



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY  
jou kennisvenoot • your knowledge partner

# AN IMPLEMENTATION AND MANAGEMENT FRAMEWORK FOR CLUSTER INITIATIVES IN SOUTH AFRICA

By

**Sigrun Melax**

*Thesis presented in partial fulfilment of the requirements for  
the degree of Master of Science in Engineering Management (Industrial)  
at Stellenbosch University*

Supervisor: Konrad von Leipzig

March 2013



Departement Bedryfsingeniërsweese

Department of Industrial Engineering



## **DECLARATION**

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Signature .....

Date: .....

Copyright © 2013 Stellenbosch University

All rights reserved

## **ABSTRACT**

Clustering has emerged as one of the drivers for economic growth and improved competitiveness for specific industries. In order for cluster initiatives to be successful, they need to be managed in a certain way. The importance of excellent cluster management has been increasingly realised in the past years. Certain factors of cluster management are considered to lead to success in the management of cluster initiatives as identified in published research. In the same vein, certain aspects of cluster program management are considered to lead to success. A cluster program run by the Western Cape Provincial Government (WCPG) in South Africa is analysed and compared to the generic success factors in cluster program management. Selected cluster initiatives in the Western Cape are analysed and compared with each other as well as to these success factors in cluster management. The Western Cape Tooling Initiative (WCTI), a cluster initiative in the tool, die and mould making industry, is analysed in more detail, and compared to the other cluster initiatives, all of which but one are part of the cluster program. WCTI is found to not have been following success factors in cluster management, and the rate of progress of the WCTI from when it was started supports that fact. However, recent changes in the leadership of the cluster initiative have brought about changes in WCTI's cluster management emphasis and signs of increased success can be noticed, even though the full effect will not be felt until after some years as success in cluster management takes years to be realised.

## SAMEVATTING

Trosvervaardiging het in die onlangse verlede ontwikkel tot een van die drywers vir ekonomiese groei en verhoogde kompetendheid in spesifieke industrië. Trosinisiatiewe vereis 'n spesifieke bestuursraamwerk om hulle potensiaal te bereik, en die belangrikheid van uitstekende bestuurspraktyke word al hoe meer beklemtoon. Sekere faktore, beskryf in literatuur, van bestuur bleik te lei na sukses in die bestuur van sulke inisiatiewe. Op 'n soortgelyke basis is daar aspekte van trosprogram bestuur wat voorvereistes vir sukses is. 'n Trosprogram onder leiding van die Wes Kaapse Provinsiale Regering in Suid Afrika word analiseer en vergelyk met die generiese sukses faktore van trosprogrambestuur. Verskeie trosinisiatiewe in die Wes Kaap word ondersoek en met mekaar vergelyk asook gemeet aan hierdie suksesfaktore. Meer spesifiek word die "Western Cape Tooling Initiative" (WCTI) in meer detail analiseer, en vergelyk met die ander inisiatiewe wat almal, met een uitsondering, deel is van die trosprogram self. Daar is gevind dat die WCTI nie streng volgens die riglyne en/of binne die raamwerk van suksesvolle trosbestuur opgetree het nie, en dit word gestaaf deur die relatief lae sukseskoers tot dusver. Met die onlangse veranderinge aan die leierskap van die inisiatief bleik dit egter dat meer aandag aan hierdie praktyke gegee word, en daar is tekens van 'n verbetering in die prestasie van die program. Die volle effek van hierdie veranderinge sal egter 'n rukkie neem om volledig tot uitwerking te kom.

## **ACKNOWLEDGEMENTS**

I would like to thank Konrad von Leipzig for his help and support.

All the cluster initiatives who made this research possible with their engagement and contribution, with special thanks to Warwick Blyth, Erica Elk, Bernadette Isaacs and Su Birch.

Nigel Gwynne Evans and his team at WCPG.

John McEwan and Grant Stevenson at WCTI, and the toolrooms whom without this research would not have been possible.

Elvar Knútur Valsson, Hákon Gunnarsson and Þóra Margrét Þorgeirsdóttir for giving me insight into clusters in Iceland.

My family and friends for their undying support and patience.

## TABLE OF CONTENTS

List of Figures .....	vii
List of Graphs .....	viii
List of Tables .....	x
List of Abbreviations.....	xi
1 Introduction .....	1
1.1 Clusters in the Western Cape South Africa .....	3
1.2 Thesis motivation.....	4
1.3 Objectives of thesis .....	4
1.4 Thesis outline.....	5
2 Clusters .....	7
2.1 The National Diamond .....	9
2.2 Involvement in Cluster Construction .....	10
2.3 Co-operation in clusters.....	14
2.4 Cluster Life Cycle .....	17
2.4.1 The life cycle of the cluster initiative.....	18
2.4.2 The life cycle of the cluster initiative when government leads the way .....	21
2.5 Cluster Environment in South Africa.....	22
2.5.1 Cluster Initiatives in Developing and Transition Economies .....	22
2.5.2 Cluster Environment in South Africa.....	23
2.6 Cluster Management .....	25
2.6.1 Cluster Program Management .....	26
2.6.2 Cluster Initiative management .....	30
2.7 Conclusions:.....	40
3 Western Cape Cluster Program .....	43
3.1 Evaluation of Western Cape Cluster Program.....	47
4 Cluster Initiatives.....	54
4.1.1 Iceland Geothermal .....	54
4.1.2 Western Cape Furniture Initiative – WCFI .....	57
4.1.3 Evaluation of WCFI .....	60

4.1.4	Cape Craft and Design Institute – CCDI.....	64
4.1.5	Evaluation of CCDI.....	68
4.1.6	South African Oil and Gas Alliance – SAOGA .....	73
4.1.7	Evaluation of SAOGA.....	75
4.1.8	Wines of South Africa – WOSA.....	80
4.1.9	Evaluation of WOSA .....	82
4.2	Western Cape Tooling Initiative -WCTI.....	86
4.2.1	WCTI.....	89
4.3	Evaluation of WCTI .....	92
5	Conclusions and Recommendations .....	105
5.1	Conclusions on Cluster Management.....	105
5.2	Conclusions and Recommendations for the Western Cape Cluster Program.....	106
5.3	Conclusions and Recommendation for the WCTI .....	107
6	Bibliography.....	110
	APPENDIX A - Research Approach.....	114
	APPENDIX B - Interviews performed.....	115
	APPENDIX C - Question lists for interviews .....	116

## LIST OF FIGURES

Figure 1: Schematic representation of a cluster and a cluster initiative (own illustration based on definitions given by <i>Ketels et al, 2008</i> ) .....	2
Figure 2: A schematic figure of the main chapters in the thesis .....	5
Figure 3 : Vertical Cluster (on the left), Horizontal Cluster (in the middle) and a Mixed Cluster (on the right) (own illustration based on the definitions given in <i>Small Business Project</i> (16)).....	8
Figure 4: Michael Porter’s national diamond (17).....	9
Figure 5: Three levels of cluster involvement (own illustration) .....	11
Figure 6: The three actors in clusters that are important in cluster development (own illustration based on definitions given by <i>Lämmer-Gamp, Köcker and Alslev et al, 2011 and Ketels et al, 2008</i> ).....	12
Figure 7: The connection between the cluster, the cluster initiative and the cluster management organisation (own illustration based on definitions given by <i>Ketels, 2008</i> ) .....	15
Figure 8: The cluster life cycle as explained in <i>Clusters; Balancing Evolutionary and Constructive Forces</i> (2) .....	18
Figure 9: Cluster maturity model as explained in <i>Clusters formation from the 'bottom up': a process perspective</i> (20) .....	20
Figure 10: General phases of cluster development (21).....	21
Figure 11: Stage of development of South Africa. South Africa is ranked as an efficiency driven economy (26) .....	24
Figure 12: Cluster Initiative Process Flow (own illustration) .....	30
Figure 13: Goals of Cluster Initiatives, listed in order of frequency (3) .....	32
Figure 14: History of the Western Cape Cluster Program (14) .....	45
Figure 15: Focus sectors for the SPV program (14).....	46
Figure 16: The framing objectives of the Department of Economic Development & Tourism (14) .....	49
Figure 17: A mapping of the Icelandic Geothermal Cluster (33).....	55
Figure 18: The 10 projects of Iceland Geothermal started in July 2011 divided into 6 groups (33).....	56
Figure 19: Funding sources for CCDI in financial year 2009/10 (40) .....	67
Figure 20: Initiatives in the TDM making industry and the connections between them (13).....	88



## LIST OF GRAPHS

Graph 1: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 6, 11, 16 and 18) .....	60
Graph 2: Funding of WCFI for the fiscal years 2010/11 and 2011/12 and the prospective funding for 2012/13 .....	61
Graph 3: Number of members of WCFI.....	63
Graph 4: Number of WCFI's events and participants at events .....	63
Graph 5: Conclusions of evaluation of WCFI in comparison with other case studies and results of Chapter 2 .....	64
Graph 6: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 11, 16 and 18) .....	68
Graph 7: CCDI's funding according to the annual reports available on their website.....	70
Graph 8: Number of members of CCDI (42).....	71
Graph 9: Number of CCDI's member companies that were assisted with business, market and product support <sup>8</sup> .....	72
Graph 10: Conclusions of evaluation of CCDI in comparison with other case studies and results of Chapter 2 .....	73
Graph 11: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 16 and 18).....	76
Graph 12: SAOGA's funding according to reports from WCPG .....	77
Graph 13: The number of SAOGA's members according to reports from WCPG .....	78
Graph 14: The number of events each year, and the number of participants at events each year according to reports from WCPG .....	79
Graph 15: Conclusions of evaluation of SAOGA in comparison with other case studies and results of Chapter 2 .....	79
Graph 16: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 11 and 18).....	82
Graph 17: Conclusions of evaluation of WOSA in comparison with other case studies and results of Chapter 2 .....	85

Graph 18: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 11 and 16).....	92
Graph 19: Number of members of WCTI .....	94
Graph 20: Number of WCTI's events and number of participants at events .....	99
Graph 21: Funding for the WCTI.....	100
Graph 22: Conclusions of evaluation of WCTI before changes in comparison with other case studies and results of Chapter 2 .....	101
Graph 23: Conclusions of evaluation of WCTI after changes in comparison with other case studies and results of Chapter 2 .....	104
Graph 24: Conclusions of evaluation of WCTI before changes in comparison with other case studies and results of Chapter 2 (identical to Graph 22).....	107
Graph 25: Conclusions of evaluation of WCTI after changes in comparison with other case studies and results of Chapter 2 (identical to Graph 23).....	108

## **LIST OF TABLES**

Table 1: Examples of services provided by cluster initiatives to members.....39

Table 2: Interviews performed when investigating the WCPG cluster program.115

Table 3: Interviews performed when investigating CIs in the Western Cape .....115

## **LIST OF ABBREVIATIONS**

BBBEE	Broad-Based Black Economic Empowerment
BEE	Black Economic Empowerment
CCDI	Cape Craft and Design Institute
CI	Cluster Initiative
CIs	Cluster Initiatives
CLOE	Clusters Linked Over Europe
CO	Cluster management Organisation
COs	Cluster management Organisations
CPUT	Cape Peninsula University of Technology
CTHP	Cape Town Health Park
DTI	Department of Trade and Industry
FBCWC	Furniture Bargaining Council for the Western Cape
FIETA	Forest Industries Education and Training Authority
GCI	Global Competitiveness Index
GGP	Gross Geographic Product
IPAP	Industrial Policy Action Plan
IPAP	Industrial Policy Action Plan
MEDS	Micro-Economic Development Strategy
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
NCE	Norwegian Centre of Expertise

NPO	Non Profit Organisation
NTI	National Tooling Initiative
NTIP	The National Tooling Initiative Program
NUFAWSA	National Union of Furniture And Allied Workers
PPP	Public Private Partnership
QMS	Quality Management System
SAOGA	South African Oil and Gas Alliance
SME	Small & Medium Sized Enterprises
SMME	Small, Medium & Micro Sized Enterprise
SPV	Special Purpose Vehicle
TASA	The Toolmaking Association of South Africa
TDM	Tool Die and Mould
WCFI	Western Cape Furniture Initiative
WCPG	Western Cape Provincial Government
WCTI	Western Cape Tooling Initiative
WOSA	Wines Of South Africa

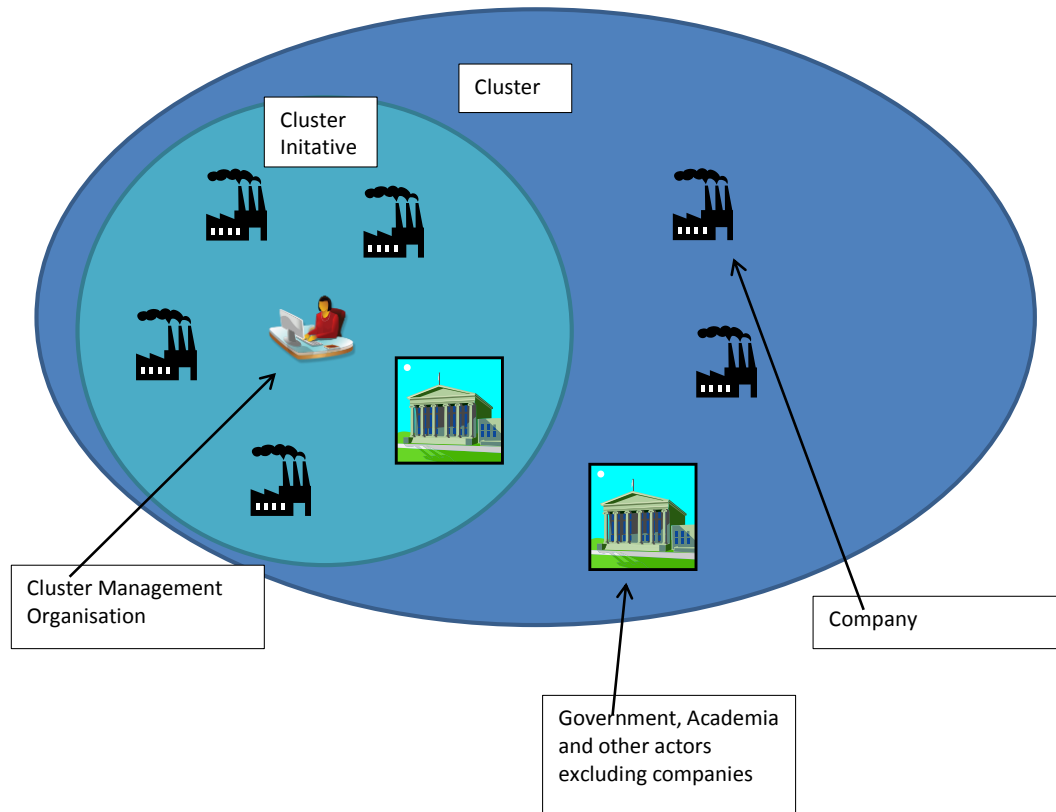
## 1 INTRODUCTION

Throughout the centuries companies in the same industries have gathered in the same location. According to *Sölvell, 2009* this happens for example around natural resources or other external factors. An example of this is Hollywood, where companies in the movie and television industry have gathered. When this happens it is called a cluster: a group of companies and other parties in the same industry positioned in a particular location. According to *Porter, 1998* the cluster starts to attract more companies and the cluster grows bigger when the concentration of companies has reached a certain critical mass. The cluster attracts related and supporting industries to the location, and other supporting functions follow such as teaching and research institutions. The benefits of such a cluster are the benefits that follow a strong industry, such as increased tax revenue, increasing job opportunities etc. A strong cluster is most often also very competitive internationally. Good examples are again the Hollywood movie industry cluster, the computer science cluster in Silicon Valley, and the car manufacturing cluster in München Germany.

The term cluster was first introduced formally to the science discussion by Michael E. Porter in 1990 and was later defined by him as: "*Clusters are geographic concentrations of interconnected companies and institutions in a particular field.*" (1). As benefits of clusters are being realised, government and industries around the world have tried to strengthen existing clusters and even create new clusters. This can for example be done by policy intervention or by attracting companies in the same industry to relocate to a certain location with incentives.

A cluster is a very broad term and clusters vary in size, level of co-operation, age, structure, level of government involvement etc. Some clusters have formal co-operation with a cluster management organisation. That organisation is then typically a non-profit organisation (NPO) with the goal of strengthening the cluster. The reason companies start cooperating in a cluster is to get the benefits that follow. The benefits are both directly from the co-operation and indirectly from the mass of companies in the same industry in the same place. (2) (1) (3)

There are several terms used in relation to clusters and co-operation within the cluster that can cause confusion as well as the fact that a cluster is a very open term and can be interpreted differently by different parties. In this thesis the terms cluster, cluster initiative and cluster management organisation will be used according to the definitions given below. In Figure 1 the terminology used in this report is explained.



**Figure 1: Schematic representation of a cluster and a cluster initiative (own illustration based on definitions given by *Ketels et al, 2008*)**

**Cluster** is the overall definition, applying to the agglomeration of companies and other actors such as government and academia. The cluster can be present whether or not there is co-operation within it.

When there is co-operation in clusters, the group of actors involved in this co-operation is called a **Cluster Initiative (CI)**. This includes both the companies and the other actors. The membership of the cluster initiative is official; often a signature or payments of membership fees are required.

As an actor in a cluster, one can choose whether or not one wants to be involved in the cluster initiative, however: if one is located within the cluster area, one cannot choose anymore but is inevitably an actor in the cluster. One can therefore have a cluster initiative that does not include all actors in the cluster.

An additional body is added when the co-operation is formalised in a cluster initiative, the **Cluster Management Organisation (CO)**. The cluster management organisation is an actor with the sole purpose of managing the co-operation in the cluster initiative. This cluster management organisation is often a non-profit registered company, with a name, offices, website and staff. (4)

## 1.1 Clusters in the Western Cape South Africa

Research on clusters following Porters definition of the term was on clusters in general, but little emphasis was put on how cluster co-operations should be managed until the publishing of *Cluster Management Excellence* volume I and II in 2009 and 2010 and *Clusters are Individuals* in 2011. Much of the literature written is on clusters in the developed world, less has been written on clusters in the developing world including South Africa. The little information found on clusters in South Africa is on clustering in general and on SMMEs. Publications on how to manage clusters in developing countries are lacking, even though it can be assumed from publications from developed countries that many of the generic principles also apply to South Africa.

The local government in the Western Cape, South Africa, has realised the potential benefits of strengthening the regions clusters and has been running a cluster program since the late 90s. In their cluster program, called the Special Purpose Vehicle (SPV) program they support cluster initiatives in certain sectors with the goal of increasing the competitiveness of the industry, or in other words, strengthening the cluster. The first cluster initiative was launched in 1998 and the plan is to have 12 cluster initiatives in the program in 2012.

One of these clusters is the Western Cape Tooling Initiative (WCTI), a cluster in the tool, die and mould (TDM) industry. WCTI was established in 2006 and is a non-profit organisation, mainly funded by government. The TDM industry supplies tools and moulds to production. Two major customer industries are the auto industry and the plastics industry both located in South Africa. The TDM industry has lost a substantial part of its manufacturing capacity or 80% since 1990 (5). The TDM industry is mainly SMMEs with very few big companies. The problems in industry are for example lack of skills and shortage of up to date manufacturing equipment. These are the kind of problems that can be addressed by joining forces and working together on those fields, despite still being competitors. The organised cluster co-operation was started with the establishment of the WCTI in 2006 but the benefits of clusters take years to be realised and are difficult to measure. As with other clusters the success or lack of it within the WCTI is difficult to measure, and even more so in a business environment where numerical industrial facts are hard to come by or even impossible to obtain.

It is therefore important to research the success or lack of it of WCTI. It is important to research what in the management of the cluster initiative has been successful and what not. When factors contributing to success or leading to lack of success have been identified, they can be used in further development of the cluster initiative to ensure the best possible outcome.

As the WCTI is a part of the Western Cape Provincial Government's (WCPG) cluster program, the cluster program has a strong influence on the operations and therefore the outcome of the initiative. It is therefore important to investigate the performance of the cluster program as well. (6) (7) (8) (9) (10) (11) (12) (13) (14)



## **1.2 Thesis motivation**

South Africa needs to strengthen its economy to provide its citizens with a better standard of living. Clusters can be a powerful tool in strengthening industries. But it is not easy to successfully strengthen or establish clusters and therefore it is very important to review the process along the way. The cluster program has been used as a tool for economic development for decades now without obvious results as they are both difficult to measure and reliable statistical data for the economy is almost impossible to find for these industries.

## **1.3 Objectives of thesis**

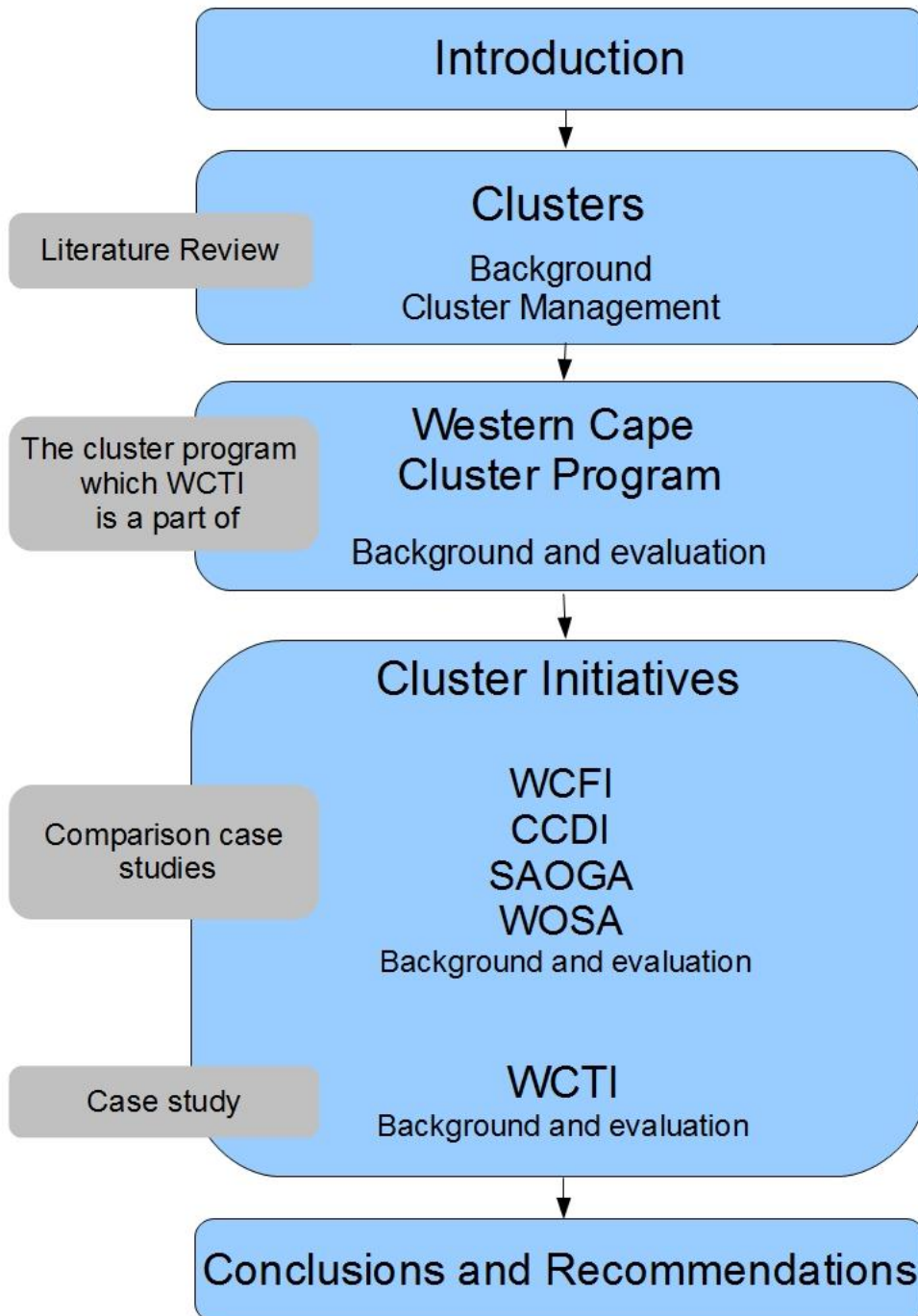
The overarching objective of the thesis is to develop a set of guidelines for successful implementation and continuous management of cluster initiatives and cluster programs. In order to achieve this one CI (the WCTI) was the main focus of the research. The Cluster Program, in which the main WCTI is a part of, was researched as well as other CIs in the same area and in the same cluster program for comparison reasons. The method of research is through interviews with cluster participants as well as researching and analysing available information, such as published reports. In order to achieve the overarching thesis objective, the following thesis objectives are presented:

- Investigate what factors are considered to lead to success in terms of management of co-operation within clusters, both in terms of cluster programs and cluster initiatives.
- Investigate performance of the cluster program of the Western Cape Provincial Government (SPV program) in terms of management to identify what has been successful and what has been unsuccessful.
- Provide recommendations to the SPV program management to improve the success of the cluster initiatives in the program.
- Investigate other cluster initiatives in the Western Cape to be able to compare their operations and performance to the WCTI as well as supporting the investigation of the Western Cape Cluster Program.
- Investigate Western Cape Tooling Initiative in terms of operations and performance; what has been successful and what has been unsuccessful.
- Provide recommendations to the Western Cape Tooling Initiative management to improve the success of the cluster initiative.

Interviews with semi-structured questionnaires were used for interviewing in each of the Case Studies (Cluster Initiatives and Cluster Programs).

## 1.4 Thesis outline

Following is an illustration of the structure of the thesis:



**Figure 2: A schematic figure of the main chapters in the thesis**

**Chapter 1:** Presents a general overview of clusters and general aspects behind different definitions of clusters. General overview of Western Cape Tooling Initiative, a cluster in South Africa and the cluster program which WCTI is a part of. Thesis outline and thesis motivation are presented.

**Chapter 2:** Presents a general overview of clusters and background behind the term. Cluster construction and involvement are discussed. Co-operation in clusters is discussed and different types of co-operation defined. The cluster life cycle is discussed. Clusters in developing countries and in South Africa are discussed. Lastly cluster management is discussed both in cluster programs and in cluster initiatives. Conclusions of the literature review on cluster management are presented and discussed.

**Chapter 3:** Presents an overview of the Western Cape Cluster Program, its history, background and how it works. The cluster program is evaluated against publications on cluster program management. Conclusions of the evaluation of the Western Cape Cluster Program are presented and discussed.

**Chapter 4:** Presents an overview of 4 case studies, Western Cape Furniture Initiative, Cape Craft and Design Institute, South African Oil and Gas Alliance and Wines of South Africa which are all cluster initiatives in Western Cape South Africa. The case studies are evaluated. An overview of Western Cape Tooling Initiative is presented, its history, background and how it operates. The WCTI is evaluated against publications on cluster initiative management and against the other case studies. Conclusions on the evaluation of the WCTI are presented and discussed.

**Chapter 5:** Discusses a summary of the conclusions drawn in the main chapters.

**Appendix I - Research Approach:** Discuss the approach of the research performed.

**Appendix II - Interviews performed:** Shows interviews performed in relation to the investigation of the CIs and cluster program.

**Appendix III - Question lists for interviews:** Shows the question list used for interviews.

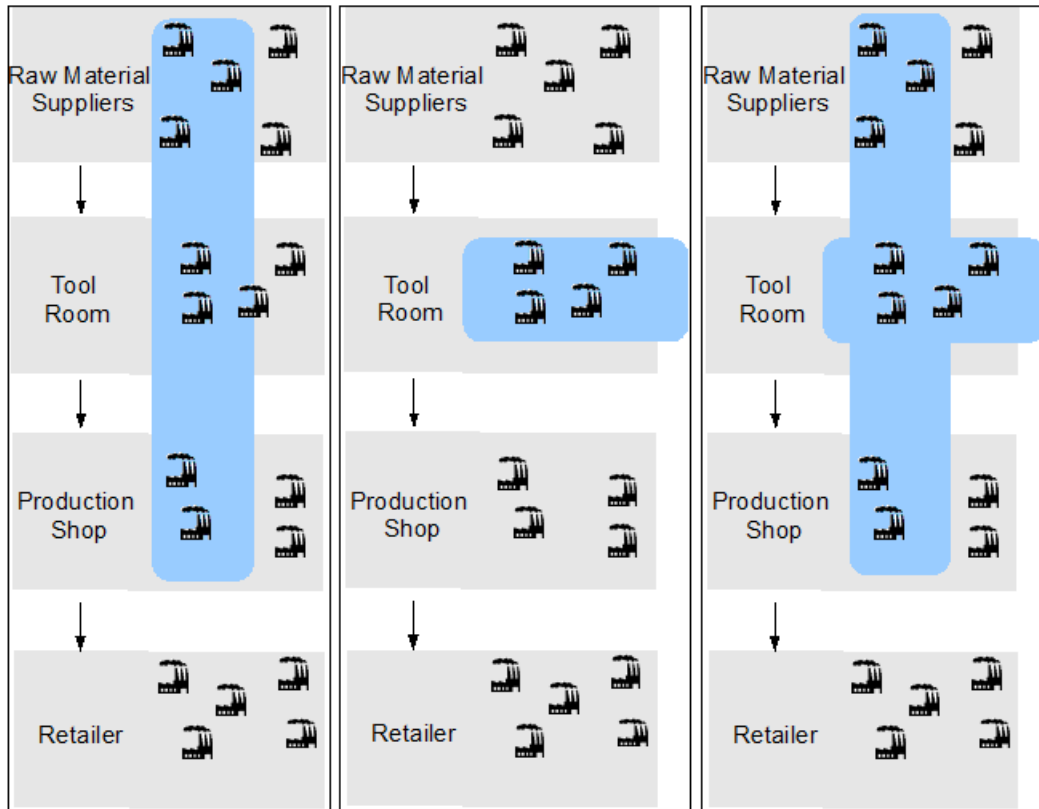
## 2 CLUSTERS

The term cluster was first introduced formally to the science discussion by Michael E. Porter in 1990 and was later defined by him as: "*Clusters are geographic concentrations of interconnected companies and institutions in a particular field*" (1). Even though the term cluster was introduced in 1990 clusters existed before that. As an example, one of the most famous clusters is situated in Hollywood. That is the film and television cluster, which started to develop early last century and is still developing. (15) (1)

Cluster is a very broad term. Clusters vary in size, difference between members, level of co-operation, age, structure, level of government involvement etc. The number of companies in the cluster can vary from only a few (5-10) up to thousands. The area involved can be from a street up to a country or even across country borders. Some clusters have formal co-operation with a cluster management organisation. That organisation is then typically a non-profit organisation (NPO) with the goal of strengthening the cluster. Co-operation can for example be in the form of different companies buying raw materials in bulk together, buying and using expensive equipment together, performing research together or buying consulting services together. Joint marketing, export promotion and lobbying to government are also examples of what co-operation in clusters is about. (1) (3)

Clusters are not only different in size but also in width. Different types of clusters have been defined depending on different member composition and they are referred to as horizontal, vertical or mixed clusters. A Vertical cluster includes the supply chain and has a strong buyer-seller relationship. A horizontal cluster includes companies at the same level in the value chain. They typically have similar production processes and can for example share resources. A mixed cluster is then a mixture of the former two including both companies from other parts in the supply chain and companies at the same level (16). Figure 3 shows a simplified structure of the three different types of clusters in a simplified value chain around toolmaking.

The terminology used for clusters can differ. Examples of different terms used are cluster, industrial district or industrial region. Even though the terminology is different there are common features among them such as geographic proximity, the presence of a critical mass of branch-specific companies along the value chain as well as research institutions. Intensive interaction between these players and a high level of innovation are also common features. (7)

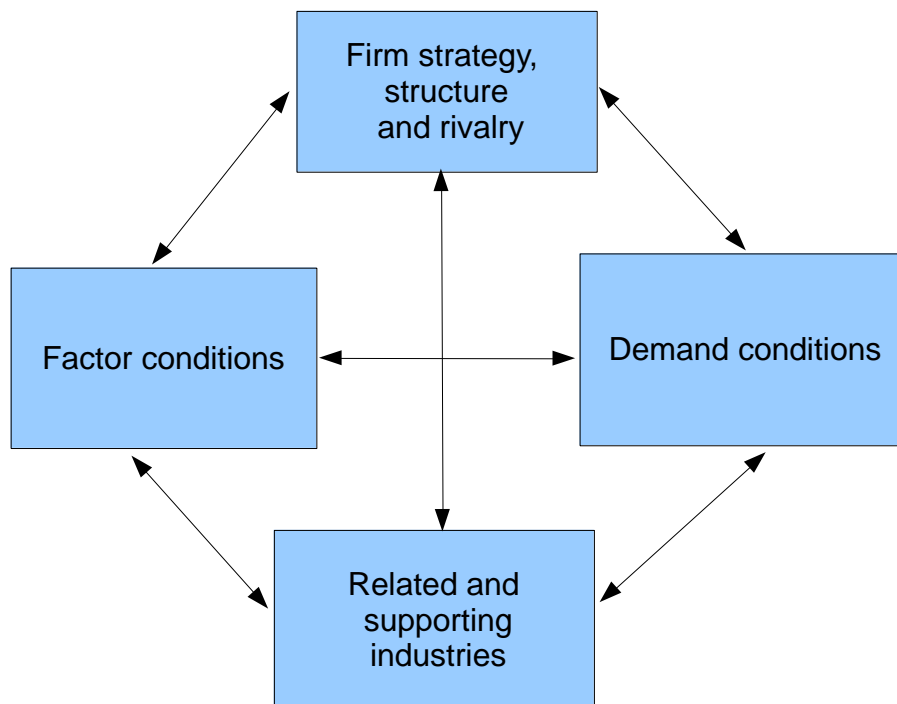


**Figure 3 : Vertical Cluster (on the left), Horizontal Cluster (in the middle) and a Mixed Cluster (on the right) (own illustration based on the definitions given in *Small Business Project* (16))**

The reason companies start clustering is to get the benefits that follow. The benefits are both directly from the co-operation and indirectly from the mass of companies in the same industry in the same place. The direct benefits from co-operation could be lowered costs from buying raw materials in bulk, sharing costs of expensive equipment, lowered costs from joint advertising etc. The indirect benefits are lowered transaction costs, increased productivity and efficiency. A number of companies in the same industry located in the same area attract suppliers for that industry and in this way they also exert a pull on marketers, users and other related bodies like financiers and providers of communication and business services. Porter describes in his article, *Clusters and the New Economics of Competition* the affects clusters have. He says “A cluster allows each member to benefit as if it had greater scale or as if it had joined with others formally – without requiring it to sacrifice its flexibility.” (1) There are three broad ways in which clusters affect competition. The companies in the area gain increased productivity. The cluster stimulates driving innovation, which according to Porter underpins future growth of productivity. Lastly the cluster stimulates new business formation which strengthens and expands the cluster itself. (9) (1) (2)

## 2.1 The National Diamond

The theory of the benefits of clusters is based on Michael Porter's theory on the national diamond. He explains this in his book *The Competitive Advantage of Nations, 1990* where he answers the question why nations achieve success on an international scale in particular industries. He states there are four broad attributes that shape the environment where the firms are competing and that these factors promote the creation of competitive advantage. Figure 4 shows Porter's diamond model and the four factors, factor conditions, demand conditions, related and supporting industries and lastly firm strategy, structure and rivalry. Each factor is explained briefly below.



