



**THE ANNUAL REPORT:  
THE DEVELOPMENT OF AN ENVIRONMENTAL RESEARCH  
REGISTER (ERR) FOR THE 2018/19 FINANCIAL YEAR**



**GAUTENG PROVINCE**  
AGRICULTURE AND RURAL DEVELOPMENT  
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## **1. PURPOSE**

This Annual report provides development progress of an Environmental Research Register (ERR) from inception to February 2019. This project is part of Gauteng Department of Agriculture and Rural Development (GDARD)'s Annual Performance Plan for the 2018/19 financial year, under the Environmental Policy, Planning and Coordination (EPPC) Directorate.

## **2. BACKGROUND**

Presently, the Environmental Policy, Planning and Coordination Directorate lacks a reporting tool on the collective number of different types of research projects being undertaken in the Gauteng Province.

The Research and Development unit under the Environmental Policy, Planning and Coordination has embarked on a process of developing the centralised environmental research database.

ERR is intended to serve as a reporting tool that captures data and produces reports on research carried out by various institutions. The ERR can be used to generate customised reports from different institutions or environmental sectors, and to perform gap analysis. This can assist in generating Key Performance Indicators reports and annual reports as well as contributing to departmental media releases.

The process of the creation of the ERR and how the ERR is currently looking is explained below.

## **3. DISCUSSION**

The ERR responds to the lack of centralised information portal for environmental researches conducted in the Gauteng Province. This will not only allow the GDARD officials with easy access to research information but also assist external stakeholders and the general public.

The Environmental Research Register provides greater exposure for researchers and research institutes. This register has the ability to increase the collaboration

and sharing. Reporting can be done on all information that has been captured such as:

- Researcher profile,
- Geographic location,
- Types of source used for disseminating research outcomes,
- The type of outcomes.

The ERR objectives are:

- To establish and maintain a database that can be used as a benchmark for researches conducted in Gauteng province to support government, research institutions, private sectors and Non-governmental organisations (NGOs);
- To provide essential information to decision makers;
- To track information required by different statutory bodies and stakeholders;
- To provide annual progress reports to the entire provincial government department regarding the number of environmental research projects undertaken;
- Ensure that the research data and reports are saved on the departmental server and accessible to all stakeholders; and
- Facilitate research collaboration between various research institutions and provincial government.

The information captured on the ERR (see attached Annexure 2) is as follows:

- Project title;
- Names of researcher(s);
- Year of publication;
- Contact details (i.e. telephone number, fax and or email);
- Research objectives;
- Economic sector (i.e. standardised economic sectors as per the National GDP);
- Focus Areas (i.e. Agriculture, Air Quality, Disaster management, Ecological research: Biodiversity, Ecological research: Ecosystems, Energy, Environment, GIS, Health, Industries, Infrastructure, Mining, Transport, Waste, Water)
- Area of implementation;
- Host institution;

- Geographic area (i.e. The municipality in which the project/study focused on);
- Status (i.e. completed, ongoing or discontinued);
- Accessibility of the project (i.e. yes or no);
- The output source (i.e. Journal, Institution's online library, Map, Government publications, forum/ seminar/ conference, other website/ online source);
- Output type (i.e. Paper in Journal, Thesis, Government report, Research Report, Conference proceedings, policy/ strategy/framework, survey, paper in website);
- Brief description of output/s (Abstract); and
- Link to abstract or research study/ name of source.

### **3.1. METHODOLOGY**

To date 136 studies have been captured after being screened for relevance and identified to fall within the scope of the database (see attached Annexure 2). The scope was determined in the concept note approved by the HoD on the 13<sup>th</sup> of December 2018. The process of developing the ERR included the following:

#### **a) Data Collection**

Various types of data were collected from the sources such as the NGOs, three spheres of the government, private sectors and academia/research institutions. This was done using the desktop technique. This refers to the use of internet searches with the aim of collecting information. This technique will in future be supplemented by visits to institution's libraries and information hubs in the next financial year.

As part of the data collection process, the objectives and aims were summarised after reading the research report to clearly depict what the study hoped to achieve and avoid ambiguity. A few institutions were contacted to check the validity of contact details of the studies captured.

## **b) Data Management**

Data and relevant records such as research papers and links to the research studies were captured and stored during the register compilation process and have been saved on the GDARD shared folder to enable access after the register has been completed.

