



SOUTH AFRICAN CULTURAL OBSERVATORY

Framework for Measuring the Sports and Recreation Economy: Moving Towards and Scoping a Satellite Account

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South African Cultural Observatory

**Framework for measuring the Sports
Economy: Moving towards a (scoping for a
Satellite Account)**

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SUMMARY

Sport is a complex activity ranging from a group of school children playing soccer in the veld to mega events for professional athletes including the Olympic Games or major world cups. Sport includes a recreational jogger, park runner or an athlete competing in the Comrades Marathon - a competition with thousands of participants and people watching the ultra-marathon on television. All of these people all participate in sport in some way.

Modern sport is multifaceted, differentiated, and it is able to satisfy the most diverse activity needs of individuals and society. It is an essential and important aspect of modern society. Sports are indispensable when it comes to their impact in areas such as economics and even broadcasting and the mass media.

Although the pecuniary value is the focus of this report, the intrinsic value cannot be ignored. The intrinsic value looks at additional criteria including the role of sport for “its own sake”, the health benefits it contributes to, the enjoyment aspects, as well as sports role in nation building, national pride and social cohesion.

An important aspect for developing a framework to measure the value of the sports and recreation economy and developing a Sports Satellite Account is the definition of what sport is. There are many components that support the practice of sport, (for example the manufacture of athletic shoes), that are not classified according to the international System of National Accounts. Nor these disaggregated within the South African statistical system. Besides the number of sporting codes and sporting federations that have been identified other systems have been identified that can be used to group these into logical categories.

Once the categorisation systems have been defined and accepted, further research is needed to determine what percentage of each of the traditional economic sectors contains a component of the sporting economy. Once this has been done, a Sport Satellite Account needs to be developed econometrically (either from an input output table or a social accounting matrix). From this it can be estimated what the size of the sports economy is in South Africa, as well as other factors such as trade and employment.

The paper also looks at the practical issues that will be faced when implementing a framework for measuring the sports and recreation economy. These include issues such as

Key Findings

- Sport is an important part of any modern society and also is an important component of a country's economy.
- To measure the contribution that sport and recreation makes economy definitions need to be agreed upon.
- The report proposes that the European Union's Vilnius definition be adapted for South Africa.
- It further proposes that A Sport Satellite Account be developed using an input output table or social accounting matrix that has been adapted to include elements of the sports economy.
- Partnerships are important and proposals have been made.
- Besides economic contribution soft issues should also be included and relevant indices be created.

database management data software and econometric modelling techniques. The report also deals with the legal issues that could arise and also proposes a number of agreements with strategic partners.

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TABLE OF ABBREVIATIONS

AFS	Annual Financial Statistics
CAGR	Compound annual growth rate
CGE	Computable General Equilibrium
COFOG	Classification of the functions of government
COICOP	Classification of individual consumption by purpose
COPNI	Classification of the purposes of non-profit institutions
COPP	Classification of outlays of producers by purpose
CPA	Classification of Products by Activity
CPI	Consumer Price Index
DHA	Department of Home Affairs
DQAT	Data Quality Assessment Team
FTE	Full-Time Equivalent
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GHS	General Household Survey
GIS	Geographic Information Systems
GTAP	Global Trade Analysis Project
GVA	Gross value added
IEA	Integrated economic account
IES	Income and Expenditure survey
IIOA	International Input-Output Association
INEFC	Institute of Physical Education of Catalonia
ISIC	International Standard Industrial Classification
IT	Information technology
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
NOE	Non-observed economy
NPI	Non-profit institution
NSC	National Sport Council
NSGA	National Sporting Goods Association
NSRP	National Sport and Recreation Plan
OECD	Organisation for Economic Cooperation and Development
OES	Observatory of the Economics of Sport
OHS	October Household Survey
OSS	Observatory for Sport in Scotland
QLFS	Quarterly Labour Force Survey
R&D	Research and development
RIA	Regulatory Impact Assessments
SACOS	South African Council of Sport
SAM	Social Accounting Matrices
SANROC	South African Non-racial Olympic Committee
SARB	South African Reserve Bank
SASCOC	South African Sports Confederation and Olympic Committee
SASQAF	South African Statistical Quality Assessment Framework
SEIA	Socioeconomic Impact Assessments
SIC	Standard Industrial Classification
SITC	Standard International Trade Classification

SNA	System of National Account
SUT	Supply and Use tables
TSA	Tourism Satellite Account
VAS	Volunteer Activities Survey
VAT	Value added tax
WHO	World Health Organisation

1 Introduction and Background

"Measuring an active and winning nation"

Sport is a complex activity ranging from a group of school children playing soccer in the veld to mega events such as the Olympic Games or major world cups. Sport includes a recreational jogger, park run or a runner the Comrades Marathon—a competition with thousands of participants—and people watching the ultra-marathon on television. All of these people all participate in sport in some way.

Sports and recreation are an integral part of human history, even from before the ancient Olympics. Modern sport is multifaceted, differentiated, and it is able to satisfy the most diverse needs of individuals and society in the field of sports. It is an essential and important aspect of modern society. Sports are indispensable when it comes to their impact in fields such as economics and the mass media.

Sport is an organised or unorganised recreation. Today it usually implies competition, usually implies following a specific set of rules, and often means competitive sports and games. Today sport is an important component of education, business, and society as a whole. Sport has probably been around as long as civilisation, but the documented history of sports goes back at least 3 000 years. The oldest known evidence of archery is a collection of 64 000-year-old stone points found in Sibudu Cave in KwaZulu-Natal (Lombard, Högberg and Wadley, 2019).

Besides its importance the physical well-being of society and its role in the economy, the National Development Plan (2012), The White Paper on Sport (2013) and National Sport and Recreation Plan (NSRP) (2012) recognise sport and recreation as a way to foster nation building and social cohesion.

There is an extensive literature on the economic impact of sporting events or even specific sports. Unfortunately, in South Africa, relatively little attention has been paid to estimating value of economic activity in the sports market. This is particularly important because the sport industry receives significant subsidies from national, state, and local governments.

Although the pecuniary value is the focus of this report, the intrinsic value cannot be ignored. The intrinsic value looks at additional criteria including the role of sport for its own sake, the enjoyment aspects of both organised and informal sport. Sport makes an undeniable contribution to promoting both physical as well as mental health (and therefore also life expectancy and quality of life). It contributes to developing discipline and team spirit. These values in turn foster social integration, nation building and national pride. These intrinsic values of sport stimulate productivity and economic growth.

This report will look briefly at the history and the role of sport in society (Chapter 2), the policy environment in which sports operates in South Africa and internationally (Chapter 3), a brief introduction to the economics of sport (Chapter 4), and then looking at measuring the non-economic indicators of sport and recreation (Chapter 5). The focus then turns to economic issues and looks at the sports observatories that have been established (Chapter 6), economic indicators and the role of Satellite Accounts (Chapters 7 and 8), this is followed by discussion on the role of Input-Output model and how to use them in developing Satellite Accounts (Chapter 9). Understanding the definitions (both economic and those pertaining to sport) are discussed in Chapter 10. Following this Chapters 11 and 12 plot the way forward looking at working with the official statistics agency in South Africa (Stats SA) and other partners. How

databases should be created, developed and maintained and possible partners in this endeavour is also discussed.

If a proposed framework is implemented, a comprehensive database will be developed that will not only map the sector, but provide the necessary evidence for government, sports federations, businesses supplying sport goods and services, and other relevant stakeholders with information that they can use for planning purposes. This will contribute to developing an active winning nation.

2 History and Role of Sport in Society

before framework for measuring the sports and recreation economy can be developed it is necessary to look at how sports and recreation evolved and the role they are playing in society today. Both sport and recreation are evolving and therefore the framework will have to take into account any changes that can be foreseen.