**Figure 4: Michael Porter's national diamond (17)**

**Factor conditions:** The position in the factors of production that is necessary to compete in an industry. This includes the closeness to employees with the right skills, raw materials and natural resources, specialised services such as consulting, infrastructure etc.

**Demand conditions:** The nature of the demand in the area the company is located. The higher the requirements in the home area the more competitive the company is to be internationally competitive. Not all companies that are started survive but those who do prosper in areas with high quality demands, are more likely to succeed in markets where the quality demands are lower than the home market, than the other way around. This is because when the requirements in the

home market are high it encourages innovation as the customers are always requiring better products and services.

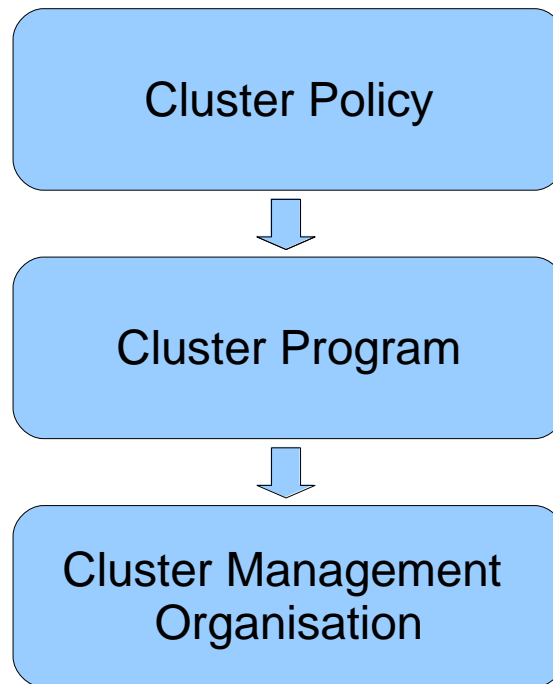
**Related and supporting industries:** The presence or the absence of the supplier industry. The benefits of having a supporting industry close by are for example having rapid and early access to the most cost effective inputs. It's not necessarily just having the suppliers of machinery close by but to have a close working relationship with the home based world class supplier. This encourages the process of innovation and upgrading which helps give the firms a competitive advantage. Successful related industries can have a positive effect for example through technical interchange and information flow.

**Firm strategy, structure and rivalry:** This means how companies are created, organised and managed. The culture and nature of domestic rivalry also plays a part. As an example there are differences that can be seen between Italian and German companies due to cultural differences. In Italy there are a lot of small family owned companies for example in furniture. These companies often are very specialised and aim at a niche market, are very flexible and change fast which fits well in the Italian business environment. In Germany on the other hand the focus is on complicated industries which require precise processes which is in line with the German business environment and culture.

## 2.2 Involvement in Cluster Construction

Policymakers have raised interest in the role clusters play in explaining differences in prosperity between regions. Many policymakers are looking at how policy interventions could help existing clusters in growing and gaining further success, and in leading to the emergence of a cluster. To strengthen clusters, cluster programs and policies are emerging around the world. In this cluster construction, conscious efforts are made to „construct“, „reconstruct“ or „build“ the clusters. These efforts can be structured top down, often led by government, or bottom up, often led by industry initiatives.

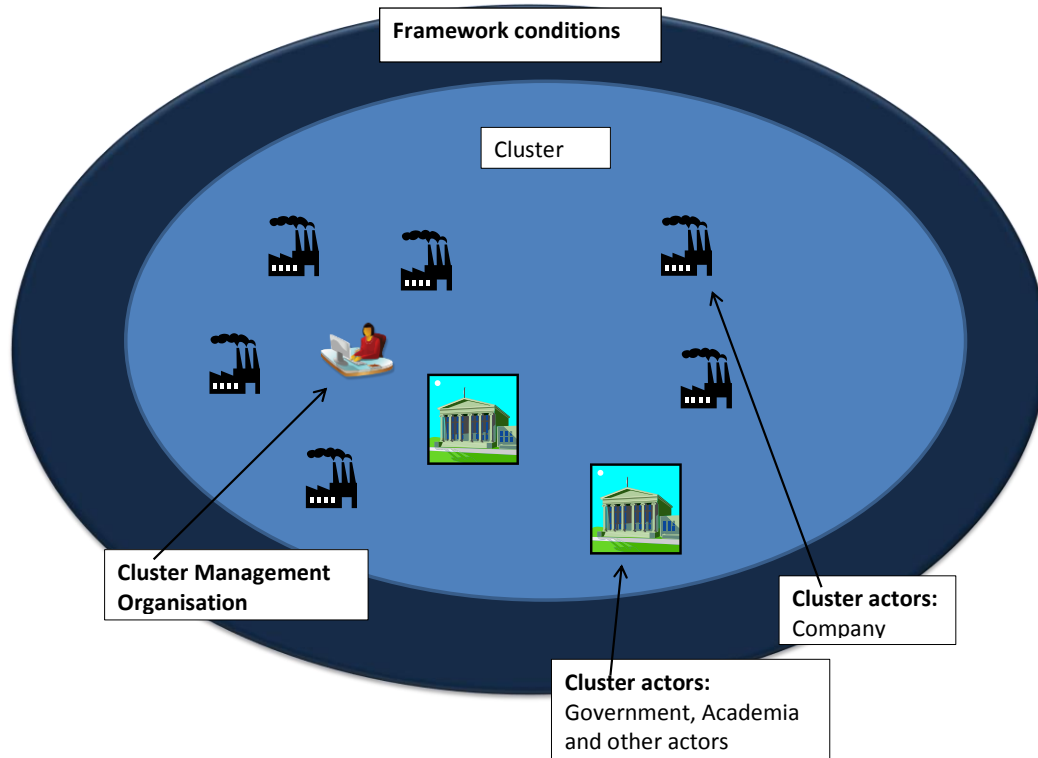
The levels of cluster involvement can be divided into three levels, cluster policy at the top, cluster programs in the middle and cluster management organisations at the bottom, as is illustrated in Figure 5. A cluster initiative is the fourth term that is often used in terms of organised co-operation within clusters. A cluster initiative is a denominator for the group involved in the cluster co-operation, including the cluster management organisation. The term cluster initiative is often used in the way that it refers to the cluster management organisation.



**Figure 5: Three levels of cluster involvement (own illustration)**

Even though clusters or would-be-clusters have not been counted thousands of them seem to exist in Europe (6). Much effort has been put into promoting economic growth and competitiveness by developing clusters in the last two decades. It is also stated that only excellent clusters that are internationally competitive can meet expectations from cluster stakeholders and policy makers. These clusters are made excellent by excellent management of the cluster management organisations and excellent cluster programs. Cluster excellence is therefore very important. This cluster excellence is needed at the different levels of clustering: cluster policy level, cluster program level and cluster management organisation level. *Lämmer-Gamp, Köcker and Alslev, 2011* (6) explain the three dimensions of clusters that are important in cluster development and need to be addressed by cluster policy intervention. Cluster actors are the actors involved in the cluster, and can for example be private businesses, big or small, schools, research institutions, government institutions, financial institutions or media. Figure 6 shows figuratively the three actors they identify, the framework conditions, the cluster actors and the cluster management organisation (6).





**Figure 6: The three actors in clusters that are important in cluster development (own illustration based on definitions given by Lämmer-Gamp, Köcker and Alslev et al, 2011 and Ketels et al, 2008)**

**The framework conditions** dimension: To be able support the activities of the companies in the cluster the cluster needs to develop within framework conditions that are favourable. Examples of general framework conditions are some infrastructures and labour force skills or institutions. These conditions are important for all clusters, as well as regulatory issues such as work migration or taxation which are also a part of the framework conditions. Lastly stability-oriented macroeconomic reforms as well as structural reforms are also elements of favourable framework conditions that are important.

**The cluster actors** dimension: In a cluster strong companies and a strong interaction between them and other actors is crucial. The strength is a combination of individual company characteristics and behaviour, the critical mass of companies in the given geographical space and the dynamics of the co-operation and inter-actions between the companies and other stakeholders

**The cluster management organisation** dimension: To support strong dynamics among companies and other stakeholders in the cluster the quality of the cluster management is critical. (6)

### Cluster Policy

There is no official definition of a cluster policy. In the absence of a widely approved definition Lämmer-Gamp, 2011 use a definition given by Christian

Ketels: *“all efforts by governments, alone or in collaboration with companies, universities and others that are aimed at enhancing the competitiveness of clusters. This broad definition goes beyond cluster funding programs and includes also policy measures from other areas, such as tax and labor policies.”* (6)

Örjan Sölvell states in *Clusters: Balancing Evolutionary and Constructive Forces* that cluster policy can be interpreted in two ways. One is as microeconomic policies impacting clusters in more general terms. Secondly it is a specific cluster policy that targets particular clusters. These two types both play a role in constructing clusters. The connection between cluster policy and clusters was explained by *Köcker* in a presentation given in 2012 where he explains that companies have all sorts of external sources such as competitors, customers and consultants. Companies benefit from having these external sources close to them. When there is an agglomeration of companies, and these external sources are present, there is a cluster. A cluster policy is about organizing a cluster management organisation and putting it into the agglomeration of companies, in other words, into the cluster. In Europe cluster policy mainly means how to network the different actors in the cluster. Government or other policy makers can't change the actors as such but they can increase the number of actors. Policy then means how to bring the actors together to cooperate and work together to explore the sources of innovation around them. (2) (18)

### **Cluster Programs**

Today the question around clusters is changing from whether clusters should be established to how the global competitiveness of the existing clusters can be improved. Cluster programs are a tool to create and strengthen clusters. There is no one official definition of a cluster program, but the European Cluster Policy Group gives the following definition:

*“Cluster programmes are organised efforts taken by government to increase the growth and competitiveness of clusters in its constituency”* (19)

Cluster programs are organised programs around developing and/or strengthening clusters. They are used to allocate funding and create organisational responsibilities. The programs are also used to influence the strategy and work of the cluster, for example by setting conditions on what the funds can be used for and by having government officials sitting on the board of directors of the cluster management organisation.

Cluster programs can both be on national or regional level. In Europe the cluster programs are mainly funded by their national government but funding from the EU is also involved in some of the programs. The main target group of the cluster programs is mostly private businesses but they also commonly target research institution. The cluster programs often provide the clusters they support with funding but they also often provide services, such as knowledge sharing and network building. Some programs only provide services but no funding.

Cluster programs are different and they serve different purposes. They can for example have a national or regional focus, they can focus on R&D or have no

R&D involved. The funding structure is different between programs. Some provide funding for one year at a time, others 5 years and some programs have a competition for funding where the clusters compete against each other. It is different between the organisations how much influence the program has on the cluster but most cluster program are featured high on the government's agenda. The programs often provide some sort of services to the cluster management organisations, such as training and networking sessions between the different cluster initiatives for mutual learning and to share experience. (2) (6)

### 2.3 Co-operation in clusters

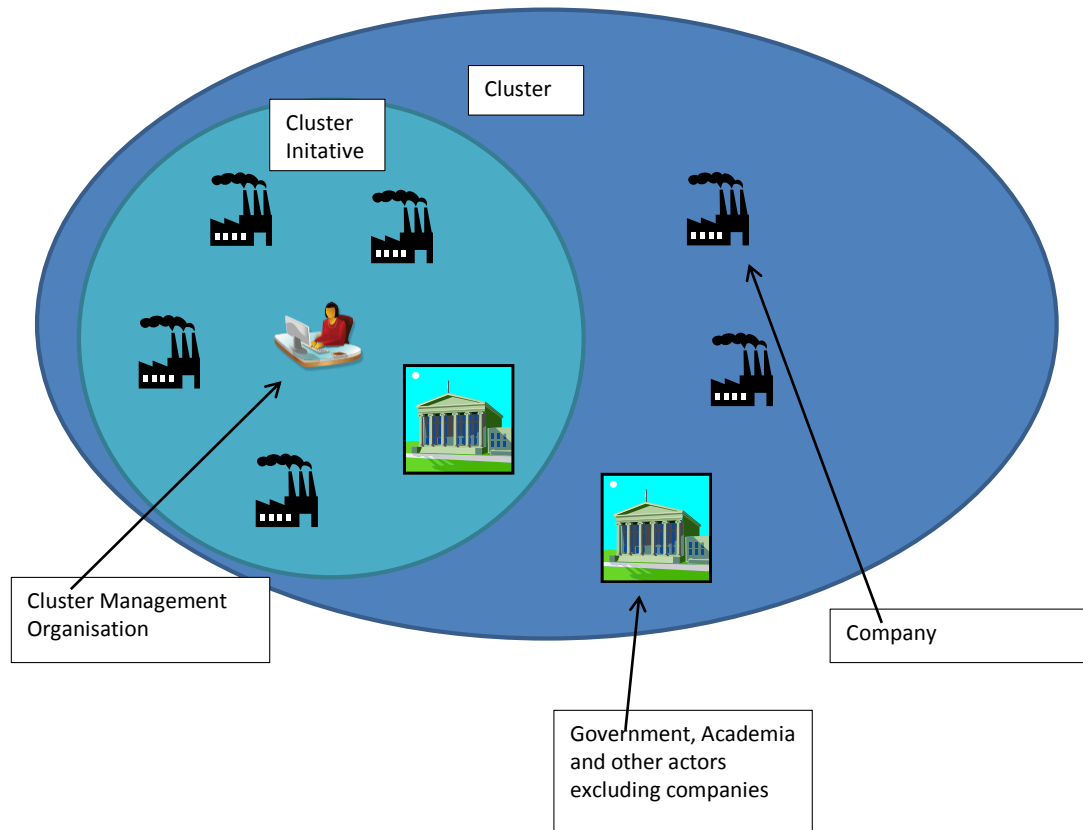
With the cluster policies and cluster programs, the goal is to get the actors in the cluster to cooperate. Clusters are different between each other and different terms used can be confusing. Especially because the definitions are often vague and different actors create their own narrower definitions based on their knowledge and experience. The original definition of a cluster given by Porter is not always the same as the one individuals involved in clustering projects have formed themselves. To explain the differences between the different parties that are involved in cluster projects, clusters, cluster initiatives and cluster management organisation they are defined here below. Figure 7 is identical to Figure 1 but is repeated below for clarity to show the connection between these parties.

**Cluster** is the overall definition, applying to the agglomeration of companies and other actors such as government and academia. The cluster can be present whether or not there is co-operation within it.

When there is co-operation in clusters the group of actors involved in this co-operation is called a **cluster initiative (CI)**. This includes both the companies and the other actors. The membership of the cluster initiative is official; often a signature or payment of membership fees is required.

As an actor in a cluster, you can choose whether or not you are involved in the cluster initiative but if you're located within the cluster area, you can't choose whether you're in the cluster or not. You can therefore have a cluster initiative that does not include all actors in the cluster.

An additional body is added when the co-operation is formalised in a cluster initiative, the **cluster management organisation (CO)**. The cluster management organisation is an actor with the sole purpose of managing the co-operation in the cluster initiative. This cluster management organisation is often a non-profit registered company, with a name, offices, website and staff. (4)



**Figure 7: The connection between the cluster, the cluster initiative and the cluster management organisation (own illustration based on definitions given by *Ketels, 2008*)**

### Cluster Initiatives

Even though clusters have been around for a long time, the conscious efforts of constructing clusters through establishing Cluster Initiatives (CI) happened later. Cluster initiatives became popular in the 1990s and started to grow rapidly. They were local initiatives, crossing over the boundaries of public, private and academic organisations. These initiatives were sometimes induced by governments, national or regional but often they were initiated by the private sector. CIs became a tool for policymakers and practitioners to strengthen clusters and gain the benefits that come with a stronger cluster. (2) (3)

Cluster initiatives (CIs) are defined in the publication *The Cluster Initiative Greenbook* as “organised efforts to increase growth and competitiveness of clusters within a region, involving cluster firms, government and/or the research community.” (3). They are a partnership between public and private parties that is set up and financed to strengthen a cluster (4).

The member organisations of a CI are four types of different actors. They are private industry, public organisations, academia, and public-private (typically non-profit) organisations. Within the CI there is a cluster management organisation (CO) which has an office, a cluster facilitator/manager, website etc.

The Governance of the initiative is similar to a board of directors, overseeing the cluster organisation. To be able to run the CO and the operations of the CI financing of the initiative is necessary. That can be done through public financing, member fees, fees for events or consulting etc. (4)

*Clusters and Cluster Initiatives* list the types of actors within clusters. The organised cluster members (nr. 10 in the list) are then the members of the CI and include a subset of the actors.

1. *“Private industry and financial actors*
2. *Public A – National ministries/agencies:*
  - a. *Industry (SME, entrepreneurship, networking, cluster, investment attraction)*
  - b. *Regional (readjustment funds, infrastructure, cluster programs)*
  - c. *Science and technology (innovation agency, incubator, university-industry co-operation and technology transfer, innovation cluster)*
3. *Public B –Regional agencies / offices of national bodies (e.g. county administrative boards)*
4. *Public C – Regional agencies based on collective efforts of local communities*
5. *Private and public-private local/regional organisations (meta-cluster management organisations, chamber of commerce, etc.)*
6. *Universities, research institutes, science parks*
7. *Cluster management organisations (COs)*
8. *Media*
9. *Independent consultants/auditors*
10. *Organised cluster members (subset of the above)” (4)*

CIs are found in different parts of the economy, but in advanced economies as the EU the focus of CIs is on technology-intensive areas. Those areas include IT, production technology, medical devices, biopharmaceuticals and automotive. The focus of CI in developing economies is more on “basic” industries. Each cluster is different and so are the goals of the CIs. Some goals are however more common than others. *Clusters and Cluster Initiatives* list the six main objectives often included in CIs

1. *“HR upgrading*
2. *Cluster expansion*
3. *Business development*
4. *Commercial collaboration*
5. *Innovation and technology*
6. *Business environment upgrading” (4)*

CIs tend to start being project based, but move into a formal organisation. Every CI is unique, they are different in size, structure, setting, they have different objectives, different ways of financing and so on. But despite these differences some ways of organizing and managing the initiative lead to better performance. Cluster management will be discussed in more detail in Chapter 2.6. (4) (11)

## 2.4 Cluster Life Cycle

Clusters develop and change with time. They experience phases of maturity, they are born, grow, decline and in the end die. As the cluster and the cluster initiative are not the same thing, their development is also different. *Örjan Sölvell* explains in *Clusters; Balancing Evolutionary and Constructive Forces* a generic life cycle for a cluster, where the cluster is born and it matures. The cluster can experience renaissance but ultimately it will decline and leave a museum. The length of the phases varies and the cluster can experience ups and downs along the way. As clusters are different their development and maturity also differs. Four maturity models will be discussed in this chapter, the first, which was introduced by *Örjan Sölvell*, explains the life cycle of a cluster in its generic definition which is the agglomeration of companies, not their co-operation. The second model, which was introduced by *Atherton and Johnston*, explain the life cycle of cluster initiatives. That model assumes that the industry is leading the way and emphasises the thresholds between steps in the development. The third model, which was introduced by *CLOE (Clusters Linked Over Europe)*, is written from the policy point of view, or those who facilitate the start-up of the cluster initiative. It focuses more on actions needed but does not discuss an additional step that is sometimes needed when starting a cluster initiative. This additional step is choosing members and is often needed when cluster initiatives are started and pushed forward by government. Therefore a fourth model, which was introduced by *Scheer and Zallinger* and has a similar approach as the model introduced by *CLOE* but adds the additional step to the start-up of choosing members. (2) (20) (21) (22)

### The Life cycle of the cluster

Firstly the life cycle of a cluster in its generic definition will be explained, as can be seen in Figure 8.

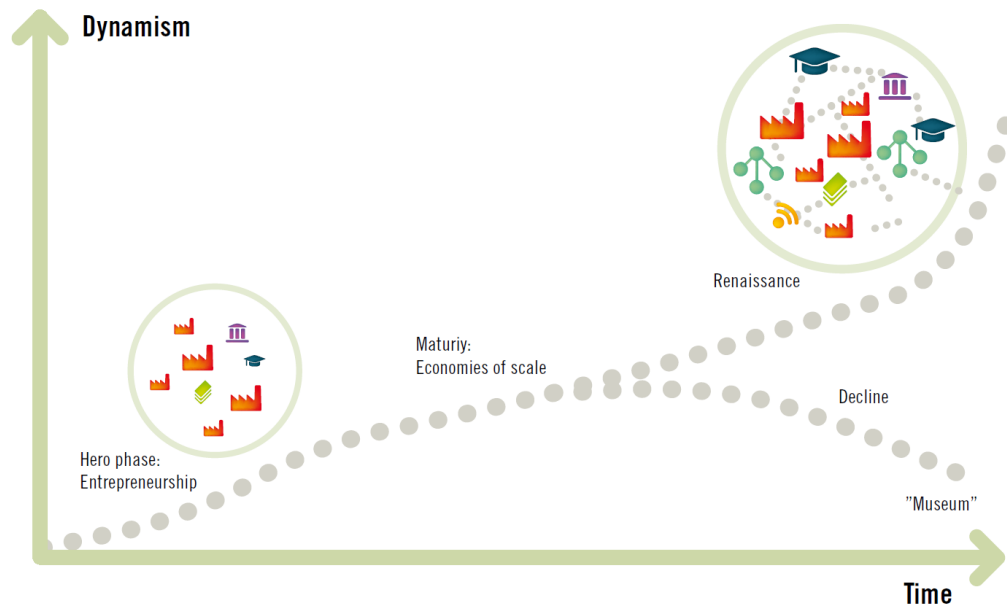
#### Birth

Why clusters emerge in a certain location can be explained in either of two ways. One reason is a natural advantage of some sort, for example the perfect climate and soil for growing grapes. The second reason is explained by historical accidents, where a business happened to be started in a particular location by an entrepreneurial person.

#### Growth

The cluster will grow if it's in the right circumstances. Rivalry, co-operation, customers, openness to international markets etc. are factors that lead to interaction within the cluster. This can include labour markets and universities for example. This enhances increased specialisation and increased demand sophistication. The four factors in the diamond model introduced by Michael Porter (context for firm strategy and rivalry, factor conditions, demand conditions, related and supporting industries) interact and the cluster emerges. The reasons for

clusters growing can be factor advantages, such as closeness to resources or demand. As the cluster grows the linkages to international markets get involved. For the cluster to continue to grow people with different skills, imports of material, components and products as well as new technologies are needed. In dynamic clusters there is a circulation of ideas, skills and resources.



**Figure 8: The cluster life cycle as explained in *Clusters; Balancing Evolutionary and Constructive Forces* (2)**

### **Renaissance**

It is very different between clusters how long they live. Some can live for centuries whereas others only live for a short while before they decline and die. Typically clusters enter a static phase at some point. The entries of new firms are fewer and the ones already present go through mergers and acquisitions. The cluster goes through a phase of increasing efficiency and gaining economies of scale. Some clusters experience in this phase a renaissance and start growing again. This can for example be because of a technological shift of companies or changes in legislation. In the end all clusters ultimately die. Some leave a “museum” behind, where the remains of the industry that used to be is still visible. (2)

#### **2.4.1 The life cycle of the cluster initiative**

The cluster initiative is based on co-operation between the individual actors in the co-operation and the different steps in the maturity development of the CI is therefore different from the generic life cycle of the cluster as a whole. The steps in the model are focused on the co-operation between the actors involved. *Atherton and Johnston* introduced a cluster maturity model for cluster initiatives where they divide the cluster formation process into 5 phases and between the

phases thresholds are identified. This maturity model is based on a bottom up approach where industry leads the way. *Atherton and Johnston* state that public agencies can encourage the process but not establish by order. The model splits the process into three phases, potential, emerging and established and is shown in Figure 9.

### **Potential cluster**

The potential for a cluster exists when there is a common problem or issue and the companies start to recognize that they could benefit from working together. At this stage co-operation has not started, and to move on to the next stage the companies need to recognize the benefit of cooperating together.

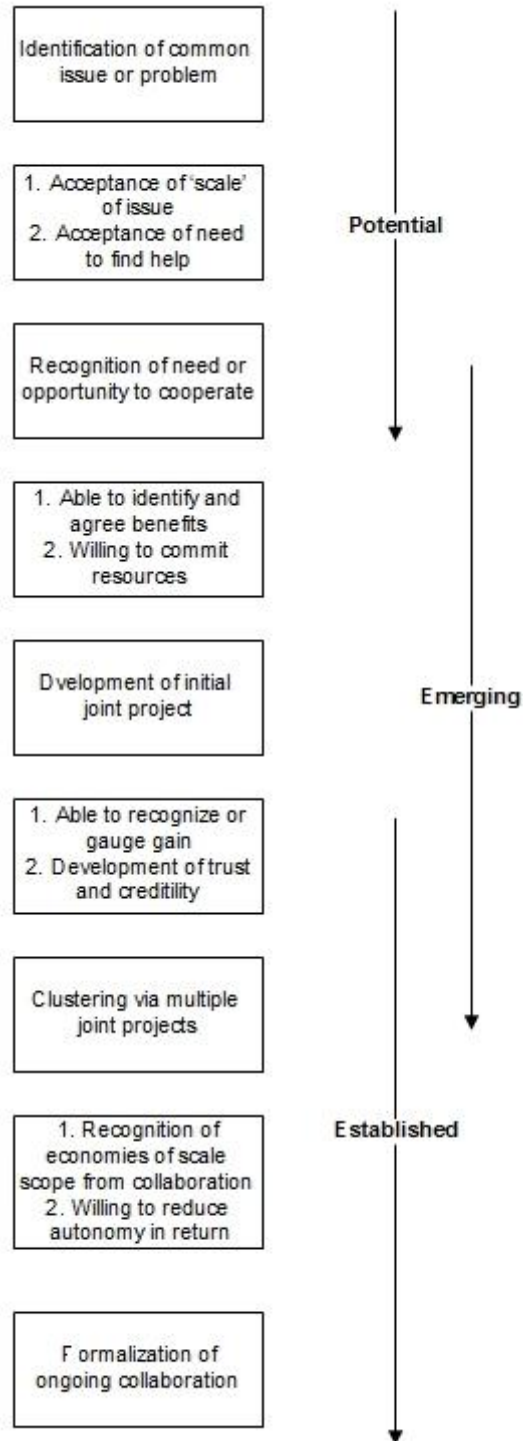
### **Emerging cluster**

As the potential for working together changes into actual engagement in joint projects to solve a common problem or issue the cluster changes to being an emerging cluster. The emerging cluster initiates and defines co-operation projects. To do this the companies need to define some common rules of engagement and organise their approach to co-operation.

### **Established cluster**

When the cluster is established the structure and processes of the companies' co-operation have been formalized. The companies that are involved have realized and accepted the advantages of co-operation and therefore are focused on further co-operation. This typically results in a shift to the companies becoming dependent on intercompany co-operation as a key source of growth and the ability to adapt to outside changes. The companies develop more trust and dependency for each other which results in reduction of the operational autonomy of the companies involved. (20)





**Figure 9: Cluster maturity model as explained in *Clusters formation from the 'bottom up': a process perspective* (20)**

### 2.4.2 The life cycle of the cluster initiative when government leads the way

The model presented by *Atherton and Johnston, 2008* assumes a bottom up approach where industry leads the way. As not all cluster initiatives are started by the industry additional steps must sometimes be added at the beginning. This can include approaching possible members, asking them and gaining their buy-in to the project. In the process of establishing clusters there are several actions that need to be done in order to develop further. The general phases of cluster development as presented by *CLOE* can be seen in Figure 10. As a part of the maturity *CLOE* discusses the process of establishing cluster initiatives and what needs to be done in the process. The approach is from a policy point of view; or those who facilitate the initiation which would typically be a government institution. The focus is on the initiation, starting with choosing the cluster sector where the cluster initiative should be started. The tasks needed in these steps are pre-analysis to obtain background information. This includes obtaining information about the companies' needs. This step is important in start-ups especially when they are being initiated through policy or program actions. When companies start the co-operation themselves, this is often the first step, the co-operation starts because there is a common problem they are facing and realise they can benefit from solving it together. When government is initiating they need to find this problem, take it to the industry and sell them the idea that they will benefit from solving it together.

The framework should be prepared as well as the organisations structure. This includes defining tasks, activities and objectives, establishing a project team, cluster advisory board and information and communication structure. Financing needs to be planned and secured and finally the cluster initiative is launched. (21)



**Figure 10: General phases of cluster development (21)**

The model introduced by *CLOE* does not include the step of choosing partners as is sometimes needed when initiatives are started by government parties. *Cluster Management – A practical guide* discusses the three phases of cluster life cycle preparation, implementation and change. The approach and steps are very similar to *CLOE* but an additional step is added in the preparation phase. This step of

choosing partners to be involved is relevant when the cluster initiation and development is lead and pushed forward through policy or programs. But when the industry drives the initiative this step typically is already done when the co-operation starts, as the companies cooperating have already gotten together.

### **Preparation**

Clusters don't appear out of nowhere, most often they have to be created. Good preparation is important although too much planning can be burdening on the actor's ability to act. The preparation should be planned solidly but it is important to remain open to new challenges.

### **Implementation**

The implementation of a cluster project is an open and dynamic process; it is not about rigidly implementing the plan created in the preparation. The actors need to be flexible and creative in adjusting to changes in the environment. Rules of co-operation and good information flow are especially important for successful implementation.

### **Change**

Change is a permanent process, it's not a result of the implementation. Evaluation and learning are fundamental to see if the co-operation is useful and if it is not it should be terminated. (22)

## **2.5 Cluster Environment in South Africa**

Much of the literature written on clustering is written by Europeans and is based on the environment of an advanced economy (21) (7) (6) (3) (2) (22) (23). The South African economy is classified as developing and the business environment is different in many ways from the European environment. For clustering projects these differences can most easily be seen in the availability of funding and resources. (24) (12) (25) (6) (11)

### **2.5.1 Cluster Initiatives in Developing and Transition Economies**

In developing and transition economies CIs were adopted on a larger scale later than in advanced countries. Several hundred CIs have been implemented after the year 2000 in these economies.

*Ketels, Lindqvist and Sölvell*, 2006 studied CIs in developing and transition economies. Their goal was to benchmark current practices of CIs. No simple linear relationship exists from developing to transition to advanced economies but some differences have been identified between CIs in these three types of economies.

When looking at the political context there is usually less trust, both between companies and government, and among companies, in developing and transition economies compared to advanced economies. The policy environment in developing countries is more likely to be less enthusiastic for government intervention to increase the competitiveness of chosen industry clusters. CIs in

developing countries operate in a more challenging environment compared to those in advanced economies.

The goals of CIs in developing economies are different from CIs in advanced economies where developing economies usually place emphasis on increasing exports and value-added but advanced economies tend to focus on business environment improvement and innovation. When it comes to activities high importance on R&D in advanced economies typically separates CIs there from those in other economies.

Most CIs have various resources they rely on such as an office, website and staff. 71% of CIs in developing economies have an office compared to 75% of CIs in advanced economies. 37% of CIs in developing economies have a website compared to 79% in advanced and the median of members of staff is 3 in developing countries compared to 2 in advanced.

The focus of CIs in advanced economies tends to favour high-tech industries. Developing countries on the other hand often focus CIs on “basic” industries.

