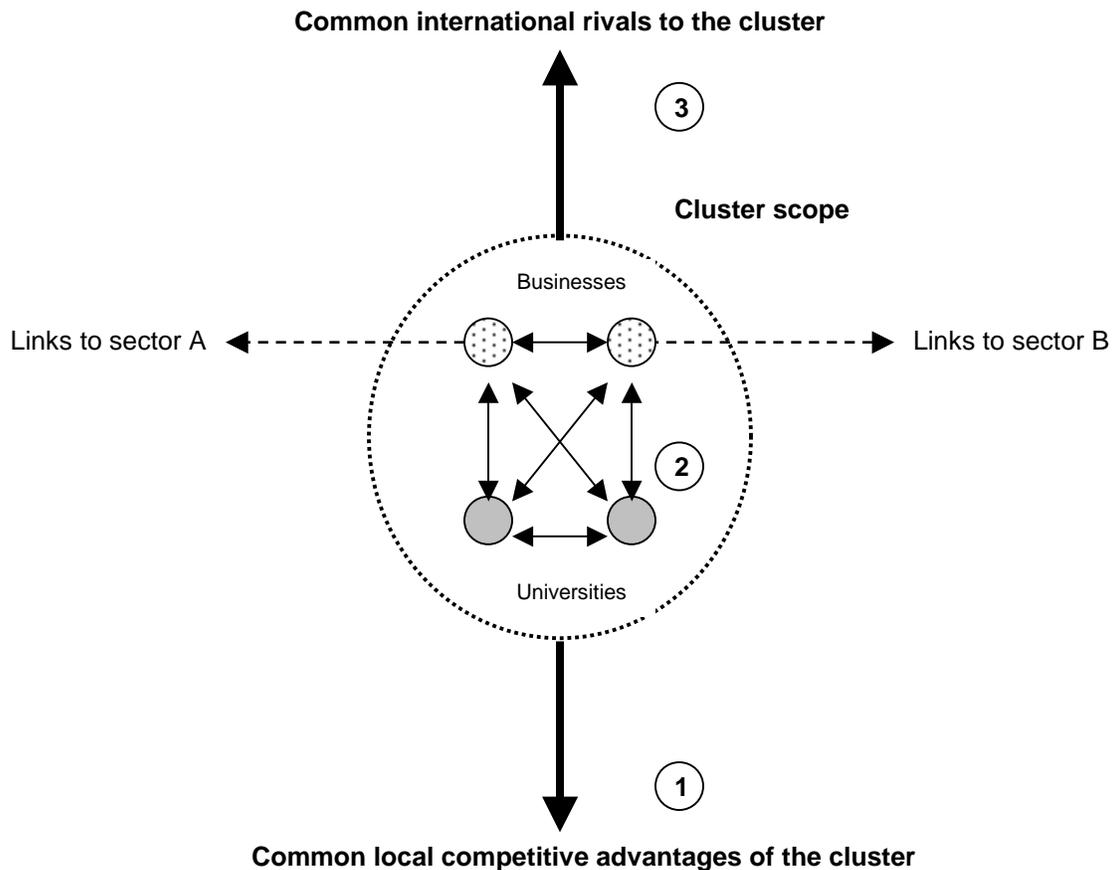
From the perspective of a policy-maker though, the question arises as to how such communities can be built in practice. In many cases, where one or both of these ‘communities’ are lacking, it means the public sector has to create, or sometimes merely catalyse a demonstration of what the different agents of the cluster have in common, whether a specific business issue between two enterprises or a wider competitive advantage (or threat) which affects all cluster participants: effectively, overcoming a market failure in information about cooperation opportunities within the cluster. In a sense, the role of the public sector here is to draw attention to the existing identity of a cluster, highlighting its boundaries, its sources of commonality and its internal cohesion.

These commonalities can operate across different spatial scales. As a result, cluster communities can be defined at national level, where the sector in question contains enterprises whose competitive advantage does not necessarily derive from immediate geographic proximity (eg. some high technology sectors). In such cases, a formal community may be the more active component of the cluster, acting on its behalf in influencing national-level factors affecting its competitiveness (eg. the legal framework for patenting). It can also be defined at a variety of sub-national levels, where informal communal ties (such as a common labour pool) may be more significant.

Regardless of spatial scale, in developing both formal and informal communities within clusters, cluster policies face similar challenges. The policies which have been developed to date have several distinctive but common features. These can be divided into tasks that concentrate on the informal and formal community aspects of a cluster.

As Figure 1 below displays, the *informal community* of a cluster can be strengthened by policy by acting on the three areas which define the sense of cohesion within a cluster. These are:

- the common sources of competitiveness within the cluster (eg. the quality of specialised labour skills) (as shown by **1** below);
- the specific linkages among cluster agents, operating across sectors and between the private sector and education (as shown by **2** below); and
- an awareness of the cluster’s international competitiveness, reinforcing the internal community by a recognition of collective advantages and external rivalry (illustrated by **3** below).

**Figure 1: Informal community building in clusters**

First, a key feature of most definitions of a cluster is the presence of common competitive advantages that are external to individual firms but internal to the cluster as a whole. When Alfred Marshall wrote about industrial districts, he pointed to common labour markets of specialised skills as one such advantage for firms operating in the same economic sphere and geographical area, but advantages can include special research excellence (in a firm or a university) and other forms of tacit knowledge that are specific to the region. Many cluster policies aim to increase that tacit knowledge through a series of measures focusing on developing these common competitive advantages. For the most part, they are pitched at developing common resources which will improve the competitiveness of a group of firms within the cluster, but which individual firms may not have the resources or the business incentive to develop themselves, either singly or jointly. Such common resources can include a variety of inputs and activities, such as access to key business information, specialised forms of infrastructure, technology transfer, tailored skills training and venture capital provision (especially for technology development).

Second, to develop networking among existing potential participants, policy must create the conditions for cooperation as well as increase – or at least, highlight – the incentives to take part. Various policy measures can support this activity. At national level, policy can influence regulation and tax structures to increase the incentives for businesses to cooperate with each other and research centres on RTD and technology transfer. Special service centres can be established to provide centralised training, business advice and other forms of support to particular clusters. Publicly-funded infrastructure developments such as science parks can encourage firms to cluster in specific geographical locations. Public organisations can act as brokers for firms and research centres interested in finding partners. As part of a more strategic role, policy can also determine where there are gaps or weaknesses within a cluster and address the problems through targeted inward investment promotion or business start-up/spin-off measures.

Lastly, cluster community building has a strong external element, arising from two areas:

- ‘identity building’: through supporting the initial association of the cluster, encouraging more frequent and prolonged links between cluster members and increasing members’ understanding of the cluster and their sense of ‘belonging’ to it; and
- ‘identity projecting’: by defining an image of the cluster which can be used in collective marketing exercises or to attract foreign investors and other key actors into the cluster.

The measures involved in this range from cluster mapping exercises to external promotion and marketing of the cluster. It also includes strategic functions from an industry perspective, such as providing information on current/future technology and market trends through foresight studies and benchmarking with the cluster’s main competitors.

The *formal community* within a cluster requires several sets of policy activities:

- defining the limits of the cluster;
- identifying the main agents within the cluster;
- animating the main cluster agents (eg. workshops); and
- institutionalising the formal community (eg. establishing an industry body)

First, a cluster’s boundaries often need to be set by an external body to draw the attention of its participants to their commonality. Typically, this tends to require a cluster mapping exercise, in which the broad outlines, internal characteristics and often the international competitiveness of the cluster are defined. Cluster identification can be based on either quantitative/statistical, a qualitative/perception-based or a mixture of both sets of methods (Roelandt and den Hertog, 1999). A quantitative approach tends to determine the formal community of a cluster on the basis of measurable commercial relationships, such as input-output value chains and exporting behaviour, while more qualitative methodologies emphasise the existing perceptions held by cluster agents about their membership and degree of cohesion.

