A participatory methodology for evaluating the cluster policy of the Basque Country

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Abstract

Cluster policies have become a consolidated tool among regional policies, and albeit their growing presence there remains scepticism around the way in which the cluster concept is often treated as a policy panacea. Indeed, the evaluation of cluster policies is a critical yet under-examined issue. In Spain, the Basque Country Autonomous Community, was one of the pioneers of regional cluster policy, and in recent years various evaluations have been made of different aspects of the policy. Yet it has proved challenging to undertake a holistic evaluation in terms of the success of the policy in achieving its ultimate aim of enhancing the competitiveness of the Basque economy. This paper develops the rationale for applying a participatory evaluation approach, rooted in an action research framework, to the cluster policy of the Basque Government. Based on this rationale we present a methodology that has been designed for specific pilot application with the Basque aerospace cluster. In doing so, we aim to contribute to debate around the applicability and practical implementation of such methodologies to the evaluation of 'soft', co-operation-based regional policies.

Resumen

Las políticas clúster son actualmente una herramienta consolidada entre las políticas regionales y, a pesar de su creciente presencia, existe un cierto escepticismo ante la idea de considerar los cluster como la panacea de las políticas públicas. Una asignatura pendiente en este tipo de políticas es su evaluación, todavía insuficiente. En España, el País Vasco ha sido pionero en las políticas clúster regionales y recientemente se han evaluado en este contexto diversos aspectos de esta política. Sin embargo, el reto sigue siendo llevar a cabo una evaluación holística que valore si la política alcanza su principal objetivo: el fomento de la competitividad de la economía vasca a través de la cooperación. Fundamentado en un marco de investigación-acción, este artículo expone las razones para aplicar un enfoque de evaluación participativa a la política clúster del Gobierno Vasco. Con base en estas razones, se presenta una metodología diseñada para una aplicación piloto específica en la asociación clúster de la aeronáutica. De esta manera, se pretende contribuir al debate sobre la aplicabilidad y la implementación práctica de dichas metodologías en la evaluación de políticas regionales "soft", basadas en la cooperación.

Laburpena

Kluster politikak ongi errotutako lanabesak dira jada eskualdeko politikan, nahiz eta oraindik zalantzak ugariak izan, kluster politika arazo guztien konponbidetzat ikusten baitu askok. Kluster politiken ebaluazioa oraindik ez da nahikoa aztertu, baina funtsezkoa da, politikako gaien artean hartu duen toki nabarmen eta zabalari erreparatuz gero. Euskal Autonomia Erkidegoa aitzindarietako bat izan zen kluster politiketan, eta azken urteetan politika horren hainbat alderdi ebaluatu dira. Oinarri horietatik abiatuta, beste erronka bati heldu ahal izan zaio: ebaluazio holistikoa, politikak bere azken xedea lortzerakoan izan duen arrakasta neurtzeko: euskal ekonomiaren lehiakortasuna areagotzea. Ikerketa-ekintzan errotuta, txosten honek Eusko Jaurlaritzaren kluster politika aztertzeko ebaluazio partehartzailea erabiltzeko arrazoiak aurkezten ditu. Arrazoi horiek aintzat hartuta, EAEko Aeronautikako klusterrarekin batera aplikazio pilotu horretarako diseinatutako metodologia aurkeztu nahi dugu. Bide horretatik, gure ekarpena egin nahi diogu lankidetzan oinarritutako eskualdeko politika horien –alegia, politika "soft" horien– ebaluazioan metodologia horien aplikagarritasunaren eta ezartze praktikoaren inguruko eztabaidari.

I. INTRODUCTION

Policies that aim to support clusters of firms are now well established tools of regional policy agencies. Since the 1980s, and rooted in research with a much longer pedigree, a large literature has emerged around clusters, motivated by the apparent success of Marshallian-type industrial districts in Italy (Becattini, 1978, 1991; Becattini *et al.*, 2003; Piore and Sabel, 1984; Pyke *et* al., 1990) alongside a range of other experiences (Christerson and Lever-Tracy, 1997; Saxenian, 1994; Schmitz and Musyck, 1994). Porter's (1990, 1998, 2004) promotion of industrial clusters in the context of the competitiveness of particular locations has been especially influential among regional policy-makers, establishing clusters as a key focus for regional economic development. Among the growing obsession with clusters, however, there has been some scepticism (Martin and Sunley, 2003; Sugden *et al.*, 2006) around the way in which the concept has frequently been seen as a policy panacea. Indeed, given their prominent and widespread position on regional policy agendas, the evaluation of cluster policies is a critical yet under-examined issue.

The Basque Country Autonomous Community (CAPV) in Spain was one of the pioneers of regional cluster policy, applying Porter's framework from the early 1990s (Aranguren *et al.*, 2006). The cluster policy today supports eleven priority clusters, nine of which have been supported since the 1990s, and five emerging 'pre-clusters'. In recent years various evaluations have been made of different aspects of the policy, but it has proved challenging to arrive at a holistic evaluation of the policy in terms of success in achieving its ultimate aim of enhancing the competitiveness of the Basque economy. As argued by Diez (2001, 2002), regional policies that centre on networks, social capital and local learning are not best suited to traditional methods of evaluation. They are characterised by intangible objectives and complex relationships. Moreover they are by nature systemic, flexible and dynamic policy processes, requiring similarly systemic, dynamic and flexible evaluation processes. It is suggested that processes of 'participatory evaluation' are more effective for such policies and can additionally serve as a tool to mobilise communities and strengthen the capacity for learning among the involved agents (Diez, 2001). This is also related to the model of 'total ownership' with regards change processes proposed by Sullivan and Murray (2006), for example.

