Measuring the impact of research outputs from the Institute for Poverty, Land and Agrarian Studies (PLAAS) on the scholarly domain and in social media, 1995-2015.

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature: Date: 13 March 2017

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ABSTRACT

Scholarly communication has changed with the growth in technology, particularly the internet and the social web. The changes include a broader definition of the scholarly communication format, and the role of social media in the research process, amongst others. This study sought to record the body of work that PLAAS had produced over a 20-year period (1995 to 2015) and to measure its visibility and impact through bibliometrics and altmetrics. It was the first time that such a study had been done. The Web of Science Citation Index and Scopus are two commercial databases that have recently been joined by Google Scholar, the first open database of scholarly items with citation counts based on the entire contents of the World Wide Web. Scopus and Google Scholar were used in this study.

Methods used in the study included the compilation of a full bibliographic record of the outputs during that period. Citation analysis and publication counts were conducted, per author, within Scopus and Google Scholar. Altmetric analysis was achieved with the Altmetric Explorer database, and by studying three PLAAS grey literature outputs in more depth for altmetric indicators. The last method used was a small survey based on an online multiple-choice questionnaire of researchers at PLAAS to investigate their attitudes to a selection of the social media platforms commonly used by scholars.

The full list of outputs, once compiled, showed a composition of 54% grey literature published by PLAAS and 46% journal articles and monographs. The results showed that bibliometrics, as a purely quantitative indicator, can be useful in measuring the impact of a body of work on the scholarly domain and in this study indicated high publication and citation rates. The authors of the highest number of PLAAS outputs and with the highest citation counts and *h*-indices, were found to be the same throughout the study. These authors are closely associated with the Institute and have contributed to the good academic reputation of its research. The study was inconclusive with regard to the impact on social media platforms as none of the grey literature from PLAAS had a unique identifier which made it difficult to track; in addition, the use of social media by the Institute and its researchers was intermittent and uneven in covering all the PLAAS-published outputs that were produced.

Key recommendations for PLAAS to improve the visibility and impact of their outputs in scholarly and social contexts were to use unique identifiers, to track their social media activity and to keep author profiles up to date. Further use and application of the research design in other research units and departments at UWC will generate results that are useful to research management at UWC.

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AAS	Altmetric Attention Score
ACRL	Association of College and Research Libraries
ARL	Association of Research Libraries
CILT	Centre for Innovation in Learning and Teaching
DOI	Digital Object Identifier
GS	Google Scholar
HEFCE	Higher Education Funding Council for England
JIF	Journal Impact Factor
NGO	Non-governmental organisation
NRF	National Research Foundation (South Africa)
OA	Open Access
ORCID	Open Researcher and Contributor ID
PLAAS	Institute for Poverty, Land and Agrarian Studies
PoP	Publish or Perish (software)
SARChI	South African Research Chairs Initiative
SOG	School of Government
UCT	University of Cape Town
UWC	University of the Western Cape
WoS	Web of Science

CHAPTER ONE: Introduction

1.1 Introduction

Scholarly communication has existed for centuries, beginning with the first scientific journal, *Philosophical Transactions of the Royal Society,* published in 1665*.* Academic journals were thus closely associated with scholarly communication and, apart from the addition of monographs and conference proceedings, this continued relatively unchanged until recently. Scholarly communication is defined by C. Borgman (2000:13) as "the study of how scholars in any field (e.g. physical, biological, social and behavioural sciences, humanities, technology) use and disseminate information through formal and informal channels". There are many definitions of scholarly communication but Borgman's is preferred in this study. Recent progress in technology, including shifts to make information available openly and freely on the internet, is changing the practice of scholarly communication and broadening the original definition (Gunelius, 2015), which will be further investigated in the study.

Bibliometric analysis is one quantitative method for assessing research outputs around which scholarly communication functions. There are other approaches, like peer review, that is qualitative and equally important, but will not be studied here. Bibliometrics has a history going back to the early twentieth century and it was most notably Pritchard (1969:349) who gave it the name "bibliometrics". Haustein and Larivière (2015:1), amongst others, cite Pritchard's definition as a way "to shed light on the processes of written communication and of the nature and course of development of a discipline (in so far as this is displayed through written communication), by means of counting and analyzing the various facets of written communication". Scientometrics was another name used for this approach and citation counts were the first indicators of scholarly impact developed in the mid-20th century. Initially, print indices to journals in various fields were produced and later citation indices, such as the Journal Citation Reports, published in 1975. More and more scholars found the concept of tracing their work and that of others highly desirable, and actively pursued such tools. The Science Citation Index, initiated by Eugene Garfield in the 1960s, had made finding journal articles and authors easier

than before, more so when the electronic versions were developed (Roemer & Borchardt, 2015: 28).

Another quantitative method of measuring research impact is altmetrics, defined by Priem, Groth and Taraborelli (2012:1) as "the study and use of scholarly impact measures based on activity in online tools and environments". These new metrics have emerged out of the social web and social media, and they track scholarly communication in that context rather than in the purely scholarly one of citation indices. The concept of altmetrics was designed to move away from the measurement of scientific success based only on the number of journal articles published and citations received, by considering a wider range of research outputs and metrics (Lapinski, Piwowar & Priem, 2013:292). The term “altmetrics” was first introduced in a tweet in 2010 (Priem, 2010), although tracking scholars and their documents on the web was introduced years before that. Thelwell et al. (2013:2) claimed that “non-citation-based metrics” have been used for some time and are not “novel” and others, such as Cronin (1997:1326) writing in 1997 raised awareness of the potential of the social web to provide a “transparent” way of evaluating scientists beyond citations.

This study records the scholarly outputs of the Institute for Poverty, Land and Agrarian Studies (PLAAS) since its inception in 1995, and using bibliometrics and altmetrics, describes the level of visibility and impact that these outputs received from 1995 until 2015.

1.2 Background to the study

In order to understand the background to this study, this section will describe the Institute’s history and secondly, the nature of scholarly communication at PLAAS.

1.2.1 Institute for Poverty Land and Agrarian Studies (PLAAS)

PLAAS, originally called the Programme for Land and Agrarian Studies, celebrated 20 years of existence in 2015, having been initiated by Professor Ben Cousins and a funding grant from the Ford Foundation in 1995 (PLAAS, 2005:1). This was shortly after the first democratic election in South Africa in 1994 and the main purpose of the Programme was to “train black applied social scientists in the land and agrarian

reform sector, and to engage in policy-relevant research" (PLAAS, 2005:1). PLAAS worked with the newly elected South African government by running training workshops with government departments and officials and acting as "consultants in roles ranging from facilitators of programmes, (such as policy workshops) to reviewers, and evaluators of projects" (Aliba, 2008:17). The Programme was placed within the University of the Western Cape (UWC) with the aim of conducting high quality "critical research" to enable the new government in South Africa to develop policy and practice around issues of land and its redistribution, as well as poverty and agrarian reform (PLAAS, n.d.).

The disciplinary remit of PLAAS includes research into land rights, poverty and natural resources management (such as water) which is conducted in a broad social sciences framework. The research projects (lasting two to three years) focus on understanding the social, economic and political dynamics in the areas of research. (PLAAS, 2005:3). According to Professor Cousins in the early years of PLAAS's existence,

> "A primary goal at PLAAS remains, therefore, the strengthening of capacity for high quality applied social science research in the land reform, rural development and natural resource management sectors, and making strong policy recommendations on the basis of analytically sound and empirically informed research" (PLAAS, 2000:1).

In 2009, PLAAS officially became an Institute of the university, and currently goes by the name, Institute for Poverty, Land and Agrarian Studies. This was largely as a result of the university taking steps to redefine itself as a research-based institution, setting out an Institutional Operating Plan that emphasised the importance of socially relevant research, and identifying PLAAS as an important component of its strategy (PLAAS, 2012:37). Publishing and communicating research findings is an explicit aim of the Institute as expressed by Cousins, "Research findings and policy recommendations need to be communicated to make an impact, and PLAAS devotes considerable resources to its publishing programme" (PLAAS, 2000:1).

“The Institutional Operating Plan: 2010-2014” of UWC and particularly “The research policy of the University of the Western Cape” contained within it, refer to a changing higher education environment. It states that the role of the university is to encourage academic staff members to publish more in high impact journals and asserts that scholarly publication in research journals remains the primary route for promoting UWC research within a disciplinary community.

> “The University needs to introduce as part of the incentive scheme a mechanism that will encourage staff members to publish more in high impact journals in their respective disciplines, thereby applying and qualifying for a valid NRF-rating” (University of the Western Cape, 2009:5).

This policy supports the National Research Foundation (NRF) rating and evaluation system that is “despite its shortcomings … the only available mechanism for international peer evaluation of one’s standing as a researcher” (UWC, 2009:5). The incentive and reward scheme is clearly devised by this university (and most others in South Africa) to uphold the traditional style of scholarly communication within the constraints of a broader national research strategy as set out by the NRF.

The PLAAS Resource Centre, which houses a collection of books, journals and unpublished material relating to the areas of PLAAS’s focus, was established in the early 2000s. The management of the Resource Centre and the production of PLAAS-published research outputs were the responsibility of a PLAAS librarian in the early years. In 2010 with the post of librarian vacant, and a new project funded by Atlantic Philanthropies, a separate Information and Communications Officer position was created, in addition to a Policy Dialogue Officer (PLAAS, 2012). These staff members “helped PLAAS move much more decisively into using the internet and social media” (PLAAS, 2012:29). One of the aims of the organisation at this time was to engage “on quality research, share [our] work with others in the field and, where appropriate, impact on policy” (PLAAS, 2012:33).

Since the founding of the organisation in 1995, the total body of work of PLAAS has not been quantitatively measured to investigate impact, and this study will endeavour to do that, with the use of the methods and tools of bibliometrics and altmetrics.

1.2.2 Scholarly communication at PLAAS

Scholarly communication behaviour at PLAAS has followed the broad trends in the academy and has changed in the 20 years of PLAAS's existence. Articles in print journals, books and book chapters as well as conference proceedings and other traditional forms of scholarly communication were produced by PLAAS researchers. In addition to these scholarly outputs, in the early years, PLAAS produced a consistent amount of "grey literature", including reports of research projects, evaluations for government and workshop material for training of government departments; this was followed later by policy briefs, occasional papers and other outputs (Pointer, personal communication 2017, March 03).

The recorded grey literature published by PLAAS consists mainly of the following formats: policy briefs, research reports, occasional papers, books, videos, working papers, annual reports, presentations and policy submissions. A newsletter called *Umhlaba Wethu* that aimed to inform government and non-governmental organisations (NGOs) about key issues in land reform was first produced in 2004 (PLAAS, 2005:14) These publications were frequently the result of collaboration with other authors and institutions, and were generally not peer reviewed although they were often based on the same research from PLAAS which was published in scholarly formats.

Technology inevitably had a significant effect on scholarly communication everywhere, and PLAAS similarly felt the impact. PLAAS's publications from 1995 were printed and the print copies were distributed physically by mail but since approximately 2004, the publications were also sent as links via email and were made digitally available on the PLAAS website (with a CC-BY licence) to be used, downloaded and cited; a few blogs were posted from 2008 (PLAAS, n.d.), and from 2011, the PLAAS Information and Communications team started sharing research via Twitter and Facebook (PLAAS, 2012:29). Fewer print copies were disseminated, and some, as in the case of the working papers, were available only electronically. In 2013 YouTube, LinkedIn and GooglePlus, were used regularly to disseminate the information that emerged from, and related to, PLAAS's research. The

Communications and Information Officer initiated the use of social media in the research institute, and succeeded in building a Twitter following of 5 258 (in June 2016). Approximately two new blogs per month were posted on the PLAAS website in 2015, covering various aspects of current research (Pointer & Kerchhoff, 2016). Some of the PLAAS researchers also tweeted and used Facebook on an individual basis, primarily related to their own research.

1.3 Research problem

Figures and statistics of PLAAS outputs and achievements were produced for their 20th anniversary in 2015 and these provided a starting point for this study. According to these figures, 743 outputs for the period 1995-2015 were published which included 399 documents published by PLAAS or its partners, and 344 documents published by peer-reviewed journals or monograph publishers.

At the time of this study, PLAAS had no collated record of its research outputs nor of the views, downloads, citations, or other uses made of the outputs by individuals, organisations or policy makers outside of PLAAS. The lack of such a record limited the ability of the Institute to measure its impact and visibility and this study aimed to fill that gap in the scholarly communication of PLAAS.

1.4 Objectives of the study

This study investigates scholarly communication in PLAAS from its formation in 1995 until December 2015. The main objective of this study is to record in detail the corpus of PLAAS research outputs over the period 1995-2015 with a view to measure its impact in the scholarly and social contexts. The focus is on recording the different types of scholarly communication at PLAAS and measuring their visibility using available bibliometric and altmetric tools. The specific objectives are:

a. To record the body of research outputs, both externally and internally published, for the period 1995-2015;
b. To use bibliometric and altmetric analysis on the scholarly outputs to measure activity and visibility of the researchers at PLAAS; and
c. To investigate the impact of the different outputs measured through bibliometrics and/or altmetrics.

1.5 Motivation for the study

Bibliometric analysis is an established field of study in librarianship and is accepted as a quantitative measure of scholarly impact, while the emerging area of altmetrics provides a different and complementary perception of impact from that of bibliometrics. Together these metrics cover scholarly and social (including policy-related) spaces and a combination of both these types of metrics, or a "basket of metrics" as described by the University of Waterloo Working Group on Bibliometrics in their "White Paper on bibliometrics" (2016: viii), is considered best for complete analysis of scholarly outputs.

PLAAS researchers produce a number of scholarly outputs that are published in peer reviewed journals and elsewhere, and they collaborate with many local, regional and international authors, but the Institute has no empirical report of how visible the research is. A bibliometric analysis can assist in providing the Institute with a quantitative measure of their visibility and impact. The metrics could also indicate to the Institute that changes in publication strategies might help to improve impact, as suggested by Pouris (2006:503) in her study.

The Institute engages with policy makers and the public by attending sessions in parliament, communicating in the news media, and publishing and disseminating a large amount of grey literature intended for that audience, amongst other activities. This grey material is not indexed in databases such as Scopus and Web of Science (WoS) (although Google Scholar [GS] does include some) and is therefore not usually included in a bibliometric analysis. Altmetrics could assist to measure how much attention is being given to all PLAAS outputs, either complementing bibliometrics if available, or providing the only indicators, and thereby providing insight into whether more could be done to promote them on social media.

In addition, as a donor funded institute reliant largely on externally sourced funds, PLAAS has continually to argue for its relevance to current or potential donors. A report with indicators (bibliometric and altmetric) showing visibility and impact of research outputs could be beneficial when reporting to donors or applying for funding.

1.6 Scope and limitations of the study

Included in the study is a list of all the publications, those formally published in peer-reviewed journals and monographs as well as those published by PLAAS. Citation analyses of predominantly journal and monograph literature that is available in the citation indices, Scopus and GS, form another part of the study. Lastly, altmetric indicators that are available for a sample of the outputs from PLAAS are investigated and used to analyse each document in the sample.

The altmetric analysis of the grey literature of PLAAS was limited in covering the body of research ouputs as altmetrics are article-level metrics. It was not possible to calculate a composite count per author from their outputs as citation analysis does. Altmetric results cannot therefore be compared directly to bibliometric results. After consulting the literature and experts in altmetrics, it was decided that this study will select a sample of the grey material for further investigation.

The survey of PLAAS authors was conducted with those employed at PLAAS in 2016, at the time of the study (12), and not all the authors who produced outputs between 1995 and 2015 (33).

1.7 Structure of the report

The report on this research has the following structure. The Introduction comprises an explanation of the research problem, the background, the objectives of this research, the limitations and the motivation for the study. Chapter Two reviews existing literature on the following: scholarly communication, social media in research, the open movement, and the measurement of research impact using bibliometrics and altmetrics. Chapter Three describes the research design, the methodology and the data collection. Chapter Four presents the results, any trends are noted and their relevance discussed. This is followed by the Conclusion, where recommendations based on the findings are presented. The final two sections are a reference list and appendices.

1.8 Conclusion

Scholarly communication is changing as technology develops and brings new ways in which to communicate; whether it is a research report or a journal article, or whether it is immediate online discussion through social media. PLAAS as a research institute is not immune to these changes and, in fact, embraced the use of social media in its communication of research early on. This study is an attempt to quantify the scholarly outputs of PLAAS by using bibliometric analysis and altmetric analysis where possible. The aim is to understand the impact that outputs from the Institute have had on both the scholarly context as well as the social and policy-oriented context. The literature review in Chapter Two will discuss the changes in scholarly communication and how metrics provide a perspective of visibility and impact of research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of three particular themes from the literature relevant to this research. There is currently a large body of literature covering many different aspects of bibliometrics and of scholarly communication, as well as a growing body of research on altmetrics, and this review focusses on these three themes. The first theme in the study is scholarly communication as a conceptual framework, incorporating the background to print publications and the recent move towards the electronic medium for scholarly outputs. Another theme reviewed is bibliometric analysis, which is described and explained, and critiques of the approach are presented. The last theme that is reviewed and critiqued is the recent and developing field of altmetrics.

2.2 Scholarly Communication

Before considering bibliometrics and altmetrics, it is necessary to understand scholarly communication and the link between them. There is agreement in the literature that scholarly communication was established with the first scholarly journal, *Philosophical Transactions of the Royal Society,* published in print in 1665. The journal, and more specifically the journal article, has been the primary unit of communication since then, although the number of journals and articles has increased enormously since the 17th century (Priem & Hemminger, 2010; Haustein et al., 2015).

Specialised peer-reviewed monographs are another traditional form of scholarly publication, particularly in the social sciences and humanities. These have also been seen as valued means of communicating research and ideas to others in the scholarly community (Czerniewicz, 2013:2). However, the “current economic challenges facing scholarly monograph publishers, particularly university presses, are an aspect of the growing crisis” (ACRL Scholarly Communications Committee, 2003) in scholarly communication and publication, according to the Association of College and Research Libraries (ACRL).

Scholarly communication has many definitions and descriptions in the literature, such as Osburn (1989:277) who contended, almost 30 years ago, that scholarly communication was a "system". He explained that "[m]ajor components of the scholarly communication system are the scholars and scientists who initiate communication, publishers, librarians, and the scholars and scientists who receive that communication". Cullen and Chawner, (2011:461) regarded scholarly communication as a "pattern of creation, organization and dissemination [that] varies from discipline to discipline and may involve monograph as well as journal publication" and they added that it has been "endorsed by the academic community". Borgman (2000:11) viewed scholarly communication as a system that has particular relationships between the various components and sub-systems within it, stating that the study of scholarly communication "includes the growth of scholarly communication, the relationships among research areas and disciplines, the information needs and uses of individual user groups and the relationships among formal and informal methods of communication". Writing later, Haustein, Sugimoto and Larivière (2015) expressed the view that social media impacts scholarly communication and that "after decades of studying scholarly communication almost exclusively with papers and citations, scholars now have access to new sources of evidence".

Since the 1970s, interest and research in scholarly communication increased (Liu, 2003:890; Borgman 1990; Paisley, 1989) and at the same time the volume of journals and journal articles increased (Priem, Groth & Taraborelli, 2012). Haustein and Larivière (2015) believe that it was the increasing volume of outputs that gave rise to the creation of the Science Citation Index in the early 1960s, in order to manage this high volume. This in turn led to bibliometrics becoming "a method that could be massively applied to analyze patterns of scholarly communication and evaluate research output" (Haustein & Larivière, 2015).

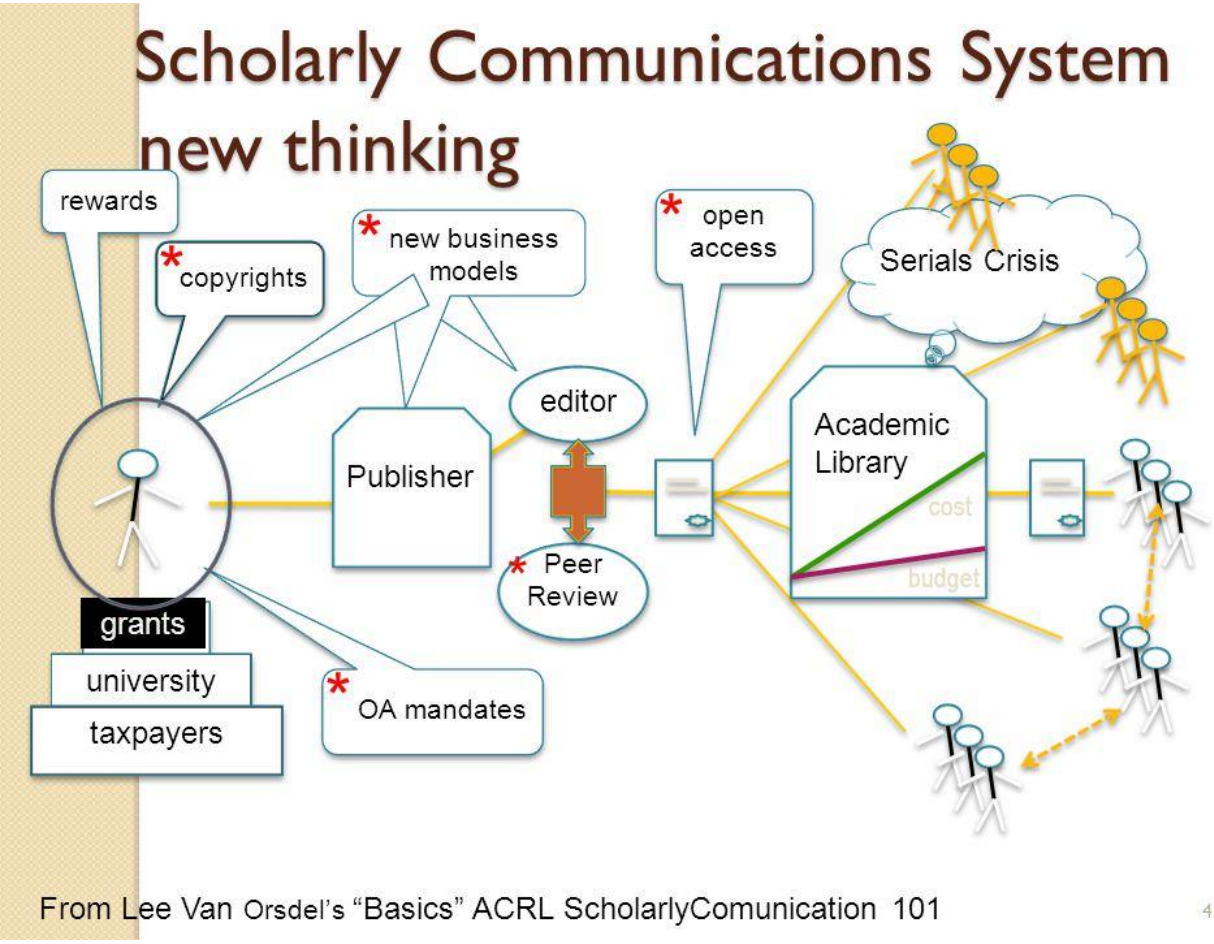
The literature concurs that scholarly communication has changed as a result of technology (Liu, 2003:889; Haustein et al. 2015; Barjak, 2006; Van de Sompel, 2004; Maron & Smith, 2008; Czerniewicz, 2013; Borgman & Furner, 2002). Since the introduction of the internet and particularly the rise of the social web (also called Web 2.0), behaviour around publication and dissemination of research outputs have

shifted from being the domain of formal publishers to being available to the researcher herself (Barjak, 2006:1355; Czerniewicz et al., 2014). Some authors hold that technology has “disrupted scholarly communication” (van Orsdel & Shreeves, 2010) and that it "is disrupting scholarly research and communications with trends like the increased use of social recommendations and circumvention of traditional publishers" (Gunelius, 2015).

An example of the changing environment is that scholars can now communicate around a piece of research immediately without having to wait for a publisher to publish an article. Social media platforms and tools such as blogs, micro-blogging (Twitter), repositories (either institutional or by discipline), discussion forums, online reference groups like Mendeley and Zotero, and scholarly social networks like Researchgate.edu or Academia.org allow this ease and speed in communication (Priem, Piwowar, & Hemminger, 2012; Czerniewicz, 2013:5).

A 2003 definition of scholarly communication provided by the ACRL is “the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use”. A few years later this concept was endorsed and updated by van Orsdel and Shreeves (2010) in the diagram/flow chart of scholarly communication (Figure 1) that was presented to the Scholarly Communications 101 Workshop of the ACRL National Conference. They explained how the traditional research life cycle (comprising the stages of creation, publication, dissemination, reformulation) had become economically unsustainable (the “serials crisis”) and scholars were demanding their intellectual property rights while at the same time the system was being disrupted by technologies of the internet and the open movement. The role of the library, they claimed, was potentially much greater than in the traditional model of scholarly communication.

Figure 1. Scopus total number of citations for PLAAS per year



Borgman and Furner (2002) look at human behaviour and whether it has changed as a result of technology. They, and others, comment on one noticeable development which is the increase in authors' collaboration with each other, the internet being one of the primary reasons for this (Liu, 2003:892; Barjak, 2006:1353). It is now easier and faster to connect across the globe following the development of email and other communication technologies, including social media.

Furthermore, one of the significant changes noted in the literature is that a variety of output types are produced, over and above the traditional journal article and monograph. The printed article, in linear format and usually published by an external entity, remained the dominant medium of scholarly communication for centuries but the establishment of a networked and digital environment has now allowed a variety of different formats and publication models to become part of the scholarly output of many scholars. Van de Sompel et al. (2004) argue for a wider view of the "unit" of

scholarly communication as technology allows for greater variety, flexibility and speed in publication. Van de Sompel et al. (2004) argue that a range of other formats should form part of scholarly communication, including data sets, multimedia documents, files and software. Maron and Smith (2008) investigate the adaption of scholarly communication to digital and networked environments and name eight "digital scholarly formats" as follows:

- E-journals
- Reviews
- Preprints and working papers
- Encyclopaedias, dictionaries, and annotated content
- Data
- Blogs
- Discussion forums
- Professional and scholarly hubs (Maron & Smith, 2008:7).

Alongside the vast changes brought about by technology, the open movement[1] is considered to have had a major effect on scholarly communication practices (Cullen & Chawner, 2011; Czerniewicz, 2013:6; Raju, Adam & Powell, 2015; Teferra, 2004). Open access publishing is of particular concern to this study. In open access publications, scholars are taking control of their own work and publishing online. The move towards open access began early in the 21st century and resulted in more and more scholarly work being freely available on the internet. This means it is free of cost to the user and also free of many restrictions (Fitzpatrick, 2012:350). The Budapest Open Access Initiative in 2002 and the Berlin Declaration on Open Access to Knowledge in 2010 are two formal agreements that many scholars and institutions around the world signed.

[1] The open movement is defined by the Open Data Handbook (n.d.) as a movement that "seeks to work towards solutions of many of the world's most pressing problems in a spirit of transparency, collaboration, re-use and free access. It encompasses open data, open government, open development, open science and much more."

An increasing number of open access journals are being established and in addition to publishing in open access journals, scholarly outputs are deposited in institutional or subject repositories. This so-called “green” open access route allows for a variety of formats to be held in a repository, including journal articles in pre-print stage, data sets, research reports and more, with no costs involved.

Authors agree that digital and networked environments encourage the production of results that enable a two-way engagement as scholars engage online through social media and network sites (Moed & Halevi, 2015:1989; Onyancha, 2015:9; Tattersall, 2016:54). When a publication or other output is available on an open access platform there is far wider access and readership, provided readers have access to the internet. This affects the visibility of the publication or output, as well as increasing the chances of greater impact.

UWC approved an open access policy in 2014 after signing the *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities* in October 2013. The policy states that “as a signatory to the Declaration, UWC has committed itself to adopting and promoting an “open access paradigm” (UWC, 2014) with regard to the management and dissemination of the knowledge it produces. The university also has an institutional repository in which a few of the outputs of PLAAS researchers have been placed. The policy “describes the parameters and processes for the effective functioning of UWC’s Research Repository as the primary institutional mechanism for promoting and managing open access” (UWC, 2014). The policy clearly states that the onus on depositing documents lies with the UWC researchers, “as creators of original scholarly research” (UWC, 2014). The total number of items that are currently in the UWC repository is 1,814 (Snyders, personal communication 2017, February 2017).

Many authors observe that change has come about in part as a result of problems and dissatisfaction within the old scholarly communication system. Some of these problems and concerns, which resulted in this change of direction to open access via the technological advances, are identified by Van de Sompel et al. (2004) as the escalating costs of subscribing to journals, difficult copyright issues, and the length of time between results being available and the publication of those results. The

rewarding of scholars that is based largely on the publication of journal articles is stated as one of the fundamental problems in the current system (Gorman, 2008; Van de Sompel et al., 2004). The unaffordability for even the wealthiest universities and institutions to subscribe to all their required journal titles is one of the most significant causes for change. “The economic model has proved unsustainable” (van Orsdel & Shreeves, 2010), which means that the high prices set by publishers that have amalgamated a number of titles into one package, are too expensive for most institutions, especially those in the global south, including South Africa.

2.3 Metrics

Measuring impact and visibility of scholarly communication, commonly in the form of both bibliometrics and the newer altmetrics, are discussed in the literature at length, and this section reviews the details of both types of metric.

2.3.1 Bibliometrics

As scholarly communication transformed and evolved over time, so a need for new measures and methods of assessing authors and articles or monographs became apparent. In the mid-20th century, bibliographic control systems were introduced in the form of indices to journals in various fields and later citation indices, firstly in print format and then electronic.

Citation indices were not intended to be used for assessment purposes (Haustein & Lariviere, 2015). The creation of the Science Citation Index by Eugene Garfield in the 1960s, which made finding journal articles and authors easier, also subsequently made it possible, and increasingly popular, to analyse trends in scholarly communication and to evaluate the research output of individuals or institutions using this index and the method of citation analysis.

The method of measuring the impact of research called bibliometrics, was defined by Pritchard (1969) in 1969 as “the application of statistical and mathematical methods to books and other media of communication”. Pritchard is generally associated with the coining of the term “bibliometrics”, although similar practices to bibliometrics and citation analysis were used earlier in the twentieth century. Sometimes called “’statistical bibliography’ (Haustein & Larivière, 2015), these were counts of scientific

outputs which were used to assess scholarly activity in a particular field. Basic citation counts were also done by Gross and Gross as early as 1927 (Haustein & Larivière, 2015).

Bibliometrics is a quantitative method for measuring or rating the impact of the work of an author or group of authors, or of the body of work in a particular field, and is used as an indicator of impact and prominence. There are different bibliometric tools including publication counts, citation analysis and the Journal Impact Factor (JIF)[2]. "Bibliometrics offers a powerful set of methods and measures for studying the structure and process of scholarly communication" (Borgman & Furner, 2002). Haustein and Larivière (2015) noted that the citation index "gave rise to both the practical application of bibliometrics in research evaluation and information retrieval and theoretical and empirical research of citation analysis and bibliometric indicators".

Two basic assumptions exist in bibliometrics. Firstly, the theory that (in sociological research as well as the sciences) "by counting papers, we obtain an indicator of research activity" (Haustein & Larivière, 2015). Secondly, Haustein and Larivière (2015) describe citation analysis (a specific bibliometric method) as a method "based on the assumption that a document referenced in a subsequent paper marks the intellectual influence of the cited document on the citing paper". Olsgaard (1989), Rosas et al. (2011), Moed and Halevi (2015) concur with these assumptions, and Borgman and Furner (2002) claim that one could "use bibliometric methods in order to describe, explain, predict, and evaluate the communication behavior of scholars". Rosas et al. (2011) also find that "evaluative bibliometrics uses advanced techniques to assess the impact of scholarly work in the context of other scientific work ". According to Galloway, Pease and Rauh (2013:337)

> "Quantifying scholarly output via traditional citation metrics is the time-honored method to gauge academic success. The impact of a scholar's work

[2] According to Thomson Reuters (2013), the Impact Factor "is a measure of the frequency with which the 'average article' in a journal has been cited in a particular year or period". It is a controversial metric that will not be discussed in this study.

can be measured by evaluating several factors, including the number of peer reviewed publications, citations to these publications, and the influence of the publications."

Many bibliometricians are concerned about the relationship between citations and quality of research and reiterate that high impact does not necessarily equate to high quality of a paper. Caution is expressed by Bornmann and Haunschild (2016:3), who question whether "impact of research might no longer be seen as a proxy for its quality, but in its original sense: the simple resonance in some sectors of society".

The emergence of the social web and new technologies associated with it has challenged not only the journal (and monograph to a lesser extent) as the primary unit of scholarly communication but also citation indices as the principal assessment mechanisms (Priem & Hemminger 2010; Haustein et al., 2015). Citation indices were satisfactory for some time, but in online scholarly environments, "Citation–based metrics are slow and narrow in an increasingly fast and broad scholarly world" (Priem & Hemminger, 2010).

