



## **Climate change and competition law in Limpopo Province rural agricultural activities: Higher education policy and legislative frameworks.**

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### **Abstract**

Heat waves, wildfires, super storms are all clearly reminders of where humanity is right now. The natural balance of the planet is changing, and this is just the beginning. Climate change has taken over the world and it is affecting each sector of the human existence. One of the most important and highly affected sectors is agriculture. The most crucial sector which caters for food consumption of the entire globe. Furthermore, agriculture is at the core of economic development of many countries as it determines food security. Underpinning food systems, agricultural activities constitute an indispensable pillar of sustainable development. This is especially true in South Africa, where the economic, social and environmental opportunities of sustainable agriculture is yet to be fully exploited. Over the last two decades, agriculture has been subject to drastic economic and social evolutions in the country. Considerably, climate change is progressively, but undeniably, changing the environmental, social and economic conditions affecting agriculture. There are many environmental problems that South African government cannot possibly address rapidly or effectively enough alone, the crucial role of private business initiatives in achieving climate and environmental goals reflects the broader paradigm shift that has occurred in global environmental regulation in the past 20 years should be acknowledged (Kingston, 2019). However, the effects of climate change on rural livestock farming (Agricultural activities) depends on many associated factors that can be detrimental to the economic viability and sustainability of livestock production. Therefore, agriculture can be a major contributor to the local economy, if the climatic conditions are favourable. Agriculture has been the backbone of rural economy; therefore, the local municipality should fast track arable land and irrigation schemes (Maluleke & Mokwena, 2017).

The role of private market actors and competition law in combating environmental problems is highly relevant topic for the coming decades, the environmental policy and competition policy has become increasingly intertwined in the recent decades and there is a need for continuous adoption of the law to the 'changing reality' (Kyrklund & Bastidas, 2019). Importantly, climate Change is an existential threat, and competition law must be part of the solution and not part of the problem. How climate change and sustainability can play a part or applied in competition law should made clear. If changes are made, then competition law can cease to be "part of the problem" and become 'part of the solution. The purpose of this study was to explore the effects of climate change and competition law on agricultural activities in the selected rural areas of Limpopo Province, in reference to the higher education policy and legislative frameworks. This study applies a qualitative research design where Six (06)

rural areas; 1) Xikukwani; and 2) Daniel Rababalela villages under Greater Giyani Local Municipality, 3) Tshakhuma under Makhado Local Municipality, 4) Moletjie Ga-Legodi village under Capricorn Local Municipality, 5) Medingen Village under Greater Letaba Local Municipality, and; 6) Nghezimani village under Collins Chabane Local Municipality. The results of the study will inform policy on how the competitive law can readdress the gasping void created by the effects of climate change on agricultural activities in the selected rural areas of Limpopo Province, South Africa.

*Keywords: Agricultural activities, Climate change, Competition Commission, Competition law, Commission policy, Higher education policy, Legislative frameworks, Local municipalities, Rural areas*

## Introduction

Climate change and variability threaten the sustenance of livelihoods and hinder efforts to eradicate poverty and food insecurity (Maziya, Nkonki-Mandleni, Mbizana & Tirivanhu, 2024). Sinore and Wang (2024) shares that the floods and droughts, which happen more frequently and intensely, significantly and negatively influence agricultural production, Sabola (2024) contends that climate change has been a significant threat to sustainable agriculture impacting trade and food security. The impacts of climate change on agricultural trade and food security in emerging economies in Southern African rural areas are limited, while merging the effects of climate change and competition law on agricultural activities. Climate change is commonly regarded as an increase in the concentration of so-called Greenhouse Gases (GHGs). Several gases that normally occur in the atmosphere in relatively small quantities, such as water vapour, Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxides (Noxs) and Chlorofluoro Carbons (CFCs) allow shortwave solar radiation to reach the earth's surface, however, tend to absorb the long-wave radiation emitted from the earth's surface. This absorption leads to warming of the lower atmosphere, creating the temperatures we experience. Without this, the earth would be considerably colder than is currently the case (Kgakatsi, Sebola, Barnard, Motsepe, Morakile, Mugeru & Manyakanyaka, 2012). Equally, Kgakatsi, Barnard, de Villiers Morakile, Motsepe and Mugeru (2006) state that climate change refers to any change in climate over time, whether due to natural variability or because of human activity. Either way, the climate system is extremely complex and relatively poorly understood. This is notably so in terms of extent, timing and impact. One of the most affected sectors by climate change is the agriculture. Agriculture production is dependent on climatic and weather conditions but now-days increasing in temperature, precipitation, and CO<sub>2</sub> concentration directly affects crop production (Gupta, Yadav, Gupta, Gupta, Ranjan & Badhai, 2020).

The changing global climate, characterised by rising surface air temperatures, shifting precipitation patterns, and heightened occurrences of extreme weather events, is anticipated to profoundly impact the environment, economy, and society worldwide. This impact is particularly acute in African nations like Angola (South African rural areas included), where crucial sectors, such as agriculture, rely heavily on climate variability and exhibit limited adaptive capacity (Correia, Amraoui & Santos, 2024). Climate change is a recognised universal truth all around the globe with concomitant adverse impacts on water resources, agriculture production, biodiversity, human and animal health, forest systems, and socio-economic sectors. It is anticipated that the developing and undeveloped States will undergo severe and profound changes because of global climate change as compared to the developed nations. At the societal level, the commonplace citizens especially the poor will suffer the mostly and ensure the devastating repercussions of climate change owing to the dearth of resources and poor access to the information (Syeda, Raza, Bhatti & Eash, 2022). According Madzivhandila and Aklilu Asha (2024), There is growing recognition that climate change is a worldwide phenomenon with far-reaching effects and that it is linked to an increase in the frequency of extreme weather occurrences. In rural areas of most of the sub-Saharan countries and other developing countries in the world, the frequent occurrences of extreme weather events such as flooding, heat waves, and drought have significantly destroyed livelihood activities of poor communities. Unfavorable geographic characteristics, a lack of resources, and a higher reliance on climate-sensitive sources of income among many community members in poor nations all contribute to the impact. These include livelihood activities associated with land use and agricultural activities.

