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south african
cultural observatory

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MAPPING THE SPATIAL DISTRIBUTION OF MZANSI GOLDEN ECONOMY FUNDING USING GIS

Submitted to the Department of Arts and Culture

MEASURING & VALUING SOUTH AFRICA'S CULTURAL & CREATIVE ECONOMY

South African Cultural Observatory
Mapping the spatial distribution of
MGE funding using GIS

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1 Introduction

One of the principles of sustainable development is the equitable distribution of public resources. In South Africa, this is linked to balanced regional development, that is:

- Distribution of funding across all nine provinces,
- Funding in rural areas and small towns, as well as metropolitan areas,
- Within cities, a balance between funding cultural activities in formerly white central business districts (CBDs) and townships.

Given the multicultural nature of South Africa, the distribution of funding is also linked to cultural diversity, and issues of social cohesion.

It is well documented (Lazzeretti *et al*, 2010; Flew, 2010) that the cultural and creative industries (CCIs) tend to cluster around cities. One would therefore expect funding to also follow this trend to some extent.

The South African Department of Arts and Culture (DAC) funds a wide variety of arts, culture and heritage initiatives under the Mzansi's Golden Economy (MGE) programme. MGE objectives are:

- To stimulate demand in arts and culture
- Audience development and consumption
- Building heritage resources
- Information gathering
- Human capital development
- Developing cultural entrepreneurs

(Mzansi's Golden Economy (MGE) Guidelines: Criteria, Eligibility, Processes & Systems 2015/2016 – 2016/2017 version 1.0).

Eligible projects are divided into five main categories:

- o Cultural Events: National and Provincial Flagship Events and Festivals
- o Festivals and Events
- o Touring Ventures & Market Access
- o Public Art Programme
- o Miscellaneous and Community Arts Projects



The aim of this report is to examine the spatial distribution of MGE funded cultural events, festivals and projects over the last three years, with a view to making policy suggestions related to equitable geographic spread in terms of provinces, rural and urban areas, and metropolitan areas.

2 Data and Methods

The MGE funding data used in this study was obtained from MGE programme directors at the Department of Arts and Culture (DAC), as part of a larger scale research project on the impact of the MGE programme (Kamilla-SA, commissioned by SACO for the DAC, 2018). The data was incomplete in some areas and locational data was too generalized to extract any spatial information out of it. The data was provided on three separate spreadsheets, which was consolidated into one MGE funded events database after the data was cleaned and normalized. Online research of the events was used to fill in any gaps where possible. Google Earth was used to identify the coordinates of the event once the address of the events was added to the database. QGIS (Quantum Geographic Information Systems) was the mapping software used to create the spatial data giving the events a geolocation on the map. The file created from the database using QGIS contains both the database information as well as a geolocation for events that addresses were found for. The data was then combined with other spatial data such as municipal and provincial borders and Google Earth imagery to create maps. Spatial analysis of the MGE funded events using other shapefiles with attribute data such as Annual Household income figures from the StatsSA Census 2011 and Plus94 CCI interview data that had been cleaned and converted to a shapefile. Data was then analysed to determine if there was any correlation or relationships between the data that could be observed on the map.

Despite careful research and analysis, the study has some limitations, which are acknowledged here. Firstly, not all the funding could be spatially classified because the details of the organization or event that had received the funding were not always specific enough to determine where they were located. Of the total of 384 MGE funding recipients, 54% (206) were spatially located. However, 16 Touring Ventures that received MGE funding were located, but the grant was for travel outside of South Africa, so they are not included in the map. The funding recipients included in the analysis represented 58% of MGE funding over the three years of the study (2014/15; 2015/16 and 2016/17). The national census is only done every 10 years and the last one was done in 2011. As a result the annual household income



data may be slightly outdated but gives an indication of what the relationship between MGE funded events and annual household income is.

Table 1: Breakdown of MGE Funded Events Included in the Analysis

Category	No. of events	MGE Funding	% MGE Funding
Festivals and Events	82	R49 654 000,00	35,62%
Flagship Events	23	R60 337 065,00	43,28%
Miscellaneous & Community Arts	33	R14 355 000,00	10,30%
Public Art	17	R5 319 500,00	3,82%
Touring Ventures	35	R9 738 633,00	6,99%
Grand Total	190	R139 404 198,00	100,00%

As shown in figure 1, the largest MGE category of those recipients included in this analysis was Festivals and Events, which made up 43% of sample (82 observations), and accounted for 36% of MGE funding (R49.6m) in the study period. Although Flagship Events made up only 12% of the sample (23 events) the way they are funded (further details provided below) meant that they accounted for 43% of the MGE funding (R60.3m). This was followed by Touring Ventures, Public Art and Miscellaneous and Community Arts.

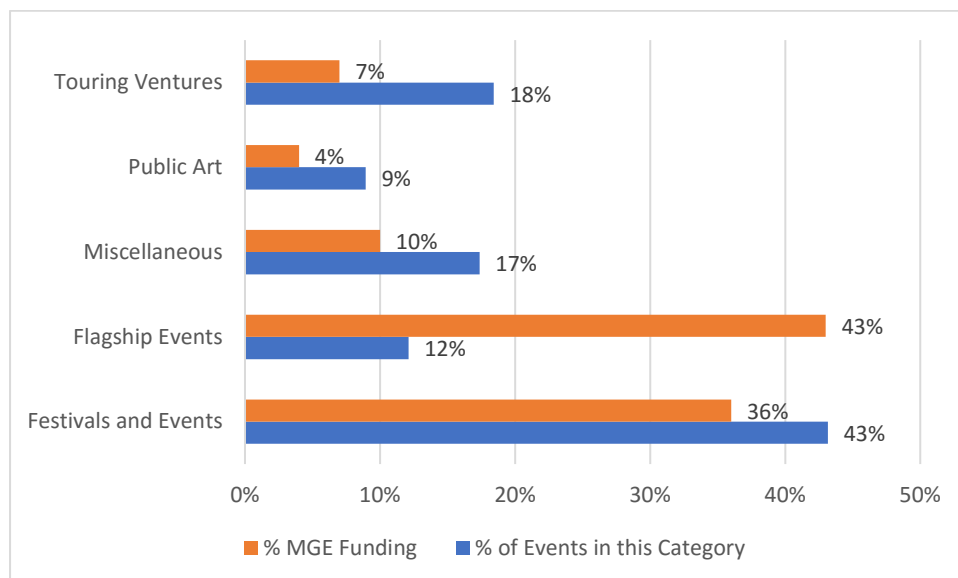


Figure 1: Event types and percentage of MGE funding of events in the analysis

The research was specifically focused on MGE funding over the last three years. Of course, cultural activity is funded from a wide variety of both public and private sources, such as



national funding bodies, like the National Arts Council, provincial, district and municipal government funding, as well as private sponsors, which is not included here.

In addition to showing the distribution of MGE funded events and activities, a strength of GIS mapping is that it can be used to show how the distribution of MGE funding is related to other socio-economic variables, such as population density, household income in different areas, and economic activity (cities and more rural areas). The study included data from the 2011 Census for regional socio-economic variables.

The number of MGE funded projects in a particular area can be an indicator of cultural activity or cultural vibrancy, and may point towards, or link to existing cultural clusters. The amount of funding (size of the grants) gives some idea of the financial resources available from MGE funding in a particular area. The study thus also analyses the spatial distribution of MGE funding amounts, and incorporates information from a previous Cultural and Creative Industries mapping study to identify cultural clusters.



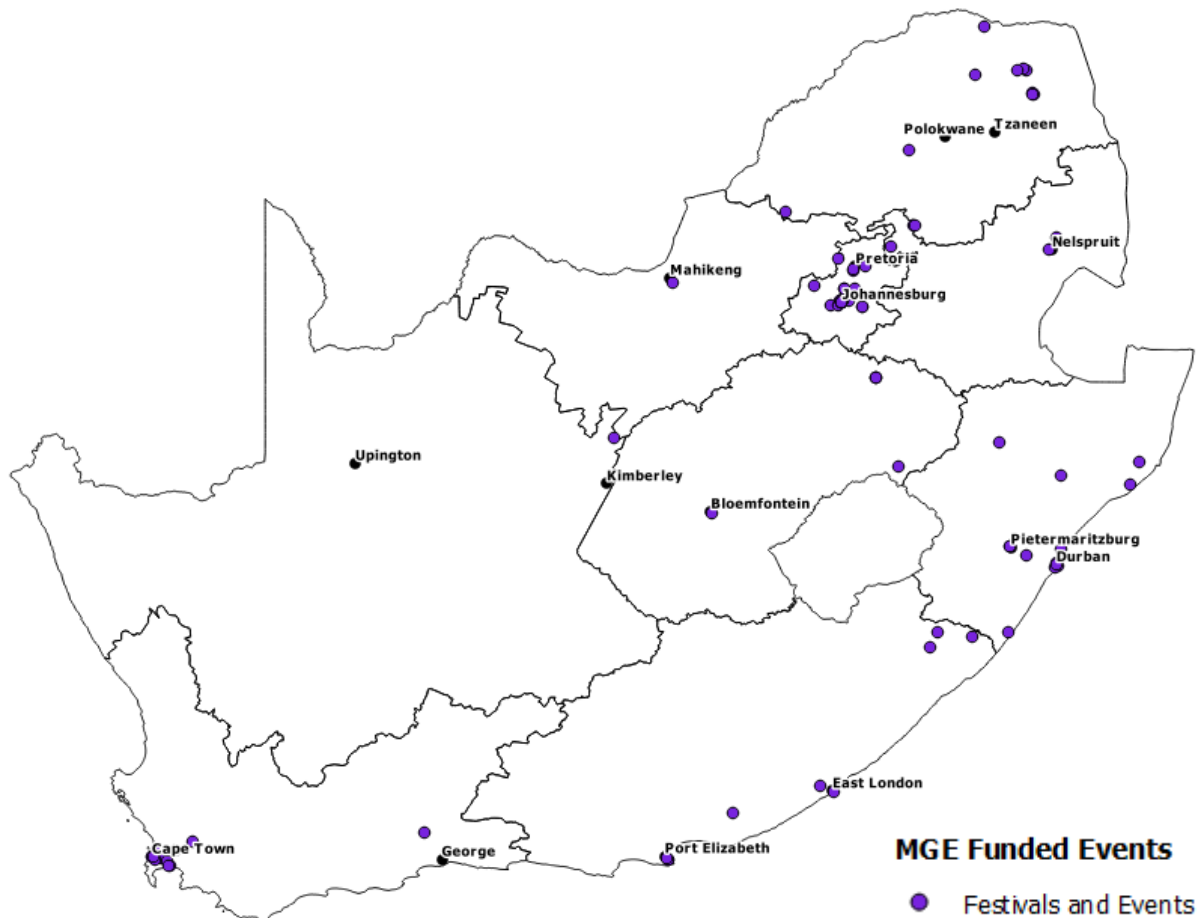
3 Results

Results are divided into three broad areas, illustrated by maps:

- *Cultural Vibrancy*: Maps 1 – 6 show the spatial distribution of the number of each of the five main MGE funding categories and all funding categories together, with commentary and analysis;
- *Cultural Resources*: Maps 7 -9 show the spatial distribution of the *amount* of MGE funding, and takes into account the population density (MGE funding per person) of the country, as well as household socio-economic status (percentage of the population living below the poverty line);
- *Cultural Clusters*: Maps 10 - 16 analyse the spatial distribution of the number MGE funded activities with specific reference to factors including: Metropolitan areas compared to areas outside of the metros, distribution of funding within selected metros, and the alignment of MGE funded events with the presence of cultural and creative industries.



3.1 Cultural Vibrancy

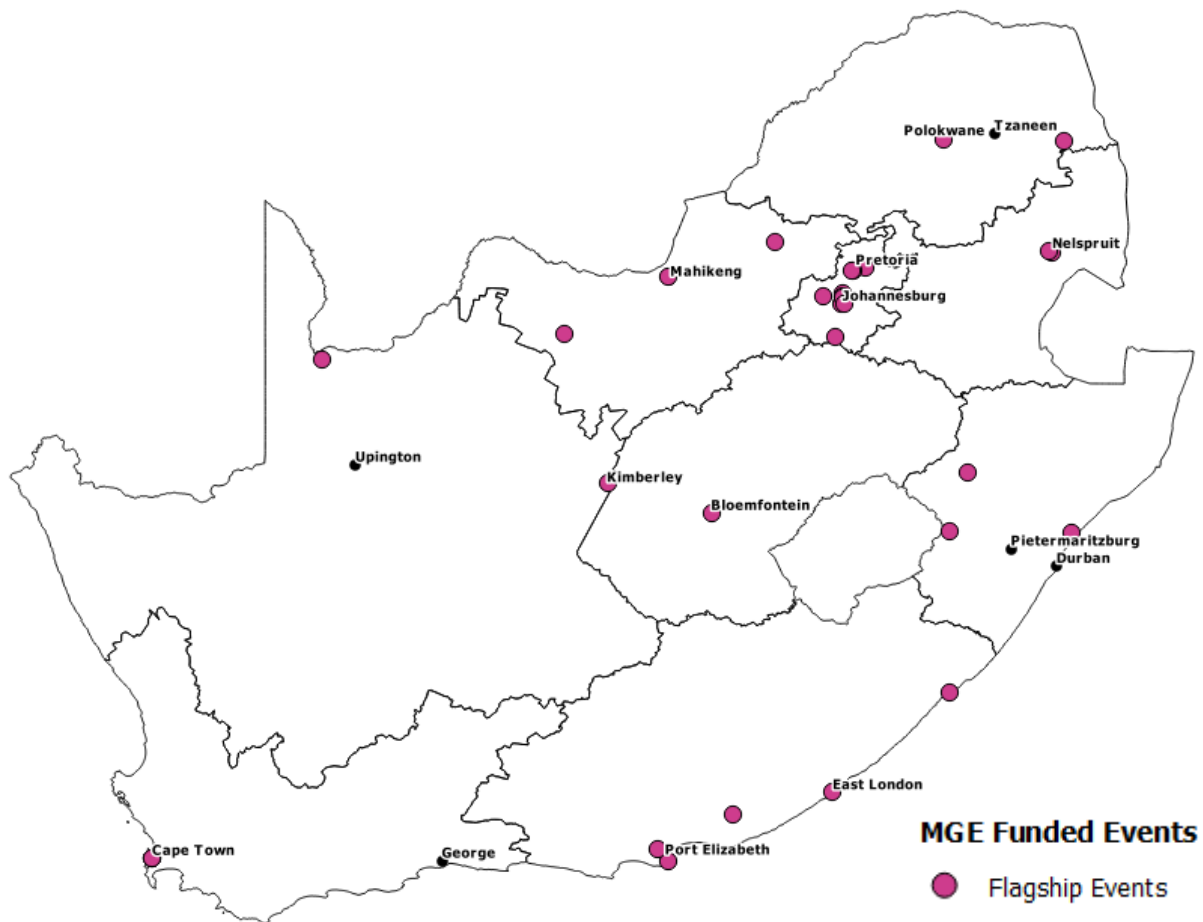


Map 1: Festivals and Events

Festivals and Events are the largest category (in terms of the number of events funded). The MGE Festivals and Events Grant Programme aims to help local organisations to host a wide range of arts and cultural events, which are intended to increase audience exposure and provide more opportunities for South African artists showcase their work.

MGE funded Festivals and Events have a wide geographical distribution, with at least one in each province. As expected, there is some clustering around larger cities (Johannesburg & Cape Town), but with a number of events funded in more rural provinces as well (for example in Eastern Cape and Limpopo).





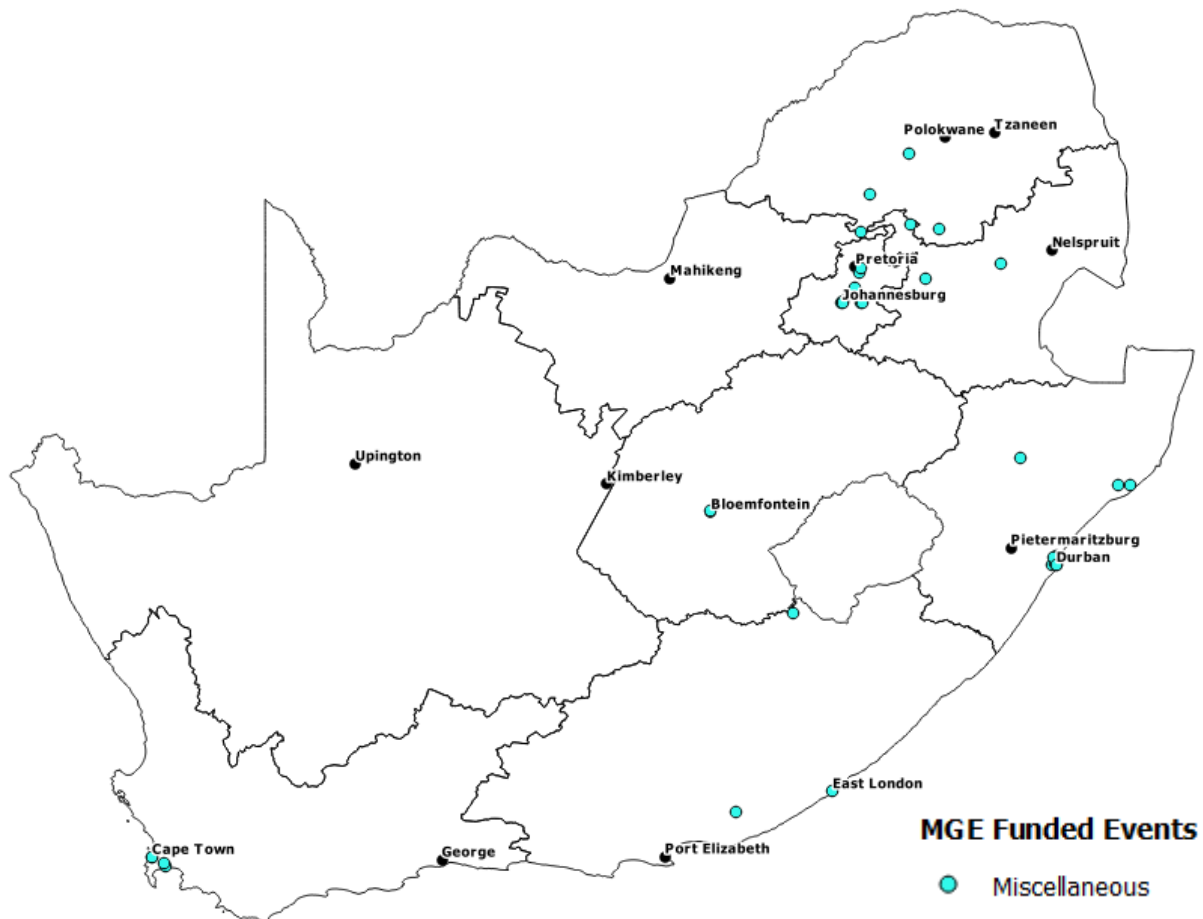
Map 2: National and Provincial Flagship Events

National and Provincial Flagship events are funded at a higher level, and in the case of National Flagships, on a longer-term basis (3-year funding cycle) than other festivals and events. Each province nominates up to two Provincial flagships, while National Flagships are identified and funded by DAC. The aims of this work stream are similar to other festivals and events: upscaling existing events and/or founding new ones; contributing to economic growth and job creation; building social cohesion; audience development; and showcasing artists. However, in addition, they are expected to have some regional impact in terms of tourism and cultural development – on the province in the case of Provincial Flagships, and on the country as a whole in the case of National Flagships (DAC, 2016).