Bibliometrics is increasingly considered an imperfect method of measuring impact and a number of problems are raised in the literature. The following section describes a number of the limitations of bibliometric methods that are identified.

i. **Disciplinary differences.** A number of sources in the literature caution that different disciplines have different measures in citation counts, impact factors and other indicators, and that when showing impact one cannot compare across disciplines as the standards are completely different. "Citation analysis consistently finds that 'discipline matters', and the nature and frequency of citation depends on the size and accepted practice in a scholar's research community" (Vaughan & Shaw, 2005:1077). Scopus and WoS have developed normalised scores for citation counts to represent a particular author or institution relative to others in the same discipline, Moed and Halevi (2015) and Galloway, Pease and Rauh (2013) concur with the need to normalise scores.

ii. **Obliteration.** The problem of obliteration arises when a theory, idea or principle grows increasingly established in a field and is gradually absorbed into general understanding of that field of study. Although the creator is initially cited, s/he becomes lost or obliterated over time and citations cease (Moed & Halevi, 2015:1992).

iii. **Self-citation.** Self-citation counts affect the total citation count and this can skew the results. Scopus has an option to view total citation counts without self-citations which is understood to be a fairer measure. This is because sometimes unscrupulous researchers resort to "inflating self-citation through editorials and readers' comments on published articles" (Falagas & Alexiou, 2008).

iv. **Journal Impact Factor (JIF)**. According to Thomson Reuters (2013), the Impact Factor "is a measure of the frequency with which the 'average article' in a journal has been cited in a particular year or period". There are several tools used to establish the prestige of journals, among which are the Thomson Reuters Journal Impact Factor, the Source Normalized Impact per Paper (SNIP), and SCImago Journal Rank (SJR). There is however, growing dissatisfaction with the emphasis placed on the JIF from universities and government research institutions globally.

One concern is the ease with which the JIF can be manipulated by authors or editors to inflate the metric (Falagas & Alexiou, 2008; Priem, 2012). The fundamental problem with the JIF is that it is an indicator for an entire journal and not for a particular article in that journal. The implication is that if the JIF is high then all articles in that journal have high impact and this is obviously not necessarily the case. Lundberg (2006) emphasises that "misuse of this indicator is in evaluating the impact of a researcher based on the journal's impact factor". Priem and Heminger (2010) agree that "the JIF has serious shortcomings".

v. **Gaming, i.e. manipulating the figures for greater benefit to the author.** Although this is not a practice that is commonly engaged in, there is a level of

"gaming the system" by both authors and editors of journals. Discussing the validity of bibliometric methods used, Furner (Cronin & Sugimoto, 2014:104) raises the moral aspect of using bibliometrics when the aim is to increase reward of authors or institutions. Impact factors, citation counts and other indicators can be manipulated to increase the level of an author's overall score. Falagas and Alexiou (2008) provide a list of similar practices that occur with dubious editorial policy and caution against these.

vi. **Grey literature** "such as technical reports, working papers, and white papers" (Galloway, Pease & Rauh, 2013) is not included in large commercial citation indices like the WoS and Scopus, resulting in many research outputs being left out of traditional bibliometric systems and analysis (Galloway, Pease & Rauh, 2013). Furthermore, Galloway, Pease and Rauh (2013) assert that the bibliometric methods used by these citation indices do not consider the full range of different forms that scholarship takes beyond formal journal articles.

A report called *The metric tide* published in 2015 by the Higher Education Funding Council for England (HEFCE) gives a detailed account of how bibliometrics can be misused or used irresponsibly. It cites, "(t)he most common approaches to measuring research quality involve bibliometric methods, notably weighted publication counts; and citation-based indicators, such as the JIF or *h*-index (Wilsdon et al., 2015)." Changing scholarly communication and metrics for measuring impact implies, according to Galloway, Pease and Rauh (2013:338), that traditional methods "are still important, including for promotion and tenure purposes, but they do not provide the full picture".

The researcher has looked for similar studies that were completed for other research institutes and has found a number of studies that compare citation indices, such as a report by Tran and Aytac (2016) that quantifies the scholarly productivity, from 2000 to 2013, of eight education institutions in Long Island, New York using WoS and Scopus. Other comparisons of citation indices from South Africa that she has found are Onyancha and Ocholla (2009) who investigates GS as an alternative citation index to WoS and Scopus, and Adriaanse and Rensleigh (2012) who compares three citation resources (GS, Scopus and WoS) with one another to identify the

citation resource with the most representative South African scholarly environmental sciences citation coverage.

In other studies using bibliometrics, Pouris and Pouris (2008) report on the number of publications (and the number of patents) awarded to scientists in Africa and compare this to other parts of the world. Aleixandre-Benavent et al. (2012) have produced a paper “Bibliometric analysis of publications by South African viticulture and oenology research centres”, and Molatudi, Molotja and Pouris (2009) have published “A bibliometric study of bioinformatics research in South Africa” that compares South African bioinformatics outputs to those from Brazil, India and Australia.

A pertinent paper for this study has been published in 2017 by Rotich and Onyancha, “Trends and patterns of medical and health research at Moi University, Kenya, between 2002 and 2014: an informetrics study”. The paper analyses the research trends and patterns of the academic staff at a college based in a university in Kenya based on data found in GS.

2.3.2 Altmetrics

The disruption of scholarly communication on various levels and the problems with traditional bibliometrics have contributed to the evolution of a new set of methods and tools for measuring impact, which is called altmetrics or article level metrics. Altmetrics is defined by Priem, Groth and Taraborelli (2012) as "the study and use of scholarly impact measures based on activity in online tools and environments". It is commonly known as alternative metrics and according to Galloway, Pease and Rauh (2013) “altmetrics, or alternative citation metrics, provide new methods to track scholarship across a wide range of media and platforms”.

The concept of altmetrics was created to provide “a filter” (Priem et al., 2010) and to consider a more diverse range of research outputs and metrics (Lapinski, Piwowar & Priem, 2013) than those offered by traditional bibliometrics. Although the term altmetrics was first mentioned in a tweet in 2010 (Priem, 2010), the idea of tracking scholars and their documents on the web, to measure “impact” of science in a broader manner than citations, was introduced years before, largely in the context of

webometrics (Almind & Ingwersen, 1997; Thelwall et al., 2013; Haustein, Sugimoto & Larivière, 2015). Webometrics is described by Priem and Hemminger (2010) as “the analysis of Web citations and of article usage data”.

The internet and the social web have challenged and changed traditional evaluation methods as well as the “quasi-monopolistic status of the journal as the main form of scholarly communication” (Haustein, Sugimoto & Larivière, 2015). Article-level metrics have presented themselves as an alternative to many journal based metrics that were previously associated with imprecise bibliometric methods of evaluation.

Some literature shows hostility to the new concept of altmetrics. Beall (2013) comments in his blog that “[a]rticle-level metrics reflect a naïve view of the scholarly publishing world”, primarily because it is a “system that is prone to gaming, corruption, and lack of transparency”. Colquhoun and Plested (2014) argue that all metrics are a problem because they cannot show quality of research but that altmetrics were “superficial” and the worst method yet of measuring impact of research. Barnes (2015:129) has published a paper expressing concern with the assertion from a number of studies that there is sufficient correlation between altmetrics and future citation counts, to make altmetrics a metric of research impact, stating that “altmetrics are an extremely imperfect tool for predicting article performance in terms of future citations”.

Priem, Groth and Taraborelli (2012:1) suggest that altmetrics is the study and use of scholarly impact measures based on activity online: “altmetrics is in most cases a subset of both scientometrics and webometrics; it is a subset of the latter in that it focuses more narrowly on scholarly influence as measured in online tools and environments”.

Categories of altmetrics were found in many sources, but the categories differ from one source to another. Usage, view and download statistics are generally viewed as one type of metric, while activity in social media spaces around scholarly content is measured by another set of indicators (Sugimoto, 2015). Homberg (2015) suggests that altmetrics has many forms, “all of which can represent different aspects of the online activity or of the different levels of impact that various research products have

made on different audiences". In this study, the following four broad categories are used, based on the literature.

i. **Usage and download data for each article (also called webometrics).** These metrics emerged with the rise of social networks on the internet as well as greater communication and interactivity on the web. Priem and Hemminger (2010) explain that "[t]he migration of academic literature to the Web allows measures of views or downloads for most articles; instead of measuring an article's impact on authors (who may or may not cite it), usage data supports measurement of impact on readers".

ii. **Networking and referencing sites.** Mendeley, Zotero and CiteULike are examples of referencing sites that also allow sharing of lists of references with other scholars. Researchgate.org and Academia.edu are the best known proprietary, but free of charge, academic networking sites where researchers post their outputs, sometimes for sharing depending on copyright issues. The social networking sites Facebook, LinkedIn and GooglePlus are also used for sharing links to articles or documents themselves, as well as developing a perception of the response from readers, both scholars and the general public, to these posts.

iii. **Micro-blogging (Twitter) and blogs**. These platforms provide for discussion and comments by an author and other scholars who are in the same field as the author. Tweets and blogs are a means of increasing a scholar's profile and this has effect on both the scholarly as well as the social and policy environments. Blogs are generally written in less academic language than a formal journal article but are based on the same research and can convey the same message or a part of that message.

iv. **Altmetrics (aggregated scores)**. There are three main commercial sites that provide aggregated scores for subscribers. Altmetric.com (from here on referred to as Altmetric) has what it calls an Altmetric Attention Score (AAS); Plum Analytics and ImpactStory have similar indicators, and these are calculated by algorithms within the software that combine various indicators

and produce a single metric. Citation counts are usually included in the final score (Roemer & Borchardt, 2014).

Academics have always shared bibliographies and other lists of print publications, so reference managers like Zotero and Mendeley simply do the same thing electronically and online. Similarly, Twitter and blogs which contain comment space emulate informal conversations at conferences and other fora, which feed into scholarly production. In other words, as Priem, Piwowar and Hemminger (2012) note, “these tools do not *create* new types of scholarly practice so much as they *facilitate* existing practice”.

Advantages of altmetrics specified by Priem, Piwowar and Hemminger (2012) include the immediacy and speed of impact and indicators of impact. In addition, many of the platforms are free of cost (some use open source software) such as GS, Twitter, basic versions of Mendeley and Zotero (Galloway et al., 2013). Another advantage described by Van de Sompel et al. (2004) and Bornmann (2015:1134), is the more diverse range of outputs included in altmetric analysis is not only the traditional journal article and monograph, but includes blogs, data sets, research reports, technical reports, amongst others.

Priem, Piwowar and Hemminger (2012) and Galloway et al. (2013) raise limitations to these metrics. Misuse, manipulation and gaming, present in any metrics, are one concern; altmetrics are also considered too new to be used for evaluations with potential consequences of tenure or promotion. As with bibliometrics, altmetrics are dependent on accurate records and data of research outputs in various indices (Galloway et al, 2013) and if these are problematic then so are the indicators of impact.

Although most of the literature emphasises that altmetrics will not replace bibliometrics (Priem, Piwowar & Hemminger, 2012; Haustein, Sugimoto & Larivière, 2015; Bornmann, 2014), it is apparent that these new spaces on the internet and in social media have opened up an area of communication (both scholarly and social) that was previously not even there to be measured. Galloway, Pease and Rauh note that “altmetrics, while still developing, can provide a more robust picture of scholarly

influence" (2013). Many studies were found that investigated whether altmetrics and bibliometrics correlate and can predict citation counts early such as one by Costas, Zahedi & Wouters (2015). Some studies concluded that there were "moderate correlations between Mendeley and WoS citation" for predictors of citation counts and others concluded the opposite, that it is "doubtful whether altmetrics can predict future citations with sufficient accuracy to be useful in all but a small number of cases". (Barnes, 2015:124). Most authors concur with Priem, Piwowar and Hemminger (2012) that altmetric indicators do not however appear to duplicate citation counts particularly and are rather considered supplementary indicators as they provide a different picture of impact.

Peer review is presented as an important qualitative evaluation tool that should be used in conjunction with metrics of all kinds (Maron & Smith, 2008:8). Moed and Halevi (2015:1990) comment that good research assessment relies on an "intelligent combination of metrics and peer review". Altmetrics and bibliometrics are seen as complementary quantitative measures (Vaughan & Shaw, 2005:1081), and a combination of all (qualitative and quantitative) instruments to analyse the impact of scholarly outputs is viewed as the best approach (Moed & Halevi 2015:1990).

The definition and understanding of altmetrics is not yet fixed and it is a broad and varied term according to different technologies and platforms (Haustein, Sugimoto & Larivière, 2015). In their "Altmetrics manifesto", the authors present reasons for new filters to manage large quantities of scholarly outputs and outline the role that altmetrics could play in reflecting impact of research (Priem et al., 2010). An attempt to standardise these metrics is provided in a draft document published by the National Information Standards Organization (NISO) in April 2016, which defines altmetrics as follows.

> "Altmetrics is a broad term that encapsulates the digital collection, creation, and use of multiple forms of assessment that are derived from activity and engagement among diverse stakeholders and scholarly outputs in the research ecosystem".

2.4 Conclusion

It is evident from the literature that scholarly communication is changing as technology develops and that the use of bibliometrics is viewed as insufficient in analyzing impact in an environment that is connected via online channels and platforms and where the unit of scholarly output is evolving and broadening to include a range of different types. Altmetrics is a new, unstandardized concept and method of assessing impact that has the potential to assist the bibliometric methods of analysis in providing a broader perspective of visibility and impact in scholarly and social contexts. NISO sums up the nature of all metrics, commenting that “citations, usage, and altmetrics are all potentially important and potentially imperfect indicators of the values reflected by the term scholarly impact” (NISO, 2016:1).

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter of the study describes the research approach, design and methods that were used to meet the research objectives. The overall approach is quantitative, using bibliometric methods to gather empirical data on the research outputs of PLAAS. Creswell (2009:4) defines quantitative research as “a means for testing objective theories by examining the relationship among variables”. Furthermore, according to Creswell (2009:4), the variables in quantitative research are measurable, using instruments to produce and analyse numerical data. The measurable variables in this case were authors, publications and citations over a certain period of time.

The main objective of this study is to produce a bibliographic record of the corpus of PLAAS research over the period 1995-2015 and to describe its impact in scholarly and social contexts. The aim is to record the different types of scholarly communication at PLAAS and measure their visibility using bibliometric and altmetric analysis. The three research objectives are to:

a. Record the body of research outputs, both externally and internally published, for the period 1995-2015;
b. Use bibliometric and altmetric analysis on the scholarly outputs to measure visibility and status of the researchers at PLAAS; and
c. Investigate the impact of the different outputs measured through bibliometrics and/or altmetrics.

3.2. Research approach and design

In order to meet these objectives, the methodology of this study includes recording the basic bibliographic details of each publication produced in the institution within that 20-year period in a composite list. A bibliometric and altmetric analysis is then performed on this core list of publications (or parts thereof). Using these results, and with two basic assumptions in mind, the visibility and the impact of the research outputs in scholarly communication is assessed.

The first assumption about bibliometrics is that a publications count is the quantification of an organisation's research productivity (Haustein & Larivière, 2015:3). This assumption is made explicit in one study by Pouris and Pouris (2008) on 'The state of science and technology in Africa (2000-2004)', where publication counts are the "scientometric indicators" used to indicate the state of research and development on the continent. The authors state that "in bibliometrics the number of publications in a field is considered as an indicator of research activity" (Pouris & Pouris, 2008:299).

The second assumption is that citation counts are a proxy for the quality and influence of a particular piece of research. High citation counts therefore indicate high quality and prestige for the article and the author. Haustein and Larivière (2015:3) explain citation counting as a method "based on the assumption that a document referenced in a subsequent paper marks the intellectual influence of the cited document on the citing paper".

Altmetrics, similarly, are metrics used broadly to measure use and visibility of scholarly outputs but the data comes from social media and other informal sources rather than from books and journals. Consequently these metrics have a broader audience of not only academics, but also the general public. The internet and the social web challenged traditional evaluation methods (Roemer & Borchardt, 2015:100), particularly the use of "citation indices as the primary assessment mechanisms" (Haustein, Sugimoto & Larivière, 2015).

The definition and understanding of altmetrics is not yet fixed and it is currently a broad and varied term, changing according to different technologies and platforms as well as over time (Haustein, Sugimoto & Larivière, 2015; Roemer & Borchardt, 2015:145). For the purposes of this study, however, it is assumed that altmetrics, like bibliometrics, track how much impact an article has had in the scholarly and social arena, and give an indication of the visibility of that article and author (Roemer & Borchardt, 2015:138).

A number of articles in the literature use bibliometric analysis to measure visibility and impact of scholarly outputs, and this study is based on a similar approach. Many

of the studies tended to compare different institutions, such as one that investigated publications from a range of academic institutions in South Africa (Pouris, 2003) and another that compared the scholarly productivity of Long Island educational institutions (Tran & Aytac, 2016). Others compared numbers of publications from Africa to publication counts from elsewhere in the world (Pouris & Pouris, 2008), and some analysed the number of articles published in a particular field, such as a paper on Ebola virus research that assessed the research being done in that field over a period of time (Pouris et al., 2016).

This study investigated one research institute, PLAAS, and its authors, describing their output and assessing their impact according to what is revealed by the bibliometric and altmetric analysis of these outputs during the specified time period. A paper on individual bibliometric assessment written by Gorraiz, Wieland and Gumpenberger from the University of Vienna (2016) was particularly pertinent to this study. It included an interview with researchers to explore different evaluation methods and tools, particularly in the social web (Gorraiz, Wieland & Gumpenberger, 2016). This provided the basis for the questionnaire about social media used in the study.

3.2.1 What constitutes scholarly communication at PLAAS?

Scholarly communication has a long history, beginning with the scientific societies and associations of the early 17th century that met to discuss members' theories and discoveries. This evolved later in the 17th century into the scholarly journal, a medium that was considered the ideal way to communicate with other scholars and share information and opinions (Osburn, 1989). After a lengthy period in which the journal was the dominant form of communication, there is currently a growing movement (coinciding with the development of technology) to extend the medium through which scholars communicate to include the online environment and not the peer-reviewed journal article only.

Moving away from the traditional medium of print journals and books to a digital one has led to debate about what constitutes a scholarly article. Many now argue that research shared (mostly online) with audiences in broad society, government and non-governmental organisations (NGOs), the so-called grey literature, is a form of

scholarly communication, despite not being a traditional form (Trotter et al., 2014:203-204). Van de Sompel et al. (2004) discuss “a new unit of communication” other than the journal article, and propose flexibility in the defining of this unit.

The open movement is contributing to a shift in the traditional understanding of scholarly communication, as access to all information becomes more widely available (Barjak, 2006). Czerniewicz (2013:6) assesses changes in scholarly communication in digital spaces and comments that these spaces have “seen the growth of new types of enhanced publications”.

PLAAS produced a relatively large amount (approximately half of its total research output) of grey literature, including research reports, policy briefs, working papers and occasional papers, during the period under review. This study argues that these publications are, in fact, part of PLAAS’s scholarly communication and should be included in publication and citation counts, as they contribute to the visibility and impact of the entire body of research outputs.

3.2.2 Bibliometric analysis

There is an established history of using statistical analysis of academic outputs to “monitor and assess the outputs of scientific systems” (Pouris 2003:425). Pritchard (1969) coined the term bibliometrics, which Roemer and Borchardt define as “a set of quantitative methods used to measure, track and analyse print-based scholarly literature” (2015:28). Recently, more emphasis has been placed on using many of these indicators in processes of rating, evaluating and promoting researchers, than was the original focus or intention of the metrics (Tran & Aytac, 2016; *Evaluation and rating: NRF facts and figures 2014*, 2014).

Bibliometrics were originally developed for print media before new digital technologies brought computers, the internet, mobile devices and other communication tools. Common bibliometric indicators include the number of publications, citation counts, *h*-index, and the JIF which is a measure of the average citations per article in a particular year or period and is allocated to the journal as a whole. In addition, there are a number of relatively new metrics such as Snowball metrics, eigen factor and others, that will not be explored in this study.

The *h*-index is a significant indicator developed in 2005 by a scientist by the name of Jorge E. Hirsch. He advocated the use of a new index for measuring the impact of a researcher calculated by counting the number of publications and then counting the number of citations. It was largely accepted as an acceptable way of measuring both quality and quantity although there was also some criticism of this metric (Jasco, 2008:785). Sutton (2014:2) points out three criticisms which are "being easily manipulated, for varying depending on the scope of the knowledge base from which citations are drawn, and for providing meaningful comparisons only within a particular field of study".

3.2.3 Altmetric analysis

Altmetrics is the commonly used term for alternative metrics. According to Galloway, Pease and Rauh (2013), these indicators "provide new methods to track scholarship across a wide range of media and platforms". Another description of altmetrics is that it is the study and use of scholarly impact measures based on activity in online tools and environments (Priem, Groth & Taraborelli, 2012:1).

There are two reasons for using altmetric analysis. Firstly, it can provide a measure for the impact of grey literature, which is not captured in the commercial databases. Secondly, the indicators for altmetrics demonstrate different areas of impact from traditional bibliometrics, for example, Facebook shares, tweets, or sharing in academic networks such as ResearchGate. Scopus has started to include altmetric indicators in some article records, but this is still limited to those traditional document types that are recognised and included by Scopus, such as monographs, journal articles and conference proceedings.

The AAS is an article-level indicator provided by proprietary software company Altmetric. It is an aggregation of various counts and analysis of data from citation indices, reference managers and social media activity, amongst others. Since this is a minor dissertation and referred to a relatively large corpus from PLAAS, it was decided to take a sample of PLAAS-published outputs and use the result of an altmetric analysis of this sample to demonstrate visibility and impact.

3.2.4 Quality vs quantity

One way of quantifying an organisation's scholarly productivity is by counting publications produced by that institution (Tran & Aytac, 2016; Pouris & Pouris, 2009). Another is citation analysis, where the basic premise is that if a paper or a scholar is cited more often than others that indicates that they are influential (Meho & Rogers, 2008). However, it is questionable whether a high number of citations necessarily mean the quality of a paper is high, and over the past few decades, according to Bornmann and Haunschild (2016), there has been increasing debate around this premise.

The University of Waterloo Working Group on Bibliometrics (2016:v) acknowledges that "some bibliometric measures may be used as a proxy for research quality or scholarship excellence", but it also cautions against using bibliometrics as the single indicator for "inter-departmental research activity comparisons" and continues with a recommendation that "[b]est practice is to work from a basket of measures" (The University of Waterloo Working Group on Bibliometrics, 2016:viii). Lundberg (2006) advised using a wide range of metrics rather than relying on just one to present a balanced view of impact. Furthermore, he cautioned that bibliometric assessment results should be viewed critically and their limitations understood.

It is clear that although there is debate and uncertainty about how much information can be determined from a citation count or *h*-index, in terms of quality of research, it can be accepted that they act as a proxy and if used with caution, and with other metrics, they contribute towards building a broad view of impact.

3.2.5 Citation Indexing Databases

Citation analysis is defined by Meho and Rogers (2008) as a powerful and popular method, used in the scholarly domain, to examine and map the intellectual impact of scientists, projects, journals, disciplines and nations. Analysis of this sort uses citation count data, usually gathered from citation indexing databases.

Citation counts in this study are based on results of author searches in Scopus and GS done in 2016. Both of these databases include citation counts and related bibliometrics. The only other database that does this is the WoS, formerly called the

Thomson Reuters Science Citation Indexes. Scopus and WoS are both subscription-based software products owned by commercial publishers. WoS was established in 1963 as a print-based citation index while Scopus is relatively new, having been established in 2004. Scopus currently has a wider range of journal titles in its database than WoS. At the time of writing, Scopus covered over 22,748 peer-reviewed journals, more than 558 book serials and 138,000 non-serial books (Elsevier, n.d.). Scopus also tends to have better coverage of the Social Sciences and the Humanities, including both journals and monographs. WoS figures were more difficult to establish and estimated numbers were provided by the company, indicating that it covers approximately 12,000 “high impact” journals and 2,000 books (Clarivate Analytics & Web of Science, n.d.).

Apart from some open access journal titles (which require Article Processing Charges [APCs]), neither of these databases includes any open access material such as self-archived outputs in institutional or subject repositories. This is a shortcoming in the current scholarly communication environment, as the University of Waterloo Working Group on Bibliometrics (2016:vi) points out: “[a]cademic disciplines produce a range of research outputs, and not all of these are indexed equally well by citation-tracking databases”.

Both Scopus and WoS focus primarily on publications in English, and they tend to favour the global north in terms of coverage, while countries and languages from the global south are less well covered (Tran & Aytac, 2016:20; Working Group on Bibliometrics, 2016:vi). Araùjo et al.’s paper, “Does the global south have altmetrics? Analyzing a Brazilian LIS journal” (2015:112) refers to altmetrics but can also be applied to other traditional metrics in that “a large amount of scientific output from the global south is not indexed in international databases such as WoS, PubMed, Scopus and others, [and this] prevents the majority of those journals (including Brazilians) from being included in citation services.”

GS is currently the only freely available database of scholarly documents that includes citations and h-indices for authors, and it has the following additional advantages over both Scopus and WoS. Because the source for GS search results is the entire World Wide Web, its coverage is higher than the other two indices that

rely on the journal titles in their databases. It also includes document types excluded by Scopus and WoS, such as patents, research reports, policy briefs, hardware or software artefacts and all self-archived and open access material. Furthermore, GS indexes publications in a greater range of languages and from a wider coverage of regions of the world, unlike Scopus and WoS.

Another advantage of GS is its wide disciplinary content. Both Scopus and WoS concentrate more on the natural and health sciences than on the social sciences, whereas GS does not have a disciplinary bias. “Both the Web of Science and the rival Scopus database do not do justice to the outputs of the Social Sciences and Humanities because they neglect to include books and other forms of communication” (Kahn, 2011:27).

Despite these advantages, GS has limitations. One that was apparent in this study is that it has a much higher number of errors, inconsistencies and duplicate records than either of the other indices, confirming a finding by Adriaanse and Rensleigh (2013) in their study. It also does not have a means of uniquely identifying an author (Scopus uses the Open Researcher and Contributor ID (ORCID), as well as its own identifier), which can lead to results in which more than one author with the same name is returned in an author search. Jacso (2008:788) compared the *h*-index in WoS, Scopus and GS almost 10 years ago and concluded that GS was an “excellent tool” for finding grey literature but not as good as the other citation indices in determining the *h*-index. In another study by Onyancha and Ocholla (2009:62), published soon after Jacso, the conclusion was drawn that GS is an option for comparative citation studies because it is freely available and therefore accessible by researchers in developing countries, but ideally should be used to supplement the information from other databases, and if not possible then should be used carefully and with a qualitative peer review.

In terms of altmetrics in citation indices, Scopus has a partnership with Altmetric, which supplies altmetrics for documents in the Scopus database where they are available, and these can be seen at article level in the database. WoS, at the time of writing, did not include altmetrics and neither does GS.

In this study, GS and Scopus were used, but not WoS, for three main reasons. Firstly, the scope of the databases' publication coverage was a high priority, as PLAAS places itself in the Social Sciences discipline, which is better covered by GS and Scopus. Secondly, PLAAS produces not only journal articles, but also books and policy briefs, among other document types, and GS has the best coverage of these types of document. Thirdly, coverage of the global south (as GS has) is appropriate for PLAAS publications, with the institute and its authors based in Africa. In addition to these reasons, GS was a preferred method of bibliometric analysis because all PLAAS researchers had an established GS profile before this study commenced.

The researcher used Publish or Perish (PoP) to establish the PLAAS authors' publications counts, citation counts and *h*-indices. PoP is an open-source programme developed by Harzing in 2007 that retrieves and analyses academic citations, with GS providing the raw data. A number of other metrics (not used in this study) are calculated in PoP in addition to the counts and *h*-index, such as average citations per paper, variations of the *h*-index and the age-weighted citation rate (Harzing, 2008).

Although each of the three main citation indices has a "different collection policy which affects both the publications covered and the number of citations to the publications" (Bar-Ilan, 2008), use of these two sources (GS and Scopus) was considered sufficient for presenting a broad sense of visibility and impact of PLAAS research publications in both scholarly and social contexts.

3.2.6 Altmetrics software

Since the growth of the social web in the early 2000s, a number of software options in the field of altmetrics have emerged, while others (such as Readermeter) have disappeared. Altmetrics is a swiftly moving area of focus, with products and tools changing all the time (Roemer & Borchardt, 2015:126).

Altmetric, ImpactStory and PlumX are probably the three best-known products available to gather altmetrics data across the internet. "ImpactStory builds metrics around individual researchers rather than single papers" (Weller, 2015:7) and is most

useful to individual researchers who would like to build up a profile of their altmetrics. ImpactStory is the only programme that is free to use. PlumX "offers article-level metrics for so-called artifacts, which include articles, audios, videos, book chapters, or clinical trials" (Peters et al., 2015:174). This study used Altmetric Explorer, which is a web-based application, and the aggregated AAS, to analyse a selection of documents.

This particular software was used because the company gave permission to access Altmetric Explorer for research purposes. Furthermore, Altmetric is currently the dominant product in the market and has partnered with traditional publishers, such as Nature and Wiley Journals (Roemer & Borchardt, 2015:135). Another reason for using Altmetric Explorer is that it fitted the needs of this study, which are to find altmetric indicators for a particular author's publications.

3.2.7 Surveys

Research surveys, using a cross-sectional design, consist mainly of questionnaires (or interviews) to collect data at a particular point in time. The aim of the questionnaire is to collect data that is quantifiable and can be examined "to detect patterns of association" (Bryman & Bell, 2014:107).

This study used predominantly PLAAS data and citation indices to formulate lists and spreadsheets of data, the findings of which were used to reach its objectives. An additional research instrument, in the form of a short self-administered questionnaire, was also used. It was sent to the researchers at PLAAS in 2016 to understand how much they knew about and used the various online social media tools and platforms for sharing scholarly information, including Facebook, Twitter, Cite-U-Like, ResearchGate.net and others.

3.3 Data collection: publications lists

Three different products were used in this study for the empirical data collection of publication lists, namely Zotero, Scopus and GS. Zotero is a free open-source reference management software programme used within PLAAS to collate lists of outputs. For this study, it was used to make a "master" list of all PLAAS publications over the 20-year period.

3.3.1 Master list (Zotero)

The compilation of a core publications list, or bibliography, was required in order to establish the total number of outputs at PLAAS (Appendix D). This was a straightforward exercise, although it was time-consuming as accuracy was critical.

The core publications list was compiled using records that had been kept at PLAAS in the Zotero reference management system and cross-checking them against the PLAAS Publications and Order Form, which was an existing document listing all the main research outputs since PLAAS's inception. Included in the existing Zotero folders were publications such as journal articles, monographs and conference papers, as well as other document types such as parliamentary submissions or hearings, research reports, policy briefs and occasional papers. In addition, records were kept in categories that were not included in this study, namely television and radio appearances, news media items that referred to PLAAS, policy engagement presentations, seminars and blogs. It was decided that all research conference papers would be included, even though some papers were not contained in formal conference proceedings documents. The counts of conference papers were not however included in the scholarly outputs.

The 20-year time period was selected because the organisation was founded in 1995, while the 2015 cut-off date ensured that the full quota of publications in 2015 was recorded, with the counting exercise being carried out in 2016.

This original list had to be heavily edited, for instance missing information was added, the items were checked against other lists for accuracy, and duplicates and erroneous items were deleted. In the final master list, there are 33 PLAAS authors and 743 publications, with 97 publications authored by researchers based outside PLAAS. It must be noted that where there are co-authored papers by more than one PLAAS author, each of these authors has a record for that paper. This is the same policy that Scopus and GS follow when recording number of outputs and number of citations.

3.3.2 Scopus

In order to ascertain the number of publications indexed in Scopus as well as the citations count for each author in PLAAS, an author search was carried out in Scopus for each researcher that had been at PLAAS between 1995 and 2015 using their last name and initial. The search was limited to these date parameters for each researcher, then the lists were checked for accuracy and saved in Excel spreadsheets. It was noted that not all PLAAS authors were indexed by Scopus. Out of 33 in the master list, only 20 were found in Scopus.

Each author's list in Excel was then combined into one spreadsheet and analysed. The total number of publications found in Scopus by 20 PLAAS authors for the period 1995-2015 was 134. This figure was also broken down into number of publications per year, individual author, or type of document. Lastly, the *h*-indices as presented in GS and Scopus were recorded in an Excel spreadsheet, along with the number of citations.

3.3.3 Google Scholar

The study made use of a student assistant to collect all PLAAS author outputs found in GS. The task entailed carrying out an author search in GS using a full-name search, excluding patents and cited publications. The results for each author for the specified time period were then saved in an Excel spreadsheet.

At the time of this study, all PLAAS authors already had their own GS profile, so it was relatively easy to find these and to stipulate the date range for searching the results for each author. There were, however, quite a few errors in these results. For instance, erroneous records that occurred for publications by another author with the same name, then had to be checked against the master Zotero list. Those by the incorrect author then had to be deleted, as were the duplicate and nonsensical records.

A total of 32 authors and their publications were found indexed in GS within the specified time period. The total number of publications was 535. The complete list was saved as an Excel spreadsheet.

3.4 Citation counts and *h*-index

The Scopus and GS author results included citation counts where applicable. Both sets of results were exported into Excel spreadsheets with columns for author, title, year, document type and number of citations. Records that were found in both Scopus and GS were listed in one worksheet with a separate column for each different citation count. The records that were found only in one or the other citation index were listed separately.

