



This work has been submitted to NECTAR, the  
**Northampton Electronic Collection of Theses and  
Research.**

<http://nectar.northampton.ac.uk/2441/>

**Creator(s):** Shaowei He

**Title:** Cluster policy in peripheral regions – the experience of the West Midlands, UK

**Originally presented to:** International Conference on City Cluster, Changsha, China

**Date:** December 2009

**Example citation:** He, S. (2009) Cluster policy in peripheral regions - the experience of the West Midlands, UK. Paper presented to: *International Symposium on City Cluster Development, Changsha, China, 3-4 December 2009.*

# Cluster policy in peripheral regions – the experience of the West Midlands, UK

Paper for the International Conference on City Cluster, Changsha, China, 3-4 December, 2009

Shaowei He  
Northampton Business School  
The University of Northampton  
Boughton Green Road  
Northampton  
NN2 7AL  
United Kingdom

[Shaowei.he@northampton.ac.uk](mailto:Shaowei.he@northampton.ac.uk)

## Abstract

This paper is based on my Phd research. It attempts to assess the cluster policy making in the West Midlands, one of the peripheral regions in the UK. The analysis reveals a number of the difficulties in applying the vague cluster concept to develop actual policy and therefore to promote regional competitiveness. In particular, the ubiquitous political influences, the complexity of the regional social and economic environment, and the lack of desire of rigorous policy making has made the actual deployment of cluster approach problematic. Studying the experience of the West Midlands therefore offers many lessons for other peripheral regions on how to develop cluster policy for their localities.

**Key words:** cluster policy, West Midlands, policy making, peripheral regions

## 1. Introduction

Cluster policy has been enjoying its popularity around the world since the last decade. The United Kingdom finds no exception of that. Shortly after the New Labour came into power in 1997, it published the Competitive White Paper, *Our Competitive Future: Building the Knowledge Driven Economy* (DTI, 1998), which symbolizes the start of the operation of the national cluster agenda. The Whiter Paper, along with a number of other subsequent government policy documents, strongly recommended the newly formed Regional Development Agencies (RDAs) in the English regions to take the cluster approach to address regional economic development.

In response to the government's requirement, the RDA in the West Midlands, Advantage West Midlands (AWM), had to implement the national cluster agenda, incorporating 'clusters' into its Regional Economic Strategy (RES). This turned out, however, to be a very difficult process, not only because the agency as a newly formed organization lacks experience and expertise in strategy making and partnership working, but also because of the fact that the concept of 'clusters' it inherited is very vague in its nature.

Nevertheless, the agency has now been implementing cluster policy for several years, as an approach to restructuring the regional economy and promoting regional competitiveness. A number of priority clusters has been identified. Cluster-dedicated institutions were formed, which have developed cluster-tailored strategies and action plans. Accordingly, commission of cluster projects was started. All these illustrate the efforts of a peripheral region in using the vague cluster concept to promote regional economic growth and competitiveness.

This paper aims to provide an in-depth analysis of the difficulties and challenges facing policy makers in developing cluster policy in peripheral regions, by presenting original research on the emergence and operation of cluster policy in a traditional industrial heartland of the UK - the West Midlands. The paper is based on the author's PhD research, which focuses on the conceptualization and operationalization of 'embeddeness' and 'structural embeddedness' in the West Midlands cluster policy, with a particular focus on three industries: automotive, medical and ICT. Fieldwork consisted of 48 face-to-face interviews with the main policy-making participants and independent observers as well as analysis of relevant policy documents, strategies and evaluations.

The paper is structured as follows: the next section presents a brief description of the economic background of the West Midlands region, illustrating the economic challenges facing policy makers. Section 3 discusses the emergence of cluster policy in the region, unraveling the role of the central government's enthusiasm and the specific regional political and economic environment. The next three sections endeavor to present an in-depth analysis of the West Midland cluster policy: section 4 reviews the development processes of cluster policy in the region, illustrating the key events in its implementation. Section 5 examines the policy instruments in practice, with particular focus on those towards building internal and external linkages. Section 6 summaries the features of the cluster policy making process, demonstrating the compromise policy makers made to suit the regional environment and the subsequent problems. The next section presents some lessons from the experience of the West Midlands. The final section concludes with a summary of the findings.

## **2. Economic background: the West Midlands region**

The West Midlands has a population of just 5.3 million (ONS, 2004). It is a region dominated by the Birmingham conurbation, surrounded by several rural counties. The regional economy is well known for its manufacturing basis. The industrialization of West Midlands has a long history and is founded on Black Country's rich coals and iron-ore resources (Young, 1988). At the turn of the 20<sup>th</sup> century, the region has established its economy around a new set of industries: cycle production, electrical apparatus and motor cars built upon standardized factory production (Spencer et al 1986).

The Second World War destroyed a large amount of industrial plants in U.K. However, the West Midlands recovered very quickly from the war and enjoyed a period of growth and prosperity as a consequence of exports to European and Common Wealth markets, as well as the expansion of the home market. The region became the industrial heartland of the United Kingdom, and 'the industrial region par excellence' (Wood, 1976). Population growth, immigration, employment, construction, and so forth, all reached their peak in 1960s. During 1950s and 1960s, unemployment was regularly below 1%, around half of the national average (Smith and Collinge, 2001). In the early 1960s, the regional GDP per head was nearly 10 per cent higher than in the U.K. as a whole (Spencer et al, 1986). In 1966, the region was the leading growth region in Great Britain only after the South East Region (Smith, 1988).

Most commentators agreed that the wealth and prosperity of the regional economy in the immediate post-war period was built upon its manufacturing industries, in particularly vehicles, metal goods, metal manufacturing, mechanical engineering and electrical engineering (Spencer et al, 1986; Bryson et al, 1996). The post-war boom consolidated the leading position of manufacturing industries in the regional economy. In 1961, manufacturing employed almost 60 per cent of labour force compared to 39 per cent for the United Kingdom as a whole (Bryson et al, 1996).

In a more disaggregate level analysis, it was pointed out that the regional economy was disproportionately dependent upon a small number of industries. Manufacturing provided 1.2 million jobs at the start of the 1960s. Among them, motor-vehicle manufacturing and metal industries alone accounted for around a third of manufacturing employment (Spencer et al, 1986).

Hence overall the regional economy was characterized as specialization within metal manufacturing and engineering associated with a high level of interdependence between industries and between a small number of large firms and a large number of small firms. It was upon this specialization that the prosperity of the West Midlands in the post-war period was built. However, it has been argued that it was the same specialization that contained the seeds of the consequent economical crisis (ibid)

The turning point began in the late 1960s and early 1970s. The region was specialized in a narrow range of metal and engineering related industries and was over-reliance on a small number of leading firms. When those industries turned to be inflexible in coping with increasingly fierce international competition and when the leading firms restructured to enter new sectors and markets and abandoned their traditional West Midlands industries, the crisis was inevitable.

The decline was most evident in those former core industrial sectors of the economy. Employment in the vehicle industry alone was contracted by some 40 percent between 1971 and 1981. Similar decline was seen in metal manufacture, metal goods and mechanical-engineering industries (Spencer et al, 1986). Between 1971 and 1993, the region lost over half a million manufacturing jobs, a decline of 50 per cent in its total manufacturing employment (Bryson et al, 1996).

All these contributed to a surge in the unemployment rate, from 1.3% in 1966 (87% of the national rate), to 4.0% in 1971 (114% of the national rate) and 15.7% in 1983 (124% of the national rate) (Spencer et al, 1986). GDP per head of the regional population as a percentage of the national average dropped from 110% in the early 1960s to 98.1% in 1976 and then to 90.6% in 1981. In only a decade, the region declined from being the second prosperous region in 1960s to being one of the poorest region in England in 1981 (ibid).

From late 1980s, there have been some positive signs of renaissance. Many commentators (for example, Regeneris) observed there have been continued improvements in the region's economy base and restructuring and upgrading of the regional industries. The under-investment problem is being alleviated as the region's share of the U.K. fixed investment had been increased through 1990s (AWM, 1997). There has been a significant expansion of the services sector. Transport, communications and other business services are reported to have grown faster than the average regional economy. It is estimated that growth in service sector created 300,000 jobs between 1980 and 1995 (Smith and Collinge, 2000). As new jobs have been created, the unemployed rate has declined steadily over the last fifteen years, dropping from 12.1% in 1992 to 5.7% in 2003 (WMRO, 2004).

The share of services sector employment has now far exceeded the share of manufacturing, with 62.3% and 27.7% respectively in 1988. From then on, the region shares the national trend with a continuous shift of production and employment away from manufacturing towards services. By the end of 1990s, the industrial structure of the West Midlands was much more similar to that of the national average, although its manufacturing sector is larger and the services sector is smaller than for the whole country.

Despite these progresses, the region is still below the national average on many accounts. For example, Gross Value Added per head was 90.1% of the national average in 2002 (ONS, 2004). Gross Disposable Household Income was still about 91.2% of the national average in 1999 (ONS, 2004). Unemployment rate was still a bit higher than the national average in 2002. Some critical challenges remains to be met: the upskilling of the labour force, more sustained capital investment in infrastructure and in industrial and business assets, etc (Smith and Collinge, 2000). Overall the regional is still lagging behind the national average and the regional economy is still significantly influenced by the manufacturing sector as demonstrated by the publicity of the pull out of BMW in 2000 and the demise of MG Rover in 2005 and their rippling impact across the region.

### 3. Origins of cluster policy: the national cluster agenda and the regional response

The major actor in the cluster policy arena in the West Midlands is the Regional Development Agency (RDA), Advantage West Midlands (AWM), which was established as a non-government public organisation in April 1999, along with seven other English RDAs. The purpose of establishing RDAs in English regions is two folded: firstly, it is part of the government's devolution programme – the decentralization of political power to enable regions develop their own competitive advantages within their own institutional context (Webb & Collis, 2000). Secondly and intertwined with the first point, it is part of the 'new regionalism' approach to regional development which was supposed to move away from restrictive top-down state management and focus on more decentralized intervention to breed 'institutional thickness' and appropriate 'supply architecture' required for endogenous innovation and growth (Amin, 1999; Jones & MacLeod, 1999).