Provincial and National Flagships thus automatically have a good distribution in each province, even in those areas where there is little other MGE funded cultural activity (such as the Northern Cape). There is a significantly high number of Flagships in Gauteng Province. The Western Cape is somewhat under-represented for its size (it has four Flagships based mostly



around Cape Town), even compared to the Eastern Cape Province (which has five Flagships, quite dispersed, along the coast at bigger cities, such as Port Elizabeth and East London). In both Gauteng and the Western Cape, Flagships are concentrated around the metropolitan areas.

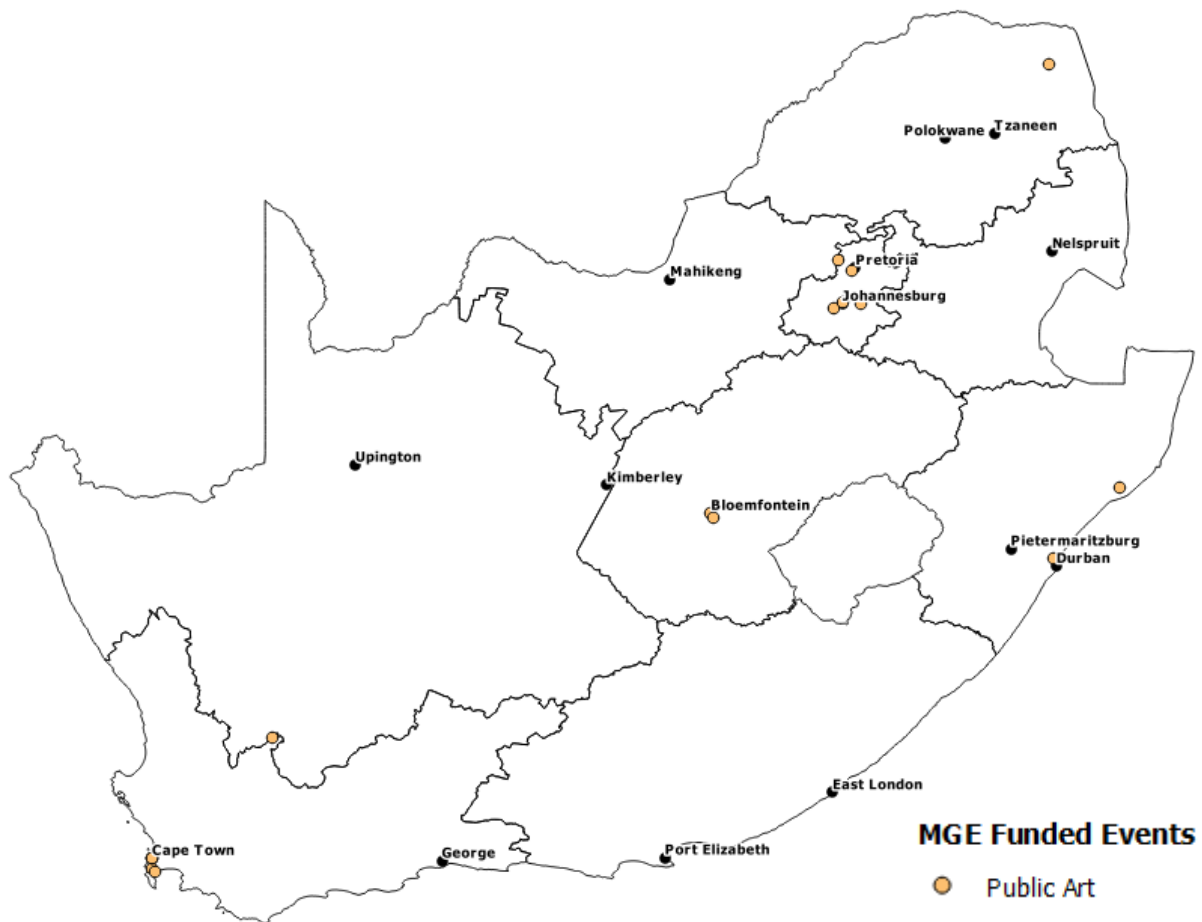


Map 3: Miscellaneous and Community Arts

Funding in this category was mostly related to once-off cultural events/ activities at Community Arts Centres, including training, education programmes and workshops. The projects in this category need to fulfill MGE objectives, but are not covered by the other four MGE work streams.

Projects funded in this category have good spatial distribution, with at least one event funded in each province, and events funded both around larger cities and in more rural areas. However, there is significant concentration in the north of the country especially Gauteng and Limpopo provinces, followed by KwaZulu-Natal.



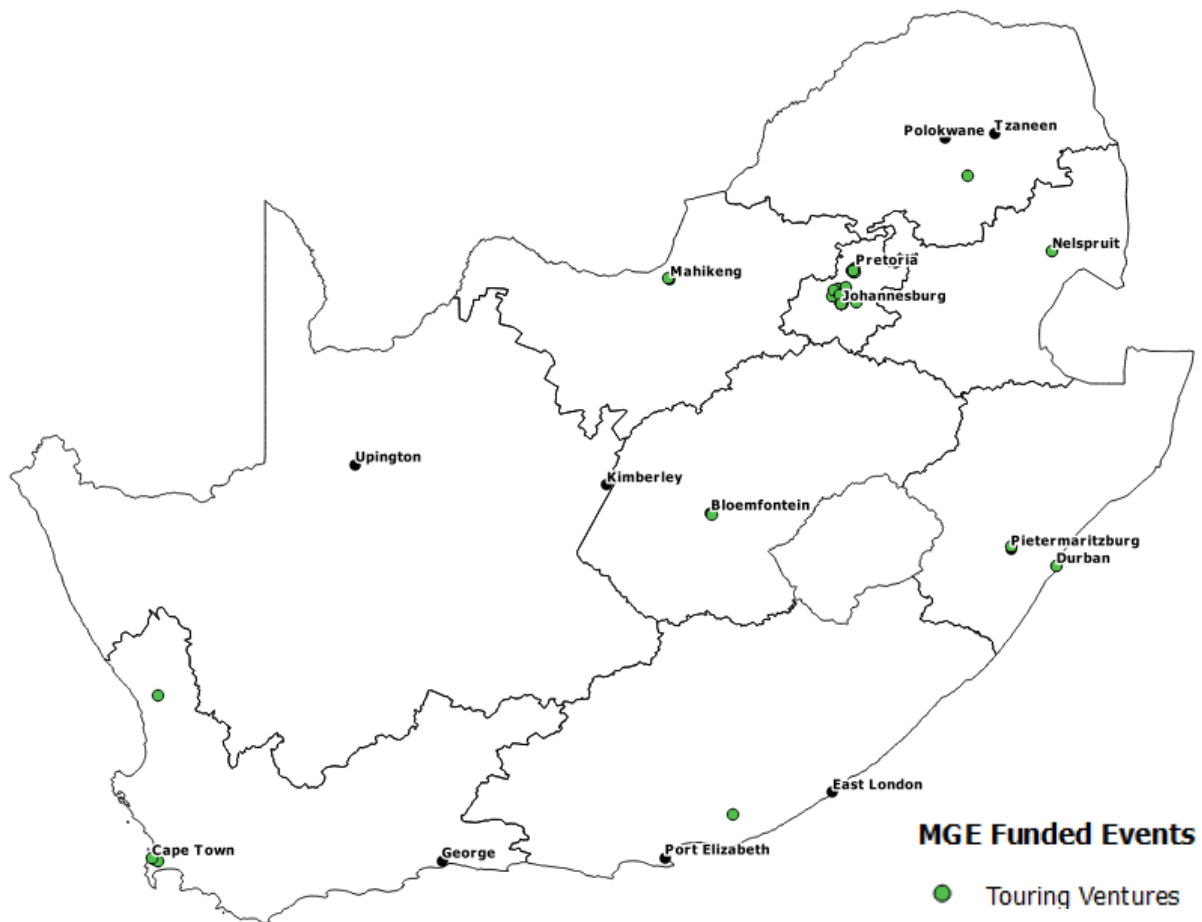


Map 4: Public Art Development Programme

MGE Public Arts events and activities included mostly visual arts and exhibitions displayed in public spaces. Like the other MGE work streams, this programme aims to increase audience access as well as to develop the skills, and showcase the work of, South African artists. It also has a specific spatial development mandate related to improving community well-being and health. As such, applications from non-metro areas are specifically encouraged (DAC, 2016).

Of the 39 MGE grants made in this category in the three year study period, geographical data was available for 46%. Most grants were given in Gauteng Province, followed by the Western Cape (concentrated around Cape Town). It thus appears that, while this funding category are achieving some of the MGE aims (see SACO 2017 Report on this MGE funding category), it is not managing to fund as many rural and small town projects as the aims envisage.