The combined records occurring in both GS and in Scopus were analysed according to the number of citations, document type, publication year and author. A total of 102 publications were found in both Scopus and GS, with 1,686 citations in Scopus and 4,354 citations in GS.

Table 1. Total counts of publications and citations

Source	Number of authors	Number of publications	Number of citations
Zotero	33	743	n/a
Scopus	20	134	1,906
Google Scholar	32	535	11,678

The *h*-index for each author was found for records in the Scopus database by searching for an author's publications within the 20-year period, and viewing his/her citation overview. The *h*-index is calculated by Scopus, based on the number of publications and citations that it has for each author in its database. Similarly for GS, the *h*-index is calculated using the number of publications and citations in a GS profile. Harzing's PoP programme was used to search for PLAAS authors' *h*-indices in GS.

3.5 Altmetric counts

Altmetric Explorer was used to collect available altmetrics. The search was conducted in January 2017, using each author's full name, and the date range from

01 January 1995 to 31 December 2015 was specified. A total of 46 items was retrieved in this search, most of them with AASs, although not all.

This method resulted in only journal article, book and book chapter document types being found. Since the intention in this study is to find out what metrics are available for other document types it was necessary to search for altmetrics on other publication types produced by PLAAS. It was decided to select three specific articles and their metrics for a granular article-level study, and the researcher performed a manual search in January 2017 in Google Analytics for the PLAAS web pages that had the highest number of views and downloads from 2012 (when the publications were uploaded) to 2015. Three PLAAS publications were discovered in a list of the 10 most downloaded web pages. These outputs, one policy brief, one working paper and one fact check, were therefore selected for further investigation. Applications Programme Interfaces (APIs) available on these pages were used to count Twitter and Facebook shares.

3.6 Survey

The survey employed a short online questionnaire as the research instrument. The questionnaire was based on that used by Gorraiz, Wieland and Gumpenberger (2016) in a study done at the University of Vienna, where individual researchers were evaluated using bibliometrics and altmetrics and both sets of indicators from were used extensively in that study to compile a profile of the reach and impact of an individual researcher. A copy of the questionnaire is attached in Appendix C.

In this study, PLAAS researchers were surveyed to discover their knowledge and use of social media in an academic environment. The decision was made to limit this study to only those authors who were employed at PLAAS at the time of doing the study. A self-administered, standardised questionnaire, comprising questions with structured response categories as well as some open-ended questions, was used for all participants. The licence-free version of SurveyMonkey, a Web questionnaire design and management service, was used to design and distribute the questionnaire, and to collect responses from participants.

The questionnaire consisted of eight questions relating to the subjects' use of different social media platforms in their scholarly capacity. The intention was to establish how familiar PLAAS researchers are with these platforms and if they use them professionally, either to promote their own work or to find out about other research conducted in their field.

The survey was carried out from 03 October 2016 to 21 November 2016. The time allowed for participants to respond was extended from one to two months, as there was a campus shutdown in October and November because of student protests on South African university campuses, including UWC. Twelve participants were invited, either by email or via a website, to click on a link that took them to the survey. These participants were the staff employed at PLAAS at the time of the study. The answers to the questions were stored on SurveyMonkey's secure server. After a few reminders, 10 responses were received.

3.7 Research ethics

One part of this study, the questionnaire, required information directly from human subjects and therefore ethical attention was necessary. The University of Cape Town Ethics Committee was approached and ethical clearance to proceed with the questionnaire was given (Appendix A). Because the subjects were based at the UWC it was necessary to apply for permission from UWC to use subjects from PLAAS for the research. This process was straightforward and permission from UWC was granted to conduct the survey (Appendix B).

In order to fulfil the ethical requirements, the first page of the questionnaire included information that gave researchers a choice to go to the link for the survey and to leave it at any stage, that their anonymity would be maintained and that they were not obliged to answer every question.

3.8 Conclusion

In summary, this chapter of the study described the research approach, design and methods that were used to meet the research objectives. The overall research approach is quantitative and the study analysed data from citation indices, Scopus and GS, for PLAAS authors, and from Altmetric Explorer for altmetrics, during the

period 1995-2015. The methodology of this study included recording the basic bibliographic details of each publication produced in the institution within that 20-year period in a composite list. Data was collected which included publication counts, citation counts, *h*-indices and altmetrics. A survey was sent to 12 PLAAS researchers with the aim of investigating their knowledge and use of social media in an academic capacity.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

Chapter Three outlined the research methods and instruments used to collect the data for this study. This chapter presents and analyses the findings of the quantitative data collected in the following phases:

- Firstly, searches were conducted using GS, Scopus and Altmetric.com;
- Secondly, data were collected for three specific PLAAS documents through Google Analytics, Facebook and Twitter Application Programming Interfaces (APIs) in the PLAAS website;
- Thirdly, these data were supplemented by a survey of current researchers at PLAAS (Appendix C). The results are presented in this chapter to show the level of knowledge and use that researchers make of social media in the academic environment.

The data collected were used to achieve the main objective of this study, which is to record in detail the corpus of PLAAS research outputs over the period 1995–2015 and to study its activity and impact in the scholarly and social contexts. The focus is on recording the different types of scholarly communication at PLAAS and measuring their visibility; bibliometrics and altmetrics in different ways measure productivity, scholarly impact and attention in the social media. In order to achieve the specific objectives, the following was done.

a. The body of research outputs, published both externally and internally, for the period 1995–2015 was recorded in a bibliography and number and types of outputs were examined to demonstrate the productivity of researchers in the Institute (Appendix D);
b. Bibliometric analysis of the scholarly outputs was used to measure activity and visibility of the researchers at PLAAS through the number of citations for each output and the *h*-indices of the authors;

c. Altmetric analysis of the scholarly outputs and of a selected sample of PLAAS-published outputs was used to measure visibility in both the scholarly and the social contexts through numbers of views, downloads, the AAS where available, Facebook shares and tweets; and
d. The impact of the different outputs measured through bibliometrics and/or altmetrics was investigated through the analysis of the data.

4.2 Description of data collection sample

As indicated in Chapter One, PLAAS was chosen as the research site shortly after it celebrated its 20-year anniversary and various achievements, including the publication of a corpus of research for that period of time, had been highlighted. The outputs from this research institute are both traditional scholarly publications and other grey literature that is research-based but intended for an audience in government departments, NGOs, society in general as well as for scholars.

The body of work covered in this study includes all outputs produced by the set of 33 researchers that was studied. Outputs published by PLAAS but written by external authors are included in the master list but excluded from rest of the study. An example of the latter is *Policy Brief 33*, “Elite land grabbing in Namibian communal areas and its impact on subsistence farmers’ livelihoods”, published in 2011 and authored by W. Odendaal.

4.3 Data presentation

The collected data were analysed, classified and tabulated by employing statistical methods. The findings are presented below in tables and graphs, with a narrative section to describe certain notable features. Themes and sub-themes drawn from the data and the research questions are used to organise the findings.

4.3.1 Master list

In the master list or bibliography that was derived from the PLAAS group library in Zotero, 743 publications are listed over the stipulated time period by a number of different authors (Appendix D). Of these authors, 33 were PLAAS-employed researchers for at least part of the period 1995 to 2015, and this study is limited to these authors. Where there are co-authored papers by more than one PLAAS

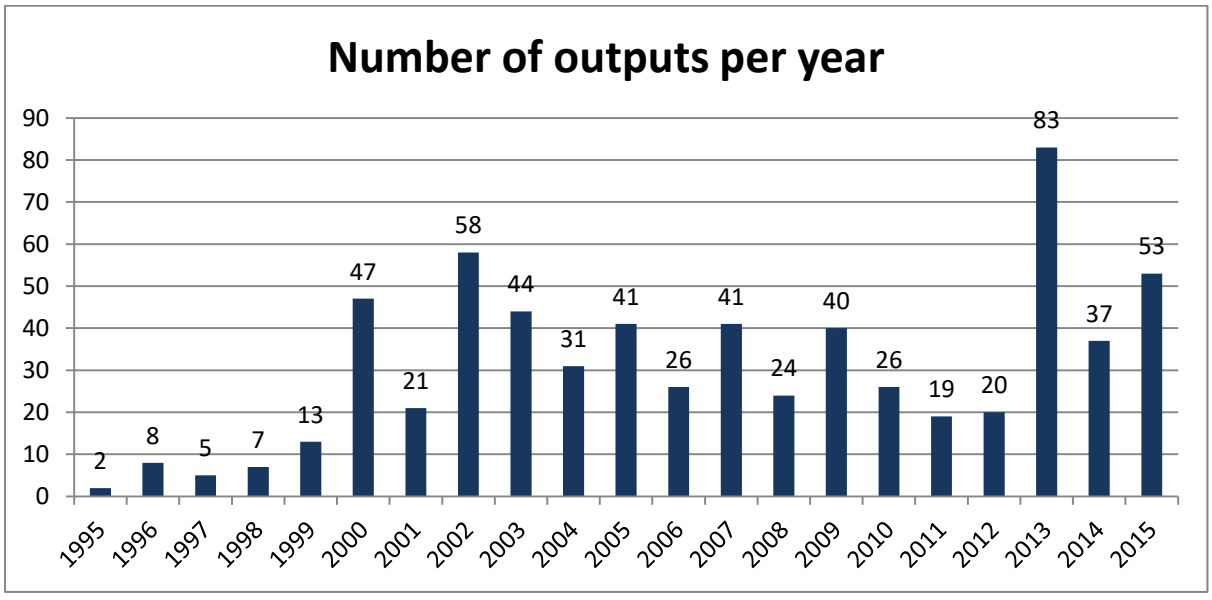
author, each of the authors has a record for that paper. This is the same policy that Scopus and GS follow for recording numbers of outputs and numbers of citations.

4.3.1.1 Outputs 1995–2015

Figure 2 shows that 2013 was the year of highest productivity for the Institute when 83 outputs were produced, followed by 58 in 2015 and third highest was 53 outputs in 2002. The lowest number of two outputs was produced in 1995, which was the year that PLAAS was founded, so the low number can be attributed to the fact that the Institute was new. The graph in Figure 2 shows there is no clear pattern in the productivity over the 20-year period, for instance, there is not a gradual increase of outputs over time but varied quantities over the years as projects and researchers have come and gone.

The average number of outputs per year taking the figures recorded for the period 1995-2015, is 37. The average was met or exceeded for eight years, 40% of the total period, as seen in Figure 2. In 2015, the last year of this study, PLAAS had a total of 53 outputs for 2015, of which six were journal articles, nine were book chapters and four were books, which is a total of 19 (36%). The grey literature, including conference papers, amounted to a total of 34 (64%). It is worth noting that the figure for 2015 was above the average by 16 outputs.

Figure 2. Number of PLAAS outputs per year (n = 743)



4.3.1.2 Document types

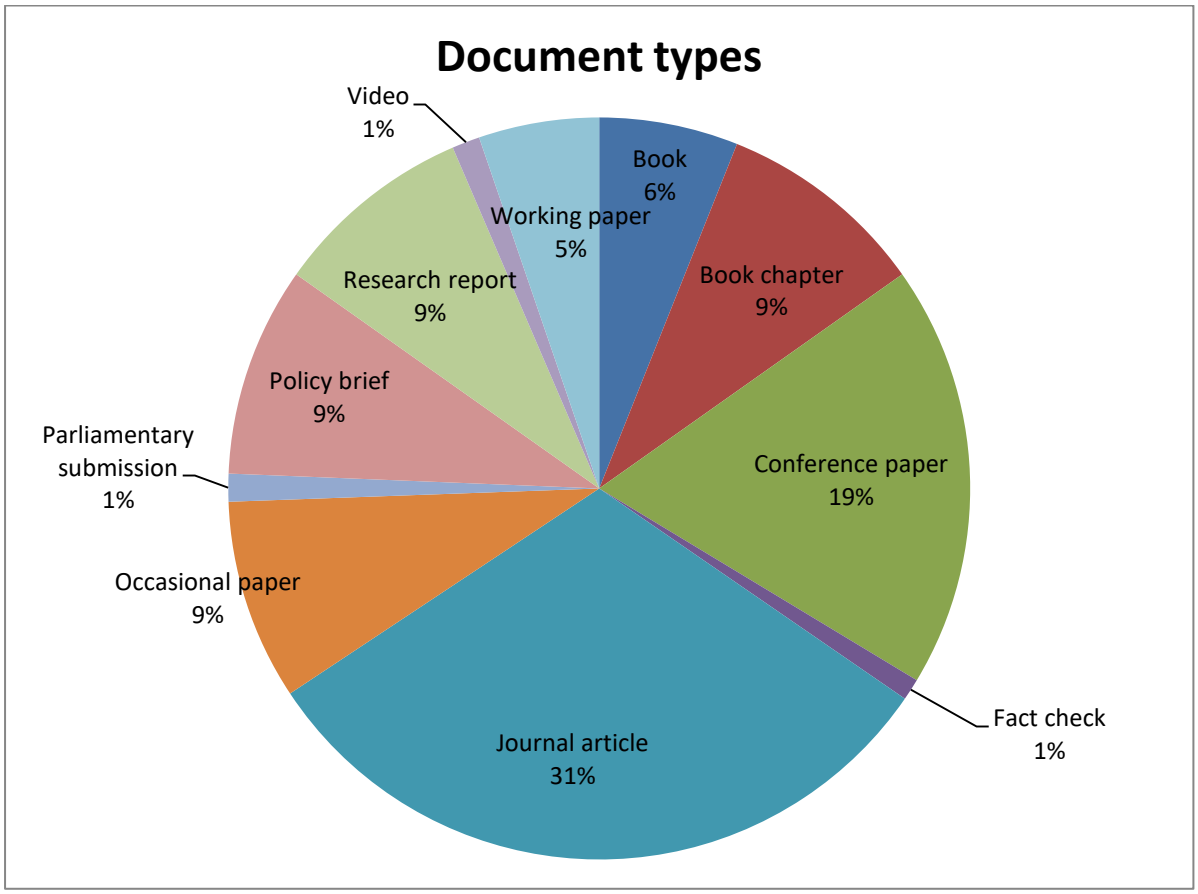
The categories of document type used in the master output list are book, book chapter, conference paper, fact check[3], journal article, occasional paper, parliamentary submission, policy brief, research report, video and working paper. The majority of outputs are journal articles, numbering 231 records. The combined number of traditionally scholarly document types, namely journal article, book and book chapter, is 344 which is slightly less than one half of the total number of 743 outputs. The PLAAS-published outputs amount to 399. Table 2 gives the quantities of document types and the pie chart in Figure 3 shows a representation of these quantities in percentages.

Table 2. Number of PLAAS outputs per year (n = 743)

Document types	Quantity
Book	45
Book chapter	68
Conference paper	137
Fact check	7
Journal article	231
Occasional paper	65
Parliamentary submission	9
Policy brief	68
Research report	65
Video	9
Working paper	39

[3] PLAAS developed a series of four short publications called Fact Checks that presented clearly laid out factual information and infographics on issues of land reform in South Africa

Figure 3. PLAAS document types in percentages



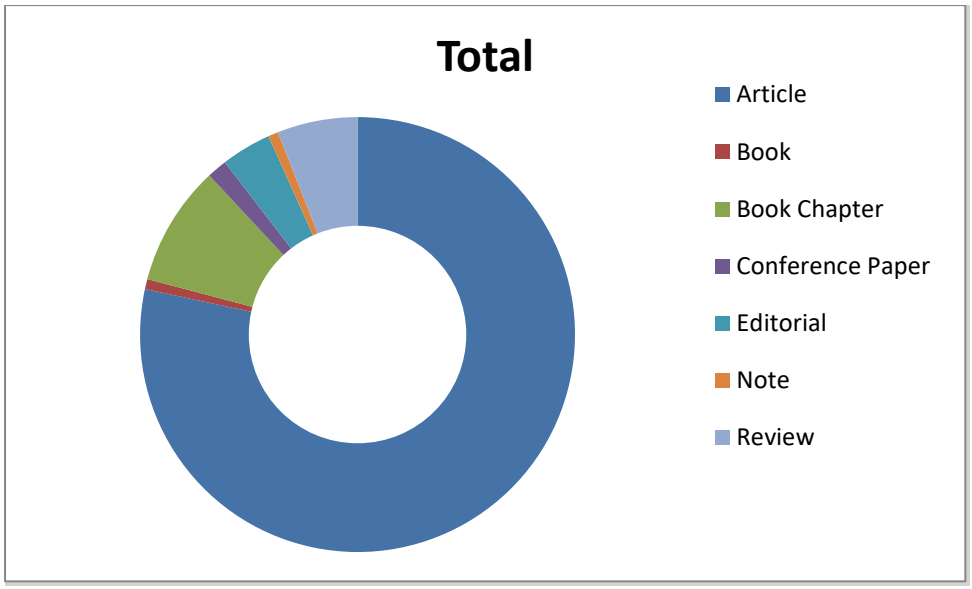
4.3.1.3 Document types in Scopus

A breakdown of the document types in Scopus (and percentages of the total for the corresponding categories in the master list) is shown in Table 3 and Figure 4. These results revealed a composition of one book (2%), 12 book chapters (18%) and a combined total for articles, notes, reviews and editorials, of 119 outputs (52%). Two conference papers (1%) have been included in grey literature in the table, as these have been counted with the grey literature in the study. Journal articles have the highest rate of being indexed in Scopus which is within expectations.

Table 3. Document types according to Scopus

Document types	Master list	Number in Scopus	%
Article (incl editorial, note and review)	231	119	52
Book	45	1	2
Book chapter	68	12	18
Grey literature (incl conference papers)	399	2	1
Total	**743**	**134**	**18**

Figure 4. Document types in Scopus results



4.3.1.4 Document types in GS

A breakdown of the document types in GS is shown in Table 4, with corresponding percentages of the master list total per category. In the remaining records, the articles total 139 (60%), conference papers amount to14 (10%), 10 book chapters (15%) and 14 books (31%). The rest of the outputs were grey literature records that consisted have been categorised into fact checks, occasional papers, policy briefs, research reports, videos and working papers. Similarly to Scopus, journal articles have the highest rate of retrieval (60%) and working papers are next at 51%.

Table 4. Document types in GS results

Document type	Total in master list	Number in GS	%
Article	231	139	60
Book	45	14	31
Book chapter	68	10	15
Conference paper	137	14	10
Fact check	7	1	14
Occasional paper	65	5	8
Parliamentary submission	9	n/a	n/a
Policy brief	68	22	32
Research report	65	25	38
Video	9	1	11
Working paper	39	20	51
Blank records	n/a	283	n/a
Total	**743**	**535**	**72**

4.3.1.3 Publications per author

In Figure 4 it is noted that the total of PLAAS outputs per author for the period under review is 643 which is not the same as the above total of 743. The reason for this is that there are 100 outputs that were authored by researchers working with but not employed by the Institute and they are not part of the set of 33 authors as categorised for the study..

The author with the highest number of outputs was Cousins with 142. The second and third highest producing authors were Hall (84) followed by Hara (69). Professor Emeritus Cousins is a SARChI chair in Poverty, Land and Agrarian Studies at UWC. He had also been a member of staff of the Institute for the entire period of 20 years, and is a founder member of PLAAS. It is therefore not unexpected that he is the most productive author in PLAAS. The three authors, Kingwill, Ngubane and

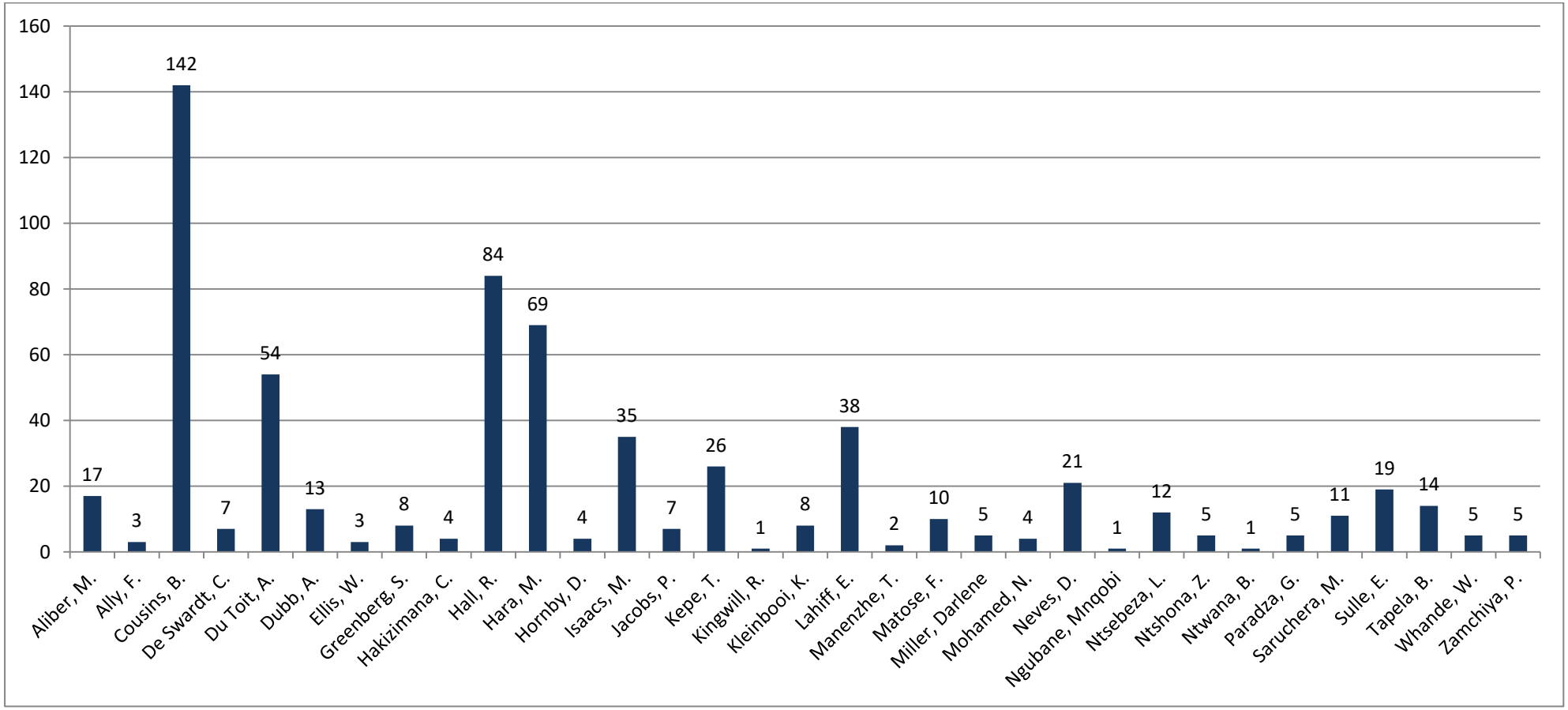
Ntwana, with the lowest count of one output each, were all new researchers who were working on PhDs and had not been at PLAAS for more than one or two years.

An analysis of the top producing authors and their scholarly outputs compared to grey literature is shown in Table 5. These results show that all authors produced almost an equal share of scholarly and grey outputs.

Table 5. Number of outputs (scholarly and grey literature) for top authors

Author	Scholarly outputs		Grey literature		**Total**
	Number	%	Number	%	
Cousins	76	54	66	46	**142**
Hall	47	56	37	44	**84**
Hara	35	51	34	49	**69**

Figure 4. Number of outputs per author



4.3.2 Bibliometrics

The data presented here is based on records for authors' outputs and citation counts retrieved from Scopus and GS citation indices.

4.3.2.1 Publication and citation counts per author

a.) Scopus

Searching in Scopus using the author search functionality, the researcher found 20 PLAAS authors with a total of 134 publications, which represents 18% of the total outputs. All were traditional scholarly outputs. The total number of citations for these publications was 2,033. What stands out in Figure 5 is that the highest number of Scopus citations (numbers shown in graph), by a sizeable amount, is for Hall at 601. Cousins had the second highest number of citations (368), followed by Du Toit (337). Cousins and Hall are well-established international researchers, in both traditional scholarly communication (such as journal articles) and in other types of engagement with the public, such as newspaper "op eds", radio interviews, and parliamentary submissions, amongst others.

It can be seen in Table 6 and in Figure 5, that the number of publications found in Scopus (134) is a small amount of the total of 743, and that Hall's citation count for instance is based on 16 publications when the total number of her publications is 79, and similarly Cousins had 28 publications in Scopus out of a total number of 147 outputs. It is also noteworthy that the outputs included in the counts are all the traditional scholarly type and there is no coverage of grey literature.

The average number of citations per author in Scopus was 62, and from Table 6 it is apparent that eight authors (40%) had this amount or more while the majority (60%) had less than 62.

Figure 5. Publications and citation counts per author (Scopus)

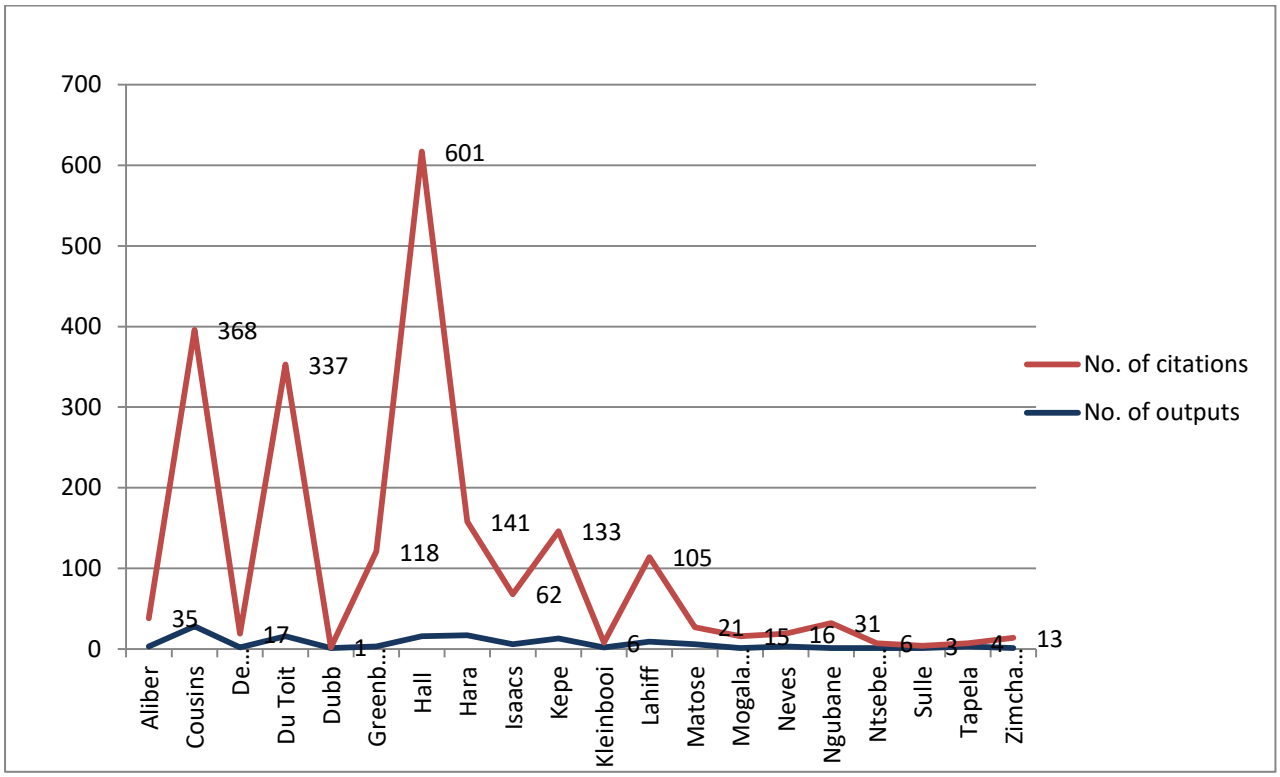


Table 6. Number of Scopus publications and citations per author

Author	No. of Scopus outputs	No. of citations
Aliber	3	35
Cousins	28	368
De Swardt	2	17
Du Toit	16	337
Dubb	1	1
Greenberg	3	118
Hall	16	601
Hara	17	141
Isaacs	6	62
Kepe	13	133
Kleinbooi	2	6
Lahiff	9	105
Matose	6	21
Mogalada	1	15

Neves	3	16
Ngubane	1	31
Ntsebeza	1	6
Sulle	1	3
Tapela	3	4
Zimchaya	1	13

b.) Google Scholar

The search for records of publications and citations in GS was conducted through a progamme called Publish or Perish, software developed by Harzing in 2007 to assist with finding metrics for individual authors in GS. The search resulted in records for a total of 32 PLAAS authors and 535 publications (72% of the total 743) with the total number of citations at 11,522. The figures are shown in Table 7 and, as in the Scopus results, the author with the highest number of citations is Hall (2,344) followed by Du Toit (1,886) and then Cousins (1,831). These are the only authors with total citations above 1,500; the next highest number of citations is 870 for Kepe. In terms of the number of outputs, Hall, Cousins and Du Toit again have the highest figures and the only other author with more than 50 outputs is Hara with 55.

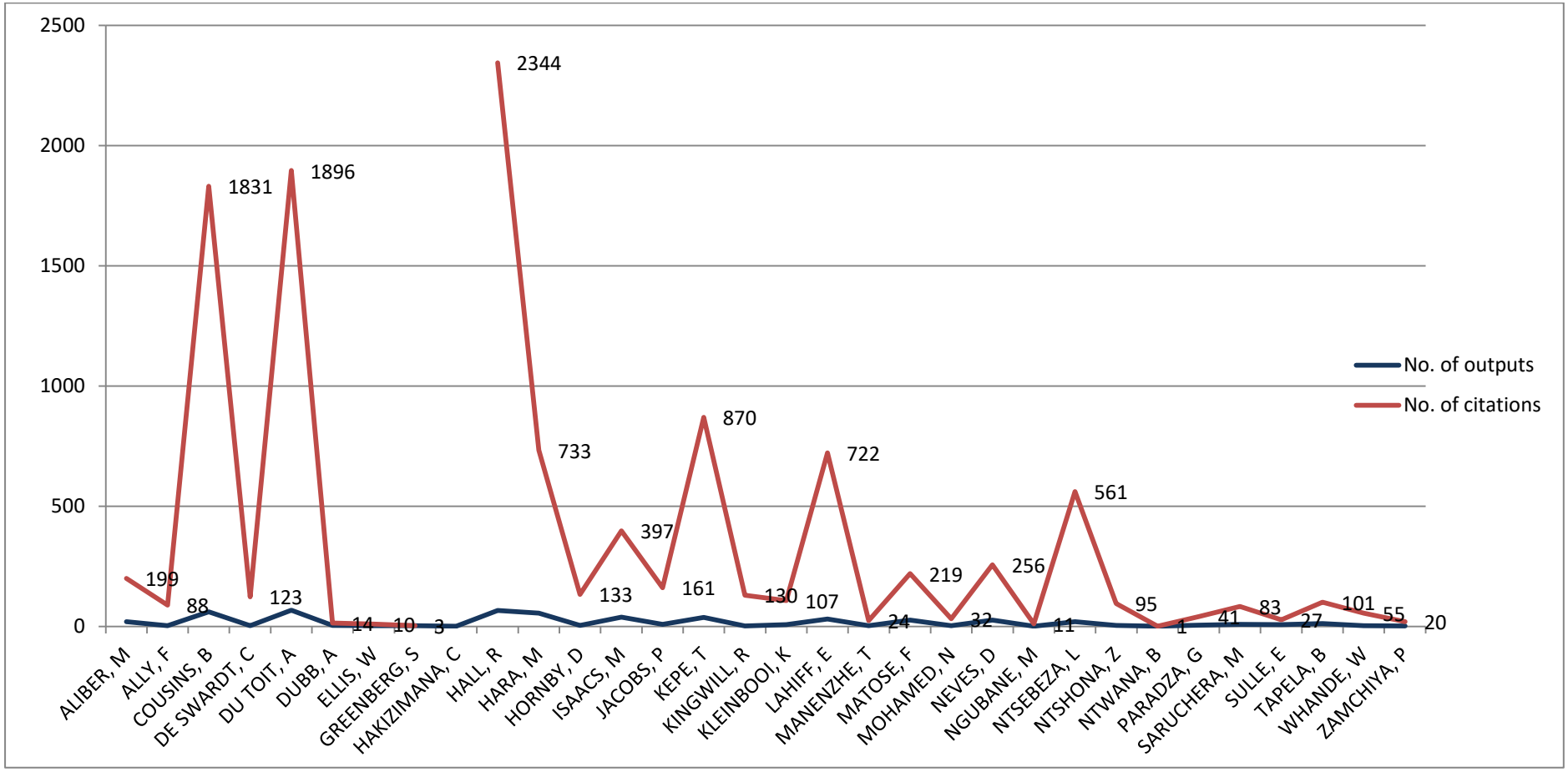
Figure 6 shows these numbers in a line graph that depicts the relatively high citation counts for Cousins, Du Toit and Hall compared to the majority of researchers at PLAAS. In GS, which presented a higher total number of citations as well as more authors, the average number of citations per author was 350. Out of 32 authors, eight (25%) had more than 350 and 24(75%) had less than 350.