2.1 History of Sport

The history of sports probably extends as far back as the existence of people as active beings. This history informs a great deal about social changes and about the nature of sport itself.

Initially sport was to prepare war or hunting. Bellis (2019) attributes this to the prominence of throwing of spears, stakes, and rocks, and sparring one-on-one with opponents in early sporting activities. Organised sporting event, introduced by the ancient Greeks, can be trace back to the first Olympic Games in 776 BC (Guttmann, 2002; Li, Blake and Thomas, 2013; Rosenberg, 2020). Today hundreds of sporting codes exist, from those requiring only two participants, through to those with hundreds or thousands of simultaneous participants, either in teams or competing as individuals (Massidda et al., 2019).

As sport developed and sporting codes emerged, most sport was amateur, and participants engaged without remuneration. Participants in prestigious amateur competitions were in institutions (e.g. school, universities or military who could “sponsor” their participation) or were rich. Professional teams began to emerge as clubs were able to pay players. Many sporting codes frowned on this practice even though in reality payments were made informally to players directly or indirectly through bursaries, scholarships etc. Money influenced the change in sports from amateurs to professional and sports became a business sector (Milne, 2016; Engerman, 2018; Piermattéo et al., 2018).

In the current era, as technology changes at an exponential rate, the social impacts are varied and deep rooted. This implies a great deal of change in sports too.

2.2 Role of Sport in Society Today

Sport is one of the most popular activities in our societies and is by far the most prevalent in the voluntary sector. Sports drive society, culture, economics and almost every other side of life today and have been a significant to society throughout history. It defines or at least influences not only societies morals and ethics but also those of athletes (Simon, 2018). Even spectators reaffirm key societal values through sports, as they give meaning to their own lives. The sport system contributes to health, science, culture, upbringing and education. Sport has a meaningful impact across the socioeconomic and political spectrum of society (Johnston, 2014).

Sports help in tackling many social problems including youth crime. Participation in sport and physical activity positively impact physical and mental health.

Sports are often at the forefront of transformation including cultural and civil change. Sports is an affirmation of societal values. It has the ability to bring communities together because sports are revered, and teams have devoted and enthusiastic fans. This is reflected in how people dress in their team’s colours. Sports unite disparate groups or cultures (Burnett, 2006, 2019a, 2019b; Hall and Wise, 2019; Desai and Maharaj, 2020).

2.2.1 Sport for Development and Transformation

Sport plays an important role in society as an instrument of transformation. Sport and the benefits of sport intersect with many other areas of society including:

- Health;
- Education;
- Economy;
- Crime;
- Nation building and
- International Relations.

The White Paper (2013) cites the observation that the Commonwealth Heads of Government Working made the following observation regarding the influence of sport on society:

"It is time that the integral role which sport in the process of nation building is fully recognised. Sport is an investment. It is firstly an investment in the health, vitality and productivity of one's people. It is secondly an investment in their future. The social benefits include an overall improvement in the quality of life and physical, mental and moral well-being of a population. Furthermore, successful athletes serve as role models for the youth of the country, as achievers, as unofficial ambassadors, and as individuals committed to equality and fairness in competition. Because of its visibility, sport can play an enormous part in redressing gender inequalities and discrimination against the disabled and minorities."

2.2.2 Sport, Culture and Nation Building

Sport brings people together and is integral to a nation's culture. It brings people of origin, background, religious beliefs or economic status together despite their support for different teams or athletes. Wiid and Cant (2015) state that:

Sport has become the great equaliser all over the world. Governments, nations and organisations worldwide use sport as a means to bring people together and to break down barriers. Sport, and its attraction to hundreds of millions of people, is used to crush cultural resistance, and to heal rifts between people and nations.

South Africa has made good progress in building social cohesion and promoting a new single national identity. South Africa was subjected to various sanctions including sporting boycotts. South African athletes were excluded from international competition. After 1994, sport became a unifying force in South Africa.

The significance of Captain Kolisi, South Africa's first black Test captain, lifting the trophy after a 32-12 victory over England in Yokohama resonated across South Africa and its contribution to nation building cannot be underestimated.

But Tom Hammonds, 34, a white teacher, said the Rugby World Cup had united the country. "We feel we are the Rainbow Nation. We have had a lot of problems in this country but sports always bring us together," he said

(Sport24, 2019, p. 24)

At the 2000 Laureus World Sports Awards Nelson Mandela (2000) stated that " Sport has the power to change the world. It has the power to inspire. It has the power to unite people in a way that little else can. Sport can awaken hope where there was previously only despair." Sport has therefore a huge impact on a nation's culture. Sport contributes to national pride. Sport is able to unite the community with a unified national idea as well as a desire to succeed and to win (Simon, 2018).

South African athletes were not the only successful aspect of sport, but the country has also successfully hosted a number of key international sporting events, such as the Rugby World Cup in 1995, the Africa Cup of Nations (Afcon) in 1996 and the FIFA World Cup in 2010, the 2013 Afcon and the 2014 CHAN tournaments. Unfortunately, the success of South African athletes on the international stage since the advent of democracy, transforming this sector has failed to reach grassroots because of a lack of equitable access to sporting opportunities.

A winning nation is a pillar of the NSRP. Performing well a sport helps the individual excel in other areas while the benefit of a national team performing well does a great deal for the country's morale, drive, optimism and determination. These again spill over into other areas of life. Improved international sports successes by athletes at all levels of participation contribute to this winning nation. Professional sport allows specialisation and contributes better results and recognition. Setting records, winning international, national and other sporting events not only contributes to providing incentive to the development of mass sports

but also to national or subnational pride. Therefore, sport contributes to a winning culture while realising human potential and improving human capital. Success spills into many other areas of life.

Sport and recreation positively contribute to many of the factors which build social cohesion, such as better physical and mental health, high educational attainment, reducing crime and antisocial behaviour, creating better employment opportunities and earning potential, and ensuring a fit and healthy workforce.

UK Sport and Recreation Alliance

Professional athletes often have national recognition and are adored and venerated by many especially the youth. Athletes are often treated as role models. Children often rely on many role models to help them figure

out how to make their way in this world. The term role model can be defined as "a person whose behaviour, example, or success is or can be emulated by others, especially younger people¹" Sports men and women must use their personal qualities and habits to inspire high moral values in their fans. Unfortunately, there are also bad role models. Nevertheless there is a need for more heroes in South Africa (Bevan-Dye, Dhurup and Surujlal, 2009; Meier, 2015; Tshube and Feltz, 2015).

Sport contributes to nation building and is an excellent vehicle to bring a society of people with diverse origins, histories, languages, cultures and religions come together. Nations stay together when citizens share enough values and preferences and can communicate with each other. Winning on the international stage does this through national heroes that a nation can feel good about. Positive results breed positive feelings across race and creed. However even at grass roots, sport plays a positive role, especially through grassroots sport organisations. Nicholson and Hoyer (2008) point out that although community or club based sport organisation are well placed to contribute to social capital related sport policies, unfortunately they are invariably under resourced to contribute to such policies.

2.2.3 Sport in Education

Sport contributes to the development of important traits as dedication, perseverance, determination, courage, endurance, initiative, independence and self-control. Sport is not a new phenomena. Young (2005) points out that the Greek ideal was to achieve or pursue both intellectual and bodily excellence. Even Plato was said to be an athlete in his youth. So we

¹ Random House Dictionary

have the dictum “Mens sana in corpore sano” or “a healthy mind in a healthy body” Physical activity can undoubtedly improve cognitive agility. Loyka (2011) points out that “(v)aried physical exercises with varied intensity taken over a given period impact not only the physical health but also the mental health of the participant(s).” He finds that physical exercises contributes to better “management of stress, anxiety and anger of the participants” as well as “increase self-confidence, emotional stability, cognitive functions, and social networking.”