Map 5: Touring Ventures

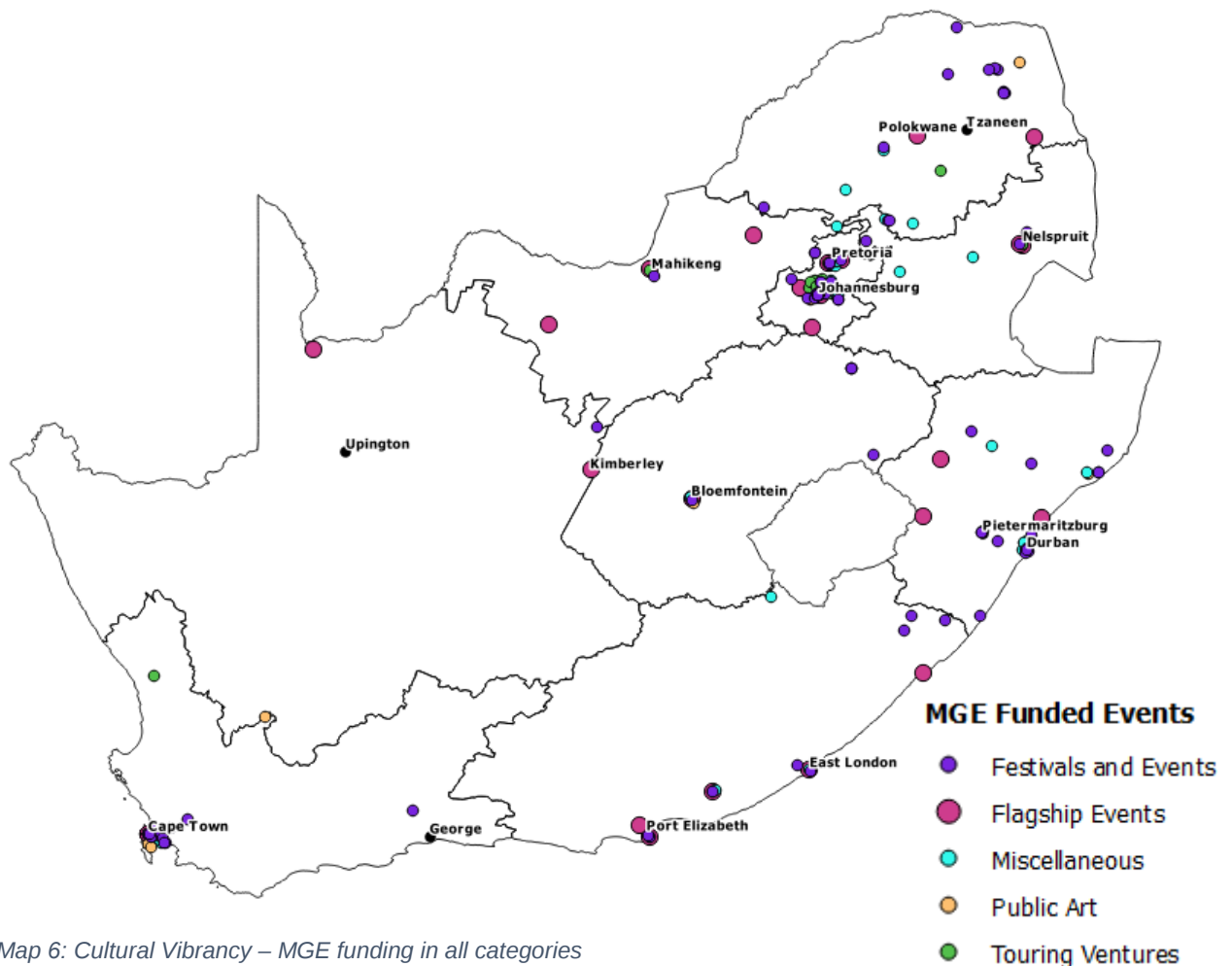
In addition to the MGE goals of fostering social cohesion, economic growth, job creation, audience education and showcasing artists, funding for Touring Ventures aims specifically to “support wider, cost-effective opportunities for the nation’s cultural outputs to be viewed, observed and enjoyed around the country and beyond”.

A challenge in mapping this category of funding is that the destination of travel could not always be determined, only the location of the office of the applicant organisation, or vice versa. So while some touring ventures were located, they were mapped outside of South Africa as the destination was known but not the point of origin within South Africa of those travelling.

In addition, a particularly large number of the recipients who received MGE funding this category could not be spatially located (81 recipients), making this part of the analysis less reliable.



For those events where the location within South Africa could be determined, they were focused around metros, especially in Gauteng.



Map 6: Cultural Vibrancy – MGE funding in all categories

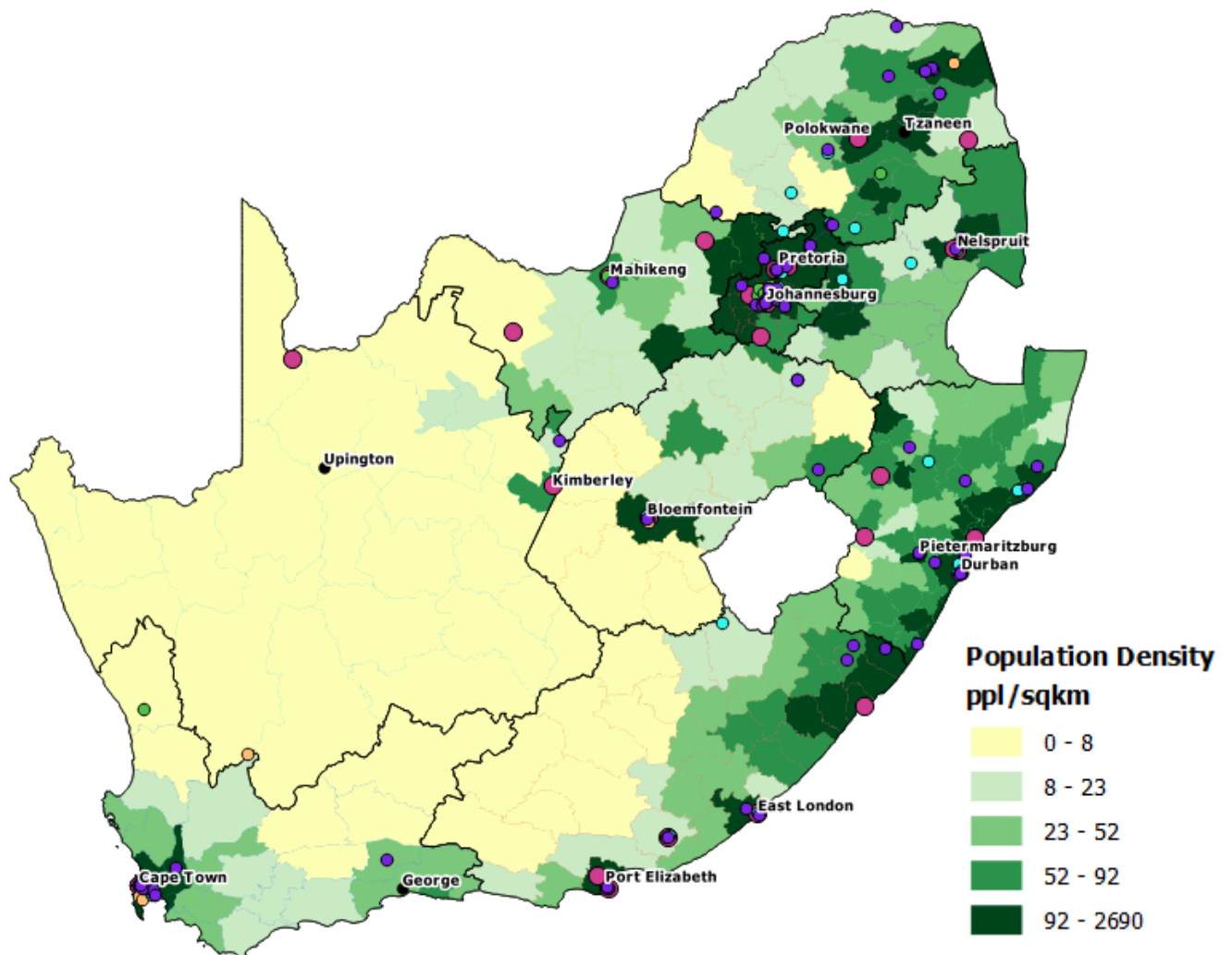
Excluding Provincial and National Flagships, MGE funded events and activities are quite concentrated in provinces with bigger cities, such as Gauteng (very dominant), Western Cape (around Cape Town) and KwaZulu-Natal (somewhat more dispersed). In provinces where there is not one dominant metropolitan area, MGE funded activity is somewhat more dispersed, for example in the Eastern Cape, Limpopo, and even, to some extent, KwaZulu-Natal. Including the Flagships improves the spatial distribution of MGE funding quite considerably.

3.2 Cultural Resources

It is acknowledged that MGE funding makes up only a part of funding available for cultural events and activities in South Africa, and that many other funding sources, both public and



private, are available. The analysis below only considers MGE funding for those that could be spatially located over the three years of the study period. Nevertheless, the MGE programme does disburse large amounts of funding, and as such can be considered one of the most important sources of cultural funding in South Africa. As such, the spatial distribution of MGE funds can be a useful indicator of an important part of public funds for culture, and as a way of encouraging balanced regional development.