## **c) Data Quality**

The Research and Development unit is responsible for updating and maintaining the database. Data collection procedures and quality control measures to ensure data accuracy and integrity are being considered in the development of the ERR. Drafts of the ERR underwent internal reviewing for comments and suggestions for improvement. The improvements include modifying of columns, uniform capturing practices using drop down lists and ensuring user friendliness, e.g. Statistics South Africa (STATSSA)'s standardised economic sector column was added.

Quality checking included verification of collected data and its relevance. The studies that didn't fit within the defined parameters and scope of the database were removed. The report was also circulated for comments and these comments were implemented. Quality check process is continuous and as new information is being captured in the database on regular basis.

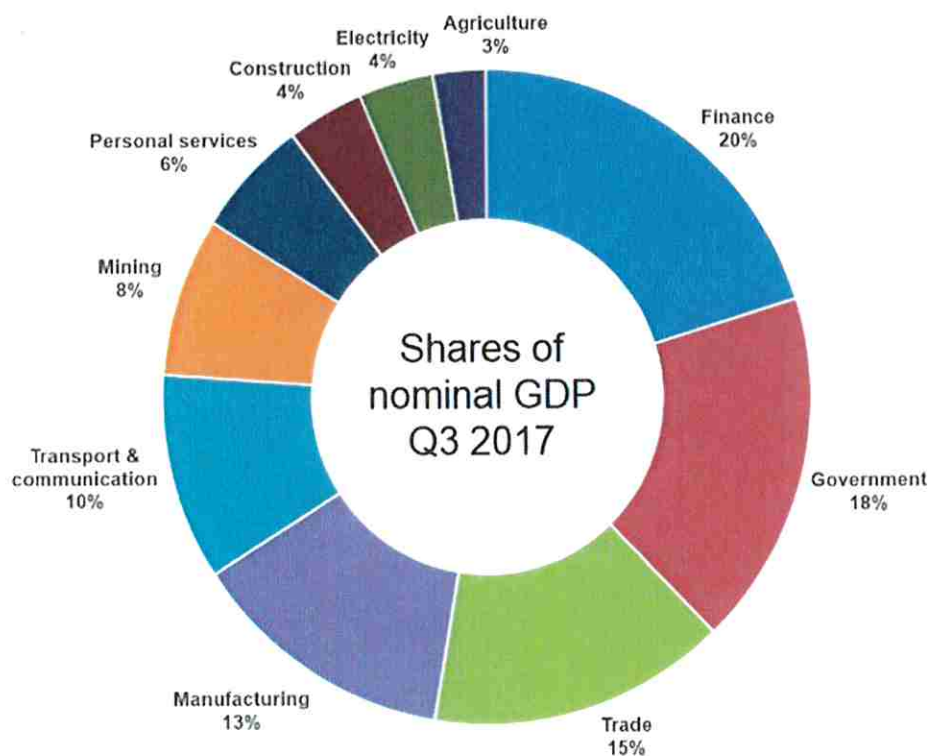
## **d) Data sharing outside the GDARD**

The ERR and approved supporting documents (i.e. manual and annual reports) will be shared with interested individuals, organisations or institutions outside of the GDARD using GDARD website. This will promote collaboration and partnership with other research institutions and will reduce duplications.

### 3.2. FINDINGS

The results presented below are from 136 studies currently captured in the ERR. Adjustments to the register were continuously made to ensure the register will be user-friendly.

The below chart illustrates the standard definition of economic sectors that make up the Gross Domestic Product (GDP) of South Africa. The reports generated can therefore be used to monitor the amount of research that goes into each standard economic sector that contributes to the GDP.



Source: <https://www.brandsouthafrica.com/investmentsimmigration/business/investing/economic-sectors-agricultural>

#### a) Number of studies per economic sector

The desktop study determined that government has the highest number of studies captured in the ERR due to most services (e.g. Air Quality, Disaster management,



Health, Waste and Water) being the function of the government sector. The mining sector is second due to the province being heavily mined and mining being one of the drivers to economic development in Gauteng province. Agriculture is third due to importance of food security in this most populous province.