This paper develops the rationale for applying a participatory evaluation approach to the cluster policy of the Basque Government, arguments that we suggest can be generalised to similar policies elsewhere. Based on this rationale we propose and discuss the application of a methodology designed for pilot application with the Basque aerospace cluster. We begin in Section II with some context on Basque cluster policy and analysis of the evolution of attempts to evaluate this policy over recent years. Building on these experiences and drawing on appropriate literature, in Section III we argue that a participatory evaluation approach, rooted in an action research framework, is the appropriate response to overcoming some of the limitations of earlier analysis. Section IV proposes a methodology for this participatory approach, and in Section V we present the process of pilot application of this methodology to the Basque aerospace cluster. Finally, Section VI draws some conclusions.

II. CLUSTER POLICY AND ITS EVALUATION IN THE BASQUE COUNTRY

At the end of the 1980s the Basque Country economy was in a process of decline resulting from the loss of its traditional industry competitive advantages. Until then most industries had been competing on price, but new challenges such as the common European market were threatening this model. There was therefore recognition that it was necessary to develop new, specialised and sustainable advantages to compete in international markets, and a firm called Monitor Company was contracted to study the future competitive situation of Basque industry in the world economy. This study based its analysis on the newly presented work of Porter (1990) on the competitive advantage of nations.

From this basis, and recognising growing perceptions on the relevance of clusters for territorial competitiveness, the Basque Country became a pioneer in Europe (alongside Catalonia and Scotland) in establishing a targeted, cluster-based industrial policy during the early 1990s. Taking into account Monitor's study, the Basque Government established a Competitiveness Programme in 1991 that supported workgroups in nine priority clusters. The workgroups were constituted by business leaders, government representatives, industry association leaders and representatives from other institutions (education, training, basic and applied research). They worked to define priority improvement areas and action proposals in the nine clusters, which then evolved into a dedicated cluster policy.

The mission of this policy is stated as *the improvement of competitiveness of firms and the region responding to strategic challenges through cooperation* in three main areas: technology, quality management and internationalisation. This is operationalised by financial support for Cluster Associations (CAs), institutions whose main objective is to improve each cluster's competitiveness by facilitating and fostering cooperation among their members, who include firms, R&D centres, universities, and so on. Since 2000 the Basque Government has maintained a stronger relationship with the CAs, which are obliged to present strategic plans each 3-4 years and annual action plans. Today the policy supports eleven priority clusters, nine of which have been supported since the 1990s, and five emerging 'pre-clusters'.

First efforts to evaluate the policy were made in 1998, when the Basque Government decided to carry out a policy reflection process. What had been designed as a report evolved towards a formal evaluation (Ahedo, 2004). Three main conclusions were obtained by Ahedo (2004) from interviews with those involved in the process: (1) it had been an adequate industrial policy for prioritising public resources; (2) there had been a low level of mergers and strategic alliances but an important increase in inter-firm relations; (3) the associated firms were not inclined to self-finance the whole budget of the cluster activities, and therefore public aid was still regarded as necessary.

Some years later a new evaluation approach was developed by Aranguren and Navarro (2003), which has subsequently stimulated a series of further research projects (Aranguren et.al., 2006, 2008) that have been defined in cooperation with the Department of Industry, Trade and Tourism and some of the CAs. The root of these developments was an initial exercise to extract nine good practices from European studies on cluster policy and to describe how such issues had been considered in the policy process in the region (Aranguren and Navarro, 2003). One of the main conclusions was that although direct effects of the policy were difficult to measure in terms of competitive upgrading, two positive effects were detected. Firstly, the adaptation of other policies to the real needs of firms, and, secondly, improvement in the level of knowledge firms had about public policies. The lack of explicit evaluation in the policy process was also clearly detected. While this could not be considered an evaluation process in traditional terms – on which see Turok (1990), Raines (2002) or Storey (2000, 2004), for example – it was a preliminary study that made it possible to focus subsequent questions.

The next project (Project I) was the application of an evaluation tool designed to measure the perceptions of CA firms on the extent to which outputs (networking, social capital and cooperation in strategic projects) and results (improvements in firm competitiveness) were being reached. This was applied to the Paper Cluster Association, and results are reported in Iturrioz et al. (2005) and Aranguren et al. (2008). The key finding was that CAs appeared to be helping to develop social capital, but with little perceived impact on the competitiveness of their members.

Following Storey (2000, 2004), both the internal evaluation process developed by the Basque Government in terms of planning and budget control, and the external evaluation project developed by the authors in Project I should be categorised as monitoring rather than evaluation. More specifically, the planning and budget control processes would be related to Storey's step I (see Table 1), where characteristics and nature of take-up of the scheme are identified. Project I is related to step III, as the process relies exclusively on a survey where opinions of policy recipients were collected.

Table 1. Basque Policy Evaluation Projects: Correspondence with Storey's 'Six Steps to Heaven'

STEP	DESCRIPTION	EVALUATION PROJECTS
MONITORING		
STEP 1	Take up of schemes	Planning and Budget Control Basque Government
STEP 2	Recipients Opinions	
STEP 3	Recipients. Views of the difference made by the Assistance	PROJECT I
EVALUATION		
STEP 4	Comparison of the Performance of "Assisted" with "Typical" firms.	PROJECT II
STEP 5	Comparison with "Matched" firms.	
STEP 6	Taking account of selection bias	

Source: Storey (2000) and own elaboration.

Thus a challenge was identified to proceed through steps IV, V and VI, essentially comparing performance of assisted firms with the performance of non-assisted firms, ensuring that the control group of non-assisted firms matched the assisted ones, and that selection bias was considered. A new project (Project II) was developed in response to this challenge (Aragón et al., 2008). Although the general goal was to try to understand whether

the existence of a cluster association improves the performance of associated firms, a more specific goal was established from a methodological point of view: to compare the performance of assisted firms with a control group of non assisted ones, something that had not previously been attempted with regards this policy. This evaluation process was applied in two cluster associations: the Paper CA (PCA) and the Electronics, Computer and Telecommunications CA (GAIA) and it focused on the three main areas defined by the cluster policy as priorities: technology and innovation, quality management and internationalisation. It was found that while firms belonging to CAs demonstrated better performance in indicators for innovation, quality and internationalisation, this did not translate into being more profitable. Moreover no cause-effect conclusions could be obtained, as it was difficult to determine whether the associations had helped firms improve in these areas or firms with a higher performance profile joined the CA.

