

*Full Length Research Paper*

## Economy-wide effects of drought on South African Agriculture: A computable general equilibrium (CGE) analysis

Sifiso Ntombela<sup>1\*</sup>, Bonani Nyhodo<sup>2</sup>, Simphiwe Ngqangweni<sup>2</sup>, Heidi Phahlane<sup>3</sup> and Moses Lubinga<sup>1</sup>

<sup>1</sup>Department of Public Enterprises, University of Pretoria, South Africa.

<sup>2</sup>National Agricultural Marketing Council, South Africa.

<sup>3</sup>Department of Agriculture, Forestry and Fisheries, South Africa.

Received 24 August, 2016; Accepted 19 October, 2016

South Africa's agricultural sector is comprised of livestock, field crops and fruit in their order of size, in gross value terms. Agriculture in South Africa accounts for a relatively low share in the economy (3% of gross domestic product - GDP), 6% of employment and about 10% of exports (over R144 billion in 2015). Currently (2015/16), South Africa is experiencing the worst drought in over 100 years, which has resulted in significant effects on agriculture, with eight of the nine provinces being declared disaster areas. The motivation of the study was to understand the severity of drought on agriculture as well the impact on the whole economy (to quantify the economy-wide effects/losses emanating from the drought). To quantify these effects a single-country computable general equilibrium (CGE) model was used. Four scenarios were developed: Impact of field crops losses; impact of livestock losses; impact of aggregated agriculture losses; and impact of aggregated agriculture losses plus drought relief. The analysis shows that all scenarios led to a negative impact on GDP, employment and exports while the drought relief was found to have saved some jobs, albeit not significantly.

**Key words:** Drought, computable general equilibrium (CGE) model, field crops, livestock and fruit, GEMPACK.

### INTRODUCTION

Based on gross value of production, South Africa's agricultural sector is comprised of livestock (e.g. beef, poultry, game, sheep and others) as the biggest sub-sector, followed by field crops (e.g. maize, wheat, sugar, beans, barley, sorghum and oilseeds) and fruit (e.g. fruits, nuts, flowers and vegetables). Agriculture accounts a relatively small share in the economy (3% of GDP),

6% of employment and about 10% of exports (over R144 billion in 2015) (StatsSA, 2015). From a developmental viewpoint, agriculture plays a pivotal role in ensuring food security and providing jobs for low skilled people in the country. Furthermore, agriculture provides raw materials to secondary sectors such as manufacturing and retail which reduces the country's dependency on international

\*Corresponding author. E-mail: [sifiso.ntombela@dpe.gov.za](mailto:sifiso.ntombela@dpe.gov.za).

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

# Economics Of African Agriculture

**David C. Catt**



## **Economics Of African Agriculture:**

Recognizing the showing off ways to get this ebook **Economics Of African Agriculture** is additionally useful. You have remained in right site to begin getting this info. acquire the Economics Of African Agriculture member that we provide here and check out the link.

You could purchase lead Economics Of African Agriculture or acquire it as soon as feasible. You could speedily download this Economics Of African Agriculture after getting deal. So, next you require the ebook swiftly, you can straight get it. Its in view of that enormously easy and appropriately fats, isnt it? You have to favor to in this expose

[http://www.pet-memorial-markers.com/data/virtual-library/index.jsp/experimental\\_architecture\\_in\\_los\\_angeles.pdf](http://www.pet-memorial-markers.com/data/virtual-library/index.jsp/experimental_architecture_in_los_angeles.pdf)

## **Table of Contents Economics Of African Agriculture**

1. Understanding the eBook Economics Of African Agriculture
  - The Rise of Digital Reading Economics Of African Agriculture
  - Advantages of eBooks Over Traditional Books
2. Identifying Economics Of African Agriculture
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Economics Of African Agriculture
  - User-Friendly Interface
4. Exploring eBook Recommendations from Economics Of African Agriculture
  - Personalized Recommendations
  - Economics Of African Agriculture User Reviews and Ratings
  - Economics Of African Agriculture and Bestseller Lists
5. Accessing Economics Of African Agriculture Free and Paid eBooks