**Table 1: Number of studies per economic sector**

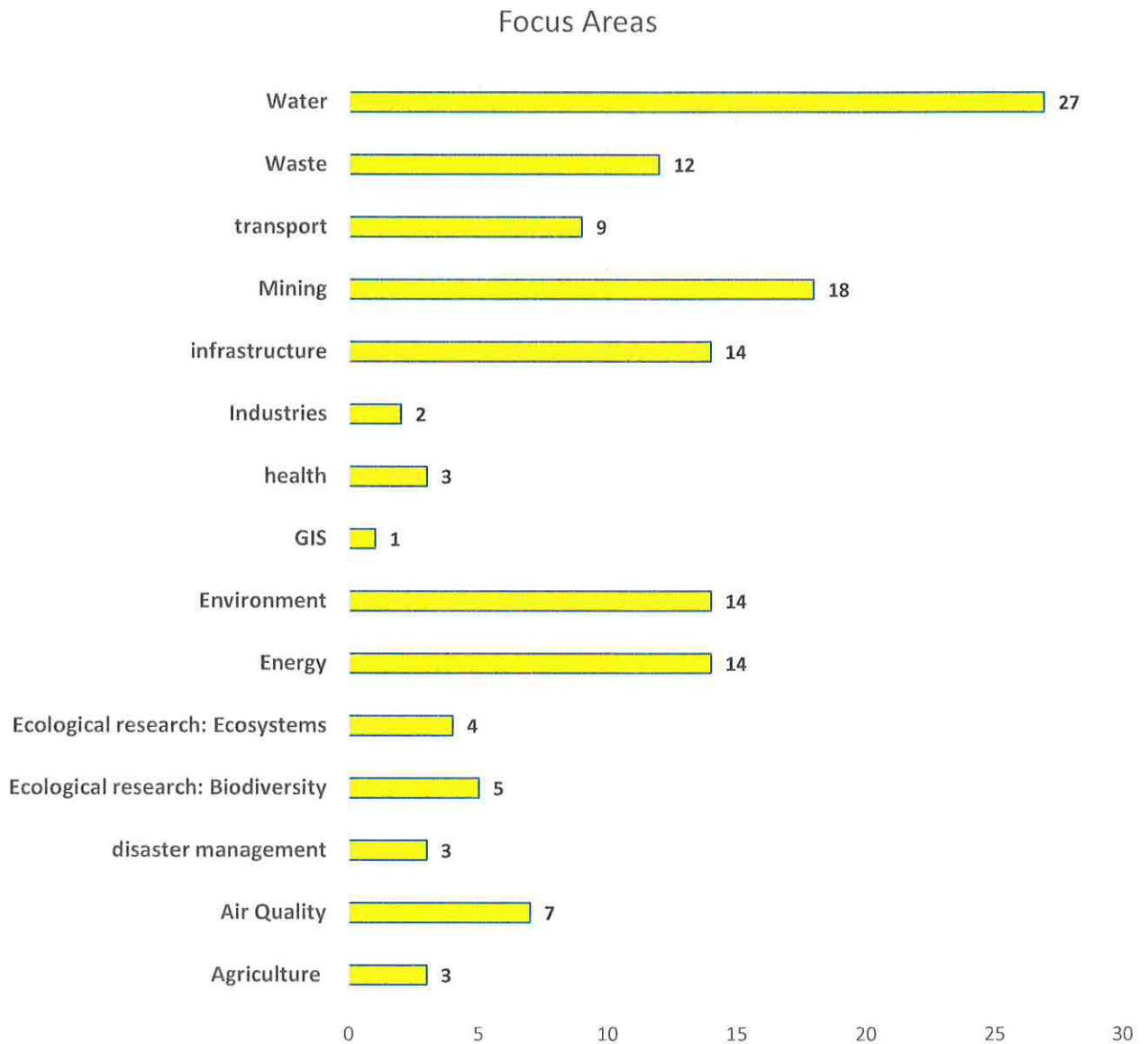
<b>Economic sectors</b>	<b>Number of studies</b>	<b>Percentages</b>	<b>Grading (from highest to lowest)</b>
Agriculture	19	14 %	3
Electricity	16	12 %	4
Construction	14	10 %	5
Personal services	2	1.5 %	8
Mining	20	14.7 %	2
Transport	8	5.8%	6
Communication	0	0%	10
Manufacturing	4	2.9%	7
Trade	1	0.7%	9
Government	50	36.8%	1
Finance	2	1.5%	8
<b>Total</b>	<b>136</b>		

#### **b) Focus areas**

The below graph illustrates the focus areas of the studies that are currently captured on the ERR. The below categories are environmental categories used in the ERR.