Second, and partly as an outgrowth of the mapping exercise, the internal hierarchy of the cluster community needs to be determined if it is to be engaged in policy development.

This entails identifying the key agents in the cluster – such as the dominant firms and leading research providers – and their contributions to the cluster’s development, usually on the basis of informal discussions or existing knowledge about the constitution of the cluster. It leads directly into the third area of activity – animating the main agents of the cluster – as the key measures of a cluster policy are likely to require at least tacit support by its main agents.

Lastly, it may be useful for a cluster’s community to be institutionalised formally through the creation of a representative association. The activities of the organisation can be wide-ranging, acting as an ‘animator’ of the cluster and/or as a pressure-group promoter. In this respect, one of the key issues for the public sector is whether the main agents and representatives of the clusters – and for that matter, the clusters themselves – are self-selecting or are selected by the public sector.

## **Background to cluster development in Scotland and the Basque Country**

The development of cluster networks is a variable process, but policy-makers face common challenges. To examine how public sector bodies have responded to the problems of cluster building, particularly relations with the private sector, the current paper compares the experiences of two territories: Scotland and the Basque Country. They have been selected because of the prominence of their cluster strategies, the long period over which the cluster concept has been applied by the public sector and the relative similarity of the two territories in terms of the economic situation faced by their policy-makers. Issues of economic regeneration are more pressing in the case of the Basque Country, as Table 1 demonstrates, but the history of both territories reveals long-standing problems arising from industrial restructuring and a demand for new approaches to economic development. It is worthwhile briefly reviewing the profile of cluster policy in both territories and the economic contexts in which they were developed.

**Table 1: Scotland and the Basque Country compared**

|                | <i>Population<br/>(million)</i> | <i>GDP per capita<br/>(EU-15=100, 1996)</i> | <i>Unemployment<br/>(%)</i> |
|----------------|---------------------------------|---|-----------------------------|
| Scotland       | 5.10                            | 98.3  | 8.0 (1997)                  |
| Basque Country | 2.07                            | 92.3  | 18.8 (1999)                 |

The Scottish experience of cluster development is one of the best known in Europe. The policy was developed against a background of recent resurgence in certain key industries and a longer term period of prolonged decline in traditional industries. As a result of greater global competition in its core industries, much of Scotland has suffered from several decades of contraction in traditional manufacturing, notably shipbuilding, iron and steel production, and coal mining. The nature of the area’s industries has meant that Scotland’s enterprise structure has historically been skewed towards large firms, with the attendant risk of dependence on the fortunes of individual companies. Nevertheless, much of Scottish industry has witnessed a revival over the last few decades. Local

pockets of industrial growth have emerged, most notably the concentration of oil and gas activity in the Grampian area taking advantage of North Sea resources. A gradual shift in the region's economic development strategy, following the increasing transfer of policy autonomy to regional-level agencies (particularly the Scottish Development Agency, and its successor, Scottish Enterprise), has also been partly responsible for new areas of growth. This is perhaps most visible in the region's successful inward investment promotion strategy, which has resulted in creating a concentration of foreign-owned producers and local suppliers in the electronics industry. Based largely in the Central Belt (the so-called 'Silicon Glen'), electronics investment has made Scotland the leading production area for PCs and one of the main sources of semiconductors manufacturing in Europe.

Nevertheless, the Scottish economy remains weakened by its relatively poor performance in a number of areas and these were significant factors in prompting Scottish Enterprise's policy redirection towards cluster development. First, Scottish productivity continues to be a source of concern for Scottish policy-makers (Scottish Executive, 2000). Scotland has made notable gains relative to the UK as a whole, but productivity gaps still separate Scotland from numerous other industrialised countries, such as the US, France and Germany. Second, the level of corporate RTD and innovation expenditure in the economy is still lower than the UK as a whole and other European countries. The issue has been particularly relevant in the context of foreign investment, as questions have been raised about the RTD quality of the investments and their overall degree of embeddedness in the Scottish economy, especially in sectors such as electronics (Turok, 1993). Lastly, the Scottish stock of businesses is relatively limited, reflecting low rates of entrepreneurship and new business formation, relative to the UK and the rest of Europe (Scottish Enterprise, 1993).

As in Scotland, the cluster approach in the Basque Country grew out of a need to focus on the competitive strengths of the regional economy in order to reverse steep industrial decline. The territory is characterised by a long history of industrialisation (alongside the Madrid region and Cataluña). The Basque economy was dominated by foundry and shipbuilding industries until the 1970s when both sectors saw drastic decline in the face of external competition. Following this collapse, there was a perceived need to modernise and reorient the Basque productive structure. This was given further impetus in the early 1990s, when a renewed period of recession had a significant impact on the regional economy.

However, the region's industrial traditions displayed strong tendencies to indigenous growth, as shown by the strong presence of SMEs in the enterprise structure. Unlike Scotland, the region has not been dominated by large-firm culture to the same extent, and its recent growth areas have been driven by indigenous firms (whereas in Scotland, the electronics expansion has been driven by recently-located, foreign-owned enterprises). Moreover, the Basque Country has powerful traditions of industrial association and networking as well as a strong record of spin-offs. In some areas, there was a high incidence of cooperative firms, including the Mondragón corporation (Aranzadi, 1999).

The similarities in the economic and political contexts of both territories are related to the vigour with which both have pursued cluster policies. To explore this and to compare cluster development in Scotland and the Basque Country, a framework for comparing the

experience of the two territories has been developed. This envisages cluster building as a policy process which can be divided into five overlapping, but largely distinct phases. Each phase is a necessary stage in cluster policy, requiring specific tasks of the public sector:

- i. *policy origin*: how the policy was first initiated and taken forward within the territory;
- ii. *cluster selection*: how target clusters were selected and what the respective roles of the public and private sectors have been;
- iii. *identifying the main cluster agents*: as the formal and informal community development lying behind clusters depends on the ability to engage with the key actors within each cluster, how these actors were identified and their commitment secured for the policy;
- iv. *policy implementation*: what the delivery mechanisms were and the division of policy responsibilities between the private and public sectors; and
- v. *exit strategy*: as the goal of cluster policy is to foster self-sustaining industrial communities, how the public sector has articulated their exit strategy from the policy.

The following two sections describe the main features of cluster building in the two territories under these headings.

### **Scotland: the public sector and cluster building**

The cluster approach in Scotland was originally and has consistently been identified with Scottish Enterprise,<sup>1</sup> the government-funded agency with responsibility for economic development of the bulk of the Scottish territory. Although the approach has evolved over time, it originated within - and was first proselytised to - wider business and public sector communities by the agency and has remained closely linked with its strategic view of its own activities. Indeed, the adoption of the cluster approach in Scottish Enterprise has helped to shape perceptions of its own role in economic development.

Formally, while the approach had been espoused in the agency's strategy for several years before, the policy was launched in 1999-2000 with the introduction of seven five-year cluster development programmes. The programmes focus on a range of economic activities – including semiconductors, food and drink, and tourism – and are based around a set of strategies and costed action plans. Expenditure on the cluster programmes is anticipated to be over €360 million, representing approximately 15 percent of the Scottish Enterprise operating budget over the same period (if it was assumed that its 2000-01 projected expenditure was held constant in subsequent years).

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<sup>1</sup> Scottish Enterprise was created in 1991. As a new approach to the delivery of economic and business development policies in Scotland, the new agency consists of a network of 13 Local Enterprise Companies (LECs) covering different parts of the Scottish lowlands and a centralised headquarters in Glasgow where the main strategy and policy development functions are carried out.