South Africa for example, is particularly vulnerable to climate variability and climate change as farming depends largely on the quality of the rainy season. Fluctuations in areas planted to arable crops and annual yield are directly related to climate conditions and notably to rainfall and rainfall pattern. According to scenarios on climate change, rainfall over most of the country could decrease; temperature could increase; runoff into main river systems could be reduced; veld cover and composition could deteriorate significantly; and the frequency of wildfires could increase. Perturbations in climate parameters and notably of rainfall could be largely amplified by the hydrological system. Climate change may affect agriculture at both local and regional scales, with the following key impacts selected, changes in agricultural productivity, impacts to soil and water resources and agricultural workers' health,

United States Environmental Protection Agency [US EPA] (2025). Ashraf, Ashraf, Imran and Akhter (2022) reveal that climate change is one of the most influential factors that affect agriculture production, and its impact has rapidly increased over the years. It has also affected the production of major crops like cotton, wheat, maize, rice and other agricultural activities, amongst others. Like South Africa, Ethiopia is a rainfall-based agricultural country that is susceptible to the impacts of climate change and risk (Sinore & Wang, 2024).

According to the Food and Agriculture Organisation [FAO] (2015), climate change threatens to reverse the progress made to fight against hunger and malnutrition. As highlighted by the assessment report of the Intergovernmental Panel on Climate change (IPCC), climate change augments and intensifies risks to food security for the most vulnerable countries and populations. The following Four (04) out of the Eight (08) key risks induced by climate change identified by IPCC have direct consequences for food security:

- Loss of rural livelihoods and income.
- Loss of marine and coastal ecosystems, and livelihoods.
- Loss of terrestrial and inland water ecosystems, and livelihoods.
- Food insecurity and breakdown of food systems (FAO, 2015).

South African climate change is unique and takes three forms: excessive heat, floods and sporadic wildfires. Climate change is not only affecting human beings; it is a challenge across the board. The challenges apply to nature, the environment and any creature in the universe. However, the main role player in managing this appropriately remains human beings (Mokwena, 2024). Mokwena and Maphaka (2025) highlights that the environmental unsustainability becomes constantly aggressive Globally and that causes threats to human life and nature in general. Climate change consists of multivariant like storms, heatwaves, floods, and earthquakes and all these are caused by human pollution to the environment. Change in climate increase the incidence of pests and diseases, which causes a huge loss in crop production. Due to climate change deterioration in soil fertility, promote salinity, defiance many pesticides, herbicides and deterioration of irrigation water quality should be found (Gupta *et al.* 2020).

Maluleke, Tshabalala and Barkhuizen (2020) establishes that the loss and damage related to the contrary effects of climate change are insufficiently applied in the chosen rural areas of Limpopo Province. The local and regional collaborations by the responsible spheres of government are not strengthened and promoted, leading to inefficient strategies and approaches to addressing related conditions. Therefore, the significance of risk transmission and dissemination via regional cooperation regarding climate change adaptation are pivotal in rural settings. For policy considerations, the White Paper for Post-School Education and Training [WP-PSET] (2013)' seeks to promote access of students in Universities. It was shared that through the Central Applications Service (CAS), South African government seek to improve access of students to universities and other institutions of higher learning. Students are to be given information through CAS that will help them in making pre-admission decisions. With the use of CAS, students need not to make applications to multiple institutions, as information and support will be given to them based on what they need to study. The system is considered to be beneficial because it reduces the cost that students have to incur by paying simultaneous application handling fee on various institutions (WP-PSET, 2013). Equally, the 'equity of access' should be provided, as students who are coming from disadvantaged backgrounds or attached to the Historically Disadvantaged Institutions (HDIs) may find it difficult to pay application fees to various institutions.

Therefore, some benefits promoted by CAS is the redirection of students who are not accepted in one institution to another (WP-PSET, 2013). Equally, the National Qualifications Framework [NQF] Act (No. 67 of 2008) also seeks to promote access and equity of students in higher learning by improving the quality of education as well as training of students; and also, by eradicating past discrimination of students who are coming from disadvantage communities. Hay and Monnapula-Mapesela (2009) provide that equity can be promoted by providing National Student Financial Aid Scheme (NSFAS) to economically disadvantage students to enrol in the South African Higher Education Institutions (HEIs) and also through the provision of the extended curricula programme to increase chances of students to obtain their degrees. Therefore, the hanging is; what is the connection of climate change and competition law.

Practically, Limpopo Province is one of South Africa's richest agricultural areas. It is a major producer of vegetables. The subtropical climate enjoyed by much of the province gives rise to the cultivation of tea, coffee and fruits, especially tropical fruits. Forestry makes a major contribution to the economy, as do tobacco, sunflower, wheat, cotton, maize, groundnuts and livestock farming practices (Maponya & Mpandeli, 2012). Climate Change is having devastating effects on agriculture in Limpopo Province. This study is structured as follows: Introduction and background, methodology, literature review, findings and discussions, as well as conclusions and recommendations.