In summary, while Project I enabled an evaluation of firm-level perceptions of the CA's effect on competitiveness, Project II facilitated a measurement of the differences in behaviour and performance of assisted and non-assisted firms. Nevertheless, difficulties in deriving clear conclusions from the evaluation processes were clearly apparent in both projects. These difficulties are directly related to some of the characteristics implicit to clusters as a policy focus, and well-acknowledged in the clusters literature: the mixture of tangible and intangible objectives; their systematic nature; and the complexity of cause-effect relationships. A conclusion, therefore, was that there remains a need to develop methodologies better suited to the specific characteristics of an essentially 'soft', relationship-centred policy designed to generate tangible results, but through less tangible processes of co-operation. Indeed it can be argued that the systemic nature of the policy requires an evaluation process that is long-term, strategic and flexible, and as such able to contribute itself to dynamising the co-operative relationships around which the policy is structured. As a response to these concerns, the remainder of this paper develops a participative evaluation methodology, the rationale for which is set out in the next Section before detailing and applying the methodology in the subsequent Sections.

III. RATIONALE FOR PARTICIPATORY CLUSTER POLICY EVALUATION

As the term suggests, participatory evaluation is a process integrating the participation of all implicated parties. Specifically, it implies the development of a consensus around the

criteria used to evaluate a particular policy among all of the stakeholders affected by that policy. Hence the determination of criteria for evaluation is not undertaken ex-ante; rather the engagement of actors in reaching consensus on these criteria is integral to the overall evaluation process. Given these characteristics, the term 'participatory evaluation' in fact covers a wide range of more specific approaches that all share a common denominator: they involve the implicated parties (stakeholders) in a periodic evaluation analysing the relevance, efficiency and impact of an activity/policy/programme. In order to achieve this, the process must involve these actors directly, including stages of planning and development, so that the construction of consensus and mutual understanding is facilitated as a central tenet of the evaluation. A contrast with conventional policy evaluation processes is set out in Table 2.

Table 2. Conventional versus Participative Policy Evaluation

	Conventional	**Participative**
Who?	External experts.	Beneficiaries, business people, policy-makers, evaluation team.
What?	Success criteria and information necessities are pre-determined. Evaluation by objectives.	Participants identify their own information necessities and determine their own success criteria.
How?	Distance from the evaluation team and other participants	Shared methods and results from the involvement of participants
When?	In general, when the policy or programme is finished	Frequently, throughout the duration of the policy. Continuous evaluation.
Why?	Summative evaluation. Should the policy or programme be continued?	Formative evaluation to generate actions of improvement. Continual learning.

Source: Diez, M. (2001)

Thus participatory evaluation is centred on institutions and on people. The stakeholders in a particular policy become the principle actors in the process of evaluation, rather than merely the objects of evaluation. This brings a number of important advantages over conventional evaluation approaches, in particular with regards opportunities for dynamic learning processes, leading to potential policy improvements. The opportunity for policy stakeholders and the evaluation team to analyse problems, restrictions and obstacles together has potential to lead to new solutions that emerge from the exchange of ideas and perspectives, potentially improving policy design from an early stage. At the same time the development of common understanding of the issues increases the viability of making necessary changes, and such interaction is likely to help participants construct shared capacity for reflection, analysis and effective implementation of actions. More basically, the

bringing together of information held by different (and often isolated) actors around issues related to the policy and its aims can bring significant benefits for the evaluation process.

Participatory approaches respond to the necessity of rooting policy and evaluation in existing reality; they promote a better understanding of the social and political environment and can assist in working towards meeting the information requirements of potential policy users. Moreover, participation as a central tenet of the evaluation process supports recognition among actors of the plurality of values and interests in society, in turn directly addressing a key characteristic of all evaluation processes; that by definition they involve value judgements, in a society in which there is no one unique system of values. By tackling this issue head-on, participatory evaluation approaches can help to facilitate: legitimisation of the diversity of present interests in the specific policy/programme; respect for the opinions and concerns of different implicated actors; recognition of the inherent multiplicity of perspectives, and that there are likely to be varying views on what constitutes successful policy implementation and impacts. As such, stakeholder participation within evaluation processes can build horizontal linkages, reinforce mutual trust, foster collective learning processes, and support empowerment goals and institutional capacity. Moreover, such approaches can play a role in the democratisation of the policy process, closing the gap between strategic decision-making and the aims and objectives of the actors among whom key decisions are felt (Sugden and Wilson, 2002).

Diez (2001, 2002) suggests that participatory evaluation is particularly appropriate for new regional policies that emphasise the importance of networks, social capital and local learning. Cluster policies currently form a core component of these new regional policies and are characterised by precisely the features – intangible objectives, complexity of relationships, systemic nature, dynamism and flexibility – that pose significant problems for conventional evaluation approaches. Moreover, cluster policies are themselves premised on the benefits of co-operation among actors towards common goals, and as such seek to generate dynamic co-operative learning among those actors. This presents a compelling rationale for evaluating such policies using processes that parallel the types of participation that the policies themselves are seeking to stimulate and/or consolidate. Indeed, participatory evaluation is committed to the development of changes or improvements that are interactive, contextualised and directed to knowledge building, responding to Turok's (1990) challenge of incorporating understanding and explanation.

From a broader public policy research perspective, this rationale is coherent with the proposal made by Cooke (2007) that research must cease jumping to policy implications from theoretical modeling, a tradition that produces unrealistic advice to understandably skeptical policy actors. Rather, implications should be subject to 'proof of concept' testing in negotiated stakeholders discourse to establish the appropriateness or otherwise of such policy implications. Indeed, participatory evaluation sits within the framework of 'action research' in the sense of being "not so much a *methodology* as an *orientation to inquiry* that seeks to create participative communities of inquiry in which qualities of engagement, curiosity and question posing are brought to bear on significant practical issues" (Reason and Bradbury, 2008, p.1). In this sense action research is a form of inquiry that supports practical change in real situations, while at the same time producing new knowledge that enhances our understanding of it (Svensson & Nielsen, 2006).