Shifrer et al., (2015) suggest that student-athletes perform better than non-athletes and are significantly more likely to go to college. Further student-athletes tend to earn higher wages (Barron, Ewing and Waddell, 2000) and are more likely to report having positive relationships with school personnel (Broh, 2002). These findings have remained fairly unswerving over 30 years (Shifrer et al., 2015).

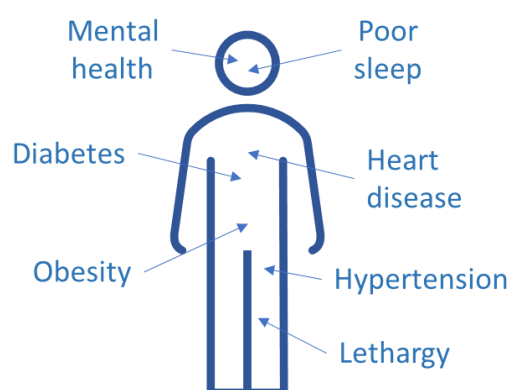
2.2.4 Sport and Health

The health benefits of physical activity including individual sport, team sports, pick-up games, weekend trips to the gym, or daily walks around the block are numerous.

The White Paper (2013) points to the beneficial role of sport in illness such as high blood pressure as well as the positive return on resources allocated to sport and recreation and the huge health and economic benefits received.

Sport has popularised the physical culture of society with walking, jogging, and other exercise groups or clubs been formed. This is not only contributing to a healthy lifestyle but also improving social interaction between many people of all walks of life.

Sport is an important means of enhancing human health, physical development and improvement. Physical exercise is healthy. There is even a new research field, “Embodied Medicine” that is the use of advanced technologies for altering the experience of being in a body with the goal of improving health (Riva et al., 2017). Sport can deal with the “psychological barrier” in public attitudes to physical activity. This improve both sport participation and other forms of physical activity leading to a healthier nation.



On the other hand, sport and sports medicine, that deals with physical fitness and the treatment and prevention of injuries related to sports and exercise, has contributed to advances in medical sciences. The new information spills over into other branches of medicine – again contributing to a healthier society.

2.2.5 Sport and Diplomacy

Sport in today’s society contributes to facilitating important contacts between people, not only within a country, but also internationally. Sport therefore plays a meaningful role in improving understanding between people. Sport has long functioned as a diplomatic tool to establish and strengthen relations between nations. This in turn creates a climate of trust and peace in which diplomatic relations can flourish (McPherson, Curtis and Loy, 1989; Tomlinson, 2019).

Sports has been used to open previously closed diplomatic doors. “Ping pong diplomacy” help restore relations between the USA and China after Deng Xiao-ping succeeded Mao (Gittings, 1995; Lumer, 1995; Samson, 1996; Itoh, 2011; Griffin, 2014)

There was a call to boycott South African sport in the 1950s (MacLean, 2014). This boycott isolate most sports including the Olympics, as well as Cricket and Rugby Tests although there were a few rebel matches and South African athletes used “flags of convenience” to compete in individual sports. McLean (2014) states that even though “not the most significant factor in the collapse of apartheid, the sports boycott was responsible for a series of significant blows against the cultural security of apartheid’s dominant groups.” The boycott of sports has also been used as a diplomatic tool. Many countries boycotted the Olympics e.g. the 1984 Olympics by the USSR and the 1988 Olympics by the USA (Riordan, 1988).

On the other hand, diplomacy ensures that South African athletes can participate in international events. Local sporting bodies must be encouraged to affiliate to their international counterparts with diplomatic support for South African representation in multilateral sports organisations.

Nevertheless sport can be used today as a soft power to improve diplomatic and political relationships, image-building; to build a platform for dialogue; to build trust; to foster reconciliation, to facilitate integration and appose racism (Nygård and Gates, 2013).

2.2.6 Sport and Human Capital

Human capital is the outcome of many activities. Although Baron et al (2000) suggest education and especially skills acquisition direct views of human capital. Economists used to equate capital investment with investment in physical property, like plants, buildings, and machinery. In the development of curricula, sport and even physical education is not perceived as important. Bailey (2013) cite the outcomes of a workshop (MacCallum, Howson and Gopu, 2012)² that human development is conceptualised according to six different capital domains:

- physical;
- emotional;
- individual;
- social;
- intellectual; and
- financial.

The Human Capital Model explains the benefits of sport, physical activity and physical education by referring to six different domains of capital (MacCallum, Howson and Gopu, 2012). Figure 1 below shows The comprehensive benefits of sports and physical activity (Bailey et al., 2013).

² Lisa MacCallum, Nike, Inc., Nithya Gopu, Independent Consultant, Marshall Clemens, IDiagram, and Lindsay Frey, Consultant.

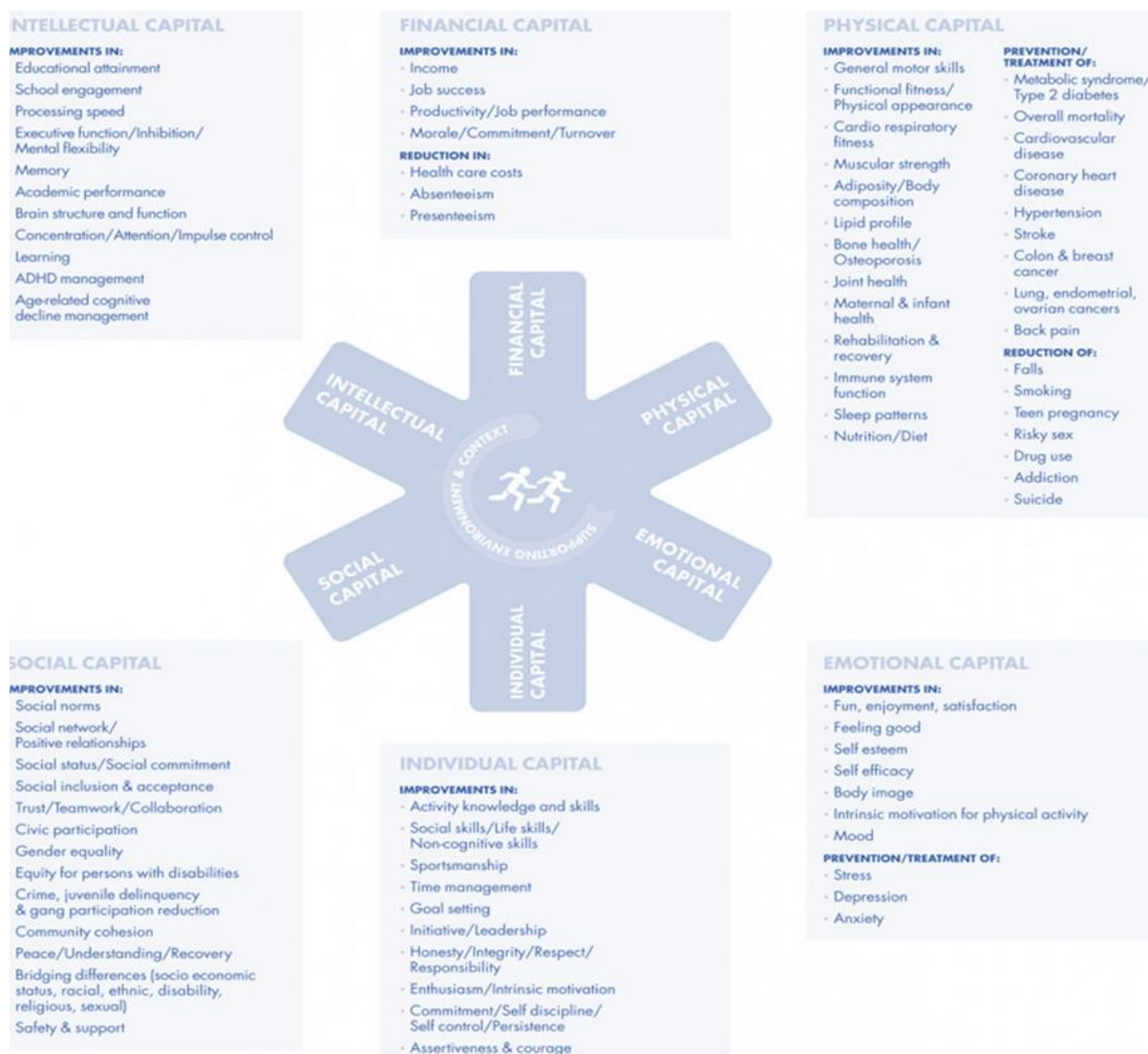


Figure 1: — The comprehensive benefits of sports and physical activity³

Sport can play an important role in the development of human capital (Bailey et al., 2012, 2013, 2013; MacCallum, Howson and Gopu, 2012; Bailey, 2018)