## Preliminary literature review

### **Legislative frameworks: Climate Change Bill No. 45299, Climate Change Act (No. 22 of 2024), Competition Commission, competition law and policy linkage**

This section discusses the linkage between Climate Change Bill No. 45299 and Climate Change Act (No. 22 of 2024), Competition Commission, legislative framework (competition law), policy (competition policy), as used to redress the effects of climate change on agricultural activities in South Africa, with the selected rural areas of Limpopo Province included. Their importance to the agricultural sector are also highlighted. The Climate Change Bill No. 45299, enables the development of an effective climate change response and a long-term, just transition to a low-carbon and climate-resilient economy and society for South Africa in the context of sustainable development and related concerned matters (South Africa, 2021), this is in reference the Climate Change Act, 2024, which present the development of an effective climate change response and a long-term, just transition to a low-carbon and climate-resilient economy and society for South Africa in the context of sustainable development; and to provide for matters connected therewith (South Africa, 2024). This landmark legislation aims to guide the country towards a low-carbon and climate-resilient future, aligning South Africa with global efforts to combat climate change (Nel, 2024). The Preamble sections of the Bill and this Act collaboratively provides that everyone has the Constitutional right to an environment that is not harmful to their health and well-being, and such individual should have his/her environment protected for the benefit of present and future generations, through reasonable legislative and other measures that secure ecologically sustainable development, as well as the use of natural resources; while promoting justifiable economic, social development, prompted by the fact that the anthropogenic climate change in South Africa represents an urgent threat to human societies and the planet, requiring for effective, progressive and incremental responses (South Africa, 2024). Overall, the Competition Commission aligns with Chapter 2 (policy alignment and institutional arrangements), while the study topic resonates with Chapter 3 (climate change response: Provinces and municipalities) of this Act (South Africa, 2024), while guided by the following key highlights and scope of this Act: National/sector adaption strategy and plan, Greenhouse gas emissions trajectory, Sector and sub-sector targets, Greenhouse gas activities, Carbon budgets and Synthetic greenhouse gas emissions (Nel, 2024).

From the deficiencies identified from the Competition Commission, as well as the relevant Act and policy measures prompted incorporations of advancing the agricultural sector, with steps taken to stay on par with necessary implementations. It is submitted that the process of adherence to the set standards should be improved to arrive at a simplistic approach to addressing the challenges affecting this sector, suing climate change as a standpoint. The approaches applied by relevant stakeholders towards redressing this practice in South African rural communities, while adhering to the cited Competition Commission, legislation and policy remains a priority in an agricultural arsenal.

### **The importance of agricultural activities and effects of climate change in South African rural areas**

Agriculture contributes only about 2% to the Growth Domestic Product (GDP) of South Africa but it is considered an important engine for the growth of the rest of the economy because of its backward and forward linkages to the economy. This sector has been identified as one of the key sectors that could contribute towards the greening of the South African economy. The realisation of this potential is, however, threatened by changing climatic conditions caused by the global climate, Department of Agriculture, Land Reform and Rural Development [DALRRD] (2022). Nsomba, Roberts and Tshabalala (2021) and Competition Commission South Africa (2020) present that the agricultural sector is key to fostering economic growth, reducing poverty and improving food security and safety, as well as environmental concerns, therefore; competition policy and law should meet the challenges resulting from climate change on agricultural activities in rural areas. Agriculture is one of the fundamental activities in the community, calling for a provision of the competition law to redress the effects of climate change on agricultural activities in South African rural areas and this sector has never been separated from laws and policies, European Community (1987). Simbi (1998) submits that agriculture in South Africa has a central role to play in building a strong economy and, in the process, reducing inequalities by increasing incomes and employment opportunities for the poor, while nurturing our inheritance of natural resources.

The South Africa Yearbook (2019/2020) states that the agricultural sector in South Africa faces several challenges and considerable impact from climate change, which affects the livelihoods of most people, especially those who are vulnerable to food insecurity. Competition News (2008) highlights that agriculture plays an important role in the South African economy contributing to production of food, employment creation, the supply of raw materials to the agro-industrial processing and manufacturing sectors, and foreign exchange income

through exports. South Africa responds to international obligations regarding climate change through various government departments. The effects of climate change relate to many 'drivers' in the South African agricultural sector with wide-ranging repercussions, thus; the relationship between climate information and competition law is equally important for optimising agricultural practices and daily operational planning, Department of Agriculture, Forestry and Fisheries [DAFF] (2015).

African countries face multiple challenges of adapting to the growing effects of climate change in the shape of extreme and typical weather patterns, increasing agriculture and food production as part of developing their rural economies (Roberts, 2023). Climate change poses extensive risks to the environment and livelihoods owing to long-term alteration of droughts, floods and variable rainfall and turbulent temperature, equally; the climate change performance index reveals that South Africa is ranked 44<sup>th</sup> out of 63 countries as it scored low in climate policy, Agriculture Sector Education Training Authority [AgriSETA] (2020/21-2024/25).

The South Africa's agriculture is particularly vulnerable to climate change, as productive farming is affected directly by the quality of the rainy season, by temperature, climate variability, extreme weather events and CO<sub>2</sub> concentrations in the atmosphere and these impacts extend beyond food shortages and negatively affect national economies by reducing the country's ability to export crops and generate foreign revenue, while food has to be imported (DAFF, 2018). For agricultural activities to be modernised and thrive, industrialisation and economic transformations remains crucial to respond to the increasing devastating impacts of climate change. Moreover, although African agricultural systems are highly reliant on their environment, their diversity, context specificity, and the existing generations of traditional knowledge offer elements of resilience in the face of climate change. The combination of climatic and non-climatic drivers and stressors will likely exacerbate the vulnerability of Africa's agricultural systems to climate change, but the impacts will not be universally felt, as rural areas are most vulnerable, in reference; many African communities lack the capacity to cope with, or adapt to, the negative impacts of climate change (Pereira, 2017).