In the Basque Country cluster context the rationale for participatory evaluation is strongly supported by the evolution of evaluation attempts during the last fifteen years, as recounted in Section II. In particular, evaluating the policy's mission of *improving competitiveness by responding to strategic challenges through cooperation* has proved challenging using convention methodologies. Following the above rationale, we suggest a synergy between the challenges inherent in evaluating this policy and the advantages that are argued to stem from participatory evaluation approaches. Such an approach in the context of this specific policy would involve developing a consensus approach to the definition of a set of indicators and their interpretation that is shared (in particular) by three groups: the policy makers (and their technical teams); the management and technical teams at the cluster associations; and the representatives of those firms/institutions belonging to the implicated clusters. Building on earlier experiences, we suggest that the development of an appropriate methodology to address this challenge is an important step forward in the policy evaluation process. In the next Section we set out a specific methodology designed to take this step.

IV. A METHODOLOGY FOR PARTICIPATORY EVALUATION

Following Gilliam *et al.* (2002) and Diez (2002), in this section we describe a methodology developed to set in motion a participatory evaluation approach with regards the Basque cluster policy. The specific characteristics of this cluster policy raise methodological

challenges that have important implications in the evaluation design. First, the cluster policy involves a range of very different agents, including policy-makers, firms of different sizes and activities, universities, technology centres, etc.. Due to this variety, the methodology needs to be simple and flexible, in order to integrate each context and reality. Second, the limited people working in the CAs and the predominantly small size of the majority of their members require an efficient process that is not too time-consuming and that demonstrates a concrete programme of activities and results. Third, the current cluster policy is an ongoing reality and its management has been established for over ten years. The evaluation methodology must therefore be integrated into this management process, sensitive to its evolution and past experiences, and able to profit from the synergies arising between them. Taking into account these characteristics and building on European Commission (2006) guidelines, we have adapted a four phase evaluation process proposed by Gilliam *et al.* (2002, see Table 3).

Table 3. Gilliam et al.'s Phases of Participatory Evaluation

Phase	Activities
Phase 1: Planning	1. Define goals and objectives 2. Identify evaluation team members (stakeholders) 3. Establish roles and responsibilities for identified evaluation participants, including a vehicle for ongoing communication 4. Plan logistical and administrative arrangements 5. Develop framework for the evaluation 6. Develop a set of evaluation questions 7. Develop data collection instruments 8. Finalize sample of data collection sites and interviews/focus groups
Phase 2: Implementation	9. Organize/train evaluation team members 10. Facilitate the communication process 11. Conduct interviews /surveys/focus groups, etc 12. Analyze information/data collected 13. Summarize evaluation findings
Phase 3: Development of Action Plan/Lessons learned	14. Discuss evaluation findings including issues of technology transfer and translation 15. Formulate lessons learned from the evaluation process and outcomes 16. Develop recommendations based on each evaluation question or objective 17. Summarize lessons learned and recommendations for program improvement
Phase 4. Finalization and dissemination of results	18. Write evaluation report 19. Distribute evaluation results via multiple media

Source: Gilliam et al. (2002)

Table 4 summarises our adaption of these phases for a proposed participatory evaluation framework for cluster policy in the Basque Country. Below we set out each of these phases and steps in detail.

Table 4. Phases of Participatory Evaluation for Cluster Policy in the Basque Country

PHASE 1: PLANNING AND MODEL DEVELOPMENT Step 1. Present a participatory evaluation project to the cluster policy agents Step 2. Define a common view and the scope of the evaluation process Step 3. Define the key evaluation questions Step 4. Define a proposal of the indicators and data collection methods Step 5. Approval of the complete evaluation framework
PHASE 2: DATA COLLECTION AND PROCESSING
PHASE 3: REFLECTION AND ACTION Step 1. Analyze data/information collected and formulate lessons learned Step 2. Develop action plans and assess the evaluation process
PHASE 4: DISSEMINATION

Source: Own elaboration from Gilliam et al. (2002)

Phase 1: Planning and Model Development

This phase ranges from defining the scope and objectives of the evaluation to finalizing a proposal of data collection tools that will ultimately be used for preparing implementation activities. In particular, this first phase includes the following five steps:

Step 1: Present a participatory evaluation project. In order to assure from the beginning the participatory nature of the evaluation it is necessary to contrast interest in the project among cluster policy stakeholders, presenting them with the opportunity to actively participate where there is interest. This open call for participation helps avoid one of the main weaknesses of participatory evaluation, that is, the lack of commitment of the involved agents.

Step 2: Define a common view of the aims and scope of the evaluation process. The purpose of this second step is threefold. First, to share among stakeholders the general aims of the cluster policy before developing the evaluation tool. Second, to identify and agree the potential objects of evaluation. At this early stage only a general definition of the evaluation objects are discussed and agreed by the stakeholders; the final definition will be determined during steps 3 and 4. Finally, within this step it is necessary to organise the process and to define the chronogram of evaluation. This contrast allows planning of the evaluation in a

participatory manner to ensure that stakeholders buy into the process. At this point, coordination of the evaluation process with the strategic reflection process of the CA can also be considered so as to maximize synergies.

Step 3: Define the key evaluation questions. In this step, all stakeholders are involved in identifying and selecting the key questions to which the evaluation process should respond. In particular common objectives are defined as a starting point to develop an evaluation tool in terms of the specific results that stakeholders seek in order to improve the competitiveness of the cluster. The key evaluation questions must comply with the mission of the cluster policy: they must be strategic competitive challenges, or key elements of these challenges, that have to be confronted in cooperation or within the scope of the CA. It is necessary that all stakeholders participate in this step in order to guarantee inclusiveness in the identification of key questions, and that the final outcome of the process is agreed by all. However, the motivation to evaluate cannot be taken for granted, even among those who might be expected to benefit from evaluative outputs. Selecting only crucial challenges in which a majority of the agents involved agree can be one way of providing an additional incentive for stakeholders to take the evaluation process seriously.