(i) *Policy origin*

Although only recently introduced, interest in the cluster approach in Scotland dates back to the early 1990s, when Scottish Enterprise first made use of cluster analysis to examine the Scottish economy. Its initial enthusiasm for the approach can be largely attributed to the influence of Michael Porter's work, not only evident in the use of the consultancy company in which he was involved – Monitor – to undertake the cluster analysis but the lingering impact of many of his key concepts in later policy formulations, notably the 'diamond' model of industry competitiveness.

Nevertheless, the reasons for making use of cluster concepts in economic development derived mainly from the unique economic and policy contexts of Scotland. First, there was a recognition within the agency that the cluster approach could prove a particularly useful tool of economic development. Scottish Enterprise activities have had a common focus on the development of competitive companies within the Scottish economy. Given the relatively small size of the Scottish economy, it could be argued that such companies were more likely to occur in some industries rather than others and that their emergence could be linked to the sources of the industries' competitiveness. Cluster analysis provided a means of analysing these sources of competitiveness.

Second, the approach fitted with the agency's existing policy of maximising the value of Scotland's inward investment. While Scotland has been very successful in attracting foreign investment, conversion of these investments into longer-term impacts on indigenous levels of innovation, skills and business activity has proven more difficult. The development of strong, innovation-oriented clusters in Scottish industry would not only help to embed and upgrade the value of existing investment, but would help to attract future, higher-quality foreign investment. Such value-added inward investment would in turn reinforce the cluster through continuing processes of skills upgrading, RTD linkages with local companies and new firm spin-offs.

Lastly, the cluster approach supplied what appeared to be a coherent, comprehensive and arguably more effective policy framework for developing Scotland's competitiveness. Scottish Enterprise has become increasingly aware of the need to integrate its different policy activities rather than have them exist in isolation from each other. Cluster analysis can support this by enabling policy-makers to understand the different elements contributing to industrial competitiveness and how an agency like Scottish Enterprise can intervene through its disparate mechanisms, whether infrastructure development, FDI promotion or skills training.

(ii) *Cluster selection*

The process of cluster selection has taken place wholly within Scottish Enterprise, with little private sector input. Effectively, it has been undertaken as a policy assessment exercise, initiated by an analysis of the strengths and weaknesses of the Scottish economy from the cluster perspective. The final list of clusters which were to be targeted by policy was determined by a mixture of economic and political considerations.

Monitor was commissioned to carry out the audit of the Scottish economy in 1993. In applying the Porter framework to Scotland, the Monitor study found 30 potential clusters,

from which 13 key sectors were broadly defined. These were identified using a variety of indicators including: the world market share of Scottish output; export share within the industry; the size and overall share of employment; overall value added and value added per employee; output growth rates; RTD capability; and the international reputation of the leading firms in Scotland. Such statistical measures were combined with more qualitative assessments of the extent to which linkages between businesses occurred within the sectors in the following areas: product and process design ideas; market intelligence; logistics; and skills training.

From these 13 sectors, Scottish Enterprise eventually selected seven sectors for cluster programmes. Different rationales were put forward for choosing each of the sectors, but the policy as a whole was bound by several key principles of selection, largely relating to policy considerations:

- *the economic significance of clusters*: the current and anticipated future importance of the cluster in terms of employment, value added, skills level, RTD, exporting and Scotland's competitiveness internationally;
- *the growth potential of the clusters*: the capacity of Scotland to do well in the sectors given expected trends in world markets and other leading countries and regions;
- *the 'readiness' of the clusters*: the capacity of the different components of the clusters to develop into clusters over a feasible period of time; and
- *the scope for policy to influence cluster development*: whether the policy instruments available to Scottish Enterprise were appropriate and sufficient for encouraging growth in the clusters.

In 1998, four 'pilot' cluster teams were set up to test the approach: semiconductors, food and drink, biotechnology, and oil and gas (later reduced to three when it was decided to no longer pursue oil and gas cluster development). The four sectors were chosen for different reasons. Semiconductors and oil and gas were perhaps the most obvious choices given the consistent importance of the sectors behind the early interest in a cluster development approach and their continuing importance to the Scottish economy. As well as representing a significant sector in Scotland, the food and drink sector allowed the approach to involve a wide range of participants, particularly in rural areas. Biotechnology represented a good opportunity to apply the approach to a strong potential cluster.

In 1999, a second generation of clusters was chosen. This entailed detailed consideration of the potential of the 'remaining' clusters originally identified by the Monitor study and subsequent debate. Four were selected - opto-electronics, forest products, tourism and creative industries – and again, each selection had a different rationale. For opto-electronics, it was recognised that Scotland had key technological strengths in the area and it would complement the semiconductor cluster policy. The forest products sector and tourism have been significant employers across Scotland, not least in rural areas which do not have much representation in the other cluster areas. Creative and 'knowledge-based' industries contained a number of growing clusters – such as software games – as well as providing strong overlap with other clusters.

(iii) *Identifying the main cluster agents*

Scottish Enterprise has consistently pushed for the private sector to have a substantial (and ultimately, leading) part in cluster policy. Goals and actions have been defined with the private sector through extensive consultation exercises and the responsibility for many of the agreed measures has been laid with businesses. While industries have not always warmed to the concepts underlying the policies, their understanding of the need for joint private-public action has been essential in the policy's development.

Central to this was establishing a series of policy networks for each cluster area through which Scottish Enterprise could engage with the main agents in each cluster. Clusters were assigned cross-functional teams to draw up strategies and action plans. These cluster teams were established with members from different units within Scottish Enterprise as well as selected representatives from its network of locally-based Local Enterprise Companies (LECs). The aim of the teams was not just strategic – to identify the main forces affecting each cluster and the cluster's main requirements and draw up appropriate actions – but consultative. It was important that the teams worked actively with the main parties within each cluster, both to make the resulting strategies more robust from wide consultation and to create support for the cluster approach beyond Scottish Enterprise.

When discussing the cluster approach in Scottish Enterprise, it is difficult to refer explicitly to an overall cluster strategy. In many respects, cluster development policy has largely consisted of the strategies and action plans produced by the seven individual cluster teams. In spite of their necessary differences though, they have strong similarities in how they have developed the individual policies. Each cluster strategy involved an extensive process of consultation, especially with the private sector. An open and voluntarist approach was adopted by the cluster teams, allowing cluster participants to be self selective in terms of their involvement. Each strategy and action plan emerged from a series of workshops held with businesses, where feedback to Scottish Enterprise proposals was critical in refining the policy. In the semiconductors cluster, these workshops were organised by theme, where groups of issues were discussed with businesses and the results translated into proposed actions by the cluster team. The issues coming out of these workshops have helped to set the main priorities into which all the cluster strategies have been sub-divided.

The open approach to consultation was made necessary by the large variation between the structures of the different clusters. For example, the semiconductors cluster is dominated by large, foreign-owned manufacturers whose commitment to the cluster process has been slow. In contrast, it has been easier to galvanise the biotechnology cluster, as it consists of a small group of SMEs, often spin-offs from Scottish universities, who can be easily identified. As a result of these differences, the success with which the main agents in each cluster have participated in cluster policy-making has been mixed. In clusters whose boundaries are more clearly-defined and where the number of participants is limited, the activity and enthusiasm of the private sector has been more marked. As a result, newly-emerging sectors – such as biotechnology and opto-electronics – or industries with more visible concentration have been quicker to work together and realise the existence of shared issues than larger, more sprawling clusters.