Table 7. GS publications and citation counts per author

Author	No. of GS outputs	No. of citations
Aliber	20	199
Ally	3	88
Cousins	61	1,831
De Swardt	3	123
Du Toit	67	1,896

Dubb	4	14
Ellis	3	10
Greenberg	3	3
Hakizimana	1	0
Hall	66	2,344
Hara	55	733
Hornby	4	133
Isaacs	38	397
Jacobs	8	161
Kepe	37	870
Kingwill	2	130
Kleinbooi	7	107
Lahiff	31	722
Manenzhe	3	24
Matose	26	219
Mohamed	3	32
Neves	26	256
Ngubane	1	11
Ntsebeza	20	561
Ntshona	4	95
Ntwana	1	1
Paradza	5	41
Saruchera	8	83
Sulle	7	27
Tapela	12	101
Whande	3	55
Zamchiya	2	20

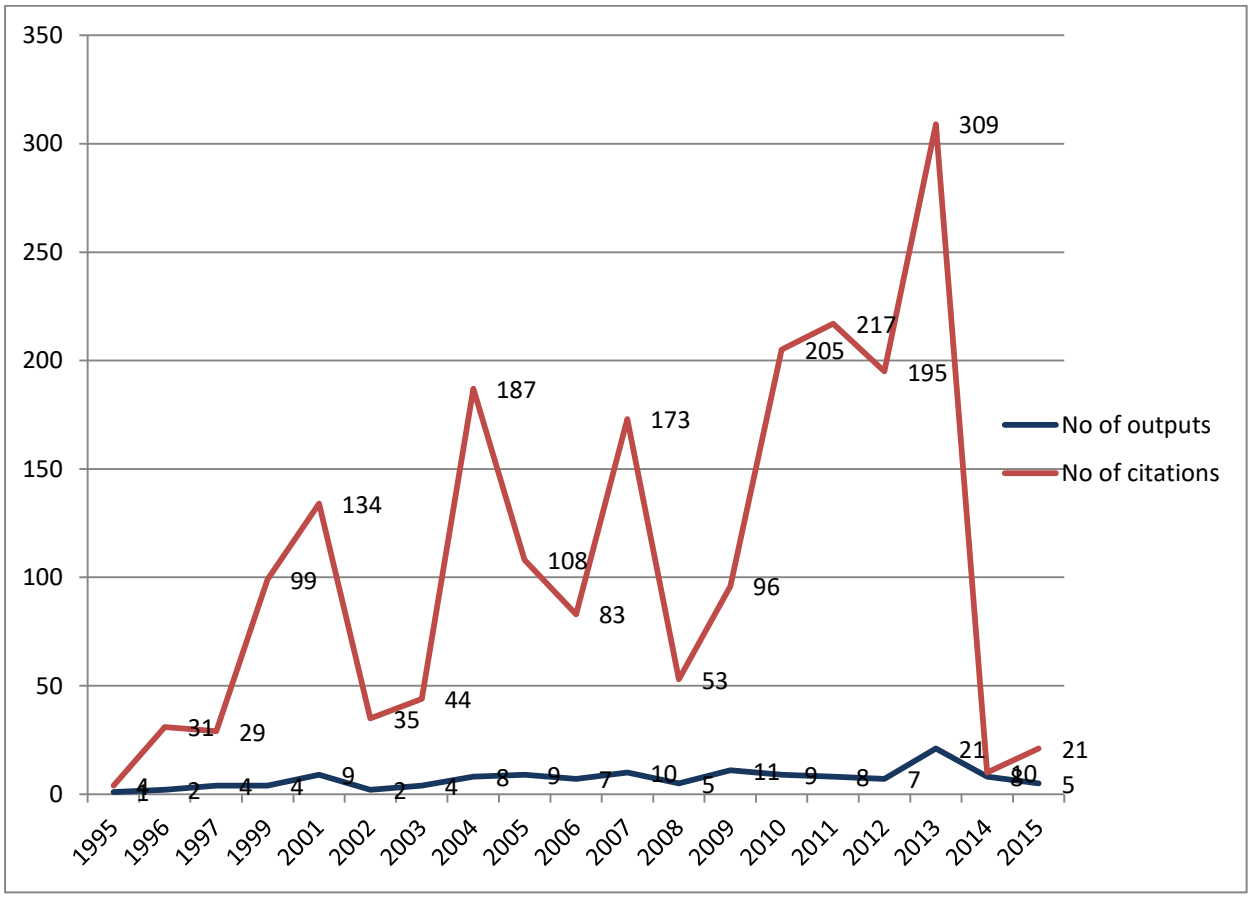
Figure 6 Google Scholar publications and citation counts per author



4.3.2.2 Publications and citations per year

As shown in Figure 7, 2013 was the year with the highest number of publications found in Scopus when 21 publications were listed. This year also had the highest number of citations of 309. Citations were more than 200 in both 2011 (217) and in 2010 (205) but the number of outputs for these years did not reach close to the level of 2013; eight were produced in 2011 and seven in 2012. The lowest number of citations was received in 1995, with a total of four based on one publication. As mentioned before, this was the year that the Institute was founded and it is not unexpected that the numbers in this year are lower than others. There were also lower figures for 2014 and 2015, which can be attributed to the citation window period of two years, which is normal for citations to accumulate.

Figure 7. Scopus total number of citations for PLAAS per year

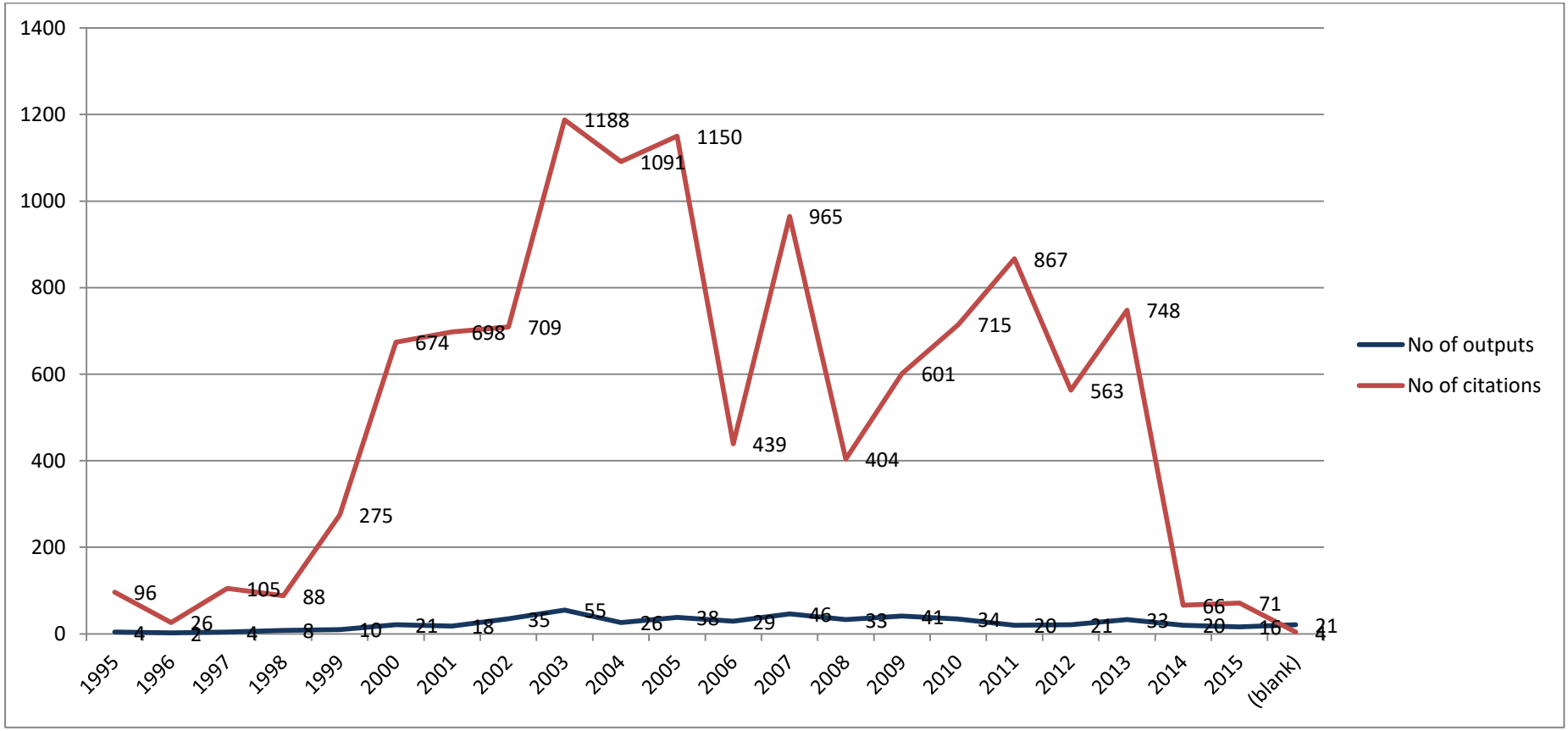


GS results recorded a much higher number of both publications and citations than Scopus for every year recorded. Figure 8 shows that the years 2010–2014 display a

similar trend to that seen in Scopus, with a higher number of citations than average. The highest number of citations in GS, however, was in 2003, when there were 1,198 recorded for 56 outputs, followed by 2005 with 1,150 citations and 38 outputs. This was not apparent in the Scopus results seen in Figure 7, as the numbers reached for 2003 and 2005 are lower, at 44 and 108, than for other years.

Similar to that found in Scopus, GS citations for 2014 and 2015 are low because of the citation window period. There are also a number of outputs found in GS (22) with no publication year but these have relatively few citations, a total of four. This is an example of one of the problems with GS as described in Chapter Three, which is that there are records with incomplete or inaccurate information making reliable identification difficult.

Figure 8. GS total number of citations for PLAAS per year



4.3.2.3 The most cited articles

A search for the three articles that were cited the most in both Scopus and GS showed results as presented in Table 8. The top two in both citation indices are co-authored by Hall and others. The third differed in each index: in GS it was an article by Cousins and in Scopus it was another article co-authored by Hall.

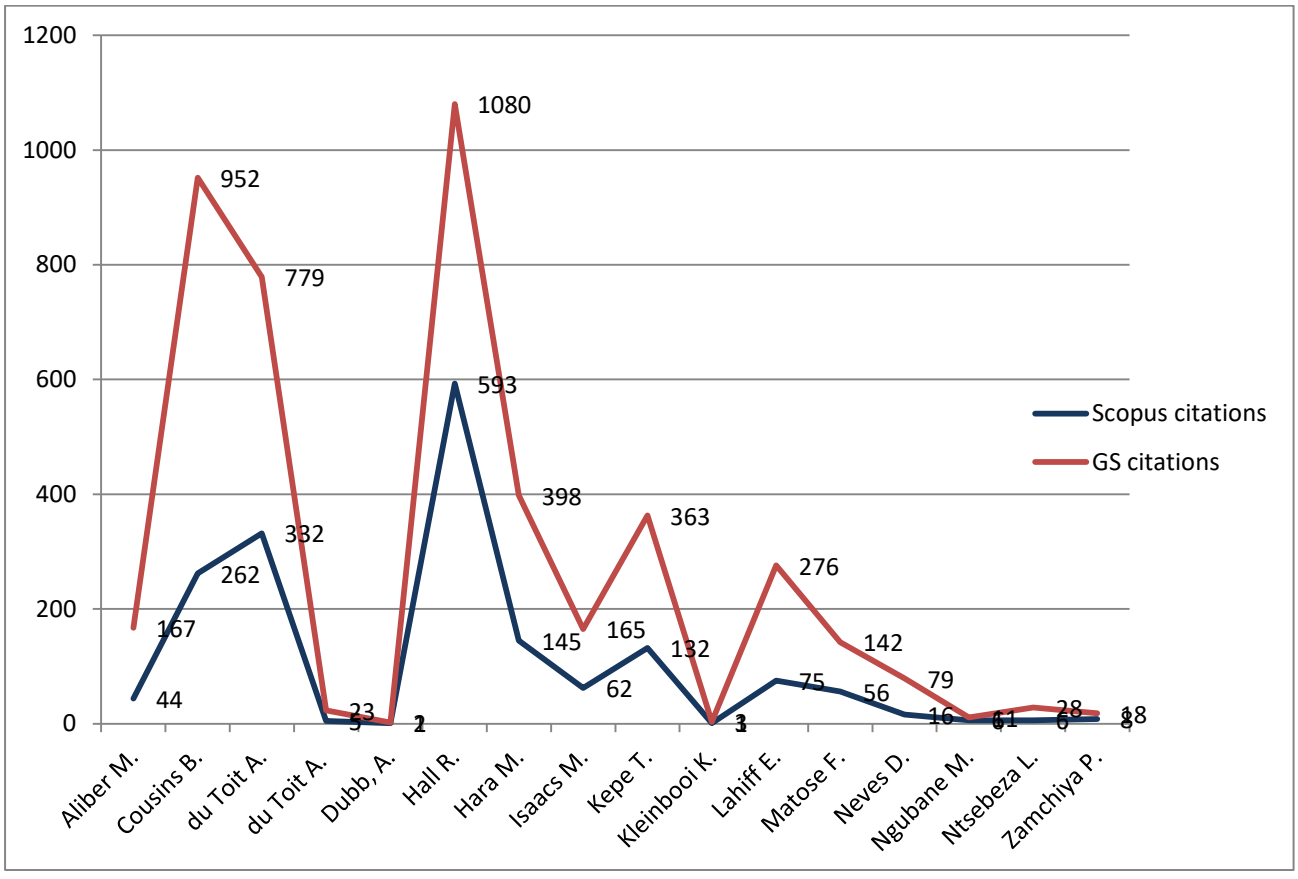
Table 8. Most cited articles

GOOGLE SCHOLAR	**No. of citations**
Hall	
Towards a better understanding of global land grabbing: an editorial introduction	364
The new enclosures: critical perspectives on corporate land deals	318
Cousins	
The role of land-based strategies in rural livelihoods: the contribution of arable production, animal husbandry and natural resource harvesting in communal areas in South Africa	205
SCOPUS	**No. of citations**
Hall	
Towards a better understanding of global land grabbing: an editorial introduction	164
The new enclosures: critical perspectives on corporate land deals	159
Governing global land deals: the role of the state in the rush for land	86

4.3.2.4 Records common to both Scopus and GS

This section deals with the records of outputs that were found in both Scopus and GS and compares the results of citation counts for these outputs. A total of 107 records was found in both Scopus and GS but with different citation counts. Figure 9 presents a clear graph of the trends of each author's citations; while numbers might be different for each citation index, the general patterns for each author are similar. There were five authors in common in each citation index: Cousins, Du Toit, Hall, Hara and Isaacs which largely correlates with the authors of the top number of publications, citations and *h*-indices shown later in this chapter.

Figure 9. Citations per author for Scopus and GS



4.3.2.5 The h-index

In 2005 a scientist by the name of Jorge E. Hirsch published a paper in which he advocated the use of a new index for measuring the impact of a researcher. The paper led to a flurry of responses, most of which were positive and supported the adoption of this metric (Jacso, 2008). In its simplest form, the *h*-index is calculated by counting the number of publications and also counting the number of citations so

each scientist has index *h* if *h* of his/her *Np* papers have at least *h* citations each, and the other (*Np*-*h*) papers have no more than *h* citations each (Hirsch, 2005:741). The advantage of the *h*-index is that it combines an assessment of both quantity (number of papers) and quality (impact, or citations to these papers) (Harzing, 2016).

Two issues to be aware of in using this author level metric are firstly career age of the author, meaning how long s/he has been publishing will affect the *h*-index because a scholar who has been publishing for 30 years will generally have far more publications than a scholar who has been publishing for only five years. Since the number of publications is part of the calculation of the *h*-index, the younger scientist will be at a disadvantage. Secondly, there are differences in the various disciplines, again because of the tendency to publish more, often shorter, papers in the natural sciences than in the social sciences. In the humanities, where monographs are often published rather than journal articles or other shorter outputs, the number of publications is even less. It is, therefore, important not to compare different authors' *h*-indices if there is a significant difference in number of publications.

The data that collected are from both GS and Scopus records, using Harzing's PoP software to retrieve the GS *h*-index, and using Scopus for its *h*-index. The 1995-2015 time period was specified in the search for the authors' outputs, so that only the outputs of those years are included in the calculation of the *h*-index. This was an attempt to limit the comparison of different authors' career ages, but it cannot be entirely successful because of the authors' chronological ages as well.

In Figure 10, the bar graph shows the *h*-index per author as derived from the data in Scopus and GS and as can be seen, these values vary, in part because of factors of career age. The authors with the three highest *h*-indices found in GS are Cousins with 32, followed by Du Toit and Hall, both with 24. Scopus results give Cousins the highest at 14, followed by Du Toit (11) and Hall (10). Although the values are different due to the different databases from which the numbers were taken, the pattern is that the same three authors have the top *h*-indices in each database.

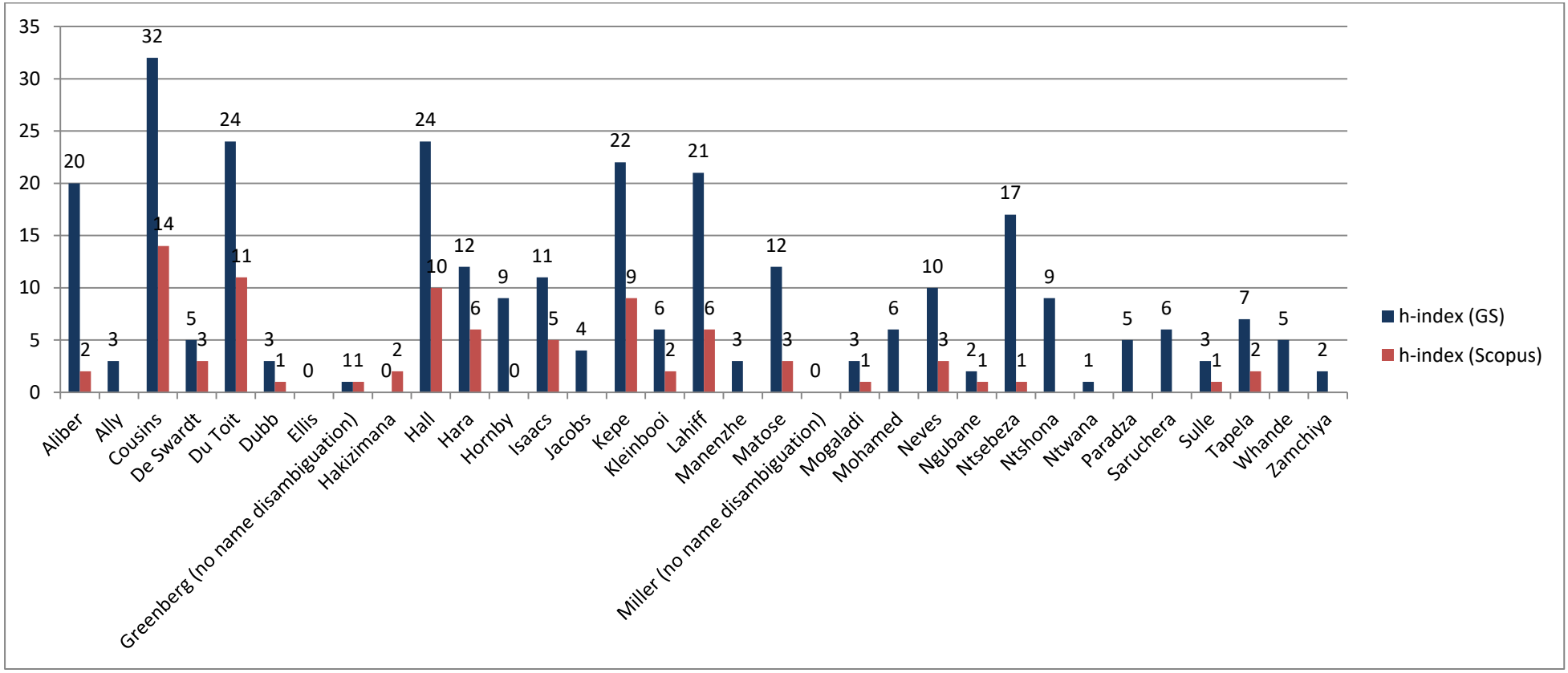
4.3.2.6 National Research Foundation (NRF) Ratings

The NRF is a research funding agency established by the government in the 1980s and one important role that the NRF plays is in rating and evaluating individual researchers. Five categories exist, which are A, B, C, Y and P, described by Inglesi-Lotz and Pouris (2011:749) as:

> "A-rated scientists are those who are recognised by their peers as top international scholars in their field for the quality and impact of their research. Researchers that are B-rated, enjoy considerable international recognition by their peers. C-rank is achieved by established researchers with a sustained record of productivity recently. P and Y rated researchers are young scholars that have shown potential for future international careers."

An investigation into NRF ratings for researchers at UWC revealed that a number of researchers in different faculties have successfully achieved ratings, including three PLAAS researchers. These are Cousins who is B rated, Hara is C rated and Hall is P/Y rated. Furthermore, in addition to his B ranking, Cousins holds a SARChI chair in Land Issues and Poverty Alleviation which is a prestigious position, and carries funding with it. He is one of only 13 SARChI chairs at UWC in 2015. According to the NRF website, the "main goal of the Research Chairs initiative is to strengthen and improve research and innovation capacity of public universities for producing high quality postgraduate students and research and innovation outputs" (National Research Foundation, n.d.).

Figure 10. H-indices of authors compared in Scopus and Google Scholar



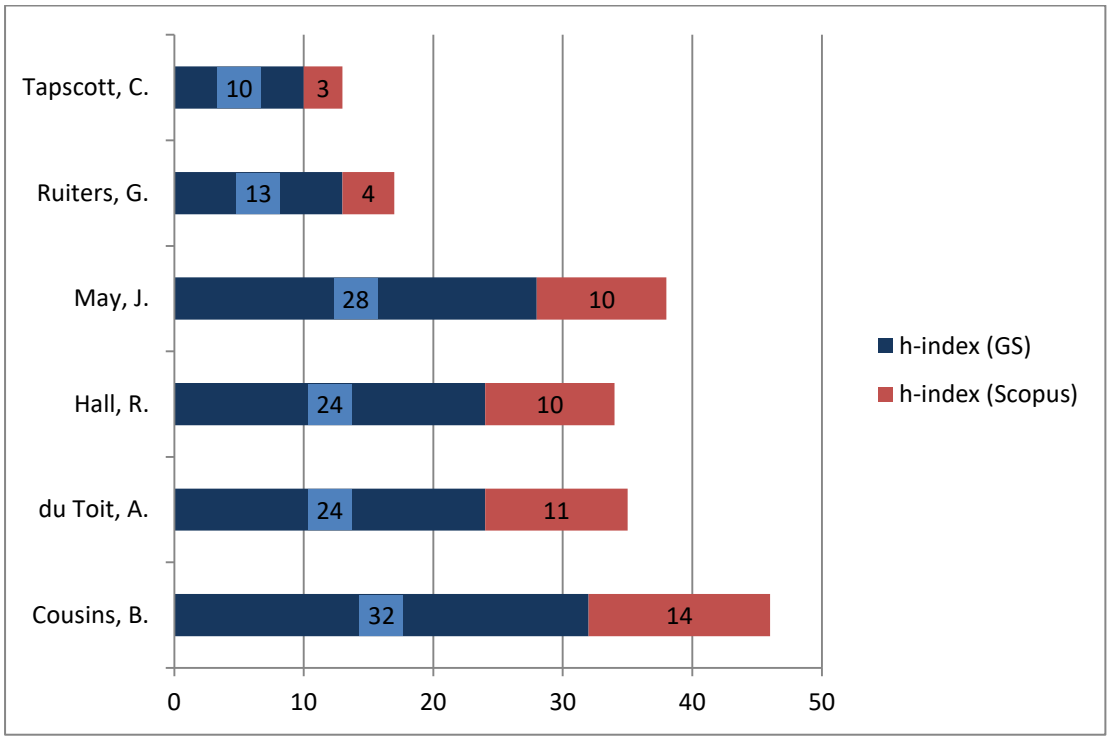
In order to find more meaning in the value of the *h*-indices of the top three PLAAS authors, it was necessary to compare their scores with those of other academics in a similar discipline and of similar career ages at the same institution. The researcher looked for a research unit at UWC that is similar to PLAAS and with authors comparable to these PLAAS authors. Accordingly, the decision was made to use three researchers in the School of Government (SOG) at UWC, which like PLAAS is also in the Faculty of Economic and Management Sciences.

The SOG was established in 1993 “as part of a broad initiative to meet the education and training challenges of a post-apartheid society and as a means of supporting the process of social, political and economic transformation in South Africa” (School of Government, UWC, n.d.). The School conducts policy-related research as well as training for the public sector and NGOs and trade unions (SOG, n.d.).

Using their numbers of publications and citations as well as the *h*-index in PoP and Scopus searches, the highly cited authors in the SOG that were selected were Professor May, who is currently Director of the Centre of Excellence in Food Security, Professor Tapscott who is Director of the SOG, and Professor Ruiters, who is Professor of Public Policy in the SOG. May is not technically in the SOG itself but is the Director of the Institute for Social Development (ISD) which is a research institute similar to PLAAS that falls under the SOG.

Figure 11 compares the different results for SOG and PLAAS researchers. All three ISD authors have *h*-indices that are lower than the top three in PLAAS, although the highest in both is close at 32 for Cousins and 28 for May from GS, while Scopus gives Cousins 14 and May 10. This is followed for the PLAAS researchers by 24 for both Hall and Du Toit in GS, and for SOG by Ruiters with 13 and Tapscott with 10. In Scopus, although the scores are different values, the authors follow the same order of highest to lowest, although Hall and Du Toit differ by one point with Du Toit at 11 and Hall at 10.

Figure 11. Comparative researchers' h-indices from Google Scholar and Scopus



4.3.3 Survey of PLAAS researchers in 2016

A short questionnaire was sent to the researchers at PLAAS during 2016, in order to survey their existing knowledge and use of social media in an academic sphere. Out of the 12 questionnaires sent, 10 responses were received, which is a response rate of 83%. The results of the survey are presented following the order of the questions, with tables and graphs (from SurveyMonkey) depicting results as well as a narrative to describe particular points of interest for this study.

Question 1

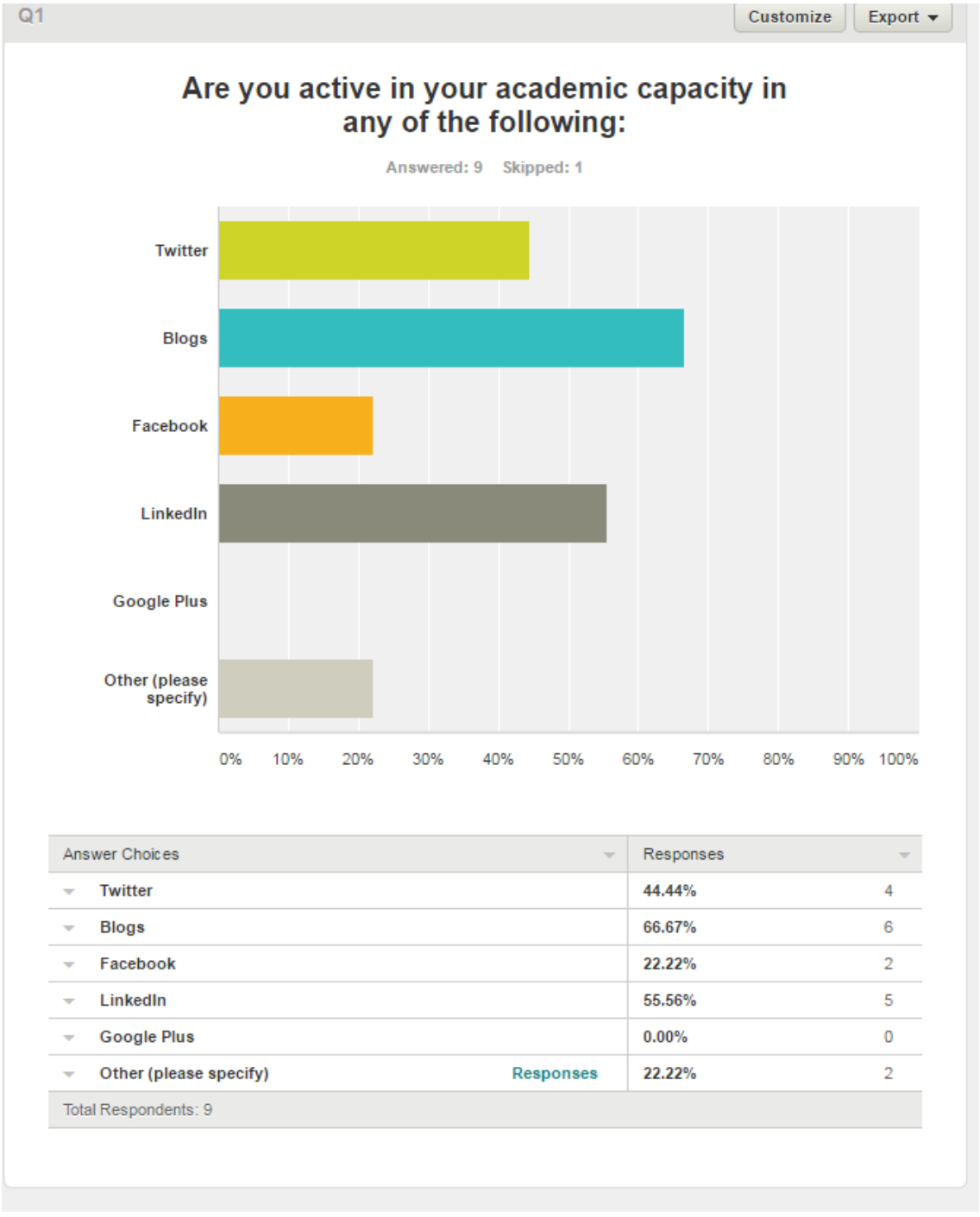
The first question asked if the researcher was active in his/her academic capacity in any of the following social networking platforms: Twitter, Blogs, Facebook, LinkedIn and GooglePlus. Nine out of 10 researchers responded, with one person skipping this question. The aim of the question was to get an indication of whether the researchers use these social media not for personal reasons but to discuss, promote or find information for their research.

The responses were mixed, with most researchers using blogs followed by those active on LinkedIn. The PLAAS website has a blog section called 'Another countryside' where researchers are encouraged and reminded to post blogs about

their research and this is a possible reason why there was such a high response rate. No researchers were active in GooglePlus. One researcher commented in "Other", saying that s/he mainly uses email instead of these platforms.

The numbers are presented in Figure 12 (taken from SurveyMonkey) along with a graph showing the results.

Figure 12. Social networking platform activity (from SurveyMonkey)



Answer Choices		Responses	
Twitter		44.44%	4
Blogs		66.67%	6
Facebook		22.22%	2
LinkedIn		55.56%	5
Google Plus		0.00%	0
Other (please specify)	Responses	22.22%	2

Total Respondents: 9

Question 2

The second question asking whether a researcher had a personal website received 100% negative response, with a comment from one person indicating that s/he has intended to set up a website for some time but has been too busy to do so. While some scholars have their own personal websites in South Africa, it is rare. It seems to be more common in Britain and the United States than in South Africa or Africa. This response was therefore not unexpected.

Question 3

This question aimed to find out if the researchers used any of the following reference management and sharing software in their research: Mendeley, Zotero, CiteULike or Reddit. This question was answered by eight respondents with two people skipping the question. Seven out of the eight respondents (86%) said they use Zotero and only one respondent also uses Mendeley. PLAAS maintains an internal library in Zotero, where all researchers are required to maintain their personal information on all kinds of outputs, so this corresponds with the high use of Zotero. One additional response, given as a comment, was that the respondent also uses Evernote. The results are shown in Table 9.

Table 9. Use of reference management and sharing

Platform	No. of users	% of respondents
Mendeley	1	12.5
Zotero	7	87.5
CiteULike	0	0.0
Reddit	0	0.0

Question 4

The fourth question, 'Do you have any entries in Wikipedia?' was answered by all respondents in the negative.