The main source of income in CIs in developing countries is usually from international funding while in advanced economies the majority of the financing comes from government. While the government in developing countries often lacks the capacity to do its part the problem in advanced economies is the dominating role of government that puts the businesses on the side-lines. Over time the influence of government decreases in developing economies while the role of businesses becomes more important. (11)

### **2.5.2 Cluster Environment in South Africa**

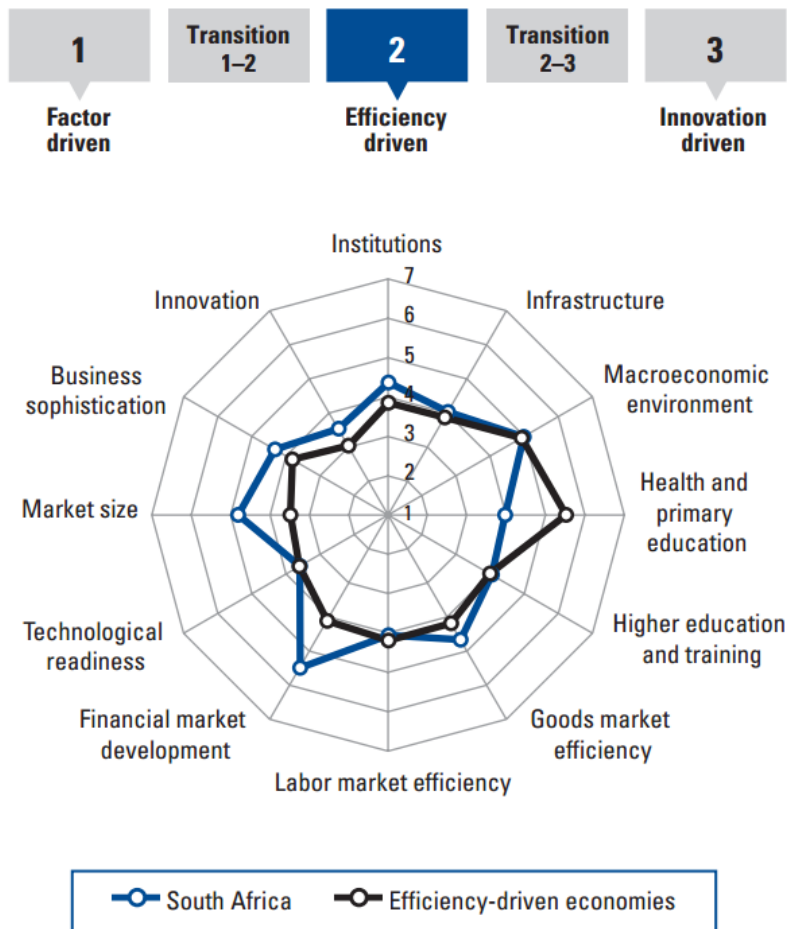
In Western Cape the total population is 5 million, and thereof there are 4 million in the Cape Town metropolitan area. The gross geographic product (GGP) of the area is 30 billion Euros<sup>1</sup>. The Western Cape has a diverse economy with a strong agricultural base, a deep manufacturing base and strong finance and tourism. There are 4 universities in the province with a strong research culture. The culture has elements of both 3<sup>rd</sup> and 1<sup>st</sup> world and is multi-cultural. (14) South Africa is ranked number 50 on the Global Competitiveness Index (GCI) out of 142 countries. The GCI measures the macroeconomic and microeconomic foundations of national competitiveness, where competitiveness is defined as “*the set of institutions, policies, and factors that determine the level of productivity of a country*” (26). South Africa is ranked at the stage of having an efficiency driven economy along with countries such as Namibia, China and Bulgaria. South Africa is moving up the ranking list, going up 4 places from the year before. South Africa is the second highest of the BRICS economies and the highest of the sub-Saharan economies. What benefits South Africa is the size of the economy, the quality of institutions as well as factor conditions, for example property

---

<sup>1</sup> „The gross geographic product (GGP) of a particular area amounts to the total income or payment received by the production factors – (land, labour, capital, and entrepreneurship) – for their participation in the production within that area.“ (68)

protection, goods market efficiency and especially the financial market development where they are ranked nr 4 out of the 142. The weaknesses identified are related to the labour market efficiency, for example rigid hiring and firing practices and significant tension in labour-employer relations. Other weaknesses identified are the low percentage of student registering to university, high rate of crime and violence and the need of upgrading infrastructure. Figure 11 shows the stage of the South African Economy according to the GCI. The chart shows the 12 pillars of the GCI. The blue line shows South Africa's performance and the black line the average score of the other countries at the same stage of development. (26)

### Stage of development



**Figure 11: Stage of development of South Africa. South Africa is ranked as an efficiency driven economy (26)**

When looking at the cluster program in South Africa there are constraints on resources available. Funding for the cluster program in the Western Cape (the SPV program) is less than funding for similar programs in Scandinavia (Denmark, Sweden and Norway). The annual funding for the SPV program is scheduled for

EUR700 thousand for 2012/13 compared to an annual budget of EUR5-10 million for programs in Scandinavia<sup>2</sup> (6) (27). Other limitations and constraints identified have been that government officials involved in the cluster program have no direct control over the industrial policy levers. That includes tariff barriers, incentives, competition policy and fiscal policy. Even though they have no direct control they can have an influencing role and lobby within government for the hand of the cluster program. Another criticism the South African government has received is that they are slow to respond to the needs of the private sector (14). Cluster managers in the Western Cape have also noted the lack of qualified manpower available in South Africa. In similar programs in Europe member companies are able to allocate managers that are capable of participating in the clustering programs and activities. In South Africa there is a lack of qualified manpower, and the managers are overworked and don't have time to participate in clustering projects (24).

South Africa's national government gained interest in clustering in the early 1990s and today there are over 30 cluster initiatives in the four „metro“ provinces in South Africa (14). The interest was on developing national-level clusters and the Department of Trade and Industry (DTI) invested in studies and reports. The department used workshops with selected key sectors to get the buy in from industry on the cluster approach. These efforts were not successful and a there were several criticism identified. There were also benefits from these efforts, mainly increased knowledge on the industry involved of the department officials. The main criticism from participants was:

- The department tried to impose the agendas on the firms, which were not allowed to choose the agenda for the cluster projects
- There was a lack of trust building
- The cluster model was focusing on national priorities instead of regional, which meant the firms were not as connected to the agenda as they should be
- The facilitators from the DTI lacked credibility

(10)

In South Africa's business culture the trust levels are not high, it is therefore not common in South Africa for companies to co-operate and as clustering is built on trust and co-operation it makes the process of clustering more difficult than in many other countries. (10)

## 2.6 Cluster Management

When Porter first published his definition of a cluster the main discussion was on the benefits of the cluster in its wider definition. The focus of literature has been more on Porters diamond of competitiveness etc. with less emphasis on co-

---

<sup>2</sup> The Scandinavian programs referred to are Innovation networks Denmark, Norwegian centres of expertise, Vinnväxt and Arena Programmet

operation within clusters and how that co-operation, in other words the cluster initiative, is managed. The importance of establishing and then managing cluster initiatives successfully is increasingly being realised by the different parties involved. It is not enough to establish the cluster initiative successfully, it has to be ever changing and adapting or else it will decline. To do that the cluster initiative needs to be managed properly. Factors in cluster management that lead to success are discussed here below. First the start-up of cluster initiatives will be discussed through the cluster program point of view. That is, how should cluster programs be managed and how should the cluster programs manage the start-up of the cluster initiatives. Secondly the management of the cluster initiative will be discussed in order to identify how a cluster initiative should be managed to increase the likelihood of success.

### **2.6.1 Cluster Program Management**

The definition of a cluster program according to the European Cluster Policy Group is: “*Cluster programmes are organised efforts taken by government to increase the growth and competitiveness of clusters in its constituency*” (19). Their purpose is therefore to strengthen clusters so that the region the cluster is situated in will get the benefits from having a stronger cluster in the area.

#### **Alignment with other policies and programs**

A cluster program does not stand on its own; it is a part of the government policy and there are most likely several other different programs within government. A cluster program should be aligned with other programs as well as overall economic policy priorities (6). These programs and policies can for example be support programs for small businesses or businesses in the industry in question. Government departments have policies they have to follow and the cluster program needs to be aligned with the higher level policy. The importance of alignment with innovation policy priorities are emphasised in this relation but in South African CIs innovation does not play as large a role as in CIs in advanced economies which are the main topic of most publications discussing cluster management (7) (6) (8) (11). On the same note it is stated in the *Cluster Management Guide* published by *CLOE* that the overall goal of a cluster initiative should be to improve the business environment of the area in question. It states that CIs should be a part of the broader strategy: to improve the business environment in the region in question. (21)

In some countries there are several different cluster programs, for example in Germany and Norway. These different programs can be different in terms of goals, for example focusing on regional development, R&D or development of national industries (6). It is not necessarily better to have more cluster programs, ideally there should only be one (6). By having fewer programs the coordination can be decreased which can increase efficiency and effectiveness. (6). These recommendations of overall coordination of policy and other programs is of particular relevance to South Africa’s government as they have been criticised for not co-ordinating their strategies towards small businesses (10). The aim should

therefore be to have a simple structure with only one cluster program that is aligned with other policies and overall priorities of the government.

### **Sector choice**

Cluster programs need to choose which sectors, or in other words clusters, they will support. Concentration should be put on strong clusters that already exist and are situated in a good business environment. (21) Activating an already existing cluster takes less time, money and effort than creating a new one from scratch. Therefore more benefits will be realised sooner for less investment. If the sector already exists the necessary infrastructure and qualified staff very likely already exist as well.

The future situation needs to be taken into account when choosing which sectors to support. The sectors chosen should be relevant for the economies' future development (6). Even though a cluster is larger than another one it does not mean that it is automatically the wiser choice for support into the future. If a strong cluster in technology that is becoming out of date exists, strengthening that cluster isn't necessarily a smart choice. A smaller cluster in a rising market or technology might be better. This could also apply to related clusters. If a strong cluster already exists, a supporting or related cluster might be important for the area. A tooling cluster would for example be an important supporting cluster for the automotive cluster in South Africa. The demand for moulds and tools already exists from the automotive cluster, which gives the tooling cluster a locational competitive advantage as the shipping is considerably shorter from within South Africa compared to the abroad competitors.

Some cluster programs target national clusters while others target regional clusters. Cluster programs should promote collaboration with other clusters, both nationally and internationally to try and overcome regional lock-in-effects (6). This is particularly relevant for regional cluster programs.

### **Goals**

In advanced economies clusters tend to focus on business environment improvement and innovation whereas in transition and developing economies more emphasis is usually placed on increasing exports and value adding (11). The primary focus of cluster programs should according to *Lämmer-Gamp et al., 2011* be knowledge-based growth as well as to commercialize R&D results (6). The recommendations given by *Lämmer-Gamp et al., 2011* are based on cluster programs in Europe and are therefore more innovation driven than the average cluster in developing economies as South Africa (11). Even though these are important factors that need to be kept in mind, it's not as important in clusters where the clusters don't involve much R&D. Another factor that needs to be taken into account is that the general cluster members in South Africa don't have the same capacity to invest in innovation as the general member in an advanced economy. Cluster members in South Africa therefore first need to upgrade to the position where they are able to invest in innovation. Basing the growth of the cluster on knowledge is relevant in clusters in emerging markets, without



increasing the knowledge of the members the cluster will have a hard time competing internationally. If the cluster focuses on investing in infrastructure for example the new infrastructure will only get you so far. It is also important to have the knowledge to make investments in the correct infrastructure.

When Porter published his original definition of a cluster it was about the competitiveness of nations and why nations achieve success on an international scale in particular industries. Achieving international competitiveness is therefore in a way the fundamental definition of a cluster and therefore what a cluster initiative is for. Internationalisation of the cluster should be an important part of the cluster programs strategy. In this way the cluster program supports the national economy by increasing its global competitiveness. (6) If a cluster is to compete in today's markets it needs to be internationally competitive. With today's communication technologies and the shipping of goods all over the world, international competitiveness is becoming more and more important. When companies are looking for supplies they don't just look at the closest suppliers; if they don't have the best price for the quality needed they just go abroad and buy their supplies there.

### **Government involvement in initiation of CIs**

It differs between cluster programs what actors are most influential in setting up the initiatives, whether that is government or companies. The development of cluster initiatives should be led by the industry to accommodate for the needs of the industry. Cluster programs should therefore follow a bottom up approach (6). The definition of clustering is co-operation of companies and other parties. Clustering is therefore not possible without the involvement and commitment of the members from industry. These industry members need to invest their time and money into the co-operation and they will not do so if they don't see a benefit to them in their investment of being involved. The companies and cluster management organisations are the experts in the industry and therefore they are the ones who know best what needs to be done to create value (6). Most cluster research publications agree that industry needs to be the main party when starting CIs but they make different assumptions on how and how deeply government is involved. Some publications assume that industry is the leading party (21). Others assume more involvement from government, but those publications stress the importance of involvement of industry, therefore agreeing on the importance of the involvement of industry (28) (29) (23). In cases where government is highly involved and is the leading party, it is also important to include industry. When industry is not the leading party the initiator, often government, has to be checked whether there is interest in the industry to participate before starting because if they are not interested in participating it is almost impossible for the cluster initiative to be successful (23).

### **Funding**

Clustering does not happen overnight, it takes time for the members to build up the trust necessary for successful projects. The members of a cluster co-operation

need to be given time to build up this necessary trust. Clusters are not short term solutions they need to exist in the long-run, success of cluster co-operations need time (7). If the government doesn't stay with the project until some success is starting to show it is more likely that the members will back out too. *Lämmer-Gam et al, 2011* state on this issue of having a long term perspective that the time frame should be at least 5 years. Additionally, the cluster program should be based on long-term commitment of the relevant stakeholders. (6)

### **Reporting**

As with any company, the better it is run, the more likely it is to show success and make a profit. The same applies with clusters, how they are managed matters in terms of their likelihood of success. To link the support of the cluster to its performance motivates the members to do better. Another important factor is monitoring the performance and using that information to do better. Publications agree on the importance of monitoring and evaluating the past success (7) (22) (6) (21) (29) *Lämmer-Gamp et al, 2011* go a step further with emphasizing the importance of monitoring by stating that support, as in financial and other support, should depend on the cluster's performance. (6)

### **Cluster Program Services**

One of the results of the benchmarking study published by *Lämmer-Gamp et al, 2011* is that program owners are taking over a more active role in developing individual clusters. To develop cluster management organisations it is not enough to only provide funding. The cluster management organisations should get support to develop value adding services the CO can offer to their members (6). In this study published in (6) program owners were asked what services were provided and how the cluster program managers felt about the importance of such services. The majority of the programs owners, which all were from Europe; felt that tailor made professional support of cluster managements had gained support in the past years. It is different between cluster programs how many/much services they provide. Some provide financial support but no services, such as the Icelandic program Vaxtasamningar, and at least one provides only tailor made services but no financial support (Competence Networks Germany) (6). It shows the importance of these services that all the cluster program owners in the *Clusters are Individuals* study that did not provide services are either considering it or there are other institutions in the particular area that can provide those services.

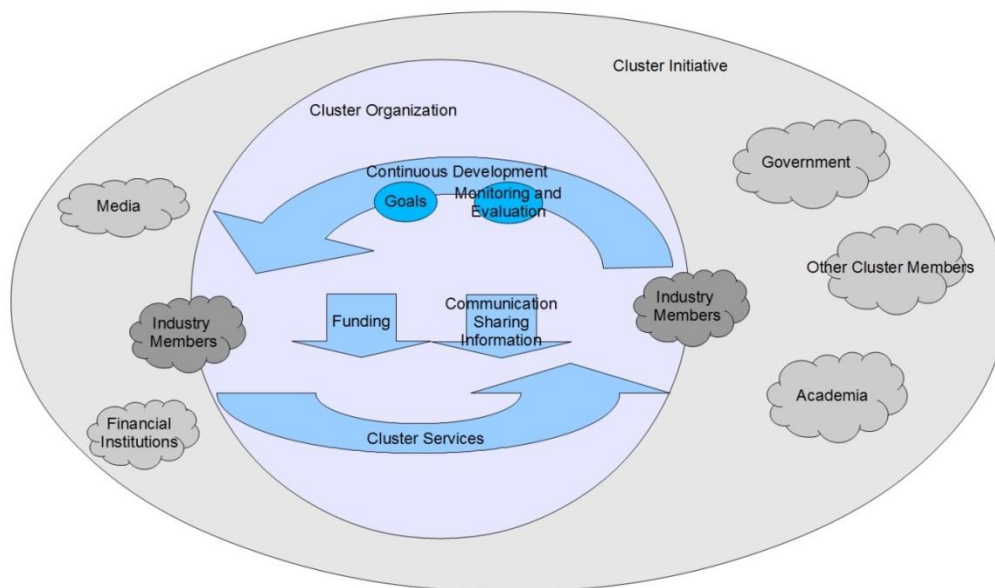
Examples of services provided by cluster programs include providing seminars and working groups covering topics such as innovation management, quality management, sustainable financing, intellectual property rights, communication and services and internationalisation. These services can also include offering toolboxes for cluster managers as is done in Norwegian programs NCE (Norwegian Centre of Expertise) and ARENA to support cluster development.

There should be mutual exchange between managers of cluster management organisations. By getting the cluster managers together cross-fertilizations between the clusters is stimulated. This can be done through workshops,

networking events or forums for cluster managers. This way the cluster program managers can be actively involved in developing the individual clusters. This mutual exchange should be supported by providing instruments through services to do so. (6)

### 2.6.2 Cluster Initiative management

The cluster management organisation is a non-profit organisation that runs the cluster initiative. The cluster initiative needs to be managed and run like any other company. The cluster management organisations main activity, in other words the activity that creates the value, is the activities that provide the cluster members with services, called cluster services. Other functions are all for supporting that main function. The funding is necessary so the organisation can run itself and provide the services. The continuous development, goals and monitoring and evaluation are all there to make sure the right services are being provided, that they are reaching to the right members etc. Communication and sharing of information is to make sure that the members are aware of what's going on and know what services they can get or benefit from. It is also important for information to flow the other way around, from the members to the cluster organisation so they can develop and change in accordance to what's happening in the cluster and business environment. An illustration of the process flow within CIs is shown in Figure 12 where the clouds represent the members of the cluster.



**Figure 12: Cluster Initiative Process Flow (own illustration)**

The members from industry are most important, the services are delivered to them and they contribute to the continuous development of the cluster management organisation and therefore the cluster as a whole. The other members of the cluster play the same role as the members from industry, but to a lesser degree. This is because the companies produce the actual value and other actors contribute

by helping and supporting the companies producing this value, both directly and indirectly.

### **Defining the cluster**

When clusters are constructed or reconstructed, the CI has to be developed and a part of developing a CI is setting up the CO. A part of the first phase when initiating a CI, is defining the cluster initiative and what the CO should do. Almost all clustering projects come at some stage to a point, where the cluster initiative is defined and when that is done, different types of analysis are performed (23). These analyses provide background information (21) and could include an analysis of the industry the cluster is in, the demand for the cluster's goods, the supply for the raw materials required, human resource availability and capabilities, the member's strengths and weaknesses etc. This background information helps with determining where support would be most beneficial. Defining the cluster means defining the scope of the cluster, who should be involved, what are the goals, how should the structure of the co-operation be etc. However, the definition of the cluster should not be too broad, and the clusters specialisation should be identified (30). As an example of identifying specialisation a furniture cluster could be a widely defined cluster whereas a garden furniture cluster would be a more specialised definition.

### **Goals**

After conducting the analyses the actors need to agree and decide on goals. The goals of a cluster project can vary greatly between clusters; they can be broad or narrow and they can have one or many goals. In the publication *the Cluster Initiative Greenbook* from 2003 which was written by *Sölvell, Lindqvist and Ketels* the goals of cluster initiatives are analysed. *Sölvell, Lindqvist and Ketels* found that some goals are more common than others as can be seen in Figure 13 where the goals of clusters in the Western Cape South Africa have been highlighted. An example of broad goals could be to increase the innovativeness of the cluster whereas; export promotion could be an example of a narrow goal (3). *The Cluster Initiative Greenbook* also discusses goals of CIs and whether a narrow approach is better than a broad approach and they find that a broader range of goals is positively related to performance. One of the more common goals is brand building (3). As an example we can look the wine cluster in South Africa, they are creating a common brand for the products from the cluster and marketing it as such, with the brand South African wine. *The Cluster Initiative Greenbook* looked at how successful cluster initiatives were in relation to their goals and they found that those who don't have brand building as a goal are more likely to be unsuccessful. Furthermore it states that those who do have brand building and those who have export promotion as goals are more likely to be successful in terms of competitiveness. *The Cluster Management Guide* published by *CLOE* agrees on the same note with the importance of brand building, stating that neglecting it is a driver for failure. (21)



**Figure 13: Goals of Cluster Initiatives, listed in order of frequency (3)**

In *the Cluster Initiative Greenbook* identifies three goals that have a positive relationship with improving competitiveness. Two of those objectives are in relation to innovation: “*promotion of innovation and new technologies*” and “*facilitating higher innovativeness*” (3). Innovation is not just about inventing new things and putting them on the market. It is also about updating already existing products, and to improve the processes so what is being made can be made more efficiently. Other publications agree with the importance of innovation especially as the literature is in majority written about advanced economies and in advanced economies clusters are often intertwined with innovation (7) (21) (30) (22). As an example *the Cluster Management Guide* published by *CLOE* gives two different definition of what a cluster initiative is and both include innovation:

- “organised regional sectorial networks among economic partners aiming at improving innovation performance and international competitiveness
- “tool for innovation policy”

(21)

Innovation is a common goal in cluster initiatives in advanced economies; whereas in developing economies it’s not a common goal (11). The reason might be because the resources don’t allow for innovation; lack of skilled people and lack of finance for investment in innovation. The reason might also be because cluster initiatives in developing economies have other obstacles or opportunities that need to be dealt with first before moving on to innovation. Noticing the

emphasis put on the importance of innovation in the success of clusters, cluster initiatives in developing countries need to focus on overcoming the obstacles they face on their way to becoming able to use innovation at a comparable level to their counterparts in Europe. (11)

Having the goal of providing technical training has been shown to have a positive relationship with improving the competitiveness of the cluster (3). Every cluster needs skilled people to do the work and increasing the number of skilled people is a clear benefit for all members.

### **Framework**

The framework development typically includes positioning the CI within other programs and policies, defining projects, project teams and the CO. The position of the CI within other programs and policies in the region needs to be looked at. The correlation and cross-over with other programs and policies needs to be identified and defined and communicated to relevant actors in the region to maintain transparency. When different actors are working together or side by side these definitions need to be clear so when cross-overs and co-operation occurs the actors are discussing the same things. When definitions are vague or have not been defined the actors are risking having different definitions on the same things. Each CI is different and the boundaries can for example be defined in different ways. When actors coming together have not decided on how the terminology used is defined they could be comparing apples and oranges but thinking they're both comparing the same thing.

Objectives, activities and tasks need to be defined. It is important to define short term, mid term and long term goals. The short term goals are especially important as they should deliver immediate success to gain the buy-in needed from the members. *Ifor Williams*, CEO of Cluster Navigators which does consulting for cluster initiatives, emphasises this in his recommendations. He calls it picking the low hanging fruit. By showing this immediate success the members see the benefit of participating and are more likely to continue investing in the co-operation and being involved in the longer term projects. (28)

The project team for the CI needs to be defined. This includes the staff for the cluster management organisation, where the manager of the CO is especially important. The project team members can be individuals from member organisations in the cluster. When the activities and projects have been defined project teams for each of them can be defined. The board of directors for the CI needs to be established. They would include representatives from members, companies, government, academia etc.

A part of the process of defining the CI is creating the framework. The framework should be built on the strengths and weaknesses identified in the analyses done previously (3). A framework that is more generic is not as likely to show success (3). Weak frameworks are identified as a driver for failure in the *Cluster Management Guide* published by *CLOE* (21). CIs are very different between each other and the members differ as well. The success relies on the willingness

and commitment of the members. Clear commitment, intensive integration as well as high participation of players at the base of all cluster processes are factors that are crucial for a successful cluster development (7).

Therefore the framework needs to sell the idea of what the co-operation can do for the members. The strengths and weaknesses show where improvements are needed and the framework should reflect that. A framework tailored around the strengths and weaknesses of the cluster is more likely to show the benefit of the co-operation than a more generic one. (21) (28) (3) (7)

### **Membership**

It is different between CIs how the members get involved. When the cluster is started by a group of companies coming together and co-operating the members have obviously been decided, as they have already gotten together. More companies and other actors often join later in the development of the CI. In CIs initiated by government the potential members need to be approached. It is therefore a step in the development to choose the members and get them involved. Members of a cluster can vary from very few, (5-10 members) and up to thousands. To gain the critical mass needed to get the benefits of clusters a certain number of actors are needed. The *Cluster Management Guide* published by *CLOE* sets that number at 30-50 members needed to get the critical mass necessary (21). Despite this recommendation many CIs that are started have far less members in the beginning, but if they develop in the right direction the membership number increases. Clusters that are five years old or older and have over 50 members have been shown to perform significantly better than smaller and younger clusters in having an impact on business and R&D activities of SME (6). These larger and older clusters also perform better in terms of initiating successful co-operations and therefore they have a larger impact (6).

Whether or not choosing members is a step in the development; it is a part of the development of CIs to increase the number of members. The membership structure differs between CI. In some every member is equal but in others some members are more important than others and some even have different levels of membership defined. According to *The Cluster Initiative Greenbook* it does not help performance to limit the membership. Limiting membership to large firms only, only domestic companies or only one level in the value chain as that has been related to disappointing outcomes (3). The membership should not be limited to a certain subgroup in the cluster (3). The membership should ideally represent the whole value chain and the regional potential players should have a strong commitment to the network (7).

The geometric size of a cluster differs vastly, from being from one street up to going across country borders. As the cluster evolves the boundaries of it will evolve with it (30). The boundaries should not be fixed within certain regions; they may extend to neighbouring regions and even to neighbouring countries (30). It has however been shown that those clusters that have a high impact on SME's business activities have a higher regional concentration of its members (6). In some cluster programs it is a requirement to have the CI within certain boundaries

and therefore the CI is locked within that region. The Western Cape SPV cluster program is an example of this. There, all members are within the region of the Western Cape.

A CI is a formalised co-operation between actors within a cluster. Therefore there are often actors in the cluster that are not involved in the CI. The CI is dependent on the actors in the cluster to get involved in the CI and cooperate. Member involvement can be split into two, firstly involvement in the cluster, which is the number of actors in the cluster that is involved in the CI. The co-operation will be most beneficial if more members are involved. As stated before a certain critical mass is needed, and in projects such as marketing and lobbying the power of representing a larger group is obvious. The second aspect of member involvement is involvement in the CI, which is how involved and active the registered members in the CI are. The outcome of the cluster projects is based on the fact that different members cooperate and if the members aren't actively involved and participating there will not be much outcome. The publication *Cluster Management Excellence* identifies high degree of membership participation and integration as a core and basic element of the network. This will also enable new players to become actively involved. (7)

### **Formalizing the co-operation**

After going through the analyses and development of the framework it is important to complete what has been developed by formalising it. The projects, action plan, goals etc. need to be formally put down and distributed between participants. (6) In *Clusters are Individuals* the impact of clusters on business activities of SMEs in relation to different aspects of the cluster management was studied. They found that the clusters that had a high impact more often had a legal form (the cluster management organisation). The publication *Clusters are Individuals* also found that the cluster management organisations became more institutionalised as they matured and that clusters are more institutionalised the older and larger they are. This is in terms of the cluster management organisation having a legal form and clear tasks and roles for its institutional parts for example through contracts. Institutional parts being the cluster management organisation, the board of directors or steering committee and a general assembly. (6)

### **Consensus**

Having achieved consensus among CI members on what actions to perform is according to *the Cluster Initiative Greenbook* related to improved competitiveness and a lack of consensus strongly related to failure (3). *Cluster Navigators* agree in their guidelines where they emphasise the importance of achieving a common understanding across members of the cluster on the key issues needed to be addressed (28).

Not all publications address this issue and that might be because this happens naturally when the clustering process is driven by the industry members rather than government. When industry is leading the way the ones that do not agree leave the co-operation and the co-operation won't continue unless there is



consensus. When government is leading the way they are actively working on attracting and keeping members active. In that case consensus among members is of great importance.

### **Continuous Development**

All networks need to exist in the long term independent of whether they were initiated or financed by government or industry. They need to develop their own processes to achieve positive effects for their members and the region. Success needs time and it can take years to realize the network goals (7).

The publication *Cluster Management Excellence volume II* lists dominant and influencing factors identified by Heuser, 2007, that are crucial for successful cluster development. One of those factors is rapid success and stamina. The cluster development can take a long time and it is therefore important to achieve visible success rapidly that motivates the members and entails strong commitment and a high degree of cohesion. Priority should be given to those projects that can be implemented promptly and give rapid success (7). This is similar to *Cluster Navigators, 2004* recommendations in their guidelines of the importance of generating early results by picking the low hanging fruit (30).

The cluster initiative needs to continuously develop and adapt to changing needs and changes in the environment. The publication *Cluster Management Excellence volume II* identifies long-term and constant development as a characteristic of potent and efficient networks. Another characteristic identified is continuing progress and growth. Being open to new developments and challenges, having a timely and effective reaction to both internal and external changes is also identified in *Cluster Management Excellence volume II* as a characteristic of potent and efficient networks. (7)

### **Monitoring and Evaluation**

Continuous reflection on past performance, successes and failures is important for successful clustering as is stated in *the Small Business Project* (29). A regular monitoring system should be set up for reviewing and revising goals and that monitoring is important to review the goals regularly and if necessary adjust the goals (22). The publication *Clusters are Individuals* similarly states that monitoring and evaluation is important. It is difficult to assess the impact on business, but not impossible. (6)

Networks and clusters are continuously developing and will go through a process of change. It is essential to analyse the structures and processes of the network and to evaluate them. Reflecting on the originally defined aims and strategies of the network is equally important. (7)

CIs are required to report back to funders on status and progress. The extents of these requirements differ. The publication *Cluster Management Excellence volume II* states that having quantifiable objectives is a characteristic of potent and efficient networks. These objectives are measures for controlling success and metrics to assess success. This guarantees regular measurements of the

development project and if needed makes it possible to make timely adaptations to changes in framework conditions. In the view of constantly changing framework conditions this is especially necessary. (7)

It is possible to determine the network's innovative capacity and efficiency, its service, product portfolio and attractiveness by using internal and external analyses and in relation to competitors. Three methods of collection are explained for this matter, evaluation, benchmarking and analyses of member satisfaction. It is stated that all three methods the collection, neutrality, transparent structures and feedback processes do generally serve as a confidence-building measure. It enhances motivation and success for learning, the implementation of recommendations for action which result from such analyses and the conception of new strategies. (7)

*Lämmer-Gamp, Köcker and Alslev, 2011* (6) state that it was indicated by cluster program officials that in order to avoid administrative burdens that can affect the CIs daily operations the program needs to be smart and simple. (6)

### **Communication and information**

A communication and information system is essential for cluster initiatives. This information flow should reach all actors in the cluster, both those who are members in the cluster initiative and those who are not. There are several communication channels that are recommended. A communication platform should be developed for exchanging information and experience. Regular meetings, company visits and regular events are important to get the members involved, gather information about the needs of the members and for exchanging information. IT is an important factor of knowledge management of cluster initiative and it can be the infrastructure and platform for information and knowledge sharing. Newsletters and a website are ways to inform members about cluster events and other activities in the cluster initiative, information about the cluster initiative in general and information about other cluster members. A cluster database is important to organise and manage information on the members and the cluster initiative. The database can also include supplier and industry information. (21) (22)

### **Funding**

It is a crucial aspect for clusters and networks to have a secure financing base. It is very important for networks to have a solid financing plan as one of the factors that determine the efficiency of the network and the long-term existence is financing. It is necessary for networks to have continuous development on the raising of new funds to have a financially balanced budget. The good financing model should have financing sources based on variability and have regularly incoming receipts. When the finances come from more than one source it decreases the networks dependency on that source, especially if that source is only available for a limited time. A diversified financing plan enables the members to set aside financial reserves, engage in constant network activity and it protects from externalities. (7)

According to *The Cluster Initiative Greenbook* it is important for success to have the right set of resources (3). A sufficient operational budget is identified as a driver for success in *The Cluster Management Guide* published by *CLOE* and the lack of sufficient budgets is identified as a driver for failure in the same publication (21). *The Cluster Initiative Greenbook* states that disappointing CIs often don't have an office or have an insufficient budget (3). *The Cluster Initiative Greenbook* also states that having enough funding to carry out significant projects without having to get separate funding has a strong relation to success in the way of attracting new firms (3).

*Lämmer-Gamp, Köcker and Alslev, 2011* (6) discuss the difference between clusters where the cluster organisation is financed mainly by government or by private means. They make the distinction at 75%, where mainly privately funded means that over 75% of the funds are originated from private means. *Lämmer-Gamp, Köcker and Alslev, 2011* (6) also states that cluster management organisations that are mainly privately funded more often have a dedicated legal form and their governance structure is also more often centralized. Privately funded cluster management organisations more often tend to be highly institutionalised. They more often have a high clarity of tasks and roles. Privately funded cluster management organisations are often older and report a less secure financial situation for the following three years. (6)

When looking at how the CIs are funded it is stated in *The Cluster Initiative Greenbook* that there is no significant difference in performance whether the main source of finance comes from government or industry or equally by both (3). *Lämmer-Gamp, Köcker and Alslev, 2011* (6) disagree stating that cluster management organisations that are funded mainly by private means perform better when it comes to impact. *Lämmer-Gamp, Köcker and Alslev, 2011* (6) state that support from private sources is normally contract based, clearly outlining results and deliverables and sanctions for inadequate performance. Grants are typically in a format where they also define results and deliverables but they lack definition of sanctions for inadequate performance. (6)

It is not sufficient to provide the cluster with direct financial support by grants to develop excellent clusters according to the publication *Clusters are Individuals* (6). In *Clusters are Individuals* it is also stated that support should be given in hand with cluster performance review. Cluster services can be a source of income if a fee is charged for participating or receiving the services. (6)

### **Cluster Services**

Cluster Services are the main activities of the CO and are of most importance. Other activities done by the CO such as providing funding, developing goals, monitoring and sharing of information are all to be able to provide and support the cluster services, making sure the correct services are provided and that they are delivered to the ones that need them. The CI can only be successful if the CO can develop and offer services that address the needs of the companies (22). These services are what helps the members improve and be able to focus on their core activities (6). The CO needs to sell it to the companies to invest in the

participation of the services. Even though there are not always direct fees for participating in the cluster initiatives services the members often need to invest time. The CO therefore need to “sell” these services to the members. The ways of selling these services can be through the CIs website, through email or through events such as breakfast meetings or networking evenings.

Each CO is different from the other and therefore the needs are different. The services provided by each CO are different from one CO to the other. These services are for example providing training, joining forces to get the benefit of the masses, gathering information and lobbying. Examples of services provided are shown in Table 1.

**Table 1: Examples of services provided by cluster initiatives to members**

Purchasing groups	By buying larger quantities together the group of members can get a reduced price
Sharing transport fleets	Sharing bigger vehicles and other transporting can be plausible for example if different members don't have the vehicles needed or have the vehicles but don't have the operations for full efficiency of the equipment
Sharing research equipment and/facilities	Research equipment and facilities are expensive and by sharing these facilities the efficiency of the equipment's usage is higher and therefore the capacity to invest in better equipment is more.
Creating job portals	By setting up job portals, for example through the CIs web site, the cluster members can get together to attract qualified human resources to the cluster
Collection and preparation of information and scientific literature	The CO can provide the members with relevant scientific literature and prepare and distribute relevant information to the members. As an example when new regulations or laws are implemented the CO can facilitate educating and preparing the member companies to adjust to the new regulations. This could also be reports on future markets the members could enter or new technology or developments in the relevant industry
Facilitating trips to sales shows, future markets or business partners	Trips like this can both educate the members and increase co-operation as when the members are at home they are competitors but when they travel to for example sales shows together they feel more as a team

Facilitating trade shows or forums	The products of the cluster, both in terms of physical products and services, are then presented to the public and other experts. In some cases, there are shows that are facilitated every year by the CO
Joint marketing PR	The CO can be a joint brand for the CI, this can for example be food produced in the same area/cluster by different producers but is all sold as the same brand
Facilitating training	This can include both technical and non-technical training such as business management, project management, software training or technical training
Export promotion	Promoting the clusters products for exports and marketing the area as a whole. As an example South African wine has a joint brand for exports, promoted by the industries cluster initiative; Wines Of South Africa. The individual producers all have their own brands but above that they are branded as wines from South Africa.
Policy action and lobbying	The cluster initiative can lobby for changes and policy action at government for behalf of the industry and therefore their members.
Financing, access to capital	The cluster initiative can help their members accessing capital and financing, whether that is for getting grants or loans from financial institutions.
Quality management and certification	The cluster initiative can help their members getting quality management certification, providing them with consultation and other kind of assistance through the certification process.