For example, the enterprises in the forestry cluster have welcomed the policy's introduction as it has reinforced their sense of industrial community by creating a strategic vision for the industry and outlining the steps to achieving that vision. Effectively, Scottish Enterprise has played a significant part in 'quickening' the emergence of enterprise networks within the forestry sector. Again, in contrast, community in other clusters has proven more difficult to catalyse. The breadth of the tourism cluster – spanning a variety of sectors, geographical areas and public and private-sector ownership and, consequently, consisting of a large number of individual cluster agents – had made engagement a difficult process.

Cluster cohesion has been fundamental to the ability of Scottish Enterprise to engage with sectoral groups which recognize their commonality and accept the need for joint action for the industry as a whole. In large part, the differences have reflected the capacity of the programme to develop an industry community around the strategy. Where this has been easier to achieve, several factors have supported a widespread acceptance of policy action. It is important that the industry recognises either their common vulnerability to external competition or the opportunity for collective action bringing industry-wide benefits. Support for the strategy has also been more forthcoming where the industry is used to acting collectively, especially through existing industry associations, such as the Scottish Electronics Forum in the case of semiconductors and the Scottish Opto-electronics Association.

*(iv) Policy implementation*

Implementation of the different cluster strategies is at an early stage. Nevertheless, several points can be highlighted about the common approaches to implementing policy evident under the different programmes. The programmes have often relied on existing policies and projects, brought together under the umbrella of the cluster action plans, but in providing policy 'value added', the strategies have been careful to minimise the timespan and scale of policy interventions. Overall, the programmes have consisted of substantial, relatively complex strategies and actions plans. The number of measures contained in these plans is large: for example, some 90 separate measures are identifiable in the semiconductor action plan. Many of these measures existed – or would have been carried forward – without the cluster approach. For example, the Alba Centre, one of the flagship projects of the semiconductor cluster, predates the approach. The Centre is a specially-designed research/design institute and science park which was developed jointly by Scottish Enterprise and the incoming foreign investor, Cadence Design Systems. Its development has been regarded as central to addressing the product design weaknesses in the Scottish industry and ensuring the continuing strength of the semiconductors sector. The cluster approach, however, has been able to build on this project by providing a framework for attaching and designing other policies which would enhance its effectiveness.

The example is illustrative of the cluster approach's impact throughout the cluster strategies. In some cases, the strategies have identified the scope for extending existing successful measures and projects. In other cases, measures have been linked together to improve their effectiveness. Cluster analysis has also revealed the scope for developing

new initiatives to address the problems that surfaced in the economic audit and consultation phases of the strategies. Some clusters contained a larger number of new measures than others – particularly where the industries were receiving targeted public support for the first time (such as biotechnology and creative industries) – but the overall importance of the cluster approach is not the extent to which it induced new policy measures, but its role in providing a framework for integrating all policy activity in support of cluster development.

Implementation has been overseen by special plan delivery groups, composed of both public and private sector members, but overall, the strategies have stressed the voluntary nature of private sector involvement in the actions. With the strategies in place, it has been envisaged that policy delivery would shift away from Scottish Enterprise directly. While many cluster activities continue to be pursued at the centre - particularly through the centralised functions of export and FDI promotion carried out by units within Scottish Enterprise network - for the most part, the centre's role in cluster policy has been viewed as largely been a coordinating and catalytic one. Indeed, for several cluster programmes, the group overseeing the strategy's progress has been rolled out of Scottish Enterprise.

However, greater responsibility for implementing the action plans has largely been passed on to other parts of the Scottish Enterprise network rather than the private sector for the most part. Indeed, policy coordination rather than creation has been a key benefit of the cluster approach in Scotland as the locally-based LECs have taken on different policy tasks within the cluster programmes. For their part, the LECs have been prompted by a recognition that the new approach provides distinct added value to their existing policies. The new approach has been instrumental in creating new opportunities for dialogue with companies and organisations within LEC areas, raising the credibility of the LECs - both as participants of a larger network strategy and in terms of the greater industry knowledge the cluster approach fosters - and encouraging greater industry input into policy design. Increasingly, LECs with a particular concentration of cluster industries or a recognised expertise have been given responsibility for parts of the different programmes, as cluster team leaders are chosen from across the network rather than from within the main body of Scottish Enterprise.

Nevertheless, at least in intention, the different cluster strategies have advocated a significant measure of private sector involvement. In developing the strategy, it was critical that the cluster's participants felt that they had ownership, allowing the public sector's role in cluster development to be limited to the initial impetus not ongoing intervention. In many cases though, even where the industry has been an active partner in developing a cluster programme, it has not necessarily been with the same objective as the public sector. Common to all the cluster strategies has been the problem of conveying the cluster concept to the private sector. Businesses have been receptive to some of its constituent ideas - for example, the importance of networking - but it is not clear that the private sector shares the same collective vision of becoming self-sustaining, highly competitive clusters. The value of the approach has often been perceived in terms of one-off externalities arising from individual projects and a systematic response to new market and technology trends. Within the action plans, responsibility for certain measures has already been earmarked for the private sector, but at least in the initial

stages of policy implementation, the role of companies is anticipated to be mainly participatory.

Moreover, many of the measures have aimed to develop both formal and informal communities within the clusters over the medium to long term. Deepening the informal links within clusters has taken place in different ways. All clusters have been promoted with the use of cluster 'maps', showing the value chains underpinning the seven cluster programmes and helping to set the definitions of each cluster (in some cases, these have been extended to 'collective competence roadmaps', tracing the different links between enterprises, research providers and the cluster's sources of competitiveness). Benchmarking with international regions in some clusters has helped to focus agents within the cluster on the competitive scope of their industry (eg. in the food and drink cluster, which compared the Scottish sector to Denmark and New Zealand). Academic-university fora have also been set up to improve internal linkages within the cluster, investigating opportunities for future joint projects and commercialising existing research (as, for example, in the semiconductors clusters).

Similarly, cluster programmes have also strengthened the formal communities within industries. In the newer industries, the absence of a formal representative industry association has been addressed with the intention of creating a specialised body, as in the case of biotechnology with the Scottish BioAlliance. In more mature industries, priority has been placed on revamping existing industry bodies to provide a clear lead on cluster issues, as will be pursued with the Forest Industries Development Council in the forestry cluster. In all the cluster programmes, there are also projects designed to create a research/skills/property-based focus for parts of the cluster, particularly through the development of high-profile research institutes which also provide training and new business incubation. The Alba Centre has already been mentioned, but similar organisations are planned for opto-electronics (the so-called 'Maxwell Institute') and creative industries (the Pacific Quay digital media centre).

(v) *Exit strategy*

Scottish Enterprise has been careful to set clear targets and limits to its current cluster policy activities. The programmes are all time-limited and set out a series of impact targets for each of the clusters. While no decisions regarding the future of the cluster programmes have been taken, Scottish Enterprise commitment to continuing cluster support will largely depend on the extent to which the programmes are achieving their objectives.

As a result, the evaluation of cluster policy has been given a high priority by Scottish Enterprise. The agency has adopted a more rigorous approach to the problems of evaluating cluster policy and is in the process of setting up a comprehensive framework for monitoring the policy's progress and evaluating its eventual economic impacts. Consequently, evaluation and monitoring procedures have been designed into the implementation of the different cluster programmes from the start with plans in place for interim and final evaluations of the programmes, both individually and in terms of their collective impact on the Scottish economy.

However, there are no current plans to transfer more policy responsibilities within the cluster programmes to private sector-led organisations. Although Scottish Enterprise has gone to some lengths to emphasise that its interventions in support of cluster policy are decidedly meant to be short term, the extent to which private sector bodies are sufficiently developed to inherit the full operation of the programmes remains problematical.