- Economics Of African Agriculture Public Domain eBooks
- Economics Of African Agriculture eBook Subscription Services
- Economics Of African Agriculture Budget-Friendly Options
- 6. Navigating Economics Of African Agriculture eBook Formats
  - ePub, PDF, MOBI, and More
  - Economics Of African Agriculture Compatibility with Devices
  - Economics Of African Agriculture Enhanced eBook Features
- 7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Economics Of African Agriculture
  - Highlighting and Note-Taking Economics Of African Agriculture
  - Interactive Elements Economics Of African Agriculture
- 8. Staying Engaged with Economics Of African Agriculture
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Economics Of African Agriculture
- 9. Balancing eBooks and Physical Books Economics Of African Agriculture
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Economics Of African Agriculture
- 10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
- 11. Cultivating a Reading Routine Economics Of African Agriculture
  - Setting Reading Goals Economics Of African Agriculture
  - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Economics Of African Agriculture
  - Fact-Checking eBook Content of Economics Of African Agriculture
  - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
  - Utilizing eBooks for Skill Development

- Exploring Educational eBooks

### 14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

## Economics Of African Agriculture Introduction

In the digital age, access to information has become easier than ever before. The ability to download Economics Of African Agriculture has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Economics Of African Agriculture has opened up a world of possibilities. Downloading Economics Of African Agriculture provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Economics Of African Agriculture has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Economics Of African Agriculture. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Economics Of African Agriculture. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Economics Of African Agriculture, users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Economics Of African Agriculture has transformed the way we access information. With the convenience, cost-

effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

### **FAQs About Economics Of African Agriculture Books**

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Economics Of African Agriculture is one of the best book in our library for free trial. We provide copy of Economics Of African Agriculture in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Economics Of African Agriculture. Where to download Economics Of African Agriculture online for free? Are you looking for Economics Of African Agriculture PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Economics Of African Agriculture. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Economics Of African Agriculture are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Economics Of African Agriculture. So depending on what exactly

you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Economics Of African Agriculture To get started finding Economics Of African Agriculture, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Economics Of African Agriculture So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Economics Of African Agriculture. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Economics Of African Agriculture, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Economics Of African Agriculture is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Economics Of African Agriculture is universally compatible with any devices to read.

### **Find Economics Of African Agriculture :**

~~experimental architecture in los angeles~~

~~excellence in word problems yr 1~~

existence space architecture

exhibition of a collection of old japan

exercise physiology for health care professionals

**expansive prayer reflections for all seasons**

**experimental headache models**

~~exhibitions universal marketing tools.~~

excerpts from a family medical dictionary

*executive temp a career management guide and on-the-job handbook for the temporary manager*

**experiencing choral music advanced sight singing**

**exercices de grammaire nouveaux exercices de grammaire**

**expectant bride-to-be here comes the brides**

*exotic appetites*

~~executive timetable winter 9495~~



web tally erp 9 complete video course year 2020 hindi this course comes with a live project so that students can learn from a scratch to prepare a complete accounts in tally erp i will teach you how to start with tally from zero to finalization of balance sheet of a live business organisation

web description learn tally basics the easy way that too in hindi language you will learn tally starting from intro to gst

understanding the difference between manual accounting and tally as well as how to download tally erp 9 till creating the purchase and sales bills with cash credit with automatic gst that too in 3 methods as well as

**amazon com straight jacket clothing shoes jewelry** - Oct 21 2022

web straight jacket costume for kids insane asylum jacket for boys girls psych ward patient outfit for halloween

*straightjacket shop etsy* - Apr 14 2022

web check out our straightjacket shop selection for the very best in unique or custom handmade pieces from our restraints gags shops

**straightjacket english meaning cambridge dictionary** - Feb 22 2023

web straightjacket straightly straightness strain strain after for effect idiom to top contents 1 a straitjacket 2 a straitjacket 3 a straitjacket

**straight jacket photos and premium high res pictures getty** - May 16 2022

web editorial video straight jacket man man in straight jacket person in straight jacket woman in straight jacket 1 115

straight jacket stock photos high res pictures

**straight jacket etsy uk** - Sep 19 2022

web check out our straight jacket selection for the very best in unique or custom handmade pieces from our restraints gags shops