(8) (22)

### Conclusions

The following are the conclusions from the literature study. These conclusions will be used to evaluate the case studies and rate their performance.

The importance of cluster management excellence has been gaining ground. The amount of funding, what is done, what the goals are etc. are irrelevant if the management of the cluster management organisation and the cluster services don't utilise it correctly. A cluster management organisation can have substantial funds, the correct goals and not deliver anything if they don't manage the cluster initiative's operations correctly. As in any project done anywhere it is

fundamental that the members that should be involved agree with or at least have approved what is being done and what they need to contribute to it. The members need to know what is going on, what has been going on and what will be going on to be able to contribute the right thing at the right time. Information flow is therefore very important. The general definitions of the cluster, such as the vision, goals and main projects need to be clear to all members. If the members come together to discuss what should be done and how, there will not be much success if they all have different ideas on the basic definitions regarding the cluster.

The factors that are considered to lead to success in cluster initiative management are wide and touch many aspects of the cluster initiatives operations. In summary the following, are the aspects considered most important in terms of achieving success through excellent cluster management:

- **A cluster program should be aligned with overall economic and policy priorities.**
- There should only be **one cluster program.**
- Focus should be put on **strengthening existing clusters** instead of creating new ones.
- Government can be involved in projects but industry knows best what is needed to improve industry and therefore **industry should be leading the way** to ensure that the correct projects are being done.
- It is important to **diversify the cluster initiatives funding**, especially as the cluster initiative matures in order to have secure funding and become more independent.
- Cluster Program Management: When a cluster initiative is started it is **important to have long term funding in the beginning** to ensure that the cluster initiative is established successfully as cluster initiatives take years to show success.
- **Monitoring and evaluation is important** to capture the status today, learn from past performance and use that knowledge when planning the future and revising goals.
- Cluster Program Management: **Monitoring requirements need to be smart and simple.**
- The members of the cluster initiative **need to have achieved consensus** on what actions to perform.
- The future situation needs to be taken into account.

- **A communication and information system is essential** for cluster initiatives.
- **The co-operation in the cluster needs to be formalised**, by for example having a legal form, and a formal structure and plan.
- **Cluster Services are the main activity** in the cluster initiative and are therefore of most importance. What these services are is different between cluster initiatives as the needs of cluster initiatives are different.
- Cluster Program Management: **Cluster Programs should provide services**, as it is not enough to only provide funding when developing cluster management organisations.

These factors will be used for comparing and evaluating the case studies in Chapter 3 and Chapter 4.

### **3 WESTERN CAPE CLUSTER PROGRAM**

A cluster program is a program organised by government to strengthen and/or develop clusters. These cluster programs are often used as a tool for regional development. In South Africa a cluster approach was first tried in the 1990's at a national level with little success. Later, in the Western Cape the cluster approach was taken at a regional level and in 1998 the first cluster management organisation was launched. In the Western Cape Cluster Program the cluster management organisations, which are the organisation managing the cluster initiatives, are called Special Purpose Vehicles (SPV). The SPVs are launched to manage cluster initiatives in previously defined sectors. The cluster initiative has members which work together to achieve predefined goals of the cluster initiative. Members in the cluster initiative include companies in the industry and government and often also include academia, industry associations and other actors involved in the sector. The SPV facilitates co-operation between the different members of the CI, where the companies involved are competitors in the business world but cooperate in the CI. There's a group within the Department of Economic Development and Tourism in the Western Cape Provincial Government that manages the cluster program. They provide funding and some services to the SPVs, and through that they influence what the SPVs projects focus on.

The objectives of this chapter are to investigate the performance of the cluster program of the Western Cape Provincial Government (SPV program) in terms of management to identify what has been successful and what has been unsuccessful. In the preceding chapter, Chapter 2, literature was researched to identify best practice in cluster program management. In the following chapter, Chapter 3, the objective is to investigate cluster initiatives that are part of the program, and also investigate an initiative that is not a part of the program. Analysing the performance of these cluster initiatives will allow the identification of the contribution of the cluster program on the success of cluster initiatives in the program.

#### **Research approach**

In order to obtain information on the cluster program in the Western Cape as well as to obtain information on the different clusters the WCPG was approached. The WCTI was the main subject of the investigation and for comparison purposes other CIs in the cluster program were approached and interviewed. The comparison CIs investigated in the SPV program were Western Cape Tooling Initiative (WCTI), Western Cape Furniture Initiative (WCFI), South African Oil and Gas Alliance (SAOGA), Cape Craft and Design Institute (CCDI). Additionally Wines of South Africa (WOSA) was investigated. WOSA is an initiative in the same area as WCTI and the other case studies, but is driven by private industry and is not a part of the Western Cape's Cluster Program. Even though they do not look at themselves as a cluster their operations fall within the definition of a cluster initiative. The goal of interviewing WOSA was to look at a cluster initiative in the same environment as the cluster initiatives in the cluster program of the WCPG but that is outside and independent of the cluster program.



Additionally to the previously mentioned CIs other CIs were approached in order to get a comparison with the main case studies. These CIs were both in different cluster programs and independent. These CIs are the Cape Health Technology Park and Cape Town Boat Building and Technology initiative which are a part of the SPV program, Omegaland which is a part of the Norwegian ARENA programmet cluster program, Í ríki Vatnajökuls which is a part of the Icelandic cluster program Vaxtasamningur Suðurlands and Iceland Geothermal which is independent of cluster programs. These case studies were not used directly as comparison but indirectly in the analysis phase and were a part of the development of the questionnaire used to evaluate and investigate the case studies.

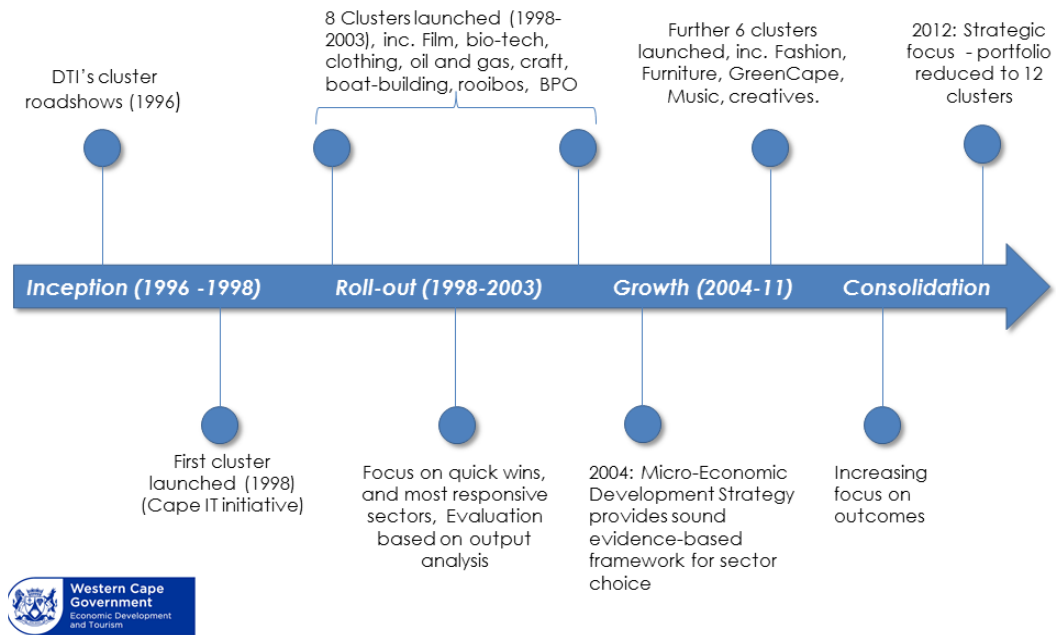
## **History**

The sector team in the Western Cape Provincial Government (WCPG) use a cluster approach for sector development. The department has a cluster program where the cluster management organisations are known as Special Purpose Vehicles (SPVs). The SPV is the cluster management organisation within the cluster initiative, and companies from the industry, other stakeholders and government are members of the cluster initiative. The SPVs are public private partnerships and are non-profit organisations.

This cluster program is not the first of its kind in South Africa. A national cluster program was established in South Africa in the mid-nineties. In 1994 a national cluster mapping exercise was done by the Department of Trade and Industry (which a department of national government) as mentioned in Chapter 2.5.2.

Through these national clustering efforts the Western Cape Economic Development officials (members of the provincial government) became exposed to the cluster approach. Figure 14 shows the history of the Western Cape Cluster Program.

The first phase, the inception of the program, was in the years 1996-1998 which was at the same time as the Department of Trade and Industries' (DTI) cluster road show. When choosing which clusters to support; the focus was on the tradable sector. There had to be a potential for exporting of products or services. The first SPV, the Cape IT initiative, was launched in 1998, and another 8 SPV's were launched in the following 5 years. The focus in that period was on quick wins and the sectors most responsive to changes. In mid 2008 16 SPVs had been initiated, employing over 80 full time staff and with over 5000 companies as members and by 2010 17 SPVs had been launched. However, today the plan is to narrow the focus of the cluster program and work more thoroughly with fewer SPVs, reducing the number of SPVs to 12.

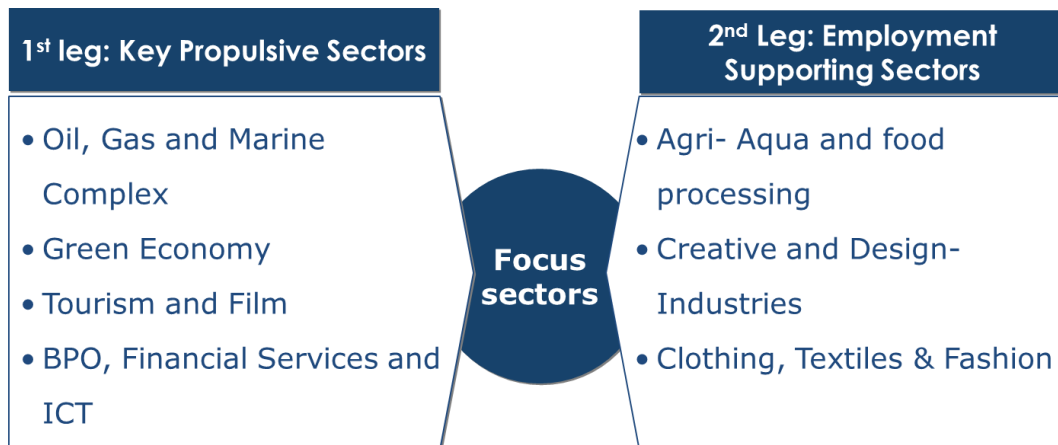


**Figure 14: History of the Western Cape Cluster Program (14)**

There are two government policies which the cluster program is connected to. One is the Micro-Economic Development Strategy (MEDS), which was launched in 2004 by the department of Economic Development and Tourism and is on a regional level. The second is the Industrial Policy Action Plan (IPAP) which is published yearly by the DTI and is therefore on a national level. These policies set the guidelines on which sectors should be supported but they don't address how. (14) (31) (29)

**The SPVs**

There are certain sectors that have been identified as focus sectors, see Figure 15. These focus sectors were identified in the government policies, such as the IPAP, and when designing the cluster program the sector team managing it from the WCPG follow those higher level policies.



**Figure 15: Focus sectors for the SPV program (14)**

These sectors will be given priority in funding and the other SPVs that don't belong to these sectors, such as the Western Cape Tooling Initiative, will see their funding reduced.

The SPVs are all non-profit companies, with staff members ranging from 2 to 25, with 5 on average. Around 6000 member companies are represented; 4 universities are involved as well as over 20 research institutes. The nature of the SPVs is to have open membership to all companies and other actors within the cluster. The CEO's are industry specialists and the boards comprise of industry members and representatives from government and sometimes academia. They are funded both publicly and privately, with provincial government funding ranging from around R600 thousand up to around R4 million a year. The CEO's appointed are industry specialists. (14) (12)

### **Background and General information**

The sectoral team is a team of people within the Department of Economic Development and Tourism in WCPG. The team uses the cluster approach to achieve their department's goal. The program is the team's main tool, counting for around 80% of what the team does. The aim of the cluster program is to have a bottom up approach, with industry leading the way. The SPVs are viewed as tools to activate and utilise industry members as much as possible when working towards achieving the goals of the program which is increasing international competitiveness. The SPV program is used to support the SPVs and working with them to unlock problems. Within the department there are 4 high level directors who each manage a number of portfolios (SPVs). These directors sit on the boards of the SPVs and in that way they give directions to the boards. They channel the funds from the WCPG and make sure they are spent appropriately. They also make sure the SPV and the CEO of the SPV are delivering as they should and take action when delivery is not as it should be.

The goals of the program are to increase international competitiveness, grow exports and improve the industrial environment. The targets can be split into two levels, one being firm level competitiveness and the other working across the

industry to improve the competitiveness of the environment. The anticipated following effects are among others an increased number of jobs in the economy.

The services the sectoral team provide to the SPVs are to transfer the funds across from the WCPG and to the SPVs; they play a role at the board of directors and they hold a forum for the SPVs CEOs. The role at the board of directors includes taking on time consuming projects such as going through recruiting procedures. As an example it takes a considerable time to go through CVs for potential employees and the board members from industry, which are often very busy and are often not ready to take on those kinds of projects. The forum for the CEOs of the SPVs is held two times and year. There the CEOs get together and discuss what has been happening and share their experience.

The funding of the SPVs is divided between operational funding and project funding. The operational funding is provided by the Provincial Government and should cover the expenses of the offices and staff. That amount varies from around R600 thousand and goes up to around R4 million for the largest offices. The project funding is often from other sources, which can for example be grants from donor organisations, national or local government and/or membership fees. The Provincial Government also gives project funding, which is given separately from the operational funding, and is specifically to be used for certain projects. The funding is promised for one year at a time even though the future vision of the project is for a longer period, 10 years.

The department requires the SPVs to report their progress. A number of performance indicators have been identified which the SPVs are required to hand in every quarter of the year. These indicators include amount of funding, number of members, number of people trained and number of events. The quarterly report should also include a qualitative report describing the highlights of the quarter. Lastly an annual report is required which should compose of a summary of the quarterly reports. Other reports can also be required, such as sector intelligence reports or surveys. These reports are all a requirement for receiving the funding from the department. The reports handed in are done by the SPVs themselves and are not audited. The quality of the data is therefore dependant on what the SPVs deliver to the department. The sectoral team is also required to report on the overall performance of the program. In order to receive their funding they need to prove the progress and success of the different SPVs and the program as a whole. The reports from the SPVs are therefore used by the department to report to the next level in government. (12) (14)

### **3.1 Evaluation of Western Cape Cluster Program**

Following is the evaluation of the Western Cape Cluster Program where the program will be evaluated against the results of Chapter 2.

#### **Alignment with policies and other programs**

The SPV program is the only cluster program within the Western Cape government and its goals and priorities are aligned with higher level policies and

strategies, on both national and regional level, such as IPAP and MEDS. The sector team leading the project is a part of the Department of Economic Development and Tourism, which is one of the 13 departments of regional government. The sectors chosen and the main goals of the cluster program designed to be in line with these higher level policies and strategies. Ideally the cluster program should be aligned with economic policy and innovation policy priorities. The alignment of the SPV program with policies, strategies and other cluster programs is neither clear nor simple. Changing that structure is not in the hands of the sector team and will not be discussed in this thesis. (12) (14)

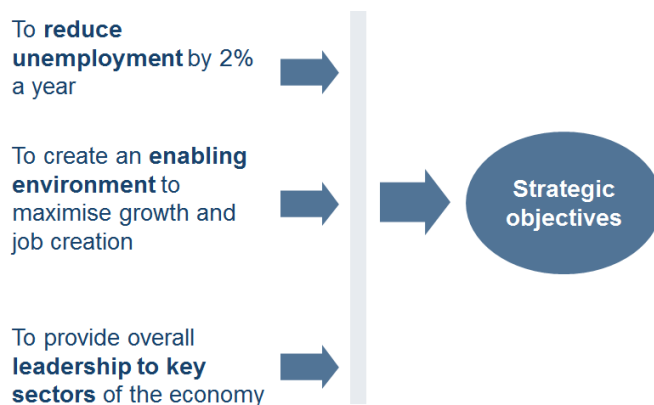
### **Sector choice**

The strategy used for choosing which sectors to support is to focus on the tradable sectors and having potential to export is a requirement. The SPV program has been running for 14 years, or since 1998. In that time the focus has changed a bit, moving towards being narrower, focusing more on fewer industries; which means fewer SPVs. The change is a decrease from 17 SPVs to 12. When asked about which sectors were chosen, and why, Nigel Gwynne-Evans at the WCPG said there are gaps in the agriculture sector and engineering sector for example (12). There is one sector in the region that has a natural competitive advantage above other regions, the wine sector. There are only a number of areas in the world that are suitable to grow wine, and the Western Cape is one of them. The industry in the Western Cape is large, accounting for an annual impact (direct and indirect) of approximately 3% on South Africa's GDP (32). There is an active organisation working on export promotion in the sector, Wines of South Africa (WOSA). They don't call themselves a cluster, but their activities and structure fall within the definition of a cluster management organisation. There are other organisations in the wine industry that serve different purposes, such as SAWIS, which does statistics and information on the industry. When asked why the wine industry is not one of the industries supported by the cluster program the answer is that their support in the SPV program is too little to be of importance to the organisation. The forecasted budget of WOSA for 2011 was around R35 million which is ten times the maximum funding that the SPV program gives out. Despite that fact one must ask whether they should not include or cooperate with the wine industry in some way. The industry is labour intensive and is responsible for approximately 9% of the total employment in the Western Cape (32). Even though they could only provide funding that would be a fraction of their overall budget they could possibly help with lobbying within government and influence the work done within the organisations. (12) (14) (32)

### **Goals**

The main goal of the SPV program is to increase international competitiveness which is in line with recommendations from the publication *Clusters are Individuals* (6). They state that internationalisation should be a part of the program strategy. The framing objectives of the Department of Economic Development and Tourism, which is the department the SPV program is run within, can be seen in Figure 16. Even though the main goal is to increase

international competitiveness an emphasis is put on increasing jobs. When speaking to government officials the goal is said to be increased competitiveness with the following effect of increasing the number of jobs. But when looking at documentation on the program, one can see that a large emphasis is on increasing jobs. According to bluebook cluster initiatives are not the best tool for increasing jobs, *“they should be used when enhanced long-term competitiveness is the goal”* (11). Possible reasons for this emphasis on increasing the number of jobs in the SPV program could be that they need to justify their own funding. The SPV program gets its funding from higher level government and their goal is to increase the number of jobs. For the team to get its funding they therefore need to show that the SPV program is achieving these higher level goals.



**Figure 16: The framing objectives of the Department of Economic Development & Tourism (14)**

R&D is a large factor in cluster initiatives in advanced economies but it plays a smaller role in developing and transition economies (11). This applies to the SPV program where the role of R&D is not high, but it is present. 4 universities and over 20 research institutions are involved in the cluster program. It differs between the cluster initiatives how much the R&D institutions are involved. As an example R&D plays a major role in Cape Health Technology Park, but a very small one in the Western Cape Tooling Initiative.

### **Government involvement in initiation of CIs**

The goal when initiating the cluster initiatives was to have a bottom up approach, with industry leading the way. This is in line with what publications on clustering say (6) (28) (29) (23). In the cluster initiatives researched in this thesis government was the initiator. The government team decided in the beginning which sectors should be supported. In CCDI they convened people in the industries together before they initiated the cluster initiatives. In others they initiated the initiative and then contacted the industry members they wished to include. That approach is categorised as top-down, with government leading the way. The top down approach is well known in cluster initiatives. A bottom up approach is not feasible when the industry members don't know what cluster

initiatives are and don't realise the benefits of the co-operation. When the industry members are not the drivers in the initiation it involves the risk that the potential members are not interested in participating. The likelihood of success is very slim if the industry members are not interested in co-operation. It should therefore be checked before initiating a new cluster initiative whether the industry members are interested in participating (23). If they are not, the initiative should not be started. A large part of the initiation of some of the initiatives, such as the WCTI, is to get the industry members involved. Networking and building up trust is a large part of the initial phases of every cluster. But the first step is to realise that it can be beneficial to cooperate. When clusters are initiated by the industry members themselves, this first step has already been reached, at least up to some point, but it still takes years to gain success. In cases where the industry has not yet realised it could be beneficial to cooperate, it adds more years to the time it will take to realise success. Once the initiative is up and running the industry is supposed to be leading the way with a majority stake hold in the board of directors. In that way the industry is supposed to be leading the way.

### **Funding**

The funding structure of the SPV program is to promise funding for 1 year at a time. The long term vision for the program is 10 years into the future but because of the funding structure within government they can't promise funding for the SPVs for a longer period than 1 year. This is not the ideal situation. Success in clustering takes time and cluster programs should be based on the long-term commitment of government stakeholders (6). This funding structure is a higher level problem. This is the way the South African government works and the sectoral team managing the SPV program from the WCPG don't have control over the funds they receive. They only receive funding for 1 year at a time and therefore they cannot promise funding for a longer period than they receive themselves.

### **Reporting**

The Provincial Government requires the different SPVs to report back to them. This is done to keep track of the SPVs operations and to be able to report to the financial department. There are certain goals that have been set and the financial department needs proof that those goals have been met before they continue with funding the project. Each SPV is required to fill out certain quantitative data, key performance indicators, and send back to WCPG. Since the SPVs are both many and different, the key performance indicators are as well; both many and different. The SPVs operations and goals differ and therefore the appropriate indicators for each SPV don't necessarily apply to all the others. As an example we can take the Boat Building Cluster. Their main operation is to manufacture and export their manufacturing. Export development is therefore an important performance indicator. For another SPV that mainly does benchmarking and management training and does not focus on export development, that performance indicator is not applicable.

Each SPV gets a spread sheet with these performance indicators which they are required to fill out for each quarter and then it is summarised for the year. These indicators are then combined by the WCPG to get the overview. The main categories of monitoring are budget, staff and board members, membership, cluster development (including events), investment, export, SME and BEE development, training and competitiveness and regulatory environment support. As each SPV is required to fill this out themselves there is the possibility that they define the indicators differently. It is not always straight forward how exactly the indicators should be defined. To minimise this risk of the SPVs reporting differently on the same things the department has a document that defines the different terminologies. As an example of how these indicators can be misinterpreted the number of members in the SPV could be the number of companies and institutions on their email list, it could be the number of companies and institutions paying membership fees, it could be the number that are registered in the industry catalogue or the number of companies that have registered as members of the SPV.

The department realises the burdens of the monitoring requirements set by government: *“The reporting requirements laid-down to receive public funding is onerous”* (14). The CEOs of the SPVs spoken to, all agreed with that not all the monitoring requirements were beneficial.

The SPVs themselves publish their own reports as well as providing government with the figures in the earlier mentioned spread sheets. The SPVs are required to publish a quarterly report and an annual report. Included in these reports is qualitative data on projects, project status, achievements made, news etc. Included in these reports is some of the information that is also given in the spread sheets. This includes funding, members and sometimes other things such as board members. The funding of the SPVs is often complicated. They get funding from provincial government, but they also often get funding from other sources such as national government, local government, industry (through member fees or payments for services for example), grants from international organisations or governments in other countries. When the SPVs report on their funding the numbers between reports are not always the same due to different requirements and definitions between reports. For example provincial government might need to get the numbers calculated one way, including funding from sources a, b and c but their own quarterly report would be done another way including funding from sources a, b and d giving a different final figure. Provincial government uses a figure called funding leveraged which represents funding from outside sources. This funding leveraged is then not included in the WCPG reports. This leveraged funding includes services provided to the cluster by organisations and other parties that's not direct funding. As an example this could be consulting paid for or provided for by a 3<sup>rd</sup> party, for example a donor organisation. This difference in definitions leads to discrepancies between the reports WCPG uses and the SPVs themselves use. This difference in reporting requirements and definitions complicates reporting. Two, or even more, types of reports are needed which requires resources to complete.



Information on performance in the past is important to evaluate successes and failures. More importantly this information needs to be used when deciding what needs to be done in the future. What has gone well should be used to motivate partners to continue and others to increase their involvement. The failures should be used to learn from and make the relevant changes to go towards success. The support from the SPV program should depend on the performance of the cluster initiative. If the initiative is not performing it is not having the effect on the industry it should have and therefore the support should be used elsewhere. When the information used to reflect the past is complicated there's a higher risk of numbers being defined differently between years, therefore comparing apples and oranges.

Statistical information is not as easy to get in South Africa as in Europe and the quality and relevance of the data is often inadequate. This makes it more difficult to evaluate the impact a SPV has on the economic environment, in other words how successful they are. An important indicator in this sense is the number of companies in the sector and the number of employees. The SPV should therefore keep a record or database of all companies in the sector. This has already been done in some SPVs, at least up to some degree. As an example SAOGA has an industry directory online. Keeping track of the number of companies in the business and the number of employees gives an indication on the success in the sector. Another important indicator in clusters is the number of new companies or SMME's started. Since there is no government authority effectively keeping track this should be done by the SPVs.

### **Services**

The services provided by the cluster program are transferring funds across to the SPVs, playing a role at the board of directors and facilitating a forum for the CEOs of the SPVs. The forum is a way to stimulate mutual exchange between the CEOs of the SPVs and is a way to stimulate cross fertilisation between the clusters when the CEOs get together and share knowledge and experience. There is however an opportunity for the SPV program to increase the services provided. The individual SPVs are different and therefore these services should be tailor made against the needs of each one.

### **Conclusions**

The Western Cape cluster program, called the SPV program was established in 1998 when the first cluster management organisation, called SPV, was initiated. By 2010, 17 SPVs had been launched even though there are plans to reduce the number down to 12. The goals of the program are aligned with higher level policies

The SPV cluster program is the only cluster program in the Western Cape even though there are other clusters in South Africa. The alignment of the SPV cluster program with other programs and policies is neither simple nor clear, but that is not in the hands of the SPV program managers to change, that is the environment they work in.

The rules for the choice of sectors are given by policies from provincial and national government. The choice of sectors to support is therefore limited as these policies need to be followed in order to receive funding for the cluster program. The main goal of the SPV program is to increase international competitiveness, and the desired side effect of that is an increased number of jobs.

The goal when initiating the SPVs is to have a bottom up approach with industry leading the way. In many of the SPVs investigated the government lead the way and it was a large part of the initiation to get the industry interested and willing to get involved.

The program is funded by the South African government which only promise funding for one year at a time. The vision of the program is however long term, 10 years into the future. This funding situation is a problem out of the hands of the SPV program management.

The SPVs are required to report to the SPV management team at WCPG. Reporting is an important part of a cluster program and some recommendations even state that support should be dependent on performance which is of course proved by reporting. There were gaps in the reports received and discrepancies between quantitative reports. The qualitative reports received were fewer but complete and no obvious discrepancies were found.

## 4 CLUSTER INITIATIVES

The Western Cape Tooling Initiative (WCTI) was the main subject of the thesis but for comparison reasons four other cluster initiatives (CI) were researched. The WCTI is a part of a cluster program initiated and run by the Western Cape Provincial Government which was discussed in Chapter 3. WCTI will be introduced and discussed in Chapter 4.2. Before WCTI will be introduced the case studies will be introduced, discussed and evaluated. Firstly an example of a CI that is believed to follow best practices in terms of cluster management as per the results of Chapter 2 will be shown. Following that the case studies will be introduced, discussed and evaluated. The first three case studies are involved in the same cluster program as WCTI and are therefore located in the same area, however the fourth case study is independent of a cluster program but located in the same area.

It is difficult to evaluate the performance of initiatives without a thorough investigation including different members of the initiatives. This should include information received by different members, the members' perception of the cluster and their involvement. The ways used when evaluating the quality of the information flow is in this case the newsletters received through being on the initiative's email lists, investigating the websites and quality of information readily available from the initiative's staff. The ways used to evaluate the quality of the management is the involvement of industry in creating the framework for the CI. Positive changes in membership numbers are likely to indicate success, as are numbers of participation at events and projects.

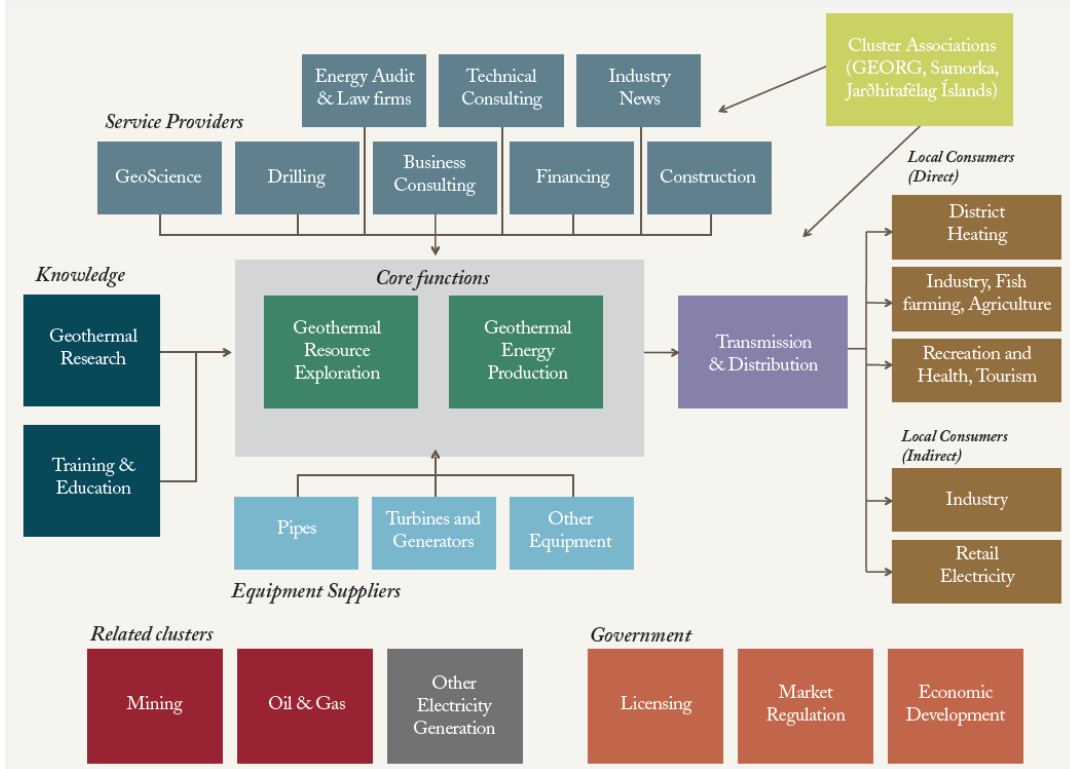
### 4.1.1 Iceland Geothermal

#### **An Example of an Initiative in an Advanced Economy**

The literature reviewed was to a large extent based on research and experience from advanced economies. To show an example of a fully private industry lead cluster initiative, the Icelandic Cluster initiative Iceland Geothermal was researched. The people leading the cluster initiative have been in co-operation with some of the leading researchers in clusters and cluster managers, Dr. Michael Porter, Dr. Christian Ketels and Dr. Gerd Meier zu Köcker. The steps taken in the establishment of Iceland Geothermal have been according to best practices in published research and will therefore be taken as a best practice example in this thesis.

The establishment of Iceland Geothermal, a cluster co-operation in geothermal energy in Iceland, has been ongoing since 2009 even though it has not been formally established as a cluster initiative yet. It is estimated that if all goes well the cluster initiative Iceland Geothermal will be formally established in the beginning of 2013, four years into the co-operation. The idea of the co-operation came from Dr. Michael Porter after visiting Iceland in 2009. Following that visit Hákon Gunnarsson, executive manager and founder of the consulting company Gekon, approached Dr. Porter about involving him in mapping the geothermal energy cluster in Iceland. In 2010 Dr. Michael Porter and Dr. Christian Ketels

analysed the geothermal cluster in Iceland along with almost 60 different stakeholders in the cluster. A mapping of the Icelandic Geothermal Cluster can be seen in Figure 17. Iceland Geothermal is a private initiative, even though certain government departments are involved, the initiative is driven and funded by industry parties. The private business consulting company Gekon is the driving force in the co-operation and has played a large role on the funding side. The cluster initiative is 95% funded by companies in Iceland.



**Figure 17: A mapping of the Icelandic Geothermal Cluster (33)**

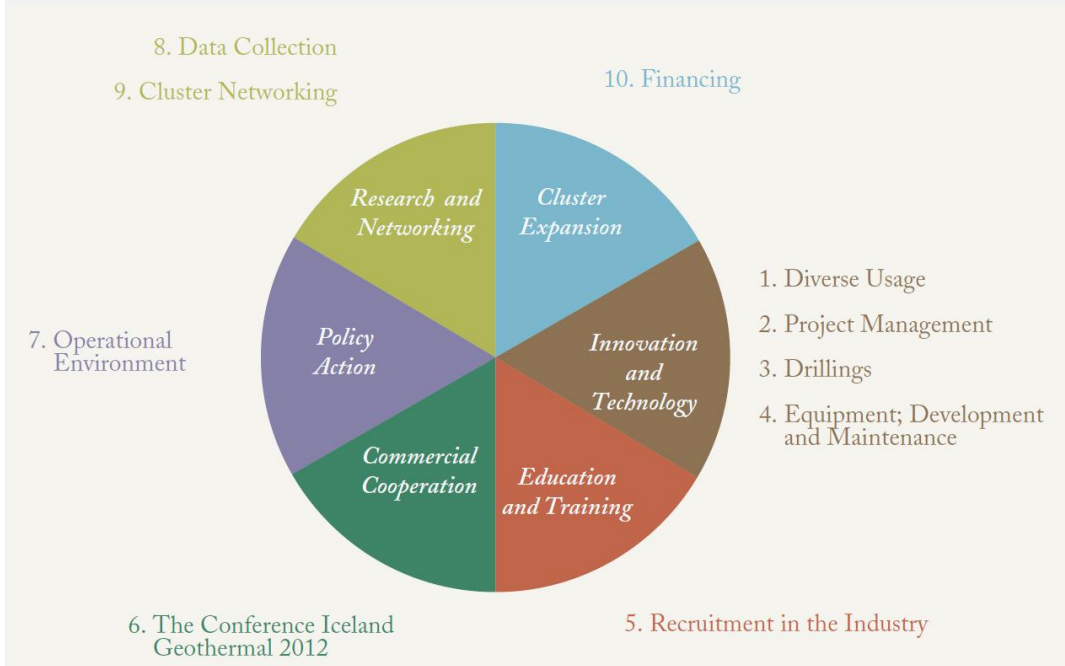
Following the analysis done in 2010 a more formal co-operation within the geothermal cluster was developed by an expert council put together by leading actors in the cluster. Emphasis was put on value adding co-operation built on the terms of the industry. Governments' role was support the cluster initiative by taking part in discussions and providing a good working environment.