## **The Basque Country: the public sector and cluster building**

Cluster policy in the Basque Country was launched in the early 1990s and has been ongoing since then. The leading institution has been the various incarnations of the Department of Industry of the government of the Basque Autonomous Community.

(i) *Policy origin*

The formal catalyst for cluster policy was the commissioning of a Porter/Monitor study on Basque sources of competitive advantage in 1990, jointly sponsored by the Basque Government, the Diputación Foral de Bizkaia (one of three district authorities in the region) and the *Sociedad Promotora Bilbao Plaza Financiera* (Gobierno Vasco, 1995).

The Basque Country in the early 1990s provided a favourable context for the introduction of cluster policies for several reasons. First, the pre-requisites were satisfied in terms of the regional business population: there was a dense population of locally-owned SMEs in diverse industrial sectors, with business traditions focused on co-operation and informal networks. Second, the regional government had both the scope and the desire to innovate to benefit the regional economy: they had recently gained extended economic development powers, and wished to take the initiative where they perceived that the national government had neglected, to stem the steep economic decline caused by the collapse of traditional industrial sectors and counter the threats posed by increasing globalisation. They were ready to try new ideas - and to look outside Spain for theories

and approaches which were capturing the international imagination. Third, the potential of cluster policy to strengthen indigenous firms by increasing their interactions was appealing because of the strong socio-political desire for regional self-reliance, driven by a strong sense of Basque identity, and because it provided an alternative to relying on inward investment, whose levels could have been affected by Basque separatist activity. Finally, there were also already policy precedents which, while they were not the direct catalysts for cluster policy, had prepared the way for these ideas, namely a strong emphasis on applied technology policy, continuing since the mid 1980s, and an associative approach to delivering selected business support policies (eg. designing and delivering joint training initiatives for groups of firms addressing common issues).

The evolution of cluster policy to date can be divided into two phases. The first, delimited by the 1991-95 Basque Competitiveness Plan, was the establishment of the policy, including initiating the structures and strategies shaping clusters and beginning to change behaviours and perceptions. The second stage, from 1996-99, involved Basque industrial policy supporting the embedding and consolidation of the clusters.

(ii) *Cluster selection*

Currently, 11 Basque clusters are the explicit subject of cluster policy. Their selection has been a progressive and extended process (Table 2) with distinct roles played by the public and private sectors.

**Table 2: Timetable of cluster formation**

| <i>Date formed</i> | <i>Cluster</i>        | <i>Coordinating Organisation</i> | <i>Newly created</i> |
|--------------------|-----------------------|----------------------------------|----------------------|
| 1992               | Electrical appliances | ACEDE                            | Yes                  |
|                    | Machine tools         | AFM                              | No                   |
| 1993               | Automotive            | ACICAE                           | Yes                  |
| 1994               | Port                  | UNIPORT                          | No                   |
|                    | ICT                   | GAIA                             | No                   |
| 1995               | Environment           | ACLIMA                           | Yes                  |
| 1996               | Knowledge             | Cluster Conocimiento             | Yes                  |
|                    | Energy                | Cluster Energía                  | Yes                  |
| 1997               | Aeronautics           | HEGAN                            | Yes                  |
| 1998               | Paper                 | CLUSPAP                          | Yes                  |
| 2000               | Shipbuilding          |                                  | Yes                  |

Initial proposals for priority clusters were made in the 1990-91 Monitor study, which suggested targeting six sectors for development: machine tools; white goods; high value-added steel; forestry; leisure and travel; and Rioja wine (Monitor, 1991). This shortlist was reached through an analysis of regional business activity, moderated by the authors according to whether different sectors required and/or were believed likely to benefit from policy input. Some sectors were omitted as they were already well established, or not considered significant or promising.

The final priority list did not wholly reflect the perceptions of economic strengths which were held by the region's institutions and firms, in part because of the criteria used to define strengths eg. with a strong focus on export performance, and in part because of the reliance of the analysis on industrial classification systems which obscured some cluster patterns. In particular, the automotive components sector was a key omission, neglected as firms were classified under the materials they processed rather than the end product to which they contributed.

The study's sponsors in the regional government accepted the principles of the recommendations, including the emphasis on using associative means to increase the competitiveness of the region's SMEs and combat the threats posed by accelerating globalisation and increasing international competition. However, a process of dialogue was launched to adjust the list of potential clusters to better reflect regional perceptions and priorities. Machine tools, white goods and steel were retained from the Monitor list, and supplemented by: paper; aeronautics; automotives; environment; the Port of Bilbao; business knowledge; telecommunications; and energy.

The Basque Government provided a standard methodology for the selected industrial groups to take the cluster idea forward (developed with Monitor), but it was left to each potential cluster to decide whether or not to do this. Not all took up the invitation. Determining factors included the situation of each cluster (stability appeared to be a key condition for taking on a developmental commitment), and the willingness of relevant firms to dedicate personnel and resources to the initiative and to contribute financially to the policy. Where potential participants were unwilling to take up the initiative, a cluster was not launched. This emphasis on passing responsibility early to the private sector (although they had had relatively little influence at the identification phase) was critical. It was believed that if relevant industrial groups were not committed, then the policy had no business foundation and should be abandoned. However, it appears likely that firms in reality made their decision based not only on business imperatives, but also on the impact of their choice on the future availability of public sector business support. Much future funding for business development was to be awarded preferentially to firms participating in clusters. In addition, future RTD expenditure would also be articulated through clusters, so firms were more likely to have influence and benefit if they acted together to define their priorities. Finally, there was a strong socio-political (loyalty-based) imperative to take up the idea in that the Basque Government was perceived to be taking the initiative to support Basque industry where the national government had failed to step in.

For each cluster which came forward, the methodology to be applied involved the establishment of a multi-sectoral Working Group which had to work systematically using a common methodology to address three tasks:

- *to identify options* using a detailed analysis of the cluster's current competitive strengths and weaknesses in an international context, and then to prioritise between them;
- *to define a plan of action* to realise the priorities identified, distinguishing actions to be undertaken by individual firms, groups of firms and the public sector (and

including the definition of ways to evaluate and control the plans and provision for contingency plans in case the sector evolved differently than was anticipated); and

- *to launch implementation.*

Each Working Group operated with the support of consultant facilitators, and included representatives of relevant firms, the Basque government, and education, training and basic and applied research organisations. Each was chaired by a president drawn from one of the firms in the cluster, who was selected by the regional government and the firms involved, and who had to have a sound business background, considerable standing among the business community and appropriate personal qualities including dynamism, a practical approach and international experience.

The main Working Group for each cluster was subsequently supplemented by further Working Groups to address specific issues. The Basque Government proposed three groups, addressing RTD, internationalisation and quality/human resource development, with clusters free to establish further groups as appropriate. The Working Groups and their sub-groups have continued to operate, supporting and structuring the work of their cluster on an ongoing basis, and involving individuals with appropriate experience from partner firms.

The outcome of the initial Working Groups was to develop general strategic plans which were then discussed with the Department of Industry. The plans summarised the aims and tasks of each cluster, setting out specific structured objectives linked to monitoring indicators. Following negotiation with the regional government, these plans became a form of contractual agreement or *convenio*, signed between the cluster and the government. Public sector resources are committed to the *convenio* and its proposed activities - with subsidies of up to 70 percent for a variety of activities (many of which are funded through mainstream economic development policies).

Over time, further clusters have either taken up the invitation to form which they first declined (eg. paper, which was late to get involved) or proposed themselves. The regional government has welcomed new clusters taking the initiative, where they can make a sufficiently strong case. The cost implications to the regional government are limited, and this responsiveness makes the policy firmly private sector led and ensures it is inclusive, where it could otherwise be seen as unfairly favouring selected firms. The most prominent of the self-selected clusters is that for ICTs.