According to Department of Rural Development and Land Reform [DRDLR] ([Sa]), rural areas, generally, suffer from 'thin' markets, while the formal market structures at the national level tend to prevent new and small producers out of the richer areas of the country. Within the former homelands, for example; low incomes limited local demand, making it difficult for local producers to enter the market and fairly compete with manufactured goods trucked in from the formal urban and peri-urban sectors. The underdevelopment of local production and products was reinforced by weaknesses in rural market institutions and infrastructure. As a result, individual producers find it difficult and expensive to access inputs, capital and skills as well as sales outlets, which are generally located in the urban areas. In turn, limited local demand makes it less worthwhile for private investors and producers to set up marketing institutions in rural areas (DRDLR, [Sa]). It is clear that rural areas and their economies did not benefit from historical land reform conducted during the long years of colonialism and apartheid. Therefore, a dire need to change the laws, policies, regulations and rules if the rural markets are to support wider participation and long-term investment and realise a different quality of growth. The need to make changes is even more critical given the evident effects of climate change on agricultural production (Roberts, 2017).

### **The linkage of Competition Commission to the agricultural sector**

Majola and Bove (2022) share that the mandate of the Competition Commission is a statutory body constituted in terms of the Competition Act, 1998 by the Government of South Africa empowered to investigate, control and evaluate restrictive business practices, abuse of dominant positions and mergers in order to achieve equity and efficiency in the South African economy by promoting and maintaining competition in order to achieve the following aspects: 'promoting efficiency and development of the economy; providing consumers with competitive prices and product choices; ensuring Small and Medium Enterprises (SMEs) an equitable opportunity in the economy; advancing economic welfare of South Africans; expanding opportunities for South African participation in world markets, and; promoting greater spread of ownership, in particular Historically Disadvantaged People (HDPs), guided by the following functions 'enforcement, mergers and acquisitions, as well as market inquires and advocacy.' One of the ways in which the Competition Commission deals with the concentration of markets is through the control of mergers and acquisitions.

The Commission is required to assess all mergers that meet the required threshold before they are implemented. When mergers are being evaluated, the Commission investigates, amongst other things, the effects of the merger on the competitiveness of Small and Medium Enterprises SMEs and HDPs (including the rural farmers targeting the most vulnerable in our society and this had a positive impact on alleviating poverty. Some of the economic indicators, such as revenue, employment, output, and productivity are enhanced) and can also insist on remedies to proposed mergers. These include the creation of 'Development Funds' for increased

enterprise development and market competitiveness of SMEs and farms owned by HDPs in the markets impacted by the merger (The Competition Commission South Africa, 2024). Werksmans Attorneys (2021) states that the relationship between the Competition Commission of South Africa and National Agricultural Marketing Council (NAMC) ensure that markets in South Africa's agriculture, food and agro-processing sectors operate efficiently and competitively for the benefit of industry, consumers and society in general. This further provides a clear indication that entities participating within the sector will not be able to pursue claims subject to concurrent jurisdictions in court to possibly treat the claim most favourably, but will be confronted by supporting structures addressing potential market failures from competition law perspectives.

#### **Provision of competition law and its support to redress the effects of climate change on agricultural activities**

Positively, the competition law can be employed to help rural farmers to raise productivity, climate-smart agriculture by building resilience, competitiveness and economic diversification, Trade, Industry and Competition (2021). van der Walt (2014) highlights that the South African Competition Act (No. 89 of 1998) affects every business operating in South Africa (agricultural activities included). Lately, more focus is placed on food and agricultural sector by staging several high-profile investigations, with large companies incurring significant losses of revenue due to both litigation costs and penalties imposed by the courts. In South Africa, competition authorities consist of three (03) statutory bodies, 1) The Competition Commission, 2) The Competition Tribunal, and; 3) The Competition Appeal Court (CAC). All established under the South African Competition Act, 1998.

In terms of Section 21 (4) of the Competition Act, 1998, as amended, The Minister of Trade and Industry, in consultation with the Competition Commission, has made regulations relating to the functions of Competition Commission, in consideration of the Competition Second Amendment Act (No. 39 of 2000) operations, The Competition Commission South Africa (2000-2019). As a result, the reform South African competition policy institutions can possibly redress the effects of Climate change on Agricultural Activities in selected rural areas of Limpopo province by promoting employment, empowerment and resources of rural farmers, while dealing with complex structural issues relating to the effects of climate change by adopting competition policy to regulate this sector and reinforce relationships between Competition Commission and agricultural sector largely, focusing on selected rural areas in Limpopo Province, The Competition Commission South Africa (2024). Organisation for Economic Co-operation and Development [OECD] (2019) provides that in terms of Section 2 (changes to Competition Laws or policy, proposed or adopted), Sub-section 2.1(7) 'Amendments to the Competition Act, 1998' - The Competition Act, 1998 was amended to amongst other things to accomplish the following:

"Introduce provisions that clarify and improve the determination of prohibited practices relating to restrictive horizontal and vertical practices, abuse of dominance and price discrimination and to strengthen the penalty regime; to introduce greater flexibility in the granting of exemptions which promote transformation and growth; to strengthen the role of market inquiries and merger processes in the promotion of competition and economic transformation through addressing the structures and de-concentration of markets; to protect and stimulate the growth of small and medium businesses and firms owned and controlled by historically disadvantaged persons while at the same time protecting and promoting employment, employment security," OECD (2019).