**amazon com straight jacket** - Mar 26 2023

web amazon com straight jacket 1 48 of over 5 000 results for straight jacket results price and other details may vary based on product size and color forum novelties men s straight jacket costume pick size 250 100 bought in past month 4751 free delivery mon oct 2 fun costumes

**urban dictionary straight jacket** - Mar 14 2022

web dec 8 2007 a term for gay people to use when they have to hide their homosexuality for some reason

**straight jackets for women up to 77 off lyst** - Jan 24 2023

web shop women s straight jackets 9 913 items on sale from 43 widest selection of new season sale only at lyst com free shipping returns available

the ultimate test the official straitjacket escape challenge - Jan 12 2022

web aug 16 2022 like and subscribe for more content to check out asylum aspire asylumaspire com for more allmylinks com lucidlavender straitjacket escapology gam

**straitjackets the history of an archaic restraint device** - Apr 26 2023

web may 10 2022 made of thick material bound by laces and extending overlong arms around the back the straitjacket is

web a straitjacket is a garment shaped like a jacket with long sleeves that surpass the tips of the wearer s fingers its most typical use is restraining people who may cause harm to themselves or others

web straitjacket

web a strong piece of special clothing that ties the arms to the body and is used for limiting the movements of dangerous prisoners and mentally ill patients whose behaviour is violent

web aug 29 2019 available here [etsy com uk shop straitjacketshop](#)

web straitjacket 1 of 2 noun strait jack et 'strāt ja kət variants or less commonly straightjacket synonyms of straitjacket 1 a cover or overgarment of strong material such as canvas used to bind the body and especially the arms closely in restraining a violent prisoner or patient 2 something that restricts or confines like a straitjacket

web n 1 a garment made of strong material and designed to bind the arms as of a violent person 2 anything that severely confines or constricts v t 3 to put in or as if in a straitjacket 1805 15

web there are many different types of straight jacket sold by sellers on etsy some of the popular straight jacket available on etsy include straight jacket costume straight jacket shop straightjacket and even straight jacket full body

web tr v strait jack et ed strait jack et ing strait jack ets also straight jack et ed or straight jack et ing or straight jack ets to restrain restrict or hinder by or as if by confining in a straitjacket american heritage dictionary of the

web sep 26 2023 a straitjacket is a special jacket used to tie the arms of a violent person tightly around their body occasionally his behavior became so uncontrollable that he had to be placed in a straitjacket 2 countable noun if you describe an idea or a situation as a straitjacket you mean that it is very limited and restricting

from asylums to anarchy the straitjacket and popular culture - May 28 2023

web dec 15 2022 the straitjacket is the paradigmatic symbol of madness from the simpsons to eminem s music videos this evocative object continues to resonate across popular culture despite its historical association with the brutal treatments of the 19th century asylum

*les bases de javascript apprendre le développement web mdn* - Oct 04 2022

web comme cet article est une introduction simplifiée à javascript nous n'allons pas compliquer les choses à ce stade en entrant dans les détails sur les différences entre le cœur du langage javascript et les différents outils cités plus haut

javascript pour les web designers n 20 by amazon ae - Feb 08 2023

web buy javascript pour les web designers n 20 by online on amazon ae at best prices fast and free shipping free returns cash on delivery available on eligible purchase

*javascript pour les web designers n 20 paperback* - Dec 06 2022

web isbn 10 2212674082 isbn 13 978 2212674088 dimensions 14 2 x 1 3 x 21 5 cm customer reviews 4 2 4 2 out of 5 stars35 ratings how customer reviews and ratings

**javascript pour les web designers pdf pdfdrive** - Aug 14 2023

web contact table of content résumé au fil de nombreux exemples pratiques initiez vous aux règles de syntaxe aux fondamentaux des scripts ainsi qu'à la gestion des types de données et des boucles

*javascript mdn mdn web docs* - Sep 03 2022

web javascript souvent abrégé en js est un langage de script léger orienté objet principalement connu comme le langage de script des pages web mais il est aussi utilisé dans de nombreux environnements extérieurs aux navigateurs web tels que node js apache couchdb voire adobe acrobat

javascript pour les web designers a book apart n 20 google play - Jun 12 2023

web javascript pour les web designers a book apart n 20 ebook written by mat marquis read this book using google play books app on your pc android ios devices download for offline