2.2.7 Sport and the Economy

Sport has both a direct and an indirect impact on the economy. From an indirect perspective, sport has a positive impact on health, physical activity that in turn positively affects productivity. Involvement in sport and resultant healthy lifestyles reduces absenteeism. On the other hand, sport could be classified as an economic sector on its own. Activities such as ticket sales, broadcast rights, sponsorships, manufacturing of sport equipment, building and maintenance of sport infrastructure, and other sports-related services and activities all contribute to the Gross Domestic Product (GDP).

Sport culture drives many sectors of the economy helps create work. People are employed directly to train, manage and market sports teams, plan the schedules, sell the tickets, and prepare fields and stadiums. There are many indirect sectors that may benefit from sport. Although team apparel sales increase when a team does well, other businesses may fare

³ Nile initiated a multidisciplinary input and validation process. Further information is found in (Bailey, R., Hillman, C., Arent, S., & Petitpas, A. (2013)

better as well. Restaurants, hotels, and event planning services often see upticks on and around game days. This increase extends beyond professional sports to include children's and other amateur competitions.

Major sports events have had an important impact on the South African economy. Besides the sporting value these events help boost the economy through sectors including tourism and advertising revenues generated by these mega events (Bohlmann and van Heerden, 2005; Bohlmann and Van Heerden, 2008). The economic impact is discussed in Chapter 9 below.

Sport touches other areas. For example, a successful sporting nation will attract more tourists and boost our economy.

2.3 Conclusion

Sport is an integral part of modern society in South Africa. Most people consume sport for the enjoyment and satisfaction it gives either as spectators or participants. This obviously leads to a happier society. However, sport plays a much wider role. It makes a critical contribution to both nation building and social cohesion, especially when national teams are winning. Sport plays an important role in keeping the nation healthy. Policymakers and other stakeholders know the importance of sport for the soft issues society as a whole.

Sport, the place an important role in the economy. Many efforts have been made to evaluate the impact of mega events in South Africa, but very little has been done on trying to quantify the size of the impact of sport on the economy in general.

3 Policy Framework

3.1 Introduction

Over the past few years many governments developed specific sports policies and specific national sports departments were established to develop the sporting systems, encourage mass sport participation, and develop elite athletes. This trend was echoed in South Africa in 1996 with the first White Paper on Sport and Recreation (Jacobs et al., 2019). The first White Paper had to focus on addressing the inequality in sports. There was an asymmetry in the provision of sporting infrastructure, equipment, the identification and development of talent, and even access to sports gear and attire.

It is important to recognise that even though sport has a positive impact on many aspects of society, the success that sport achieves also depends on the social, cultural and economic environment.

3.2 Legislative Framework

The following are some of the most important legal frameworks according to which the NSRP was developed and will be implemented:

- Constitution of the Republic of South Africa, 1996;
- National Sport and Recreation Act, 1998 (Act No.110 of 1998 as amended);
- South African Institute for Drug-Free Sport Act, 1997 (Act No. 14 of 1997 as amended);
- South African Boxing Act, 2001 (Act No. 11 of 2001);
- Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005);
- Lotteries Act, 1997 (Act No. 57 of 1997);
- SA Schools Act, 1996 (Act No. 84 of 1996); and
- Public Finance Management Act, 1999 (Act No. 1 of 1999 as amended).

3.3 Institutional Framework

The Department of Sport and Recreation (previously Sport and Recreation South Africa) is the department of the Government of South Africa responsible for sport in South Africa. In 2019, the cabinet changed the department's name to the Department of Sports, Arts and Culture after its merger with the Department of Arts and Culture.

As discussed above, before 1994 South Africa was subjected to international sporting sanctions which isolated the country and its athletes from international competition. During this time democratic institutions including South African Council of Sport (SACOS), the South African Non-racial Olympic Committee (SANROC), the national Olympic Committee of South Africa (NOCSA) and the National Sport Council (NSC) were created (Department of Sport and Recreation, 2012).

The South African Sports Confederation and Olympic Committee (SASCOC) refers to the "Sports Confederation" recognised by the Minister of Sport and Recreation in terms of the National Sport and Recreation Amendment Act, 2007 (Act No. 18 of 2007). It is representative of sport or recreation bodies, including Olympic national federations.

There are now provincial sports confederations and many associations for sporting codes. These are included in Appendix 1 and Appendix 2.

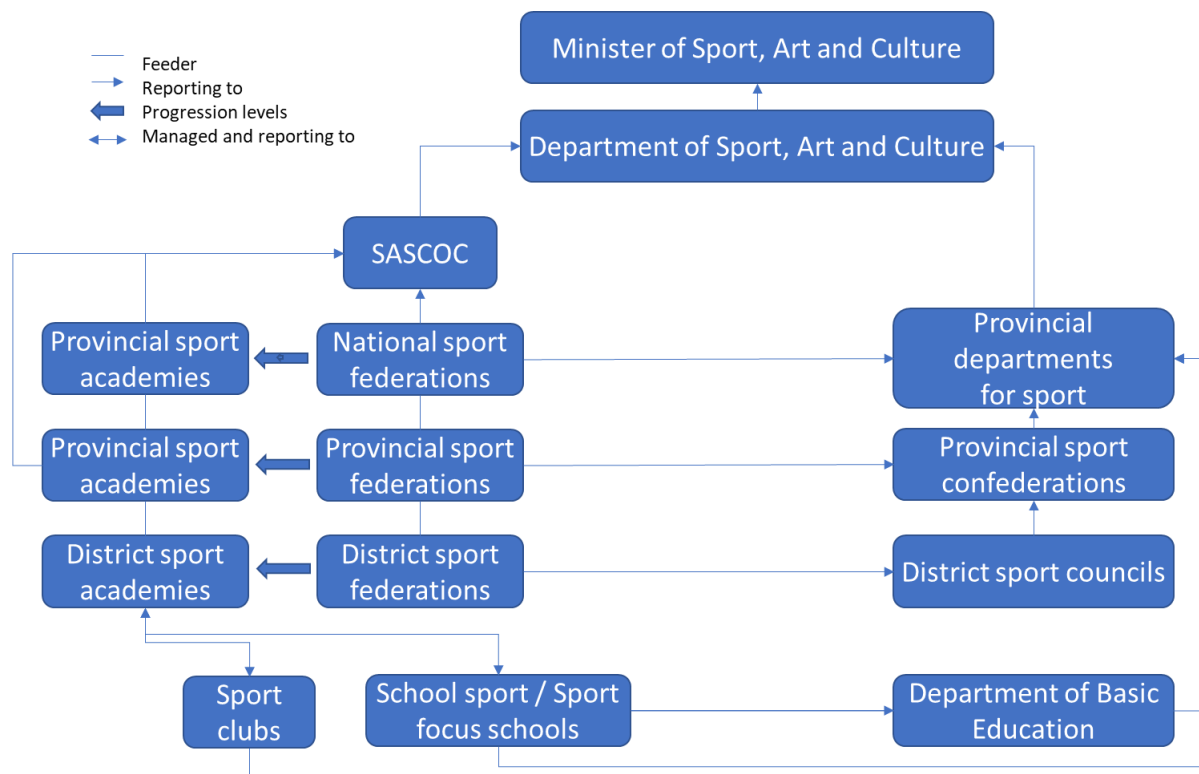


Figure 2: Organogram depicting the organisation of the critical stakeholders in South African sport.