Like other RDAs, the primary role of AWM has been designated as strategic drivers of regional economic development. The *RDAs Act* (HMSO, 1998) defines five statutory purposes for the agency: to further economic development and regeneration; to promote business efficiency, investment and competitiveness; to promote employment; to enhance development and application of skill relevant to employment; to contribute to sustainable development.

Shortly after its establishment, AWM started its ambitious task of developing and implementing a comprehensive regional economic strategy that was also required in the *RDAs Act*. Following an intensive consultation exercise, the Regional Economic Strategy (RES), titled *Creating Advantage*, was endorsed by the then Regional Chamber<sup>1</sup> and submitted subsequently to government in October 1999.

*Creating advantage* pledges to promote growth in eight sectors: engineering design, food and drink, medical technology, creative industry (a collection of diverse industries ranging from music through jewellery to software), tourism and leisure, the motor industry, ceramics and engineering. The term of 'clusters' only appeared occasionally in the document and the intention was to 'investigate developing a 'high technology business cluster' in the region' (AWM, 1999: 5). Thus the stance of the original RES was still a sectoral approach to promoting business development. Things changed however because of the national propaganda for clusters and the changed regional political and economic environment.

In April 2000 AWM produced a draft action plan to implement the RES, as required by the government. However, The draft action plan received only partial buy in from partners. Many partners, including West Midlands Regional Assembly (WMRA), were not happy with their participation in the process which they thought they did not involve enough. There were also concerns about the procedures of AWM's consultation processes. Linked to that is the disquiet about the sectors identified in the RES. The pressure from partners forced the chief executive of AWM to step down in July 2000. There was then a period of repairing the damaged working relationships where partners acknowledged the difficulties AWM had faced in preparing the RES and action plan and AWM recognized mistakes it had made (Ayres et al., 2002). The new AWM management team had to review the RES and the draft action plan with a much more thorough consultation and they felt they probably needed an alternative approach to the RES, according to AWM's senior managers (interview, R8, R9).

It was at this moment that the 'national flotation of clusters' (interview, R8) came in to influence AWM's thinking. The New Labour came into power in 1997 with its non-market and non-state 'Third

---

<sup>1</sup> Mirroring each RDA, a Regional Chamber was established in each of the eight English regions outside of London, which later adopted the title Regional Assembly. They are voluntary bodies dominated by local authorities but involve other civic society stakeholders. RDAs were supposed to consult corresponding RAs when developing their RESs. The government, however, later abolished its plans for elected RAs following the No-vote in the North East region. Although RDAs are accountable to Ministers, the government also encouraged Regional Assemblies to scrutinize the work of the agencies' to ensure that this was compatible with regional needs and priorities. RDAs were directed under the *RDAs Act* 1998 to consult Assemblies on RES and other issues.

Way' and its enthusiasm towards regional endogenous growth and New Regionalism. To a large extent, cluster approach could be seen as part of New Labour's renewed economic policy to embrace market and business. It was an open secret that the American cluster policy was very attractive to many government senior ministers including Gordon Brown<sup>2</sup>, Peter Mandelson<sup>3</sup>, and Lord Sainsbury<sup>4</sup>, who visited America many times and wanted the UK to follow suite (interview, P.C.; R8; Conlin, 2006). Therefore from 1998 to 2001, there was a concentrated publishing period of government policy documents from the Department of Trade and Industry (DTI) and other government departments in which RDAs were strongly recommended to take cluster approach. There was also a cross-Whitehall cluster policy advisory group – Cluster Policy Steering Group (CPSG)<sup>5</sup>, which was to identify barriers to the growth and development of clusters and to recommend new policy initiatives to Cabinet on cluster and network activities.

Not surprisingly, AWM felt itself overwhelmed by the language of 'clusters' as a result of the national propaganda. Indeed, 'clusters' became so popular that AWM found it difficult to resist its charm. In addition, AWM found itself behind other RDAs in getting an approved action plan for its RES because of the row over the draft action plan. They found there were not many options in front of them when they tried to get the action plan for its RES in a short time. The result is what an AWM strategist said 'as a subordinate body that reports to DTI, you are expected to reflect the national policy, no matter whether it fits the regional needs and totality' (interview, R9).

The decision to take cluster approach was also prompted by the 2000 Rover crisis in which BMW announced its intention to sell off Rover that would threaten thousands of jobs in the region. In response, the DTI established the Rover Task Force (RTF) and asked AWM to lead it. Following the recommendation of RTF, the DTI agreed extra investment in the West Midlands, but that extra money had to be linked with two themes identified by the RTF – modernizing the automotive sector from low value-added activities to high value-added activities and diversifying the regional economy away from the automotive industries into other industries such as medical and nano-technologies. The pressure from the DTI meant that the agency needed to rethink its sector approach to the RES and to consider more about new and knowledge-based sectors, according to AWM's senior managers (interview, R8; R10). Thus at the time when AWM was anxious to find an approach to get an approved action plan which was delayed by the row over the original one, the fashionable 'clusters' offered by the central government was perceived to be a sensible approach and it was seen as a way to promote diversification, as explained by a former AWM senior manager:

"From the Porter's model if you bring together different types of organizations and link them in different ways, you get a much broader base for diversification. [It also provides] a relook at what growth opportunities might be in the region. For example, ICT, which was not in the original RES. Some partners felt that was a big omission ... So there are pressures to bring in some new areas of growth. The other is environmental technology. That was [also] thought to have some synergies with the diversification route."

(interview, R8)

To summary, at the national level, cluster policy resulted from party ideology, in this case New Labour's 'Third Way'. At the regional level, 'clusters' was adopted as a response to the central government pressure, to the desire to diversify the regional economy and broaden the regional economic base, and to the need to ease the dissatisfaction of some powerful partners.

In the spring of 2001, AWM published *Agenda for Action (AfA)* (AWM, 2001), the action plan for the RES, and outlined its cluster policy. *AfA* is an attempt to translate the strategic objectives of the RES into practical action. Building upon the themes and policy pillars in the RES, *AfA* has developed three delivery mechanisms to take the RES forward. These are:

---

<sup>2</sup> The Chancellor of the Exchequer

<sup>3</sup> The then Secretary of State of the Department of Trade and Industry (DTI)

<sup>4</sup> The science Minister in the DTI

<sup>5</sup> The group wound up in early 2003 after noting that all RDAs had adopted cluster approach.

*Regeneration Zones (RZs)*: six Regeneration Zones were identified to ensure targeted resources and improve co-ordination of regeneration activity in each area;

*Clusters*: ten clusters were identified on a region-wide basis, where cluster-tailored support was to be provided to encourage networking and remove barriers to growth and therefore to promote cluster development;

*High Technology Corridors (HTCs)*: three HTCs were proposed to promote high technology cluster development in these automotive-dependent areas as a way to diversify the regional economy.

Based on the eight sectors in the RES but with some modification, altogether ten clusters were chosen as priority targets, which fall into three groups:

*Established*: where the challenge is to help the cluster diversify and modernize, but not necessarily grow. This includes transport technologies, building technologies, food and drink, tourism and leisure, high value consumer products;

*Growing*: which is already showing signs of growth. This includes information and communication technology (ICT), specialist business and professional services, environmental technologies;

*embryonic or aspirational*: which are small scale now, but where there are reasonable prospects for growth. This includes interactive media for education and entertainment, and medical technologies.

AfA commits to an approach of partnership working and pledges to undertake a number of specific activities to implement the RES. Altogether 60 main actions were identified, each designated an organization as 'lead partner' with overall strategic responsibility. With respect to clusters, AfA and its subsequent update commit to undertake a number of immediate actions to promote cluster development, including:

- Mapping studies and market and foresight research for each cluster;
- Developing coordinating mechanisms for clusters involving AWM and key services providers such as Small Business Services (SBS), Learning and Skills Councils (LSCs) and High Education Institutions (HEIs), which were evolved into Cluster Opportunity Groups (COGs) at later stage;
- Prepare overall Cluster Action Plan;
- Build on cluster development in High Technology Corridors;
- Implement a series of specific networking projects such as supply chain initiative in medical technology

#### **4. Implementation of the regional cluster policy**

Despite some interruption (for example the Foot and Mouth Disease crisis which squeezed some AWM research funding (interview, R9)), a range of cluster mapping projects and cluster business needs analyses were conducted and published through August and September 2002. In searching for an appropriate mechanism to take the cluster work forward, a key development is the preparation of the *Cluster Action Plan 2000-2008* (AWM, 2002) which was approved in June 2002. This document had a significant impact on the future implementation of cluster policy. First of all, it was an attempt to present an overall regional cluster policy framework. For example, a Concentric Rings Cluster Development Model (see Appendix 1) was developed, reflecting an attempt to conceptualise a wide range of business support areas (such as skills, infrastructure, business professional services, innovation support, etc) in a sophisticated manner (Conlin, 2006). There was also effort to integrate relevant AfA actions into a coherent cluster development model, with reference to the Concentric Rings Cluster Model. In addition, a process of cluster institution building is formalised, which is centred on the Cluster Opportunity Groups (COGs). The business community was proposed to lead the COGs. The Terms of Reference of the Groups encompass agreeing and reviewing cluster priorities based on the cluster mapping information as well as conducting first stage project appraisals (which is ensuring that

projects fit in with cluster priorities identified in the cluster analyses). Moreover, by introducing European Structural Funds<sup>6</sup> into the framework, funding for cluster development was significantly increased. The proposed overall financing for the cluster work for the period 2002-2008 is £332m from AWM with the support of £84m EU Structural Funds (AWM, 2002). Finally and corresponding to the EU style project bidding approach, a project management mechanism was introduced to guide the processes of project bidding, appraisal, contracting and monitoring.