Question 5

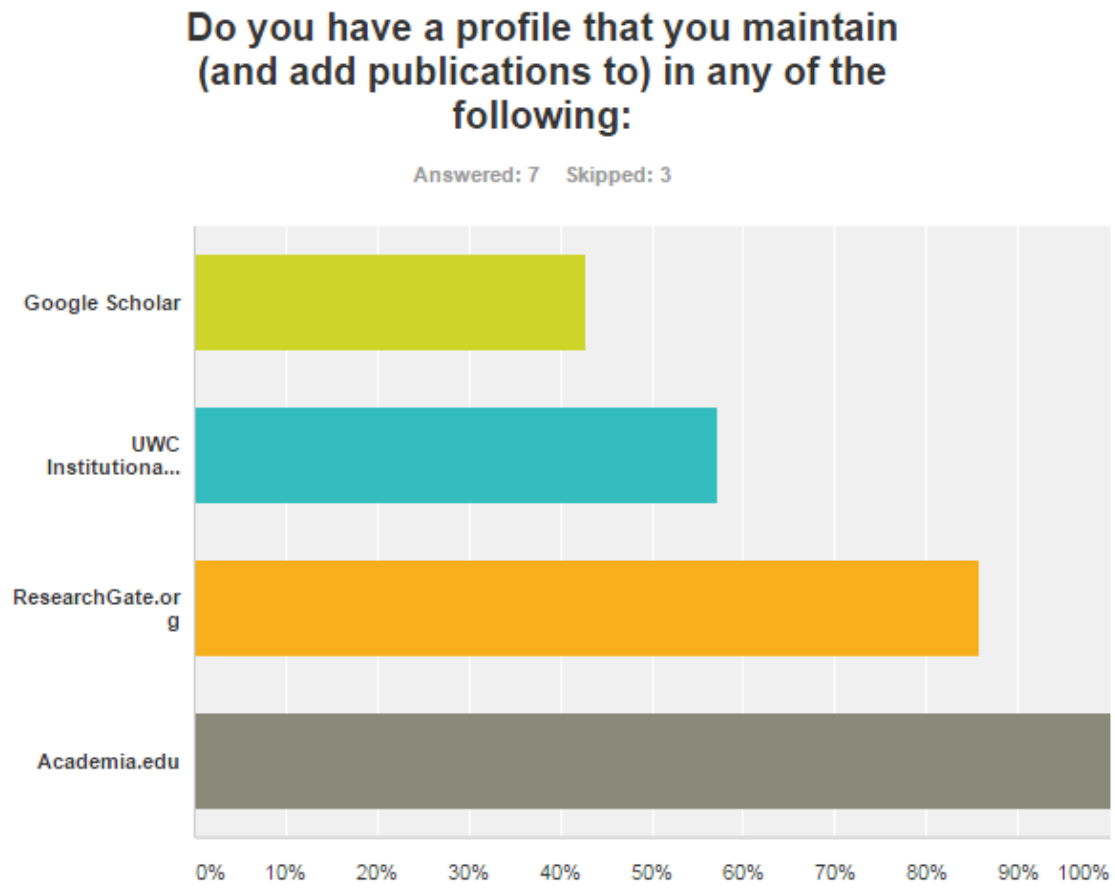
This question gave mixed responses from seven respondents which are shown in Figure 13. Researchers were asked if they have a profile that they maintain (and add publications to) in any of the following: GS, UWC Institutional Repository, ResearchGate.net, Academia.edu. The aim of this question was to find out how

active researchers were in maintaining their academic profiles in open access repositories and other open platforms, and also to find out how much they broadened out from the journal article as the only means of having a presence in scholarly communication.

The first two options, GS and the Institutional Repository, had the lowest responses of three and four people respectively. Although each researcher at PLAAS does have a GS profile, this has been set up and maintained by the Information and Communications team in PLAAS; clearly the researchers are not all aware of this as only three out of seven gave GS as an answer. Similarly, none of the researchers is personally active in submitting outputs to the UWC repository, although a number of them do have entries there. The response from only four researchers that they have a profile in the repository points to this situation. The librarian has been submitting outputs over the past five years, although trying to work with the researchers when doing so.

Of the seven respondents, all use Academia.edu followed closely by ResearchGate.net, both commercial scholarly networks. Figure 13 shows these responses in table and graph form.

Figure 13. Academic profile (from SurveyMonkey)



Answer Choices	Responses	
Google Scholar	42.86%	3
UWC Institutional Repository	57.14%	4
ResearchGate.org	85.71%	6
Academia.edu	100.00%	7
Total Respondents: 7		

Comments (2)

Question 6

The last multiple-choice-type question asked whether researchers have an ORCID ID and the majority of researchers who answered, which was eight out of 10, indicated that they did not. One comment was that the researcher was “not aware that I have any”, and of the two who responded that they do have an ORCID ID one gave an invalid number and the other did not know what it was, nor did this person

remember the password to get into the ORCID website to find out. It is clear that neither is actively using ORCID.

Along with the DOI and other handles that make locating and keeping a document with one online address, the ORCID is increasingly useful as a unique identifier, or permanent individual identifier, for researchers. In the case of a few PLAAS researchers, their names are not unique to them and this causes incorrect entries in GS.

Question 7

The last question was open ended and asked if there was anything else the respondents wished to add and six people answered while four skipped this question. Two answers were “No”. One of the comments was not directly related to the questions, and concerned issues of saving documents securely. Another person wanted to know more about keeping citations and profiles up to date and collated, and made reference to ResearchGate.net. Another researcher referred to building a personal website when s/he had time. There was only one comment that was in line with the intention of this question and referred to the importance of using social media platforms to increase impact and visibility for the author and the Institute. Part of the comment was that “We are punching below our potential weight because of not building our online presence”. Reasons given for not using them is that there is a learning curve that takes time and “it is not a priority when there are more urgent things to do”.

Question 8

An optional question at the end of the questionnaire asked respondents to give their name and position at PLAAS. The results were incomplete and not useful for any kind of analysis. Nine researchers completed the section and one skipped it.

4.3.4 Altmetrics

Altmetric indicators for PLAAS outputs were more difficult to source than bibliometrics. As discussed in Chapter Three, there are three main tools available for altmetric analysis of scholarly outputs. These are PlumX, ImpactStory and Altmetric and they aggregate social media activity and an array of other metrics, (such as

mainstream media mentions) and citations, producing their own particular indicator/s accordingly.

4.3.4.1 Altmetric.com

Altmetric was selected for this research, and a search was carried out for the 33 PLAAS authors using the Explorer advanced search function with a date range specified for each author. A total of 46 records were retrieved, which is 6% of the total number of outputs from PLAAS for the period 1995–2015.

The AAS has been described by Torres-Salinas, Robinson-Garcia and Jiménez-Contreras (2016) as an indicator where the calculation is "based on a weighted sum of values based on the presence of a given article in different social media". Out of the selection of outputs, 38 had an AAS while eight outputs did not have a value. These eight records are nevertheless in the Altmetric Explorer database and as soon as there is any activity around an item (such as tweets, Facebook shares, Mendeley readers) the score will reflect this and will continue to process activity for all records and reflect it in the AAS.

Shown in Table 10 are the 46 titles and their corresponding AASs, listed under the author with this score in the last column (where available). The AAS ranges from one for a number of outputs to the highest score of 59 for an article authored by Hall. The total of the AASs is given for each author. These counts and how they relate to measuring visibility and impact will be discussed in Chapter Five.

Altmetric has established a relationship with Scopus whereby, when a publication in Scopus has available altmetrics, these are included in the Scopus record. Likewise in Altmetric, where there are Scopus citation counts, these are included in the Altmetric record. I have not included the Scopus citations that are available in this set of records, firstly, as there are very few of them available for these records (15); secondly, there is very little useful information to be gained from this small dataset and thirdly, no other citation counts are available in Altmetric, such as those from GS or WoS.

Table 10. Authors and their ouputs with an AAS

Author and Title	AAS
Aliber	**1**
Support for smallholder farmers in South Africa: challenges of scale and strategy	1
Cousins	**8**
Formalisation of land rights in the South	6
Livestock and the rangeland commons	1
More than socially embedded	
Socio-economic rights	1
De Swardt	**1**
Perceptions of informal safety nets: A case study from a South African informal settlement	
Urban poverty in Cape Town	1
Du Toit	**9**
Myths of globalisation: private regulation and farm worker livelihoods on Western Cape farms	3
Social exclusion discourse and chronic poverty: a South African case study	1
Stuffed and starved: book review	1
The government of poverty and the arts of survival: mobile and recombinant strategies at the margins of the South African economy	3

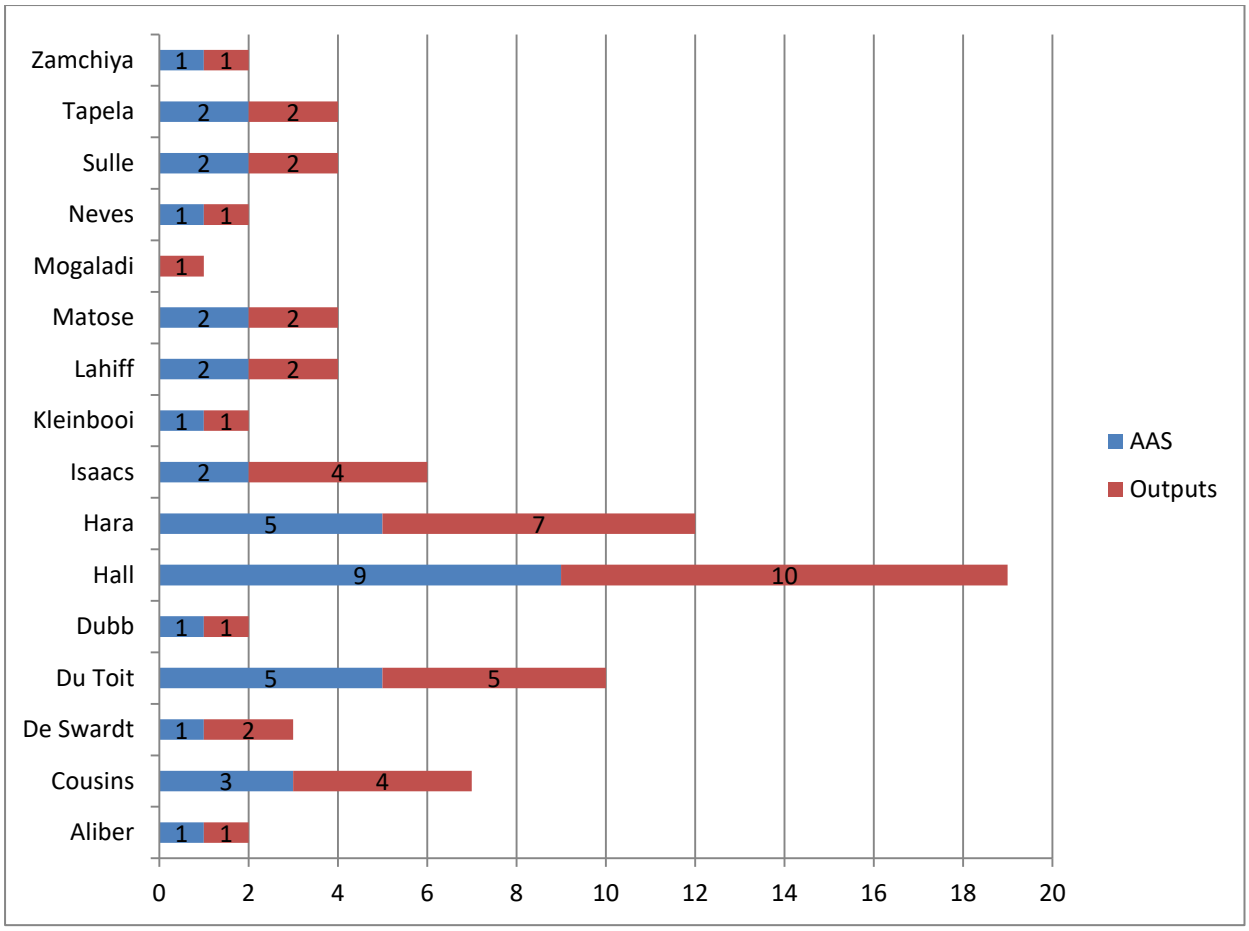
Fisheries co management - —an institutional innovation? Lessons from South East Asia and Southern Africa	6
Institutions and co-management in East African inland and Malawi fisheries: a critical perspective	6
Lessons from existing modes of governance in Malawi's small-scale fisheries	
Restoring the Chambo in southern Malawi: learning from the past or re-inventing the wheel?	3
Isaacs	**4**
A decision support tool for response to global change in marine systems: the IMBER-ADApT Framework	2
Creating action space: small-scale fisheries policy reform in South Africa	
Multi-stakeholder process of co-designing small-scale fisheries policy in South Africa	2
The governability of small-scale fisheries food system in South Africa: the case of Snoek and West Coast Rock Lobster	
Kleinbooi	**2**
Reshaping women's land rights on communal rangeland	2
Lahiff	**8**
Land redistribution in South Africa : a critical review	6
Land reform in South Africa 100 years after the Natives' Land Ac	2
Matose	**11**

Co-management options for reserved forests in Zimbabwe and beyond: policy implications of forest management strategies	3
Pourquoi s'intéresser à la notion d' « evidence-based policy » ?	8
Mogaladi	
Decentring poverty, reworking government: social movements and states in the government of poverty.	
Neves	**3**
The government of poverty and the arts of survival: mobile and recombinant strategies at the margins of the South African economy	3
Sulle	**4**
Biofuels investments in Tanzania: policy options for sustainable business models	3
Challenges and methodological flaws in reporting the global land rush: observations from Tanzania	1
Tapela	**2**
Book reviews	1
Roman water law in rural Africa: the unfinished business of colonial dispossession	1
Zamchiya	**2**
Farm workers and farm dwellers in Limpopo province, South Africa	2

In addition to the AAS, counts of Twitter activity and Facebook shares were retrieved from the Altmetric Explorer search. The most activity was on Twitter, with a total of 120 tweets for all the outputs. There are four outputs with Facebook shares, giving a total of seven, and not every output has social media activity, but might have citations. Some records show that there is an AAS and no social media activity, because the AAS includes a number of other sources in their calculation of the AAS.

The bar graph in Figure 14 shows the number of outputs from Altmetric Explorer as well as the number of scores that each author has. Out of the 33 PLAAS authors investigated, 16 authors were included in the Altmetric Explorer database and only one of these (Mogaladi) did not have an AAS at all. The highest number of outputs retrieved from Altmetric Explorer was 10 (Hall); of these, nine outputs had an AAS while the tenth was included in the database but had no score.

Figure 14. Authors' numbers of outputs and numbers of outputs with an AAS



The last significant finding in this section is that the document types that were found in Altmetric Explorer were predominantly journal articles (38), followed by five book chapters and three books.

4.3.4.2 Case studies

The results from Altmetric Explorer covered a small percentage of the outputs from PLAAS and did not provide any insight into other document types, as these records covered journal articles, books and book chapters only. This study aimed to look at the impact and visibility of a range of different document types, which necessitated a closer investigation of specific altmetrics that were available for a selection of outputs. Three different publications were therefore analysed at article level. They are presented in this section showing numbers of views and downloads as well as counts of tweets and Facebook shares where available. These indicators are some of the many that make up altmetrics.

The publications were selected because they scored high in views and downloads and therefore were considered worthy of further investigation. The counts of views and downloads were found by using Google Analytics, while the Facebook and Twitter Applications Programme Interfaces (APIs) on the PLAAS publications website were used to count Twitter and Facebook shares.

Table 11 shows the three documents that received the highest number of page views and downloads according to Google Analytics. The highest number of page views was for *Fact Check 1* with 2,711, followed by *Working Paper 21* which had 1,282 views and lastly *Policy Brief 1* had 1,252 views. In terms of downloads, the highest number of downloads was for Working Paper 21, which had 595 while the Policy Brief had the lowest of these three documents at 262 downloads. These were the only publications that were in the top 10 page downloads for the entire PLAAS website.

The policy brief was published in 2001, before social media had developed and this is reflected in the absence of Facebook or Twitter counts in this case. The fact check has six Facebook shares and 63 tweets and the working paper has 52 Facebook shares and 102 tweets as shown in the table.

Table 11. Three PLAAS outputs with altmetrics

Author	Title	Year	Doc Type	Unique views	Downloads	Twitter	Facebook
Lahiff	Land reform in South Africa: is it meeting the challenge?	2001	Policy Brief	1,252	262	0	0
Walker& Dubb	The distribution of land in South Africa: an overview	2013	Fact Check	2,711	494	63	6
Du Toit	Making sense of 'evidence' - notes on the discursive politics of research and pro-poor policy making	2012	Working Paper	1,282	595	102	51

In order to find out more about the context in which these outputs were produced and shared, the authors were emailed and information was gathered from the Communications and Information Officer who was responsible for their production. This will be discussed in greater detail in the next chapter, but some of the key points are given here.

Policy Brief 1, Land reform in South Africa: is it meeting the challenge? was published in 2001 and it was the first time that "the key land reform issues were summarised and solutions offered, in a popular format" (Pointer, personal communication, February 2017). This first brief was originally sent out in printed form by post to a number of policy makers and others. It was uploaded onto the website in approximately 2011 and has been downloaded 262 times since then.

Working Paper 21, Making sense of 'evidence': notes on the discursive politics of research and pro-poor policy making was published in 2012 and was one of the first papers that challenged the evidence-based policy making practice (EBPM). This approach was originally taken in the health sector in the UK and was passed on to countries in the global South that received research funding from DFID and other donors, including South Africa. Shortly after the paper was released, PLAAS held a symposium which looked at EBPM in the South African context and the paper was presented there by Du Toit, which gave it greater coverage. A last contributing factor was that "a champion of the cause", Enrique Mendizabal, who was himself challenging EBPM doctrine, actively spread word of this paper through Twitter and his blog (Du Toit, personal communication, February 2017). He was an expert in the EBPM field, so when he championed the paper, many people in the field sought it out, contributing to the highest number of downloads at 595.

Fact Check 1, The distribution of land in South Africa: an overview was the first in a series of four concise papers that challenged the many land reform myths that had been circulating regularly, particularly in the media. The series gave current and statistical evidence in the form of infographics regarding land ownership and land reform. At the time that the series was published, a major international conference was held that commemorated the South African 1913 Land Act and the fact checks reached a number of journalists and others at the conference. According to the

PLAAS Communications Officer, these papers were also pushed hard in a social media campaign at the time of publication and they are still being used four years later, with 494 downloads for *Fact Check 1* at the time of writing (Pointer, personal communication, February 2017). There is no replacement yet for these fact checks and "in broad terms *Fact Check 1* remains relevant and helps to complicate simplistic claims" (Walker, personal communication, February 2017).

CHAPTER FIVE: DISCUSSION OF RESULTS AND CONCLUSION

5.1 Introduction

Chapter Four analysed the data that was gathered for the investigation and presented the findings. This chapter discusses and provides an interpretation of the main findings in the context of the literature reviewed in Chapter Two and the main objective of the study. Based on the discussion, conclusions are drawn and recommendations are made.

The main objective of this study was to produce a bibliographic record of the corpus of PLAAS research over the period 1995-2015 and to describe its impact in the scholarly domain and in society. The chapter is divided into sections according to each of the research sub-objectives which were listed in Chapter One. In summary, the sub-objectives were

- to record the body of all PLAAS research outputs for the period 1995-2015;
- to use bibliometric and altmetric analysis on the scholarly outputs to measure activity and visibility of the researchers at PLAAS; and
- to investigate the impact of the different outputs measured through bibliometrics and/or altmetrics.

5.2 Research outputs for the period 1995-2015

The number of publications produced by an individual, group of researchers or institution is a quantitative measure of research activity and is indicative of the productivity of each category. There are however notable differences across the disciplines, which means that different authors and papers can only be compared within the same discipline (Gorraiz, Wieland & Gumpenberger, 2016). This section discusses outputs firstly by document type and secondly by author.

5.2.1 Document types

The results of this study showed that a total of 743 outputs were produced in this period. The first broad category of scholarly publications numbered 344 and

consisted of journal articles, books and book chapters. The second category that numbered 399 is made up of other documents or outputs (referred to here as grey literature) including policy briefs, videos, research reports and conference papers. The apparent emphasis that PLAAS places on publishing grey literature is directly linked to one of the aims of the Institute which is to engage in policy processes in South Africa. Policy makers and advocacy groups require relevant research to be communicated to them through formats other than scholarly articles or books and PLAAS grey literature is aimed at these audiences.

The graph in Figure 2 (Chapter Four, page 48) shows no dominant trend in the number of outputs per year, apart from a general increase from the low numbers in the first few years (1995-1999) when the Institute was new with few researchers, to the highest number of 83 outputs produced in 2013. Matters of funding, staffing, the stage of a particular research project and publication lags all had an influence on productivity in any given year. Thus, because of these random and uncontrollable effects, no particular conclusions can be drawn about the outputs for any particular year.

5.2.2 Authors

The study investigated 33 scholars who were responsible for authoring or co-authoring 643 outputs over the twenty year period. As is the nature of most organisations which experience staff mobility, researchers had been academic staff members of PLAAS for varying lengths of time. This had an obvious effect on the measure of outputs per author as the count did not include outputs before or after their time at PLAAS. The number of outputs per author ranged from the lowest of one publication to a total of 142 for the researcher with the highest output.

What is noteworthy in the study is that Professor Emeritus Cousins, at the Institute since 1995 as a founding member, is the most prolific author in PLAAS with 142 outputs over that period. Associate Professor Hall and Associate Professor Hara followed this total with 84 and 69 outputs respectively, Hara having joined PLAAS in 2000 and Hall in 2002. Table 4 in Chapter Four (page 52), presents the analysis of document types produced by the top three PLAAS authors, Cousins, Hall and Hara. From the results it is apparent that all the authors produced almost the same quantity

of each kind of output, scholarly and grey literature, the greatest difference was in Hall's outputs which were 44% grey and 56% scholarly.

Lotka's law of author productivity, stating that "for any body of literature, there will be a substantial number of authors who have each contributed only one publication, a small number of authors who have each contributed a small number of publications, and a very small group of authors who have each contributed a substantial number of publications" (Olsgaard, 1989) has been shown to apply in studies such as that of Rotich and Onyancha (2017:26). There is evidence in the patterns of author productivity in the current study that Lotka's law applies. The largest group of 23 authors produced a total of 138 publications (25%), the next group of seven researchers (15 papers or more each) had a total of 210 publications (39%) and the top three authors (Cousins, Hall and Hara) contributed the most publications numbering 295 (46%) in total.

The fact that outputs are not visible in citation indices such as Scopus does not necessarily mean that productivity is not high, as in Hall's case. It is known that Scopus does not include any grey literature in its database. However Hall showed high citation counts for a relatively small number of outputs in Scopus (16) as she was in the top three authors for citations, and also three of the most cited articles were authored by her. It could then be presumed that the indicators for both production counts and citation counts might be considerably higher if more of Hall's publications were scholarly outputs.

A further investigation into the document types that were found in Scopus and GS gave the results as shown in Tables 2 and 3 (Chapter Four, page 50 and 51). What is seen firstly, and within expectations, is that Scopus did not retrieve any of the PLAAS grey literature, while GS provided records for 74 or 19% of 399 grey outputs. In both databases, journal article records had the highest numbers, GS retrieving 139 articles (60%) and Scopus 119 (52%). The study combined Scopus records of reviews, editorials and notes in the category of journal articles. It is not unexpected that journal articles had the highest results because of the high esteem in which the journal article is held in scholarly communication. Both Scopus and GS produced very few results for books and book chapters, and this is known to be a shortcoming

of these citation indices (and WoS) where the journal article is emphasised more than other units of scholarly communication (Kahn, 2011:27; Tran & Aytac, 2016:18).

5.3 Bibliometric analysis

The definition of bibliometric analysis by Pritchard was adopted in this study: “the application of statistical and mathematical methods to books and other media of communication” (Pritchard, 1969:349). The initial purpose of such methods of analysis was to assist the library managing these media with collection development tasks such as subscriptions (Haustein & Lariviere, 2015). Bibliometric analysis has more recently, and particularly since the Science Citation Index was developed, become a tool for the evaluation of researchers and is commonly used to provide indicators of visibility and impact of individual researchers or groups of researchers. Through the use of the citation index, bibliometrics is now easily applied to large numbers of articles to analyse patterns of scholarly communication.

Bibliometrics is a quantitative method of evaluation and it is emphasised throughout the literature that qualitative peer review should be part of an overall evaluation, and citation analysis, even using a number of different metrics, should not be used as the only basis on which decisions like promotion and tenure are made. Gorraiz, Wieland and Gumpenberger (2016), state that “it cannot be stressed often enough that citations are only used as a proxy for the impact (and not for the quality) of the publications in the ‘publish or perish’ community (i.e. the researchers who are committed to publishing their results)”.

5.3.1 Citation analysis by author

Citation analysis is central to bibliometrics and is based on the premise that the number of times that an author is cited implies a measure of use and impact of the publication that is cited. Olsgaard (1989) defined citation analysis as the "practices and patterns of scholarly practices" and the literature shows that citation analysis is broadly accepted as a reliable method of evaluation (Moed & Halevi, 2015:1991; Pouris, 2006). Impact is even viewed as “synonymous with citation-based metrics” (NISO Altmetrics Initiative Working Group A, 2016) and using “volume of impact as a proxy for value (i.e. number of citations or more recently number of online mentions)" (Holmberg, 2015:101) is largely accepted.

Scopus found 18% of the total number of outputs, from which it calculated a citation count. This dataset showed that Hall had the most citations (601) for a total of 16 outputs and Cousins had the second highest number of citations (368), although he had more publications (28). Du Toit, with 16 publications and 337 citations, was in third place.

Onyancha and Ocholla (2009:3) found in their research that GS provided a much larger set of results than either Scopus or WoS. This was similar to the experience in this study as the results in Table 3 (Chapter Four, page 51) show: 535 records were retrieved in GS, or 72% of the total outputs. In these results, Cousins, Hall and Du Toit were identified as the top researchers in terms of productivity and citations, replicating the pattern found in Scopus.

These three researchers have featured in this study for their high metrics overall. Their senior ranking (Professor and SARChI chair, Associate Professor and Professor respectively) in the university hierarchy and extensive periods of time at PLAAS (20, 13 and 20 years) in the Institute are understood to be contributing factors to their high productivity and other metrics in this study. This is consistent with findings in other studies in the literature (Rotich & Onyancha, 2017:29; Gorraiz, Wieland & Gumpenberger, 2016).

The average number of citations per author in Scopus was 62, and from Table 5 in Chapter Four, page 55), it is apparent that eight authors had this number or more while 12 had less than 62. In GS, the average per author was 350 and out of 32 authors in GS results, eight had more than 350 and 24 had less than 350. Significantly, the same five authors in each citation index scored above the average: Cousins, Du Toit, Hall, Hara and Isaacs; three of these also have the highest results for the top number of publications, citations and *h*-indices.

Although this study did not focus on individuals, because a number of the metrics operate at author level, individuals' high scores were highlighted as these significantly raised the overall impact of the Institute's outputs.

5.3.2 Citation counts by year

This particular analysis, as provided in Chapter Four, presented no conclusive findings; it was the only area of analysis where Scopus and GS differed in the trends for citation counts per year.

5.3.3 The most cited articles

The top two articles by the same author were common to both databases. The third highest was however different, which resulted in a total of four articles across both databases for the most cited articles. The two PLAAS authors of these four articles were Cousins and Hall, emphasising again the significance of their research in terms of impact. Hall's articles were all co-authored, as was Cousins's article.

5.3.4 Records in common

Fifteen authors and their 107 publications were found in the records that were in common for Scopus and GS, and the pattern of citations shows similar trends. The authors who had higher citation counts (albeit different numbers) were the same in both databases, and similarly for those authors with lower citation rates.

5.3.5 The h-index

The *h*-index is a useful author-level metric intended by Jorge Hirsch (who proposed the formula in 2005) to provide a better indicator for measuring research impact than a citation count on its own. Castillo (2010:783) expressed confidence in the *h*-index, saying that "the *h*-index, at least for now, provides a robust single metric that combines quality and quantity". The calculation takes both the number of publications and the number of citations into account, and is widely used in bibliometrics. It is noted that the *h*-index does not mean much in isolation and needs to be shown in comparison to others in a similar discipline and with a similar career age (Castillo, 2010:783; Hirsch, 2005:752; Gorraiz, Wieland & Gumpenberger, 2016). Castillo found in his study (Castillo, 2010:783), a comparison of *h*-indices from GS and Scopus, that there is a high correlation rate between the two sets of results.

The comparison with similar scholars at UWC shows in Figure 11 (page 69) the *h*-indices of three highly cited academics from the School of Government (SOG) at UWC, Professors May, Tapscott and Ruiters were considered the most suitable

researchers to provide a reasonable comparison to Cousins, Du Toit and Hall, being of similar career age and status.

The *h*-indices of these six researchers for the period 1995-2015 were found in Scopus and in GS. The results showed that Cousins had the highest index in both (32 in GS and 14 in Scopus), slightly more than May. May had the highest score of the three academics from SOG with an *h*-index of 28 in GS and 10 in Scopus. Figure 11(page 69) shows that Du Toit and Hall in PLAAS both scored higher than Tapscott and Ruiters in SOG. The total score of these three scholars in PLAAS was higher than the total score of the three top scholars in SOG in both GS and Scopus, again having different values.

The *h*-index is not perfect and has shortcomings like most of the indicators in the quantitative method of bibliometrics. It can "oversimplify a researcher's impact" as Haustein and Larivière (2015) found, and does not always give accurate comparisons between researchers' impacts. However, given the results from both Scopus and GS, the higher *h*-indices of PLAAS scholars compared to the top researchers in SOG indicates that the productivity and impact of the research from PLAAS is greater than that from SOG.

5.4 Altmetric analysis

Altmetrics is a new form of measurement of scholarly communication and is a result largely of developments in technology that presented new opportunities through the social web. There is no single definition of altmetrics, and still much debate around its meaning (Haustein, Sugimoto & Larivière, 2015; Erdt et al., 2016:1118). Clearly more research and refining is needed in terms of the use and role of these metrics in measuring research impact; nevertheless it is evident in the literature that the "growing importance of this emergent application area of social media for research evaluation" (Erdt et al., 2016:1147) cannot be ignored.

This study looked into altmetrics as a means of measuring the scholarly visibility of a sample of PLAAS-published outputs. Using Altmetric Explorer and other means to find indicators for some of the outputs, the researcher was able to gain a better

understanding of the potential of altmetrics as a means of tracking and also of increasing visibility and impact of PLAAS research outputs.

5.4.1 Altmetric.com

An Altmetric search for PLAAS authors did not return a high number of results with 46 out of 743 (6%). This reflects a shortcoming of Altmetric (as a data provider) that was also found in the study that Costas, Zahedi and Wouters (2015:2004) carried out into the possible correlation of citations and altmetrics. The authors concluded that "any altmetric study is limited by the data providers of altmetric information (in this case Altmetric.com)". It was hoped that some of the grey literature, with altmetrics, would be available in Altmetric but there was no PLAAS-published grey literature in their database. One of the reasons for this low coverage is most certainly the lack of a Digital Object Identifier (DOI) or other unique identifier for many, if not most, of PLAAS outputs. This identifier and others, such as PubMed IDs, arXiv IDs or handles from repositories, have been discussed by a number of authors in their studies. Peters et al. (2015:180) "suggests that the adoption of this permanent identifier increases the online visibility of research data and inclusion in altmetrics tools", while Araújo et al. (2015:112) notes that the absence of a DOI diminishes the likelihood of outputs "obtaining altmetrics data in the current scenario". Torres-Salinas, Robinson-Garcia and Jiménez-Contreras, (2016) also emphasise the need to have a DOI when searching for altmetrics on outputs.

Journal articles had an ID from the journal publisher (according to the practice of each journal) but none of the PLAAS-published material did. Some of these outputs were in the UWC Repository and therefore had a handle which can in theory be used as an identifier, but in this case none of these articles was found by Altmetric because there had been no activity, such as in social media, on the article at the time of the search.

Altmetric provides an aggregated score, the AAS which is "derived from an algorithm, and represents a weighted count of all the attention data [we've] picked up for that research output" (Carver, 2015). Holmberg (2015:101) is cautious about the use of an aggregated score, as the advantage of altmetrics is the diversity at article level, in contradistinction to an aggregated number. However, a single value is useful

as a first step in evaluating outputs which should then be followed up by studying the details of a particular article. In Table 9 (page 78), showing the AASs for authors found in Altmetric Explorer, it can be seen that the majority of authors had a total score of less than 10. Those that scored higher than 10 were Matose (11), Hara (27) and Hall (99). More meaningful were the notes given in Altmetric alongside the AAS (not shown in Table 5) indicating if the score is in the top 25, 10 or 5 percentiles or whether it is “average”, “above average” or “good”. The highest scoring article by Hall, with an AAS of 59, was in the top 5% of all research outputs scored by Altmetric which indicated an excellent result. However, not all the records had notes indicating the broader context of the score.

The Altmetric information for the articles that were found did nevertheless give a broader and richer understanding of the visibility and impact at article level. Twitter activity by far exceeded any other social media activity in this set of 38 records where there were 120 tweets and only seven Facebook shares in total. It is also possible that the Twitter counts were affected by the fact that PLAAS has a Twitter account and tweeting on research outputs is done through this account. Altmetric information for these records included, where applicable, counts of news outlets (mainstream news), policy sources (such as the Food and Agriculture Organisation documents) and blogs, all of which is potentially useful information for a policy institute such as PLAAS.

Altmetrics are not yet standardised (Haustein, Sugimoto & Larivière, 2015; Sutton, 2014:6; Roemer & Borchardt, 2015:145), which inevitably means there is some difficulty in establishing consistent and comparable indicators as well as categories and definitions. Programmes like Altmetric, PlumX and ImpactStory are still being developed and fine-tuned and consistent use of object and author identifiers will make tracking better and easier. It will take time before these metrics are suitable to use for research impact measurement but they do add an extra dimension that is essential in assessing impact in contexts other than the academic one (Roemer & Borchardt, 2015:145; Sutton, 2014:6).