Source: Jacobs et al. (2019)

Jacobs et al. (2019) conceptualise the responsible stakeholders of the various South African sport entities which also clarifies the responsibilities of these stakeholders.

3.4 South African Legislation and Policy

The National Sport and Recreation Act (1998) as amended by the National Sport and Recreation Amendment Act, 2007 (Act No. 18 of 2007) provides for the promotion and development of sport in South Africa. The Act also coordinates relationships between the Sports Commission, sports federations and related agencies. It corrects imbalances in sport by promoting equity and democracy, and provides for dispute resolution mechanisms.

In terms of the Act, the Minister is empowered to make regulations, and allows the Sports Commission and NOCSA (in respect of the Olympic Games) to coordinate, promote and develop sport in South Africa.

Membership of the Sports Commission is open to a wide range of sports bodies, as long as these meet the criteria set by the Commission. Sports bodies that permit forms of discrimination based on gender, race, disability, religion or creed, are for instance not allowed.

The Department of Sports, Arts and Culture proposed a Draft Amendment Bill (December 2019) to strengthen the Minister's regulatory control over sports codes (at local, provincial or national levels), besides clubs and fitness organisations. The Bill proposes the creation of a Sport Arbitration Tribunal that will determine the delegation of sporting powers and will be tasked with disputes arising between different sports bodies. The Sport Arbitration Tribunal will also regulate:

- The fitness industry (registration and certification);
- Set up procedures in bidding for and hosting of international sports events;
- Regulate combat sport; and
- Decide on offences and penalties (including jail sentences).

In terms of the Draft Amendment Bill, sports bodies would not operate independently anymore. Sports bodies will promote their sports in consultation with the Minister.

3.5 The National Development Plan

The National Development Plan recognises sport to foster nation building and social cohesion. This implies continuing to broaden the participation base in sport, cultivating sporting talent and encouraging excellence in the international sporting arena. This requires sport infrastructure, and championing transformation in sport and recreation.

3.6 The White Paper on Sport and Recreation

The final draft of the revised White Paper on Sport and Recreation was produced in 2011 after consultation with stakeholders and it embodies the policy framework for sports development in the South Africa.

The legal framework within which the South African sports policy was to be implemented comprised enabling laws and statutorily recognised organisations. The National Sport and Recreation Act had identified the Sports Commission as the overall co-coordinating body for the promotion and development of sport and recreation in South Africa, although it recognises the distinct mandate of the NOCSA.

The White Paper speaks to a code of conduct as well as the ethical behaviour that all athletes/individuals who participate and spectators who support in South Africa should adhere to. Concept defining “fair play” are addressed aiming to hold athletes and supporters accountable for their actions and behaviour. A NSRP (Sport and Recreation South Africa, 2012) was also formulated as the machinery to implement the policy statement contained in the White Paper. (South Africa and Department of Sport and Recreation, 2013) The NSRP is due to be revised this year (2020).

3.7 The National Sport and Recreation Plan

The White Paper on Sport and Recreation was used as the foundation for the creation of the NSRP which serves as an implementation proposal on both elite and mass sport. Underlying the core of the NSRP is the transformation charter with the aim to provide equal opportunities, promote fairness and just behaviour in sport, equitable resource distribution, and encourage empowerment and affirmation.

The nucleus of the NSRP as it provides details of the three core pillars of implementation:

1. active nation;
2. winning nation; and
3. enabling environment.

These pillars are underpinned by transversal issues and utilising sport as a tool to achieve national and global priorities.

3.7.1 An Active Nation

The NSRP specifically focuses on the following strategic objectives to assist with broadening the base of sport and recreation in South Africa:

- To improve the health and well-being of the nation by providing mass-participation opportunities through active recreation.
- To maximise access to sport, recreation and physical education in every school in South Africa.
- To promote participation in sport and recreation by initiating and implementing targeted campaigns.

3.7.2 A Winning Nation

In developing a winning nation, it is important to improve international sports successes by supporting athletes at all levels of participation. The following strategic objectives aim to achieve this:

- To identify and develop talented athletes through the implementation of a structured system.
- To improve the performances of athletes and coaches by providing them with access to a comprehensive range of support programmes.
- To develop talented athletes by providing them with opportunities to participate and excel in domestic competitions.
- To develop elite athletes by providing them with opportunities to excel at international competitions.
- To acknowledge the achievements of individuals and teams within the South African sport and recreation sector through the establishment of a recognition system.

3.7.3 An Enabling Environment

Achieving an active and winning nation is underpinned by an enabling environment with the following strategic objectives:

- To ensure that South African sport and recreation is supported by adequate and well-maintained facilities.
- To provide formal sports participation opportunities through an integrated and sustainable club structure.
- To integrate the development of South African sport at provincial and local levels through functional sports councils.
- To provide athletes with a forum to address their needs.
- To support and empower South African coaches.
- To support and empower South African administrators and technical officials.
- To support the development of South African sport through a coordinated academy system.
- To provide National Federations with administrative and governance support through the medium of a Sports House.
- To empower the sport and recreation sector with relevant information through the establishment of a Sports Information Centre.
- To empower the human resource base through the provision of accredited education and training programmes.
- To empower volunteers to adequately support the South African sports system.
- To ensure that South African sport and recreation benefit from strategic international relations.
- To secure and efficiently manage financial resources to optimally support sport and recreation.

- To capitalise on the impact that broadcasting and sponsorship have on the development of sport and recreation.

3.7.4 Transversal Issues

The transversal issues include:

- Equal opportunities exist for all South Africans to participate and excel in sport
- Maximising the return on investment by prioritising sporting codes best suited to broadening participation or achieving international success.
- Ensuring e that the South Africa is respected for its sporting values and ethical behaviour.
- Alignment of provincial sports boundaries with the country's geo-political boundaries.
- Protect the rights and interests of talented young athletes
- Section two concludes with a review of using sport as a
- Tool to support and achieve a diverse range of national
- And global priorities with the following strategic objectives:
- To attract tourists to South Africa.
- Contribute to achieving peace and development.
- Contribute to ensure environmentally sustainability.

3.7.5 Outcomes of the NSRP

- To build the sports economy to effectively contribute to shared economic growth and development in South Africa, including through the creation of decent work.
- To use sport and recreation as a medium for building social cohesion and sustainable communities.
- To harness the nation building characteristics of sport and recreation.
- To use sport and recreation as a medium of building a healthy nation.

3.7.6 Significance of the Three Pillars for the Framework

The three pillars including an active nation; a winning nation; and an enabling environment need to be part of the Framework. Indicators from each of the three pillars must be integrated into the Framework.

3.7.7 Public Support for Sport

Sport organisations have many sources of income, including club fees and ticket sales, advertising and sponsorship, media rights, redistribution of income within the sport federations, merchandising, public support etc. However, some sport organisations have considerably better access to resources from business operators than others, even if in some cases a well-functioning system of redistribution is in place.