#### **The relation between competition law and policy to redress the effects of climate change on agricultural activities**

In essence, according to OECD (2021) the competition law exists in a social context, which often requires a policy mix with complementarities and potential contradictions, however, workable framework for integrating competition law and agricultural sector exists by relying on three (03), namely: 1) Public interest factors in merger assessments, and; 2) Grounds for exemption that are rooted in the country's social objectives; and; 3) The conceptualisation of the Substantial Lessening of Competition test (or SLC test), which, in South Africa, is sufficiently broad so as to allow an assessment of environment factors. The Trade, Industry and Competition (2021) contends that 'the context of competition policy' suggests that the South Africa's competition regime blends traditional competition concerns with developmental outcomes appropriate for the country.

This policy aims to address high levels of economic concentration and promoting effective competition supporting industrialisation, builds dynamic firms, protects and creates jobs and promotes economic inclusion and transformation (agricultural activities in South African rural areas are no exception, together with climate change mitigating systems). This policy also provides a range of tools to increase competitive dynamism, including through regulation of mergers and acquisitions; tackle high concentration and abusive behaviour by dominant companies; proactive measures to open markets and develop a more inclusive and transformed economy; and measures to advance the public interest and complements other industrial policy tools like industrial support and trade policy. To this course, the competition enhances efficiency, promotes innovation and leads to wider product choice and

better quality, thereby improving consumer welfare. Competition policy may play a significant role in achieving sustainable and inclusive growth and development. This note looks into how competition policy and law could foster such goals. Competition policy, if appropriately designed and effectively implemented according to the economic, social and environmental circumstances in a country, is expected to complement other government policies in achieving sustainable and inclusive growth and development, United Nations [UN] (2015).

Worryingly, no explicit agricultural exemption exists in domestic competition law and policy, which resulted in substantial losses within the sector and the aberrance of the South African competition regime in failing to exempt primary agriculture from certain competition law provisions. Furthermore, in South Africa, much of the agriculture sector is characterised by a large number of small, geographically scattered rural farmers who often find it difficult to secure market access individually, as a result, the appropriateness of strict competition laws in light of the fact that South African agriculture is still in a developmental phase and questionable by looking at South African competition policy and implementation, it clearly follows that of the United States (US), the United Kingdom (UK) and some European Union (EU) countries. South African is situated in a very underdeveloped continent competing with countries such as China and many in South America that did not have strong competition laws when they were going through developmental stages (van der Walt, 2014).

Although South Africa's Competition Act, 1998 does not mention environmental sustainability as a desired outcome of implementing competition law, it covers the social objectives that were a priority to the law makers and implementors. Those objectives are mainly rooted on 'employment, black economic empowerment and the development of small and medium sized businesses (agricultural sector in the rural setting included),' these remain a priority in South Africa, as competition agencies were granted additional powers in 2019 to pursue these objectives in the Competition Act, 1998 (OECD, 2021).

Moreover, the South African rural farmers can be provided with equal opportunities to participate fairly in the national economy, while using Competition Commission to investigate, control and evaluate restrictive practices in this sector, as well as responding to abuse of dominant positions and mergers through the establishment of a Competition Tribunal and Competition Appeal Court responsible of adjudicating matters relating to the effects of climate change matters, further stressing a possible role for competition policy as part of a wider reform agenda for redressing the effects of climate change on agricultural activities (Agriculture Sector Education Training Authority, 2020/21-2024/25; UN, 2015). In South Africa, Competition Act, 1998; unlike the competition laws applicable in various international jurisdictions,<sup>10</sup> offer no automatic exemptions for the activities of cooperatives, creating a degree of uncertainty as industries are confronted with 'conflicting messages' regarding the use of cooperatives as tool for agricultural development (van der Walt, 2014).

The investment in competition law, research and development could assist in finding innovative ways in dealing with the effects of climate change on agricultural activities in the selected rural areas of Limpopo Province, heavily guided by 'growth and competitiveness,' focusing on food security, increased production, support for the rural smallholder and emerging farmers, and opening of internal markets, as well as exploring export possibilities, reducing import dependencies, reducing input and transaction costs and creating an enabling environment for the development and strengthening of viable and sustainable agricultural enterprises in South African rural areas, with partnerships envisaged between the public and private sectors and between large successful commercial farms and emerging farms, in areas of common interest, such as agricultural activities, extension services and mentoring, AgriSETA (2020/21-2024/25). The competition law on agricultural activities can facilitate and administer collective production, processing, joint purchasing or joint marketing and selling of its members' outputs, while drawing from the EU, which informed much of the development of South Africa's own competition policy (van der Walt, 2014).

Esterhuizen (2006) affirms there is a strong positive correlation between increased competitiveness of the agribusiness sector in South Africa and the deregulation of the sector. Climate change, labour productivity, the exchange rate, investment and Research and Development (R & D) are some of the factors with direct constraints and influence on the competitiveness of the rural agribusinesses sector in South Africa. Therefore, the use of competition law to redress these factors is highly sought to enhance the competitiveness of the rural agribusiness sector in South Africa and an adequate competition policy is thus necessary, one which seeks to strengthen international competitiveness by exposing firms to competition in the local market. Competition in the local market is impeded by hurdles such as licensing agreements, tariff and quota protection and collusive behaviour (resulting in price fixing). Such entry barriers restrict competition internally and result in a misallocation of resources that retards international competitiveness.