From 2002, AWM started to build up the COGs. These were supposed to be business-led groups which bring together 15-20 strong key public and private sector representatives to define and take forward the cluster agenda. The idea is that, as AWM acts as 'catalyst for change', the strategy responsibility is delegated to the COGs to ensure 'demand-led' and cluster-tailored strategy action.

During 2002 and 2003, AWM recruited cluster managers who were then tasked to establish the COGs. Difficulties soon emerged, not only because private sector members' reluctance to participate, particularly for growth sectors as there were not many existing sector groups to be drawn upon, but also because some clusters are so vaguely defined that the cluster managers did not know who they should invite onto the table. Therefore cluster managers have struggled to set up the COGs and in many cases they had to rely on personal contacts.

It was not until the early 2003 that most of the COGs became operational. However AWM did not have the luxury to wait and therefore actions had been taken before the groups became fully functional. *The Cluster Action Plan 2000-2008* has identified a number of priorities by clusters from which specific cluster action plans were developed. In May 2003, AWM constructed a web site to inform regional partners of the priorities and the needs of each cluster and invited application for projects (AWM, 2004a). A number of projects were commissioned subsequently.

The focus was shifted to the COGs after they were fully established. The COG members were supposed to meet around every six weeks for half a day to discuss relevant issues. In the spring of 2004, AWM requested all the COGs to prepare their three-year cluster action plans (cluster strategies) for the period 2005-2008. These plans were to be submitted in September 2004 and to be incorporated into the agency's corporate plan for the same period. Guidance was provided by AWM, which however, only covers the basic format and structure of the cluster plans. In April 2005, AWM produced a collection of the ten business clusters plans, *Business Clusters Plans 2005-2008: Executive Summary* (AWM, 2005a), which as its name reveals is basically a summary of the ten cluster plans. Generally, each cluster action plan provides a vision for the cluster concerned and identifies a small number of long-term changes which are necessary for growth, together with a set of projects and initiatives to deliver the necessary changes. The agency pledged to spend £50 million on clusters during 2005 -08, supplemented by £13.5 million European Regional Development Fund<sup>7</sup> (AWM, 2005b).

It seems that the Concentric Rings Cluster Model in *the Cluster Action Plan 2000-2008* was dropped off and it was left to COGs to decide their own cluster priorities. What maintains is the EU style project bidding and appraisal approach. After setting the strategic priorities for the cluster, the COG's primary function would be assessing the incoming outline applications (first stage applications). Once a project is considered by the COG as appropriate for the cluster priorities, it will be passed on to the appropriate AWM committee for Full Application (second stage application) and then sent to AWM Board for final approval.

As cluster strategies were only formalized recently, not much work has been done concerning the evaluation of cluster policy. It was only in late 2005 that AWM identified a series of key performance indicators (KPIs) to measure the effectiveness of cluster interventions at both project and cluster level. The project KPIs are: new business created, jobs (created and safeguarded), business assisted, business

---

<sup>6</sup> The Structural Funds is one of the European Union's main instruments for supporting social and economic restructuring across the EU. It is used to tackle regional disparities and support regional development

<sup>7</sup> According to another AWM document (AWM, 2004a), the agency spent £12 million on clusters during the financial year 2002-03 and £21 million in 2003-04. The projected spend for 2004-05 is £30 million



supported by engagement in new collaborations with UK knowledge base. In addition, AWM has identified two cluster-level KPIs: number of networking events and number of companies active in cluster initiatives. Individual COGs have freedom to provide two additional cluster specific KPIs. The first assessment of individual cluster strategies will be completed in 2006.

## 5. The cluster approach in practice

It has been argued that a key feature of cluster policy measures is toward 'clustering', i.e., encouraging linkages between key economic agents (Benneworth & Charles, 2001). Closer scrutiny reveals that, however, the majority of these policy measures predominately focus on internal linkages, in particularly linkages within a region. However, because of the increasing recognition of the importance of external linkages (Bathelt et al., 2004; Wolfe & Gertler, 2004), there have been recently calls for more attention to be paid to external linkages and the need for cluster policy to build 'local nodes in global networks' (Nauwelaers, 2005). Particularly, it has been pointed out that it is crucial for clusters to strike an appropriate balance between internal and external linkages, according to contingent factors such as cluster difference and cluster life stages (He, 2006). Therefore, in examining cluster policy measures, this paper looks at both internal and external linkages.

As early as in 2001, AWM stated that it would aim to promote cluster development by encouraging networks and moving barriers (AWM, 2001). It seems that a common thread running through the ten cluster action plans is to apply various kinds of networking techniques to facilitate cluster development, as the regional cluster policy is based on the belief that 'the level of economic activity would be much greater if connections be made to sources of technology, skills, finance, land, suppliers and potential customers (both public and private) for organizations working towards the same end market' (AWM 2004: 42). Indeed, a range of networking projects could be found in the ten cluster action plans.

As has been said before, individual COGs had the remit to develop distinct cluster strategic plans for corresponding clusters. Collectively the cluster plans demonstrate a diverse range of instruments. Raines (2002) groups cluster policy instruments into three types:

*community-building*, which is to encourage interaction between cluster members, engender common interest, and develop the cluster's identity and image;

*projects and linkages*, which target specific groups of firms and organizations networked for common purposes;

*common resources*, where the policy provides common services or shared facilities to address market failure

The analysis in Raines (2002) however, still focuses on internal linkages. Incorporating Raines' (2002) typology, this paper adds another two types of policy instruments:

*external linkages building*: unlike the three types above which targets the internal cluster community, this type of instruments is geared to build up linkages with external actors for innovation, knowledge transfer, trade and inward investment, etc;

*condition initiatives*: refers to efforts of central government in removing barriers to cluster development and create favorable conditions

The fourth type, external linkages building, is added to the Raines' (2002) typology because, although the majority of current cluster policies focus on promoting internal linkages, elements of external linkages building do exist, at least in issues around FDI and inward investment.

The fifth type, condition initiatives, is included to reflect the efforts of central government that have a profound influence on regional cluster policy. This also reflects the recognition that regional cluster policy development is not isolated, but incorporates policy elements from the central government and in particular the DTI.

Table 8-1 presents some examples of the five types of policy instruments, drawing upon some past but mostly current activities in the automotive, medical technology and ICT cluster strategies. Additional reference is made to actions of AWM and the DTI.

Table 8-1 examples of instruments in the West Midlands cluster policy

	<b>Medical</b>	<b>ICT</b>	<b>Automotive</b>
<b>Community building</b>	<i>Medilink</i> : acts as the signposting and support network for the industry;  <i>Marketing the cluster</i> : showcase the skills, products and opportunities within the cluster	<i>ICT Website and e-newsletter</i> : a consolidation of events and programmes;  <i>WMITA</i> : regional IT association	<i>Promoting Regional Strategic Collaboration</i> : to establish a strategic body with a shared vision and co-coordinated approach to developing a cluster strategy for the Midlands automotive industry
<b>Common resources</b>	<i>Innovation Foresight</i> : provides up to date trend analysis of healthcare related issues;  <i>e-Health</i> : to exploit opportunity from the multi billion pound national NHS IT strategy, including the potential for e-prescribing, e-pathology, community and ambulatory telemedicine and communications	<i>iCentrum</i> : a technology resource center to assist SMEs in product development;  <i>Regional ICT Directory</i> : compiles a directory of region's ICT business, tracks trends and assesses needs in the region	<i>Technology Transfer Center</i> : to facilitate technology transfer from the universities/RTOs in the region to SMEs and technology exchange between SMEs (an Accelerate Programme);  <i>Task</i> : to establish a regional spoke of the Automotive Academy including course development, pilot and validation (a RTF programme)
<b>Projects/linkages</b>	<i>Aston Academy of Life Science</i> : to create a purpose-built facility for biomedical research;  <i>Learning Hubs</i> : to ensure that local people have the best chance of taking up the large number of jobs being created in the Healthcare sector, particularly the new hospital building	<i>CERCIA</i> : a project to exploiting innovation opportunities in Birmingham University;  <i>Mobile &amp; Wireless</i> : a consortium of 5 universities working together to promote the exploitation of wireless and mobile technologies	<i>PARD</i> : collaborative research programme between WMG, Jaguar-Land Rover and its supply base;
<b>External linkages (by COGs)</b>		<i>Export Task Group Plan</i> : to develop effective channels to local, European & Global markets;	Ongoing talks to engage actors in the East Midlands to build a strategic body for the Midlands automotive industry
<b>External linkages (by AWM)</b>	AWM has implemented a cluster-gear regional inward investment strategy and made efforts to link the work between UKTI and COGs and to develop international trade cluster plans. In addition, there are cross-RDAs working on motor sports, automotive, and environmental clusters.		
<b>conditions initiatives</b>	CPSG has addressed issues around access to finance, planning, incubator, business-HEI links, skills, and inter-regional collaboration, trying to remove barriers to cluster development and create favourable condition		

Sources: AWM, 2004, 2005a, 2005c, 2005d, 2005e; Minutes of CPSG meetings at various dates;

Note: as there is no automotive COG at present, there are no COG projects. Apart from several proposed by the cluster manager, projects in the automotive cluster interim strategy are to a large extent a collection of projects that

are either funded by AWM but outside the remit of COGs or funded by other public agencies such as Accelerate.

The examples in the table demonstrate the variety of instruments in the cluster strategies. Closer scrutiny unravels that the focus of these policy instruments is on internal linkages. This is best exemplified by some of the cross-cutting principles in the Automotive cluster strategy:

“Embedding OEMs and Tier 1 companies **within** the region;

.....

promoting regional cohesion **within** the sector;

Building relationships with key companies **within** the region”

(AWM, 2005a: 9. emphasis added)

The internal focus has also been confirmed by findings from interviews. Almost all of the interviewees acknowledged that the focus of current policy is on intra-regional linkages, be it automotive, medical technology, or ICT. One of AWM’s cluster strategists put it, “we only support our companies” (interview, R9). Therefore, projects for community building means to build the community of regional clusters; projects for common resources are toward sharing resources among regional firms and other organisations; specific linkages and projects aim at collaborating between regional actors. In other words, support for networking is exclusive to actors within the West Midlands region. Therefore, an automotive component supplier on the border with the East Midlands would not be treated as a community member if it were not in the West Midlands, even though it is very close to the region and the majority of its customers are in the West Midlands. It is therefore excluded from those projects that are towards resources sharing and collaboration between regional actors.