Step 4: Define a proposal of the indicators and data collection methods. A set of indicators are defined to answer the key evaluation questions previously determined. In the policy evaluation context, an indicator can be defined as a measurement of the success of a policy that produces information to help stakeholders communicate, negotiate or make decisions. Applying some of the criteria of the European Commission (2006), the indicators selected must: be closely linked to the key evaluation question; be measured preferably on an independent basis and based on reliable data; provide clear information, simple and easy to communicate and understand. From the key evaluation questions agreed in Step 3, the research team identifies a structured set of potential indicators to respond adequately to the defined evaluation needs. For each indicator, it is important to detail the value it gives to the question it addresses. Moreover, the roles and responsibilities of evaluation participants must be established, in particular in terms of providing feedback and comments on the availability of data, methods and frequency of data collection, clarity of instructions and record keeping, disclosure, reporting formats, and on the data elements to be reported.

Step 5: Approval of the complete evaluation framework. In this final step of the planning process, all stakeholders meet to discuss and contrast the framework of indicators proposed by the research team. The aim is to agree the final selection of indicators, together with the data collection methods, and establish consensus around the timetable for the implementation of the ongoing evaluation. Thus the complete evaluation model will be approved and ready to be implemented.

Phase 2: Data Collection and Processing

Based on the evaluation indicators collectively identified and the information collection process defined, in this phase data will be generated, collected, and organised in order to prepare for the reflection and action of the next phase. The evaluation team will lead the development of necessary data collection tools and the organisation of the collection process.

The method chosen to collect data should be subordinated to the usefulness of the information. In this sense, Diez (2002) argues that "the final quality of an evaluation does not depend upon the methods used, but rather on the usefulness of the information produced and its capacity for offering up valuable answers". In the case of cluster policy, the indicator structure designed in prior steps will be the reference to collect information in the most valuable form. The sources of data are likely to include:

– CA Annual Reports
– Statistical data provided from various sources (CA, official sources)
– Interviews with key stakeholders
– Evaluation surveys of stakeholders

Generally, quantitative data will not be sufficient to make a complete evaluation of this type of policy; qualitative information directly obtained from the agents is likely to be important. Thus interviews between the research team and key cluster policy stakeholders such as the CA manager will be required to obtain additional information. The persons interviewed may not be confined to the CA management, CA members or policy makers, but might also include external, indirect stakeholders (for instance, a CA member's client) whose opinion is interesting to measure the impact of the policy.

Phase 3: Reflection and Actions

In this phase, the agents involved in the evaluation process will come together to reflect on indicator results and analyse the reasons for failure or success. Based on these findings they will develop future action plans. Finally, they will give feedback about the evaluation process. This third phase includes two steps:

Step 1: Analyse data/information collected and reflect on lessons. The data must be processed and structured in order to generate valuable and interpretable information, from which the stakeholders will discuss the results and ultimately determine the format of the final report to disseminate information and facilitate further learning processes. Besides sharing results, these action planning meetings are a forum for discussion and feedback to interpret the results, address further arising issues, and provide recommendations for the future. The evaluation team will facilitate the process. Based on the work of the previous phases they will provide an overall summary of the evaluation. This summary will facilitate a review of the original purpose of the evaluation, the procedures and methods used, and the results obtained. The objective is to capture problems encountered, lessons learned, solutions, and first recommendations for future action.

Step 2: Develop action plans and assess the evaluation process. The evaluation is undertaken within the framework of an ongoing policy, and thus evaluation results should be directly applied to the programme for overall improvement. In keeping with the concept of participatory evaluation, as the agents involved work towards a better understanding of the causal effects in the results, they can input into changes in future action plans. Feedback about the evaluation process will be elicited from the stakeholders. The conclusions reached in the previous step should then be integrated in the CA strategic definition process and concretely in their future action plans. The learning can also be translated to strategic decisions in the firms belonging to the CA, so that findings feed into multiple specific programme activities. In principle, these areas will be closely related to the expected uses of the evaluation results initially identified.

Phase 4: Dissemination

The objective of this final phase is to socialise the evaluation of the policy. The evaluation team will prepare a draft report that reflects on evaluation objectives, methods, results, recommendations for strengthening the network, and plans for conducting ongoing evaluations. In keeping with the concept of participatory evaluation, the draft report will be circulated among stakeholders to review for accuracy and clarify any further issues. The recommendations from this evaluation are likely to be both generic and specific for enhancing the performance of policy with respect to the specific cluster in question. The evaluation team will distinguish and organize these different recommendations in a final version of the report, ensuring confidentiality issues are dealt with effectively. This report will be shared internally with stakeholders: policy makers, CA director and cluster members. Finally, presentations will be made at international and regional conferences and workshops with a dual purpose: first, to share the case study methods and framework for evaluation; and, second, to highlight the benefits of this approach for other clusters that will enable a smooth extension of the initial pilot project.

V. APPLICATION TO THE BASQUE AEROSPACE CLUSTER: SOME RESULTS

While the evaluation of cluster policies is a complex and long-term process, here we report on initial results from an application of the methodology set out in Section IV to a specific CA in the Basque Country. The design and application of this innovative methodology has taken place over a three year period. From the beginning the research team has interacted with the agents involved in this cluster policy – those in the Basque Government responsible for the cluster policy and the Directors of the CAs – contrasting ideas not only about the content of the evaluation process but also about the evaluation methodology itself, so as to ensure that participation is central in the process from the outset.

Selection of the specific cluster for this study was guided by two main criteria. Firstly, the motivation of the management team of the CA to be involved in an innovative pilot evaluation process. Secondly, the timing of the project in terms of the cycle of activities of the CAs that demonstrated their interest, in particular to benefit from synergies with their own strategic reflection processes. This led to the selection of HEGAN, the Basque aeronautics cluster, a medium-sized cluster (35 members) established in 1997.