### **Higher education policy and legislative frameworks on climate change and competition law**

Studies offering curriculum framework for institutional internalisation of criminology and forensics studies and Work-Integrated Learning (WIL) within the Criminal Justice System (CJS) are scarce (Maluleke, 2024b), this is inclusive to limited studies on combination of climate change and competition law discourse. The improvement of student's access to the HEIs have been promoted 'Globally by National' governments scenario, while influenced by the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and even the World Bank. Countries such as the United States of America (USA), Finland and South Korea are also mentioned to have participated in efforts to increase the enrolment access of students to the HEIs, Cloete, Maassen, Fehnel, Moja, Perold and Gibbon (2006). Therefore, policies are considered to be written text, drafted with the aim to guide the operations and behaviour of the government, universities and other agencies (Rizvi & Lingard, 2010). It stipulates the actions that can be taken or how certain services should be provided, for example Higher Education Act (No. 101 of 1997) indicates how the Minister of Higher Education and Training allocates funds to the HEIs. Sometimes, policies are formulated when there is a problem to offer guidelines on how the problem can be addressed (Rizvi & Lingard, 2010). For example, WP-PSET (2013) recommends for the awarding of bursaries to disadvantage students, especially those who are in scarce skills areas. While The Ministry of Education (2004) fund universities based on the number of students who graduated and the number of research publications produced.

Cloete (2012) state that dynamics in universities of Africa are driven by different forces and a number of policies. Universities do not have the power to determine some of the policies that govern them. These policies are co-determined by ministers and other stake holders, for example the Minister of Basic Education and Minister of the Department of Higher Education, Science, Technology, Minister of the Department of Employment and Labour, Minister of the Department of International Relations and Co-operations, amongst others. These policies sometimes interfere in the operations of universities, because it is implemented by forces which are not physically present in the university to see the daily operation of the universities. Policies are drafted by outside agencies who are not affected by the situation, or even know most of the challenges experienced by these universities.

Subsequently, Cloete *et al.* (2006) allege that players in policy making seek to promote the interests of their group or organisation and not to benefit, more especially those that the policy seeks to address. Selectively, the purpose of Teaching and Learning (T & L) policy at the HEIs is to describe the University's 'T & L' ethos, while articulating the University's commitment to create appropriate, meaningful learning opportunities and experiences for a diverse student body, in relation to programme type and NQF levels of the offered programmes. This policy also sets out a framework for co-ordinated decision-making regarding T & L activities across the University by broadly describing the principles, aspirations and practices that relate to the T & L at the HEIs. It also applies to both subsidised and non-subsidised academic programmes. This policy should be read in conjunction with the following policies:

- Academic quality assurance policy.
- Assessment policy: Students learning.
- Policy on postgraduate research and supervision.
- Policy on Recognition of Prior Learning (RPL).
- Language policy.
- Enrolment plan (University of Limpopo - UL T & L Policy, 2022).

In addition, there are procedures for monitoring, evaluating and improving T & L that takes into account the needs of a diverse student population, Rizvi and Lingard (2010). Therefore, the utilisation of online platform Blackboard Learn (Online/technological) for the T & L has become an essential and obligatory component of Higher Education Institutions [HEIs] (Maluleke, 2024a). For a recourse, procedures for monitoring, evaluating and improving T & L exist, as guided by the outcomes of the module evaluation by students, which is conducted by the Centre for Academic Excellence (CAE) in some HEI. However, this has not been done consistently. This is done through CAE where students are given questionnaires to evaluate the module, so that improvements can be made to improve on T & L, as well as the diverse needs of the enrolling students.

Meanwhile, Rizvi and Lingard (2010) state that at times, policies are not democratic, because members of the public are often left out in the drafting, while giving policy scientists the opportunity to draft policies that will direct certain actions or activities. The available policies are changing in universities because of the changes that are seen in economic, social as well as in political context. Policy formulations in the HEIs are influenced by 'globalisation, marketisation, internalisation, politicisation and economic patterns,' further indicating changing political landscape in South Africa from the apartheid government to the democratic regime has played a major role in the formulation of policy in the HEIs (Benson & Griffith, 2017; Fataar, 2003; Rizvi & Lingard, 2010).



Moja and Hayward (2000) contend that the department of education policy transition from the apartheid government to the democratic government, to address issues such as access to the HEIs, equity was not welcomed with two hands. Officials (HEIs academic staff, supporting staff and management, as well as other external bodies) even went to an extent of sabotaging the proposed policy, because of different policy views that were held by the ministry of the department and officials. The officials included those who were hired during the apartheid period and as such they were resistant to change. Some of the policies guiding the T & L practices 'WP-PSET (2013) and Department of Higher Education and Training [DHET] (2017), as well as the 'Academic Quality Assurance Policy, Assessment Policy: Students Learning, Policy on Postgraduate Research and Supervision, Policy on RPL, Language Policy, and Enrolment Plan, amongst others.

### **Competition law and climate change**

Competition and consumer law exists to ensure that markets are working effectively and efficiently to meet the needs of consumers. They play an essential role in a productive economy. By examining the extent to which competition and consumer regimes are sensitive to sustainability considerations, we can help ensure they complement wider government policy and regulation in this area (Competition and Markets Authority, 2019; Holmes, 2020a). These policies can impose constraint on organisations emissions and, for some, will increase their production costs. For others, they may provide opportunities for growth. Whichever sector firms operate in, climate change and the range of policy responses will lead them to evaluate their competitiveness and rethink their business strategies (Muûls, 2022). The selected effects of policies on firms' competitiveness includes the '*supply chains and investors*,' where extreme weather events, such as droughts, floods and flash fires, thus, anywhere in the world in which a firm has a part of its supply chain can affect its costs and competitiveness, inclusive to related repercussions of these events, including workforce migration or infrastructure damage and *innovation*, in relation to climate change regulations can also be considered as drivers of economic growth. By promoting cost-cutting efficiency improvements, binding climate policies can have a net positive effect on the competitiveness of relevant organisations (Muûls, 2022).