There do exist some sparsely dispersed elements of external linkages such as the Export Task Group Plan in the ICT cluster strategy. However, first of all, they are very limited in number. In fact, almost all external linkages initiatives the researcher could find have been listed in table 8-1. In addition, these limited external linkages are to a large extent dealt with in market sense and are mostly dispersed in areas such as FDI and inward investment. Little has the policy mentioned how to encourage R&D collaboration with appropriate firms or research organizations outside the region, nor how to acquire badly-needed skills the region may not be able to offer. Even when there are cross-regional collaboration arrangements, they are usually limited with only neighbouring regions. Moreover, the structure or balance between internal and external linkages and the contingent factors are hardly touched by current policy. In summary, external linkages could only be best described as weakly addressed in the regional cluster policy. This is aligned with cluster policies in other places. Analyses in the European context found that, for example, cluster initiatives are usually applied within demarcated areas and the primary aim is to involve the players in those areas, but none outside (e.g., Nauwelaers, 2003, Boekholt & McKibbin, 2003).

## **6. Features of the cluster policy making process and problems associated**

The last section has revealed that the regional cluster policy is unable to address systematically internal and external linkages. This might result from the particular way through which cluster policy has been developed in the West Midlands. Three features of the policy process emerged: highly political process of policy making; policy makers’ pragmatic approach; and the ambiguous policy governance structure.

### **6.1 highly political process of policy making**

“This is the world of politics. It is not as I imagined.”

interview, P.C

The quotation is the comment from a prominent academic researcher who once sat on the DTI Cluster Policy Steering Group and has observed many political influences behind the scene. Analysis of cluster policy making in the West Midlands also reveals that it is a highly political process, which is reflected in almost all the stages of policy making, from agenda setting through the selection of priority clusters to policy implementation. For example, previous discussion has demonstrated that, 'clusters' was adopted by AWM as a response to the central government pressure and to the need to ease the dissatisfaction of some powerful partners. Interviews with former AWM senior managers also reveal that the selection of some clusters was the result of lobbying from special interest groups. For example, although the Food and Drink industry was not a big contributor to the regional economy, it appears in the cluster list because of the outbreak of Foot and Mouth Disease in 2001 and the subsequent rural issues and pressures from farmers (interview, R8). Another example is ICT, which was not in the sectors list in the original RES (AWM, 1999), but appears in the clusters list in the AfA (AWM, 2001). That seems to be the result of specially the pressure from outside to reflect the influence of a big company – Marconi, which had enormous investment in the region (interview, R8).

The impact of political influence on the practical deployment of the cluster approach often exhibited as conflicts between different institution's agendas or cultures, which may impede the coordination between them and therefore makes the policy process very difficult some time. Two examples suffice to explain this.

The first example concerns the automotive cluster, where the clash between AWM and Accelerate in particular has obstructed the formation of the automotive COG. The clash arose because on one hand AWM thought it had the authority to take lead and on the other hand because Accelerate has been existed for a long time and has established good reputation and strong institutional culture.

It seems easy for AWM to build an automotive COG as it is a mature industry and therefore there are many existing partnerships and structures to draw upon. AWM indeed tried to set up the automotive COG on the back of an existing public-private sector partnership in the automotive sector - the Accelerate. Therefore every time when the Accelerate Executive Committee had meetings, the first half contributed to Accelerate and the second half went to issues of the automotive cluster.

The Accelerate partnership however, is not a perfect substitute for an automotive COG. To many industry experts, Accelerate is too focused on automotive supply chain and process improvement, but does not give enough emphasis on skills sand innovation, which are also critical to the regional automotive industry (interview, A1, 3, 9). In addition, automotive SMEs are not very well represented in the Accelerate Executive Committee, as a former Accelerate senior manager admits (interview, A6). Furthermore, Accelerate was over the years dominated by a particular vehicle assembly -MG Rover- and people associated with it (interview, A2). Realizing all these, AWM tried to adjust the membership of the Automotive COG and bring some new stakeholders in the group. This brought fierce resistance from Accelerate as it suspected that AWM was trying to duplicate it. An Accelerate manager complained:

"I do not really understand why they decided they wanted to do their own thing ... We are very established. We have good relationships with industry. If our partnership meets, why would they want to meet as the same group to duplicate for AWM?"

(interview, A8)

Therefore distrust between Accelerate and AWM emerged and deepens over time<sup>8</sup>. According to an automotive industry expert in the region, resistance also comes from Birmingham Chamber of Commerce and Industry Forum who have contracts from Accelerate (interview, A1). Because of these difficulties and problems, it is not surprising that the mechanism of operating the Automotive COG on the back of Accelerate did not last long. In fact effectively there does not now exist an automotive

---

<sup>8</sup> According to an observer, the relationship between Accelerate and AWM becomes better now as the majority of Accelerate's funding now comes from AWM (interview, A9).

COG. Consequently, AWM had to bring in a consultant who wrote an interim automotive cluster strategy.

The second example is concerned with the medical technologies cluster. There has been painful dispute over the definition of the cluster among the medical COG members, which to a large extent could be interpreted as the result of the conflicts between different institutional agendas. A former COG member explained that in detail during interview (interview, M2): firstly, there is a National Health Services' (NHS)<sup>9</sup> health agenda, which is predominantly about the treatment of patients<sup>10</sup> rather than economic development. The organization is so powerful that its influence over the COG began to grow beyond procurement into areas like public health, which is arguably peripheral to industry growth. Not surprisingly, that has received resistance from some other COG members. Secondly, there is a central government imposed agenda for universities and NHS to exploit their intellectual properties (IP), which means that they have to become competitive to commercialize innovative ideas to grip financial returns. Therefore there is competition between different universities as well as between universities and NHS for knowledge exploitation. Thirdly, the medical technologies cluster encompasses hugely different industries<sup>11</sup>, which are informed by different scientific bases and have different innovation models. Finally, AWM also has its regional agenda - to maintain its political rightfulness of being 'inclusive' to reconcile competing sub-regional agendas.

These contested agendas between institutions have troubled the medical COG a lot as demonstrated in the long and painful dispute over the definition of the cluster and the focus of the cluster strategy. The West Midlands does not have strong medical industry. The region does not have any big pharmaceutical companies. There are some medical device firms. In addition, some biomedical research assets are dispersed in a few universities and the NHS trusts. The COG came forward initially with a relatively narrow definition by focusing on the existing medical device firm base in the region. Recognizing the interdisciplinary nature of the medical industry, AWM invited representatives from firms and some key organizations such as NHS, Higher Education Institutes (HEIs), and Warwick Manufacturing Group (WMG, one of Europe's leading manufacturing groups who has a range of manufacturing research and development expertise) and so on to the medical COG. With its pragmatic approach, AWM then asked them to come up with a definition of the cluster. As everyone has a definition, what AWM did was putting all of those into one definition. Hence the cluster ended up in 2004 with a very broad definition that 'encompass almost everything ... (and) a whole set of institutional and firm agendas', according to a former COG member (interview, M2). Indeed, the cluster was consequently renamed as the Medical and Healthcare Technology cluster. However, it was realized later that funding from AWM was not able to support such a broad cluster definition and its massive agenda. This ignited another round of fierce debate among COG members over the definition of the cluster and the priority actions that should be taken. Some COG members questioned that '[the cluster] got too big and shapeless to actually make sense of as a cluster' (interview, M6). The cluster was then reconfigured in March 2005 with a much tighter definition. However again, many felt that by ignoring the NHS regulatory issues, the COG was in serious danger of 'throwing the baby out with the bath water' (interview, M2). The ever-going dispute around the cluster definition frustrated many COG members. Tired with the endless dispute and disappointed with the lack of funding from AWM, several COG members chose to leave in spring 2005, including the cluster manager and the cluster secretary provided by the agency.

### **Problems of political influence**

It may be impossible to avoid political influence in the process of policy making and implementation. Sometimes policy making is an outcome of politics. On other occasions policy makers may consciously take action to suit the need of the political environment. However, politics may also cause a lot of trouble. The medical cluster example obviously has demonstrated the difficulties for institutions to collaborate with each other because of their contested agendas. In addition, the process has been

---

<sup>9</sup> The NHS is funded by the taxpayer and managed by the Department of Health to provide health services to the general public

<sup>10</sup> This is indeed a strong impression from the interview with NHS-related representatives on the COG. They felt strongly that the medical cluster strategy should involve much wider community, in particular patients, rather than just industries and universities, because 'healthcare is about the well-being of individuals' (interview, M9).

<sup>11</sup> By its broad definition, the cluster encompasses bio-medical, medical devices, and pharmaceutical industry.

dominated by powerful organizations, such as the universities and NHS in the medical case, particularly when AWM was young. The definition of the medical cluster therefore has been seemingly changed constantly over time, as AWM did not have strong leadership to pursue policy rigor. There is therefore the danger that cluster policy may be utilized by powerful institutions to pursue their own agendas which may not be consistent with the interests of the region's or the clusters'.