Following the methodological proposal defined in Section IV, the evaluation process has been developed in four main phases. Results from the process corresponding to each of these phases are set out below.

Phase 1: Planning and Model Development

Step 1: Presentation of the participatory evaluation project

The project was presented at a preliminary workshop to which the Director and technical team of the Basque Government cluster policy and all Directors of the existing CAs were invited. The main characteristics of the project, its preliminary programme, and the main advantages and risks of participatory evaluation were presented and opened for discussion. One of the key messages to explain to all stakeholders was the novelty and benefits of an evaluation approach focused on learning rather than control, to support social capital improvement and facilitate greater understanding and commitment among cluster stakeholders with regards the policy and its purpose. After this workshop, CAs were invited to propose themselves to participate in the pilot project. Approximately half of the existing CAs expressed their availability and interest to participate. The research team then selected Hegan, the Aerospace CA, for the pilot experience, making clear to the other associations that the intention of both the Basque Government and the research team was to extend the process to all interested CAs following the pilot.

Step 2: Define a common view and the scope of the evaluation process

Firstly the potential stakeholders in the evaluation process were identified: the Basque Government cluster policy Director and team; the Hegan CA Director and team; and representatives from each of Hegan's members. Secondly, as a base for the evaluation process a common view of the general aims of the cluster policy was developed among the first two groups of stakeholders through meetings with the evaluation team based around semi-structured interviews. Two key themes emerged from these discussions:

1. The focus of the policy on fostering competiveness *through collaboration*. The difficulties in isolating and measuring the impact on competitiveness of any policy

forces us to define concrete problems linked to competitiveness where the policy may potentially impact. In general, questions related to strategic competitive challenges that the industry *as a whole* must confront in cooperation were raised.

2. Social capital was identified as a key element in the policy development. In this sense, a policy-maker argued that: *"It is an intelligent environment that, as opposed to an environment of isolated agents, can build on what already exists to create the conditions for generating a virtuous circle."* Moreover it was argued that *"the intensity of the policy depends on the degree of acceptance (the voluntary adscription to the cluster policy). If a cluster really exists it is because the members want it to, and if they stop believing (in the cluster policy) it will disappear ... The weakness of the model is the weakness in the relations of the network."* A member of the CA management team also stressed the importance of the "*team mentality and cohesion*", pointing out that this is something that should exist prior to the involvement of the CA, but that in reality often needs this policy stimulus.

Potential objects of the evaluation were agreed among this group of stakeholders. At this early stage only the general definition of the evaluation objects were discussed and accepted, which corresponded to general strategic challenges previously identified by the CA that could be addressed through cooperation. A preliminary project proposal and chronogram was then agreed, and in this case the evaluation process was scheduled to correspond with the strategic planning process of the CA so as to maximise synergies.

Step 3: Definition of the key evaluation questions

In terms of the mission of this specific cluster policy, the key evaluation questions complied with the following condition: they were strategic competitive challenges, or key elements of these challenges, that had to be confronted in cooperation and within the scope of the CA.
A document outlining the key points agreed in Step 2 provided a starting point from which a specific set of strategic challenges could be identified in a participative process as a basis for developing an evaluation framework for the cluster. This was achieved through an interactive workshop, which incorporated several group-dynamic techniques in order to assure broad agent participation and, at the end, obtained an agreed selection of key strategic challenges:

- Qualitative growth of the cluster to consolidate the value chain
- Innovation and generation of new products
- Adaptation to new technologies
- Training and identification of 'best practice'
- Financing of projects
- Deepening of the cluster philosophy among members
- Internationalisation and search for new clients
- Improvement of communication between the CA and members
- Strengthening the design of government support programmes

Step 4: Defining a proposal of the indicators and data collection respondents/methods

Responding to the outcomes of Step 3 a proposed evaluation framework was constructed by the research team, guided by the following considerations:

1. The definition of indicators must be shared among all the stakeholders.
2. The indicators should be not only quantitative but also qualitative, to foster evaluation as reflection and learning, not only control.
3. The indicators need not be exhaustive; the aim of the evaluation is not to control every activity, but to reflect on the key impacts and the elements behind them.
4. The dynamic character of the indicators is important, because they are conceived not only to evaluate the present situation but also to guide the evolution of the cluster.
5. The indicators must be quantifiable and easily available.

The proposed framework was structured around four sets of indicators:

1. *Drivers*: designed to act as an overall thermometer of the 'cluster philosophy' or 'associative maturity' among the cluster members.
2. *Facilitators:* designed to reflect the social capital and common interest among the cluster stakeholders that are basic conditions for effective cooperation and related to the strategic challenges of improved communication and programme design.
3. *Results:* Designed to capture achievement in specific desired strategic outcomes for members as a result of their participation in the CA, including consolidation of the value chain, innovation and technological adaption, training, finance and internationalization.

4. *Impacts*: Designed to reflect evolution in the overall impact of the cluster in the Basque economy, including measures of productivity, growth and critical mass.

Step 5: Approval of the complete evaluation framework

The evaluation framework proposal developed in Step 4 was presented for discussion in a second open workshop, where representatives of the Basque Government, cluster association management, and firm associates reflected on and modified proposals using group-dynamic techniques. The aim of this workshop was to agree the final selection of indicators, together with the data collection methods, and to establish consensus around the timetable for the implementation of the ongoing evaluation. Thus as a result of this activity the complete evaluation model was approved and ready to be implemented.

As a result of this process of workshops, the final evaluation framework created includes three groups of indicators, with some minor modifications to those proposed in Step 4:

1. Network Policy Outcomes (NPO): A development of 'drivers' in the initial proposal, NPO indicators measure the level of accomplishment of the specific behavioural changes that the cluster policy aims to promote. The objective of the policy implies the development of strategic actions in cooperation among cluster agents. Two indicators are employed to measure this. Firstly, 'associative maturity', as a reflection of the degree of advancement in the development of strategic projects in cooperation. We measure it using a 12 item question designed to reflect where each participant is situated in the key progress stages to reach the final cluster policy purpose of working together in strategic cooperation projects. Our second measure of NPO captures the observed projects in cooperation among the network, including the number of projects, their nature and the perceived value generated by them.