*etude infoq des tendances javascript et développement web pour* - Feb 25 2022

web apr 10 2020 ce mois ci nous nous intéressons à l'environnement javascript et développement web un secteur en perpétuelle évolution et qui nécessite des mises à jour fréquentes

**javascript pour les web designers na 20** - Aug 02 2022

web javascript pour les web designers na 20 html5 for web designers oct 02 2021 html5 is the longest html specification ever written it is also the most powerful and in some ways the most confusing what do accessible content focused standards based web designers and front end developers need to know

**javascript pour les web designers a book apart n 20 google** - Mar 09 2023

web respirez un grand coup et prenez votre courage à deux mains mat marquis est ici à vos côtés pour vous offrir une visite rapide mais efficace de ce langage aujourd'hui

*notre premier code javascript apprendre le développement web* - Apr 29 2022

web notre premier code javascript maintenant que vous avez appris quelques éléments théoriques sur le javascript et ce que vous pouvez faire avec nous allons vous donner un cours intensif sur les fonctionnalités basiques du javascript avec un tutoriel entièrement pratique vous allez construire un jeu simple étape par étape

javascript pour les web designers na 20 pdf uniport edu - Jul 01 2022

web jul 14 2023 javascript pour les web designers na 20 1 16 downloaded from uniport edu ng on july 14 2023 by guest

javascript pour les web designers na 20 recognizing the artifice ways to acquire this ebook javascript pour les web designers na 20 is additionally useful

*javascript pour les web designers n 20 by mat marquis* - Mar 29 2022

web du dynamisme au site ce nouveau tome de la collection a book apart propose un tour d'horizon rapide mais efficace de ce langage essentiel à travers de très nombreux exemples pratiques qui permettront aux web designers de s'initier aux règles de syntaxe aux fondamentaux des scripts et à la gestion des types de données et des boucles

javascript pour les web designers archives d'anna - Apr 10 2023

web marquis javascript pour les web designers n 20 pdf extension pdf filesize 11 6 mb 11573942 b title javascript pour les web designers author marquis mat publisher eyrolles edition series info 2017 year 2017 language

**javascript pour les web designers na 20 luke wroblewski** - Jan 27 2022

web to download and install the javascript pour les web designers na 20 it is categorically simple then before currently we extend the belong to to buy and make bargains to download and install javascript pour les web designers na 20 thus simple javascript data structures and algorithms sammie bae 2019 01 23

*javascript pour les web designers n 20 a book apart* - Sep 15 2023

web javascript pour les web designers n 20 a book apart marquis mat amazon com tr kitap

**javascript pour les web designers mat marquis librairie eyrolles** - Jan 07 2023

web javascript pour les web designers mat marquis librairie eyrolles ajouter à une liste librairie eyrolles paris 5e disponible en magasin javascript pour les web designers a book apart n 20 mat marquis collection a book apart 2 avis donner votre avis 150 pages parution le 23 03 2017 livre papier 15 00 livre numérique 10 99

**calaméo extrait javascript pour les web designers** - May 31 2022

web 20 les livres de ceux qui font le web no mat marquis vous avez des sueurs froides dès que vous entendez parler de javascript respirez un grand coup et prenez votre courage à deux mains mat marquis est ici à vos côtés pour vous offrir une

visite rapide mais efficace de ce langage aujourd'hui incontournable javascript pour les web  
*javascript pour les web designers n 20 amazon fr* - Jul 13 2023

web noté 5 retrouvez javascript pour les web designers n 20 et des millions de livres en stock sur amazon fr achetez neuf ou d occasion

**javascript pour les web designers m marquis Éditions eyrolles** - May 11 2023

web j molière java pour les professionnels outils et méthodes l auteur un webdesigner chevronné vous initiera à coder en toute confiance pour rendre vos pages web attractives un tour d horizon du langage pour en

**javascript pour les web designers a book apart n 20 ed 1** - Nov 05 2022

web a book apart n 20 vous avez des sueurs froides dès que vous entendez parler de javascript respirez un grand coup et prenez votre courage à deux mains mat marquis est ici à vos côtés pour vous offrir une visite rapide mais efficace de ce langage aujourd'hui incontournable voir toute la description auteur s marquis mat editeur eyrolles