Previous discussion has also revealed that cluster policy at the national level resulted from New Labour's 'Third Way' party ideology. In addition, there was a rush at the regional level for AWM to find an approach to take forward the RES and ease partners' anger on one hand and to respond to the national cluster agenda on the other hand. The negative side of these is that, party ideology varies over time with political environment, as demonstrated by New Labour's shift to pro-business stance prior to the 1997 general election. Many observers have no doubt about the element of 'fashion' in the government's adoption of cluster approach. That 'fashion' however, has shown signs of decaying. A senior economist in the DTI commented after the interview that the language of 'clusters', which was once very 'sexy (?)', is now off the DTI's record (interview, M.K.). A recent research found that, only several years after the DTI Competitiveness White Paper, AWM is now probably the only English RDA that still sticks to cluster approach (Tully & Berkeley, 2004). However, even AWM has shown signs of retreat from cluster policy, as its managers are now deliberately blurring the distinction between 'clusters' and 'sectors' and between cluster policy and sector-based policy. The danger is two fold: Firstly, in the rush to follow the fashionable cluster approach, the rigor of policy analysis may have been endangered, which may have bred the seeds of trouble at later stage. The discussion above has demonstrated that some of the priority clusters in the regional cluster policy may not be chosen as a result of rigorous analysis of clustering, but of political pressure or special lobby. Partly as a result of that, the medical COG has been disputing over the composition of the cluster. Secondly and because of the lack of policy rigor, cluster approach may either be taken because of its fashion or short-term political pressure although contradicted with the region's long-term interest or be pursued only for a short period and then disappears although 'clustering' takes a long time to have effect.

## **6.2 pragmatic approach to policy making**

Government requires that RDAs to be 'business-led' organizations. Responding to that, AWM claimed that it was to adopt a 'business-led' approach to cluster policy (AWM, 2001). Corresponding to AWM's 'business-led' policy philosophy is the embracement of pragmatic approach among its staff and COG members, which the researcher felt very strongly during the interview. What the pragmatic approach exhibits is that there is a tendency of playing down the importance of intellectual foundation and robust intelligence base for policy making, that AWM 'did not apply cluster policy to any sort of pattern or rule' (interview, A1), and that in a number of cases it is projects that lead policy/strategies rather than the vice versa.

There is among policy makers disbelief in comprehensive theoretical validation and thorough evidence base, although almost every interviewee mentioned that there was great deal of confusion around clusters and cluster policy. An AWM cluster strategist confessed in the interview that

“[There was no intention] to go through the validity of clusters and more theoretical understanding. We were under great pressure to bring forward actual action. We did not bring in any academic study or consultancy to support the working through clusters. I am not sure that [this] would actually achieve that much ... [and] that one can always have comprehensive evidence to support for every stage of decision making ... A lot of decision making is a black box”

interview, R9

AWM did run some cluster workshops and seminars. Some of the senior policy makers and cluster managers also attended conferences on clustering and innovation in other places. However most of interviewees agreed that the messages were never clear. Also by taking a 'doing real business' approach, few bothered with clarifying the ambiguity in theory and the best practice in cluster policy. What could be observed about cluster policy development, according to a Vice Principal of a big university who has been involved in many regional policy areas, is a process that

“was not a rational construct emerging from rational debate between players. I do not believe people really understood what cluster policy was about”

(interview, R2)

AWM staffs argued that, when they developed cluster policy, they only had some basic ideas and guidelines from the government, the DTI in particular. As there was no clear guidance from the government, AWM was left to develop its own cluster policy, with a crude message that ‘cluster is workable’ and without any ‘rules of the game’. Ironically, the same happened to individual COGs when they were asked by AWM to develop their cluster strategies. A senior AWM manager admitted that the guidelines given to COGs were not on content, but on the format, i.e. headings that individual cluster strategies should follow. Indeed, the message was so crude that a number of COG members argued that they’d never been strongly briefed what the overall regional cluster policy is.

With the ever-changing economic environment and the short time span given to policy development<sup>12</sup>, policy makers were under great pressure to take quick actions. As a senior AWM manager stated,

‘the only one sin is to delay. You must ... take decisions to do things now... if you wait, you are dead’

(interview, R11)

The pressure was not only on producing strategic documents, but also on delivery. Therefore AWM did not apply the classic stage model of policy making where decision making, clusters analysis and selection, instruments choosing, implementation and evaluation follow in sequence. What actually happened is that AWM tried to do intelligence gathering, COGs building and projects commissioning at around the same time. As there was not much economic intelligence and the cluster strategies were not there, initially ‘the agency was left with simply asking the firms who came to the early meetings, what they wanted to do. And, of course, only a few firms attended these meetings’ (interview, M2). Most of the COGs only became fully operational in late 2003 and it was only in the early spring of 2004 that they were asked to produce their cluster strategies. These COGs later found the difficulty in doing this as a number of projects predated their strategies, some of which do not fit in with cluster policy and squeeze their budgets. This is certainly the case for the ICT cluster, where the majority of the funded projects existed before the COG was fully established. However, the COG had to inherit these pre-existing projects and incorporate them into their cluster strategy.

### **Problems with pragmatic approach to policy making**

It is probably sensible to for AWM take a pragmatic approach to policy development, as policy needs to suit the specific regional economic, social and political context. However, if not careful, a number of problems may follow. One of the consequences of the pragmatic approach is that over time the regional cluster policy has not been able to build itself on the basis of strong intellectual foundation and solid intelligence on the regional economy and industries. Without enough attention paid to study of clusters and cluster policy, some important elements of clusters and cluster policy was not fully recognized and appreciated.

This might be one of the reasons that external linkages were only weakly addressed in the regional policy, as policy makers may not fully appreciate the importance of external linkages and the structure or balance between internal and external linkages. Policy makers need a good understanding of the features of their clusters, for example, knowledge accessibility and appropriability, and development stages of clusters, if they want to address the structure of internal and external linkages appropriately (He, 2006). However, many policy makers interviewed admitted that they do not really understand clusters and cluster behaviour. They also confessed that they did not know much about the regional

---

<sup>12</sup> AWM was given only 6 months to put forward its first RES. similarly, individual COGs were given half a year initially to come up with their three year action plans which was later extended

economy and industries and much of their strategies were based on ‘anecdotal hear’ and ‘light on numbers’ (interview, M4). There was therefore the danger of sloppy policy making or absence of policy making rigor.

The absence of policy rigor is also evident in the lack of economic rationales in selecting some of the priority clusters. An AWM cluster strategist admitted that the selection of the medical technologies cluster, for example, is ‘just an aspiration that it would be good if the West Midlands could secure some sort of competitive position in medical technologies’ (interview, R9). This has been noticed in a recent research:

“Medical technology has been identified as an ‘aspirational’ cluster for the West Midlands following a scoping study which identified the existence of strong medical schools at Birmingham and elsewhere, including the East Midlands. The report provides a detailed rendering of where the West Midlands might have competitive advantage within the sector. It identifies Yorkshire and Humberside, Baden Württemberg as comparator regions which have an existing biotech advantage. The report identifies ten factors which encourage cluster development. The West Midlands is reported as ‘weak’ on nine of these criteria and ‘medium’ on the other. Meanwhile there is only a single instance of any of the comparator regions being considered ‘weak’ on any of the criteria. Yet, the report concludes that the cluster has potential in the West Midlands, implying that the cluster has been identified by policymakers with little or no reference to international or even UK comparative advantage”

(Andriani et al., 2005: 25)

The sloppy thinking has also impaired the robustness of many other aspects of policy making, for example project application. A medical COG member described what happened when the strategy process was not robust enough to facilitate choice:

“Some projects ... were not funded because they fit the strategy or are really necessary. They were funded ... because they were there before and it was too embarrassing [for AWM] to close it down... One of the projects is making CDs for children in schools, [which is] totally annoying. So you get companies out there, with real problem. They can’t get anywhere fast, because they lack funding, and so on. What the COG has decided to fund is a project where we can get school kids to understand what the medical industry is about, which I personally think is very low priority. ... It was done on emotion. The lady presenting there made an emotional appeal...I think [the project] is nice. But if these companies do not get help now, they won’t be in the industry in this region for the school kids to go into in ten years time.”

(interview, M7)

Another danger of the pragmatic approach is that because of its willingness to compromise, it is susceptible to influence of powerful institutions and opportunistic behaviour. The case of medical cluster is a good example of this. The enormous influence of big institutions like universities and NHS is certainly behind the row over the medical cluster definition. In particular, because of the penetration of NHS, the cluster ended up in 2004 with a very broad definition that ‘encompass almost everything that the National Health Services would buy... (and) a whole set of institutional and firm agendas’ (interview, M2). Related to that is the enthusiasm among COG members in pursuing the opportunities the NHS spending may bring. The Medical cluster strategy (AWM, 2005d) spends a lot of words in describing the importance of NHS, in particular its over £2.2 billion spending and over 100,000 staff in the West Midlands. Indeed, a central theme running through the strategy is exploiting the opportunity coming from NHS, particularly the £1.75 billion new hospital building programme. As one of the COG member said, ‘whether you call it cluster or sector is not important. What is important is to take advantage of it (the opportunity)’ (interview, M1). The negative side of this opportunism however, is the possibility of being over-driven by NHS’ agenda of treatment of patients and exploitation of intellectual property (IP). Indeed, during the interview, it was felt that a number of NHS-related COG members were keen to get the patients and health agenda across their colleagues in the COG. An AWM senior manager admitted that the cluster strategy ‘has been trying to get involved too many areas and it essentially blurred the boundary between medical technology cluster and the role of health policy’ (interview, M10).



### 6.3 ambiguous policy governance structure

Policy governance concerns issues around modes of decision making in the policy development and implementation processes. Issues of policy governance could be discussed along two dimensions: concerning the relationship between policy makers at different hierarchical levels, there are top-down and bottom-up approaches (Raines, 2000); with regard to relationships between government and other partners at the same hierarchical level, there are dirigiste and partnership approaches (Beckholt & McKibbin, 2003; Fromhold-Eisebith & Eisebith, 2005). In this section therefore, the policy governance structure is examined through the study on the relationship between central government and AWM on one hand, and the relationship between AWM and its regional partners on the other hand.