### Funding

Iceland Geothermal is fully funded by private parties, by the members of the co-operation. Even though departments within government are involved they do not provide funding. The members of the co-operation are divided into groups which are from all aspects involving and connected to the industry. This includes companies in the production of energy, consulting companies, financial institutions, equipment suppliers and research institutions.

## Projects

To define the projects of the CI the participants in the cluster took on a workshop which was hosted in 2011. The results, which can be seen in Figure 18, were 10 different co-operation projects divided into 6 groups, where each project has a defined project focus, objectives, a team leader, active working groups as well as a list of participants.



**Figure 18: The 10 projects of Iceland Geothermal started in July 2011 divided into 6 groups (33)**

The projects were started in July 2011 and will be ongoing until December 2012. Then it will be evaluated how the further development of the co-operation will be.

## Communication Structure

A report on the geothermal cluster in Iceland and the cluster initiative Iceland Geothermal was published in June 2011 where extensive information on the background of the cluster is presented including information on the background of the co-operation, general information about clusters, historical co-operation within the cluster prior the cluster initiative, strengths and weaknesses of the cluster, information on the 10 defined projects, mapping of the cluster and growth prospects.

Gekon manages the 10 projects from a project management point of view by organising the meetings, processing the progress of the projects between meetings and managing follow up.

## Monitoring

Gekon, the cluster management body of Iceland Geothermal conducts a survey among members regarding the cluster co-operation. This survey addresses for example the members satisfaction with the initiatives work and progress. Gekon manages the monitoring of the initiative but they were not studied in this thesis.

### 4.1.2 Western Cape Furniture Initiative – WCFI

Western Cape Furniture Initiative (WCFI) was formally established as a non-profit company (section 21) in February 2009, after they began their operations in November 2008. The initiative was started by the provincial government and is one of the SPVs in the cluster program of the Western Cape. The WCPG had prior to the establishment approached the industry several times about an initiative but there was not enough interest for involvement from the industry to start. When the initiative was started there was still much scepticism but at the same time the recession was starting which resulted in more receptiveness than before. Before the initiative was started the government approached the industry because they felt the industry needed help. A steering committee was formed that appointed Productivity SA to do research in order to find out if a cluster initiative was needed. The results were that such an organisation was needed and WCFI was established. (34)

According to WCPG, benchmarking studies show that the furniture industry has potential for contributing to job creation, design and innovation, identifying the industry as a key sector for the Western Cape. However, it faces a number of challenges and the provincial government is cutting support to the initiative and reducing funding.

The WCFI's works towards developing the furniture industry in order to make the industry globally competitive as is described in the initiative's formally published vision:

*„To develop and grow the furniture industry in a sustainable manner through the implementation of programmes and interventions that will improve industry skills and make the furniture industry globally competitive.“* (35)

The initiative achieves this through programs and projects where they assist their members to improve their businesses and facilitate co-operation between them. This benefits both the members and as a result the industry as a whole.

There are 74 members of the initiative, which are members of the whole value chain, consisting of manufacturers, designers, associations, training providers and retailers. The initiative has 2 staff members and a board of directors composed of business owners, directors, employer and employee representatives, bargaining council, academia, design, seta (skills, education, training authorities) and local government. (5) (35) (34) (36)

When the original business plan was created for WCFI the results of the research done by Productivity SA was used. Industry therefore influenced the business plan through this study. The business plan for 2012 was according to CEO Bernadette Isaacs the first one solely coming from the industry. It was done in the way that a benchmarking study, a sector development research document and a sector analysis were performed. These studies were done by outside consultants in early 2011. The results were compared and presented at a workshop with industry members. The industry members were then asked if they agreed with these results and they were also asked to choose the three items they felt were most important to work on. The three items were made the top priority in the business plan and identified as the focus areas. These focus areas identified were:

1. *“Market access*
2. *Improved management practices and furniture industry skills*
3. *People management” (5)*

### **Projects**

The WCFI has 4 listed objectives, but in addition to those it views its core purpose as: *„building a South African furniture brand that can be showcased locally and internationally.“* The listed objectives, in line with other cluster initiatives, are:

1. *“Increasing skills levels*
2. *Promoting creativity and innovation through design*
3. *Improving co-operation between stakeholders*
4. *Providing support services to small enterprises” (5)*

Following the research conducted prior to the business plan development for 2012 three development programs which guide all the activities of the initiative were designed:

1. Market Access
  - a. Exhibitions and trade shows
  - b. Market exploration
  - c. Export development
  - d. Development of a common brand, a South African furniture brand
  - e. Design Competition
2. Industry Development
  - a. Regular networking sessions
  - b. Collaboration meetings
  - c. Interactive website
  - d. Company visits, both to members and non-members
  - e. Industry research
3. Business Development
  - a. Skills training on all levels of a company
  - b. Cluster Development

These programs are delivered by the initiatives staff or by outside parties. Training for example may be done by an outside expert and consultant but the CEO facilitates the training. (34) (5)

### **Funding**

Today the WCFI's operations are funded solely by membership fees, interest accrued and funds from DEDT/WCPG through the SPV program. Additionally to these funds the FBCWC (Furniture Bargaining Council for the Western Cape) has supported the WCFI through indirect funding by giving them a rent free office space, insurance and fax & internet. There is no direct transfer of money, these utilities are provided for free and therefore this is an indirect grant. The initiative has also received funding that is specifically for certain events or programs. Previously event or program specific funding has been received from FIETA (Forest Industries Education and Training Authority), NUFAWSA (National Union of Furniture And Allied Workers), DFMA and Old Mutual. (36)

WCFI also collaborates with companies where the companies have programs that have already been funded. WCFI in those instances markets and facilitates their members participating in these programs. Productivity SA, Wesgro and PUM have been involved in previous collaborations. There is no direct transfer of money in these collaborations but the members benefit from the program. Additionally the organisers of the programs get participants and WCPG gets the statistics from of these interventions and their progress. These indirect funds, both for the office utilities and for the collaborative programs, are not reflected in the Annual Financial Reports.

The members are required to pay membership fees depending on their number of employees. The initiative seeks additional funds from donors for implementing programs, both new and strengthening the already existing ones. DEDAT has stated it will reduce its funding to the WCFI. In the annual report from 2010 the chairman of the board expresses the need for the initiative to broaden their sources of income and explore other opportunities for funding. By diversifying the sources of funding the WCFI will become more independent as they are not as reliant on one source and funders often want to influence the management and programs of the initiative. (35) (34)

### **Communication Structure**

The initiative uses networking sessions, collaboration meetings and company visits as communication tools. Additionally the initiative has a website and sends emails. The newsletters, which are sent out every few months, are sent by email.

### **Monitoring**

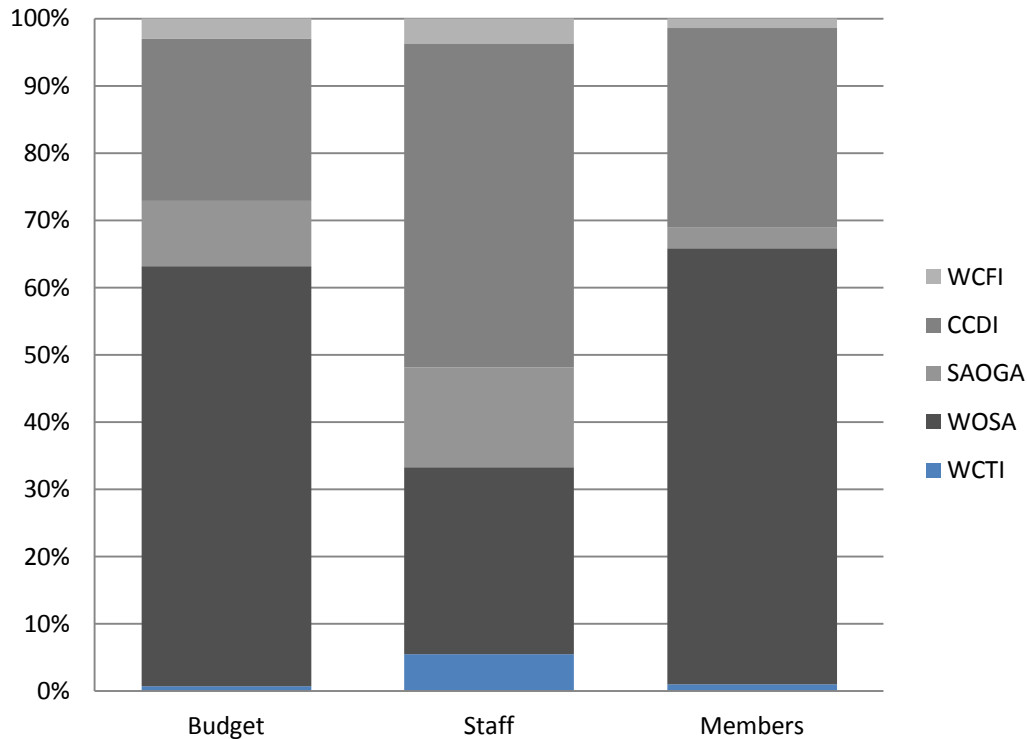
The initiative reports to the WCPG as the other SPVs as well as to their board of directors. Their monitoring is designed around the requirements from the WCPG. This includes reporting of the KPI's required by the WCPG and publishing an annual report which includes both numerical and qualitative reporting. WCFI is required to report to their board of directors on a quarterly basis and annually



there is an annual general meeting were the initiative reports to the whole industry.

#### 4.1.3 Evaluation of WCFI

WCFI was formally initiated in 2008 and can therefore not be categorised as a mature cluster initiative. The initiative is small in comparison with the other case studies as can be seen in Graph 1. WCFI has two employees, 74 members and a budget of R950 thousand. This makes the WCFI the smallest in terms of staff members, compared to the other CIs.

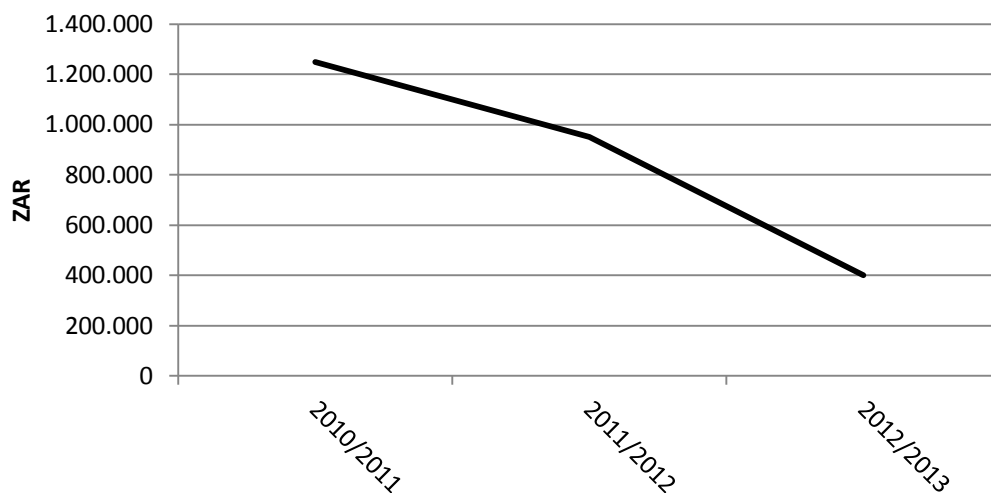


**Graph 1: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 6, 11, 16 and 18)**

The references used when evaluating WCFI were information received from the CEO of the initiative, Bernadette Isaacs, which was also interviewed and information received from WCPG. The reports received were not completely consistent. There were some inconsistencies between the documents received from WCFI and from WCPG. Two fully completed annual reports were received containing numerical information and qualitative information such as information on programs and projects as well as success stories. The information received from the WCPG were mainly numerical information but there was also some basic information on the initiative, its progress up to this date and the main programs and projects in its operations.

## Funding

WCFI has the same funding structure as the other CI in the WC cluster program; it is mainly funded by the provincial government. They were initially promised 3 years of funding which ended March 2012 (37). As the other CI funded by the provincial government, the funding is unsecure and short term with fluctuating amounts. The funding for 2010/11 and 2011/12 and the estimated funding for 2012/13 is shown in Graph 2 where it can be seen that the amount of funding is decreasing. These numbers show direct funding which represent actual transfer of money and excludes indirect funding which can for example be in the form of rent free utilities. The WCPG has indicated they will reduce funding to the initiative which will undoubtedly increase their financial struggle. The CI aims to get more financially independent and not to have to rely on government for funding. The goal of gaining financial independence shows the cluster is a positive indication.



**Graph 2: Funding of WCFI for the fiscal years 2010/11 and 2011/12 and the prospective funding for 2012/13**

## Sharing of Information

WCFI has a newsletter that is sent out every few months, and a website. Compared to the other initiatives the website is fairly informative. Basic information about the CI is available such as goals, mission, vision and how being a member of the CI can benefit companies. There is no member's directory, reports on past performance or reports on industry available on the website. On the website there's a "downloads and documentation" section open only to members which is closed due to revamping on site and therefore the documents are not accessible when this is written [January 2012]. It is possible that information of past performance and reports on industry will be accessible there.

The initiative has published two fully complete annual reports which were readily available when requested. The initiative has also had reports done for them on the

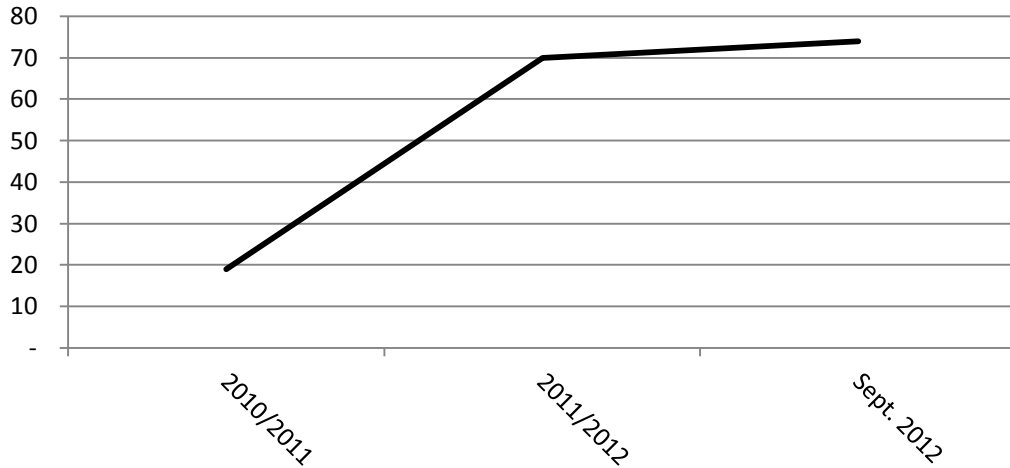
industry that have been distributed between members. WCFI appear to be both creating information and sharing it with their members.

The website is as stated before fairly informative, even though there's an opportunity to have the already existing library include information on past performance such as the annual reports, as well as reports and other results from other research done which could benefit members. Including upcoming events and a member's database might also benefit the members and the initiative. The latest newsletters were not available online which indicates the website is not updated regularly, the newest newsletter was 5 months older than the latest one received through email. According to CEO Bernadette Isaacs the website cannot be updated as much as the initiative would like due to lack of funds. Relevant information is therefore distributed to the industry through email.

### **Management**

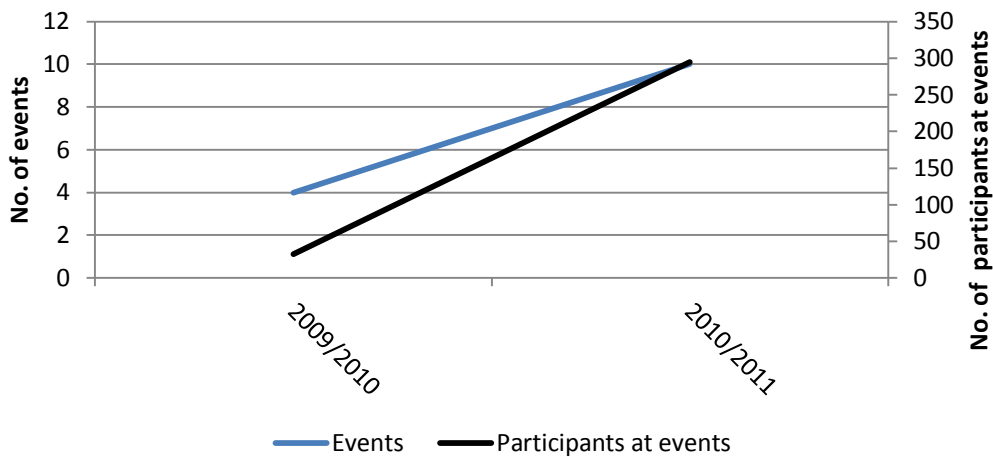
The Initiative is driven by the government but the initiative is working on getting the industry involved. The action plan in this year's business plan [2012] is based on wishes from the industry. That was done by having three different researches performed on the industry by outside consultants. The results were compared, summarised and presented to industry which chose the most important ones in a workshop. In this way the initiative got the industry leading the way of the initiative. Taking into account the young age of the CI and that it was started by the government, the industry is getting actively involved making sure the correct things are being done.

The number of members can be seen in Graph 3. The number of members has multiplied in the last three years which indicates that the initiative has shown success. The number of members in data received from WCPG was also reviewed but the numbers are out of line with the numbers from WCFI. The initiative maintains a database keeping track of companies in the industry based in the WCFI. It seems as though the reports from the WCPG has mixed the number of members and the number of companies in the database together. The number of members according to WCPG is close to the number of companies in the database.



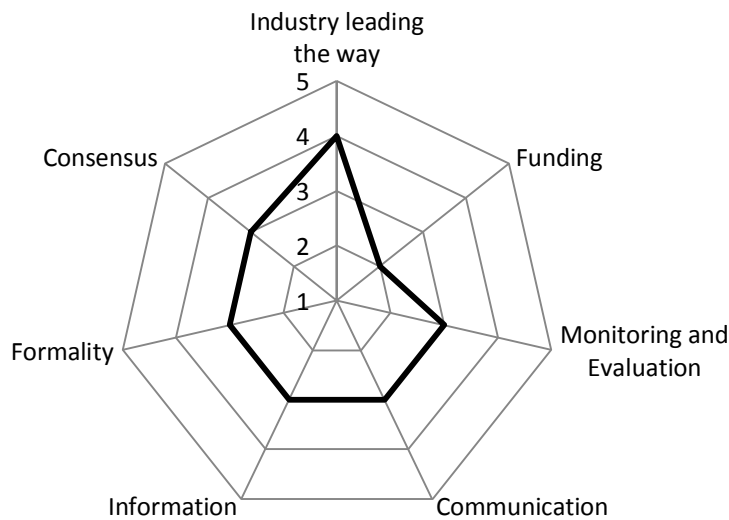
**Graph 3: Number of members of WCFI**

The numbers for number of events and participants at events which can be seen in Graph 4 were taken from reports from WCPG. These numbers are not in line with the number of members and it seems unlikely that the numbers decrease so dramatically between years. It is therefore assumed that a misunderstanding or mistake has occurred.



**Graph 4: Number of WCFI's events and participants at events**

Graph 5 shows a summary of the evaluation where it can be seen that the initiatives strong point is to have industry leading the way whereas the weak point is the instability and lack of funding. Other aspects at a medium level and look promising as it has to be taken into account that WCFI was formally established in 2009 and is therefore relatively young and the youngest initiative evaluated in this thesis.



**Graph 5: Conclusions of evaluation of WCFI in comparison with other case studies and results of Chapter 2**

An indication of the CI's success is the success stories published in the annual reports. In the annual reports stories from members explaining their involvement in projects facilitated by the CO are presented. These stories show how these members have improved their business following their participation in projects facilitated by the CO.

#### 4.1.4 Cape Craft and Design Institute – CCDI

Cape Craft and Design Institute (CCDI) was founded in 2001 as a non-profit company and is one of the COs, or SPVs, in the Western Cape cluster programs. It was started as a joint initiative of WCPG and Cape Peninsula University of Technology (CPUT) after the sector had been identified as having significant growth potential for job creation by the National Department of Arts and Culture. Amongst a number of research studies into the sector, including the DAC Cultural Industries Growth Strategy, and a Wesgro<sup>3</sup> report, the DEDT commissioned a research study into the sector in the WC, called An Audit of Craft Assets in the WC. This led to the development of a business plan for the establishment of the CCDI. The business plan was distributed to, discussed and approved by funders and key parties including some NGOs and private sector individuals who were active in sector cluster meetings that had been convened on a monthly basis by the DEDT. Unlike as with other sector that have well-developed private sector formations and organisations, the craft sector was very informal and fragmented,

<sup>3</sup> Wesgro Background Report on the Craft Industry in the Western Cape, published August 2000

so the initiative and drive for the establishment of this ‘cluster’ was driven by the public sector and civil society.

The initiative has had the same CEO, Erica Elk, since it was started and its core purpose is to *„act as a catalyst for growth and development in the craft industry and to provide strategic vision and forward thinking“* (5). The initiative had 26 staff members in 2010 which is multiple compared to the other SPVs researched in this thesis. CCDI had over 1.600 members in 2010 which is also a larger number than the other SPVs. However the sector comprises predominantly small and micro companies with a few medium sized companies (100+ employees) and therefore the number of people working in each member company is low compared to the larger companies in some of the other SPVs.

## **Projects**

The CCDI’s vision has developed through the years and is now:

- *„A globally recognised centre of excellence, a credible and reliable institute for craft and design*
- *Commercial, demand-driven services*
- *A sector body that proactively grows existing markets and explores new markets for South African craft*
- *Actively support establishment of craft and design sector bodies in the region“* (38)

The focus is on growing the craft sector through production of excellent craft and design through commercial, demand-driven services. Their markets are not limited to local areas; they aim to be globally recognised.

The initiative has a number of listed objectives which are listed below:

1. *„To help the Western Cape craft sector grow at the same rate as annual provincial GDP growth.*
2. *To develop the capacity of craft entrepreneurs to manage their businesses so that 50% of emerging entrepreneurs have more stable profitable enterprises in 5 years.*
3. *Facilitate an enabling environment which supports the annual increase of quality jobs in the craft sector at or above the minimum wage in the Western Cape and at the same rate as job creation in the province.*
4. *Develop creative, design and business skills of craft entrepreneurs by providing accredited training opportunities to at least 100 participants annually.*
5. *Promote principles of good labour practice and sustainable resource use so that all enterprises in the Western Cape are fair trade-compliant.*
6. *Create annual opportunities for experiential learning which builds the human and social capital of at least 50 people working in the sector.*

7. *Create a collaborative community across the value chain through facilitating networks, collaboration and sharing of resources.*
8. *Stimulate innovation so that 20 new competitive products enter the market each year from craft producers and designers in the Western Cape.*
9. *To develop a brand identity for Western Cape craft and design that expresses our diverse cultural heritage.*
10. *To facilitate access to local, national and international markets and increase the market share of Western Cape craft each year.*
11. *To be a benchmark of excellence in all areas from products, to people, and processes“ (38)*

These goals include both numerical and qualitative goals. The numerical goals include the rate of growth, number of people trained and number of competitive products released to market. The qualitative goals include measures of improving their members' business environment and collaborative community, improving their members' skills, promoting good practice and develop a brand identity. (39) (5) (40)

The initiative has matured through the years according to CEO Erica Elk, and after a few experimental years the programs became more formal. According to CEO Erica Elk the sector is primarily made up of informal operations, micro and small companies, with a few medium sized companies. According to CCDI's website the initiative has three main program areas today as are listed here below.

- *„Product support – provides an environment in which craft producers can further develop their existing products, and prototype new products*
- *Business support – offers training and learnerships to develop craft producers' skills in creativity, business management, production and marketing. There is also mentoring assistance and a referral system for craft enterprises*
- *Market support – helps craft producers to define their targeted niche markets and to reach them through channels such as local craft markets and consumer shows, retail outlets and trade shows" (38)*

The number of businesses and craft producers assisted in these programs is counted in the hundreds.

(5) (39) (38)

## **Funding**

The CCDI was started with funding from DEDT and a significant commitment of poverty alleviation funding from the National Department of Arts and Culture for the first 3 years. It also received invaluable in-kind support from CPUT which effectively incubated the Institute for its first four years. Today the initiative is funded by the provincial government, as with the other SPVs, but they also have other sources of funding including from national government (e.g. DTI and DAC)

and local government (e.g City of Cape Town) and donor organisations. The sources of funding can be seen in Figure 19. There Institute does not charge membership fees but participants pay nominal fees for services (e.g R30 per day for workshops; individual stand participation fees and/or 20% commission on sales at collective shops in its market support program). These are highly subsidised and are intended to ensure commitment to participate as well as school participants in the realities of business.

FUNDER	AMOUNT
Department of Economic Development & Tourism	4,060
City of Cape Town	651
Advanced Manufacturing Technology Strategy (AMTS)	725
Kellogg Foundation*	1,219
DTI	5,000
MAPPP-Seta	551
National Arts Council	350
Other	2,112
	<b>13,449</b>

*\*Total 3 year commitment of R3,658,500 reflected as income in 2008/09 AFS.*

**Figure 19: Funding sources for CCDI in financial year 2009/10 (40)**

### **Communication structure**

A monthly newsletter is distributed via email and in hard copies where CCDI report on what they're doing, advertise opportunities and includes informative articles which build skills and resources. There's a monthly sector networking meeting that's open to all where they provide people with information. That meeting is also a way for the producers to connect with each other. The ways of communication are email, sms, website, web-based database, newsletter and face to face communication at CCDI's premises and during events.

### **Monitoring**

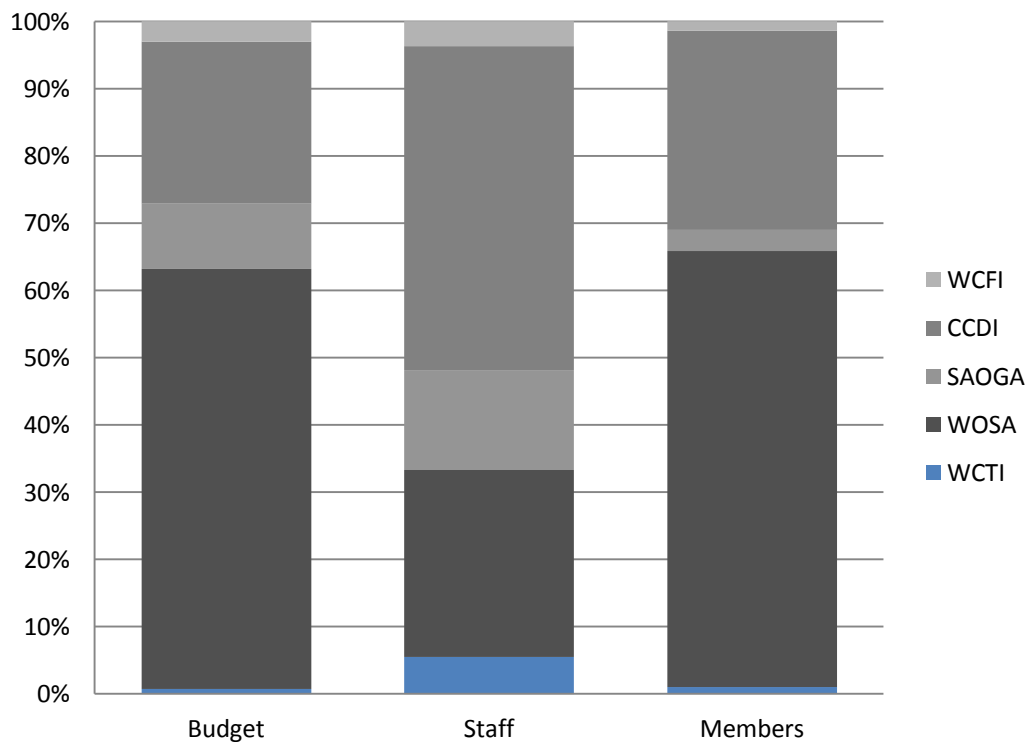
The initiative has the same monitoring requirements as the other SPVs, the KPIs, quarterly and annual reports as well as other occasional reports such as sector intelligence report. The initiative also has different requirements from the other



sources of finance than the WCPG. According to CEO, Erica Elk, the institute tries to manage them together, but sometimes specific reports are required.

#### 4.1.5 Evaluation of CCDI

CCDI was initiated in 2001 which makes it one of the oldest SPVs and the second oldest of the case studies in this thesis. CCDI can therefore be categorised as mature; during the years it has developed the vision and projects have consolidated along the way. Its size in comparison to the other case studies can be seen in Graph 6. The staff members are 26 which is considerably more than the other case studies and well above the median number of staff in CI in developing economies which is on average three (11). The budget is also considerably larger than the other SPVs even though it is smaller than WOSA which is not a part of the SPV program. The board of directors is composed of 12 board members where 6 are from industry (41).



**Graph 6: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 11, 16 and 18)**

The references used when evaluating CCDI were information downloaded from the CCDI website, the CEO Erica Elk who was interviewed and information received from WCPG. The numerical information received from WCPG and the annual reports from CCDI’s website were not completely consistent, for example

in terms of funding<sup>4</sup>. There are 4 fully complete annual reports available on CCDI's website, the oldest from 2005/06<sup>5</sup>. The annual reports include qualitative as well as numerical information on members, events, funding, programs and projects and CCDI itself. A summarised annual report for 2010/11 was not published on the website.

## **Funding**

The sources of funding are diverse compared to the other initiatives as can be seen in Figure 19, even though it is fully funded by grants. Government is however the largest funder as is with the other SPVs researched where DTI (R5m in 2010) and Department of Economic Development & Tourism in WCPG (WCPG, R4 million in 2010) provide the largest contributions. The CCDI receives the largest amount of funding from the WCPG of the other SPVs researched. There are no membership fees or fixed requirements to the members of contributing working hours to the institute required to be a member. The members are however required to pay a nominal fee for participation for services from the initiative such as participation at workshops.

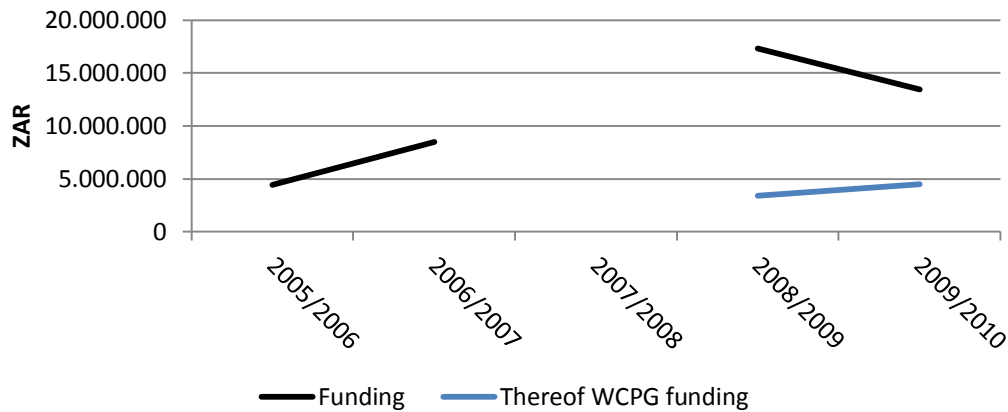
The funding's allocation periods are as with the other CIs, they're in the 3-5 year budget but have to negotiate every year on the amount. This ever changing amount of funding makes it difficult to plan. The funding is sufficient to exist and develop as an institute and grow but the lack of stability of the funds negatively affected the initiative in that it is difficult to retain staff because they could only be employed on a one year contract. Fortunately this has now changed and employees are now on 3 year contracts (42). Changing a sector as the CCDI is working towards doing - from informal and marginalised - to more formal and mainstreamed - needs a long term strategy. To be a member the only requirement is to pay this nominal fee for the services they receive directly. If people can't afford the fees they can apply for full or partial sponsorship. According to the CEO, Erica Elk, there are enough barriers to make successful business and they don't want to add another barrier.

The amount of funding was not completely consistent between annual reports and reports received from provincial government. The funding according to annual reports was therefore used and can be seen in Graph 7. Figures in the annual reports contain audited financial statements whereas figures from the WCPG were derived from quarterly reports which could explain the inconsistencies which are minimal.

---

<sup>4</sup> annual reports include audited financial statements; whereas WCPG reports will include information drawn from management accounts during the course of any given financial year

<sup>5</sup> the first Annual Report (2004/5) is available in hard copy only and was for 4 years from inception – 2001/2; 2002/3; 2003/4 and 2004/5.



**Graph 7: CCDI's funding according to the annual reports available on their website**

### Sharing of information

CCDI has a newsletter that is sent out every month and includes industry news, educational material and some news of CCDI. CCDI has a website and compared to the other initiatives the website is very informative. The information on the website includes for example information about CCDI's history, its programs, how it benefits its members, and a database with its members. There are several annual reports available even though there were some years missing. There were several research results/reports available but the newest one was from 2009. There is a section showing current events but the events shown have a date that has already past.

Since the annual reports were available online they were readily available. There were 4 annual reports available in total, the oldest from the financial year 2005/06. An annual report for 2007/08 was not published online and the annual report for 2010/11 has not been published online either. Additionally CCDI makes quarterly reports as well as additional reports when required by specific funders with specific requirements. The summary of these reports are contained in the published annual reports. CCDI appears to be very active in gathering information and sharing it with its members.