2. Social Capital (SC): A refinement of 'facilitators' in the initial proposal, these indicators measure the existing social capital among CA members. The evaluation centres on the three dimensions of social capital identified by Nahapied and Ghoshal (1998): relational, structural and cognitive. In the relational dimension we measure trust, reciprocity and commitment, using an adaptation of previously published scales for these constructs. The cognitive dimension is measured using questions that

capture shared vision, the perception of the agents on the commonalities of goals in the network, and reasons for belonging to the network. Finally, in the structural dimension we measure the network itself, in particular the actual and desired relationships declared by each CA member.

3. Results and Impact (RI): These two groups are combined due to the longer time scale with which data will be collected and their coherence with the parallel and ongoing strategic reflection process of the CA. The first sub-group measures the level of achievement or results of the key strategic objectives that the cluster association has established in its strategic plan, in line with the results indicators in the initial proposal. The second-subgroup measures the overall impact of the activity of the CA in the development of the region, again in line with the indicators defined in Step 4.

Phase 2: Data Collection and Processing

Data to construct the NPO and SC indicators was collected through an ad-hoc evaluation survey addressed to all cluster associates through a simple online software application.[1] In this first stage of data collection there was a 60% response rate. The resulting data was processed and organised by the research team to construct the indicators corresponding to the agreed evaluation framework.

Phase 3: Learning Process

Step 1: Analyse data/information collected and reflect on lessons

At this stage the results obtained from the data were presented to stakeholders to continue the participative reflexion process begun in the earlier workshops. The research team provided an overall summary of the evaluation results, which was first presented to CA management to share interpretations on the resulting indicators and to begin to analyse the reasons for the emerging patterns. Based on these findings the CA management and research team identified some broad issues for the future development of the CA as a basis for action plans to overcome the present situation and improve CA outputs and results. The

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[1] The application was designed so that it can be extended at a later stage in the process to collect data pertaining to the RI indicators.

results along with these reflections were then presented by the CA management to all members at the annual general meeting of the CA.

Step 2: Develop action plans and assess the evaluation process

The second step of Phase 3 is currently in process, in parallel with Phase 4 (see below). The conclusions reached following the meetings and presentations of the previous step are now being integrated into CA's strategic definition process and concretely in their action plans. In particular, the CA management has started the definition of several strategies designed to build on the strengths and address the weaknesses uncovered by the network performance and social capital indicators. For example this has involved the identification of groups of firms with shared weak or strong characteristics, to be targeted either for special assistance or to learn from good practice. It is envisaged that the development of action plans based around the NPO and SC indicators will be further strengthened as insights from the planned collection of RI indicators become evident later in the long-run evaluation process.

Phase 3: Dissemination

In parallel with the CA's actions in the previous step, the research team has produced a draft evaluation report, reflecting on the whole process. This was first presented to and contrasted with the CA and policy-makers in the Basque Government, and was then the focus of a workshop in which the rest of the **Basque Country Cluster Associations were invited to participate. This dissemination aimed to highlight the benefits of this approach to policy evaluation to other clusters that will enable a smooth extension of the initial pilot project. As a result of this workshop a further six CAs have signed up to a series of sessions at which the research team will train CA staff so that they can implement themselves the methodology. Finally, in this dissemination phase the research team is currently developing papers based on the initial sets of results for presentation at academic conferences and journal publication.

VI. CONCLUSIONS

After almost two decades since the cluster policy of the Basque Government was defined following Porter´s methodology, various efforts have been made to evaluate the results obtained. While the evaluation methods employed have uncovered some important findings

that have been used to assist the ongoing clusters policy, they have demonstrated difficulties in deriving clear conclusions. We have argued that these difficulties are directly related to some of the characteristics implicit to clusters as a policy focus: the mixture of tangible and intangible objectives; their systematic nature; and the complexity of cause-effect relationships. Building on this long term evolution of evaluation approaches, we have developed and applied a new methodology better suited to the specific characteristics of an essentially soft, relationship-centred policy designed to generate tangible results, but explicitly through processes of co-operation.

Specifically, we have developed a rationale for the use of participatory evaluation techniques in an action research framework. The actor-centric nature of such approaches we suggest makes them ideally suited to a policy that is geared towards encouraging effective co-operation between a range of cluster actors with an overall aim of improving their (individual and collective) competitiveness. We have therefore presented a detailed methodology designed for specific application to the cluster policy of the Basque Country government. This methodology is by nature long-term, integrated as it is with the ongoing dynamics of the policy process itself. As an example of the application of this participatory evaluation methodology, a pilot application to the case of the Basque aeronautics cluster is presented. While this application is not yet complete – only the first sets of indicators that emerged from the participative sessions have been collected – our initial exploration of how the process has unfolded in this case offers encouraging signs for the potential for such an evaluation methodology to both re-enforce the policy's aims in facilitating cooperation and to generate policy learning. We therefore propose this as an example to stimulate discussion around the applicability, practical implementation and usefulness of this methodology in different place and policy contexts.

REFERENCES

Ahedo, M. (2004). 'Cluster Policy in the Basque Country (1991-2002): Constructing "Industry-Government" Collaboration through Cluster-associations', *European Planning Studies*, 12: 8, 1097-1113.

Aragon, C., Aranguren, M-J., Iturrioz, C., Larrea, M. and Olarte, F. (2008). 'A New Step in Cluster Policy Evaluation in the Basque Country', *mimeo*, University of Deusto, Spain.