The government has claimed a 'bottom-up' approach (DTI & DfEE, 2001) to cluster policy and it asked RDAs to act as catalysts and to stimulate endogenous, innovation-oriented growth. Indeed, according to a DTI senior economist, the government does not do cluster policy any more because it was devolved to RDAs after the wound up of CPSG in 2003 (interview, M.K.). Therefore to some extent, the 'bottom-up' approach is a 'hands-off' approach.

Paradoxically, despite the reluctance of pursuing an 'active role' in regional policy development, the government has maintained excessive control over RDAs and therefore has restricted their ability and flexibility to pursue their cluster policies. First of all, it is open to question that whether the government's approach is a 'bottom-up' one, as effectively RDAs were required by the government to take on the government's cluster agenda. In addition, the government constrains the resources and autonomy available to RDAs. In their early years, RDAs suffered severely from lack of funding and flexibility. Although that was eased with the operation of 'Single Pot'<sup>13</sup>, the government has considerably limited RDAs free space to manoeuvre by setting very specific targets for them to meet (Bailey, 2003). Many commentators therefore have noticed 'the (paradoxical) reluctance of a devolving central government to release the levers of power' (Morgan, 2002: 797). Furthermore, the government may also veto RDAs specific project proposals. In the West Midlands case, it has been reported that the government once vetoed AWM's proposal for a £90 million nano-technology centre project which had a high priority on AWM's agenda<sup>14</sup> (Bailey, 2003). Finally but not the last, the government and the DTI in particular, partly due to its shifted interest, is 'parachuting' new initiatives into the regions, which (for example the generic business support service, MAS) may not fit the cluster policy well (interview, A6).

Therefore what can be observed is an ambivalent 'bottom-up' approach: on one hand, government left RDAs to develop their own cluster policies and did not give much valuable guidance. On the other hand, many aspects that are relevant to cluster policy such as RDA's finance, autonomy, and performance assessment are controlled by governments, which has considerably constrained RDAs' including AWM's capacity and ability to develop cluster policy.

With regard to the relationship between AWM and its regional partners, the DTI recommended RDAs to play a leading role in catalyzing partnerships to support cluster development, but not in 'creating' clusters (DTI, 1999). AWM has also pledged partnership working in its various documents (AWM, 2001, 2004). The question is: how does that work?

There are two areas to examine AWM's partnership commitment: the first concerns its general relationship with regional partners and the second concerns interactions within the COGs. AWM said it tried hard to consult partners in developing the RES and the action plans (AWM, 2001, AWM, 2004). However, information from interviews reveals dissatisfaction from a number of partners including universities, West Midlands Local Government Association (WMLGA), WMRA and the business

---

<sup>13</sup> From 2002, funding is channeled to RDAs through a single cross-department budget, in which monies from various contributing government departments are now pooled into one single combined budget, known as 'Single Pot'. Through the operation of 'Single Pot', government has increased the RDAs' budget. Also RDAs are allowed to transfer up to 20% out of any programmes to another programme.

<sup>14</sup> For investment over £1m, RDAs need to report to the DTI for approval. The limit was later lifted to £2m.

community (interview, R2, R7, R8, R3, R5). Many partners felt that there was no extensive consultation and that they were not sufficiently involved in developing the RES and cluster policy, particularly in the early days. A member of the WMRA recalled that:

“The first year of AWM was a disaster ... The engagement with regional partners was very poor ... the original action plan has actions defined for a whole range of partners, but without consultation with partners before the action plan was produced ... It is mistake to use the word ‘partnership’. **At that stage, there was no partnership.**”

(interview, R2)

To be fair with AWM, some of the blame should be with the government. To implement its devolution agenda, the government established RDAs and RAs, expanded functions of Government Offices for the regions (GOs)<sup>15</sup>, and introduced or reshaped some other organizations such as LSCs and SBS. However, arguably the government’s devolution agenda was not well thought out and was uncertain in its future direction. Therefore, a number of new organizations were introduced within a very short time scale. Some operate at regional level, but others at sub-regional levels and report to their national headquarters. In addition, a number of them have seen their roles and responsibilities being changed over time. Consequently, overall there is a complex web of actors in the regional policy arena, who found it hard to collaborate with each other because of the role confusion, blurred boundary of responsibilities, or simply the difference in the spatial scale they operate. It must be difficult for AWM as a new organization to build good working relationships with partners in such a blurred and uncertain regional governance structure within a short time. Then it came the new and vague idea of ‘clusters’, which was difficult for regional partners to understand, include AWM itself. It is therefore difficult for AWM’s regional partners to contribute much to the regional cluster policy.

Partly because of the lack of partnership, AWM had a rocky start and had to reshuffle the management team after the first Chief Executive resigned. It did later try to bring in more formal partnership mechanisms. For example, a West Midlands Regional Concordat was introduced between AWM and ten key regional partners including WMRA, Government Offices for the West Midlands (GOWM) and WMLGA. The Concordat provides a framework for partnership working between regional organizations.

However, problems still exist. Some organizations complained that the communication channel between AWM and regional partners does not work well and they are not really listened to. (interview, R2, R7). An often-cited example by interviewees is the Premium Automotive R&D Programme (PAR), where huge investment is involved and the decision is thought to have been taken without consulting relevant partners.

Dissatisfaction not only exists among other regional institutions, but also within the mechanism that AWM created to take ‘clusters’ forward. With its ‘business-led’ philosophy, AWM sees its role as ‘facilitator’. Therefore, for each of the business clusters, AWM has tried to establish a Cluster Opportunity Group (COG), which is supposed to be dominated by private sector members and bring together private sector and key public sector organizations to deliver the cluster agenda (AWM, 2004). The COGs are tasked with responsibilities in agreeing strategic priorities for the clusters concerned and reviewing outline applications against the strategic priorities.

The ‘business-led’ approach however, has been ambivalent in practice. It seems that the respective roles of COGs and AWM are not clearly defined and have been changing over time. Hesitating between policy maker and implementer or facilitator, AWM has not been able to clearly define the role of the ‘business-led’ COGs either. The terms of reference of the COGs says they are strategic bodies, charged with deciding strategic priorities for corresponding clusters. However, very often did business people in the COGs find that the strategies was not led by them, since for some clusters, there were pre-existing strategies or action plans that they were constrained to follow. For example, the ICT COG had

---

<sup>15</sup> GOs were first established by the John Major administration to represent several central government departments.

to inherit a pre-existing ICT strategy developed by an external consultancy before the COG was formed. A common problem is that there were a number of projects AWM had financed or had committed to finance and the COGs had to include those projects in their cluster strategies and action plans. Consequently little money was left to the COGs' discretion (interview, I3, 4, 6; A5). A common view among interviewees is that the COGs function more as advisory bodies on projects for AWM, rather than representing the whole regional clusters and developing the clusters through whatever means necessary. For these various reasons, AWM's business-led approach has been doubted by many outside observers as well as some who are inside the policy making process.

### **Problems with ambiguous policy governance structure**

What the ambiguous policy structure has resulted in is a lack of coordination and some times mismanagement in policy making. First of all, the government's ambivalent 'bottom-up' approach has left RDAs many problems when they develop their regional cluster policies. It has been argued that there is no coherent national cluster policy (House of Commons ODPM Committee, 2003) and the government provided only limited policy guide to the newly formed RDAs (Bailey, 2003). In addition, the government's interest in cluster policy has been diminishing as discussed before. Moreover, and related to government's 'hands off' approach, there lacks coordination of cross-regional work for cluster development. A recent research on UK cluster policy found 'little or no central effort to synthesis efforts to develop UK clusters that aim to be globally competitive' (Andriani et al., 2005: 28). The government on the other hand, constrains too much on RDAs activities which may impede their cluster work.

Without a clear guidance from central government, AWM was left to do whatever they think was right to develop their regional clusters. This is one of the reasons of the difficulties in partnership working, particularly in AWM's early days and when the roles of RDAs and many of its partners like RAs and LSCs were not that clear cut, as they were all introduced in a short period of time. This has caused a huge amount of confusion within business communities and indeed among public organizations as well. To quote a businessman in the West Midlands:

“Where do you want to go? Who do you want to go to? What is there available?”. There are many different organizations and many different funding routes ... You can make some very big errors purely because you are sitting there with 22 different applications thinking, “Which one do I go for?””

Hancock, 2003, oral evidence to the House of Commons Trade and Industry Committee

Also confusing are the so-called 'business-led' COGs, as businesses later found that they are not business-led at all. For these various reasons, AWM has not been very successful in securing sufficient and valuable inputs of strategic thoughts and resources from other regional organizations and the business community. In fact, there was wide spread suspicion of the value of cluster policy among regional partners. Partly because of that, there was reluctance of WMRA 'to insert itself into the intellectual [policy] debate', according to one of its members (interview, R2). It did not have a specific scrutiny over the regional cluster policy for example.

For local government, there is strong concern that they are not involved enough (interview, R7, R13). According to Lagendijk & Charles (1999), there has been a tendency in the UK that local authorities 'become marginalized in the development, and even implementation, of regional industrial policies' (page 139). There was also confusion between AWM and LSCs/SBS over services duplication and the leadership over relevant services. As for universities, a Vice Principal of a big university revealed that the universities were not involved in the developing of the original cluster policy at all (interview, R2). It was only after the COGs were established that universities were asked to second relevant people, who became the cluster innovation managers in the COGs. However, that mechanism did not work well and AWM ended it in 2005<sup>16</sup>. With regard to the business community, Cluster Opportunity Group is the mechanism that AWM created to engage with industries. However, there are serious doubts about

---

<sup>16</sup> The only exception is the ICT cluster, for which the COG decided to extend the contract of the post.

the COGs' representativeness and their roles. Industries also have suspicion of AWM's intention to listen to them, citing examples like the PARD programme.