### *(iii) Identifying the main cluster agents*

From a very early stage, the view of the regional government was that cluster policy could only succeed if the private sector carried significant responsibility. Just as this shaped the launch process, it has influenced the institutional configuration of the clusters formed.

The Basque clusters have a range of basic elements: they are each steered by their Working Groups, described above, whose members represent the interests of the wider cluster. They each have a core membership of private firms, but also associate technology centres and training/educational institutions as partners with special expert

status. A further important cluster partner is the Basque Government. This has a unique status as a partner in that while it does not dictate activities and policy, it supports this financially, and needs to approve the direction to be taken with public funds.

Every cluster has a designated cluster coordinator. These were not a predetermined element, but instead arose from the findings of the initial cluster Working Groups which concluded independently that, while the private sector had a key role to play, it could only achieve this with the support of a coordination body with the resources to take recommendations forward actively and represent the wider body both to cluster members and externally. The aim of cluster associations is to be very directly involved with their sector. They operate actively, for their constituent firms, looking for business opportunities, building profile, etc. They ensure their clusters have a strong presence in the regional press, and also internationally through trade missions and conference participation and act as catalysts facilitating information exchange and interaction. The structures are non-profit making private organisations, funded by the Basque Government, membership fees from firms in the cluster, and the provision of services to the cluster. All cluster coordinating groups have an obligation to provide services and benefits for the *whole* cluster and not just those companies which pay for their services or for membership - otherwise, they would just be industry associations. The managers of the coordinating organisations have been key in representing clusters, providing figureheads, increasing visibility, developing a sense of belonging, facilitating communication and building momentum.

Where sectoral associations existed previous to cluster policy and have become the designated cluster coordinator (see Table 2), the aim has been to define their contribution to cluster development clearly, ringfencing selected pre-existing or new activities which constitute their contribution to facilitating the cluster. They still undertake a wider range of activities, but these constitute services of the sector association and *not* the cluster coordinator. Cluster associations which were newly created for their cluster are also tightly controlled, with agreements clearly defining their activities. The risk here is that, without limits, they simply grow into standard sector associations, and respond to their own momentum rather than serving and facilitating a wider group. In theory, once the linkages are sufficiently active in a cluster, the cluster associations should no longer be needed.

The clusters vary in terms of the breadth of firms actively involved. The breadth of scope was determined by the groups of firms themselves, rather than being an externally driven outcome. There was no initial clear idea about how broad each cluster should be, so they defined themselves from within, depending on the situation of the sector and the firms which got involved. Historical factors had considerable influence. For example, machine tools was traditionally a cohesive sector and was already clearly delimited to its participants. There was a lot of cooperation even before the cluster concept was introduced, with good relations, habits of joint working and the existence of a formal machine tools association. Other sectors have been more difficult to define, eg. environment. This cluster is diverse, but dominated by waste treatment businesses which grew because of the high local density of polluting industries. The composition of the cluster is not immediately apparent from its name, its promotional materials or its

stated aim. However, the dominant firms influence how the cluster works and its priorities.

In terms of the membership of clusters, there have been several approaches taken: to offer the same grade of membership and the same rights to all firms wishing to join, providing different levels of formal membership, at different costs, to different firms; and limiting formal membership to a sub-group of firms deemed most able to make an active contribution. This last approach has been used in the automotive cluster and arose because there was no history of association. It was felt that actively involving too many firms in the early stages would lead to passivity among the members and that the necessary inter-connections and dynamics would not form. With a smaller but slowly growing group of formal, active members, it is hoped that a stronger, deeper dynamic of community building will take place. Eventually, all firms would be members. In spite of this argument, the cluster's approach has been disputed by the regional government which would like to see all clusters involve all their constituent firms, insofar as this is possible.

(iv) *Policy implementation*

Although working under a common framework, each cluster is being developed through its own distinct strategy. As described above, these strategies are developed by cluster-specific Working Groups, modified and agreed in dialogue with the regional government, then delivered and monitored with the support of the cluster coordination organisations.

In each cluster, a wide range of activities has been undertaken, primarily addressing the following four areas:

- *entity building*: initial establishment of the cluster and reinforcing its identity and image externally;
- *community building*: encouraging an increased frequency and depth of interactions between the members of a cluster, increasing members' knowledge about and understanding of their cluster and engendering a sense of ownership/common interest, making the cluster 'come alive';
- *project/linkage building*: where specific projects or concrete long-term associations arise from the existence of the cluster and its interactions; and
- *externalities*: the provision of common services by/to the cluster (which firms individually would not procure) which facilitate improvements in the sector's economic performance by improving the performance of individual firms.

In a process of ongoing reporting and monitoring, each cluster coordinating organisation submits a report to the cluster members and the regional government at six monthly intervals, summarising expenditure and the cluster's activity towards implementing its strategy. The focus, however, is arguably more on how the cluster has performed economically, and what role the cluster strategy has played in this, rather than on how the clusters have developed as entities in themselves.

(v) *Exit strategy*

The Basque government's economic development policy (including interventions supporting clusters) is embodied in successive multi-annual regional development programmes, each elaborated by a successive elected regional government. Although this system means that policies are open to change not only relative to their performance and evolving economic conditions, but also to political factors, cluster policy has nonetheless enjoyed considerable stability. This was an agreed initial condition of launching the policy: the private sector could not be asked to take a significant role in developing clusters if public sector support could be withdrawn after a period too short to have embedded the idea fully. This has helped to guarantee stability, even from one electoral period to the next.

To date, cluster policy has been pursued through three multi-annual plans. There has been a clear evolution of the policy over time, but it is seen more as an ongoing commitment which is kept under review than as one with clear pre-agreed trigger points for public sector withdrawal. A formal 'exit strategy' was not set out in advance by the public sector, with a defined timetable and trigger points, nor has there been a clear prior expectation of how the clusters would develop and what role the public sector should have at each stage. Instead, the regional government has taken a responsive approach, taking stock at regular intervals and adjusting policy accordingly. The regional government has intended that, over time, the public sector financial input to cluster coordination bodies would be phased out, as the clusters become so dynamic that they are no longer needed.

However, for as long as the cluster coordinators exist, there is little urgency for the public sector to withdraw for two reasons. First, the financial contribution to these organisations - which is the main expense of the policy to the public sector - is considered modest (at c.€2m per year), especially given that the intelligence provided by the clusters is also believed to enable improved targeting of other relevant public sector economic development funding. Second, the continuing public sector financial input to these organisations ensures that the regional government has influence over how they are structured and operated - imposing restrictions on their size and activities. Cluster coordinators are considered to have a distinct role and remit to that of sectoral associations, but there is a real danger of them slipping into the latter role - of doing rather than facilitating - which may be more straightforward but is considered less relevant to cluster objectives.

### **Comparing the role of the public sector in cluster building**

The descriptions above reflect two different approaches to designing and implementing cluster development policy. The public sector is the initiator in both cases, but then, in the detail of its implementation, the Basque Country comes to represent a model in which public-private cooperation is more evident and where the private sector plays a more decisive role, while Scottish Enterprise illustrates a more interventionist approach. This section compares the two regions directly, drawing out similarities and contrasts relating to the role of the public sector at the policy stages used in the individual case-study

descriptions: origin; cluster selection; identification of cluster actors; implementation; and exit.