The consensus is clear - climate change is the defining challenge of our time. Meeting this challenge requires a collaborative and inclusive response from all segments of society (Holmes, Middelschulte & Snoep, 2021). There is near universal acceptance that climate change is an existential threat and requires massive effort by government, the private sector and individuals to combat it. The problem is that competition law (And even more the fear of competition law) inhibits much vital collaborative effort to tackle climate change. Indeed, a recent survey suggested that some 60% of businesses had shied away from cooperation with competitors for fear of competition law and there are many reasons why the current approach to competition law is inhibiting vital collaborative action. Moreover, competition law is not the solution to climate change- or indeed to any environmental problem. However, it can (And must) play a complementary role. As Commissioner Vestager has noted 'everyone is called upon to make our contribution to the necessary change, including enforcers,' OECD (2020).

The supporting initiatives to aid the green deal in fighting climate change, and promoting sustainability, relevant stakeholders must also ensure consistency in state aid policy and reconsider aid to industries and projects that damage the environment and contribute to climate change. The cooperation between businesses in the fight against climate change and the promotion of other vital environmental sustainability objectives play pivotal roles by showing how competition law (and, even more, the fear of unnecessarily restrictive or unpredictable competition law enforcement) is standing in the way of this. It identifies the key benefit for business, governments and society as a whole and showing how the tide is turning on this and sets out proposals for further action by competition authorities, governments, international bodies, business, advisers and other stakeholders, The IPCC (2020); and IPCC (2023). Based on the treaties, the current narrow approach to competition law is certainly not inevitable and is, in many respects, illegal. Even more importantly, it is an approach that can often be damaging from an environmental and sustainability perspective, and it is holding back vital initiatives to combat climate change. In other words, competition law is part of the problem. The good news is that a great deal can be done without a change to the law. Essentially, what is needed is a change in the way that competition law and economics are viewed and applied (Holmes, 2020b; Holmes, 2022).

## Method

Following the qualitative research approach, this study adopted the exploratory research design. The non-probability: Purposive sampling was used to select suitable study target, inclusive to the following participants: Three (03) research project members, as subject Experts, Sixty (60) rural residents, Ten (10) from each village and Thirty-six (36) DALRRD officials, Six (06) from each local municipality, consisting of Managers attached to these units: Two (02): Veterinary Services; 02: Land and Infrastructure; and 02: Natural Resource Management. Overall, about 105 formed parts of this study, they were selected from the following rural areas: Xikukwani and Daniel Rababalela Villages under Greater Giyani Municipality., Tshakhuma under Makhado Local Municipality, Moletjie Ga-Legodi Vilage under Capricorn Local Municipality, Medingen Village under Greater Letaba Municipality; and Nghezimani Village under Collins Chabane Local Municipality. The semi-structured face-to-face interviews and Focus Group Discussions (FGDs) were employed for data collections. The inductive Thematic Content Analysis (TCA) was also adopted for data analysis.

## Findings and discussions

In this section, the focus will be on findings from data collected through semi-structured face-to-face interviews and Focus Group Discussions (FGDs) conducted with the 105 participants from the selected rural areas of Limpopo Province. These findings are arranged in terms of the Four (04) questions posed to the participants. What was shared by the participants with the researchers are indicated in verbatim and discussed. The purpose of the data gathered was to provide answers to the following 04 questions, which guided this study; while revealing the identified study themes:

1. *What are the existing challenges faced by DALRRD in addressing climate change on agricultural activities, while applying competition law in your area?*
2. *What are the effects of climate change on agricultural activities and the effectiveness of competition law in your area?*
3. *Are current legislations adequate to assist DALRRD in addressing the effects of climate change on agricultural activities, while applying competition law in your area? (Please elaborate on your answer)*
4. *What is the importance of legislative framework, White Paper and HEIs policies on enhancing climate change and competition law curriculum to address the associated effects?*

### **The notable challenges faced by Department of Agriculture, Land Reform and Rural Development to addressing the effects of climate change on agricultural activities by applying competition law**

Some of the participants' responses were as follows, the first question *'what are the existing challenges faced by DALRRD in addressing the effects of climate change on agricultural activities, while applying competition law in your area?'*

*"The Department of Forestry, Fisheries, and the Environment in South Africa has implemented strategies to address climate change and promote sustainable practices. This strategy aims to enhance coastal resilience, assist small-scale farmers, transform the communal agricultural sector, and support community adaptation to climate change .but in the instances of rural communities, as these strategies were not applied meaning that they are not effective since it is amongst rural areas that faces challenges related to poverty and inequality, efforts are being made to improve agricultural practices and livelihoods, but the farmers use indigenous farming methods to keeps their crops alive which include the use of plant material and animal waste to produce pest repellents and fertilizers."*

### **Understanding the effects of climate change on agricultural activities and the effectiveness of competition law**

The second question was as follows: *What are the effects of climate change on agricultural activities and the effectiveness of competition law in your area?*

*"One of the major components that the DALRRD faces in reaching out to South African rural communities is technology and information accessibility: The Information and Technology (IT) is frequently inaccessible in rural places. For rural communities, early warning systems, knowledge of sustainable practices, and awareness of climate change are essential. Encouraging climate education and bridging the digital divide can enable rural populations to make knowledgeable decisions. Secondly Roads, bridges, and electricity systems are examples of rural infrastructure that is critical to social cohesion, economic development, and food supply chains. However, the realization of essential infrastructure projects is frequently hampered by a lack of funds and resources. Crop yields and livestock are directly impacted by climate change effects, which include altered rainfall patterns, extreme*