5.4.2 Case studies

This study aimed to look at the impact and visibility of grey literature as well as traditional scholarly literature and none of the results from Altmetric were grey literature. This necessitated a selection of three publications to be analysed at more granular article level because they scored high in views and downloads and therefore were considered worth further investigation. The counts of views and downloads were found by using Google Analytics, while the Facebook and Twitter Applications Programme Interfaces (APIs) on the PLAAS publications website were used to count Twitter and Facebook shares.

The results of the three specific outputs that were studied revealed two usage metrics (views and downloads) and two social media metrics (Twitter and Facebook). The data showed that these indicators were high in comparison to other PLAAS outputs, with downloads in the hundreds for all of the three selected publications. The policy brief was published before Twitter was available and so did not have tweets recorded. However, the numbers of tweets found for the newer publications were 102 for the working paper and 63 for the fact check. The recorded counts did not include other tweets that referred to these publications but which did not provide a direct link to the URL (often shortened for Twitter, which can create difficulty in tracking) so the actual number of tweets relating to these publications could be considerably higher.

It was apparent that in each of these cases there were substantive reasons for the high altmetrics counts. The high counts were due to either a new way of presenting information to a non-scholarly audience and wide dissemination (as in the policy brief and the fact check) or being championed by a particularly powerful individual (as happened with the working paper) or being publicised at concurrent events and through the mainstream media or social media (this occurred with the working paper and the fact check).

5.5 Questionnaire

Social media emerged alongside Web 2.0 with the means of interacting more directly and more easily on the internet more than before. Social media have grown and had a huge impact on society (Onyancha, 2015:8). Scholars have been wary of using

social media for professional communication (Shehata, Ellis & Foster, 2015:1152), some seeing it rather as a tool for personal use or believing that it is “a distraction and a waste of time” (Dunlop, 2015:89). According to Onyancha (2015:9), scholars have been investigating the use of social media for dissemination, discussion and evaluation of research. Altmetrics is directly linked to social media in the evaluation aspect, as it includes counts and measures of activity on social media platforms, amongst other areas.

The aim of the questionnaire was to assess how much the current PLAAS researchers used or had knowledge of an array of social media. The responses contributed to the research sub-objective relating to altmetrics which is largely dependent on social media. The basic premise is that if researchers used some of the many different social media platforms and networks that benefit their research (in sharing, disseminating and discussing online) then their online presence and, therefore, attention paid to their work, would be high.

Overall, the responses to the questionnaire illustrated that the majority of PLAAS researchers had little knowledge of the various social media platforms and options available which would give them an online research presence. The use of many such platforms and tools was also low. The highest response rate was for Question 5 (shown in Figure 13 page 74) regarding a research profile on the academic networking sites Academia.edu and ResearchGate.net. In this instance, 100% of respondents said that they had a profile on Academia.edu and 86% had one on ResearchGate.net. Tattersall (2016:112) remarks that these two academic networks are the “bigger and more established social networks for researchers” and that Academia is a “huge database that allows users to read and share each other’s research”. Dunlop (2015:88) also found in her study that Academia.edu and ResearchGate.net “stood out as tools that many respondents felt enhanced their research profile”.

Another area in which the PLAAS scholars were active was blogging; 67% responded that they write blogs and this was accounted for partly by referring to the existence of a PLAAS website blog, “Another countryside”, where the researchers write about their research projects or anything else of interest and relevance.

The results, in addition, showed that Twitter (micro-blogging) and LinkedIn (social network) had moderately high responses, 44% and 56% of the respondents used these tools respectively. This reflects what is shown in the literature, notably that Twitter has been shown to be used quite extensively by academics, as a preferred tool for scientific research dissemination and discussion that affords the following:

- communication with a huge network,
- following of events and conferences, and
- personalisation of ones profile and network (Bornmann, 2015:1126; Schnitzler et al., 2016; Tattersall, 2016:115).

According to responses to Question Three of the survey, 88% of respondents used Zotero as a reference management system. This can largely be attributed to the fact that it has been a prerequisite in the last few years for all PLAAS researchers to use this software to maintain a profile of all their outputs in order to make the production of outputs lists more streamlined.

In summary, there was no reported use of individual websites, ORCIDs and Wikipedia entries. Either or both of the academic networking sites Academia.edu and ResearchGate.org were used by most or all of the respondents. Approximately half the respondents used Zotero, and more than half wrote blogs; but it can be argued that Zotero and blogs are used because of the encouragement or insistence from the Institute. LinkedIn and Twitter were in use by some of the researchers, fewer on Twitter, possibly because of the existence of the Institute's Twitter account.

Question Five aimed to find out in more detail what respondents thought about social media for research purposes. One respondent noted that social media could greatly benefit the Institute's profile in social /scholarly contexts but that for various reasons researchers are not taking up the opportunity. This comment reflected what Dunlop (2015:87) found in her research on social media amongst UCT researchers which was that social media is not much used for research purposes.

The survey results show that the majority of the researchers do not prioritise the use of social media in their research activities even if they see it as useful and potentially beneficial, and this is consistent with the low coverage of PLAAS outputs by altmetrics.

5.6 Impact of the different outputs measured through bibliometrics and/or altmetrics

The study shows that in the period under review, PLAAS produced a high number of outputs of many different types, not only scholarly journal articles and books but grey literature as well. GS and Scopus are valuable tools for measuring visibility and impact of research outputs but both have limitations. The citations and the comparative *h*-indices from both these sources nevertheless show that there are established researchers in PLAAS with higher than average citation counts and *h*-indices, and that the overall citation count for the Institute was high. This indicates that there has been impact of PLAAS research in the scholarly context for those outputs that are covered in the citation indices.

The altmetrics results were disappointing overall. Only a few journal articles from the Scopus index were covered in the Altmetric results. The visibility and impact of the PLAAS grey literature is largely unknown at this stage. There is data available from Google Analytics and the Twitter and Facebook APIs at article level, but this is scattered and difficult to access. Moreover, other indicators that could contribute to measuring impact are not readily available, such as citations, use by policy documents, and others.

The potential for altmetrics to be beneficial for PLAAS was demonstrated in the three case studies of PLAAS-published material. High numbers of downloads, high twitter counts and some citations and Facebook shares of the particular outputs show this potential. Much of the social media activity can be attributed to the campaigns or events that took place around these publications or by particular individuals using social media platforms such as Twitter extensively to discuss and disseminate the research. The survey confirms that PLAAS researchers themselves do not know about and do not use social media; it was a few individuals, and the Communications Team, that did most of the communication around these three outputs on social media.

5.7 Conclusion

In conclusion, the study shows that, during the period 1995-2015, PLAAS researchers were productive, and that the total PLAAS outputs during this period were divided almost equally into scholarly outputs and grey literature. Visibility and impact in the scholarly domain, relative to others in the Social Sciences discipline at UWC, was high. Although the results of the top three researchers cannot be extrapolated to the rest of the academic staff at PLAAS, in terms of affecting the levels of productivity and impact from the entire Institute, the top authors had a significant and positive effect.

Coverage in GS was better than in Scopus, but the two sets of results were comparable in trends and patterns, if not in the numbers themselves. There is value in using both databases, despite the shortcomings that each has. Scopus coverage is limited because it is focused on the global north and because it does not include grey literature. GS is prone to errors and duplication, and although the coverage is greater, the accuracy is lower than Scopus.

Altmetric was limited in its coverage of PLAAS outputs, largely because those outputs did not have unique identifiers, and activity in social media around them was inconsistent. Where there had been social media activity for specific publications, the altmetric counts increased significantly. This demonstrates that there is potential to enhance PLAAS's impact in the social and policy environment but currently it is both neither highly visible nor seen to be having an impact.

This study illustrates the need to track and measure widely and accurately in order to demonstrate impact. The indicators found for the top authors indicate that their research is highly regarded and used in the scholarly domain, although this is limited by low visibility in Scopus particularly. It is unknown what the real impact in the social context is given the lack of sufficient data from Altmetric and other tools. There is potential for much greater impact through the researchers' use of social media as shown in the three case studies.

5.7.1 Implications of this study and recommendations***.***

This study has demonstrated that the use of bibliometric and altmetric analysis can yield a rich picture of research output and significance, providing insight into scholarly communication at PLAAS. The application of the research design in other research units and departments at UWC will generate results that are useful to research management at UWC. If the recommended actions are taken, a future study into the altmetrics of grey literature produced at PLAAS would reveal useful information.

In order for PLAAS to improve the visibility and impact of their outputs in scholarly and particularly in social contexts, the following actions are recommended for the Institute and its authors.

- Use DOIs for all publications and ORCIDs for all authors;
- Promote open access publishing by contributing to the UWC Institutional Repository, and by publishing in suitable open access journals;
- Learn about social media and how its use can benefit research activity for the Institute and individual researchers;
- Establish tracking mechanisms and keep and maintain good records of the activity in social media around PLAAS outputs;
- Improve and maintain Google Scholar profiles in order to keep them current and accurate as a source of publication and citation counts.

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APPENDICES

APPENDIX A: ETHICS CLEARANCE FROM UCT

Library and Information Studies Centre
University of Cape Town
Upper Campus

Private Bag X1, RONDEBOSCH, 7701 South Africa
Level 6 Hlanganani, The Chancellor Oppenheimer Library
Tel: +27 (0) 21 650 4546
E-mail: lisc@uct.ac.za
Internet: www.lisc.uct.ac.za

UCTLIS201609-06 15 september 2016

Ms Gillian Kerchhoff
Library and Information Studies Centre
University of Cape Town

Dear Ms Gillian Kerchhoff

I am pleased to inform you that ethical clearance has been granted by the Ethics Review Committee of the Library and Information Studies Centre, Faculty of Humanities on behalf of the University of Cape Town for your Master's project entitled: *Exploring the impact of PLAAS outputs 1995-2015 with bibliometrics and altmetrics*

I wish you the very best with your study

Yours sincerely,

Dr Thomas Matingwina
Chair, Department (LISC) Research Ethics Committee.

APPENDIX B: PERMISSION TO CONDUCT SURVEY AT UWC

UNIVERSITY of the WESTERN CAPE

STUDENT ADMINISTRATION
Administration Building, 1st Floor
ashaikjee@uwc.ac.za, nschoeman@uwc.ac.za
021 959 2110

27 September 2016

Dear Gillian Kerchhoff

RE: PERMISSION TO CONDUCT RESEARCH AT THE UNIVERSITY OF THE WESTERN CAPE

As per you request, we acknowledge that you have obtained all the necessary permissions and ethics clearances and are welcome to conduct your research as outlined in your proposal and communication with us.

Please note that while we give permission to conduct such research (i.e. interviews and surveys) staff and students at this University are not compelled to participate and may decline to participate should they wish to.

Should you wish to make use of or reference to the University's name, spaces, identity, etc. in any publication/s, you must first furnish the University with a copy of the proposed publication/s so that the University can verify and grant permission for such publication/s to be made publicly available.

Should you require any assistance in conducting your research in regards to access to student contact information please do let us know so that we can facilitate where possible.

Yours sincerely

DR AHMED SHAIKJEE
MANAGER: STUDENT ADMINISTRATION
OFFICE OF THE REGISTRAR

APPENDIX C: QUESTIONNAIRE FOR RESEARCHERS AT PLAAS

This questionnaire is being sent to you as part of my research for a Master's degree in Library and Information Studies in which I focus on measuring scholarly communication and outputs of PLAAS over the last two decades. One of the measurement methods is bibliometrics (which include publication counts, citation counts and citation analysis amongst others). The bibliometric analysis will form the major part of my study which is being supervised by Emeritus Assoc. Prof Mary Nassimbeni of the Library and Information Studies Centre of the University of Cape Town. Altmetrics is another method of measurement that has emerged more recently than bibliometrics with the advances in social media. The dissertation will include a smaller section on altmetrics.

I would therefore like to gather information about your involvement in and exposure to the platforms that allow measurement of this aspect of the reach and visibility of your scholarly communication activity. The data collected from both bibliometrics and altmetrics, will also be available to be used for PLAAS to demonstrate its impact in the scholarly and social contexts.

To assist me in addressing altmetrics questions, please complete the following short questionnaire **7 November 2016**. By filling in this questionnaire you consent to this data being used for my research purposes. All the responses will be anonymised and collected and stored securely.

Thank you for taking the time to complete the survey.

Gillian Kerchhoff

Librarian, PLAAS, University of the Western Cape, September 2016

Explanatory notes

Bibliometrics is a quantitative method of measuring the impact of an author's work, or the body of work in a particular field.

A definition of the Altmetrics method is "the study and use of scholarly impact measures based on activity in online tools and environments" (Priem, Groth and Taraborelli (2012). Altmetrics measures - at article level - views, downloads, tweets, blogs and networking as well as providing the option of a specific aggregated score that can be found with service providers such as Altmetric.com, ImpactStory and PlumAnalytics.

Please circle your choice of answer

1. Are you active in your academic capacity in any of the following:

Twitter	Yes	No
Blogs	Yes	No
Facebook	Yes	No
LinkedIn	Yes	No
Google Plus	Yes	No
Other – please name		

2. ***Do you maintain a personal website?*** Yes No

3. ***Do you use any of the following reference management and sharing software:***

Mendeley	Yes	No
Zotero	Yes	No
CiteULike	Yes	No
Reddit	Yes	No
Other – please name		

4. ***Do you have any entries in Wikipedia?*** Yes No

5. ***Do you have a profile that you maintain (and add publications to) in any of the following:***

Google Scholar	Yes	No
UWC Institutional Repository	Yes	No
ResearchGate.org	Yes	No
Academia.edu	Yes	No
Other – please name		

6. Do you have an ORCID (Open Researcher and Contributor) ID? If so, please provide it here (Optional) Yes No

_____

7. ***Do you use any other social media tools for research purposes?***

Yes No

If you do, please list them

_____

_____

_____

8. Is there anything else you would like to add to the above?

_____

_____

_____

Name:

_____

Position at Plaas:

_____

This questionnaire has been adapted from : Gorraiz, J., Wieland, M., Gumpenberger, C., 2016. Individual Bibliometric Assessment @ University of Vienna: From Numbers to Multidimensional Profiles.

Reference: Priem, J., Groth, P. & Taraborelli, D. 2012. The Altmetrics Collection. PLOS ONE. 7(11):e48753. DOI: 10.1371/journal.pone.0048753.

APPENDIX D: BIBLIOGRAPHY OF PLAAS OUTPUTS 1995-2015

Year	Author	Title	Series Title	Type
2003	Ainslie, Andrew; Andrew, Maura; Shackleton, Charles M.	Land use and livelihoods	ELARSA Occasional Paper	Occasional Paper
2006	Aliber, M.	Assessing the alignment of South Africa's land reform policy to people's aspirations and expectations: A policy-oriented report based on a survey in three provinces	Report for the multi-country OECD study on Measuring Human Rights, Democracy and Governance	Journal Article
2005	Aliber, M.	Chronic and structural poverty in South Africa: Challenges for action and research	Chronic Poverty Research Centre Working Paper	Working Paper
1999	Aliber, M.	Experimenting with the commons: a comparative history of the effects of land policy on pastoralism in two former homelands/reserves, Southern Africa.		Conference Paper
2010	Aliber, M.	Land in Southern Africa: Key Issues for Farmers and Policy Options		Journal Article
2005	Aliber, M.	Land reform and biodiversity conservation in South Africa: complementary or in conflict?	The International Journal of Biodiversity Science and Management	Journal Article
2004	Aliber, M.	Livelihoods (un)employment and social safety nets: reflections from recent studies in KwaZulu-Natal		Conference Paper
2013	Aliber, M.	Should land reform be a permanent feature of the development agenda in Africa?		Conference Paper
2006	Aliber, M.	Strategic Questions About Strategic Partners		Journal Article
2013	Aliber, M.	Structural Transformation and the Agro-Food System		Conference Paper
2012	Aliber, M.	Support for smallholder farmers in South Africa: Challenges of scale and strategy	Development Southern Africa	Journal Article
2013	Aliber, M.	The BRICS and African Agriculture: South Africa's role		Conference Paper
2015	Aliber, M.	The implications of the mobility of South African capital for rural youth in Africa: the case of Zambia sugar		Conference Paper
2008	Aliber, M.	The nature of land rights under indigenous law in Africa		Book Chapter
2015	Aliber, M.	The rise of tobacco agriculture in Mozambique: questions and challenges for a		Book Chapter

		transforming sector		
2002	Aliber, M.	Transfrontier conservation areas: a framework for managing peace and nature in southern Africa?		Conference Paper
2001	Aliber, M.	Waking up from the dream: The pitfalls of'fast-track'development on the Wild Coast of South Africa		Research Report
2010	Aliber, M.	Agricultural and land policy		Book Chapter
2005	Ally, F.	JAROSZ L 1996. Working in the global food system: a focus for international comparative analysis. Progress in Human Geography 20 (1): 41-55.	Acta academica	Journal Article
2007	Ally, F.	Market-led agrarian reform: policies, performance and prospects	Third World Quarterly	Journal Article
2003	Ally, F.	The externalisation and casualisation of farm labour in Western Cape horticulture	Legal Studies	Journal Article
2004	Anderson, M; Pienaar, K	Multilateral environmental agreements & land and resource rights in Africa		Policy Brief
2003	Anderson, M; Pienaar, K	Municipal commonage	ELARSA Occasional Paper	Occasional Paper
2003	Andrew, Maura; Shackleton, Charlie; Ainslie, Andrew	Land use & rural livelihoods: Have they been enhanced through land reform?	PLAAS Policy brief	Policy Brief
2011	Andrew, Maura; Van Vlaenderen, Hilde	Commercial Biofuel Land Deals & Environment and Social Impact Assessments in Africa: Three case studies in Mozambique and Sierra Leone	LDPI Working Paper	Working Paper
2007	Anstey, S, Chirozva, C & Rihoy, E	'People are not happy': Speaking up for adaptive natural resource governance in Mahenye	LRAC Occasional Paper	Occasional Paper
2006	Aribeb, K; Mosimane, Alfons	Exclusion through defined membership in people-centred natural resources management: Who defines?	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2005	Atkinson, Doreen	People-centred environmental management and municipal commonage in the Nama Karoo	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2001	B.jaminsen, T. A.; Hoffman, M. T.; Rohde, R.	Land Reform in Namaqualand: Poverty alleviation, stepping stones and 'economic units'	LRAC Occasional Paper	Occasional Paper
2003	Bannister, Sue	Rural settlement	ELARSA Occasional Paper	Occasional Paper
2004	Bannister, Sue	Rural Settlement		Policy Brief

1997	Bernstein, Henry	Social change in the South African countryside? Land and proDuction, poverty and power	PLAAS Occasional Papers	Occasional Paper
2005	Buscher, B.	Land & resources in a transfrontier setting: The case of the Maloti-Drakensberg Transfrontier Conservation & Development Project, B Büscher, 2005		Policy Brief
2005	Chikozho, C.	Policy and institutional dimensions of integrated river basin management: Broadening stakeholder participatory processes in the Inkomati River Basin of South Africa and the Pangani River Basin of Tanzania	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2015	Chirwa, Ephraim; Matita, Mirriam	Space, Markets and Employment in Agricultural Development: Malawi country report	SMEAD Research Report	Research Report
2015	Chu, Jessica; Phiri, Dimuna	Large-scale land acquisitions in Zambia: Evidence to inform policy		Research Report
2015	Chu, Jessica; Young, Kathleen; Phiri, Dimuna	Large-scale land acquisitions, displacement and resettlement in Zambia	PLAAS Policy brief	Policy Brief
2003	Claassens, A.	Community views on the Communal Land Rights Bill		Research Report
2001	Claassens, Aninka	'It is Not Easy to Challenge a Chief': Lessons from Rakgwadi		Research Report
2005	Claassens, Aninka	The Communal Land Rights Act and women: Does the Act remedy or entrench discrimination and the distortion of the customary?	LRAC Occasional Paper	Occasional Paper
2007	Cliffe, Lionel	Policy options for land reform in South Africa: New institutional mechanisms?		Policy Brief
2009	Cole, J	More to life than economics and livelihoods	PLAAS Working Papers	Working Paper
2007	Cousins, B.	A synthesis of sociological and biological perspectives on sustainable land use in Namaqualand	Journal of arid environments	Journal Article
2002	Cousins, B.	Accessing natural resources: implications for sustainable management and livelihoods.		Conference Paper
2002	Cousins, B.	According to need, greed or politics-redistribution of fishing rights within South Africa's new fisheries policy.		Conference Paper
2010	Cousins, B.	Accumulation from below and the Tugela Ferry irrigation farmers		Book Chapter
2015	Cousins, B.	Agrarian reform and South Africa's agro-food system	The Journal of Peasant Studies	Journal Article
2014	Cousins, B.	An institutional approach for developing South African inland freshwater fisheries for improved food security and rural livelihoods	Water SA	Journal Article
2009	Cousins, B.	Another Countryside? Policy options for land and agrarian reform in South Africa		Book

2000	Cousins, B.	At the crossroads : Land and agrarian reform in South Africa into the 21st century		Book
2000	Cousins, B.	At the crossroads: land and agrarian reform in South Africa into the 21st century. Papers from a conference held at Alpha Training Centre, Broederstroom, Pretoria, South Africa, 26-28 July 1999.		Conference Paper
2004	Cousins, B.	Budgeting for land reform		Policy Brief
2000	Cousins, B.	Building a people-driven rural development strategy: lessons from the RDI.		Conference Paper
2004	Cousins, B.	Cape Town's African poor	Chronic Poverty and Development Policy	Occasional Paper
2005	Cousins, B.	Challenges of co-management on shared fishery ecosystems: The case of Lake Chiuta	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2001	Cousins, B.	Clearing the ground in the Spatial Development Initiatives (SDIs): analysing'process' on South Africa's Wild Coast	Development Southern Africa	Journal Article
2015	Cousins, B.	Commercial farming and agribusiness in South Africa and their changing roles in Africa's agro-food system		Conference Paper
2012	Cousins, B.	Commercialisation, de-agrarianisation and the accumulation/reproDuction dynamic: Massive maize proDuction schemes in the Eastern Cape, South Africa	PLAAS Working Papers	Working Paper
2009	Cousins, B.	Commons governance in Southern Africa	Policy Brief	Policy Brief
2005	Cousins, B.	Communal Land Rights and Democracy in Post-Apartheid South Africa		Conference Paper
2005	Cousins, B.	Communal land rights, democracy and traditional leaders in post-apartheid South Africa		Book Chapter
2003	Cousins, B.	Communal land tenure in South Africa: livelihoods, rights, institutions	Development Update	Journal Article
2005	Cousins, B.	Communal tenure 'from above'and 'from below'. Land rights, authority and livelihoods in rural South Africa		Book Chapter
1997	Cousins, B.	Communities, entitlements and nature reserves: The case of the Wild Coast, South Africa	IDS bulletin	Journal Article
2000	Cousins, B.	Community-company forestry partnerships: a popular trend or a true devolution of authority to local communities? The case of South Africa.		Conference Paper
2002	Cousins, B.	Community-public-private partnerships in CBNRM: the real challenges?		Conference Paper
2013	Cousins, B.	Concluding Perspectives		Book Chapter
2013	Cousins, B.	Conflicts over land and water in Africa	Journal of Peasant Studies	Journal Article

2012	Cousins, B.	Connecting communities and business: Public-private partnerships as the panacea for land reform in Limpopo Province, South Africa		Book Chapter
2004	Cousins, B.	Connecting economies: agrarian reform and rural poverty in South Africa		Journal Article
2000	Cousins, B.	Constituting the commons in the new South Africa	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2010	Cousins, B.	Contested paradigms of ‘viability’in redistributive land reform: perspectives from southern Africa	The Journal of Peasant Studies	Journal Article
2009	Cousins, B.	Contested paradigms of 'viability' in redistributive land reform	PLAAS Working Papers	Working Paper
2004	Cousins, B.	Context for land & resource rights struggles in Africa		Policy Brief
2015	Cousins, B.	Corporate concentration and food security in South Africa: is the commercial agro-food system delivering?	Rural Status Report	Research Report
1999	Cousins, B.	Creating grasslands: social institutions and environmental change in Mkambati area, South Africa	Human Ecology	Journal Article
2014	Cousins, B.	Cultivating Unemployment		Video
2005	Cousins, B.	Debating land reform, natural resources and poverty		Policy Brief
2002	Cousins, B.	Debating'environment'in South Africa's Wild Coast: land use, livelihoods and development.		Conference Paper
2002	Cousins, B.	Decentralisation and natural resource management in rural South Africa: problems and prospects	LRAC Occasional Papers	Occasional Paper
2004	Cousins, B.	Decentralisation when land and resource rights are deeply contested: a case study of the Mkambati eco-tourism project on the Wild Coast of South Africa	The European Journal of Development Research	Journal Article
2011	Cousins, B.	Decentralised Land Governance: Case Studies and Local Voices from Botswana, Madagascar and Mozambique		Book
2008	Cousins, B.	Dilemmas of democratic decentralisation in Mangochi district, Malawi: interest and mistrust in fisheries management	Conservation and Society	Journal Article
2002	Cousins, B.	Discourses everywhere and not a drop to drink: water as a lens on environmental security.		Conference Paper
2012	Cousins, B.	El nuevo acaparamiento de tierras y las cambiantes dinámicas de la agricultura en el sur de Africa	Revista española de estudios agrosociales y	Journal Article

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2003	Cousins, B.	Evaluating Land and Agrarian Reform in South Africa: Final report	ELARSA Occasional Paper	Occasional Paper
2003	Cousins, B.	Experiences with fisheries co-management in Africa		Book Chapter
1999	Cousins, B.	Experimenting with the commons: A comparative history of the effects of land policy on pastoralism in two former 'reserves' in Namibia & South Africa, R Rohde, T Hoffman & B Cousins, 1999		Occasional Paper
2000	Cousins, B.	Experimenting with the Commons: A Comparative History of the Effects of Land Policy on Pastoralism in Two Former Homelands/Reserves, Southern Africa		Book Chapter
2013	Cousins, B.	Exporting Dualism? The expansion of South African capital in African farmland deals		Conference Paper
2004	Cousins, B.	Forgotten by the Highway: Globalisation, Adverse Incorporation and Chronic Poverty in a Commercial Farming District of South Africa	PLAAS Chronic poverty and development policy series	Occasional Paper
2005	Cousins, B.	Grasslands ablaze: vegetation burning by rural people in Pondoland, South Africa	South African Geographical Journal	Journal Article
2007	Cousins, B.	Groenfontein–Ramohlakane community restitution claim		Research Report
2013	Cousins, B.	Hierarchies, Violence, Gender: Narratives from Zimbabwean Migrants on South African Farms		Book Chapter
1999	Cousins, B.	Historical and contemporary land use and the desertification of the Karoo	The Karoo: ecological patterns and processes	Journal Article
2015	Cousins, B.	How important are fish as food for human nutrition?		Conference Paper
2003	Cousins, B.	Hunger in the valley of fruitfulness: Globalization, "social exclusion" and chronic poverty in Ceres, South Africa		Conference Paper
2007	Cousins, B.	In search of South Africa's' second economy': part one: historical, theoretical and empirical diagnostics	Africanus	Journal Article
2007	Cousins, B.	Informal Social Protection in Post-Apartheid Migrant Networks: Vulnerability, Social Networks and Reciprocal Exchange in the Eastern and Western Cape, South Africa	PLAAS Working Papers	Working Paper
2008	Cousins, B.	Institutional configurations around forest reserves in Zimbabwe: the challenge of nested institutions for resource management	Local Environment	Journal Article
2015	Cousins, B.	Institutions and Co-Management in East African Inland and Malawi Fisheries: A Critical Perspective	World Development	Journal Article

2004	Cousins, B.	INTRODuCTory overview	SECURING LAND AND RESOURCE RIGHTS IN AFRICA: PAN-AFRICAN PERSPECTIVES	Journal Article
2004	Cousins, B.	Land and agrarian reform in South Africa: A status report 2004		Research Report
2004	Cousins, B.	LAND AND DEMOCRACY IN SOUTH AFRICA	Democracy X: Marking the Present, Re-presenting the Past	Journal Article
2013	Cousins, B.	Land B.eficiaries as game farmers: conservation, land reform and the invention of the 'community game farm' in KwaZulu-Natal	Journal of Contemporary African Studies	Journal Article
2014	Cousins, B.	Land reform		Book Chapter
2013	Cousins, B.	Land reform and livelihoods: trajectories of change in Northern Limpopo Province, South Africa		Book
2007	Cousins, B.	Land reform in Namaqualand, 1994–2005: a review	Journal of Arid Environments	Journal Article
2002	Cousins, B.	Land reform in Namaqualand: poverty alleviation, stepping stones and'economic units'.		Conference Paper
2001	Cousins, B.	Land reform in South Africa: Is it meeting the challenge	PLAAS Policy brief	Policy Brief
2003	Cousins, B.	Land Rights and Democratisation: rural tenure reform in South Africa's former bantustans	Transformation: Critical Perspectives on Southern Africa	Journal Article
2010	Cousins, B.	Land, memory, reconstruction, and justice: Perspectives on land restitution in South Africa		Book
2001	Cousins, B.	Leaping the fissures: Bridging the gap between paper and real practice in setting up common property institutions in land reform in South Africa	LRAC Occasional Paper	Occasional Paper
2001	Cousins, B.	Leaping the fissures: Bridging the gap between paper and real practice in setting up common property institutions in land reform in South Africa	LRAC Occasional Paper	Occasional Paper
2015	Cousins, B.	Lessons from Malawi's experience with fisheries co-management initiatives		Book Chapter
2002	Cousins, B.	Lessons from Malawi's experience with fisheries co-management initiatives		Conference Paper
2013	Cousins, B.	Livelihoods after Land Reform in South Africa	Journal of Agrarian Change	Journal Article
2013	Cousins, B.	Livestock and the rangeland commons in South Africa's	African Journal of Range &	Journal Article

		land and agrarian reform	Forage Science	
2013	Cousins, B.	Livestock and the rangeland commons in South Africa's land and agrarian reform	African Journal of Range & Forage Science	Journal Article
2008	Cousins, B.	Living on the margins: the social dynamics of economic marginalisation	Development Southern Africa	Journal Article
2013	Cousins, B.	Managing African Commons: Defragmenting Management and Responsive Forest Governance Policy Forum	CODESRIA Bulletin	Journal Article
2013	Cousins, B.	Many land reform projects improve beneficiary livelihoods		Fact Check
2012	Cousins, B.	Money and Sociality in South Africa's Informal Economy	Africa: The Journal of the International African Institute	Journal Article
2003	Cousins, B.	Monitoring and evaluating the quality of life of land reform B.eficiaries: 2000/2001. Technical Report prepared for the Department of Land Affairs, Directorate Monitoring and Evaluation	Technical Report	Research Report
2006	Cousins, B.	More than simply 'socially embedded': recognizing the distinctiveness of African land rights		Conference Paper
2007	Cousins, B.	More than socially embedded: The distinctive character of 'communal tenure'regimes in South Africa and its implications for land policy	Journal of Agrarian Change	Journal Article
2011	Cousins, B.	Nasruddin's key: poverty measurement and the government of marginal populations	PLAAS Working Papers	Working Paper
2005	Cousins, B.	New Faultlines in the Countryside: restructuring in the Western Cape wine inDustry		Journal Article
2006	Cousins, B.	O ESTADO, O MERCADO OU O PIOR DE AMBOS? A REFORMA AGRÁRIA DE MERCADO NA ÁFRICA DO SUL	Capturando a terra: Banco Mundial, politícas fundiárias neoliberais e reforma agrária de mercado	Journal Article
2006	Cousins, B.	Outcomes of community engagement in community-based natural resource management programmes		Policy Brief
2009	Cousins, B.	Policy evolution in South African fisheries: the governance of the sector for small pelagics	Development Southern Africa	Journal Article

2002	Cousins, B.	Policy versus praxis: problems facing the water sector in South Africa.		Conference Paper
2002	Cousins, B.	Politics, policy and livelihoods in the Kalahari.		Conference Paper
2002	Cousins, B.	Population densities and agro-ecological potential: a critique of regional-scale analyses from Kenya and South Africa.		Conference Paper
2005	Cousins, B.	Poverty measurement blues: Some reflections on the space for understanding 'chronic' and 'structural' poverty in South Africa	Chronic Poverty Research Centre Working Paper	Occasional Paper
2006	Cousins, B.	ProDuction relations and dynamics among user-groups in the artisanal fisheries of Malawi: implications for representation in co-management arrangements	Maritime Studies	Journal Article
2000	Cousins, B.	Proposals for the management of land rights in rural South Africa.		Conference Paper
2000	Cousins, B.	Prospects for redistribution of wealth through land reform in Dwesa-Cwebe.		Conference Paper
2002	Cousins, B.	Radical land reform is key to sustainable rural development in South Africa	Policy Brief	Policy Brief
1996	Cousins, B.	Range management and land reform policy in post-apartheid South Africa	PLAAS Occasional Papers	Occasional Paper
2012	Cousins, B.	Recent progress in understanding small-scale fisheries in Southern Africa	Current Opinion in Environmental Sustainability	Journal Article
2007	Cousins, B.	Reconstructing fairness: Fair Trade conventions and worker empowerment in South African horticulture.		Book Chapter
1996	Cousins, B.	Redressing the Apartheid Legacy: Conflict Resolution in South Africa's Tenure Reform Programme	Track Two, December	Journal Article
2002	Cousins, B.	Reforming communal land tenure in South Africa: why the draft Communal Land Rights Bill is not the answer: legislation and policy	ESR Review: Economic and Social Rights in South Africa	Journal Article
2002	Cousins, B.	Reforming communal land tenure in South Africa–why land titling is not the answer	Critical comments on the Communal Land Rights Bill	Parliamentary Submission
2015	Cousins, B.	Resistance, acquiescence or incorporation? An introDuction to land grabbing and political reactions 'from below'	The Journal of Peasant Studies	Journal Article
2006	Cousins, B.	Restoring the chambo in Southern Malawi: Learning from the past or re-inventing the wheel?	Aquatic Ecosystem Health & Management	Journal Article