Cluster development policy had its origins in both Scotland and the Basque Country through public sector organisations which have then acted as ‘animateurs’ (in the sense described by Cooke and Morgan, 1998). It was not a policy initially requested by the private sector. At the point of initiating this policy, both Scottish Enterprise and the Basque government were responding to strong incentives to introduce innovative economic development approaches: they had recently gained significant powers for economic development and had the resources to exploit them; they were under public pressure to prove themselves; they had the energy and lack of established reflexes and commitments which characterises newly-created or empowered organisations; and they were operating in regional contexts where there was a strong sense of national identity distinct from that of the wider nation state. Scottish Enterprise had been created as a ‘new generation’ of business development agency, replacing previous structures with an ideologically driven model of private-sector steering. The Basque regional government, in turn, had received significant additional powers from the Spanish state as part of a wider process of decentralisation, and felt driven to exploit these, intervening where the national government had not, to counter increasingly serious industrial decline on behalf of the Basque population.

It is a consequence of the nature of the initiators that lists of priority clusters were shaped not only by economic but also by political considerations. The key public sector agent in each case commissioned a study by Monitor to identify economic groups which were actual or potential sources of competitive advantage and could benefit from increased structuring. The relevant institutions then adapted these conclusions to form their own priority list of potential clusters based on both their deeper understanding of the strengths and potential of the economy (eg. the inclusion of the automotive components sector in the Basque Country), and on political considerations, including: ensuring a spatial balance of potential benefits across the constituency served (eg. forestry and tourism in Scotland); and targeting sectors whose development was a political priority, including the embedding key inward investors (eg. semiconductors in Scotland and aeronautical engineering in the Basque Country).

To contribute to what both governments recognised as ‘knowledge-oriented regional policy’ (in the terms of Lagendijk, 1999), cluster policy, while prompted by the public sector, relies for its success on the full participation and commitment of the private sector, and those other relevant allied bodies generating and diffusing knowledge and information, eg. industry associations and research institutes. Both Scotland and the Basque Country took the cluster idea forward through multi-sectoral working groups. A key difference between Scotland and the Basque Country has been that, in the latter case, in configuring the Working Groups, greater responsibility was handed over sooner to firms for shaping the policy and taking it forward. Having produced a list of target sectors, the Basque Ministry of Industry passed the initiative immediately to firms in these sectors, which had to organise themselves to take up the opportunity (albeit following a methodology provided by the Ministry and Monitor). Although multi-sectoral ‘cluster teams’ were established in Scotland, much more ownership for the

process of planning cluster development has remained with the public sector, with the private sector an essential participant, but not necessarily in the driving seat.

This difference in ownership of the cluster process is reflected again in cluster selection, in which the Basque government has arguably been more responsive to private sector initiative than Scottish Enterprise. Where potential clusters which were not on the original list have prepared a sufficiently strong case, they have been newly included in the policy, receiving the same benefits as the other clusters, notably funding to partially finance their coordination organisation. There may be several reasons for this responsive approach. First, it is possible that the direct electoral accountability of the Basque government to its population and business community precluded 'exclusive' targeting, making it necessary to respond to additional demands which fitted the 'eligibility criteria' for cluster selection (defined through precedents rather than being formally elaborated *per se*). Second, the financial barriers to inclusivity were limited in that cluster policy in its Basque form is a relatively inexpensive public sector initiative. Third, it may have been recognised that an open approach enabled the existing clusters to have a wider catalytic influence on business behaviours: the open opportunity to join the existing clusters encouraged firms in other sectors to actively consider whether they could benefit from associating in a similar way. Scottish Enterprise has arguably taken a more exclusive approach, perhaps because it works at one remove from the electorate, answerable to the Scottish government, or because cluster policy is a more costly initiative in its Scottish form and therefore has to be contained.

Section 2 above described how embedding a clustering process involves a balance between two inter-dependent processes of community building: formal and informal. The first involved taking steps to define the limits of the cluster, identify its main agents and animate them, and establish appropriate institutions, while the second involved strengthening the sense of cohesion and shared identity, underlining common sources of competitiveness and increasing the range and frequency of interactions and linkages between cluster participants. With regard to formal community building, 'institutionalisation' has been an integral element of the cluster building approach in both regions, but the Basque Country differs from Scotland in its balance of responsibilities, with a greater role played by the private sector, and in the degree to which formal structures have been created.

It has already been stated that in both Scotland and the Basque Country, formal groups were established for each cluster to take forward its own individual structured planning process. There are strong similarities in the multi-sectoral composition of the groups in the two regions, reflecting contemporary understanding of the process of innovation and knowledge-oriented development, but, as explained above, ownership has rested more with the private sector in the Basque Country and the public sector in Scotland. The independence of the Basque Working Groups from the public sector is underlined by the fact that, on a multi-annual basis, they present their strategic priorities to the Basque government, and negotiate an agreement about future development which will be the subject of public sector support, reflecting the common ground between the economic development priorities of the cluster and of the Basque government. In Scotland, the public sector has a stronger role in elaborating cluster strategies, and therefore, there is no subsequent process of negotiation with the public sector to agree ways of going forward.

Steering groups can be effective in setting out priorities for clusters to pursue, but then dedicated resources are arguably required to facilitate the pursuit of these ideas on a sustained basis. The Basque clusters chose very quickly to institutionalise themselves further, through the creation of cluster coordinating organisations. The relative independence of the clusters from public sector structures meant that firms or research organisations would have to take on the ongoing steering role and this did not appear feasible. Therefore, new structures were created. The Basque Government agreed to co-fund this process, but on condition that the coordinators firmly embraced a role of facilitating cluster members rather than gaining momentum as institutions in their own right. Where sectoral industry associations existed, they took on the cluster coordinator role, and where they were absent, a new body was founded. These organisations now embody the clusters, providing accessible, tangible, visible dedicated ambassadors and animators. In Scotland, for the most part, new bodies were not founded and where they have been, they have not been given overall implementation responsibilities. Even where industry associations existed, they have not taken on the cluster coordination role. Perhaps the fact that the public sector has had stronger ownership of the steering process has meant that the role of cluster coordinator has always been filled. However, it remains an open question how this solution compares with organisations ‘owned’ by the cluster participants.

‘Informal community building’ has been most active among the Scottish and Basque clusters at the stages of cluster strategy building and then implementation. In terms of the interface between the public and private sectors, two important policy elements have been: enhancing each cluster’s sources of collective competitive advantage; and increasing the density and quality of their interactions.

It has already been stated that ‘cluster policy’, rather than being a policy in its own right, more often involves the reorientation of pre-existing industrial, regional or RTD and innovation policies (Boekholt and Thuriaux, 1999). In line with this principle, one of the major activities of both the Basque and Scottish clusters has been to generate collective insights which, when communicated to relevant public sector agents, enable mainstream economic development policies to be focused more effectively on supporting their development. The public sector, in turn, has been an active player, inviting and responding to this input. The process of refocusing mainstream policies has been especially widespread and effective in human resource development and RTD and innovation policies, and has arguably been one of the most significant and tangible contributions of the cluster idea. Informal community building is taking place in two ways here: the cluster enhances the externalities which provide it with its collective competitive advantage, and so builds a stronger sense of collective interdependence, while public sector organisations involved in economic development become more effective and integral contributors because the quality of public/private dialogue is raised.

The second key element of informal community building which is highlighted above is ‘quickening’ clusters by increasing the frequency and depth of interactions between their participants. In the Basque Country, the main public sector focus has been on the two areas of intervention already described: ‘institutionalising’ clusters and reorienting pre-existing policies, leaving the cluster actors themselves to build a momentum of interaction. In contrast, Scottish Enterprise has taken a different approach, expending

much more effort and resources on engineering opportunities for networking and interaction between cluster participants, aiming to change established business ‘reflexes’, give clusters a sense of identity and so generate necessary momentum. In practice, it has proved difficult for Scottish Enterprise to initiate and sustain these interactions on which clusters are believed to be founded. It is arguable that this process has not necessarily been easier in the Basque Country (although there are some stronger traditions of association). Indeed, it may in fact have been ‘sidestepped’ to an extent there, its absence disguised by a more active process of institutionalisation: the clusters are very visible and have a growing sense of projected identity thanks to their coordination organisations, and a range of relationships and regular interactions have been established, in large part animated by the cluster coordinators, but it is not yet clear how clusters will take the next step in their anticipated progression, reaching levels of dynamism which make their coordination organisations redundant.