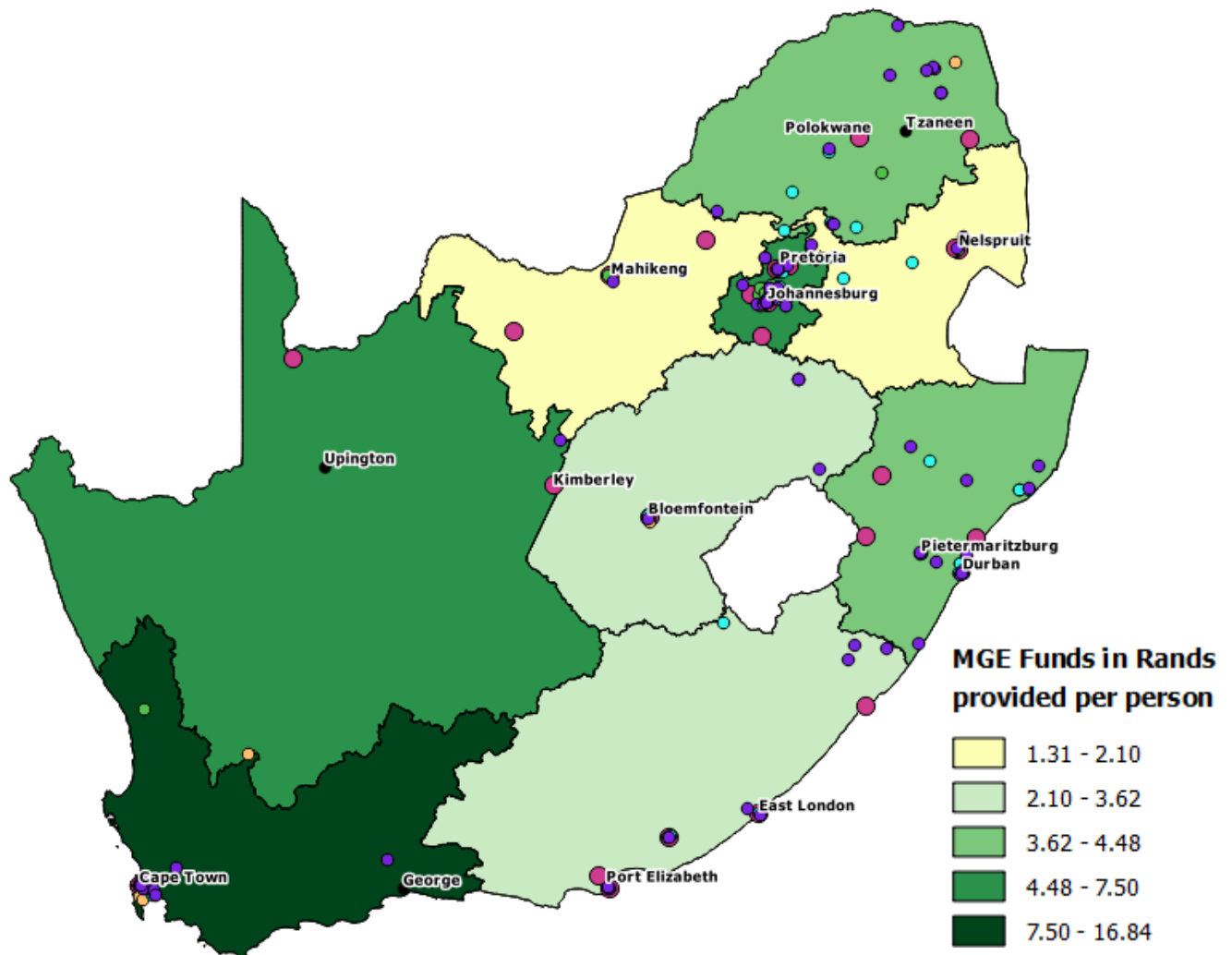


Map7: Population Density per municipality

Map 7 shows the relationship between population density and MGE funded events in the sample. What is immediately apparent is that areas with higher population density (darker green) are also those with a higher number of MGE funded events. For areas with very low population density (yellow), the exceptions are the Flagship Festivals and Events. This result shows that, for the most part, MGE funded events occur in more highly populated areas, which



makes sense from the point of view of reaching the most people as audiences and producers. However, areas with lower population density still do receive some MGE support, like Makana Municipality, which hosts a National Flagship Event, the National Arts Festival, and the Grahamstown Creative Cities Project.

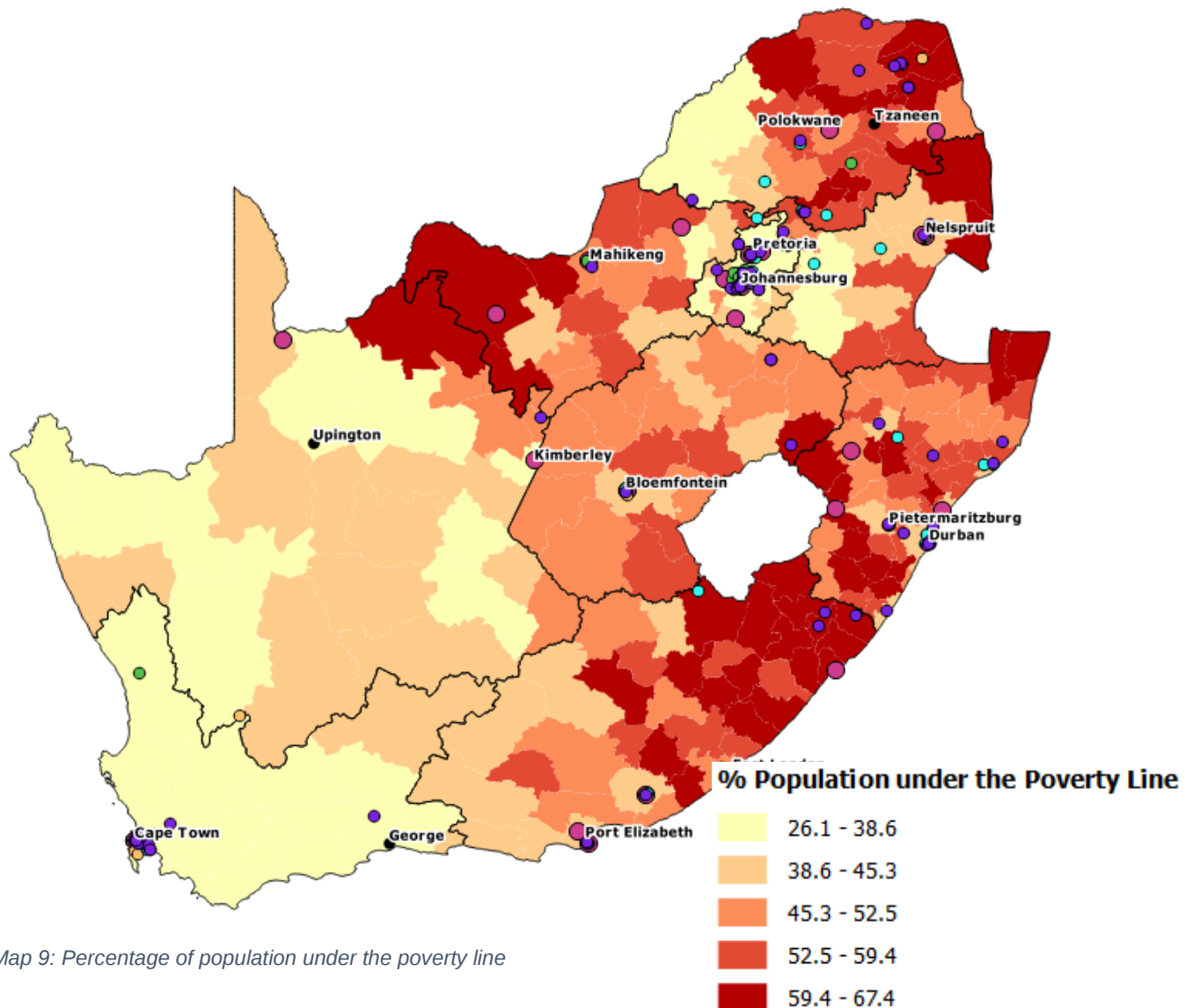


Map 8: Funding Per Province

One can also examine equality in the amount of public funding per person by province. This is calculated by dividing the total MGE funding granted to the province by the population of the province. Map 8 shows that although Gauteng province hosts the greatest number of MGE funded events, the Western Cape receives the highest amount of MGE funding per person. Another surprise is that although the Northern Cape hosts a very small number of MGE funded events, because it has such low population density, it is actually quite generously funded on



a per person basis. Provinces that receive the lowest MGE funding amount per person are North West and Mpumalanga, followed by the Eastern Cape and the Free State.



Map 9: Percentage of population under the poverty line

Map 9 shows MGE funded events in relation to the percentage of the population in each municipality that is under the poverty line (as indicated by the Statistics South Africa 2011 Census data). The darker the area, the larger is the percentage of people who are regarded as very poor. What the analysis shows is that, although MGE events do tend to be in areas with fewer very poor households (lighter areas on the map), there is a considerable spread of MGE funded events in the very poor municipalities as well, especially in Limpopo province, the Eastern Cape and KwaZulu-Natal. Thus, while it may be true that private funding for culture



is concentrated in wealthier areas, the MGE component of public funding is more evenly spread.

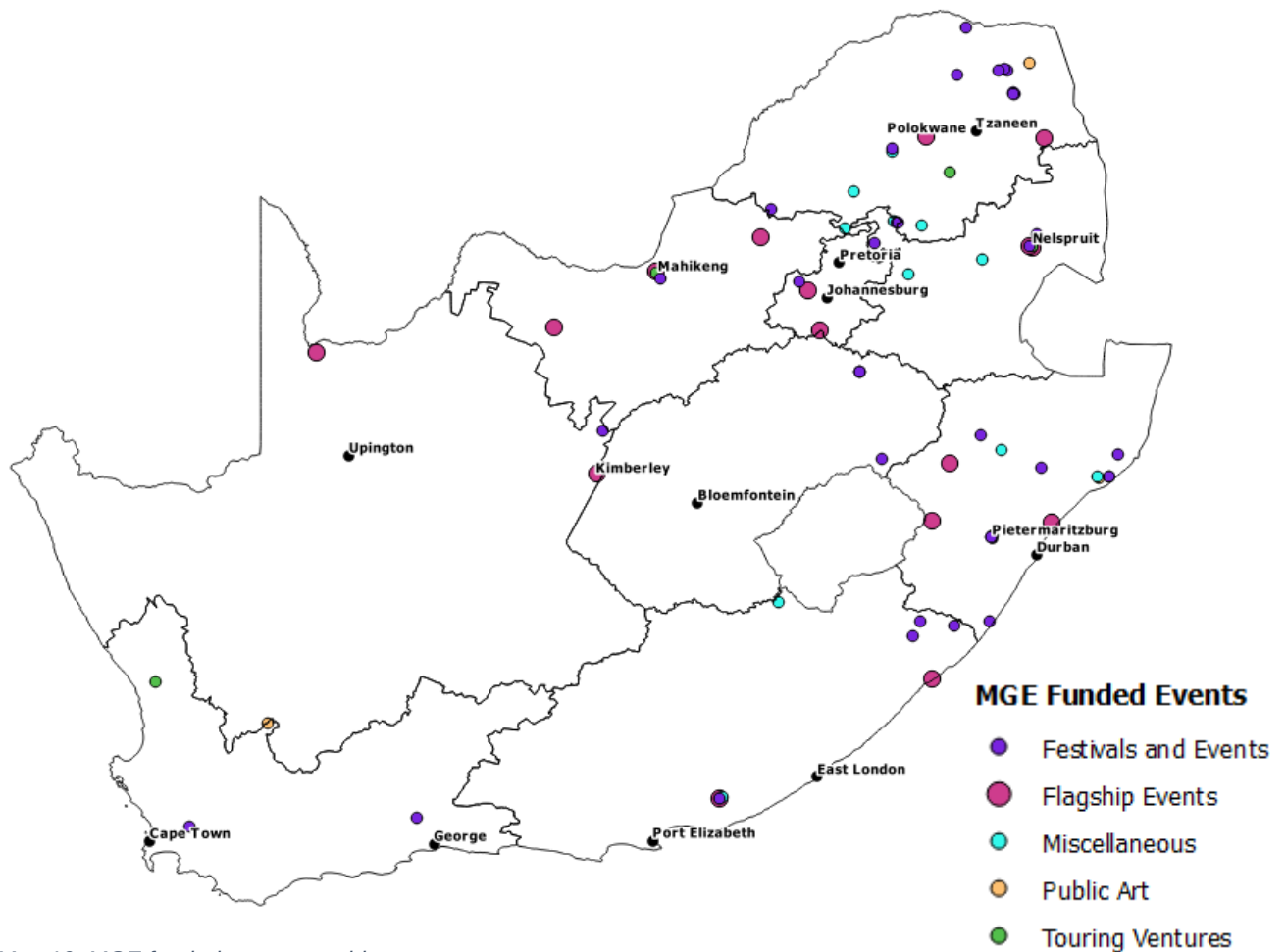
Assuming that those funding recipients that could not be spatially located are not clustered in any one particular area, and so would not substantially change the picture shown in Maps 6 to 9, possible policy suggestions would be to encourage more MGE applications from, and to prioritise funding to, provinces with lower per capita funding. However, the overall picture from this analysis is of well distributed cultural resources, which take into account areas with higher population density where funding would benefit most people, but also do include more rural areas, and which includes quite a high proportion of funding to poorer municipalities.