From the below graph it is evident that most of the studies focus on the water sector. This could be as a result of importance of water because Gauteng is water stressed area dependant on water imports and affected by extreme climate conditions causing both floods and droughts. This is followed by mining due to mining being one of the major economic drivers of the province being mining.

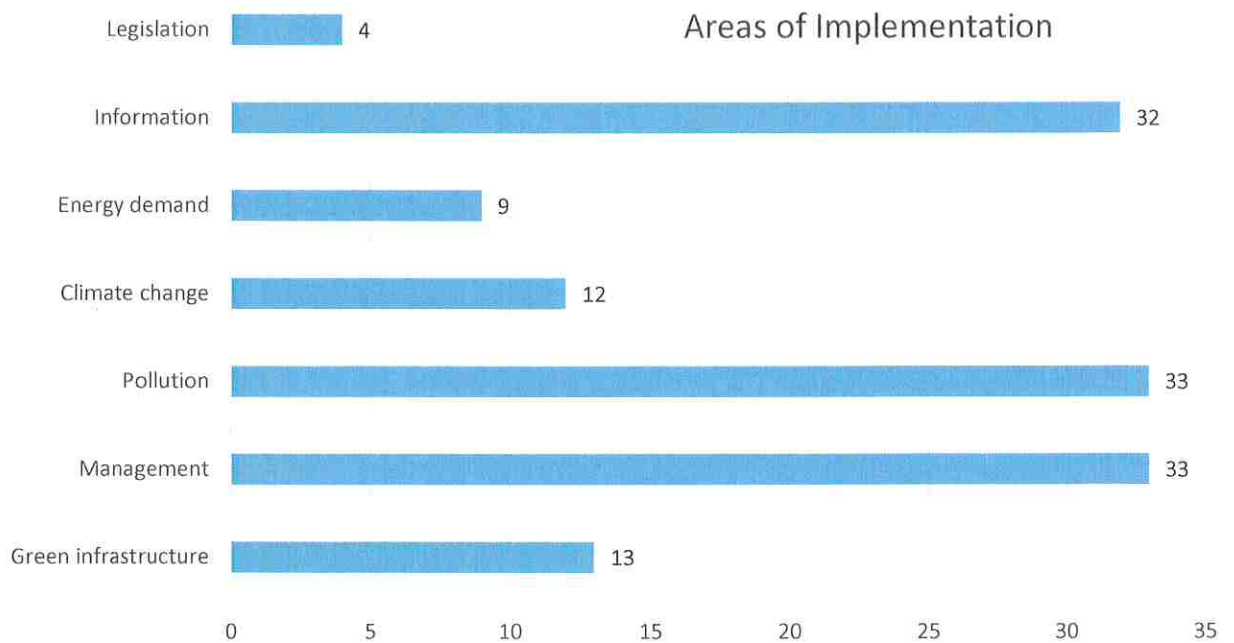
It is noted that there is limited research on health and disaster management. The industrial research looks also very limited but it is possible that this type of research is proprietary and could not be accessed through internet searches.



Graph 1: Focus areas

### c) Area of implementation

Each study captured on the ERR was further analysed to check the area of implementation. Since the focus was on environmental research the largest number of studies (33) were either used for sustainability management (referred below as Management) or dedicated to different aspects of Pollution. It is interesting to note that access to information is very important and 32 of the studies were mainly seeking information that can be used for research. This classification is still quite vague and will be improved based on inputs from users of the ERR.