In grassroots sport, equal opportunities and open access to sporting activities can only be guaranteed through strong public involvement. Government understands the importance of public support for grassroots sport and sport for all, and is in favour of such support provided it is granted in accordance with the Public Finance Management Act (PFMA) and other legislation.

3.7.8 Evidence-based Sport Policies

Policy on sport needs to be underpinned by a sound knowledge base. The quality and comparability of data need to be improved to allow for better strategic planning and policymaking in the area of sport. Governmental and non-governmental stakeholders need a

statistical definition of sport and to coordinate efforts to produce sport and sport-related statistics on that basis.

3.8 Conclusion

South Africa has a comprehensive sports policy framework and has strong institutions to support policy implementation in many of the sporting codes. Many stakeholders are concerned that insufficient resources are given to develop sport given the importance that it has in society. As has already been explained, the soft elements are well known. The economic elements are not known and neither is the causation link between the economy and sport well established. There is need for a greater understanding of the sports economy.

4 Framework for Measuring the Sports and Recreation Economy

When measuring the sports and recreation economy, definitions are crucially important. Sports and recreation need equipment, venues, infrastructure, support staff to mention a few. The definitions can be narrow; in which case the sector is undercounted or broad. If it is too broad, there is over counting. The sport value chain includes all upstream industries producing goods and services needed for sport, and downstream industries for which sport is an important input – media, tourism, advertising, and so on. This chapter will look at a few definitions of what is included and critical characteristics that can be used more broadly to classify different sports. It is therefore useful to look at the differences between sport and recreation.

4.1 Definitions of Sport and Recreation

The South African White Paper (2013) uses very broad definitions because it recognises that although there have been numerous attempts succinctly define sport and recreation, no consensus has ever been reached. The definitions used in the White Paper are:

SPORT may be defined as any activity that requires a significant level of physical involvement and in which participants engage in either a structured or unstructured environment, for the purpose of declaring a winner, though not solely so; or purely for relaxation, personal satisfaction, physical health, emotional growth and development.

RECREATION is a guided process of voluntary participation in any activity which contributes to the improvement of general health, well-being and the skills of both the individual and society.

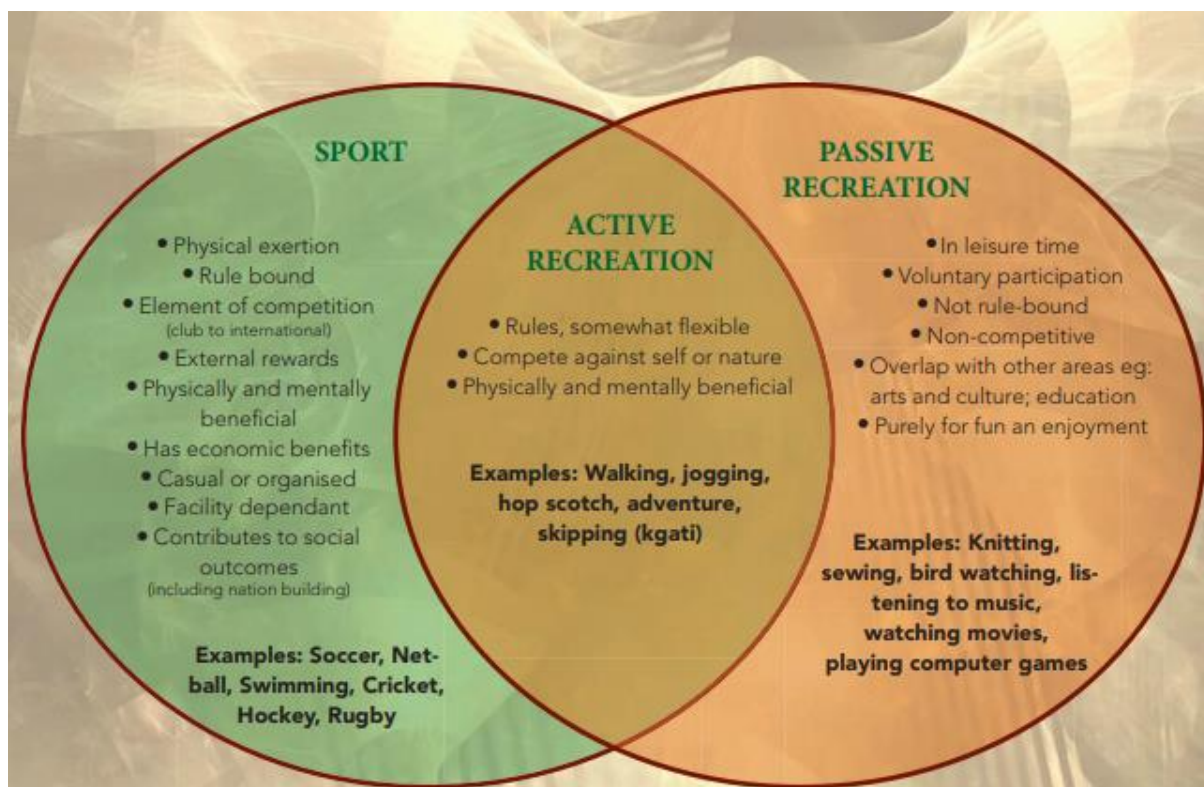


Figure 3: Sport and passive and active recreation

Source: Sport and Recreation South Africa (2012, p. 18)

4.2 Definitions of Sport

Although sport has been practised for thousands of years, today with the appearance of a variety of new sports activities together with the “old” sporting activities. There is a confusion of boundaries from a macro level (mass sport, sport for all, leisure sport, high-level sport, professional sport, sport-business, sport-spectacle). A sport may indeed become a product that is produced and then consumed. On the other hand, business, in the traditional perspective supply sport equipment and even clothing. The focus of this section will begin with the traditional concept of sport and then later the business of sport.

There are many different ways to classify sports. They can be classified by the number of participants(whether they are team or individual sports), the time of the year it is played (generally summer or winter sports), where it is played (indoors, on or in water, in a stadium, an ice rink, in the air etc.) or even the equipment it requires. Lane sports tend to fall under track and field varieties (racing, marathons, hurdles, pole vaulting, high jump, discus throwing) as well as track cycling and motor sport. Some sports such as the equestrian sport need animals. There is a further problem that these characteristics are crossing cutting and different sports can fall under more than one kind of classification.

From an economic perspective it is also difficult to define sport precisely. All institutions and organisations of sport, and individuals differ in their understanding of sport is. It not only includes what activities are performed but also at which level and intensity they are performed at. This makes defining sports-related public income and expenditure very difficult and dependent on the perception of the actors, institutions and organisations involved

4.2.1 Classification According to Sporting Code

Liponski and Farmer (2004) do not define precisely what a sport is but claim that there are 8 000 indigenous sports and sporting games. They do however “consider sport as a form of human activity (sometimes combined with the effort of animals or using vehicles or various devices), the outcome of which is determined by the physical, more than intellectual, effort.” They do recognise that this rules out board games (e.g. chess) or card games (e.g. bridge or poker).