3.3 Cultural Clusters and MGE funding

For all funded activity, within Provinces, there is significant clustering around cities. For example, in the Western Cape, there is very little MGE funded activity outside of Cape Town, even including Flagship Events. While cultural clustering around cities is an international phenomenon and makes sense in terms of access to audiences and artists, it does tend to exclude areas with smaller towns and cities. Map 9 thus examines MGE funded events outside of the metropolitan areas. In some provinces, such as the Western Cape and Gauteng, excluding MGE funded events in the metros dramatically reduces events in the province. It is noteworthy that in Limpopo Province there is a much more even spread of MGE funded cultural activity, perhaps because there is no one, dominant metropolitan areas.

In terms of developing effective regional cultural policy, it may be important to consider how to spread the benefits of public funding to areas outside of the metros, perhaps by encouraging applicants from within the metros to partner with organisations located outside of the large cities. It should be noted however, that if the destinations of MGE funded Touring Ventures (which may have included taking cultural events to rural areas) could have been mapped, the picture may have looked more evenly distributed.

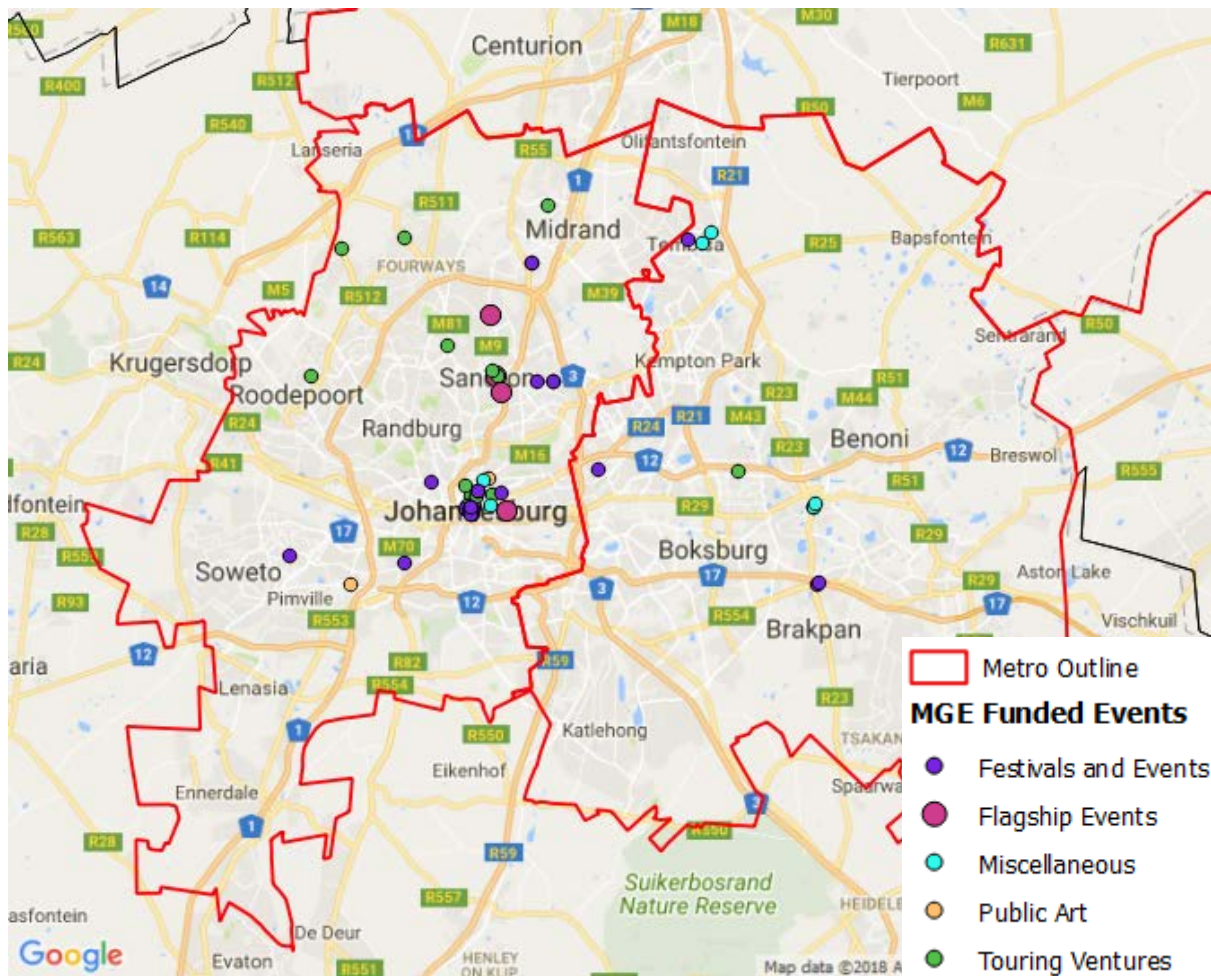




Map 10: MGE funded events outside metros

Maps 10, 11 and 12, show the details of MGE funded events within the three largest metropolitan areas in South Africa. Even within the metros, it is interesting that MGE funded cultural activity is quite tightly clustered. This phenomenon has been observed in other countries, and has led to the creation and encouragement of “cultural quarters” within cities. This is also the case in South Africa, with the development of the “Cultural Arc” in Newtown, Johannesburg, as a source of urban inner-city regeneration. The Cultural Arc includes already-established artistic institutions and spaces, as well as a university. It was also the site with rich historical heritage related to apartheid resistance. Cape Town and Durban show clustering at the waterfronts.





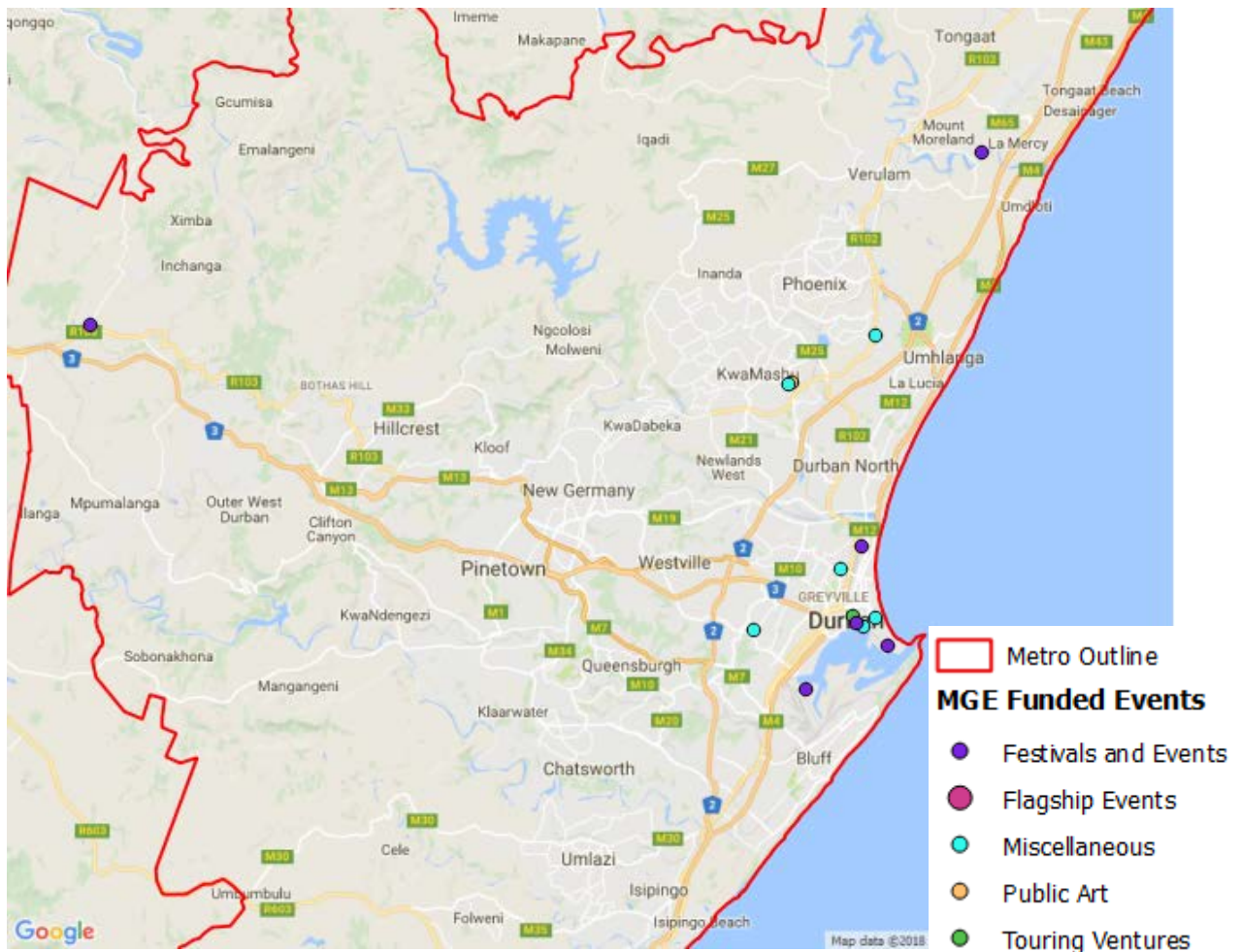
Map 11: MGE funded events Johannesburg and Ekurhuleni