Graph 2: Areas of implementation

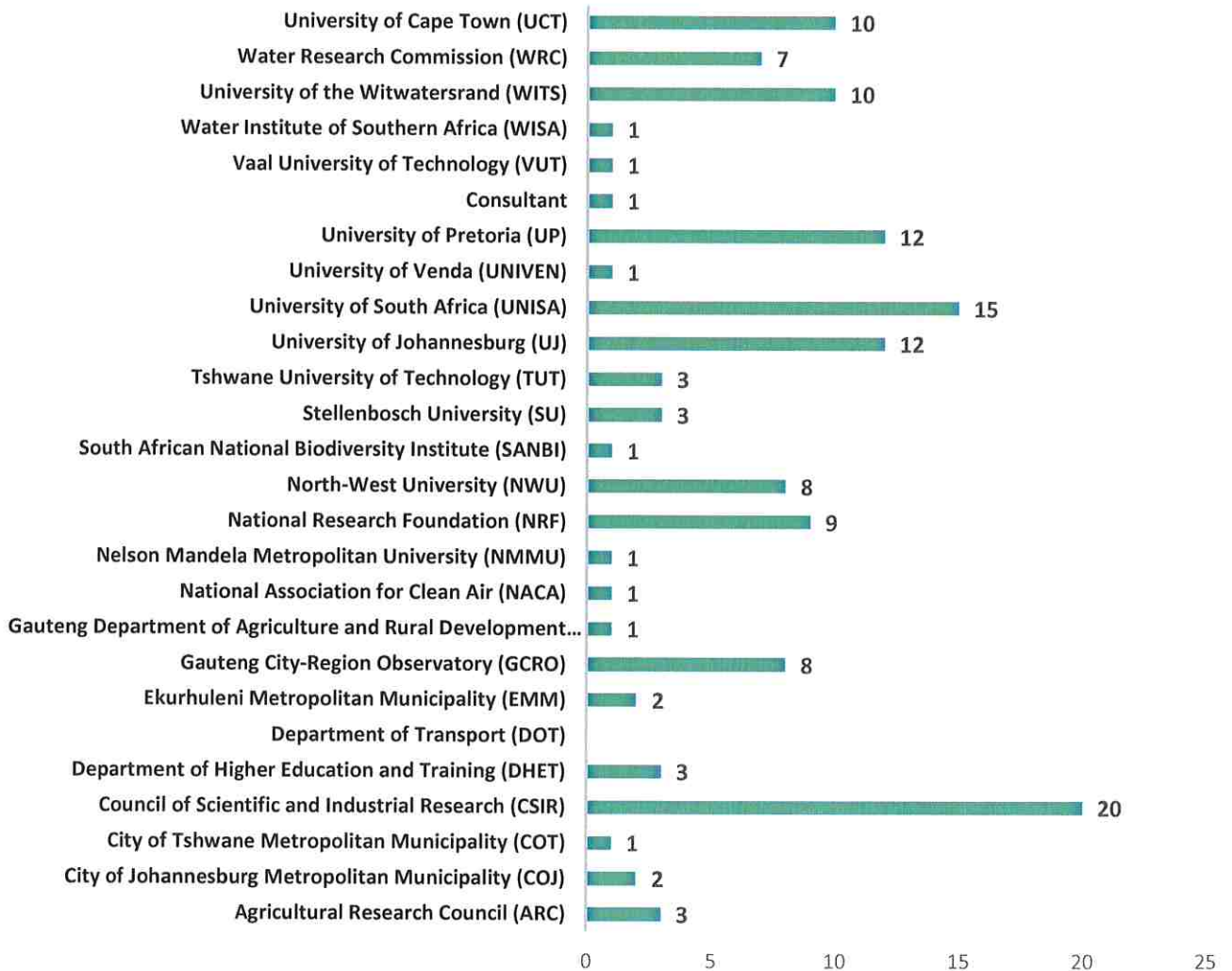
#### d) Host institution

The below graph illustrates the number of studies captured in the ERR per institution or source. The main aim of the below graph is to show the diversity of the sources of information. It also gives an indication of the possible stakeholders to be contacted for grey data. Grey data refers to the information that is not put on the public domain but can be accessed directly from the institution.

From the graph below the Council of Scientific and Industrial Research (CSIR) as a research institution has the highest number of studies captured, followed by institutions of higher learning such as University of South Africa (UNISA), University of Pretoria (UP), University of Johannesburg (UJ), University of the Witwatersrand (WITS) and University of Cape Town (UCT).

The below graph also shows that even though a number of environmental research projects are produced by the government only a few of them get to be published online and accessible to the public. Hence Batho Pele Principles such as access to information and transparency may be compromised.