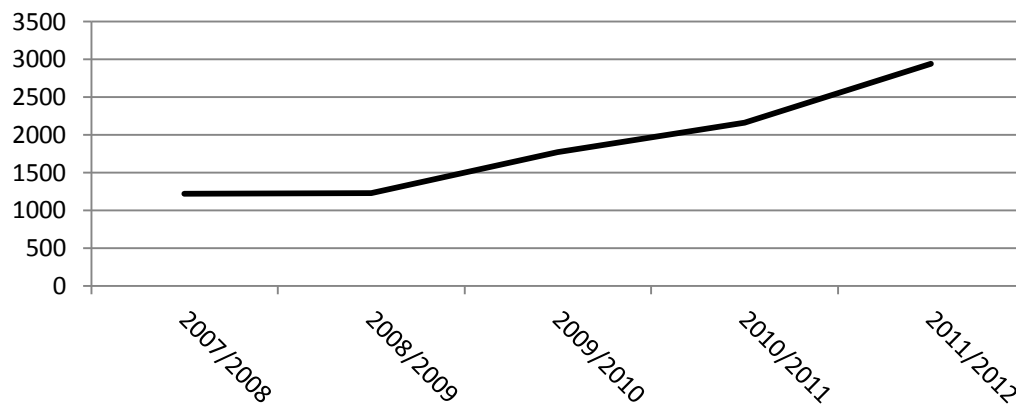
The CCDI website is very informative, is updated with the latest newsletters and news from the industry which indicates the website as a whole is updated even though dates on when each sub site was updated were not visible. Another aspect that should be taken into account in a thorough evaluation is the group of members that does not have access to computers and is therefore able to receive emails or access information on the website. The initiative uses SMS and face to face contact for example during training and through staff but as those ways of communication were not investigated specifically they cannot be evaluated. The CCDI was one of the first SPVs to use mass-based SMS technology from as early as 2004/5 because most of its members have cell-phones. The newsletter is also distributed in hard copy for people who can't access it via email/webiste.

## Management

The services of CCDI have developed through the years and are now more integrated into the on-going service offering of the CCDI (as opposed to being project based) according to CEO Erica Elk. Sector cluster meetings pre-date the establishment of the CCDI and were initiated by a director from the department of economic development and tourism who wanted to convene people from government, city and other players in the craft sector. That forum decided to do research, and that research was done to find out what the industry wanted to be done. The sector was not organised and that was one of the problems in the sector and one of the first objectives of the initiative was to develop the sector. It can therefore be argued that the sector was not in a position to be actively involved in the initiation at the initial stages. With an informal sector with no big players it can be argued that it would have been difficult to have the industry involved and that there would not have been much benefit in that. The involvement of the industry is considered to have been through the industry meetings.

The numbers between the annual reports and the reports received from WCPG were not completely consistent and in some cases the numbers were very different. The numbers between reports received from WCPG were also not always consistent. The data in the annual reports were categorised, for example there were different types of members identified. That could be one reason for inconsistency between reports from WCPG and the annual reports, but when the different categories of members were compared to the numbers in the other reports the numbers did not match.

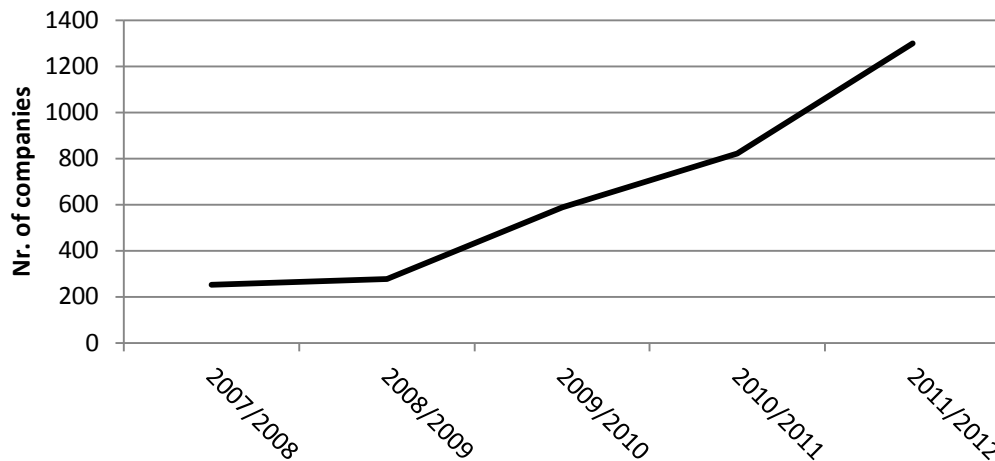
The number of members and the number of companies assisted can be seen in Graph 8 and Graph 9. As can be seen in Graph 8 the number of members is increasing rapidly and steadily<sup>6</sup>.



**Graph 8: Number of members of CCDI (42)**

<sup>6</sup> The number of members for 2011/2012 includes only the first 3 quarters in the fiscal year, April through December 2011

The number of companies assisted with business, market and product support<sup>7</sup> was received from CCDI and therefore used for evaluation in-stead of number of events and participation at events as with the other case studies. As can be seen in Graph 9 the number of companies assisted is growing rapidly and steadily<sup>8</sup>. This increase in both members and companies assisted is an indication that the initiative is showing success. It is also a function of more funding and better institutional capacity to provide services on an on-going way.



**Graph 9: Number of CCDI's member companies that were assisted with business, market and product support<sup>8</sup>**

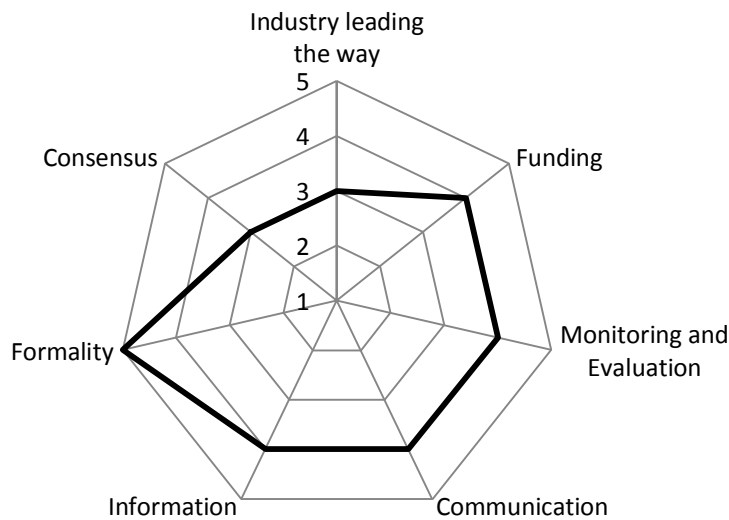
Today the impact of services is measured with studies and research. There are three core services:

1. Product
2. Business (including training programs and mentoring support)
3. Market support

---

<sup>7</sup> There may be some duplication in these figures, i.e.: companies are assisted more than once, however the figures have already been adjusted for 2 in 07/08 & 08/09; for 3 in 09/10; and 4 in 10/11

<sup>8</sup> The number of companies assisted with business, market and product support for 2011/2012 includes only the first 3 quarters in the fiscal year, April through December 2011.



**Graph 10: Conclusions of evaluation of CCDI in comparison with other case studies and results of Chapter 2**

Graph 10 shows a summary of the evaluation where it can be seen that the initiative is rated highly or at a medium level in all aspects. The two aspects that are rated at a medium level are having industry lead the way but as the members of the CCDI compose of micro sized companies up to a large extent that is difficult to do in the same way as the other initiatives. The formality is the initiative's strong point and is rated the highest of the initiatives in the SPV program. The goals and programs are well defined and regular events have been established such as the industry meeting.

The goals and programs are well defined and regular events have been established such as the industry meeting. The initiative has had the same CEO since it was established 10 years ago. The number of members is going up and the initiative is ahead the other SPVs researched in this thesis in sourcing funding from elsewhere than government. An indication of their success is that the DTI has adopted the CCDI a best practice model that it wants to replicate in other provinces.

#### **4.1.6 South African Oil and Gas Alliance – SAOGA**

SAOGA was established as a non-profit company in 2004. It is one of the SPVs in the WCPG's cluster program and is funded by the WCPG. As is stated on SAOGA's website, SAOGA is: „*dedicated to promoting the development of South African-based industry supplying products and services to the upstream oil & gas sector*“ (43)

SAOGA is a public private partnership and WCPG played a large role in establishing the initiative. Today the member base is 170 private companies,

where the membership structure is two tier. Membership as regular members is open to all interested companies but membership as governing members is open to companies that fulfil certain criteria, for example by having a minimum length of membership. The members in SAOGA include global oilfield service companies, marine and ship repair companies, logistics companies and engineering and service companies. (43)

SAOGA was set up by the Provincial Government and is funded by them. They are overseen by a board of directors of 12 individuals which include members from industry and other key stakeholder agencies, including Western Cape Provincial Government, PetroSA and City of Cape Town. The provincial government was the driving force in starting SAOGA. It was therefore a part of the setup to get the companies in the industry involved. According to CEO, Warwick Blyth, SAOGA is a broad cluster in the terms that it includes different steps in the value chain and could be divided into smaller clusters concentrating on different pieces in the value chain. (24) (44) (43)

According to Warwick Blyth SAOGA has in a way two major initiatives within SAOGA that are being driven differently. The first major initiative is related to marketing the cluster as a common brand. In that project the board of directors have in the last year [interview was performed in October 2011] been defining the need of the member companies by conducting detailed company visits trying to understand what it is that the individual members need and how potential projects would benefit them. The second major initiative is about growing the ship and rig cluster, which is in a way a sub cluster within the oil and gas cluster. In that project SAOGA has formed what Blyth calls a cluster leadership team out of the industry members. The team is around twelve members put together by individuals from different companies within the industry to represent different parts of the ship and rig repair sector. This team will then get together and form a cluster agenda etc. This cluster leadership team has received training in cluster development from an advisor, the same advisor as has worked with the SPV cluster program. (45) (5) (24)

## **Projects**

The initiative's activities are distributed between 4 focus areas which are listed here below:

- *Marketing & Business Development: SAOGA seeks to help member companies grow business by raising the global profile of the South African industry through a range of activities which currently include: presence at conferences and trade exhibitions, participation in trade missions, publication of the South African Oil & Gas Directory ([www.oilandgassa.com](http://www.oilandgassa.com)) and gathering and disseminating market intelligence.*
- *Creating an Attractive Business Environment: SAOGA actively works with government and parastatal entities to ensure that public policy and infrastructure supports a competitive environment for upstream suppliers.*

*We actively sponsor initiatives to study and improve physical and regulatory infrastructure and will lobby directly on behalf of our members and their clients where necessary.*

- *Industry Capability Development: SAOGA plays a key role in helping local companies to understand and attain the standards of performance and quality required to operate in the upstream industry; this is done through an extensive skills development programme, supplier development initiatives and networking activities to facilitate collaboration between companies.*
- *Investment Promotion: Increasing the presence of foreign upstream companies in South Africa is a key priority for SAOGA. We are a primary point of contact for global firms considering establishing in South Africa or partnering with local firms and can provide a variety of information and introductions to prospective investors.*“ (43)

SAOGA provides e.g. networking opportunities, trade development, it markets its member companies, facilitates work placement and provides management training.

### **Funding**

SAOGA is funded by public and private sources. The WCPG is one of the main funders and the private funding is mostly membership fees. The membership fees are based on the number of employees, varying from R1300 to R6500 a year. Funding has been received from other sources such as City of Cape Town and CHIETA/CHEVRON for example.

### **Communication Structure**

The initiative hosts regular breakfast meetings. All information is published on the website and is presented during breakfast meetings. The communication system is based on the website which is according to the CEO a triple content management system with an open source CRM system that's integrated into that. Events are advertised on the website, where members can register electronically.

### **Monitoring**

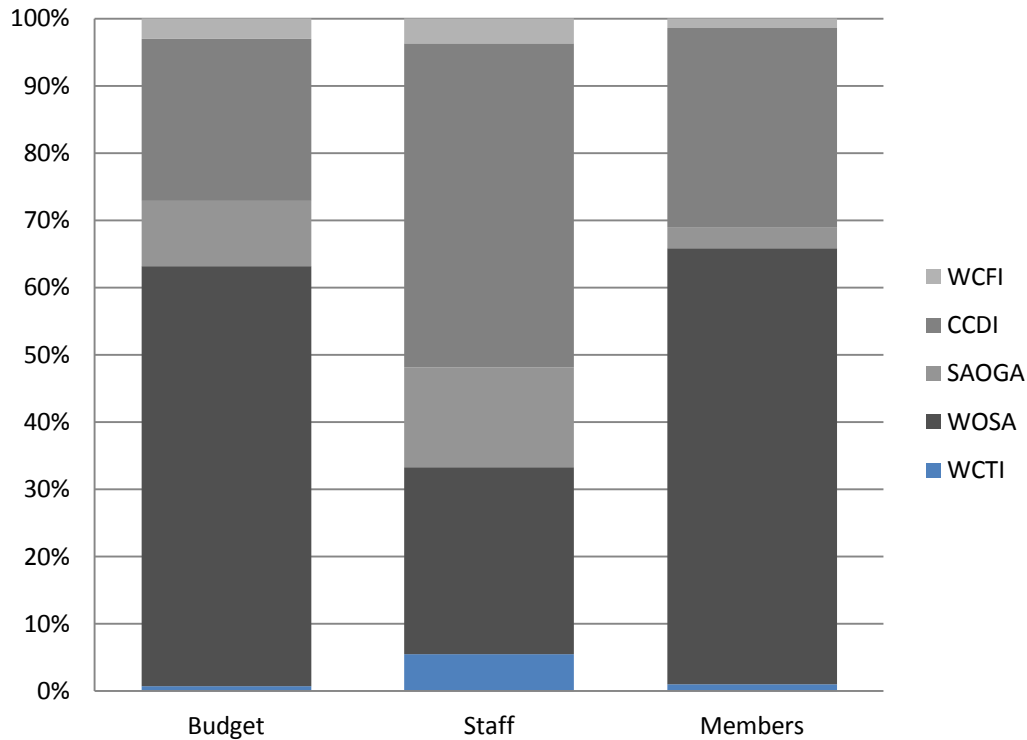
SAOGA has two ways of monitoring, one is a generic annual survey which is a requirement for the members to fill out before they can renew their membership. Secondly it does quarterly reports which are a requirement from the WCPG. The initiative is as the other SPVs required to report KPIs, quarterly and annual reports and occasional other reports such as sector intelligence report for the WCPG.

#### **4.1.7 Evaluation of SAOGA**

SAOGA was initiated in 2004 and is therefore categorised as a mature cluster initiative. According to WCPG SAOGA started well but after a good beginning new regulations and problems in management slowed down the initiative. In 2009 these regulations were revised and the new and current, CEO took over leadership



of the initiative. After those changes the organisation picked up momentum. The oil and gas sector is one of the priority sectors and SAOGA is therefore one of the SPVs with the highest funding from WCPG of R5,4 million as can be seen in Graph 11. SAOGA has 170 members which puts them in the middle compared to the other initiatives researched in this thesis.



**Graph 11: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 16 and 18)**

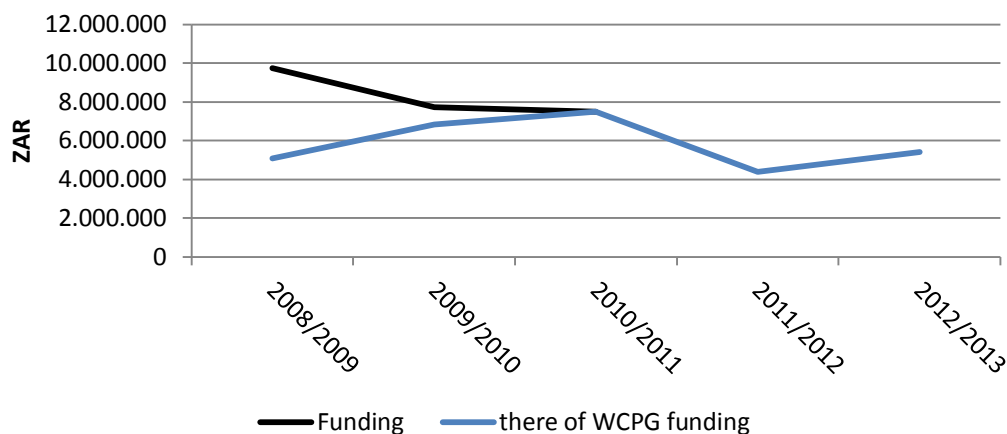
The references used when evaluating the initiative were information received from SAOGA’s CEO, Warwick Blyth, which was also interviewed and information received from WCPG. The reports received from SAOGA were quarterly reports with both qualitative and quantitative information. The qualitative information appeared complete and thorough including status and description of projects, status and descriptions on funding issues within the initiative but the quantitative information had missing numbers. It was not straight forward to compare the quarterly reports to the reports received from WCPG which were all based on figures for a complete year. SAOGA’s quarterly reports seemed inconsistent with the reports from WCPG. (14)

**Funding**

SAOGA is mainly funded by the provincial government and has the same problem as the other CIs funded by the Western Cape Provincial Government of unstable financing. The funding for SAOGA for the period 2008/09 and the

estimated funding for 2011/12 and 2012/13 can be seen in Graph 12 where the blue line shows total funding and the red line funding from WCPG. The funding from WCPG is planned on a three year basis, but funding cannot be promised for a longer period than one year at a time. The amount of funding goes up and down quite a lot between years according to CEO Warwick Blyth. Even though SAOGA is mainly funded by WCPG it also has revenue from the industry. That revenue is mostly the membership fees paid by the members of the CI.

The funding problem is however not the main resource problem in the CI according to CEO Warwick Blyth, it is rather the lack of human resources. The employees and managers at the member companies that possess the skills to be able to participate in the CI projects lack the time to be able to participate.



**Graph 12: SAOGA’s funding according to reports from WCPG**

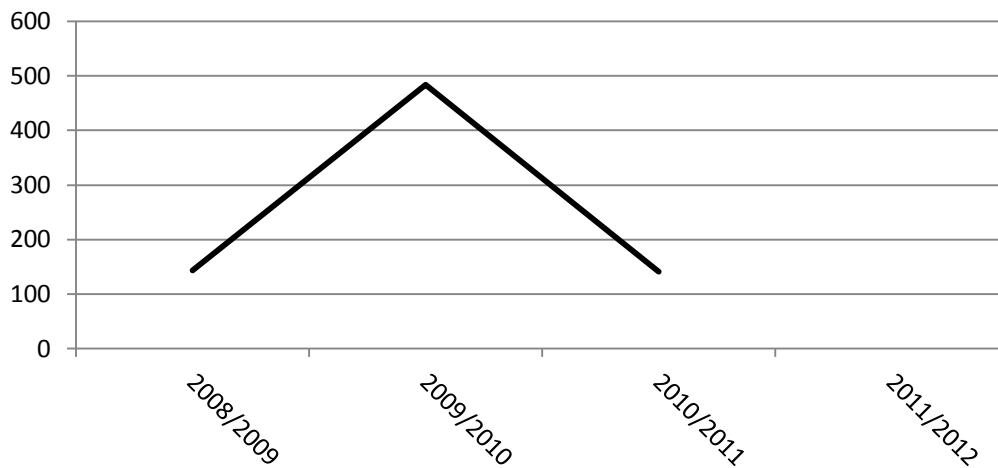
**Sharing of information**

SAOGA has a website that is very informative compared to the other initiatives. It includes all basic information such as what the cluster does, how it benefits members as well as the upcoming events. They have a triple content management system with an open source crm system that’s integrated into that. (24) There’s an electronic registration system on the website for the CI’s events and skills courses, there’s an industry news feed as well as an industry or members directory. There are no newsletters but there are blog posts or news posts from the initiatives CEO which are in essence news of the initiative, what they are doing and where they are going. When looking at internal reports of the CIs performance and research reports, the reports available were from the year 2010 which is not recent.

SAOGA also has an email list, but when this is written [23 July 2012] no emails had been received since registering in September 2011. According to the CEO the ways of presenting information to their members is through their website and through breakfast meetings that are held regularly.

## Management

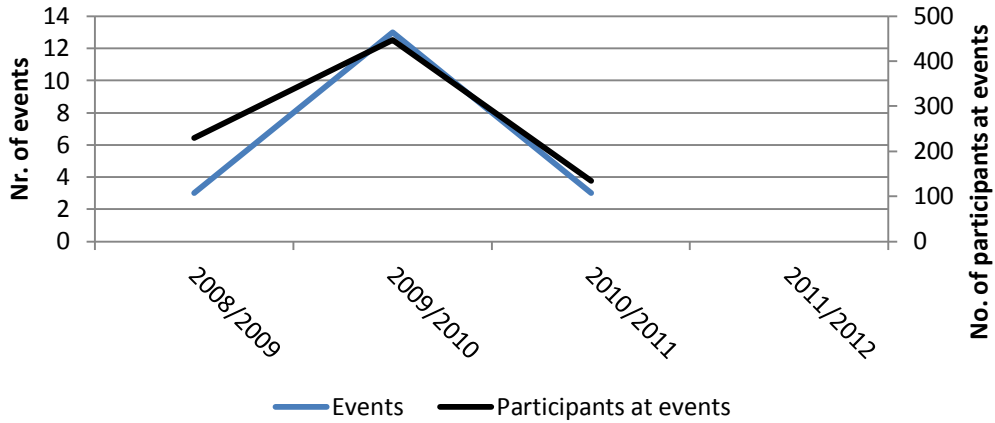
The number of members between 2008/09 and 2010/11 can be seen in Graph 13. The numbers for the number of members are not consistent between documents. In the documents from WCPG the numbers change a lot between the years. The reason for that was not found but they could be different definitions of what is a member, or plainly a mistake or mistype.



**Graph 13: The number of SAOGA's members according to reports from WCPG**

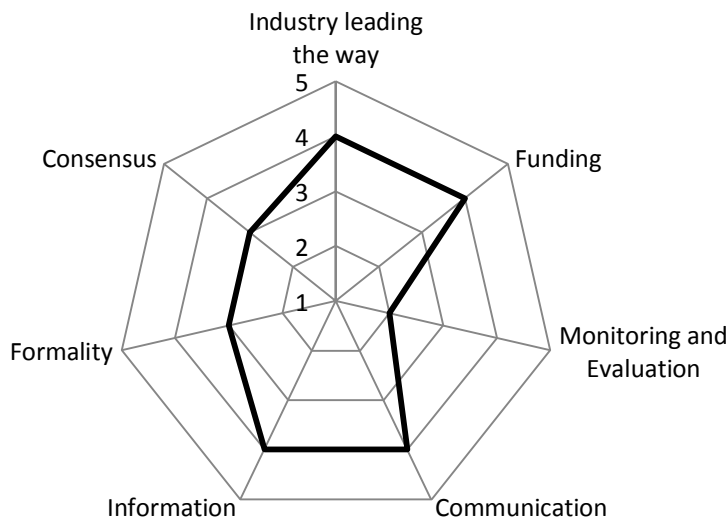
The number of events a year between 2008/09 to 2010/11 can be seen in Graph 14. The numbers go up and down similarly to the number of members. The numbers between reports from SAOGA and from WCPG were inconsistent even though they were not easily comparable due to the fact that reports from WCPG were based on annual figures whereas the SAOGA reports were quarterly figures. It is difficult to make conclusions based on these numbers, more information is needed to get an indication on whether the number of members and their attendance at events is increasing through the years.

According to CEO Warwick Blyth, SAOGA is in practicality not a pure cluster but also a sector development agency and at certain times these two things conflict. The CI was set up by and is funded by the provincial government. Out of the 13 members of the board around half of those are from the industry. The CEO has been with the CI for two years and no data has been received since before that date. The monitoring system could be better according to SAOGA's CEO. The reports received have good information in them but there is room for improvement in the numerical part. CEO Warwick Blyth said they are aware of the problems, which is a positive indication and quarterly reports were readily available when asked for.



**Graph 14: The number of events each year, and the number of participants at events each year according to reports from WCPG**

According to SAOGA’s CEO the provincial government sets the framework for SAOGA and the members of the board are elected according to that framework. The board of directors typically meet every quarter of the year and are unpaid volunteers. A subset of the board that forms the executive committee meets more often and provides an oversight of operational matters of the organisation. The way the initiative is managing the two major initiatives, explained earlier, shows the initiative is actively working on having the industry lead the way. (44)



**Graph 15: Conclusions of evaluation of SAOGA in comparison with other case studies and results of Chapter 2**

Graph 15 shows a summary of the evaluation where it can be seen that the initiative's strong points are having industry lead the way, funding and communication and information. The weak point is however in the field of monitoring and evaluation. Consensus and formality are rated at a medium level.

#### **4.1.8 Wines of South Africa – WOSA**

Wines of South Africa (WOSA) was initiated in 1999 which makes it the oldest case study. WOSA was initiated by the industry and is the only case study initiative that is not a part of WCPG's cluster program and the only case study that is virtually fully financed by its members which are all private companies. WOSA was started when industry members realised that they would have to have some collective effort to grow the export market. A group of the larger exporters got together toward the end of the nineties and started doing things together like having stands at international wine shows. These initial projects were funded by the participating companies themselves. The starting of WOSA was therefore driven by the industry. According to CEO Su Birch which has been with the initiative from 2000 the framework was created by the leading companies, a constitution was made, which was taken to the industry and agreed on. WOSA is independent from government departments but it is recognised as an export council. WOSA's objectives only lie in the field of export promotion and its mission is: *„To contribute to the global success of the South African wine industry through building Brand South Africa“* (46)

WOSA is all inclusive, meaning that everybody exporting wine from South Africa is a member. It is a not-for-profit organisation, with over 500 exporters in its member database. WOSA is the largest initiative researched in terms of budget, with a budget of R35 million a year and the second largest in terms of staff with around 15 employees locally and internationally. WOSA being an all-inclusive initiative makes it different from the other initiatives where the members choose whether they want to be members. (46) (47) (48)

WOSA has offices in Stellenbosch where a number of staff is located but they also have teams located at some of the major markets. The objectives and focus are defined down to the different markets as well as on the overall operations.

## **Projects**

The objectives are published in the marketing plan; these are the objectives for 2011:

1. *„Pursue value growth strategy in key markets*
2. *Promote Brand South Africa in dynamic and innovative ways*
3. *Grow marketing knowledge base of industry*
4. *Support transformation and empowerment within our sphere of influence*
5. *Manage Wine on Line for efficient delivery*
6. *Promote Tourism*
7. *Pursue sound financial and people management“ (49)*

WOSA markets South African wines in international markets and provides its members with information. This is for example information on international countries and what the wine market looks like there. They also bring in experts from overseas to educate members on the state of the different markets.

## **Funding**

WOSA is funded privately. For each exported bottle of wine, both natural and sparkling, WOSA charges a levy per litre. Other income is only a fraction of the levies, but that includes conference income and a grant from DTI. (47) (46) (48)

## **Communication Structure**

WOSA has a website with an extensive library including reports published, meeting notes, results from studies, marketing/business plans, presentations etc. This library is open to members through a user name and password.

WOSA has newsletters, which include for example useful information on market situations, explains what they're doing etc. According to CEO Su Birch WOSA publishes around 30 newsletters a year. WOSA is active on social media such as twitter and email is also used, with an email database so the producers (the members) can be communicated to depending on the subject.

Lastly there's an annual general meeting which is also a part of the communication. There, the producers are informed on what WOSA is doing and their plans on what they are going to do. (48)

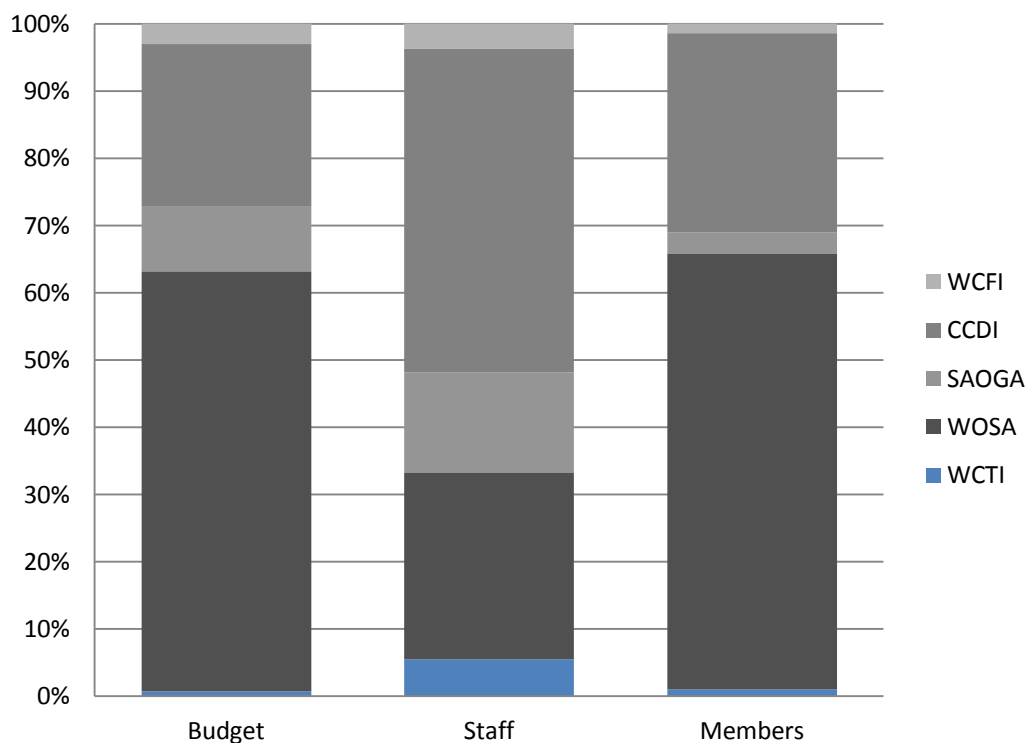
## **Monitoring**

As WOSA is not funded privately they do not have pre-defined monitoring requirements as the other case studies funded by the WCPG cluster program have, other than the requirements of their members of generally reporting on their operations. According to CEO Su Birch the reporting is done in the way that the objectives from the planning session are quantified as much as possible for each market area and during the year the teams report back. Additional to the objectives key learnings are also reported both for objectives that were achieved

and objectives that were not achieved. If objectives set have not been achieved, key learnings are reported. The performance is reviewed against the objectives on the board meetings which are every three months. (47) (48)

#### 4.1.9 Evaluation of WOSA

Wines of South Africa (WOSA) was initiated in 1999 and is therefore categorised as a mature cluster initiative. The initiative is large in comparison with the other initiatives as can be seen in Graph 16. WOSA is the largest in terms of budget and the second largest in terms of members of staff. It differs from the other case studies in the way that it is an organisation run by industry members only where government is not involved, it is all inclusive where the members don't choose whether they want to pay their membership fees and it's services are more narrow than the other initiatives, they only focus on export promotion. The CEO, Su Birch, does not look at WOSA as a cluster initiative but as WOSA is a management initiative working in a cluster (the wine cluster) towards a common goal of the industry members which are competitors but cooperate in this initiative it falls within the definition of a CI. Everyone that exports wine from South Africa is a member and the membership fees are paid in the form of a fixed levy from every exported litre of wine.



**Graph 16: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 11 and 18)**

The references used when evaluating WOSA were information downloaded from the WOSA website, both public and from the members' library, and the CEO Su Birch was interviewed. All information and reports evaluated were consistent and complete. Reports evaluated were thorough and included both qualitative and numerical information.

### **Funding**

WOSA is funded by a levy paid per each litre exported. They are an export council and the members are required to pay the levy. Funding is therefore secure but fluctuates according to the amount exported. It can be estimated how much funds WOSA will get in the future but as it depends on the amount exported it can't be fully accurate. According to WOSA's marketing business plan for 2011 WOSA considers itself to be poorly funded and even though the amount increases every year, in real terms it is decreasing if inflation is taken into account. When compared to the other CIs WOSAs funds are multiple, almost R36 million in 2010 compared to between R600 thousand and R13,5 million with the other CI researched in SA. (48) (49)

### **Sharing of information**

WOSA sends out newsletters with information, one example is a market analysis of Africa, a potentially fast growing market for wine producers. The number of newsletters published is around 30 each year according to CEO Su Birch. An extensive library is available to members on their website. The documents are available on the website by providing a username and password and documents are grouped by region. The library is organised and includes extensive information including reports and research on markets and internal reports such as marketing plans and meeting notes. WOSA are also active on social networks such as Facebook and Twitter. The website has the most extensive information available of the case studies researched in this thesis. The website did not include a members' directory or a list of upcoming events but other information was all available in documents in the library or on the website.

### **Management**

WOSA differs from the other case studies in the way that export promotion does not involve as much involvement of members as is in training for example. Participation in events is therefore not as good an indicator for WOSA as the other initiatives. However, according to CEO Erica, WOSA has a strong participation on a user pay basis at WOSA events such as Cape Wine and on WOSA's pavilions at shows such as Prowein. Similarly the number of members does not give any indication of WOSAs success as the membership is mandatory. The framework and all operations are however driven and controlled by industry as government is not involved in the industry.

The goals of WOSA are narrow, export promotion. The association is divided into countries or regions, with separate funding and separate staff for different regions. WOSA's projects include doing market research and sending reports on that to



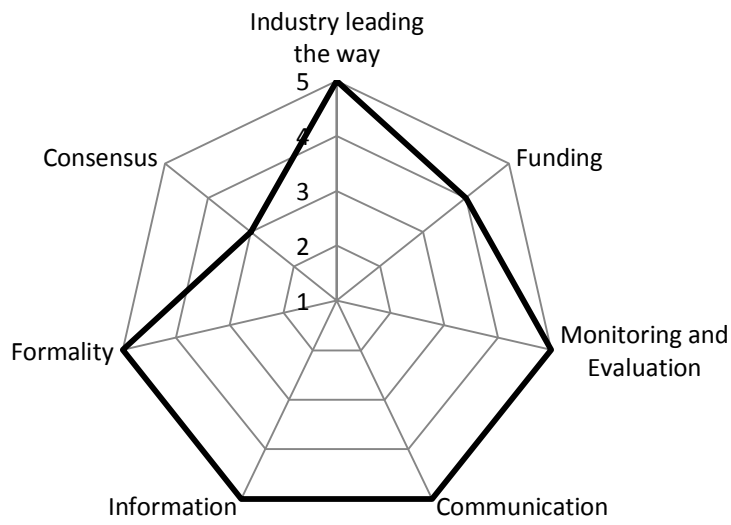
their members as well as hosting information sessions and promoting South African wines at global exhibitions and consumer events. In the wine industry there are other similar initiatives that handle other aspects of the industry. There's one initiative that handles research and another one that handles statistics.

According to CEO Su Birch the budgeting and planning is done through established processes that include the CEO, the different staff and the board. Each region reports against objectives every three months and those reports are available on the library. At the board meetings which are held every three months, performance is reviewed against the objectives. Every year there's a planning session to plan for the next one which includes WOSA staff and the board of directors. Every three to five years this planning session is larger, including major players from the industry as well as the inside ones. The industry was the sole initiator of the association but it has a defined structure, such as the funding structure<sup>9</sup>. The board of directors includes only members from industry. The companies have an opportunity to opt out of the initiative every 4 years, but only if 85% of them formally agree on it. Based on informal discussions with members in the industry the biggest frustration with the initiative is the lack of funding it gets, and that it does not receive funding from the government. The industry seems to be generally aware of the initiative and based on the fact that they have not tried opting out of the initiative and the largest frustration is the lack of attention from government it is assumed that the initiative is showing success.