Each sport is usually governed by laws, rules or customs. This ensures for fair competition, and allow consistency. The Global Association of International Sports Federations⁴ (GAISF) is the umbrella organisation for all (Olympic and non-Olympic) international sports federations. GAISF also has purview over multi-sports games and sport-related international associations. It has representative pf the following sport: Aikido; Air sports; American football; Aquatics; Archery; Arm wrestling; athletics; Automobile racing; Badminton; Bandy; Baseball and softball; Basketball; Basque pelota; Biathlon; Billiard sports; Bobsleigh; Bodybuilding; Boules; Bowling; Boxing; Bridge; Canoeing; Casting; Cheer; Chess; Climbing & Mountaineering; Cricket; Curling; Cycling; Dance Sport; Darts; Dragon Boat; Draughts; Equestrian sports; Fencing; Fistball; Floorball; Flying disc; Football; Go; Golf; Gymnastics; Handball; Field hockey; Ice hockey; Ice stock sport; Judo; Ju-Jitsu; Karate; Kendo; Kickboxing; Korfbal; Lacrosse; Lifesaving; Luge; Mini golf; Modern pentathlon; Motorcycle racing; Muaythai; Netball; Orienteering; Polo; Powerboating; Powerlifting; Racquetball; Roller sports; Rowing; Rugby union; Sailing; Sambo; Savate; Sepaktakraw; Shooting sport; Skating; Skiing; Ski mountaineering; Sleddog; Soft tennis; Sport climbing; Sports fishing; Squash; Sumo; Surfing;

⁴ It was previously known as SportAccord

Table tennis; Taekwondo; Tennis; Triathlon; Tug of war; Underwater sports; University Sports; Volleyball; Water skiing; Weightlifting; Wrestling; Wushu.

To determine whether an applicant federation would qualify as a sport federation, SportAccord identifies the following that characterise a Sport:

- The sport proposed should have an element of competition.
- The sport proposed should in no way be harmful to any living creatures.
- The sport should not rely on equipment that is provided by a single supplier.
- The sport should not rely on any “luck” element specifically designed into the sport.

SportAccord uses the following categories:

- Primarily physical
- Primarily mind
- Primarily motorised
- Primarily coordination
- Primarily animal-supported

However, each Sporting Federation generally has its own rules. These rules are often adapted to accommodate the youth or disabled athletes; or to make the sport more interesting. Rules are also changed to make to sport safer or to protect the environment.

4.2.2 Classification According to Dynamic and Static Components

Mitchell et al. (1994) classify sport based on peak dynamic and static components during competition. These are shown in the table below.

Table 1: sport based on peak dynamic and static components during competition

	A. Low Dynamic	B. Moderate Dynamic	C. High Dynamic
Low static	Billiards Bowling Cricket Curling Golf Ritlety	Baseball Softball Table tennis Tennis (doubles) Volleyball	Badminton Cross-country skiing (classic technique) Field hockey* Orienteering Race walking Racquetball Running (long distance) Soccer' Squash Tennis (singles)
Moderate Static	Archery Auto racing Diving Equestrian Motorcycling	Fencing Field events (jumping) Figure skating' Football (American)* Rodeo Rugby Running (sprint) Surfing Synchronised swimming	Basketball Ice hockey Cross-country skiing (skating technique) Football (Australian rules) Lacrosse Running (middle distance) Swimming Team handball
High static	Bobsledding Field events (throwing) Gymnastics Karate/judo Sailing	Body building Downhill skiing Wrestling	Body building Downhill skiing Wrestling Boxing Canoeing/kayaking Cycling

	A. Low Dynamic	B. Moderate Dynamic	C. High Dynamic
	Rock climbing Water skiing Weightlifting Windsurfing		Decathlon Rowing Speed skating

Source: Mitchell et al. (1994)

4.2.3 Classification According to Skills

Different sports require different sets of skills. Therefore, sports can also be classified according to skills. Skill classification systems are often based on the motor skills required and are generally classified according to three factors:

- How precise a movement is;
- Whether the movement has a definite beginning and end; or
- Whether the environment affects the performance of the skill (MacKenzie, 2001).

4.2.4 Classification of Physical and Sporting Activities

Andreff (2006) describes the classification of physical and sporting activities used by the French in a survey of sports practices that covered all physical and sporting activities. It identifies classes of sports depending on the purpose (e.g. leisure and social); the degree to which the sports code is organised; whether the sport is a team sports and individual sport; the intensity of the equipment required; whether it is played in the open or indoors; or whether it is a professional, semi-professional, or amateur sport. Examples of each class (families) of sports are given as an indication of the classification. Following from this a few common criteria will also be determined.

Table 2: A nine-class Classification of Physical and Sporting Activities

Classes	Families	Main common criteria
Independent leisure activities requiring equipment (LEA)	Fishing, body building, rock climbing, roller skating, ten pin bowling	Few high-level participants Limited media coverage
Social and leisure activities (SOL)	Walking, bowls, table tennis, badminton, dancing	Many participants Limited media coverage
Highly organised activities (HDO)	Judo, other martial arts, fencing, shooting, aeronautical sports	Disciplines requiring proper training Limited number of participants
Individual sports requiring special equipment (INI)	Ice skating, water skiing, rowing, canoeing, golf	Activities requiring special equipment Practised individually
Equipment-intensive, open-air sports (DEQ)	Horse riding, sailing	Activities requiring highly specialised equipment Well-financed federations
Individual mass-participation activities (IDM)	Swimming, cycling, track and field sports, gymnastic* winter sports	Very popular activities Well-financed federations
Motor sports (MEC)	Motor sports	Activities requiring specialised equipment Special identity
Semi-professional sports (SPR)	Tennis, basketball, volleyball, other team sport* combat sports	Extensive media coverage Not practised individually Significant professional budget
Professional sports (PRO)	Football, rugby	Extensive media coverage Significant professional budget

Source: Andreff (2006)

This classification system is useful to determine the extent to which sports are practised. However, Andreff (2006) showed that from a survey sports footwear purchases could be identified. From an economic perspective this could be useful if patterns could be determined of the sport practices of a country. Sports footwear purchases (and other sporting equipment) could therefore be extrapolated from the participation levels of individuals and could be used to determine the sales of various sporting goods.

4.2.5 Classification According to Level of Competition

one component of the White Paper is that all levels of participation from grass roots participation to elite levels of participation need to be recognised. This would include all activities including recreation as well as international competition at the highest levels. Without a foundation, it would not be possible for athletes to reach international level. It is therefore important that indicators be developed that would show the activity of South Africans and at which level.



Figure 4: Levels of activity and participation

This classification system would require inputs from all of the sporting federations as well as schools (and therefore The Department of Basic Education, Provincial Departments, private schools). A database would have to be maintained so that the numbers can be updated regularly.

4.2.6 Other Classifications

There are many other classifications. Butler (2015) uses very broad classifications of individual and team sports that are then further classified as:

- Professional
- Competitive
- Organised
- Informal

Building on this, there are a few other considerations to take into account as well:

- Indoor v outdoor sports

- Solo, partner and team sports
- Passive, contact, and collision sport

Butler (2015) also points out that activities such as Pilates and dance are dominated by female participants and that organised competition is non-existent and virtually non-existent in dance.

4.2.7 Going Forward

SACO has decided to use the UNESCO classification system for Creative and Cultural Industries. However, long before the classification was developed, concept papers were prepared and debated. This ensured that the data collected using the domains was consistent and could be compared across countries and regions.

The various classifications of sport is not the purpose of this report. It would nevertheless be useful have information on the various sports and classifications so that linkages could be made with economic, health and other indicators.

SACO and DSAC will have to establish criteria so that “domains” for the various sporting codes and activities can be developed and integrated into a framework to measure the sports and recreation economy.

4.3 Non-economic Indicators

The South African National Sport and Recreation Plan (South Africa and Department of Sport and Recreation, 2013) aims to reconstruct and revitalise the delivery of sport and recreation so that citizens are more active and South Africa is perceived as a winning nation. To do this it is necessary to encourage citizens to partake in more recreational activities and live more active lifestyles. School sport is also an area that needs more attention. South Africa is a country with a lot of talent and identification and development of this talent must be addressed.

To become a winning nation both domestic and international competitions must be promoted and athletes becoming more successful. This also requires the development not only of coaches but also other officials and adjudicators. The role of volunteers is also an imperative.

The White Paper also addresses the issue of ensuring that there is an enabling environment in which South Africans can become more active and South Africa be seen as a winning nation. Although part of the enabling environment is institutional of nature, infrastructure is also very important.