With regard to the future evolution of cluster policy, Scottish Enterprise explicitly envisages a time-limited policy process in which a level of momentum can be reached where clusters are self-sustaining and the public sector can withdraw its active support. In the Basque Country, too, the aim is for the public sector to progressively withdraw, ultimately reaching a point where even the cluster coordination organisations are no longer required. In both regions, monitoring and evaluation provisions are in place to track the evolution of the policy towards this point. However, it is debatable whether, in either case, the frameworks in place will genuinely be able to capture the evolutions in participant behaviours, perceptions and performance which are the core of the cluster dynamic.

A more important issue with regard to exit strategies is what, in fact, should be an appropriate goal. In initiating and participating in cluster policy, the public sector aims to facilitate economic development by increasing the ability of firms to compete. In both regions, cluster policy has been seen as a way for targeted firms to establish new forms of dialogue between themselves, improving their awareness of the nature and needs of their sector, and to enable them to project a more coherent and impressive external image, both effects bringing direct benefits to them. However, at the same time, the public sector has its own objectives from the clusters, which are distinct from those of firms and will remain so. Principally, it has aimed to improve the quantity and quality of dialogue with the private sector, so increasing its own ability to facilitate economic development. In addition, in the case of Scotland in particular, the policy has improved the ability of public sector agents to communicate and cooperate with each other: Scottish Enterprise has identified a clear vocabulary and set of policy aims which it has been able to use to build a core of consensus among the economic development organisations with which it works. Given these observations, the logical ‘end point’ of cluster policy is perhaps to reach a situation where the respective objectives of both the private and the public sector are met on an ongoing basis. Private sector participants are seeking competitive benefits from cluster structures and behaviours, while the key benefit to the public sector is improved channels of communication with disparate groups, better enabling it to focus its own activities.

Clusters have been a part of economic development discourse in Scotland and the Basque Country for the last decade, but implementing the policy is at an earlier stage in the

former. Longer has been spent here on planning, and on fostering the necessary level of interaction between firms which is potentially a precondition for the cluster dynamic to take off. The Basque clusters were quickly launched as visible entities driven by clear structures, but it is debatable whether they have thought through their aspirations in the medium term in as much detail as in Scotland, or how to achieve them. The private sector logic may mean that longer-term vision is lacking.

## Conclusions

Community building has been at the heart of cluster development in both Scotland and the Basque Country. In designing their policies, the aim of providing a cohesive identity for the different clusters has been apparent at each stage, whether it was the initial identification of the links between the different cluster agents, the extensive consultation with the private sector to secure their commitment to the policy, the volume of measures intending to increase linkages and common actions within the cluster, and the overall goal of gradual public sector withdrawal from cluster intervention over time. It is also reflected in the strong elements of capacity building for the clusters contained in the Scottish and Basque clusters, as seen by the significant time and resources invested by the public sector in getting the private sector to comprehend, engage and take ownership of the policy.

Within each territory, success in building cluster communities has been decidedly mixed. Much depends on the pre-existence of traditions of industrial cooperation within the cluster or at least, the pre-conditions for such cooperation. Where clusters are wide – as in the case of the tourism cluster in Scotland and the knowledge management cluster in the Basque Country – difficulties have been encountered in persuading the members of the cluster that their individual competitiveness derives from their collective activities. The results to date suggest that cluster building by the public sector is possible, though the necessary conditions must be in place. While the public sector cannot ‘create’ clusters – a mantra frequently repeated by cluster policy researchers – it can have a major role in ‘quickenning’ them.

The challenges in this kind of community building have been experienced in both territories, though success has been more elusive in Scotland. In the Basque Country, elements of the cluster policy – notably cluster selection and policy implementation – have been transferred to cluster representatives within the private sector more readily than in Scotland. As the comparative analysis has highlighted, the lack of cooperative traditions in Scotland and the greater autonomy of the public sector champion of cluster policy in the Basque Country have made it easier for communities to be developed – or at least, rendered more visible.

It is not surprising then that much of Scottish cluster policy efforts have concentrated on developing both the formal *and* the informal communities underlying clusters. Many of its initiatives have been concerned with establishing mutual interests between agents within the cluster through a combination of subsidising joint actions between cluster participants or developing common resources from which they can all benefit. In contrast, Basque Country initiatives have been limited to formal cluster building by setting up cluster associations. The existing associative behaviour of the different

clusters has enabled the public sector to take a less active role in developing communities of interest within clusters. The role of the public sector in Scotland has more clearly been one of ‘animateur’; in the Basque Country, it has been ‘facilitator’.

Nevertheless, the public sectors in both territories face the same longer-term problems about withdrawing from cluster intervention. The exit strategies in both remain loosely defined and there is little indication that the cluster communities which have been encouraged by public subsidy could long survive its removal.

The latter point raises what is perhaps a more pertinent issue about the evolution of cluster policy in the two territories. While developing a sense of community has been fundamental in the two case studies, it has not simply been communities as defined by local economic and business processes. First and foremost, cluster policy has chiefly fashioned communities of *policy* interest. Indeed, in many respects, it could be argued that one of the central goals of cluster policy is not only the development of the regional economy, but the development of the public sector’s ability to understand and act at a localised level. Policy networks can enhance its capacity to do so. Just as the focus for policy has shifted towards business networks rather than individual enterprises, policy-making has taken on similar network characteristics. It can benefit from networking in ways analogous to business, through improved intelligence about opportunities and challenges in the economy and greater economies of scale. Just as business networking can encourage innovation in the local economy by nurturing knowledge generation and helping to share market externalities, policy-making can also benefit from the development of policy partnerships.

Through cluster policy, the public sector has effectively been creating a complementary ‘partner’ which will enable it to pursue its own economic development objectives more effectively, an interlocutor enabling more structured, informed and effective lines of communication with firms, and encouraging the generation of insights which help it to better target its activities. This is part of a wider trend of economic development policy becoming a distributed function, a shared responsibility - rather than a function dispensed by the public sector. Clusters are providing an intermediate scale of interaction between the firm and the economy as a whole, and a common language for economic development priorities.

In this vision, clusters potentially contribute to two sets of distinct but interrelated objectives, enhancing the competitiveness of their constituent firms, and the ability of the public sector to meet its economic development ambitions. Firms are more likely to be pursuing shorter-term and more individualistic ambitions, while public sector organisations may have a longer term vision and be serving a wider economic and geographic constituency. The public sector is a moderator, seeking benefits for its constituency. This has been particularly the case in Scotland, where Scottish Enterprise has been seeking to establish a cluster constituency among other key public sector organisations as well as in the private sector. To date, the public sectors in both territories have bought their seats at the table through financial support for cluster development activities: would they be able to continue to influence the development of clusters if this ceased to be the case?

At the same time, the public sector's continued involvement in cluster development can counteract any cartelisation tendencies within the cluster. Rather than reinforcing the cooperative/competitive elements of the cluster, collaboration can lead to oligopolies exerting an anti-competitive influence on end-user markets and input suppliers. The public sector's role in sanctioning cluster activities can restrict such abuses. However, with such close links forming between the public sector and an industrial group within the economy, the danger is always present of institutional capture, whereby the group can secure a continuing stream of public resources long after the public utility grounds for intervention have been exhausted. Cluster policy necessarily entails a balance between two sets of policy risks.

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