Frustrated by AWM's reaction to their complains, some partners said they are not pushing for changes in terms of cluster policy any more but will wait for the overall review of the whole RES in 2006 and 2007. Therefore, it is not difficult to infer that AWM has not obtained sufficient strategic input from the business community and other partners. Consequently, it is open to question that how much the regional cluster policy reflects the real needs of the region. In addition, it is not difficult to infer that regional partners would have little ownership of the cluster policy which in turn means it would be difficult to implement the policy. It is the fact, for example, that little funds from other partners was involved in cluster projects.

## **7. Reflection on cluster policy**

Five years has passed since AWM launched its cluster policy in 2001. Although neither AWM nor WMRA has produced an evaluation of the regional cluster policy, the analysis of this paper demonstrates that some lessons could be learnt from the experience over the past five years.

### **7.1 pragmatic approach and policy rigor**

AWM might be right to take a pragmatic approach to policy making, as they had to adapt the fashionable but vague concept of 'clusters' to the specific West Midlands economic, social and political context. However, as has been demonstrated, the pragmatic approach is also a risky approach because of the danger of losing policy rigor and being susceptible to opportunism. AWM started with an unclear message of 'clusters' from central government. It did at some time try to apply some rigor to policy making as demonstrated by the concentric rings cluster model in the *Cluster Action Plan 2000-2008*. However, that kind of policy rigor seemed lost in later stages of cluster policy development. There was widespread disbelief of evidence-based approach among policy makers. There was therefore little effort in consolidating the theoretical foundation of the policy. The concentric rings cluster model disappeared and there is no regional cluster policy framework to guide individual cluster strategies. It is therefore difficult to evaluate experiences and the pragmatic 'trial and error' model as systematically as possible and to codify 'good practices' (den Hertog et al., 2001: 415). The danger is therefore that policy makers may be trapped in endless 'trial and error' cycles and may not be able to learn from the errors.

It might be true that research on clusters and their behaviour may result in a number of cluster definitions and disputes. Also it might be right for the DTI official to say that 'academic debate' is not the way the government works (interview, M.K.). However, that cannot be used as an excuse for not seeking solid intellectual foundation and intelligence. Without rigorous research and studies, the danger is that cluster policy would be grounded on nothing but political influence and fashion and therefore is not able to help the business to thrive.

It is therefore important to apply as much rigor as possible to the pragmatic approach to policy making. This may involve a better understanding of the core meanings of clusters and cluster policy to build stronger intellectual foundation of policy. Cluster theory in its early evolution has been concentrated on internal linkages and its role in knowledge creation and dissemination. The majority of existing cluster policies therefore predominantly focus on promoting close regional community (Largendijk, 1999; Boekholt & McKibbin, 2003; Nauwelaers, 2003b, 2005). It has been increasingly recognized that, however, by overlooking external linkages, there is a danger for regional clusters of being 'locked-in' (Grabher, 1993; Hudson, 1999). In particular, the research by He (2006) indicates that the relationship between internal and external linkages are neither necessarily beneficial nor detrimental towards each other and that an appropriately balanced structure between internal and external linkages is critical to cluster development. These important aspects of networking certainly needs policy makers' attention, as cluster policy is to a large extent towards promoting networking.

Rigorous policy making also needs strong intelligence on regional economy and industries. Policy makers therefore need to know more about features of different clusters at different cluster life stages and avoid 'one-size-fits all' policy. In addition, it is important to apply a systematic approach to the whole process of policy development, so that strategy can be developed with solid intellectual foundation and evidence base which could then be used as a valid guide to project application and policy implementation. Only by doing so can the policy becomes less susceptible to fashion and adverse political influence. Also by doing so can regular and systematic evaluation and policy learning be possible and therefore the co-evolution of clusters and cluster (Benneworth & Charles, 2001).

## **7.2 seeking appropriate policy governance structure**

Previous discussion has unveiled the ambiguous cluster policy governance structure in UK and in particular in the West Midlands. In theory, the central government intended to take a 'bottom-up' approach to cluster policy. After producing some rough guides and mapping studies, it then devolved cluster policy making to RDAs. However, it has been revealed that the government on the other hand does not devolve sufficient resources and power to RDAs that would match their responsibility. In addition, the government maintains many and in some cases excessive control over RDAs, which has had a big impact on their cluster policies. Moreover, arguably the government has not presented a clear picture of its devolution agenda and therefore has caused a lot of confusion among people concerning the regional governance structure. Recent development of devolution may blur the regional governance structure even more. In light of the 'death' of elected Regional Assemblies as the result of the No-vote in the North East, the government is now seeking alternative approach such as giving more power to city Mayors or 'city-regions', which refer to big cities such as Manchester and Birmingham and their surrounding areas. However, it is not clear yet how these proposals would affect regional machinery such as RDAs and RAs. The unclear regional governance structure and the consequent role confusion have caused a lot of problem for AWM to secure collaboration from other regional institutions in policy making and implementation, particularly in its early years.

For all these reasons, it is irresponsible for the DTI to say it has nothing to do with cluster policy with the reason that it has devolved that to RDAs. The success of cluster policy requires co-ordination among policy makers at both national and regional level (Andriani et al., 2005). The national government in particular needs to define clearly the roles of RDAs and other relevant regional institutions, to provide better co-ordination of cross-boundary issues and to create favourable macro-economic conditions.

Apart from that, it is apparent that AWM need to do much more to collaborate with other regional partners and secure coordination with the 'business-led' COGs. This needs partners to better understand each other's roles and functions as well as institutional culture. AWM in particular, needs to further clarify its role and embrace partnership working.

A related issue concerns the government's business-led philosophy in establishing public agencies such as RDAs. No doubt it is important for RDAs to understand and communicate well with the business community. However, by setting them as 'business-led' organizations with predominantly private-sector background board members and staff, there is also a danger that RDAs lack the knowledge and skills in running public agencies and fulfilling their strategic roles. As one of the interviewees revealed, making strategy for companies is totally different with that for regions (interview, J.M.). Also as the board membership rolls over every 3 years, when a private board member begins to understand the public sector agency, he or she has to leave. Then another cycle begins. This has caused a lot of problems for AWM, for example, the lack of strategic capability and leadership as demonstrated in the row over the definition of the medical technology cluster.

It is therefore important for AWM to seek a right balance between 'business-led' and its strategic role. The importance of being 'business-led' has been emphasized much in AWM's policy documents. What is also critical is the agency need to learn to be a real strategic body, and therefore to take tough decisions in compromising different institutional agendas.

### 7.3 cluster policy and multi-level policy interactions

The government intended to use 'clusters' as its new approach to regional policy (DTI & DfEE, 2001) in English regions. Based on the 'new regionalist' view of self-contained regions and corresponding to its devolution agenda, the government required RDAs to take full responsibility for their cluster policies. However, it is wrong to assume that determinants of economic performance all reside in regions simply because of the existence of regional clusters in some parts of the world, as regional clusters have external linkages which also determine the performance of regional clusters (see for example, Hendry et al, 2000; Saxenian & Hsu, 2001; Britton, 2003; Simmie, 2004). In addition, in terms of public intervention, it is apparent that a number of national and European policy actors have an important role in shaping the development of regional clusters (Tödtling & Trippel, 2005). Moreover, from a technical point of view, the whole idea of associate cluster policy with solely regional scale is questionable, as the boundary of clusters seldom fits in with that of regions. The obsession of self-contained regional clusters is a profound reason behind all sorts of the problems observed in the West Midlands cluster policy development, because the cluster policy has not been designed for cluster development, but for regional development and consequently it is not governed by clusters but by regions.

The solution may lie in 'cluster-based' cluster policy. It firstly needs to identify the profile of the cluster critical mass and its relevant actors. Based on the cluster profile, a partnership body could then be established, which draws its members from relevant actors. The partnership body could then design and implement cluster policy for the cluster, which contribute to competitiveness to relevant regions involved. Therefore, different cluster partnerships may operate at different spatial levels, as the spatial reach of the cluster critical mass are different.

Obviously there is then an issue of cross-regional collaboration, as the cluster critical mass may transcend regional boundaries. This can be resolved with the help of appropriate national policy input. The DTI has had some successes in this. It has put in mechanism to encourage cross-regional collaboration between several regions including the West Midlands, the East Midlands and the South East to promote the motor sports cluster.

The message is that as clusters are not self-contained entities, cluster policy needs relevant regional policy and national policy input. Sometimes, this also means supranational policy input. The case of the West Midlands automotive cluster demonstrates the difficulty in making cluster policy for such a global industry: a lot of decisions that affect the West Midlands automotive industry are not made in the region, or even in the country, as all the big vehicle assemblies are owned by foreign companies. How to engage relevant actors and make appropriate cluster policy for such a global industry is obviously not an issue the regional development agency can solely deal with, as the difficulties in building the automotive COG has demonstrated in the West Midlands case.

This calls for the DTI to abandon its 'one size fits all' devolved approach to cluster policy. Particularly for those cross-regional clusters, it is critical to the DTI to have a more active role. In addition, it is also important for the DTI and other departments think more thoroughly the impact of various national initiatives to the regional cluster policy, rather than just 'parachuting' them into regions.

A related issue is the need to recognize the fact that 'clusters' is not a panacea. 'Clusters' is not the whole story of industry development. Some industries in the UK do not concentrate but rather disperse in many areas, such as the printing industry identified by the House of Commons Trade and Industry Committee (2004). Some regions may not have clusters at all. For those industries and areas not covered by clusters, it is important for regional policy and national policy to provide generic business support services to encourage 'productivity improvements in all local firms, as well as ... their business environments, without necessarily committing to a cluster mind-set' (Martin & Sunley, 2003: 28).

## 8. Conclusion

This paper has sought to provide an in-depth review of cluster policy making in the West Midlands, a traditional industrial heartland of the UK. The paper has a particular focus on the policy development process. Therefore much attention is paid to relevant policy makers and other stakeholders and interactions between them.