2011	Cousins, B.	Revisiting unresolved questions: land, food and agriculture	Transformation	Journal Article
2011	Cousins, B.	Rights without Illusions: The The Potential and Limits Potential and Limits Rights Rights-Based Approaches to Securing Land Tenure in South Africa	PLAAS Working Papers	Working Paper
2002	Cousins, B.	Rural development	POLICY	Journal Article
2008	Cousins, B.	Rural Livelihoods and Land	HIV/AIDS and Society in South Africa	Journal Article
2003	Cousins, B.	Rural settlement		Journal Article
2013	Cousins, B.	Shallow waters: social science research in South Africa's marine environment	African Journal of Marine Science	Journal Article
2002	Cousins, B.	Sharing products or power? Intentions, meanings and approaches to community involvement in forest management in East and Southern Africa.		Conference Paper
2002	Cousins, B.	Sharing South Africa's water: uncovering challenges for development through strategic environmental assessment.		Conference Paper
2005	Cousins, B.	Smallholder agriculture and land reform in South Africa	IDS Bulletin	Journal Article
2013	Cousins, B.	Smallholder Irrigation Schemes, Agrarian Reform and 'Accumulation from Above and from Below' in South Africa	Journal of Agrarian Change	Journal Article
2013	Cousins, B.	South African agricultural policy and the expansion of South African capital in African agriculture		Conference Paper
2009	Cousins, B.	Special Issue: Cross-sectoral commons governance.	Development Southern Africa	Journal Article
2009	Cousins, B.	Stuffed and Starved: Markets, Power and the Hidden Battle for the World's Food System - by Raj Patel	Journal of Agrarian Change	Journal Article
2013	Cousins, B.	Tanzania's Kilimo Kwanza amid Land Grabbing		Conference Paper
2000	Cousins, B.	Tenure and common property resources in Africa.	Evolving land rights, policy and tenure in Africa.	Journal Article
2005	Cousins, B.	Tenure reform in South Africa: titling versus social embeddedness	Forum for Development Studies	Journal Article
2012	Cousins, B.	The changing nature of large-scale commercial farming & implications for agrarian reform: Evidence from Limpopo, Western Cape and Northern Cape	PLAAS Working Papers	Working Paper

2004	Cousins, B.	The continuing controversy over the Communal Land Rights Bill of 2002: legislation review	ESR Review : Economic and Social Rights in South Africa	Journal Article
2014	Cousins, B.	The dynamics of decline of small-scale sugarcane proDuction in South Africa: Evidence from two “rural” wards in the Umfolozi region	PLAAS Working Papers	Working Paper
2000	Cousins, B.	The end of restitution: getting real about land claims.		Conference Paper
2015	Cousins, B.	The Governability of Small-Scale Fisheries Food System in South Africa – The Case of Snoek and West Coast Rock Lobster		Book Chapter
2015	Cousins, B.	The Imber-ADApT framework		Conference Paper
2002	Cousins, B.	The interaction between the land redistribution programme and the land market in South Africa: A perspective on the willing-buyer/willing-seller approach	LRAC Occasional Paper	Occasional Paper
2000	Cousins, B.	The Mutale River valley an apartheid oasis.	African enclosures? The social dynamics of wetlands in drylands	Journal Article
2011	Cousins, B.	The next great trek? South African commercial farmers move north	PLAAS Working Papers	Working Paper
2007	Cousins, B.	The political economy of social capital: chronic poverty, remoteness and gender in the Rural Eastern Cape	Social Identities	Journal Article
2010	Cousins, B.	The proper subject for poverty research is inequality		Book Chapter
2010	Cousins, B.	The role of “black capital” in revitalising land reform in Limpopo, South Africa	Law, Democracy & Development	Journal Article
2014	Cousins, B.	The state of South Africa’s water resources		Conference Paper
2012	Cousins, B.	The Trouble with Poverty - Reflections on South Africa’s Post-Apartheid Anti-Poverty Consensus	PLAAS Working Papers	Working Paper
2003	Cousins, B.	The" lords" of Malombe; an analysis of fishery development and changes in fishing effort on Lake Malombe, Malawi	FAO FISHERIES TECHNICAL PAPER	Journal Article
2011	Cousins, B.	Towards a better understanding of global land grabbing: an editorial introDuction	Journal of Peasant Studies	Journal Article
1999	Cousins, B.	Towards Bridging the Gap Between Wildlife Conservation and Rural Development in Post-Apartheid South Africa: The Case of the Makuleke Community and the Kruger	South African Geographical Journal	Journal Article

		National Park		
2007	Cousins, B.	Transforming rural South Africa? Taking stock of land reform		Book Chapter
2010	Cousins, B.	Two cycles of land policy in South Africa: tracing the contours	The struggle over land in Africa: conflicts, politics and change	Journal Article
2009	Cousins, B.	What are the political parameters?		Book Chapter
2013	Cousins, B.	What issues arise in research implementation?		Conference Paper
2014	Cousins, B.	Wildlife tourism experiences: Case studies from rural Tanzania in Rural Tourism		Book Chapter
2005	Cousins, B.	Will the Land Summit deliver a more radical land reform programme?: events		Journal Article
2013	Cousins, B.	Women's land rights and social change in rural South Africa: the case of Msinga, Kwazulu-Natal		Book Chapter
2011	Cousins, B.	An overview of Fast Track Land Reform in Zimbabwe: editorial introDuction	Journal of Peasant Studies	Journal Article
2007	Cousins, B.	Community-based natural resource management in the Southern Africa region: an annotated bibliography and general overview of literature, 1996–2004		Research Report
2005	Cousins, Tessa	Will formalising property rights reDuce poverty in South Africa's 'second economy'. Questioning the mythologies of Hernando de Soto	PLAAS Policy brief	Policy Brief
2013	de Satgé, Rick	A Scan of Rural Civil Society, R De Satge, 2013 (web only)		Research Report
2007	De Swardt, C.	Business models in land reform		Research Report
2014	de Swardt, C.	Papering over the Cracks: An Ethnography of Land Title in the Eastern Cape	Kronos: a Journal of Southern Africa	Journal Article
2015	De Swardt, C.	Submission on the Expropriation Bill. Presentation to the Portfolio Committee on Public Works, National Assembly	Parliamentary Submission	Parliamentary Submission
2005	De Swardt, C.	Trends and policy challenges in the rural economy: four provincial case studies		Book
2001	De Swardt, C.	Uncertainty and Institutional Design Proposals for Tenure Reform in South Africa	IDS Bulletin	Journal Article
2005	De Swardt, C.	Urban poverty in Cape Town	Environment and Urbanization	Journal Article
2005	De Swardt, C.	Western Cape Case Study		Book Chapter
2000	Derman, Bill	Democratising environmental use? Land and water in southern Africa at the end of the century		Occasional Paper

2004	Du Toit, A.	'Social Exclusion' Discourse and Chronic Poverty: A South African Case Study	Development and Change	Journal Article
2005	Du Toit, A.	A Deepening Divide in the Countryside: Restructuring and Rural Livelihoods in the South African Wine InDustry*	Journal of Southern African Studies	Journal Article
2011	Du Toit, A.	A methodology for integrating developmental concerns into value chain analysis and interventions.		Book Chapter
2009	Du Toit, A.	Adverse Incorporation and Agrarian Policy in South Africa		Conference Paper
2004	Du Toit, A.	Behind the label: a workers' audit of the working and living conditions on selected wine farms in the Western Cape		Book
1999	Du Toit, A.	Chiefs and rural local government in post-apartheid South Africa	African Journal of political science	Journal Article
2010	Du Toit, A.	Contesting the food system in South Africa: Issues & opportunities		Research Report
1999	Du Toit, A.	Democratization and traditional authorities in the new South Africa	Comparative Studies of South Asia, Africa and the Middle East	Journal Article
2006	Du Toit, A.	De-racialising Exploitation:'Black Economic Empowerment'in the South African Wine Sector		Book
2013	Du Toit, A.	Fishers Struggle in South Africa - International Guidelines for Securing Sustainable Small-Scale Fisheries: Implementation through the Human Rights Based Approach		Conference Paper
2013	Du Toit, A.	Foreign land deals in Tanzania: An update and a critical view on the challenges of data (re)proDuction	LDPI Working Paper	Working Paper
2004	Du Toit, A.	Globalisation, Transformation and the Hake Fisheries of Mossel Bay, South Africa		Conference Paper
2001	Du Toit, A.	Globalising ethics: A case study of the social technologies of private regulation in the South African wine inDustry	LRAC Occasional Papers	Occasional Paper
2013	Du Toit, A.	Governing Global Land Deals: The Role of the State in the Rush for Land	Development and Change	Journal Article
2005	Du Toit, A.	Health and Economic Consequences of Pesticide Use: the Experience of the Heed Programme on Pesticides in Southern Africa	Epidemiology	Journal Article
2002	Du Toit, A.	How rich is our land? Re-valuing the communal areas of Southern Africa	Natural Resource Perspectives	Working Paper
2003	Du Toit, A.	In pursuit of pro-poor conservation—changing narratives… or more?	Section I: The complexities of governing protected	Journal Article

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2007	Du Toit, A.	In search of South Africa's' second economy': part one: historical, theoretical and empirical diagnostics	Africanus	Journal Article
2011	Du Toit, A.	IndiviDual transferable quotas, poverty alleviation and challenges for small-country fisheries policy in South Africa	Maritime Studies (MAST)	Journal Article
2000	Du Toit, A.	Integrated planning and implementation in rural areas: experiences from agri-tourism spatial development initiatives (SDIs).		Conference Paper
2001	Du Toit, A.	It’s all about money! Implementation of South Africa’s new fisheries policy	LRAC Occasional Paper	Occasional Paper
2015	Du Toit, A.	Linking job creation in small-scale fisheries sector to the National Development Plan – Unpacking potential and challenges on the Theme: Understanding the Macro environment- implication for business.		Conference Paper
1996	Du Toit, A.	Livestock production and common property struggles in South Africa's agrarian reform	The Journal of Peasant Studies	Journal Article
2008	Du Toit, A.	Mainstreaming of HIV and AIDS into South African fisheries policy	Policy Brief	Policy Brief
2001	Du Toit, A.	Mbeki can give you a job'employment on Western Cape farms	SOUTH AFRICAN LABOUR BULLETIN	Journal Article
2012	Du Toit, A.	Money and Sociality in South Africa's Informal Economy	Africa: The Journal of the International African Institute	Journal Article
2003	Du Toit, A.	Municipal commonage		Policy Brief
2002	Du Toit, A.	Myths of Globalisation: private regulation and farm worker livelihoods on Western Cape farms	Transformation	Journal Article
2007	Du Toit, A.	New architecture, old agendas: Perspectives on social research in rural communities neighbouring the Kruger National Park	Conservation and Society	Journal Article
2002	Du Toit, A.	Poverty and land access in South Africa: Is land important?		Journal Article
2009	Du Toit, A.	Poverty Measurement Blues: Beyond 'Q-Squared' Approaches to Understanding Chronic Poverty in South Africa		Book Chapter
1995	Du Toit, A.	Range management and land reform policy in post-apartheid South Africa		Research Report
2010	Du Toit, A.	Reconciling the past, present, and future: the parameters and practices of land		Book Chapter

		restitution in South Africa		
2013	Du Toit, A.	Rural Livelihoods in South Africa: Complexity, Vulnerability and Differentiation	Journal of Agrarian Change	Journal Article
2008	Du Toit, A.	Strategy for fisheries socio-economic research		Working Paper
2001	Du Toit, A.	Study of the incidence and nature of chronic poverty and development policy in South Africa: An overview	Chronic Poverty Research Centre Working Paper	Occasional Paper
2015	Du Toit, A.	The biofuels boom and bust in Africa: a timely lesson for the New Alliance initiative	FAC Policy Brief	Policy Brief
2000	Du Toit, A.	The economic value of land and natural resources to rural livelihoods: case studies from South Africa.		Conference Paper
2000	Du Toit, A.	The end of restitution: getting real about land claims.		Conference Paper
2003	Du Toit, A.	The externalisation and casualisation of farm labour in Western Cape horticulture		Research Report
1998	Du Toit, A.	The fruits of modernity: Law, power and paternalism in Western Cape fruit and wine farms.		Book Chapter
2014	Du Toit, A.	The government of poverty and the arts of survival: mobile and recombinant strategies at the margins of the South African economy	Journal of Peasant Studies	Journal Article
2014	Du Toit, A.	The government of poverty and the arts of survival: mobile and recombinant strategies at the margins of the South African economy	Journal of Peasant Studies	Journal Article
2015	Du Toit, A.	The political economy of global and regional agro-food system change: key questions and issues		Conference Paper
1998	Du Toit, A.	The Problem of Defining" community": Challenges for the Land Reform Programme in Rural South Africa	Development Southern Africa	Journal Article
2000	Du Toit, A.	The structure and composition of rural poverty and livelihoods in South Africa.		Conference Paper
2001	Du Toit, A.	Tourism, protected areas and development in South Africa: views of visitors to Mkambati Nature Reserve	SA Journal of Wildlife Research	Journal Article
2009	Du Toit, A.	Trading on a grant: Integrating formal and: informal social protection in post-Apartheid migrant networks,	PLAAS Working Papers	Working Paper
2005	Du Toit, A.	Trends and policy challenges in the rural economy: four provincial case studies		Book
2003	Du Toit, A.	Unravelling chronic poverty in South Africa: Some food for thought		Conference Paper
2002	Du Toit, A.	Valuing the commons: Rural livelihoods and communal rangeland resources in the Maluti District, Eastern Cape		Research Report

2005	Du Toit, A.	Western Cape Case Study		Book Chapter
2013	Du Toit, A.	Women's land rights and social change in rural South Africa: the case of Msinga, KwaZulu-Natal	Acta Juridica	Journal Article
2013	Dubb, A.	45% of black South Africans want land		Fact Check
2009	Dubb, A.	Dynamics in the commercial farming sector		Book Chapter
2015	Dubb, A.	Interrogating the logic of accumulation in the sugar sector in Southern Africa		Conference Paper
2013	Dubb, A.	Many land reform projects improve beneficiary livelihoods		Fact Check
2013	Dubb, A.	Not enough state land to meet land reform targets		Fact Check
2015	Dubb, A.	Social assistance and dignity: South African women's experiences of the child support grant	Development Southern Africa	Journal Article
2013	Dubb, A.	Social reproDuction, accumulation and class differentiation: small-scale sugarcane growers in Mtubatuba, KwaZulu-Natal, South Africa		Conference Paper
2013	Dubb, A.	The disjunctures of land and agricultural reform in South Africa - Implications for the agri-food system	PLAAS Working Papers	Working Paper
2013	Dubb, A.	The Distribution of Land in South Africa: An Overview		Fact Check
2002	Dubb, A.	The dynamics of cattle proDuction and government intervention in communal areas of Lusikisiki district	Cattle ownership and proDuction in the communal areas of the Eastern Cape, South Africa	Journal Article
2014	Dubb, A.	The Restitution of Land Rights Amendment Act of 2014 - What are the real implications of reopening land claims?		Policy Brief
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2015	Dubb, A.	The Rise and Decline of Small-Scale Sugarcane ProDuction in South Africa: A Historical Perspective	Journal of Agrarian Change	Journal Article
2009	Duncan, EM; Watson, RM	Occupational dimensions of poverty & disability	PLAAS Working Papers	Working Paper
2004	Durang, T; Tanner, C	Access to land and other natural resources for local communities in Mozambique: Current examples from Manica Province	LRAC Occasional Paper	Occasional Paper
2013	Ellis, W.	Land reform and agriculture uncoupled: the political economy of rural reform in post-apartheid South Africa		Book Chapter
2005	Ellis, W.	Land reform and biodiversity conservation in South Africa: complementary or in conflict?	The International Journal of Biodiversity Science and	Journal Article

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2005	Ellis, W.	Reconciling land reform and biodiversity conservation in South Africa. :complementary or in conflict?	International Journal of Biodiversity Science and Management	Journal Article
2015	Gausi, Joseph; Mlaka, E.	Land governance in Malawi: Lessons from large-scale acquisitions | plaas.org.za	ADC Policy Briefs	Policy Brief
1997	Gran, T	Innovation capacity in the South African state: A case study of the new democratic administration of agriculture in the Western Cape	PLAAS Occasional Papers	Occasional Paper
2006	Gran, T	Land politics, trust relations in government and land reform in South Africa: Experiences from the Western and Northern Cape provinces	LRAC Occasional Paper	Occasional Paper
2015	Greenberg, S.	Africa's land rush: rural livelihoods and agrarian change		Book
2004	Greenberg, S.	Budgeting for land reform		Policy Brief
2000	Greenberg, S.	Contested Resources: Challenges to the Governance of Natural Resources in Southern Africa:		Conference Paper
2008	Greenberg, S.	Contextualising the controversies: dilemmas of communal tenure reform in post-apartheid South Africa		Book Chapter
2015	Greenberg, S.	Regional Fish trade in Africa: Potential for food security, reducing poverty and fisheries management		Conference Paper
2007	Greenberg, S.	State, market or the worst of both? Experimenting with market-based land reform in South Africa	LRAC Occasional Paper	Occasional Paper
2002	Greenberg, S.	The 2001/2002 allocations-a moDus vivendi for the South African fishing inDustry?	Fishing in a Sea of Sharks: Reconstruction and Development in the South African Fishing InDustry	Journal Article
2002	Greenberg, S.	The contribution of communal rangelands to rural livelihoods in the Maluti district: valuation of fuelwood.		Conference Paper
2005	Hakizimana, C.	South African fisheries reform: past, present and future?	PLAAS Policy brief	Policy Brief
2015	Hakizimana, C.	Space, Markets and employment in agricultural development: South Africa	SMEAD Policy Brief	Policy Brief
2015	Hakizimana, C.	The implications of Tanzania's 'Agriculture First' Initiative on Food Security and Land Grabbing		Conference Paper

2010	Hakizimana, C.	The need for an engendered approach to agricultural technology	Agenda	Journal Article
2013	Hall, R.	45% of black South Africans want land		Fact Check
2003	Hall, R.	A comparative analysis of land reform in South Africa and Zimbabwe	Lee and Colvard, op cit	Journal Article
2009	Hall, R.	A fresh start for rural development and agrarian reform?	Policy Brief	Policy Brief
2004	Hall, R.	A political economy of land reform in South Africa	Review of African Political Economy	Journal Article
2013	Hall, R.	African Youth and Rural Futures: A Critical Assessment of the Determinants of Youth's Rural Livelihoods in Burundi		Conference Paper
2015	Hall, R.	Agrarian struggles over resources: Insights from two sugarcane plantations in Mozambique		Book Chapter
2014	Hall, R.	Analysis of South African Commercial Traditional Linefish Snoek Value Chain	Marine Resource Economics	Journal Article
2007	Hall, R.	Bjatladi community restitution claim		Research Report
2000	Hall, R.	Co-Managing the Commons in the'New'South Africa: Room for Manoeuvre?		Journal Article
2008	Hall, R.	Deracializing Exploitation? 'Black Economic Empowerment' in the South African Wine InDustry	Journal of Agrarian Change	Journal Article
2000	Hall, R.	Does land and agrarian reform have a future and, if so, who will B.efit		Book Chapter
2013	Hall, R.	Efficacy of rights-based management of small pelagic fish within an ecosystems approach to fisheries in South Africa	African Journal of Marine Science	Journal Article
1997	Hall, R.	Environmental entitlements in Mkambati: Livelihoods, social institutions and environmental change on the Wild Coast of the Eastern Cape		Research Report
2009	Hall, R.	Exploring Statistics South Africa's national household surveys as sources of information about household-level food security	Agrekon	Journal Article
2000	Hall, R.	Extension and support services for smallholder agricultural development in South Africa: who is the smallholder farmer?		Conference Paper
2003	Hall, R.	Farm tenure	ELARSA Occasional Paper	Occasional Paper
2013	Hall, R.	Farm workers and farm dwellers in Limpopo, South Africa: Struggles Over Tenure, Livelihoods and Justice		Book
2009	Hall, R.	Formalisation of land rights in the South: An overview	Land use policy	Journal Article

2011	Hall, R.	Governance reforms to develop a small-scale fisheries policy for South Africa		Book Chapter
2013	Hall, R.	Governing global land deals: the role of the state in the rush for land		Book
2007	Hall, R.	Has reforming South African fisheries contributed to wealth redistribution and poverty alleviation?	Ocean & coastal management	Journal Article
2005	Hall, R.	Health and Economic Consequences of Pesticide Use: the Experience of the Heed Programme on Pesticides in Southern Africa	Epidemiology	Journal Article
2014	Hall, R.	Inclusive business models in agriculture? Learning from smallholder cane growers in Mozambique	FAC Policy Brief	Policy Brief
2014	Hall, R.	International and regional guidelines on land governance and land-based investments: An agenda for African states	FAC Policy Brief	Policy Brief
2005	Hall, R.	Joint ventures and livelihoods in emerging small-scale irrigation schemes in Greater Sekhukhune District: Perspectives from Hereford		Research Report
2013	Hall, R.	Land		Book Chapter
2007	Hall, R.	Land and agrarian reform in integrated development plans (IDPs)		Research Report
2012	Hall, R.	Land Grabbing and Political Transformation in Tanzania		Conference Paper
2011	Hall, R.	Land grabbing in Africa and the new politics of food	FAC Policy Brief	Policy Brief
2003	Hall, R.	Land redistribution		Book
2003	Hall, R.	Land redistribution	ELARSA Occasional Paper	Occasional Paper
2007	Hall, R.	Land Redistribution in South Africa: Progress to Date		Conference Paper
2002	Hall, R.	Land Redistribution; Neglecting the urban and rural poor	ESR Review	Journal Article
2002	Hall, R.	Land Reform and Sustainable Livelihoods in South Africa's Eastern Cape Province		Research Report
2005	Hall, R.	Land reform in the Eastern Cape: the ongoing struggle for resources and secure rights	Social dynamics	Journal Article
2006	Hall, R.	Land Restitution and Co-management of Protected Areas in South Africa: The Case of Mkambati Nature Reserve Land Claim		Conference Paper
2014	Hall, R.	Land Use Change in MAPS	Briefings: Forum on Development and Mitigation, Provocateur briefings	Journal Article
2008	Hall, R.	Land, Power and Custom		Book
2011	Hall, R.	Landmarked: Land Claims and Land Restitution in South	Journal of Agrarian Change	Journal Article

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2008	Hall, R.	Livelihoods in the wake of agricultural commercialisation in South Africa's poverty nodes: insights from small-scale irrigation schemes in Limpopo Province	Development Southern Africa	Journal Article
2002	Hall, R.	Money for nature: globalisation and renewable natural resource management.		Conference Paper
2004	Hall, R.	Perceptions of informal safety nets: A case study from a South African informal settlement	Development Southern Africa	Journal Article
2009	Hall, R.	Phases and interfaces: National and local water investments in Sekororo Communal Lands, Limpopo Basin, South Africa	Economics, Management, and Financial Markets	Journal Article
2005	Hall, R.	Reaping the whirlwind of change: Eastern Cape white commercial farmers' discourses of democracy	Psychology in Society	Journal Article
2005	Hall, R.	Reconciling land reform and biodiversity conservation in South Africa. :complementary or in conflict?	International Journal of Biodiversity Science and Management	Journal Article
2015	Hall, R.	Representation concerning the terms of reference on the grocery retail sector market inquiry	Submission on Competition Commission terms of reference, Notice 580 of 2015, Government Gazette No. 38863	Parliamentary Submission
2007	Hall, R.	Restitution and post-settlement support: Three case studies from Limpopo		Research Report
2009	Hall, R.	Re-valuing the communal lands of southern Africa: new understandings of rural livelihoods		Journal Article
2013	Hall, R.	Rights without illusions: the potential and limits of rights-based approaches to securing land tenure in rural South Africa		Book Chapter
2000	Hall, R.	Rural development and poverty reduction at the end of the century: lessons for South Africa.		Conference Paper
1998	Hall, R.	Rural local government in post-apartheid South Africa	African Sociological Review	Journal Article
2001	Hall, R.	South Africa country study: mapping phase report	SLSA Working Paper	Working Paper
2013	Hall, R.	Speak, Lioness Speak!		Video
2009	Hall, R.	Special Section: Formalisation of land rights in the South.	Land Use Policy	Journal Article
2015	Hall, R.	Submission on the Expropriation Bill. Presentation to the Portfolio Committee on Public Works, National Assembly	Parliamentary Submission	Parliamentary Submission

2003	Hall, R.	Support for agricultural development	ELARSA Occasional Paper	Occasional Paper
2015	Hall, R.	The Blanket of the Land: Agrarian Change and Biopolitics in Post-Apartheid South Africa		Conference Paper
2010	Hall, R.	The Case for Re-Strategising Spending Priorities to Support Small-Scale Farmers in South Africa	PLAAS Working Papers	Working Paper
2000	Hall, R.	The impact of land reform policy in the Northern Province.		Conference Paper
2006	Hall, R.	The land question	Inter-group Relations: South African Perspectives	Journal Article
2007	Hall, R.	The land question in South Africa: The challenge of transformation and redistribution		Book
2013	Hall, R.	The Legacies of the Natives Land Act of 1913		Conference Paper
2015	Hall, R.	The New Alliance on Food Security and Nutrition: What Are the Implications for Africa's Youth?		Conference Paper
2013	Hall, R.	The New Enclosures: Critical Perspectives on Corporate Land Deals		Book
2012	Hall, R.	The new enclosures: critical perspectives on corporate land deals	Journal of Peasant Studies	Journal Article
2012	Hall, R.	The next Great Trek? South African commercial farmers move north	Journal of Peasant Studies	Journal Article
2010	Hall, R.	The politics of communal tenure reform: A South African case study	The struggle over land in Africa	Journal Article
2013	Hall, R.	The politics of evidence: A response to Rulli and D'Odorico	Journal of Peasant Studies	Journal Article
2014	Hall, R.	The Restitution of Land Rights Amendment Act of 2014 - What are the real implications of reopening land claims?		Policy Brief
2013	Hall, R.	The rise and decline of small-scale sugarcane proDuction in South Africa: A historical perspective	PLAAS Working Papers	Working Paper
2001	Hall, R.	The role of land-based strategies in rural livelihoods: the contribution of arable proDuction, animal husbandry and natural resource harvesting in communal areas in South Africa	Development Southern Africa	Journal Article
2015	Hall, R.	Toward a New Distributive Politics: economic thought and practices seen from the Global South - a South African perspective		Conference Paper
2010	Hall, R.	Transforming ownership and governance - Lessons from capital intensive pelagic fisheries in South Africa and Zimbabwe	International Journal of the Commons	Journal Article

2005	Hall, R.	Trends and policy challenges in the rural economy: four provincial case studies		Book
2005	Hall, R.	Western Cape Case Study		Book Chapter
2014	Hall, R.	What are the alternatives to government's flawed policy on strengthening the relative rights of people working the land?	PLAAS Position Paper for National Land Tenure Summit, 2014	Parliamentary Submission
2014	Hall, R.	What's wrong with government's Agricultural Landholding Policy, and what's the alternative?	PLAAS Position Paper for National Land Tenure Summit, 2014	Parliamentary Submission
2007	Hall, R.	Whims of the winds of time? Emerging trends in biodiversity conservation and protected area management	Conservation and Society	Journal Article
2013	Hall, R.	Who, what, where, how, why? Mapping the many disagreements about land and agrarian reform		Conference Paper
2002	Hara, M.	A decade of fisheries co-management in Africa: going back to the roots? empowering fishing communities? or just an illusion?	LRAC Occasional Papers	Occasional Paper
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2006	Hara, M.	A social coastal fisheries policy for South Africa? Subsistence fisheries co-management for sustainable livelihoods and poverty alleviation	PLAAS Policy brief	Policy Brief
2000	Hara, M.	An apartheid oasis?: agriculture and rural livelihoods in Venda		Book
1999	Hara, M.	An evaluation of the Lake Malombe co-management program		Conference Paper
2013	Hara, M.	An Overview of Fast Track Land Reform in Zimbabwe: editorial introDuction		Book Chapter
2015	Hara, M.	Backing small-scale fishers: opportunities and challenges in transforming the fish sector	Rural Status Report	Research Report
2004	Hara, M.	Beach Village Committees as a Vehicle for Community Participation: Lake Malombe/Upper Shire River Participatory Programme		Book Chapter

2005	Hara, M.	Case for compliance studies to improve management of the Chambo on the south east arm of Lake Malawi	The Chambo Restoration Strategic Plan	Journal Article
2005	Hara, M.	Case for compliance studies to improve management of the chambo on the southeast arm of Lake Malawi		Conference Paper
2006	Hara, M.	Challenges and prospects for trans-boundary fisheries in Lakes Chiuta and Kariba		Policy Brief
2002	Hara, M.	Co-management as co-governance: prospects for community-based natural resource management in Southern Africa.		Conference Paper
2004	Hara, M.	Common property resources and privatisation trends in southern Africa	PLAAS Policy brief	Policy Brief
2011	Hara, M.	Community development: building on contradiction	Community Development Journal	Journal Article
2002	Hara, M.	Cost-B.efit analysis as a policy tool for natural resource management in rural communities: case study evidence from Sekhukhuneland, Limpopo province.		Conference Paper
2000	Hara, M.	Creating jobs in rural southern Africa: the rural enterprise support strategies of the Mineworkers Development Agency as part of a social plan for communities affected by mine downscaling.		Conference Paper
2008	Hara, M.	Crew members in South Africa's squid inDustry	PLAAS Working Papers	Working Paper
2000	Hara, M.	Decentralised planning and development: the legal framework and experiences in implementation.		Conference Paper
1998	Hara, M.	Design for equity: linking objectives with practice in land reform		Conference Paper
2007	Hara, M.	Economía política del desarrollo en África		Book
2009	Hara, M.	Editorial	Development Southern Africa	Journal Article
2013	Hara, M.	Efficacy of Rights Based Management within Ecosystems Approach to Fisheries in South Africa's small pelagic		Conference Paper
2000	Hara, M.	Experiences of agrarian reform in South Africa: the limits of intervention.		Conference Paper
2009	Hara, M.	Farming and familial relations: Women's fragile land rights under communal tenure in Namaqualand	Agenda	Journal Article
1999	Hara, M.	Fisheries co-management in Malawi: Lake Chiuta re-visit case study		Conference Paper
1999	Hara, M.	Fisheries co-management: a review of the theoretical basis and assumptions		Book
2012	Hara, M.	Foxes Guarding the Hen-house: The Fragmentation of 'The State'in Negotiations over Land Deals in Congo and Mozambique		Conference Paper
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2014	Hara, M.	Fragmentation of Resource Management on the South East Arm of Lake Malawi		Book
2013	Hara, M.	Fragmented participation in management of small pelagics fisheries in South Africa – inclusion of small and new rights holders is a complex matter		Conference Paper
2002	Hara, M.	Globalizing Ethics: Social Technologies of Private Regulation and the South African Wine InDustry	Journal of Agrarian Change	Journal Article
2009	Hara, M.	Governance of the commons in southern Africa: knowledge, political economy and power	Development Southern Africa	Journal Article
2002	Hara, M.	Grounding governance: power and meaning in natural resource management.		Conference Paper
2007	Hara, M.	Has reforming South African fisheries contributed to wealth redistribution and poverty alleviation?	Ocean & coastal management	Journal Article
2011	Hara, M.	Imithetho yomhlaba yaseMsinga: the living law of land in Msinga, KwaZulu-Natal		Research Report
2002	Hara, M.	Institutional evolution in water resources management: lessons from the Zimbabwean water sector reform programme.		Conference Paper
2014	Hara, M.	International and regional guidelines on land governance and land-based investments: An agenda for African states	FAC Policy Brief	Policy Brief
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2002	Hara, M.	Legislating negotiability: tenure reform in post-apartheid South Africa		Book Chapter
2015	Hara, M.	Lessons from Existing Modes of Governance in Malawi’s Small-Scale Fisheries		Conference Paper
2002	Hara, M.	Lessons from Malawi's experience with fisheries co-management initiatives		Conference Paper
2008	Hara, M.	Mainstreaming of HIV & AIDS into South African fisheries policy		Research Report
2012	Hara, M.	Making sense of ‘evidence’: notes on the discursive politics of research and pro-poor policy making	PLAAS Working Papers	Working Paper
2013	Hara, M.	Managing Fisheries in Malawi, why people matter		Conference Paper
2002	Hara, M.	Natural resources management: lessons on social forestry in Lesotho.		Conference Paper
2004	Hara, M.	NEPAD, land & resource rights		Policy Brief
2009	Hara, M.	Piloting alternatives in the Breede River Winelands		Book Chapter
2015	Hara, M.	Presentation at the Special Workshop Session on TBTI research Clusters on Fish as Food		Conference Paper
1996	Hara, M.	Problems of introducing community participation in fisheries management: lessons from the Lake Malombe and Upper Shire River (Malawi) participatory fisheries management programme		Book Chapter
1998	Hara, M.	Problems of introducing community participation in fisheries management: Lessons		Conference Paper