Aranguren, M J., Aragón, C., Larrea, M. and Iturrioz, C. (2008). 'Does Cluster Policy Really Enhance Networking and Increase Competitiveness', in M J. Aranguren, C. Iturrioz and J. R. Wilson (eds.), *Networks, Governance and Economic Development: Bridging Disciplinary Frontiers*, Cheltenham: Edward Elgar, forthcoming.

Aranguren, M J., Larrea, M. and Navarro, I. (2006). 'The Policy Process: Clusters versus Spatial Networks in the Basque Country', in C. Pitelis, R. Sugden and J. R Wilson (eds.), *Clusters and*

Globalisation: The Development of Urban and Regional Economies, Cheltenham: Edward Elgar.

Aranguren, M.J.; Navarro, I. (2003). 'La Política de Clusters en el País Vasco: Una Primera Valoración, *Ekonomiaz*, 53: 90-113.

Becattini, G. (1978). 'The Development of Light Industry in Tuscany: An Interpretation'*, Economic Notes*, 7, 2-3.

Becattini, G. (1991). 'Italian Industrial Districts: Problems and Perspectives', *International Studies of Management and Organization*, 21 (1), 83-90.

Becattini, G., Bellandi, M., Dei Ottati, G. and Sforzi, F. (2003). *From Industrial Districts to Local Development: An Itinerary of Research*, Cheltenham: Edward Elgar.

Christerson, B. and Lever-Tracy, C. (1997). 'The Third China? Emerging Industrial Districts in Rural China', *International Journal of Urban and Regional Research*, 21: 4, 569-88.

Cooke, P. (2007). 'How Benchmarking can Lever Cluster Competitiveness', *International Journal of Technology Management*, 38(3): 292-320.

Diez, M A. (2001). 'The Evaluation of Regional Innovation and Cluster Policies: Towards a Participatory Approach', *European Planning Studies*, 9: 7, 907-923.

Diez, M A. (2002). 'Evaluating Regional Policies: Reviewing the Theory and Practice'*, Evaluation*, 8: 3, 285-305.

European Commission (2006): "Indicative Guidelines on Evaluation Methods: Monitoring and Evaluation Indicators" Working Document, august 2006.

Gilliam, A., Davis, D., Barrington, T., Lacson, R., Uhl, G. and Phoenix, U. (2002). 'The Value of Engaging Stakeholders in Planning and Implementing Evaluations', AIDS Education and Prevention, 14, supplement A, 5-17.

Isham,J., Kelly, T., Ramaswamy, S. (2004) *Social capital and economic development: well-being in developing countries*, Edward Elgar Publishing Limited, Cheltemham, UK.

Iturrioz, C., Aranguren, M J., Aragón, C. and Larrea, M. (2005). '¿La Política Industrial de Cluster/Redes Mejora Realmente la Competitividad Empresarial? Resultados de la evaluación de los experiencias en la Comunidad Autónoma de Euskadi', *Ekonomiaz*, 60: 2, 10-61.

Martin, R. and Sunley, P. (2003). 'Deconstructing Clusters: Chaotic Concept or Policy Panacea?', *Journal of Economic Geography*, 3, 5-35.

Piore, M. J. and Sable, C. F. (1984). *The Second Industrial Divide: Possibilities for Prosperity*, New York: Basic Books.

Porter, M. (1990). *The Competitive Advantage of Nations*, New York: Free Press.

Porter, M. (1998). 'Clusters and the New Economics of Competition', *Harvard Business Review*, 76 (6), 77-91.

Porter, M. (2004). 'Location, Competition and Economic Development: Local Clusters in a Global Economy', *Economic Development Quarterly*, 14: 1. 15-34.

Pyke, F, Becattini, G. and Sengenberger, W. (eds.) (1990). *Industrial Districts and Inter-firm Cooperation in Italy*, Geneva: International Institute for Labour Studies.

Raines, P. (2002). 'The Challenge of Evaluating Cluster Behaviour in Economic Development Policy', paper presented at the International RSA Conference on *Evaluation and EU regional policy: New questions and challenges*, European Policies Research Centre, University of Strathclyde. Glasgow, UK.

Reason, P. and Bradbury, H. (2008). 'Introduction', in P. Reason and H. Bradbury (eds.), *The SAGE Handbook of Action Research: Participative Inquiry and Practice*, Second Edition, London: SAGE.

Saxenian, A (1994). *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, Cambridge, Massachusetts: Harvard University Press.

Schmitz, H. and Musyck, B. (1994). 'Industrial Districts in Europe: Policy Lessons for Developing Countries', *World Development*, 22: 6, 889-910.

Storey, D.J. (2000). 'Six Steps to Heaven: Evaluating the Impact of Public Policies to Support Small Businesses in Developed Economies', in D.L. Sexton, and H. Landström (eds.), *The Blackwell Handbook of Entrepreneurship*, Oxford: Blackwell Publishers.

Storey, D. J. (2004). 'Evaluation of SMEs Policies and Programmes', document prepared in cooperation with the SME Unit of the OECD Secretariat for the *2nd OECD Conference of Ministries Responsible for SMEs* held in Istanbul, 2-3 June 2004.

Sugden, R. and Wilson, J. R. (2002). 'Development in the Shadow of the Consensus: A Strategic Decision-Making Approach', *Contributions to Political Economy*, 21, 111-134.

Sugden, R., Wei, P. and Wilson, J. R. (2006). 'Clusters, Governance and the Development of Local Economies: A Framework for Case Studies', in C. Pitelis, R. Sugden and J. R. Wilson (eds.), *Clusters and Globalisation: The Development of Urban and Regional Economies*, Cheltenham: Edward Elgar.

Sullivan, H. and Stewart, M. (2006). 'Who Owns the Theory of Change', *Evaluation*, 12: 2, 179-199.

Svensson, L. and Nielsen, K. A. (2006). *Action and Interactive Research: Beyond Theory and Practice*, Kristiansand: Shaker Publishing.

Turok, I. (1990). 'Evaluation and Accountability in Spatial Economic Policy: A Review of Alternative Approaches', *Scottish Geographical Magazine*, 106: 1, 4-11.

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