Map 12: MGE funded events Cape Town

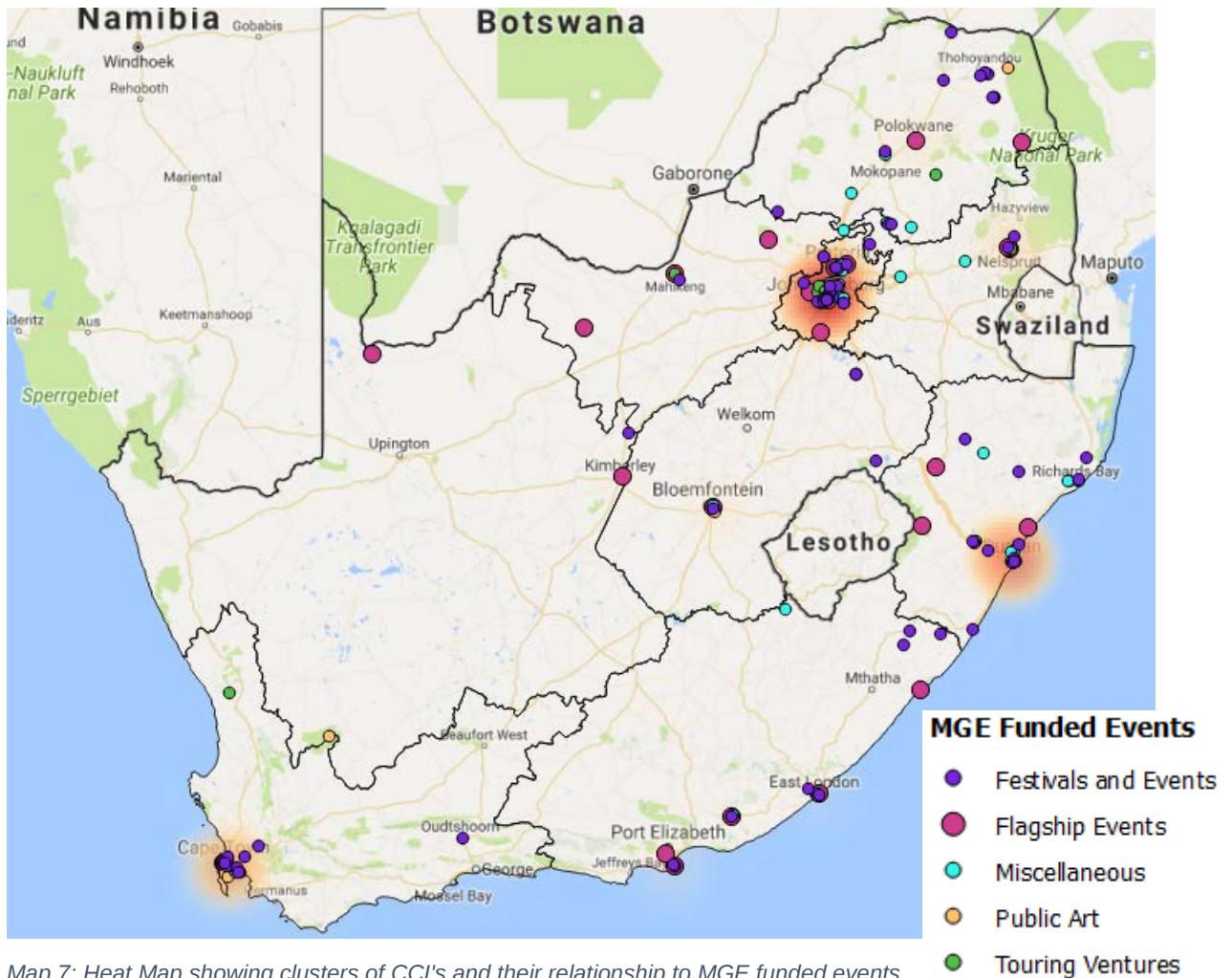




Map 13: MGE funded events eThekweni

A good validity test for any research is to use multiple data sources for triangulation. In 2013, the South African Department of Arts and Culture (DAC) commissioned a study of the CCIs in South Africa. The method followed, consisted of two phases: (i) The construction of a CCI database and (ii) Interviews (face to face and telephonically) with a sample of 2 477 randomly selected CCIs. After extensive data checking and cleaning, the sample of CCIs that were contacted were mapped using GIS, and used to create a heat map, which shows areas where the number of CCIs is largest as darker (hotter) spots on the map. Map 14 shows the result of this analysis in relation to the location of MGE funded events.

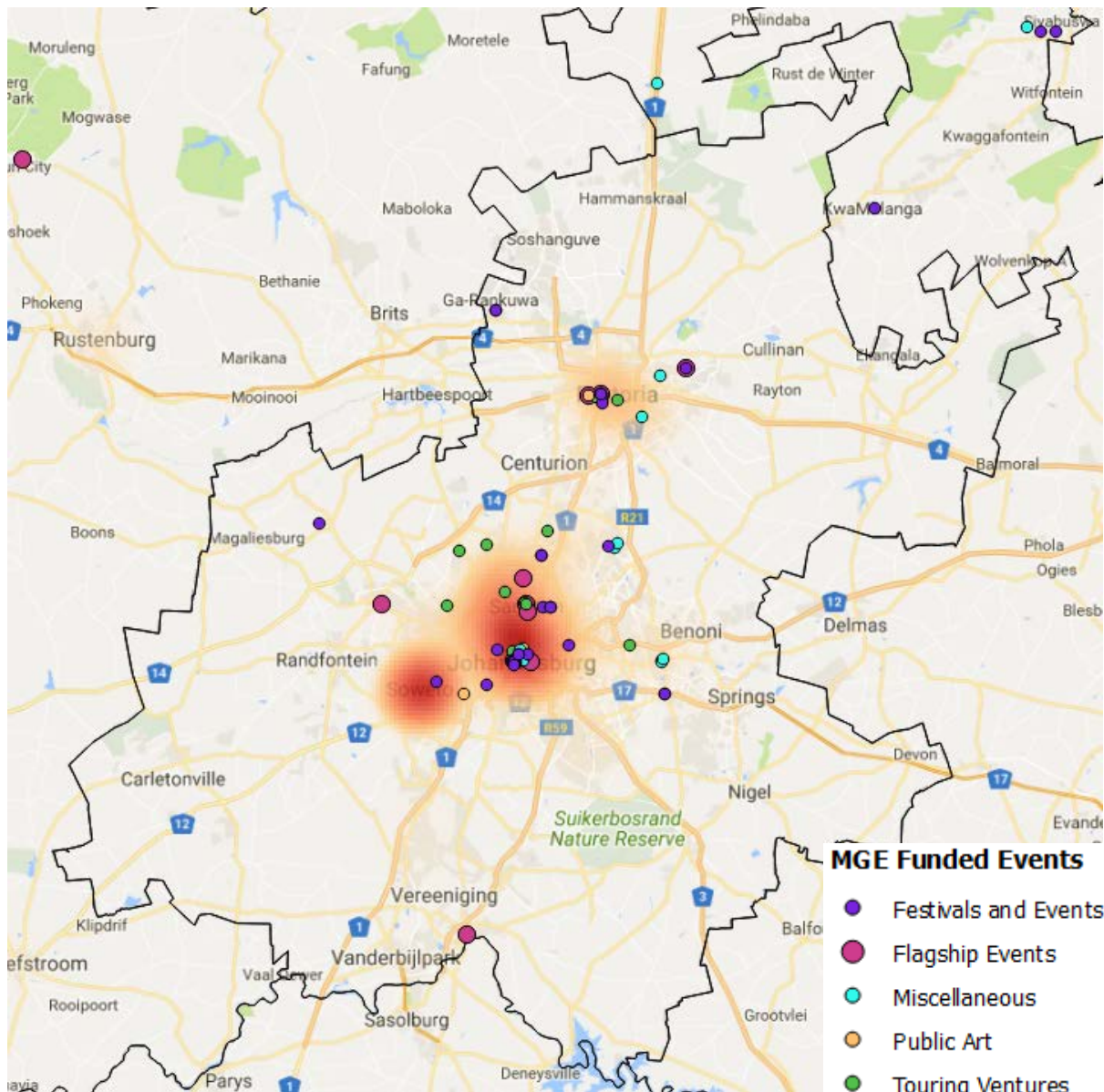




Map 7: Heat Map showing clusters of CCI's and their relationship to MGE funded events

What the heat map analysis of South Africa shows is that, in general, those areas that have the largest number of cultural and creative industries as measured by the DAC (2014) mapping study, are also those with clusters of MGE funded events. The CCI clusters occur around the larger metropolitan areas (Cape Town, Durban, and Johannesburg). It is again interesting to note that many of the Flagship festivals and events are outside of these areas.