*weather events, and rising temperatures. To guarantee food security and sustainable livelihoods, DALRRD should consider implementing adaptive agricultural practices and providing farmers with climate-smart technologies that are essential to ensure food security and sustainable livelihoods.”*

**The adequacy of legislations in assisting Department of Agriculture, Land Reform and Rural Development to respond to the effects of climate change on agricultural activities and applications of competition law**

The third question was designed as follows: *Are current legislations adequate to assist DALRRD in addressing the effects of climate change on agricultural activities, while applying competition law in your area? (Please elaborate on your answer)*

*“Variable temperatures and excessive seasonal rainfall are not unique to the Limpopo province, which is also branded as a drought prone province. As a result, the province has experienced reduced available grazing and water availability for livestock and irrigation, which has negatively impacted the agricultural sector. The weather patterns are becoming less favourable, leading to increased volatility in crop and livestock yields, the excessive rainfall, resulted in flooding and ponding of soils which caused serious injury to a corn crop on its stage of development. Many people have suffered a loss and their livestock perishing since animals could not stand the cold and the available legislations are inadequate in addressing effects of climate change on agricultural activities, with the limited application of competition law, this should be urgently attended”*

**Higher education policy and legislative frameworks on climate change and competition law**

In response to the last question: *What is the importance of legislative framework, White Paper and HEIs policies on enhancing climate change and competition law curriculum to address the associated effects?* The following study findings emerged:

The cited legislative framework, White Paper and HEIs policies’ offers student support in a broader sense, referring to all mechanisms that are intended at assisting students to meet their goals and objectives. This includes the students’ ability to acquire necessary knowledge and skills as well as being prepared for the labour market. Although there are many ways, which stems from the lessons learnt from this module to support students, the following are some of strategies applied in the HEIs:

- Individualised appointments and feedback sessions
- Formative assessment feedback
- Contact sessions in regions (If approved by the department in a specific year)
- Online assistance and discussion fora, among others.

The indicated ‘student support’ include remedial interventions, such as responsible open admission programmes to assist under-prepared students achieve success in order to decrease the distance between student and lecturer/institution, this is mapped with the importance of understanding the effects of climate change and competition law on agricultural activities, in terms of curriculum renewal. Another facet of student support is peer support in the form of arranged and supported peer self-help groups. The student support also includes in-text support in the form of professionally designed and integrated courseware, which builds healthy environments for active learning, which is sensitive to context, which does not unfairly discriminate and which promotes dialogue between the academic and the student, in order to limit the distance between student and course material. Another important dimension of student support is administrative assistance/support in the form of timeous, accurate and accessible information from the institution to students about all aspects of the learning process. Notably, the objectives of understanding the effects of climate change and competition law on agricultural activities are demarcated to the following aspects in relation to this study:

- Insight into applicable policies, frameworks and guidelines.
- Regulatory and legislative framework for the provision of the HEIs in South Africa.

The researchers envisage that a clear understanding of the effects of climate change and competition law on agricultural activities in a form of a curriculum can possibly offer the following skills and competencies:

- Demonstrating an understanding of how to interpret and analyse relevant acts, policies, frameworks and guidelines applicable to higher education provision in South Africa.
- Offering critics of the selected policies and offer recommendations on how these selected policies can be improved and revised by determining how can the HEIs implement and apply such policies (Govender, 2022).

Moreover, the Learning Outcomes (LOs) of the envisaged curriculum can be aligned to the following points in relation to the effects of climate change and competition law on agricultural activities in the selected rural areas of Limpopo Province, while reflecting on the content of higher education policy and legislative frameworks

- Analysing structure, culture and agency relevant to the higher education policy environment in South Africa.
- Assessing key South African higher education policies and legislative framework since 1994.
- Evaluating the impact of selected national and institutional policies on higher education in South Africa.
- Examining and critique selected institutional policies.
- Making recommendations on how the HEIs can improve their policy environment to improve teaching, learning, research and governance (Govender, 2022).

### Conclusion and recommendations

Ashraf *et al.* (2022) state that it is suggested to mobilise the agriculturists to play their active role in guiding and training the uneducated farmers for dealing with climatic changes to avoid their adverse effects on productivity of different agricultural activities. Therefore, while incorporating competitive law into climate change policies, the South African National Governments around the world recognise the need to combat climate change, by inducting measures that include carbon taxes, subsidies, bans, caps and regulations are increasingly being put in place to limit and reduce greenhouse gas emissions, as supported by the competition law. However, it should be stressed that competition law is not a panacea for all the ills of the world and that we have other tools, most obviously regulation, in essence; competition law does have a lot to do with climate change.

Some of the key features learnt from the integration of climate change and competition law on agricultural activities rests on taking responsibility for the existing learning methods, developing ability to work independently and responsibly using the T & L plans, methods and offerings, while fostering scholarly and professional approach to the HEIs, as well the formative and summative assessments, while considering inclusive learning principles for both Undergraduate and Postgraduate students, as well as the Masters and Doctoral (M & D) programmes. It is hoped that the interested students in the climate change and competition law subjects can enhance their knowledge of conceptualising these concepts theoretical and practical to promote and preserve agricultural activities by managing and deepening engagements in a curriculum format, coupled with other related topics and current affairs, as well as acknowledging rapid change sites of research and scholarship at the HEIs and elsewhere.

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