# HOST INSTITUTIONS



Graph 3: Host institutions

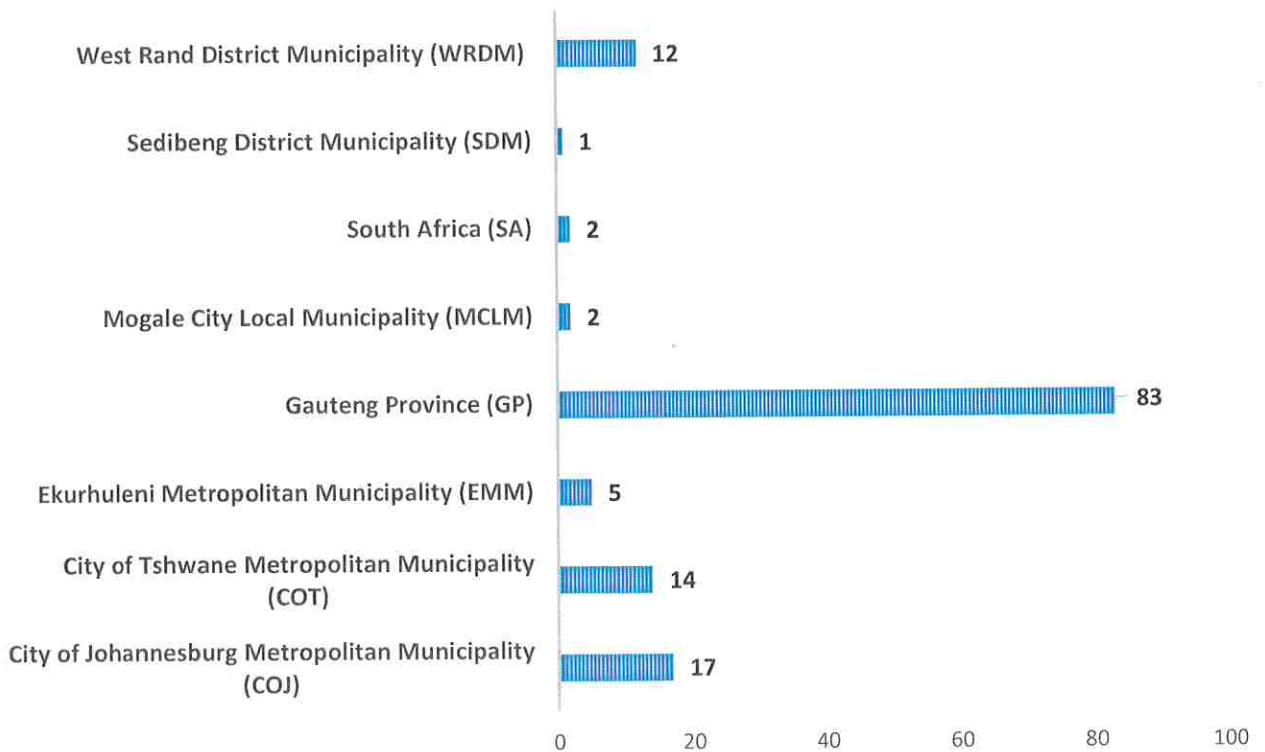
## e) Geographic location

The below graph shows the distribution of studies per municipality. The province was used as a study area in cases where the study included more than one municipality. South Africa was also used as a geographic area for studies that had a number of provinces together with Gauteng as a case study.

The results showed that Gauteng province has the highest number of studies captured (83 out of the 136), followed by the City of Johannesburg Metropolitan Municipality with (17 out of the 136 studies) captured.

Important to note in this aspect is that some institutions outside of Gauteng Province had their case studies in Gauteng.