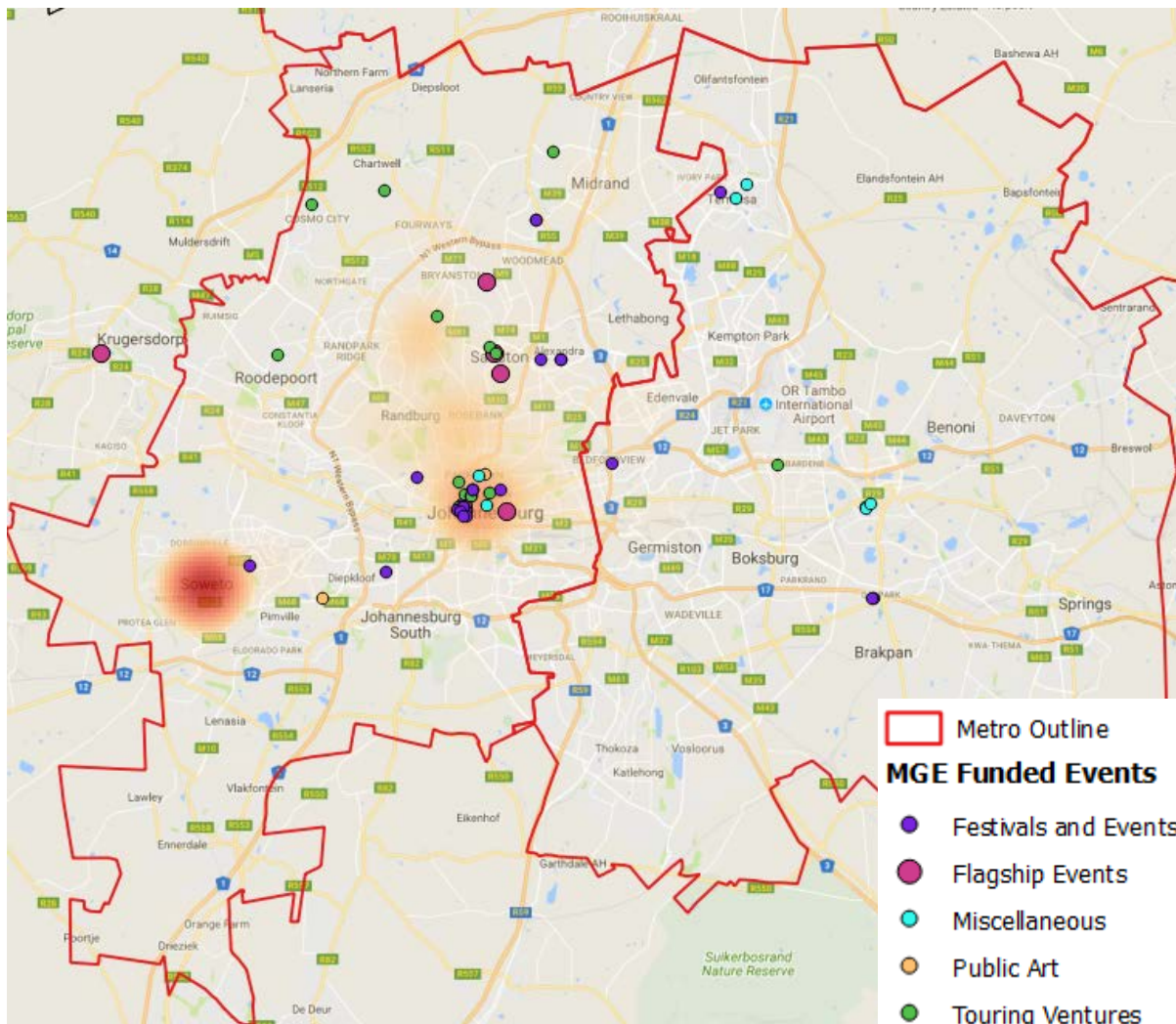




Map 8: Heat Map showing clusters of CCI's and their relationship to MGE funded events in Gauteng

As an example of how this analysis can be applied at provincial level, heat maps for Gauteng and for Johannesburg and Ekurhuleni were also created. The Gauteng map (Map 15) shows a clear alignment of MGE funded event frequency with areas where there are more CCIs.





Map 9: Heat Map showing clusters of CCI's and their relationship to MGE funded events in Johannesburg and Ekurhuleni

The heat map of Johannesburg and Ekurhuleni show a slightly different picture (Map 16): While there is clear alignment between a CCI “hot spot” and MGE funded events near the centre of Johannesburg, there is also a CCI cluster identified in Soweto, which does not have MGE funded events clustered around it. A policy implication of this finding could be that, at a municipal level, CCI hotspots that are not currently associated with much MGE funding could be targeted for information days or roadshows to increase MGE funding applications from these areas, which clearly have CCI activity and potential for development.

In general, what the heat map analysis indicates is that MGE funding is well aligned with those areas where CCI clusters are known to exist and have already been mapped, which is what one would expect: more applications from areas where there is more CCI activity.



4 Conclusions and Policy Suggestions

Although cultural mapping studies are growing in popularity, the use of geographic information systems (GIS) to analyse spatial data from multiple sources is relatively rare in cultural research. GIS maps have great potential as policy analysis tools because they can show relationships between variables in a visual way that can help to identify creative hotspots and comment on funding equity.

This paper demonstrates how this can be done using data from (i) the Mzansi's Golden Economy (MGE) funding programme (Department of Arts and Culture) on the number of applicants who received funding, and the amount of funding received between 2015 a 2017; population density and household economic status from Statistics South Africa; and a database of cultural and creative industries (CCIs) in South Africa.

An acknowledged limitation of the research is that only about half of the MGE funding recipients in the three years of the study could be spatially located within South Africa.

A knowledge management system for MGE funded events, if used effectively can be used to correct the discrepancies and missing values in the data that caused issues in this study.

Knowledge management systems refer to any kind of IT system that stores and retrieves knowledge; it improves collaboration and locates knowledge/information sources.

There are many different knowledge management systems, but the recommendation for tracking MGE funding applications is to use the *Document Management System*. Document management systems, as the name implies, are systems that aid in the publishing, storage, indexing, and retrieval of documents.

Usually, a document management system will include the following functions:

Capturing: In order for paper documents to be useable by the document management system, they must be scanned in or captured. This means that each funding application must be captured by the person/s who receives it.

Classification using metadata: Metadata (data about data) is used to identify the document so that it can be retrieved later. It can include keywords, date, author, or a unique code (numerical order) etc.

Indexing: There are many different forms, and a good indexing system is crucial. The index function will use metadata.



Searching & retrieval: The document management system's search function is one of its most important elements. Search functions can be more or less sophisticated, allowing for searches by elements of the document's metadata, or by searching the actual document for key words/phrases and using semantic analysis to determine relevance.

Administration & security: Any IT system needs to be regulated and policed. Users require different levels of authorization, with certain more sensitive functions/documents being available only to selected users/administrators. Document management systems will also have backup systems in place in case of mishaps.

By using the above-mentioned document management system, it would be easier to record funding applications received. Any person authorised to do so can then retrieve any particular application and check the status thereof. Various reports can also then be drawn from the data provided in the applications forms with ease. The use of such a system would not only improve record-keeping, but also enable analysis of funding patterns, as demonstrated in this report.

By combining the sources of data into visual maps, interesting relationships were revealed:

As expected, MGE funded cultural events and activities tend to cluster around metropolitan areas and larger cities, which is equitable in terms of population density and linked to the goal of economic growth and job creation. To improve funding to more rural areas, DAC could encourage MGE funded projects in cities and metros to partner with cultural producers in more rural areas, as well as encouraging more applications from rural areas themselves.

However, the overall picture from the analysis of Cultural Resources is of well distributed funding, which take into account areas with higher population density where funding would benefit most people, but also does include more rural areas, as well as providing quite a high proportion of funding to poorer municipalities.

Mostly, areas with higher population density are those with more MGE funded events. This makes sense in terms of demand and participation, which depend on having a large enough target market, and in terms of access to suppliers and artists.

There is some concentration of MGE funded events in the northern parts of the country in what appear to be (in terms of numbers) culturally vibrant areas. In particular, Limpopo has a wide variety of diverse and geographically spread MGE funded projects, even though (or because of) the absence of a dominant metropolitan areas. A suggestion for further research would be



to explore what has contributed to Limpopo's success and how it could be applied in other provinces.

In the Western Cape, although MGE funding per person is at a high level, MGE funding recipients are highly concentrated around Cape Town, with almost no other MGE funded projects in the rest of the province. While this aligns with the spatial location of other cultural and creative industries, a policy suggestion could be to encourage and prioritise applications from areas outside the metro in order to improve equity and/or encourage MGE applicants in the metro to partner with co-applicants from the rest of the province.

Areas that have been designated as sites for cultural development, such as Newtown in Johannesburg, and the Grahamstown Creative City project, do have a higher density of MGE funded projects supporting them. Cultural funding internationally is paying more attention to funding spatially organized cultural quarters, cultural cities and cultural clusters, which have been shown to be more effective in encouraging growth and development than stand-alone projects. A policy suggestion could be that, in calling for MGE funding applications, applicants could be encouraged to link themselves to a cultural cluster or quarter by giving priority (or additional funding) to these applications. Alternatively, MGE funding could be provided to a group of clustered applicants, rather than to individual events.

National and Provincial Flagships improve funding distribution significantly, occurring in areas where there is otherwise little other MGE funded cultural activity, or the presence of other CCIs, sometimes in very impoverished areas of the county. While funding to culturally vibrant areas in metropolitan areas with high population density makes sense from an economic point of view, cultural funding to more rural, poorer areas is important from an equity and development perspective. A policy suggestion following on from this finding is the continuation of the Flagship programme, with possible extensions, such as allowing nomination of more Provincial Flagships in under-represented provinces.



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APPROVALS FOR THE SOUTH AFRICAN CULTURAL OBSERVATORY M&E KDI REPORT – Mapping the spatial distribution of Mzansi Golden Economy funding using GIS

	NAME	TITLE	SIGNATURE	DATE
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