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2002	Hara, M.	Reforming Communal Land Tenure in South Africa–Why land Titling is not the answer Critical comments on the Communal Land Rights Bill, 2002: Programme for Land and Agrarian Studies (PLAAS) School of Government	University of the Western Cape Department of Land Affairs, South Africa (1997) White Paper on South African Land Policy: Department of Land Affairs	Journal Article
2004	Hara, M.	Restitution and the politics of land reform: Stepping outside the box		Conference Paper
2004	Hara, M.	Securing land and resource rights in Africa: Pan-African perspectives		Book
2012	Hara, M.	Social reproDuction, accumulation and class differentiation: Small-scale sugarcane growers in Mtubatuba, KwaZulu-Natal, South Africa	PLAAS Working Papers	Working Paper
2000	Hara, M.	South African agriculture and rural livelihoods in the era of liberalisation.		Conference Paper
2015	Hara, M.	Space, Markets and employment in agricultural development: Zimbabwe	PLAAS	Policy Brief
2012	Hara, M.	Special Issue on the New Enclosures: Critical Perspectives on Corporate Land Deals		Book
2009	Hara, M.	Strategies to support South African smallholders as a contribution to government's second economy strategy. Volume 1: Situation analysis, fieldwork findings and main conclusions		Research Report
2000	Hara, M.	Tenure rights and practices on a state-owned farm: the community of Ekuthuleni.		Conference Paper
2003	Hara, M.	The Zimbabwe crisis in its wider context: The politics of land, democracy and development in Southern Africa		Book Chapter
2002	Hara, M.	Towards community-based forest management in North West province: current practices and future challenges.		Conference Paper
2010	Hara, M.	Transdisciplinary co-operation for an ecosystem approach to fisheries: a case study from the South African sardine fishery	Marine Policy	Journal Article
2010	Hara, M.	Transdisciplinary co-operation for an ecosystem approach to fisheries: a case study from the South African sardine fishery	Marine Policy	Journal Article
2008	Hara, M.	Transformation in the South African fishing inDustry and its ability to redistribute fishing rights	American fisheries society symposium	Journal Article

2006	Hara, M.	Transformation of South African inDustrial fisheries	Marine Policy	Journal Article
2003	Hara, M.	Use, control and value of craft material—Cyperus textilis: perspectives from a Mpondo village, South Africa	South African Geographical Journal	Journal Article
2010	Hara, M.	Value chain analysis of Lake Chilwa fisheries in Malawi		Conference Paper
2013	Hara, M.	Value chain analysis of Lake Chilwa fisheries in Malawi: A Case Study of Oreochromis spp (Chambo)	International Journal of Business and Social Science	Journal Article
2015	Harrison, E.P.; Dzigirai, V.; Gandiwa, E.; Nzuma, T.; Masivele, B.; Ndlovu, H.T.	Progressing community-based natural resource management in Zimbabwe		Policy Brief
1998	Hasler, R	Towards political ecologies of scale: Conceptualising community based coastal and fisheries co-management on the West Coast of South Africa	PLAAS Occasional Papers	Occasional Paper
2015	Hornby, D.	Large-scale land deals in Southern Africa: Voices of the people		Book
2003	Hornby, D.	Rural restitution	ELARSA Occasional Paper	Occasional Paper
2000	Hornby, D.	Tenure rights and practices on a state-owned farm: the community of Ekuthuleni.		Conference Paper
2005	Hornby, D.	Will formalising property rights reDuce poverty in South Africa's 'second economy'. Questioning the mythologies of Hernando de Soto	PLAAS Policy brief	Policy Brief
2002	Isaacs, M.	" It's all about money!"-implementation of South Africa's new fisheries policy		Book Chapter
2000	Isaacs, M.	A social coastal fisheries policy for South Africa? Subsistence fisheries co-management for sustainable livelihoods and poverty alleviation	Discourse	Journal Article
2000	Isaacs, M.	A social coastal fisheries policy for South Africa? Subsistence fisheries co-management for sustainable livelihoods and poverty alleviation	Discourse	Journal Article
2002	Isaacs, M.	According to need, greed or politics-redistribution of fishing rights within South Africa's new fisheries policy.		Conference Paper
2013	Isaacs, M.	ADApT or Die: Finding methodologies to secure the livelihoods and food security for fisheries dependent communities around the world		Conference Paper
2000	Isaacs, M.	Awards to provide security of tenure and comparable redress.		Conference Paper
2000	Isaacs, M.	Co-managing the commons in the 'new' South Africa: Room for manoeuvre		Conference Paper
2011	Isaacs, M.	Community Response: Decline of the Chambo in Lake Malawi's Southeast Arm		Book Chapter

2000	Isaacs, M.	Constituting the commons in the new South Africa	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2006	Isaacs, M.	Crafting a livelihood: local-level trade in mats and baskets in Pondoland, South Africa	Development Southern Africa	Journal Article
2004	Isaacs, M.	Fisheries co-management—an institutional innovation? Lessons from South East Asia and Southern Africa	Marine Policy	Journal Article
2005	Isaacs, M.	From willing seller, willing buyer to a people-driven land reform		Policy Brief
2009	Isaacs, M.	Governance of the commons in southern Africa: knowledge, political economy and power	Development Southern Africa	Journal Article
1997	Isaacs, M.	Habitat degradation caused by seines on the fishery of Lake Malombe and Upper Shire River and its effects		Book Chapter
1997	Isaacs, M.	How do Rights become Real?: Formal and Informal Institutions in South Africa's Land Reform	IDS Bulletin	Journal Article
2014	Isaacs, M.	Indigenous Knowledge in Inland Fisheries in South Africa		Book
1999	Isaacs, M.	Invisible capital: The contribution of communal rangelands to rural livelihoods in South Africa	Development Southern Africa	Journal Article
2007	Isaacs, M.	Land and agrarian reform in integrated development plans (IDPs)		Research Report
1998	Isaacs, M.	Lessons from Riemvasmaak for land reform policies and programmes in South Africa		Research Report
2005	Isaacs, M.	Magwa tea venture in South Africa: politics, land and economics	Social dynamics	Journal Article
2008	Isaacs, M.	Mainstreaming of HIV and AIDS into South African fisheries policy	Policy Brief	Policy Brief
2015	Isaacs, M.	Need for Improved Recognition of the True Value of South and East African Inland Fishery Systems		Conference Paper
2002	Isaacs, M.	Preconditions for implementation of co-management in small-scale fisheries in South Africa.		Conference Paper
2015	Isaacs, M.	Recap. Analysis of official data and findings from field research in the Eastern Cape.	Parliamentary Submission	Parliamentary Submission
2009	Isaacs, M.	Should subsistence agriculture be supported as a strategy to address rural food insecurity?	Agrekon	Journal Article
2013	Isaacs, M.	Smallholder irrigation schemes, agrarian reform and “accumulation from above and from below” in South Africa		Conference Paper

2014	Isaacs, M.	Small-scale fisheries (SSF) policy: A handBook for fishing coM.unities in South Africa		Book
2013	Isaacs, M.	Small-scale fisheries governance and the limitations of expanding access using indiviDual fishing quotas – the case of South African fishing sector		Conference Paper
2013	Isaacs, M.	Small-scale Fisheries Governance and Understanding the Snoek (Thyrsites atun) Supply Chain in the Ocean View Fishing CoM.unity, Western Cape, South Africa	Ecology and Society	Journal Article
2005	Isaacs, M.	South African fisheries reform: past, present and future?	PLAAS Policy brief	Policy Brief
2003	Isaacs, M.	The “Lords” of Malombe; An Analysis of Fishery Development and Changes in Fishing Effort on Lake Malombe, Malawi		Book Chapter
2002	Isaacs, M.	The 2001/2002 allocations-a moDus vivendi for the South African fishing inDustry?		Book Chapter
1996	Isaacs, M.	The fruits of modernity: Law, power and paternalism on Western Cape farms	PLAAS Occasional Papers	Occasional Paper
2015	Isaacs, M.	The government of poverty on late-capitalist agrarian landscapes: reflections from South Africa		Conference Paper
2007	Isaacs, M.	Trans-boundary natural resources management in Southern Africa: Local historical and livelihood realities within the Great Limpopo Trans-frontier Conservation Area		Research Report
2008	Isaacs, M.	Transformation in the South African fishing inDustry and its ability to redistribute fishing rights	American fisheries society symposium	Journal Article
2009	Jacobs, P.	Agricultural Employment Scenarios		Book Chapter
2003	Jacobs, P.	Evaluating Land and Agrarian Reform in South Africa: Final report	ELARSA Occasional Paper	Occasional Paper
2010	Jacobs, P.	Land in Southern Africa: Key Issues for Farmers and Policy Options		Journal Article
2003	Jacobs, P.	Land redistribution	ELARSA Occasional Paper	Occasional Paper
2003	Jacobs, P.	Monitoring and evaluating the quality of life of land reform B.eficiaries: 2000/2001. Technical Report prepared for the Department of Land Affairs, Directorate Monitoring and Evaluation	Technical Report	Research Report
2004	Jacobs, P.	Poverty alleviation and biodiversity conservation: a South African perspective	Oryx	Journal Article
2009	Jacobs, P.	Strategies to support South African smallholders as a contribution to government’s second economy strategy. Volume 1: Situation analysis, fieldwork findings and main conclusions		Research Report
2015	Jacobs, P.	Sugarcane outgrowers and foreign capital in contemporary Tanzania		Conference Paper

1999	Jacobs, S	Gender, class & democracy in Zimbabwe's land resettlement programme		Occasional Paper
2009	Jara, Mazibuko	What are the political parameters?		Book Chapter
2004	Jones, B	CBNRM, poverty reDuction and sustainable livelihoods: Developing criteria for evaluating the contribution of CBNRM to poverty reDuction and alleviation in southern Africa	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2006	Jones, B	The impact of people-centred approaches to natural resource management on poverty reDuction		Policy Brief
2005	Kajembe, George; Luoga, E; NDuwamungu, J	The impact of community-based forest management and joint forest management on the forest resource base and local people's livelihoods: Case studies from Tanzania	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2015	Kepe, T.	Between a rock and a hard place: the need for and challenges to implementation of Rights Based Fisheries Management in small-scale fisheries of Southern Lake Malawi		Conference Paper
2003	Kepe, T.	Cannabis sativa and rural livelihoods in South Africa: politics of cultivation, trade and value in Pondoland	Development Southern Africa	Journal Article
2002	Kepe, T.	Cattle ownership and production in the communal areas of the Eastern Cape, South Africa		Research Report
2004	Kepe, T.	Civil society & social movements: Advocacy for land and resource rights in Africa		Policy Brief
2000	Kepe, T.	Communal' property arrangements: a second bite.		Conference Paper
2007	Kepe, T.	Covie community land claim		Research Report
2011	Kepe, T.	Creating Action Space: Small-Scale Fisheries Policy Reform in South Africa		Book Chapter
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2004	Kepe, T.	Decentralisation when land and resource rights are deeply contested: a case study of the Mkambati eco-tourism project on the Wild Coast of South Africa	The European Journal of Development Research	Journal Article
2005	Kepe, T.	Embeddedness versus Titling: African Land Tenure Systems and the Potential Impacts of the Communal Land Rights Act 11 of 2004	Stellenbosch L. Rev.	Journal Article
2013	Kepe, T.	Governing Late Capitalist Agrarian Landscapes – notes to ward an investigation',		Conference Paper
2003	Kepe, T.	Land reform and biodiversity conservation in South Africa: Complementary or in conflict?	LRAC Occasional Paper	Occasional Paper
2003	Kepe, T.	Land reform and biodiversity conservation in South Africa: Complementary or in conflict?	LRAC Occasional Paper	Occasional Paper

2003	Kepe, T.	Land reform: the South African case	From Cape to Congo: Southern Africa's Elvoving Security Challenges	Journal Article
2004	Kepe, T.	Land restitution and biodiversity conservation in South Africa: the case of Mkambati, Eastern Cape Province	Canadian Journal of African Studies	Journal Article
2010	Kepe, T.	Land, memory, reconstruction, and justice: Perspectives on land restitution in South Africa		Book
2002	Kepe, T.	Local institutions and sustainable land-use management in land redistribution projects in rural KwaZulu-Natal.		Conference Paper
2009	Kepe, T.	Potential and pitfalls of 'communal'land tenure reform: Experience in Africa and implications for South Africa		Conference Paper
2002	Kepe, T.	Radical land reform is key to sustainable rural development in South Africa	Policy Brief	Policy Brief
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2001	Kepe, T.	Resource tenure and power relations in community wildlife: the case of Mkambati area, South Africa	Society &Natural Resources	Journal Article
2014	Kepe, T.	Roman water law in rural Africa: the unfinished business of colonial dispossession	Water International	Journal Article
2012	Kepe, T.	The Dualistic nature of fisheries and policy responses in Mozambique and South Africa		Book Chapter
2013	Kepe, T.	The politics of evidence: methodologies for understanding the global land rush	Journal of Peasant Studies	Journal Article
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2005	Kepe, T.	Urban poverty in Cape Town	Environment and Urbanization	Journal Article
2006	Kepe, T.	Vulnerability and social protection at the margins of the formal economy	Pretoria: USAID	Journal Article
2013	Kingwill, R.	Outcomes of Post-2000 Fast Track Land Reform in Zimbabwe		Book
2005	Kingwill, R.	Will formalising property rights reDuce poverty in South Africa's 'second economy'. Questioning the mythologies	PLAAS Policy brief	Policy Brief

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2007	Kleinbooi, K.	“Die man is die hoof en vat voor”: Women's attitudes to land and farming in the communal areas of Namaqualand	Journal of arid environments	Journal Article
2007	Kleinbooi, K.	Covie community land claim		Research Report
2003	Kleinbooi, K.	Decentralisations in Practice in Southern Africa	IDS Bulletin	Journal Article
2013	Kleinbooi, K.	Farm workers and farm dwellers in Limpopo, South Africa: Struggles Over Tenure, Livelihoods and Justice		Book
2013	Kleinbooi, K.	Land grabs in Africa: The tribunal panel speaks		Video
2002	Kleinbooi, K.	NGOs,'bushmen'and double vision: the Khomani San land claim and the cultural politics of'community'and'development'in the Kalahari.		Conference Paper
2013	Kleinbooi, K.	Not enough state land to meet land reform targets		Fact Check
2003	Kleinbooi, K.	Rural settlement		Journal Article
2007	Lahiff, E.	‘Willing buyer, willing seller’: South Africa's failed experiment in market-led agrarian reform	Third World Quarterly	Journal Article
2007	Lahiff, E.	“Die man is die hoof en vat voor”: Women's attitudes to land and farming in the communal areas of Namaqualand	Journal of arid environments	Journal Article
2002	Lahiff, E.	A critical assessment of state land redistribution policy in the light of the Grootboom judgment	New Agenda: South African Journal of Social Policy and Economic Policy; Law, democracy and development vol 6, issue 2	Journal Article
2009	Lahiff, E.	Biofuels, land access and rural livelihoods in Tanzania		Book
2000	Lahiff, E.	Building a people-driven rural development strategy: lessons from the RDI.		Conference Paper
2002	Lahiff, E.	Building spatial concepts for community-based catchment management: planning for LandCare in the Kat River Valley.		Conference Paper
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2013	Lahiff, E.	Customary authorities and democracy		Conference Paper
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2015	Lahiff, E.	Dynamics of decline in small-scale sugarcane proDuction in South Africa: Evidence from two ‘rural’ wards in the	Land Use Policy	Journal Article

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2003	Lahiff, E.	Evaluating Land and Agrarian Reform in South Africa: Final report	ELARSA Occasional Paper	Occasional Paper
2014	Lahiff, E.	Fragmented participation in management of the fishery for small pelagic fish in South Africa – inclusion of small-rights holders is a complex matter	African Journal of Marine Science	Journal Article
2000	Lahiff, E.	Greening land and agrarian reform: a case for sustainable agriculture.		Conference Paper
2007	Lahiff, E.	Land and agrarian reform in the 21st century: changing realities, changing arguments?		Conference Paper
2014	Lahiff, E.	Land and Land Reform in South Africa		Book Chapter
2003	Lahiff, E.	Land redistribution		Book
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2008	Lahiff, E.	Land redistribution and poverty reduction in South Africa: The livelihood impacts of smallholder agriculture under land reform		Research Report
2006	Lahiff, E.	Land Redistribution in South Africa	AGRICULTURAL	Journal Article
2014	Lahiff, E.	Land redistribution: The politics of not making policy		Book Chapter
2013	Lahiff, E.	Land reform and livelihoods: trajectories of change in Northern Limpopo Province, South Africa		Book
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2009	Lahiff, E.	Land reform in South Africa	Journal of Agrarian Change	Journal Article
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1996	Lahiff, E.	Land Tenure and Policy in South Africa: Training Course, 14th-27th July 1996, Crawfords's Cintsa Beach, East London; Course Overview and Evaluation		Book
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2001	Lahiff, E.	Resource tenure and power relations in community wildlife: the case of Mkambati area, South Africa	Society &Natural Resources	Journal Article
2015	Lahiff, E.	Small versus Large-scale fisheries in South Africa		Conference Paper
2008	Lahiff, E.	Socio-economic contribution of South African fisheries & their current legal, policy & management frameworks, M	PLAAS Working Papers	Working Paper

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2010	Lahiff, E.	Status report on land & agricultural policy in South Africa		Research Report
2014	Lahiff, E.	Survey of Small Scale Fishing in Rural Livelihoods in South Africa		Book Chapter
2000	Lahiff, E.	The impact of land reform policy in the Northern Province.		Conference Paper
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2006	Lahiff, E.	The membership problem in people-centred approaches to natural resource management, F Matose, A Mandondo, A Mosimane & K Aribeb, 2006		Policy Brief
2005	Lahiff, E.	Will formalising property rights reDuce poverty in South Africa's 'second economy'. Questioning the mythologies of Hernando de Soto	PLAAS Policy brief	Policy Brief
2004	Lebert, Tom	Municipal commonage as a form of land redistribution: A case study of the new farms of Leliefontein, a communal reserve in Namaqualand, South Africa		Research Report
2009	Lund, Francie	Social protection, citizenship & the employment relationship	PLAAS Working Papers	Working Paper
2007	Maguranyanga, B; Rihoy, E	Devolution and democratisation of natural resource management in southern Africa: A comparative analysis of CBNRM policy processes in Botswana and Zimbabwe	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2006	Malasha, Isaac	Contested fishing grounds: Examining the possibility of a transboundary management regime in the Lake Kariba fishery	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2005	Mandondo, A.	Dialogue of theory and empirical evidence: A weighted decision and tenurial niche approach to reviewing the operation of natural resource policy in rural southern Africa	Community Based Natural Resource Management Occasional Paper	Occasional Paper
2008	Manenzhe, T.	Land redistribution and poverty reduction in South Africa: The livelihood impacts of smallholder agriculture under land reform		Research Report
2007	Manenzhe, T.	Restitution and post-settlement support: Three case studies from Limpopo		Research Report
2006	Manjengwa, J	Natural resource management and land reform in southern Africa	Community Based Natural Resource Management	Occasional Paper

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2002	Massyn, P. John	A case-study of the Lekgophung Tourism Lodge, South Africa	LRAC Occasional Paper	Occasional Paper
2010	Matiya, G.	Value chain analysis of Lake Chilwa fisheries in Malawi		Conference Paper
2015	Matondi, Prosper	Zimbabwe's contested large-scale land-based investment : the Chisumbanje Ethanol Project	ADC Policy Briefs	Policy Brief
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2009	Matose, F.	Commons governance in Southern Africa	Policy Brief	Policy Brief
2009	Matose, F.	Editorial	Development Southern Africa	Journal Article
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2014	Matose, F.	The Legacies of the Natives Land Act of 1913	Scriptura	Journal Article

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2011	Miller, Darlene	Land grabbing in Southern Africa: the many faces of the investor rush	Review of African Political Economy	Journal Article
2013	Miller, Darlene	Land grabs in Africa: A chief speaks out		Video
2013	Miller, Darlene	Land grabs in Africa: A farmer in Bagamoyo, Tanzania		Video
2013	Miller, Darlene	Land grabs in Africa: A widow speaks out in Kenya		Video
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2010	Mnisi, S	Reconciling living customary law & democratic decentralisation to ensure women's land rights security		Policy Brief
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2003	Mohamed, N.	Co-management of natural resources: Theory and the attendant assumptions		Book Chapter
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2000	Mokgope, K.	Land reform, sustainable rural livelihoods and gender relations: A case study of Gallawater A farm Vol 1		Research Report
1996	Moore, D	Clear waters and muddled histories: Competing claims to the Kaerezi River in Zimbabwe's Eastern Highlands	PLAAS Occasional Papers	Occasional Paper
2015	Mtero, Farai	Commercialisation of Land and 'Land Grabbing': Implications for Land Rights and Livelihoods in Malawi		Research Report
2005	Mthethwa, Themba	Western Cape Case Study		Book Chapter
2015	MuDuva, Theodor	Land grabbing from within: Learning from grazing disputes in Western Kavango, Namibia		Policy Brief

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2013	Neves, D.	Real Acts, Imagined Landscapes: Reflections on the Discourses of Land Reform in South Africa after 1994	Journal of Agrarian Change	Journal Article
1996	Neves, D.	Rural livelihoods and small scale agriculture in the Western Cape: the MAG experience	Land, Labour and Livelihoods in Rural South Africa	Journal Article
2006	Neves, D.	Small-scale fisheries reform: Expectations, hopes and dreams of "a better life for all"	Marine Policy	Journal Article
2015	Neves, D.	Space Markets and Employment in Agricultural Development: South Africa Country Report	SMEAD Research Report	Research Report
2015	Neves, D.	Space Markets and Employment in Agricultural Development: South Africa Country Report	SMEAD Research Report	Research Report
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2003	Neves, D.	Traditional authorities, local government and land rights	Grass-Roots Governance	Journal Article
2006	Neves, D.	Vulnerability and social protection at the margins of the formal economy	Pretoria: USAID	Journal Article
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2003	Ngubane, Mnqobi	Land and Livelihoods: The Politics of Land Reform in Southern Africa	IDS Bulletin	Journal Article
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2008	Ntsebeza, L.	Characterising'Communal'Tenure: Nested Systems and Flexible Boundaries		Book Chapter
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2003	Ntsebeza, L.	Democracy in South Africa’s countryside: Is there a role for traditional authorities	Development Update	Journal Article
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2000	Ntsebeza, L.	Land tenure in South Africa's communal areas: a case study of the Arabie-Olifants scheme	African Studies	Journal Article
2013	Ntsebeza, L.	Rural Livelihoods in South Africa: Complexity,	Journal of Agrarian Change	Journal Article

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2007	Ntsebeza, L.	The land question in South Africa: The challenge of transformation and redistribution		Book
2009	Ntsebeza, L.	Trading on a grant: Integrating formal and: informal social protection in post-Apartheid migrant networks,	PLAAS Working Papers	Working Paper
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2001	Ntshona, Z.	South Africa country study: mapping phase report	SLSA Working Paper	Working Paper
2005	Ntshona, Z.	The shifting terrain of land reform in South Africa: the National Land Summit, July 2005	Review of African Political Economy	Journal Article
2013	Ntshona, Z.	Value chain analysis of Lake Chilwa fisheries in Malawi: A Case Study of Oreochromis spp (Chambo)	International Journal of Business and Social Science	Journal Article
2014	Ntumy, E. Kodzo-Bediaku	The state and land legislation in Botswana	PLAAS Working Papers	Working Paper
2010	Ntwana, B.	What is a 'smallholder'? Class analytical perspectives on small-scale farming and agrarian reform in South Africa	PLAAS Working Papers	Working Paper
2011	Odendaal, W	Elite land grabbing in Namibian communal areas and its impact on subsistence farmers' livelihoods		Policy Brief
2002	Okoth-Ogendo, H. W. O.	The tragic African commons: A century of expropriation, suppression and subversion	LRAC Occasional Paper	Occasional Paper
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2007	Paradza, G.	Agrarian reform and the 'two economies': transforming South Africa's countryside		Book Chapter
2012	Paradza, G.	Foxes Guarding the Hen-house: The Fragmentation of 'The State'in Negotiations over Land Deals in Congo and Mozambique		Conference Paper
2014	Paradza, G.	Inclusive business models in agriculture? Learning from smallholder cane growers in Mozambique	FAC Policy Brief	Policy Brief
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1999	Paradza, G.	Land tenure reform, traditional authorities and rural local government in post-apartheid		Research Report

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2015	Pérez Niño, H.	The rise of BRICS and MICs and implications for global agrarian-environmental transformations: South Africa in Africa		Conference Paper
2010	Phiri, L. Y.	Value chain analysis of Lake Chilwa fisheries in Malawi		Conference Paper
2004	Rohde, R.; Wisborg, Poul	Contested land tenure reform in South Africa: The Namaqualand experience	LRAC Occasional Paper	Occasional Paper
2003	Rohde, Rick; Hoffman, Tim; Allsopp, Nicky	Hanging on a wire: A historical and socio-economic study of Paulshoek village		Research Report
2005	Royston, Lauren	Will formalising property rights reDuce poverty in South Africa's 'second economy'. Questioning the mythologies of Hernando de Soto	PLAAS Policy brief	Policy Brief
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1995	Saruchera, M.	Common property institutions and land reform in South Africa	Development Southern Africa	Journal Article
2000	Saruchera, M.	Community and diversity: the complexity of interests in land reform-a case study of Gallawater. A farm in the Eastern Cape.		Conference Paper
2013	Saruchera, M.	Contesting the Frame: Engaging with South Africa's Anti-Poverty Consensus		Conference Paper
2014	Saruchera, M.	Implementing water science research to B.efit all. Editorial	Physics and Chemistry of the Earth, 67-69	Journal Article
2013	Saruchera, M.	IntroDuction: Agrarian Change, Rural Poverty and Land Reform in South Africa since 1994	Journal of Agrarian Change	Journal Article
2007	Saruchera, M.	Land and agrarian reform in integrated development plans (IDPs)		Research Report
2009	Saruchera, M.	More than socially embedded: The distinctive character of "communal tenure" regimes in South Africa and its implications for policy		Book Chapter
2003	Saruchera, M.	Need, greed and politics: Transformation in the fishing inDustry	South African Labour Bulletin	Journal Article
2004	Saruchera, M.	Poverty alleviation and biodiversity conservation: a South African perspective	Oryx	Journal Article
2007	Saruchera, M.	Schmidtsdrift community land claim		Research Report
1998	Shackleton, Charles mm; Von Maltitz, Graham; Evans, Jeremy	Factors, conditions and criteria for successful management of natural resources held under a common property regime: A South African perspective	PLAAS Occasional Papers	Occasional Paper

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2015	Sukume, Chrispin; Mavedzenga, B; Murimbarina, F	Space, Markets and employment in agricultural development: Zimbabwe	SMEAD Policy Brief	Policy Brief
2015	Sulle, E.	Agrarian struggles over resources: Insights from two sugarcane plantations in Mozambique		Book Chapter
2008	Sulle, E.	Beyond the numbers: Understanding the value of vegetation to rural livelihoods in Africa	Geoforum	Journal Article
2012	Sulle, E.	Biofuels Investments in Tanzania Policy Options for Sustainable Business Models	The Journal of Environment & Development	Journal Article
1999	Sulle, E.	Causes of degradation: The role of people		Book Chapter
2013	Sulle, E.	Food and Nutritional Security in South Africa – An Agro-Food Systems Perspective		Conference Paper
2013	Sulle, E.	In the Shadow of Policy: Everyday Practices in South Africa's Land and Agrarian Reform		Book
2010	Sulle, E.	Integrating Poverty and Environmental Concerns into Value-Chain Analysis: A Strategic Framework and Practical Guide	Development Policy Review	Journal Article
2015	Sulle, E.	Land Divided, Land Restored : Land Reform in South Africa for the 21st Century		Book
2000	Sulle, E.	Land theme paper	SLSA Working Paper	Working Paper
2014	Sulle, E.	Opportunities and Challenges in Tanzania's Sugar Industry: Lessons for SAGCOT and the New Alliance	FAC Policy Brief	Policy Brief
2003	Sulle, E.	Submission to the Parliamentary Portfolio Committee into a Comprehensive Social Security System for South Africa	Parliamentary Submission	Parliamentary Submission
2000	Sulle, E.	Sustainable Livelihoods in Southern Africa: Institutions, Governance and Policy Processes	SLSA Working Paper	Working Paper
2013	Sulle, E.	Tanzania: Why land grabs are a threat to land rights		Conference Paper
2015	Sulle, E.	The Alliance for a Green Revolution in Africa (AGRA) and the occupation of the Guinea Savannah		Conference Paper
2007	Sulle, E.	The impact of land restitution & land reform on livelihoods		Research Report
2002	Sulle, E.	The social and economic structure of livestock proDuction	Cattle ownership and	Journal Article

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2015	Sulle, E.	Through a glass darkly: Towards Agrarian reform in South Africa		Book Chapter
2015	Sulle, E.	Who, what, where, how, why? The many disagreements about land redistribution in South Africa		Book Chapter
1996	Tapela, B.	Conflict Management for Multiple Resource Users in Pastoralist and Agro-Pastoralist Contexts	IDS Bulletin	Journal Article
2009	Tapela, B.	Crew members in South Africa's squid inDustry; whether they have B.efitted from transformation and governance reforms	Marine Policy	Journal Article
2010	Tapela, B.	Impact of Fisheries Co-Management on Livelihoods and Conservation in Southern Africa		Conference Paper
2014	Tapela, B.	Inclusive business models in agriculture? Learning from smallholder cane growers in Mozambique	FAC Policy Brief	Policy Brief
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2006	Tapela, B.	Nesting Participatory Fisheries Management Within District Decentralisation: Case of Mangochi District, Malawi		Conference Paper
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2011	Tapela, B.	Rights without Illusions: The The Potential and Limits Potential and Limits Rights Rights-Based Approaches to Securing Land Tenure in South Africa	PLAAS Working Papers	Working Paper
2012	Tapela, B.	Support for smallholder farmers in South Africa: Challenges of scale and strategy	Development Southern Africa	Journal Article
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2015	Tapela, B.	The State and foreign capital in agricultural commercialization in Tanzania: the case of Kilombero Sugar Company		Book Chapter
2000	Tapela, B.	Towards a national implementation strategy for land redistribution.		Conference Paper
2007	Taylor, M.	Rangeland tenure and pastoral development in Botswana:	Community Based Natural	Occasional Paper

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2007	Tilley, Susan	eMpangisweni community trust claim		Research Report
2007	Tilley, Susan	International comparative study of strategies for settlement support provision to land reform B.eficiaries		Research Report
2007	Tilley, Susan; Nkazane, Ntombizabantu	Bakwena ba Mare a Phogole (Klipgat) community restitution claim		Research Report
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2002	Turner, S.	Land & agrarian reform in South Africa: A status report		Research Report
1999	Turner, S.	Land rights and land administration in the Herschel and Maluti Districts, Eastern Cape	PLAAS Occasional Papers	Occasional Paper
2005	Turner, S.	Livelihoods & sharing: Trends in a Lesotho village, 1976–2004		Research Report
1999	Turner, S.	Sustainable adoption of land restoration technologies: When, why and how?	PLAAS Occasional Papers	Occasional Paper
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2004	Wegerif, Marc	A critical appraisal of South Africa's market-based land reform policy: The case of the Land Redistribution for Agricultural development (LRAD) programme in Limpopo		Research Report
2015	Weinberg, Paul	Umhlaba 1913-2013: Images from the exhibition commemorating the centenary of the Natives Land Act of 1913		Book
2015	Weinberg, Tara	The contested status of 'communal land tenure' in South Africa	Rural Status Report	Research Report
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		Constituting the Commons in the New South Africa		
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2014	Williams, Ethan	Changes in South Africa's global agricultural trade regime, 1996–2013	PLAAS Working Papers	Working Paper
2003	Wisborg, Paul; Rohde, Rick	TRANCRAA & communal land rights: Lessons from Namaqualand		Policy Brief
2015	Zamchiya, P.	Commercial Farming and Agribusiness in South Africa and Their Changing Roles in Africa's Agro-Food Systemm		Conference Paper
2013	Zamchiya, P.	Farm Workers and Farm Dwellers in Limpopo Province, South Africa	Journal of Agrarian Change	Journal Article
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2015	Zamchiya, P.	Large-scale land deals in Southern Africa: Voices of the people		Book
2009	Zamchiya, P.	Piloting alternatives in the Breede River Winelands		Book Chapter