Graph 17 shows a summary of the evaluation where it can be seen that the initiative is highly rated at all levels except consensus. As WOSA is an all-inclusive initiative it is difficult to have consensus from everyone and therefore this aspect was rated at a neutral level. Even though the funding is multiple compared to the other initiatives it is considered too low by the initiatives' members and is therefore not rated higher.

---

<sup>9</sup> The National Agricultural Marketing Council which approves the levy applications, which are gazetted as law by the Ministry of Agriculture, and The National Marketing Act give WOSA the legal funding structure



**Graph 17: Conclusions of evaluation of WOSA in comparison with other case studies and results of Chapter 2**

## 4.2 Western Cape Tooling Initiative -WCTI

Western Cape Tooling Initiative (WCTI) was established in 2006. They are one of the SPVs supported by WCPG. WCTI is a non-profit company (section 21), governed by a board with players representing The Toolmaking Association of South Africa (TASA), other industry players, training institutions, merSETA (Manufacturing, Engineering and Related Services Sector Education and Training Authority), organised labour and the local Government. (50) The initiative was driven by TASA and local Government. The mandate of the Western Cape Tooling Initiative was initially to support the Tooling industry by:

- *„Supporting training in the tooling industry*
- *Supporting technology and quality of toolrooms*
- *Supporting recapitalisation of toolrooms – by:*
  - a) *Funding for BEE partnership*
  - b) *Investment in tools, equipment and in consulting assistance of current Toolrooms“ (50)*

### TDM industry

The tool, die and mould (TDM) industry in South Africa has seen a major loss in manufacturing capacity in the last years, since 1990 there has been an 80% loss. There is a shortage of skilled workers and there are problems with quality in the toolrooms. The toolrooms work below capacity and the equipment is not up to date according to international standard. The toolmakers lack project management and business skills, the inside processes often take more time than at their international competitors and they have a reputation on them for not delivering on time. The industry requires labour skills at all levels and is relatively labour intensive. The process in the TDM industry is a high value added process where substantial value is added. South Africa imports more TDMs than exports. In South Africa two major sectors that require TDMs are present, the automotive and the packaging industry. Benchmarking research shows that the necessary technology exists in South Africa but the skills base needs to be increased and the equipment needs to be used more efficiently. The benchmarking study presented by aachener, werkzeug- und formenbau in 2010 which showed shortcomings in South African tool and die making as presented below, give a good indication of problems the TDM industry in South Africa faces:

- *“Turnover and profit are low in South African tool making companies.*
- *Technological basis to manufacture functional tools is available in South Africa. The equipment is not used efficiently, especially the utilisation rates are half the European average.*
- *Employees are not qualified properly, companies are especially facing a lack of design, engineering and business abilities.*

- *The productivity and systematic approach in tool making is nearly absent, leading to a small customer basis to generate turnover.*
- *Handcrafted tool making in South Africa is no longer sufficient to maintain the manufacturing industry. Industrialisation with focus on qualification standard and people development is mandatory.” (51)*

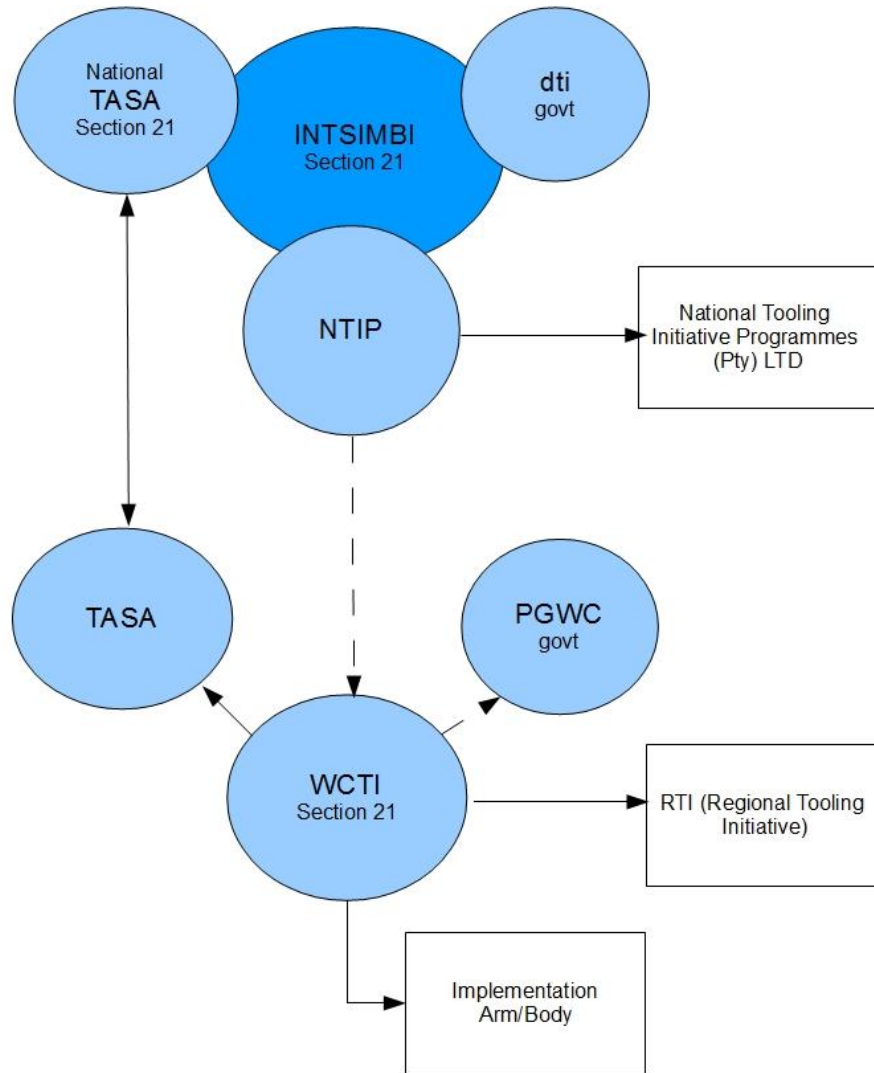
(13) (52) (5)

### **Members of the WCTI**

The industry members of the initiative are toolrooms. They can be divided into three categories: tooling rooms which make tools, production shops which use these tools to manufacture products and lastly a combination of the former two, a tooling room with a production shop which does both. A toolroom requires heavy machinery when using techniques like CNC machining, wire cutting and sparks eroding as well as other machines for metalworking. To operate the toolrooms skilled workers on all levels are needed. There are a couple of larger toolrooms in the Western Cape, but mostly they are SMEs. The larger companies employ over a thousand people, but typically the SMEs have between 5 and 20 employees. The history behind many of the toolrooms is that the toolmaker was working at a large company but after working there for some years he left the company and started his own toolroom. He is generally a toolmaker, not a businessman and had no business management training before starting his own company. A lot of the small toolrooms therefore have the one toolmaker, which has good technical background, but lacks business management skills. Therefore, scheduling and pricing is mostly based on feeling and there is little future strategic planning. One of the two main industries in South Africa requiring tooling is the automotive industry. To be able to supply to the automotive industry, an ISO 9001 quality management system certification is a requirement. Not many toolrooms have this certification and that is one of the problems in the industry, the toolrooms can't deliver to one of the largest tooling market in South Africa because they lack quality system management certification. (53) (25)

### **Initiatives in the TDM market**

In the TDM industry in South Africa there's a network of national and regional initiatives. Figure 20 shows the different initiatives and the connection between them.



**Figure 20: Initiatives in the TDM making industry and the connections between them (13)**

**TASA** (The Toolmaking Association of South Africa) is a representative body for the TDM industry. It was started in 2004 and is a national body with representations from each province that has a significant TDM market. Each province is represented through the TASA provincial structure, where WCTI represents the Western Cape Province. In the Western Cape TASA is represented by Regional TASA, and all members of WCTI are also members of Regional TASA. (54)

**NTI** (National Tooling Initiative) has a national objective, „*the rehabilitation of the South African Tool, Die and Mould Making (TDM) industry and thereby contributing to a strategic growth stimulator for Manufacturing and Technical skills development.*“ (54) The NTI has identified 5 major programs. Stakeholders

on national and regional level take part in these programs through forums and capacitated legal structures. These 5 major programs are:

- „*Skills and expertise development*
- *Capacity expansion, SMME and BBBEE Structuring*
- *Technology recapitalization*
- *Competitiveness improvement and export development*
- *PPP Governance structure development“ (54)*

**NTIP** (The National Tooling Initiative Program) has been incorporated as a key action program into the DTI’s national IPAP (Industrial Policy Action Plan). (55)

### **Instimbi**

NTIP and TASA are national initiatives. There is a regional initiative in all provinces that have a significant TDM making market and WCTI is one of these regional initiatives. Intsimbi is another national initiative that is connected to TASA and NTIP. The DTI, which is part of national government, is involved in Instimbi and regional governments are involved in the different regional initiatives. The boards of directors for these initiatives also connect these initiatives together. On the board of directors for Instimbi for example the chairman of the board is from TASA, and the rest of the board is put together by the CEO’s from the regional initiatives, six in total, and two officials from DTI. This network of institutions and the connections between them is very complicated. This is in line with criticism of South African support structure for small businesses being complex. (10)

#### **4.2.1 WCTI**

The start-up of the WCTI was driven by TASA and local government, it was therefore largely influenced by government and individual companies were not directly involved although industry was represented by TASA. (54)

The WCTI has three employees, a manager, a secretary and a part time project manager. The current CEO, John McEwan, started in July 2012, taking over from Grant Stevenson who had been with the cluster for a couple of years. The same part time project manager has been there throughout the lifetime. There are 53 registered members, representing 3900 employees. Two of the members are large companies, jointly employing over 2800. All members are considered equal.

### **Projects**

The initiative has taken on different projects since it started. There are 5 pilot projects active but other projects include skills development of new toolmakers, website development, regional and national benchmarking and marketing of the sector. (56)

The projects are split into categories:

1. „*Skills and expertise development*
2. *Capacity expansion (SMME and BBBEE development)*
3. *Technology upgrading and recapitalisation*
4. *Competitiveness improvement and export development*
5. *Public Private Partnership (PPP) Governance structure development“ (5)*

The skills and expertise development is about the education of new toolmakers, and upgrading the skills of the toolmakers in the industry. That includes both technical and management training. The initiative in co-operation with national tooling initiatives and government has for example launched an apprenticeship program, invested in new tooling equipment for training and appointed lecturers and support staff. The pilot group consists of 75 students that started in 2009 and will graduate as qualified toolmakers at the end of 2013. The throughput and pass rate of the students and experience from the apprenticeship program shows the success of these skills development projects. (5) (13)

Capacity expansion includes training on ISO accreditation and a mentoring process involving the toolrooms and experts from the Netherlands.

Technology upgrading and recapitalisation includes a few projects, one of them is helping with providing funding for upgrading equipment and software in the toolrooms. Establishing a design house which would be a design hub for the industry is another example of a project in this category.

The aim of competitiveness improvement and export development projects is to develop a strategy to market the TDM industry inside South Africa and outside.

PPP Governance structure development is to ensure the organisation's work is done correctly and according to best practice standards for PPPs.

There are 5 pilot projects in progress:

1. Implementation of Quality Management Systems (QMS) in a number of TASA Member Companies
2. Business Efficiency improvement
3. Minor Upgrading of existing design facility Quad Precision Engineering. The company is the prime candidate for consideration as the Western Cape Design House
4. Up skilling of Lecturers at Northlink FET
  - a. CNC Training
  - b. Maintenance Training
5. Mentoring Program (Mentoring of the up skilling of the Lecturers at Northlink FET College)

(57)

The purpose of these pilot projects is to show the benefit of the changes and get buy in from other toolrooms. They would then follow, making the investment of

implementing the changes at their toolroom. A large part of the initiatives project was, and still is, selling the idea of clustering and getting members involved and active. The projects done within the companies, like a benchmarking study, management training etc. are usually either fully or mostly paid for by the initiative or through funding they have helped provide. For an example, in a benchmarking study project the members paid 20% of the cost but the initiative paid the rest. The pilot project with the quality management standard accreditation process is paid for by the initiative but the toolrooms involved have to invest their time into the implementation process and changes that need to be done accordingly. Grant Stevenson, former CEO of WCTI found that there was more of a commitment from the company when they had to invest in the projects. (13) (25)

### **Funding**

Funding comes mainly from Provincial Government. The members pay membership fees and grants from other sources have been received both in terms of money and consultation. The funds received from the different sources are used for different aspects of the initiatives projects. The funding from Provincial Government is for example used for running the offices.

### **Communication Structure**

Face to face communication is the most common way of communication in the WCTI. Email is also used, but some of the toolmakers are not regular computer users and email communication does not reach them effectively. The project manager visits the companies regularly, using face to face communication to gather and give information. The initiative sends out bimonthly newsletters which are handed out in person, either during events or during company visits. These letters include news, upcoming events and status of projects. WCTI has bi-monthly networking evenings. (13) (56)

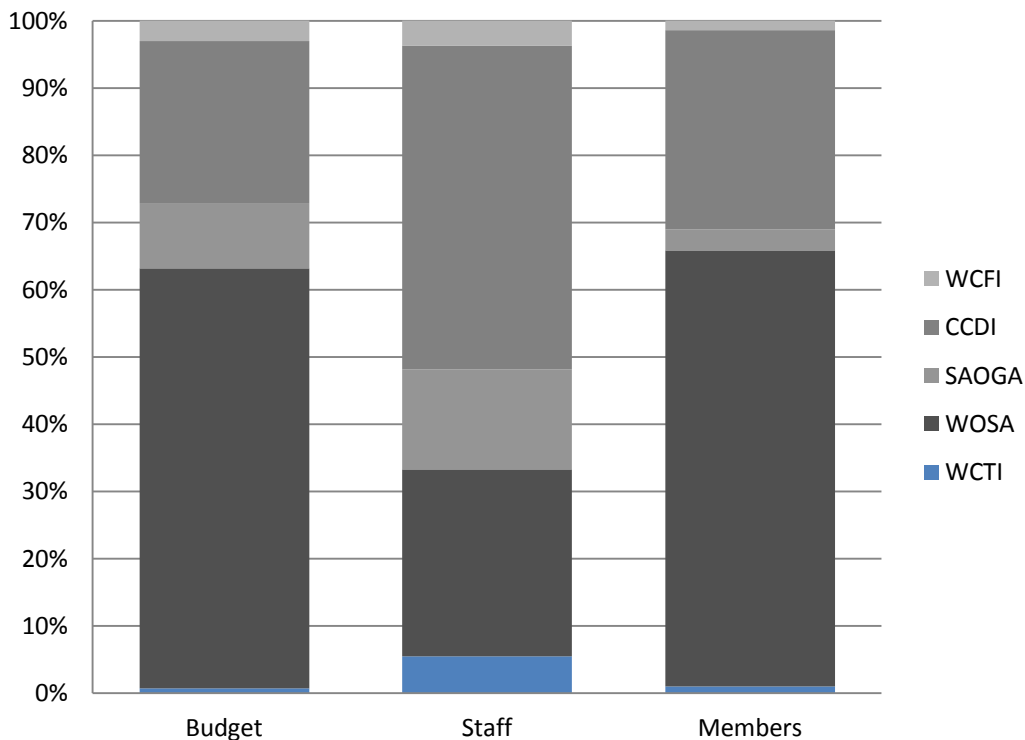
### **Monitoring**

Quarterly reports are done as required by Provincial Government. They include both qualitative data which is presented to members and quantitative data. The current CEO started within a year ago and data from the former CEO is difficult to find. There is therefore little data to analyse. (13)



### 4.3 Evaluation of WCTI

Western Cape Tooling Initiative was initiated in 2006. It has 3 staff members and has had CEO changes during its life time. There is very little documented information available to analyse the changes through the lifetime but according to the information available and after interviewing individuals involved in the initiative it can be seen that the development has gone slowly. The references used in the evaluation were WCPG, current CEO John McEwan, former CEO Grant Stevenson and members of the initiative from private companies. The size of the initiative in terms of budget, staff and members as well as the age of the initiative in comparison with the other case studies is shown in Graph 18.



**Graph 18: The size of the case studies compared to each other in terms of budget, number of staff members of the cluster initiative and number of members (this graph is identical to graphs 1, 6, 11 and 16)**

WCTI was initiated by the provincial government and TASA which represents industry. The board of directors is made up of 6 industry members, 1 member from WCPG, 2 from academia, 1 from labour association, and 1 from merSETA.

When WCTI was initiated it was largely influenced by government. TASA is the toolmaking association of South Africa, “a representative body for the South African Tool, Die and Mould (TDM) making industry” (58). TASA represents companies in the whole country whereas the members of the cluster are located in the same area (Cape Town Area). Even though the association represents the industry, the companies that are to be involved in the CI need to be involved as

well. Those companies are the ones that will be required to invest money and resources on the projects and therefore their commitment is fundamental to the initiative.

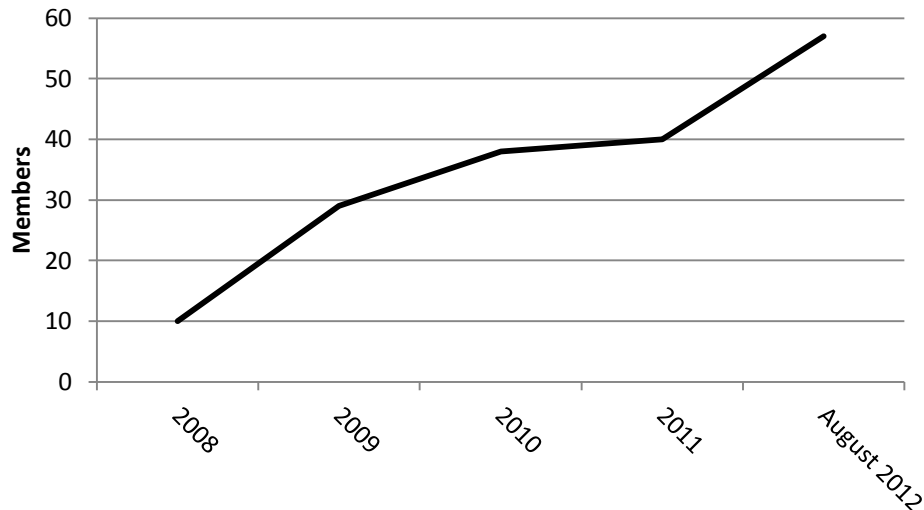
The WCTI is the smallest of the case studies in terms of budget, number of members and the second smallest in terms of members of staff. The age of the case studies varies from four years up to thirteen years. Even though realising success in cluster projects takes years the WCTI has been around for long enough time so it should have started showing some results.

It is important in cluster initiatives to have industry involved and leading the way. In the case studies the development is in that direction. It is different between the initiatives how much the industry was involved in the beginning but they are all developing towards the direction of having the industry more involved and leading the way.

As Bernadette Isaacs, CEO of WCFI said, the members of the WCFI were not willing to participate in activities and projects the WCFI was steering when they had anonymously answered what they wanted the CI to do. But after the members had participated in choosing the projects and signed for what they had chosen they were willing to participate. It goes without saying that in a cluster initiative where the members are not willing to participate in the projects is not going to be successful. This method of having industry decide on the projects was done for the 2012 business plan and the results of whether this approach returns more success has therefore not been realised yet but according to Bernadette the members are more willing to be involved after the change of approach.

### **Members**

The number of members of WCTI from 2008 can be seen in Graph 19. These numbers were received from a former CEO and internal records from WCTI and were gathered by WCTI's current CEO John McEwan. The membership numbers have been continuously increasing but as can be seen the rate of new members is substantially higher in the last year than two years before.



**Graph 19: Number of members of WCTI**

The WCTI has had difficulties with getting industry members actively involved. CIs are built on co-operation of different actors that get together and cooperate. Success is therefore difficult if the members are not interested in participating. It adds to the time it takes to get the cluster initiative active and showing positive effects. In the WCTI the first thing that needed to be done was finding possible members. The second step was, and still is, to convince them to participate. In this case that has proven difficult and has taken its time. Many of the toolrooms don't see the need to change and they don't want to cooperate with the others because they're afraid their "secrets" will get out.

This mentality is changing, at least to some degree and some members are gaining increased interest in participating.

The decision to start the initiative has already been taken and that decision will not be discussed here. In a market that has lost 80% market share in the last years and faces significant problems such as lack of business and project management skills and the lack of up to date equipment the question of who should be saved is significant. The CI faces the challenge of finding who is interested in investing in the co-operation? The toolrooms are in many cases not profitable enough to make necessary investments on their own and that's where the CI comes in. The toolmakers lack of business and project management skills also prevents them from developing and upgrading their company. Determining who is willing to invest in the co-operation is particularly difficult when it comes to the updating of equipment. When something is for free, everybody is interested. But when it comes to them having to invest their time and money in the co-operation they might lose their interest. Investing in their own abilities, such as business or project management, requires more investment from the toolmaker or manager himself and has less obvious results. A new tool or software however is delivered and even though some time might be needed to learn to use it, its presence is more tangible than upgrading the toolmakers soft skills.

The CI needs to decide what strategy is best for the cluster, in order to make it internationally competitive in order for them to be able to compete on business on supplying to the local manufacturing industries. They have limited resources, both in terms of funds and human resources and therefore they need to choose what to invest those resources in. They can't help everyone; they have to choose which ones to help. Changing management structures takes a change in mind set from the managers and is therefore not possible if they are not interested in changing. The involvement needs to be limited to those willing to change and interested in involvement. It is more likely that the cluster will be successful if the members are interested in being involved. When the majority of the companies in the industry are not interested in participating it makes it especially difficult to start the cluster. Firstly the members need to be sold the ideology of participating and investing in the co-operation and secondly they need to choose which companies to support at what level.

The CI is now busy with pilot projects, where upgrades are put in place in a few selected companies. The benefits of these upgrades are supposed to show the others the importance of doing the same in their own companies.

If WCTI is compared to the case studies, the pilot project approach is unique to WCTI. WCFI which is the most similar industry environment in terms of structure to the WCTI and they have the most similar approach. They have had projects or seminars where they get members to participate and have after those seminars published "success stories" to advertise the benefit and get others involved. Even though it is difficult to measure success the increased number of members of the WCFI despite the decrease in funding indicates that progress is being made.

### **Sharing of information**

The cluster does its communication face to face, through phone and email. There are bi-monthly newsletters as well as bi-monthly networking evenings. They have a website but it is the least user friendly and informative of the cluster initiatives investigated. The website doesn't include information such as goals, vision, what the CI can do for the members, upcoming events and what has been done. On the website there is some general information on what the WCTI is, some old newsletters and a very basic industry directory. A new website is under construction where the old website will be totally revamped and will have a new service provider.

The newsletters are handed out to members in person at the networking evenings or during company visits. The typical member of the WCTI does not use computers on a regular basis and therefore the quality of a website and other communication ways through a computer is not necessarily a good measurement of the quality of communication structure. But in the tooling sector, as in any other sectors, computers are becoming the way of communication and lack of computer skills is one of the members' weaknesses. They need to upgrade those skills to become more internationally competitive. Using computers as a communication and information tool might be a way to teach and train the members in using computers.

When investigating the WCTI and its operations, two toolmakers which are members of the WCTI were interviewed, as well as the current and last former CEO of the WCTI. Additionally documentation from the initiative itself and the WCPG was reviewed. After the investigation it was clear that the conception of what the WCTI was and what the WCTI's purpose was, was different between these parties. The focus from the CEO's point of view is to strengthen the individual toolrooms. His view is that the toolrooms would after working on that issue need to go out and get business themselves. The toolrooms on the other hand see the main role of the cluster differently. They are waiting for the cluster initiative to bring them work. The new CEO realises that the toolrooms are not ready to take on these joint projects and focuses on projects to upgrade the toolrooms, their quality and project management skills. The toolrooms also view the cluster initiative as a source of funding for upgrading of equipment and software. That view is shared with the WCTI's management team, at least up to some point. (59) (60) (25) (13)

There are other members and stakeholders that are involved in the cluster. Educational institutions include the Northlink College and Stellenbosch University. Institutions that are involved include the national toolmakers association, TASA, the national tooling initiative and the WCTI is linked to other similar initiatives running in other parts of South Africa. In addition to this there have been organisations and students involved in working with the cluster on analyses (51).

Judging by the misconception of what the WCTI is and what they do the sharing of information has not been sufficient. When different parties are coming together and cooperating, as is the case in CIs it is vital that they have the same definitions and perceptions on what is being discussed. WCTI needs to get to their members the information on what they are, what they do and what is required of the members.

The ways of communication and sharing information is similar in many ways between the initiatives. All case studies have newsletters they distribute to their members including industry information and news of the initiatives work, they have face to face communication, networking events, as well as email, and as in CCDI sms are an important communication tool.

The ways of communication are difficult to analyse without a thorough study of how different members of the initiatives communicate with the cluster initiatives office and what information the members receive. As the website is publicly available it is the communication tool that could be thoroughly studied. Newsletters were the second factor that was available from most of the initiatives and was therefore also used in the evaluation. The websites play a larger role in the better funded initiatives where different kinds of information is made available such as information about the initiative itself, about the industry and in some cases an industry directory. SAOGA has a registration system for events and WOSA has an extensive library with vast information about everything concerning the initiative from research to the initiatives performance. The two initiatives with the

lowest funding which are WCTI and WCFI have very limited information on their websites and in both cases the explanation for this is lack of funds.

The newsletters are distributed in different ways in the case studies. The case studies distribute the newsletters to their members whether that is done through email, in person or by other methods. The only case study that does not have a formal newsletter is SAOGA which has blog from its CEO posted on their website which includes in essence news of the initiative and industry. The number of these newsletters are from around 4 and up to 30 a year. Of the initiatives funded by WCPG, CCDI publishes its newsletters most often, or once a month. CCDI also receives the highest funds of the initiatives funded by WCPG. In the ways measurable in this study which are increase of members and involvement in events CCDI shows success. It can however not be determined without a more detailed study how much of that success is because of the quality of the communication and sharing of information and how much is because of the funding they have available. WOSA publishes around 30 newsletters a year and of the newsletters studied the ones from WOSA had the most extensive research information. In the ways used in this thesis of measuring the success of the initiatives through changes in membership composition it is very difficult to measure WOSAs success as their membership is all inclusive and does therefore not provide any indication on how successful they are, but it is a sign of success that the members have not opted out of the initiative which they have the opportunity to do if a certain percentage of the members agree on it.

## **Management**

Several studies have been carried out in the tooling sector (Fridge, Swiss Contact, Western Cape Tooling Sector Intelligence Report). They stipulate the problems in the sector. The first study was published in 2006 and was focusing on the industry in South Africa as whole, not Western Cape specifically. The latest study was done in 2011 and the results of that study are still being used in analysing the industry and planning programs and projects in the initiative. The results in these analyses are very similar and the same problems are identified and emphasized. One of the most recent studies (Western Cape Tooling Sector Intelligence Report) has a different angle to the analyses where myths in the industry regarding their competitors in China are addressed. These myths include myths such as that toolrooms in China is always quicker and toolrooms in China always deliver better quality tools/moulds than South African ones. The results of this study proved some myths wrong and showed some of the Western Cape tooling industries' strengths but the weaknesses identified were similar to the results from older reports. The problems identified in the studies done can be split in two categories which are lack of skilled toolmakers on the one hand and management problems in the toolrooms on the other hand.

The problem with the lack of skilled toolmakers has been addressed by the CI. The quality of the education has been increased as well as the number of students. The pass rate of students has increased and the quality of the education been

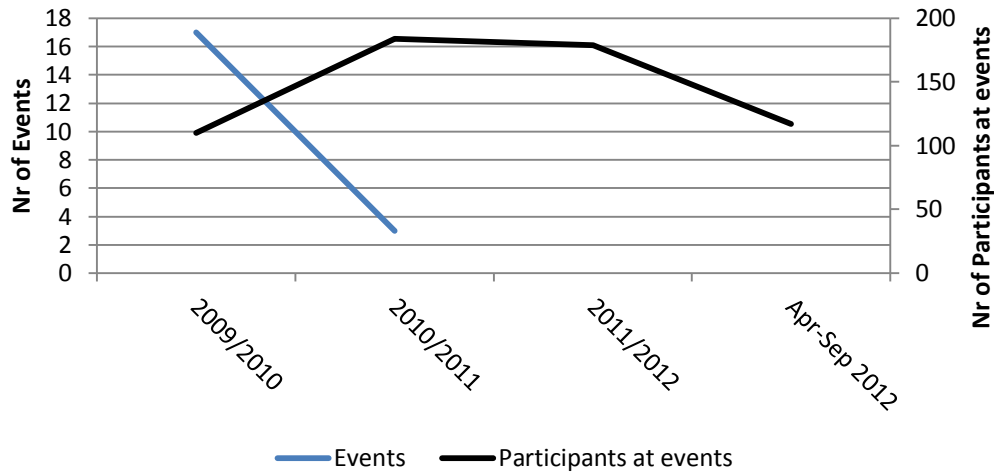
increased. But as the education takes years, the benefits will only show after some time, as explained in Chapter 4.2.

The second problem is capabilities of current toolrooms, and in particular the project management skills of toolmakers. The South African toolmakers tend to take too long to deliver their work, and not fulfil promises when it comes to delivering in time. They lack project management skills which affects the quality of their services. Adding to this problem is the fact that the toolmakers do not admit to this weakness. The first challenge is therefore to make them realise their weakness and the benefits of changes. This is now being addressed with the pilot projects the CI has started. A limited number of members have been chosen to take on pilot projects in their companies. The first and main project is the implementation of a quality management system, but then there is also business efficiency improvement and skills upgrading. This is supposed to show the other members the benefits of implementing a quality system and upgrading business efficiency and skills. When the other members see the benefits the pilot project companies realised they would “buy into” their idea of investing in the implementation in their own company.

When comparing the results in the studies done, improvement in the industry is difficult to see. There is information available on what the strengths and weaknesses of the cluster are and WCTI needs to use that when deciding what they should do and which projects they should focus on. The pilot projects are addressing their weaknesses, and there are signs of promising results according to CEO John McEwan.

WCTI does some monitoring. They make quarterly reports and plan to create annual reports in the future. They have status reports showing the status and next steps on their pilot projects. This registration of the status is however limited and data back into the future was not possible to get. The WCTI therefore needs to start register the status more formally so it will be possible to look back on trends and analyse the effects of what they are doing.

A good indicator of the success of the CI is the attendance at the networking evenings and other events. These events are important in order to stimulate networking between members and to get information to the members and influence them to make the changes necessary to increase their competitiveness. The number of participants in events can be seen in Graph 20. These numbers include participation in training and networking evenings. As can be seen the participation is roughly around 150 persons attending events each year. The number for attendance at events for 2012 includes attendance until the beginning of September. As the number is already up to 117 after these first 5 months of the financial year it indicates that there will be an increase in number of participants at events this year.



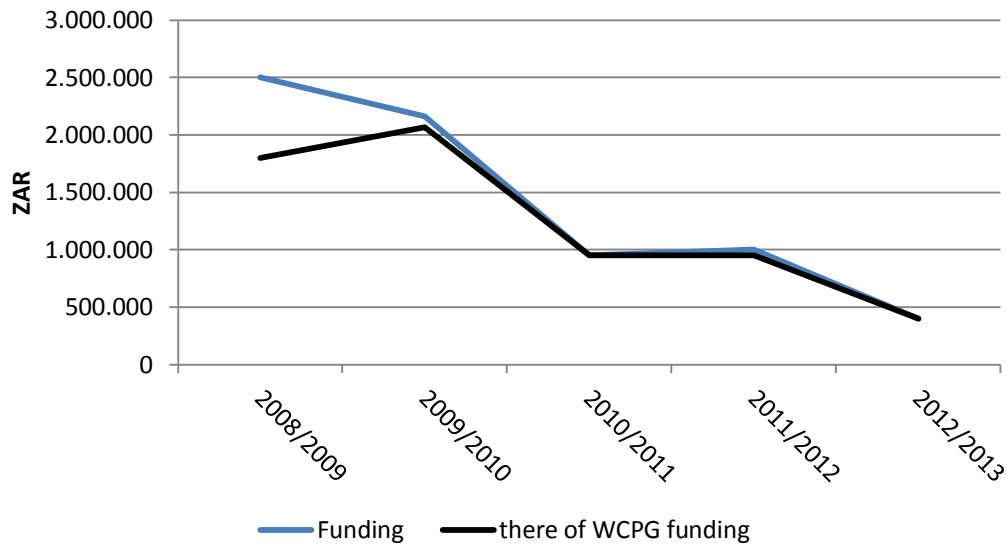
**Graph 20: Number of WCTI’s events and number of participants at events**

The two largest initiatives are different from the others in way that their monitoring and distribution of information is far ahead of the others. The amount of information available from these two larger initiatives suggests that the ways of monitoring and management of that information is better than in the other initiatives. Information from these initiatives was readily available, consistent (compared to other in-house information) and the amount of information was more than from the other initiatives. Whether this is a result of having more funds and a wider variety of staff or whether the quality of the management of monitoring and information has resulted in receiving more funds and therefore being able to hold more staff is debatable and will need further research to be concluded.

**Funding**

WCTI is mostly funded by government, where the offices are run by government funding only and part of the project funding is from government as well. The government funding is unreliable as it is only short term. The funding is only promised one year into the future and has in the past years decreased significantly as can be seen in Graph 21. In CIs where it takes years to conduct and realise success from projects and a funding period of one year is too short. Changing this funding structure is not in the hands of the initiative. They need to make the most of what they have and if possible aim at getting financially independent and receiving funding from elsewhere. As the cluster matures the private sector funding should become a larger part of the total funding, and the initiative needs to make plans of how and when to get there.