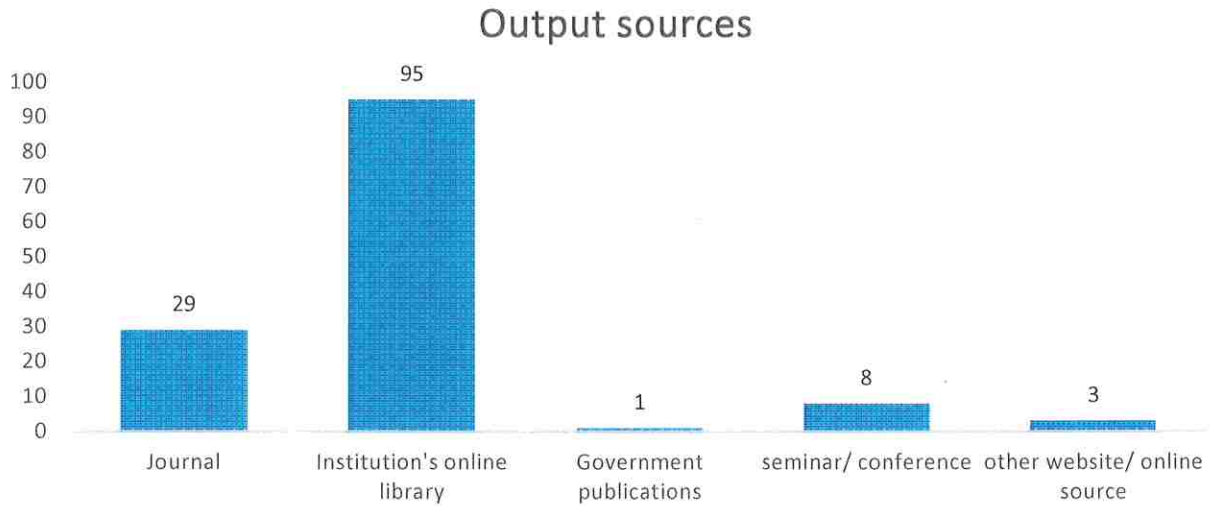
## GEOGRAPHIC LOCATIONS



Graph 4: Geographic locations of case studies

### f) The output source

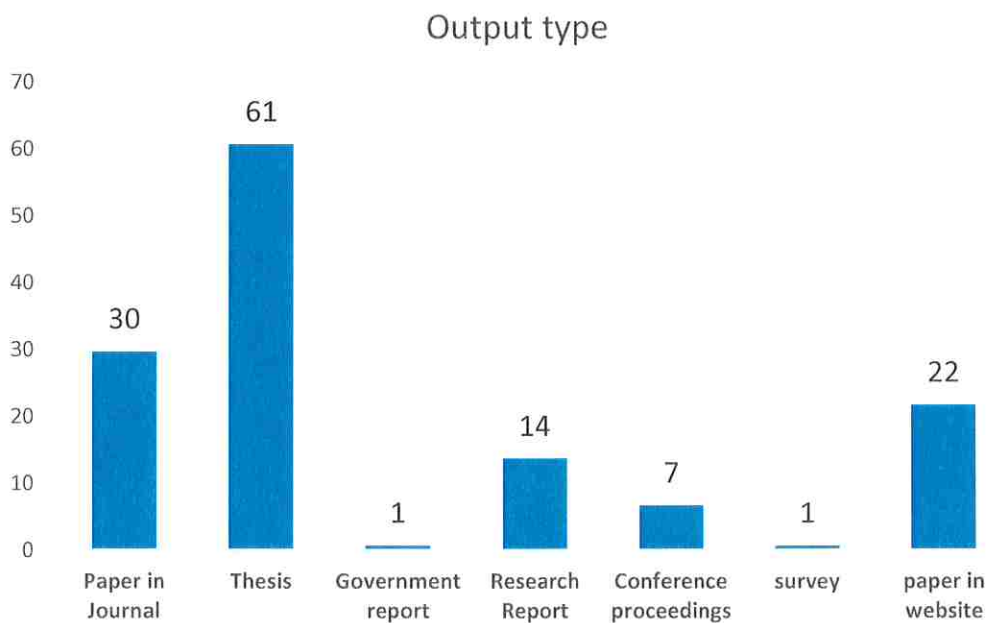
The graph below shows the preferred source of dissemination of research output or studies. As indicated above, most institutions use their online library while some disseminate their information through sources such as journals. It is important to note that while harvesting the information, desktop techniques were used hence the output sources are online sources that were visited.



Graph 5: Output sources

### g) Output type

From the below graph, it can be deduced that most of the studies captured on the ERR are produced by universities in form of thesis. The least number of studies captured is government report probably due to the fact that government doesn't publish their outputs online.



Graph 6: Output type

### **3.3. WAY FORWARD/ RECOMMENDATION**

The register and approved reports will be shared with stakeholders outside the departments using GDARD website. This will promote collaboration and partnership with research institutions, hence reduce duplications caused by researchers working in silos.

# Annexure 2