The analysis has revealed that, like many other places around the world, policy makers in the West Midlands, in particular AWM, found it hard to resist the charm of cluster policy. However, soon after formally launching its cluster approach in 2001, AWM found it difficult to develop and implement the regional cluster policy. The policy making process turned out to be highly political and was subject to many adverse political influences and institutional conflicts. Realizing the vagueness of the cluster concept and the complexity and specificity of the regional environment, AWM consciously took a pragmatic approach to policy making. However, without solid intellectual foundation and evidence base, very often what is found is a kind of sloppy thinking among policy makers. The regional policy therefore was not able to address internal and external linkages systematically. The sloppy thinking also impaired the robustness of many aspects of policy making, for example the economic rationales in cluster selection and projects appraisal. Compound with all these is the ambiguous policy governance structure in which a number of policy makers were confused with their own and their partners' roles and functions, which impaired the coordination between partners.

The experience in the West Midlands in translating the fashionable but vague cluster concept into actual policy has offered many lessons to other similar peripheral regions: to seek solid intellectual foundation and intelligence and therefore apply as much policy rigor as possible to the policy making process; to build up appropriate policy governance structure to enable relevant actors in the cluster policy arena to coordinate smoothly; to seek appropriate interaction between regional policy, national policy and supranational policy to develop 'real' cluster policy and to address the needs of the industries and regions that are not covered by clusters.

## Reference:

- Amin, A. 1999 'An institutionalist perspective on regional economic development', *International Journal of Urban and Regional Research* 23: 365-378
- Andriani, P., Jones, C., Perkmann, M., De Propris, L., Sena, V., Delbridge, R., Möslin, K., Neely, A., 2005 *Challenging Clusters The Prospects and Pitfalls of Clustering for Innovation and Economic Development*, Advanced Institute of Management Research
- AWM, 1997, *Opportunity West Midlands. Understanding Business Change in the Regional Economy*, Advantage West Midlands: Birmingham
- AWM, 1999 *Creating Advantage The West Midlands Economic Strategy*, Advantage West Midlands: Birmingham
- AWM, 2001 *Agenda for Action Spring 2001 A Regional partnership to deliver the West Midlands Economic Strategy*, Advantage West Midlands: Birmingham
- AWM, 2002 *Cluster Action Plan 2000-2008*, Advantage West Midlands: Birmingham
- AWM, 2004 *Delivering Advantage The West Midlands Economic Strategy and Action Plan 2004-2010*, Advantage West Midlands: Birmingham
- AWM, 2005a *Business Clusters Plans 2005-08 Executive Summary*, Advantage West Midlands: Birmingham
- AWM, 2005b *Corporate Plan 2005-08*, Advantage West Midlands: Birmingham
- AWM, 2005c *Advantage West Midlands Interim Automotive Strategy 2005-2008*, Advantage West Midlands: Birmingham
- AWM, 2005d *Medical & Healthcare Technologies Cluster Strategic Plan 2005-2008*, Advantage West Midlands: Birmingham
- AWM, 2005e *ICT Cluster Strategic Plan 2005-2008*, Advantage West Midlands: Birmingham

- Ayres, S., Mawson, J. and Pearce G. 2002 'Institutional collaboration in the West Midlands region', in Tomaney, J. & Mawson, J. (Eds) England: *The State of the Region*, Bristol: The Policy Press
- Bailey, D. 2003 'Globalisation, regions and cluster policies: The case of the Rover Task Force', *Policy Studies* 24 (2/3): 67-85
- Bathelt, H., Malmberg, A. and Maskell, P. 2004 'Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation', *Progress in Human Geography* 28 (1): 31-56
- Benneworth, P. and Charles, D. (2001) Bridging cluster theory and practice: learning from the cluster policy cycle, in *Innovation Clusters, Drivers of National Innovation Systems*, OECD proceedings, Paris
- Boekholt, P. & McKibbin, S. (2003) *Thematic Report-Cluster Policies*, European Commission
- Britton, J. N.H. 2003 'Network structure of an industrial cluster: electronics in Toronto', *Environment and Planning A*, 35: 983-1006
- Bryson, J.R., Daniels, P.W., and Henry, N.D., 1996 'From widgets to where?: The Birmingham Economy in the 1990s', in Gerrard, A.J. and Slater, T.R. (Eds) *Managing A Conurbation. Birmingham and Its Region*. Brewin Books, Studley
- Conlin, R. 2006 *Cluster Policy Comparison: England and France*, PhD thesis, University of Birmingham, Birmingham
- den Hertog, P., Bergman, E.M., and Charles, D. 2001 'Creating and sustaining innovative clusters: Towards a synthesis', in *Innovation Clusters, Drivers of National Innovation Systems*, OECD proceedings, Paris
- DTI, 1998 *Our Competitive Future: Building the Knowledge Driven Economy*, the Department of Trade and Industry, London
- DTI & DfEE, 2001 *Opportunity For All in a World of Change – White Paper on Enterprise, Skills and Innovation*
- Fromhold-Eisebith, M. & Eisebith, G. 2005 'How to institutionalize innovative clusters? Comparing explicit top-down and implicit bottom-up approaches', *Research Policy* 34:1250-1268
- Grabher, G. (1993): 'The weakness of strong ties: the lock-in of regional development in the Ruhr area', in Grabher, G.(ed): *The Embedded Firm. On the Socioeconomics of Industrial Networks*, Routledge, London and New York, 1-31
- He, S. 2006 *Clusters, Structural Embeddedness and Knowledge: A Structural Embeddedness Model of Clusters*, Paper presented at the DRUID-DIME Winter PhD Conference, Skoerping, Denmark, 26<sup>th</sup>-28<sup>th</sup> January 2006-05-11
- Hendry, C., Brown, J. and Defillipi, R. 2000 'Regional clustering of high technology-based firms: opto-electronics in three countries', *Regional Studies* 34 (2): 129-144
- HMSO, 1998 *Regional Development Agencies Act*
- House of Commons ODPM Committee, 2003 *Reducing Regional Disparities in Prosperity Ninth Report of Session 2002-03*, London: The Stationery Office Limited
- Hudson, R. (1999): 'The learning economy, the learning firm and the learning region: A sympathetic critique of the limits of learning', *European Urban and Regional Studies*, 6(1): 59-72
- Jones, M. & MacLeod, G. 1999 'Towards a regional renaissance? Reconfiguring and rescaling England's economic governance', *Trans. Inst. Brit. Geogr.* NS 24: 295-313
- Lagendijk, A. 1999 *Good practices in SME cluster initiatives. Lessons from the 'core' regions and beyond- Executive and academic summary*, CURDS, The University of Newcastle
- Lagendijk, A. & Charles, D. 1999 'Clustering as a new growth strategy for regional economies? A discussion of new forms of regional industrial policy in the United Kingdom', in *Boosting Innovation: The cluster approach*, OECD proceedings
- Martin, R. & Sunley, P. 2003 'Deconstructing clusters: chaotic concept or policy panacea?' *Journal of Economic Geography* 3:5-35
- Morgan, K. 2002 'The English question: Regional perspectives on a fractured nation', *Regional Studies* 36 (7): 797-810
- Nauwelaers, C. (2003) *Background paper on cluster policies, Trend Chart Policy Workshop "Innovation Hot Spots in Europe: Policies to promote trans-border clusters of creative activity"*, May 5-6, 2003, Luxembourg
- Nauwelaers, C. (2005) *Clusters, cluster policies and innovation policy governance: lessons from EU experience*, Seventh Annual Meeting, Innovation Systems Research Network, Toronto, 5-6 May 2005



- ONS 2004 *Regions in Figures West Midlands*, London: Office for National Statistics
- Raines, P. (2000) *Local or national competitive advantage? The tensions in cluster development policy*, Paper for the 40<sup>th</sup> European Regional Science Association Congress, Barcelona, 28 August-1 September 2000
- Raines, P. (2002) 'Clusters and prisms', in Raines, P. (Ed) *Cluster Development and Policy*, Ashgate
- Saxenian, A. & Hsu, J-Y 2001 'The Silicon Valley – Hsinchu connection: technical communities and industrial upgrading', *Industrial and Corporate Change* 10 (4)
- Simmie, J. 2004 'Innovation and clustering in the globalised international economy', *Urban Studies* 41 (5/6): 1095-1112
- Smith, B.M.D. 1988 'The economic and social history of the West Midlands region 1966-1986: Experience and response to structural change and manufacturing decline, in Hesse, J.J. (Ed) *Regional Structure Change and Industrial Policy in International Perspective: United States, Great Britain, France, Federal Republic of Germany*. Nomos Verlagsgesellschaft, Baden-Baden
- Smith, B., and Collinge, C., 2001 'An overview of the West Midlands economy', in Bentley, G. and Gibney, J. (Eds) *Regional Development Agencies and Business Change*, Ashgate, Aldershot
- Spencer, K., Taylor, A., Smith, B., Mawson, J., Flynn, N. and Batley, R., 1986 *Crisis in the Industry Heartland*. Oxford University Press, Oxford
- Tödting, F & Trippel, M. 2005 'One size fits all? Towards a differentiated regional innovation policy approach', *Research Policy* 34: 1203-1219
- Webb, D. & Collis, C. 2000 'RDAs and the new regionalism in England', *Regional Studies* 34 (9): 857-63
- WMRO, 2004 *The State of the Region*, West Midlands Regional Observatory: Birmingham
- Wolfe, D.A. & Gertler, M.S. 2004 'Clusters from the inside and out: local dynamics and global linkages', *Urban Studies* 41 (5/6): 1071-1093
- Wood, P.A. 1976 *The West Midlands* (Newton)
- Young, K., 1988 'Regional structure change in the West Midlands: The historical aspect', in Hesse, J.J. (Ed) *Regional Structure Change and Industrial Policy in International Perspective: United States, Great Britain, France, Federal Republic of Germany*. Nomos Verlagsgesellschaft, Baden-Baden

**Appendix 1 The Concentric Rings Model.** The outer ring corresponds to cluster assets, the inner to sub-cluster level processes. Source : *Cluster Action Plan 2000–2008* (AWM, 2002).