**Graph 21: Funding for the WCTI**

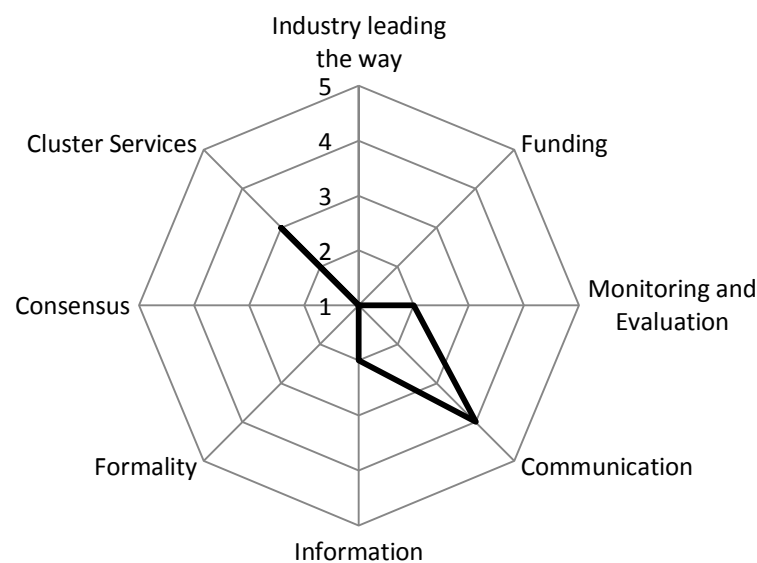
WOSA is the only initiative that was fully financed by the industry and CCDI is far ahead the others in finding funding from other sources than WCPG. When looking at the initiatives within the Western Cape cluster program it is again debatable which is cause and which is effect. But even though the Western Cape cluster program is a long term program they expect the initiatives to get at least partial funding from other sources some years after they have started.

### Conclusions

Due to the recent changes put forth after the WCTI's new CEO took over the WCTI was evaluated both before and after the changes. When compared to the cluster maturity model put forward by Atherton and Johnston the WCTI is now at the barriers of members accepting the scale of their problems and accepting the need to find help. Today the **WCTI is in the phase of being a potential CI, it is not yet an established CI**. With their current projects they are actively working on braking these barriers. This puts them in the possition of being a potential cluster, but as the future development has gone further than the CI's stages in maturity the development will likely move fast through the phase of an emerging cluster into the phase of being an established cluster given that the current barriers of accepting their problems and the need to find help will be successfully overcome.

The evaluation before the changes, shown in Graph 22, shows that the initiative had opportunities to improve in several aspects. Given the history of how the initiative was started and the misconseption of the purpose of the initiative industry was not leading the way. The initiative had little monitoring and was not distributing the data between the members. The formality of the initiative was lacking, such as a formal action plan, goals etc. did not seem to have been distributed between the members. The communication to the members seemed to

have been effective, as the initiative got to the members, but as described with the distribution of information it wasn't efficient. One aspect of rating was added to the evaluation of the WCTI compared to the other case studies; the aspect of cluster services. Cluster services are an essential part of the cluster management but due to limited information it was not possible to include that in the evaluation of the other case studies. Cluster services provided by WCTI were divided into two, training of new toolmakers on the one hand and improvement of toolrooms on the other. The training of new toolmakers was and is looking very promising but the services provided to the toolrooms did not prove effective. The funding was low, unreliable and did not come from diversified sources. The initiatives strong aspects were therefore the cluster services in terms of training new toolmakers and the ways of communication.



**Graph 22: Conclusions of evaluation of WCTI before changes in comparison with other case studies and results of Chapter 2**

Judging by the recommendations of having industry lead the way in CI development and only going forward if individual companies in the industry are interested in participating the CI should not have been started in 2006. The future situation needs to be evaluated according to the situation as it is today and the development over the recent past, not from the beginning. As described in chapter 2.6 Cluster Management there are some aspects of the initiation of a CI that have been connected to or are recommended for the best possible performance.

- The first point is that the initiation of a CI should be lead by industry. It was also pointed out that when the initiation is lead by government it should be checked beforehand whether the industry is interested in participating in a CI. The WCTI was initiated by the government and even

though the Toolmakers association which represents industry was involved that is not equivalent to checking if individual companies are interested.

- A second factor is that the definition of the cluster, i.e. the vision, goals and action plan, need to be clear and agreed on by all parties. The misconception on the role of the WCTI between the WCTI's members and managers is a sign that the definitions of the cluster were not clear enough, not advertised enough between the members or the members were not interested enough to study what the CI was all about.

The problems in the sector can be divided into two categories, the lack of skilled toolmakers and the problems within the individual toolrooms

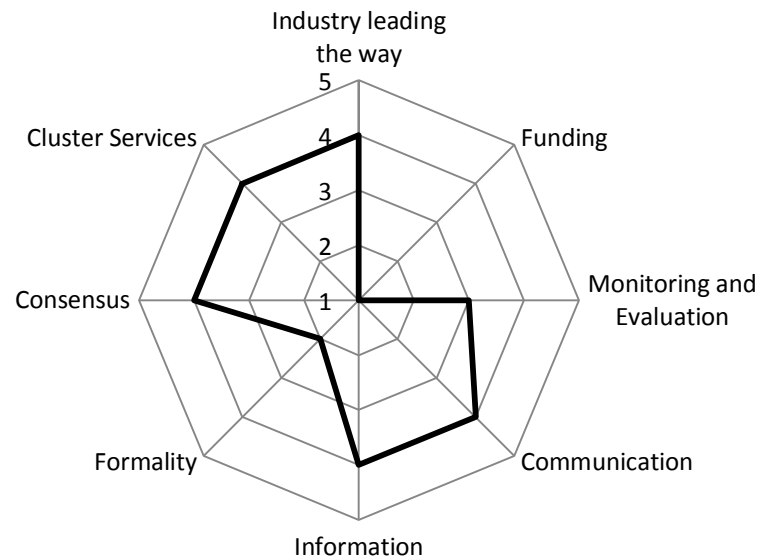
- The lack of skilled toolmakers has been addressed and shows very promising progress. The process of educating new toolmakers takes many years and the first group of students will graduate in 2013. The project has been evolving along the way, for example with the addition of the work placement project where students work as interns at toolrooms.
- The problems within the toolrooms can not be dealt with without first breaking the barrier of the toolrooms accepting their problems and the need to find help. This is now being dealt with.

The approach towards the development of the WCTI has been taken in an opposite order. The development of programs and projects has been done before the member companies were willing to invest in getting involved. As the investment of creating these projects has already begun and the results of the projects are coming forward the CI has already paved much of the way for the members to continue in developing as a CI. They can however not move forward without laying the foundation and breaking the barriers of accepting that they need to change, they need to be able to identify the benefits of co-operation and be willing to invest in the co-operation. With the change in mentality within the member companies and the promising progress in the pilot projects the WCTI is coming far in the work of breaking these barriers and when they do, the way forward will be both faster and easier with the programs and projects ready for use. The programs will probably need adjustments and changes but the pilot projects give the WCTI a model that has already been tested that they can use for the other members wanting to go the same way.

In Chapter 2.6 Cluster Management it was argued that the framework, including the action plan and goals of the CI, should be tailored around the strengths and weaknesses of the cluster. According to studies done on the sector the weaknesses of the cluster were earlier divided into two categories where the lack of skilled toolmakers was one and the problems within the individual toolrooms was the other. The problem of the lack of skilled toolmakers has been addressed and is showing promising progress. The effects of projects addressing other problems are not as obvious and results of the latest study done on the industry imply that

not much has changed in terms of the problems of capabilities and capacity in the individual toolrooms. Before the WCTI gets to the point of facilitating projects in order to improve their members capabilities the members need to realise the need to change and be willing to cooperate. If the members don't realise their need to change and are not willing to cooperate with the others in order to improve it will be difficult to gain success as the cluster has not gained the maturity of being able to cooperate successfully. The WCTI is now tackling this problem by facilitating pilot projects in selected member companies. The progress of the projects is followed and other members can follow the progress for example by reading the initiatives newsletter. The idea is that when the other companies not participating see the benefits with the changes the projects bring they will buy into the idea that they also need to change and will be willing to cooperate in the cluster in order to do so. This has already started as at least one member company has started implementing a quality system at their premises on their own as they felt the need to do it right away instead of waiting for the WCTI to push them through it. In this way the WCTI is actively building the foundation needed in clusters and addressing the barriers in the development of the cluster, the members accepting the scale of the problems and the need to find help

The change of focus introduced after the CEO changes moves the management approach of the WCTI significantly closer to the aspects of excellent cluster management summarised at the beginning of the chapter, as can be seen in Graph 23. In most aspects the management is considered to be moving the initiative towards international best practices. The initiative is actively working on getting the industry involved, however it will take time. The pilot projects will take time to show success and it is only after that, that the initiative can focus on getting the members actively on board. The funding situation remains the same, but showing success will help with getting funding. Monitoring is increasing, even though there is still an opportunity to further analyse, use and distribute the results. Communication remains the same as before but the formality of the cluster is still relatively low. The initiative is getting closer to gaining consensus, but there is still an opportunity to more consciously work on those issues with distributing the formal definitions of the initiative to the members, such as the scope, goals and projects of the initiative. The cluster services of the cluster are the same in terms of training new toolmakers but the focus of increasing the quality of the toolrooms has improved with the new pilot projects being introduced.



**Graph 23: Conclusions of evaluation of WCTI after changes in comparison with other case studies and results of Chapter 2**

As can be seen in Graph 23 the weakest points are in terms of funding and formality. The initiative therefore needs to **increase the formality** of its operations. Raising funding is difficult to do when there is little success to show. Therefore the initiative should start with other aspects and when positive changes can be seen concentrate on **increasing and diversifying the funding**. The initiative should **add structure to its monitoring** and analyse and use the information to identify what works and what not in terms of actions and projects. Additionally the initiative should **advertise to the members when success is realised**.

## 5 CONCLUSIONS AND RECOMMENDATIONS

The importance of cluster management excellence has been gaining ground. The amount of funding, actions, goals etc. are irrelevant if the management of the cluster management organisation and the cluster services don't utilise it correctly. A cluster management organisation can have substantial funds, the correct goals and not deliver anything if they don't manage the cluster initiative's operations correctly. As in any project, it is fundamental that the members involved agree with or at least have approved what is being done and what they need to contribute. The members need to know what is going on, what has been going on and what will be going on to be able to contribute the right thing at the right time. Information flow is therefore very important. The general definitions of the cluster, such as the vision, goals and main projects need to be clear to all members. If the members come together to discuss what should be done and how, there will not be much success if they all have different ideas on the basic definitions regarding the cluster.

### 5.1 Conclusions on Cluster Management

The factors that are considered to lead to success in cluster initiative management are wide and touch many aspects of the cluster initiatives operations. This includes the aspect of cluster program management where the cluster program funds and puts requirements on the cluster initiative. In summary these are the aspects considered most important in terms of achieving success through excellent cluster management:

Cluster Program Management:

- When a cluster initiative is started it is **important to have long term funding in the beginning** to ensure that the cluster initiative is established successfully as cluster initiatives take years to show success.
- **Monitoring requirements need to be smart and simple.**
- **Cluster Programs should provide services**, as it is not enough to only provide funding when developing cluster management organisations.

Cluster Initiatives:

- Government can be involved in projects but industry knows best what is needed to improve industry and therefore **industry should be leading the way** to ensure that the correct projects are being done.
- It is important to **diversify the cluster initiatives funding**, especially as the cluster initiative matures in order to have secure funding and become more independent.

- **Monitoring and evaluation is important** to capture the present status, learn from past performance and use that knowledge when planning the future and revising goals.
- The members of the cluster initiative **need to have achieved consensus** on what actions to perform.
- **A communication and information system is essential** for cluster initiatives.
- **Co-operation in the cluster needs to be formalised**, by for example having a legal form, and a formal structure and plan.
- **Cluster Services are the main activity** in the cluster initiative and are therefore of most importance. What these services are, is different between cluster initiatives as the needs of cluster initiatives are different.

## **5.2 Conclusions and Recommendations for the Western Cape Cluster Program**

The WCTI is one of the cluster initiatives in the Western Cape Cluster Program. The Western Cape Cluster Program was evaluated and following are the summarised results of the evaluation described in Chapter 3:

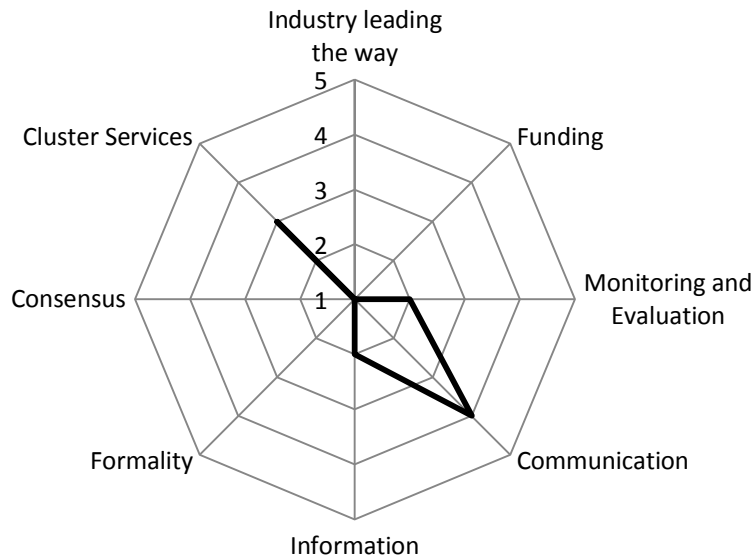
- The goals of the program are aligned with higher level policies.
- The alignment of the SPV cluster program with other programs and policies is neither simple nor clear.
- The goal when initiating the SPVs is to have a bottom up approach with industry leading the way, however, the SPVs investigated were to a large extent initiated with a top down approach.
- The funding is short term.
- Reports received from the Western Cape Cluster Program had gaps and discrepancies between reports.

Based on the evaluation performed the following recommendations are made for the Western Cape Cluster Program:

- When starting new initiatives, check whether individual companies in the industry are interested in participating before the initiative is started.
- Reduce monitoring requirements.

### 5.3 Conclusions and Recommendation for the WCTI

Due to the recent changes made in the CI the evaluation was performed both before and after the changes. The evaluation of WCTI before changes is presented in Graph 24.



**Graph 24: Conclusions of evaluation of WCTI before changes in comparison with other case studies and results of Chapter 2 (identical to Graph 22)**

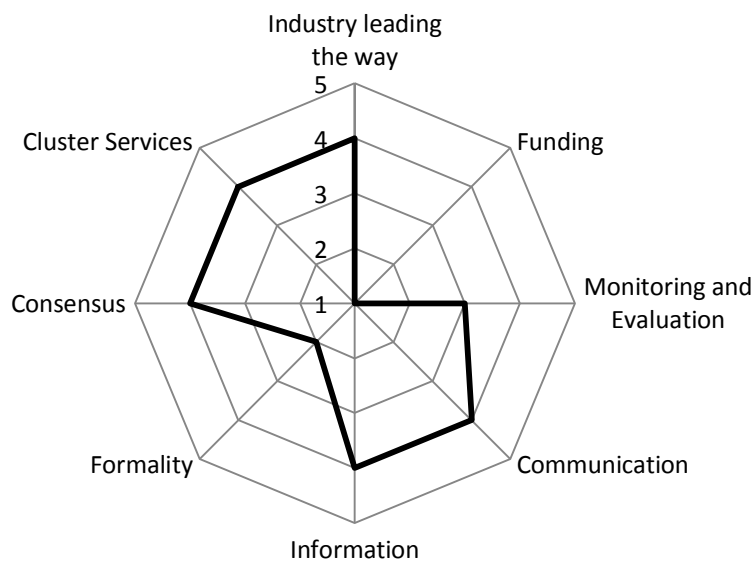
Following is a summary of the results presented in Chapter 4 of the evaluation, before the changes were made:

- Industry was not leading the way.
- Funding was low, unreliable and not from diversified sources.
- Limited monitoring was in place.
- Communication was effective.
- Information acquired through monitoring was not distributed between members.
- Formality of the initiative was lacking.
- Members had a different conception of what the main purpose of the initiative was compared to the CI's management.



- Cluster services were effective in terms of training new toolmakers, but not effective in terms of improving the toolrooms.
- The strong aspects of initiative were in terms of cluster services and ways of communication.
- Today the WCTI is in the phase of being a potential cluster, it is not yet an established CI.

The change of focus introduced after the CEO changes moves the management approach of the WCTI significantly closer to the aspects of excellent cluster management, summarised Section 5.1 , as can be seen in Graph 25.



**Graph 25: Conclusions of evaluation of WCTI after changes in comparison with other case studies and results of Chapter 2 (identical to Graph 23)**

In most aspects the management is considered to be moving the initiative towards international best practices. Following are the summarised results of the WCTI after the CEO changes, presented in Chapter 4:

- WCTI is actively working on getting the industry involved.
- The funding situation remains the same; low, unreliable and not from diversified sources.
- Monitoring is increasing even though there is an opportunity to increase it even further.

- Communication remains the same as before.
- Formality is lacking.
- Consensus is better than before.
- Monitoring is increasing but an opportunity exists to increase monitoring, and use the results.
- Communication remains the same as before.
- Cluster services have improved.

After the evaluation of the WCTI itself, the Cluster Program it is a part of, WCPG's Cluster Program, and a comparison with other CIs in the same environment and against published literature the following recommendations for WCTI are made for the WCTI:

- Increase the formality of the initiatives operations.
- Increase and diversify funding of the initiative.
- Add structure to the initiatives monitoring.
- Advertise to the members when success is realised.

Further to the recommendations above, the following suggestions of further evaluations of CI is made:

- Conducting a survey among members of the initiative, to conclude what the members want the projects of the cluster initiative to be and how satisfied they are with the cluster initiative. This would give the cluster initiative an indication of what their focus projects should be, what they are doing well and what they need to improve. The outcome would then give a basis for the most important projects of the initiative, an opportunity to monitor its success and identify improvement points.
- Additionally it is suggested to do a study where the changes done within the management of the initiative are mapped on a time line to conclude what changes resulted in the success which could be measured in terms of the willingness of the members to invest in the cooperation.

## 6 BIBLIOGRAPHY

1. *Clusters and the new economics of competition*. **Porter, Michael E.** November-December 1998, s.l. : Harvard Business Review, 1998, Harvard Business Review, pp. 77-90.
2. **Sölvell, Örjan.** *Clusters- Balancing Evolutionary and Constructive Forces*. Stockholm : Ivory Tower Publishers, 2009. Second Edition.
3. **Sölvell, Örjan, Lindqvist, Göran and Ketels, Christian.** *The Cluster Initiative Greenbook*. Sweden : Ivory Tower AB, 2003.
4. **Ketels, Christian, Lindqvist, Göran and Sölvell, Örjan.** *Clusters and Cluster Initiatives*. Stockholm : Center for Strategy and Competitiveness; Stockholm School of Economics, 2008.
5. **Mthente.** *DRAFT: Changing the Nature of the Western Cape Economy: The Role and Impact of Special Purpose Vehicles (SPVs)*. Cape Town : Department of Economic Development and Tourism, Western Cape Government, 2012.
6. **Lämmer-Gamp, et al., et al.** *Clusters Are Individuals. Creating Economic Growth through Cluster Policies for Cluster Management Excellence*. Copenhagen/Berlin : Danish Ministry of Science, Technology and Innovation/Competence Networks Germany, 2011.
7. **Claudia Martina Buhl, Gerd Meier zu Köcker.** *Cluster Management Excellence volume II: Sustainability and Effectiveness of Clusters and Networks*. Berlin : The Kompetenznetze Deutschland Initiative, 2010.
8. **Buhl, Claudia Martina and Köcker, Gerd Meier zu.** *Cluster Management Excellence volume I: Network Services*. Berlin : The Kompetenznetze Deutschland Initiative, 2009.
9. **zeng, Douglas zihua.** *Knowledge, technology, and cluster-based growth in Africa*. Washington DC : The World Institute, 2008.
10. **Timm, Stephen.** *How South Africa can Boost Support to Small Business: Lessons From Brazil and India*. s.l. : TIPS (Trade & Industrial Policy Strategies), 2011. Study Report.
11. **Ketels, Christian, Lindqvist, Göran and Sölvell, Örjan.** *Cluster Initiatives in Developing and Transition Economies*. Stockholm : Center for Strategy and Competitiveness, 2006.
12. **Gwynne-Evans, Nigel.** *SPV program*. [interv.] Sigrún Melax. 21 May 2012.
13. **McEwan, John.** *CEO WCTI*. [interv.] Sigrún Melax. 8; 18 May 2012.
14. **Western Cape Government.** *The WC Approach to Sector Development*. Cape Town : Western Cape, 2012. Presentation.
15. **Ockun, Dave.** About Hollywood.com: Hollywood, California History and Information. [Online] 16 November 2010. [Cited: 6 August 2012.]

<http://www.abouthollywood.com/hollywood-neighborhoods/hollywood-california-history-and-information/>.

16. **Small Business Project.** *Clusters as a vehicle for SME development.* South Africa : s.n.
17. **Porter, Michael E.** *The Competitive Advantage of Nations.* New York : The Free Press, 1990.
18. **Köcker, Dr. Gerd Meier zu.** *Trends in Cluster Policy and Cluster Development.* Hilton Reykjavik Nordica, Reykjavik : s.n., 24 January 2012.
19. **European Cluster Policy Group.** *Final Recommendations -A Call for Policy Action.* Brussels : European Cluster Policy Group, 2010.
20. **Atherton, Andrew and Johnston, Andrew.** Clusters formation from the 'bottom up': a process perspective. [book auth.] Charlie Karlsson. *Handbook of Research on Cluster Theory.* Cheltenham : Edward Elgar Publishing Limited, 2008, pp. 93-113.
21. **CLOE (Clusters Linked Over Europe).** *Cluster Management Guide – Guidelines for the Development and Management of Cluster Initiatives.* s.l. : CLOE (Clusters Linked Over Europe).
22. **Scheer, Günther and Zallinger, Lucas von.** *Cluster Management A Practical Guide; Part A: Overview.* Eschborn : Deutsche Gesellschaft für Technische Zusammenarbeit (GTX) GmbH, 2007.
23. **Valsson, Elvar Knútur.** *Masters ritgerð.* 2006.
24. **Blyth, Warwick.** *CEO SAOGA.* Cape Town, 13 October 2011.
25. **Stevensson, Grant.** *former CEO WCTI.* Stellenbosch, 4 November 2011.
26. **Klaus Schwab, World Economic Forum.** *The Global Competitiveness Report 2011-2012.* Geneva : World Economic Forum, 2011.
27. **WCPG.** *SPVS 7 yr Budget (4).* 2012. Working document.
28. **Cluster Navigators.** *Cluster Building -A Toolkit.* New Zealand : Cluster Navigators, 2001.
29. **Small Business Project.** *Small Business Project: An Overview.* Johannesburg : s.n.
30. **Ffowcs-Williams, Ifor.** *Cluster Development Red and Green Lights.* s.l. : Cluster Navigators, 2004.
31. *draft: SPV brochure Sept 08.* 2008.
32. **Conningarth Economists.** *Macro-economic Impact of the Wine Industry on the South African Economy (also with reference to the Impacts on the Western Cape).* Pretoria : South African Wine Industry Information and Systems (SAWIS), 2009.

33. **Gunnarsson, Hákon and Þorgeirsdóttir, Þóra Margrét.** *The Icelandic Geothermal Cluster; Mapping and Mobilization.* Reykjavík : Gekon ehf., 2011.
34. **Isaacs, Bernadette.** *WCFI.* [interv.] Sigrún Melax. 15 November 2011.
35. **WCFI.** *WCFI Annual Report 2010.* s.l. : WCFI, 2010.
36. **Isaacs, Bernadette.** *email 16 August.* [interv.] Sigrún Melax. 2012.
37. **WCFI.** *WCFI Annual Report 2011.* Cape Town : WCFI, 2011.
38. **CCDI.** About CCDI: CCDI. *CCDI (Cape Craft and Design Institute).* [Online] [Cited: 15 June 2012.] <http://ccdi.org.za/about-ccdi>.
39. **Elk, Erica.** *CEO CCDI.* [interv.] Sigrún Melax. 25 October 2011.
40. **CCDI.** *Cape Craft & Design Institute Annual Report 2009/10.* s.l. : CCDI, 2010.
41. **Elk, Erica.** *Email from Erica Elk 15 February 2012.* 15 February 2012.
42. —. *Email from Erica Elk sep 2012.* September 2012.
43. **SAOGA.** SAOGA: Overview of SAOGA. SAOGA. [Online] 2011. [Cited: 10 May 2012.] <http://www.saoga.org.za/content/overview-saoga>.
44. —. South African Oil and Gas Alliance: About us: Board of Directors. *South African Oil and Gas Alliance.* [Online] 2011. [Cited: 10; 14 May; August 2012.] <http://www.saoga.org.za/content/board-directors>.
45. —. Membership and joining SAOGA: SAOGA. SAOGA. [Online] 2011. [Cited: 15 June 2012.] <http://www.saoga.org.za/content/membership-and-joining-saoga>.
46. **WOSA.** About us: WOSA. WOSA. [Online] 2009. [Cited: 15 June 2012.] [http://wosa.co.za/sa/wosa\\_about.php](http://wosa.co.za/sa/wosa_about.php).
47. **Birch, Su.** *CEO WOSA.* [interv.] Sigrún Melax. 21 October 2011.
48. —. *Su Birch, email from 11Sep2012.* 11 September 2012.
49. **WOSA.** *Wines of South Africa Marketing Business Plan 2011.* s.l. : WOSA, 2010. Internal report.
50. **WCTI Newsletter.** WCTI Newsletter. *Issue Number 1.* May/June 2007.
51. **aachener.** *Tool and Die Making for the Future: Presentation of Benchmarking results.* Johannesburg : Fraunhofer; WZL Rwthachen, 2010.
52. **Blueprint International (Pty) Ltd.** *Fridge Tooling Industry Assessment & Strategic Plan For the Development of an Internationally Competitive Tooling Industry in South Africa.* s.l. : Fridge Counterpart Group, 2005.
53. **Hamid.** *Clustering in the Western Cape TDM Industry.* 2010.
54. **National Tooling Initiative.** South African National Tooling Initiative. *South African National Tooling Initiative: About Us.* [Online] [Cited: 9 May 2012.] <http://www.ntipweb.co.za/about.php>.

55. —. National Tooling Initiative Programme. [Online] [Cited: 8 June 2012.] [http://www.ntipweb.co.za/index\\_ntip.php](http://www.ntipweb.co.za/index_ntip.php).
56. **WCTI**. *WCTI Newsletter. February 2012*. s.l. : WCTI, 2012.
57. **McEwan, John**. *Pilot Project Follow up Summary. Status as at: 25/4/2012*. s.l. : WCTI, 2012.
58. **TASA**. Toolmaking Association of South Africa. [Online] [Cited: 27 January 2012.] [http://www.ntipweb.co.za/index\\_tasa.php](http://www.ntipweb.co.za/index_tasa.php).
59. **Porchiazzo, Lucio**. *Membership in WCTI*. [interv.] Sigrún Melax. Cape Town, 24 October 2011.
60. **Toit, Tom du**. *Membership in WCTI*. Cape Town, 13 October 2011.
61. **Stevensson, Grant**.
62. **Uvinum**. Uvinum: Wines from South Africa. *Uvinum*. [Online] [Cited: 16 June 2012.] <http://blog.uvinum.com/wines-from-south-africa-939110>.
63. **Elk, Erica**. 2011.
64. **WOSA**. WOSA. [Online] [Cited: 6 May 2012.] [www.wosa.co.za](http://www.wosa.co.za).
65. **City of Cape Town**. Integrated Development Plan & Organisational Performance Management. *Glossary*. [Online] 2012. [Cited: 28 October 2012.] <http://www.capetown.gov.za/en/IDP/Pages/GlossaryOfTerms.aspx>.
66. **QTeC Moulding**. QTeC Moulding. *QTeC Moulding*. [Online] 2005. [Cited: 10 May 2012.] <http://www.qtec-moulding.com/products.html>.

## APPENDIX A - RESEARCH APPROACH

In order to obtain information on the cluster program in the Western Cape as well as to obtain information on the different clusters the WCPG was approached. The WCTI was the main subject of the investigation and for comparison purposes a list of other CIs in the cluster program was requested. The contact at the WCPG was Nigel Gwynne-Evans which manages the program. His title is Acting Chief Director: Trade and Sector Development and he is working at the Department of Economic Development in the WCPG. He was approached and asked to provide a list of cluster initiatives involved in the program. The cluster initiatives identified by the department managing the cluster program were approached and the cluster initiatives who answered the request were approached. An interview with the CEO's of WCTI, SAOGA, CCDI, WCFI and TIA-biotech were set up and they asked questions based on a semi-structured questionnaire. Additional to these the CEO of WOSA, which is an initiative in the wine industry was approached and interviewed the same way as the others. Even though they do not look at themselves as a cluster their operations fall within the definition of a cluster initiative. The goal of interviewing WOSA was to look at a cluster initiative in the same environment as the cluster initiatives in the cluster program of the WCPG but that is standing outside of and is independent of the cluster program.

Nigel Gwynne-Evans was met on three occasions. The first two times were informal discussions regarding the cluster program, the Western Cape Tooling Initiative and related issues. The third occasion was an interview with a semi-structured questionnaire on the cluster program and the department within government managing the cluster program. Moyra Dick, an administrator within the department managing the cluster program was also interviewed for explanations on the monitoring requirements of the cluster initiatives and how the information was processed and used. Table 2 shows lists the interviews performed.

The WCTI was the main subject of the thesis and as the Cape Town Health Park (CHTP) cluster initiative is in the early phases of development it was not comparable to the WCTI. The main objectives were in terms of management and the CTHP does not have a long enough history to be able to review its management.

Additional to the previously mentioned CIs other CIs were approached in order to get a comparison with the main case studies. These CIs were both in different cluster programs and independent. These CIs are the Cape Town Boat Building and Technology initiative which is a part of the SPV program, Omegaland which is a part of the Norwegian ARENA programmet cluster program, Í ríki Vatnajökuls which is a part of the Icelandic cluster program Vaxtasamningur Suðurlands and Iceland Geothermal which is independent of cluster programs. These case studies were not used directly as comparison but indirectly in the analysis phase and were a part of the development of the questionnaire used to evaluate and investigate the case studies.

**APPENDIX B - INTERVIEWS PERFORMED****Table 2: Interviews performed when investigating the WCPG cluster program**

Interviewee	Date	City	Subject
Nigel Gwynne-Evans	11. February 2011	Cape Town	WCTI and WCPG cluster program
Nigel Gwynne-Evans	11. May 2012	Cape Town	WCPG cluster program
Moyra Dick	11. May 2012	Cape Town	WCPG cluster program –financial and monitoring issues
Nigel Gwynne-Evans	21. May 2012	Cape Town	WCPG cluster program

**Table 3: Interviews performed when investigating CIs in the Western Cape**

Interviewee	Date	City	Subject
Warwick Blyth	13. October 2011	Cape Town	SAOGA
Craig Landsberg	18. October 2011	Cape Town	Cape Health Technology Park
Erica Elk	25. October 2011	Cape Town	CCDI
Bernadette Isaacs	15. November 2011	Cape Town	WCFI
Su Birch	21. October 2011	Cape Town	WOSA
Grant Stevenson	4. November	Stellenbosch	WCTI
John McEwan	8. May 2012	Cape Town	WCTI
John McEwan	18. May 2012	Cape Town	WCTI
Tom de Toit	14. October 2011	Cape Town	WCTI
Lucio Porchiazzo	24. October 2011	Cape Town	WCTI



## APPENDIX C - QUESTION LISTS FOR INTERVIEWS

### Question list I

#### Used for semi structured interviews with case studies in South Africa

1. How do you define a cluster?
2. Start-up phase
  - a. How were the companies in the cluster involved in the setting up of the initiative?
  - b. Was it known before implementation that companies in industry were interested in participating in cluster cooperation?
3. Funding
  - a. Have you had sufficient funding for significant projects?
  - b. Has the funding/lack of funding been similar throughout the lifetime of the cluster?
4. Management –Framework meaning for example: original agreement, project scope, CI structure (one big firm, vertical, horizontal etc.)
  - a. How is the current monitoring system?
  - b. Do you find the monitoring requirements beneficial or only a burden?
  - c. Was/is there consensus on what actions to perform?
  - d. How are the actions decided?
  - e. Is there consensus on the performance indicators among all parties (including funders)?
  - f. How is the action plan distributed between parties?
  - g. Do you have an information and communication system?
  - h. Who/what parties were involved with creating the framework for the CI?
  - i. Was the framework shared with all parties?
  - j. Did all parties formally agree on the framework?
  - k. Who decided/decides on the vision for the CI?
  - l. How is this vision distributed between parties?
5. Facilitator
  - a. Is the facilitator's role more in terms of being the driving force of the CI or more in terms of being the administrator of the CI?
  - b. What have your CI facilitators' strongest qualities been? (in terms of knowledge, experience, etc.)
  - c. What were the objectives when choosing a facilitator?
6. Goals
  - a. What are the goals of your CI?
    - i. Are the goals mostly for growing internally, or mostly for increasing export?
7. Management
  - a. Can I get a copy of the initial framework?
  - b. Can I get a copy of the current framework?
  - c. Can I get a copy on the initial action plan?

- d. Can I get a copy of the current action plan?
  - e. Can I see the vision?
  - f. Monitoring system
    - i. Mostly or only quantitative?
    - ii. Different requirements from different parties?
    - iii. Do you use your own monitoring system on top of the information you are required to hand in to your funders (provincial government and City of Cape Town)?
    - iv. Can I see a copy of
      - 1. Your own monitoring requirements
      - 2. Monitoring requirements from funders
8. Environment
- a. Would you say you are working in a strong business environment?
  - b. Would you say the \_\_\_\_\_ cluster is a strong cluster?
  - c. Is there trust in the government initiatives in South Africa?

## **Question list II**

### **Used for semi structured interviews with toolmakers in toolrooms that are members in WCTI**

1. When did you hear of WCTI?
2. How did you hear of WCTI?
3. Has the clustering idea been presented to you? how?
4. (What information was presented to you?)
5. How would you define clustering?
6. Can you explain how the WCTI works?
7. What can the WCTI do for you?
8. How is the communication with the cluster?
9. What is your position in the cluster, how do you participate?
10. Do you think the mentality in general is positive or negative towards clustering in the TDM industry?
11. To what degree does the CI deliver what they promise?
12. How is the management in the toolroom?
  - Design?
  - Project management?
  - Costing?
13. Does the CI provide training? On a technical or management level?

14. Can you tell me about the projects the cluster has done? The joint project the CI took

### **Question list III**

#### **Used when interviewing Western Cape Government Cluster Program**

Goals:

- What are the goals of the program?

Services:

- What cluster services do you provide?

Monitoring

- Can you explain discrepancies in reports on the CIs in the cluster program?
- How are the numbers/results used?

Cluster policy

- Is there no official cluster policy
- Is the cluster program aligned with other related/coinciding programs?

Funding

- Unstable, as you agree in the presentation

Economic and industry information

- Do you have economic and industry information available?

Choice of clusters to support

- Why is the wine cluster not a part of your SPV program?