4.3.1 Transformation

Given South Africa’s history and the current inequality that seems to be getting worse, indicators to measure transformation in sport is important. Although there are various initiatives to ensure that national sporting teams are representative of the nation’s demographics, more should be done to measure the transformation at grassroots level. Indicators therefore need to be developed to measure both recreation and sport in terms of age, gender, race, and disabilities. Further indicators could also include spatial aspects such as whether the athlete or event is in an urban or rural area and in which province or municipality is. Transformation

Transformation: Sports for the Disabled

Parasports, or sports for the physically or mentally disabled people, have been practised for a number of years. The “Cripples Olympiad” was held in the USA. In 1924 the “Silent Games” were held in Paris and organised by the International Committee of Sports for the Deaf. The

first official Paralympic Games were held in Rome in 1960. Paralympic sport is governed by the International Paralympic Committee, in conjunction with a wide range of other international sport organisations.

Although there are many competitions for various sporting codes where disabled athletes can participate, there are still problems with facilities and training.

Transformation: Sport Participation by Gender and Race

According to the South African Yearbook (Republic of South Africa, 2019)

The latest transformation audit report reflects significant progress since the introduction of the Sports Transformation Charter. Federation commitment to the process, quality, and reliability of data submitted has consistently improved. Cricket, football, netball, rugby, and tennis are leading the pack in this regard. Change in demographics at administration level is reflected in that more than half of the boards of federations audited are black and have black presidents.

The purpose of the Sports Transformation Charter is to level the playing fields that enable the majority of South Africans to have equitable access and opportunity to participate and achieve in all areas and at all levels of sport.

Specific indicators should be put in place that measure these outcomes.

A special emphasis should also be placed on developing indicators of schools especially in the rural area and in disadvantaged areas regarding developmental aspects such as coaching, equipment provision and infrastructure.

4.3.2 Recreation and Active Lifestyles

Active recreation such as walking, jogging, playground activities, or adventure usually take place informally and irregularly. This makes it difficult to get a grasp on the actual level of activity that is taking place in the country.

Stats SA to undertake various surveys that include these questions. This information should be used to develop an index of activity in South Africa. The server should be augmented with various surveys that could be done independently of Stats SA, but with their assistance.

The White Paper has allocated the task of identifying community structures to DSAC (formerly SRSA). These community structures should be involved in any surveys that are conducted.

Passive recreation is perhaps more difficult to measure directly. Indirect measures will therefore need to be used to develop a "passive recreation index." For example, knitting and sewing rely on yarn and cloth that is sold through haberdasheries etc. Listening to music, watching movies or playing computer games are also measured by sales or subscription to online services. These indirect sales would need to be weighted before a passive recreation index is developed. The weighting would be informed by surveys undertaken either by Stats SA or by SACO.

4.3.3 School Sport

To ensure lifelong participation in both sport or recreation a culture needs to be created. This culture starts at school level with the promotion of sport and physical education. The White Paper has identified the following performance indicators:

- Number of learners participating in school sport.

- Number of educators trained and delivering school sports programmes.
- Number of schools with school sports programmes.

Again, an index of school activity and sport should be developed from these performance indicators. However, it would be necessary to identify which schools (in school districts and provinces) are participating in which sporting codes. Other indicators, such as income levels, could also be used to identify factors that are hampering the development of sport and recreation at school level.

4.3.4 Talent Identification and Development

Talent identification is common in many countries. In developed countries, where sport is more organised, talent scouts are employed to identify and recruit athletes from a very early age. The White Paper identifies the need for a targeted talent identification process that will enable the identification of athletes, especially from disadvantaged areas.

The index that should be used should include the number of formal talent identification programmes implemented, the number of talented athletes supported and the number of national athletes produced through talent identification programmes.

4.3.5 Domestic and International Competitions

Domestic competitions are critically important to identifying athletes that can compete at international level and can be seen as a final that directs the talent. The index would be developed from the number of domestic competitions hosted as well as the number of athletes participating in domestic competitions.

However, it is at international level we athletes are truly tested. Given the number of sporting codes, and the different types of international competitions, it will be difficult to develop an index. However, there are a number of competitions that already

Sports achievers have become known the world over, giving the country they represent an international visibility and reputation not attained in other areas of their social, political or economic life.

Source: South African White Paper on Sport and Recreation

been tracked such as the Olympic and Commonwealth games. There is a long history to these types of competitions as well that can be used to measure progress. Other competitions such as are also a barometer of a winning nation. World cups are held once every few years, depending on the sporting code involved. The prestige of winning, or even taking part, in these competitions is huge. Allocating a weighting system to sporting codes, whether they are team sports or not, the regularity of the event being held, and many other aspects must be taken into account. Other indicators would include the number of medals won at identified international competitions as well as the international ranking of a particular team (for team sports).

4.3.6 Infrastructure

The White Paper has identified the need for an audit of sport and recreation facilities. The audit must include municipal, private, and school-based facilities. A GIS system would be used to map the particular infrastructure. This is described in more detail below.

4.4 Measuring Non-economic Indicators

For policy purposes, noneconomic indicators are very important. These types of indicators will have an impact, albeit indirectly on the economic performance of the sector as well. This paper

is not focused on identifying noneconomic indicators or proposing how to measure these non-economic indicators, but does recognise the importance. It is therefore proposed that further research be undertaken to develop non-economic sport indicators together with DSAC and the Department of Planning Monitoring and Evaluation that can be used for monitoring purposes as well.

Most organisations and sporting bodies to keep records. In some cases, these records are limited to accounting issues and a record of the winners. The statistics that can be generated from these records are not always compatible. The definitions and time periods often change within an organisation. This matter is made worse because the definitions used may vary between clubs, sporting codes, and official definitions designated by governments.

4.5 Measuring the Economic Contribution of Sport and Recreation

From a statistical point of view, almost every country in the world has a central public sector entity devoted to the production, harmonisation and dissemination of official statistics. Unfortunately, although a lot of data are collected, it is often difficult to disentangle the information required to analyse specific fields such as sports and recreation. In South Africa this body is Statistics South Africa (Stats SA).

4.5.1 Sports-related Products and Services

The European Sports Charter provides information on which activities can be assigned to sport:

Sport means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competitions at all levels (Council of Europe 2001).

Gratton and Taylor (2000), based on Rodgers (1977), identified five elements that can be used to eliminate sport:

- Physical activity,
- Recreational purposes,
- A competitive element,
- Institutionally organised and
- Recognised as a sport by the media and sports organisations.

Gratton and Taylor (2000), divide activities into four categories:

- Core sporting activity (e.g. Playing football), n
- On-competitive physical activity (e.g. Hiking),
- Non-competitive physical activity (e.g. Playing darts),
- No sporting activity (e.g. Going shopping).

Therefore, different theoretical (economic) approach to the definition of sport are contingent on the degree to which sport-related income and expenditure is quantified.

As will be discussed later, sport has not been included as a separate item in the system of National accounts. This makes it difficult to quantify the impact of any policy accurately. Sport-related products are often included in other economic sectors. These goods and services can be seen as inputs to “produce sport” (so-called upstream sectors). These goods and services can have either a direct or indirect connection to sport without being necessary for the “production of sports” (so-called downstream sectors). The upstream sectors include, for

example, sporting goods production and sporting goods trade, which provide essential inputs for the “production” of sport by providing sports clothing and, for example, sports balls.

On the other hand, downstream sports related sectors would include the betting and lottery system since the sectors uses the sport for their industry. Again, this makes it difficult to decide on which downstream companies are related to sports activities.

Although there are many different economic and financial indicators, the most important and recognised are the National Accounts. It is therefore not surprising that national statistics offices focus on National Accounts. The United Nations has set up an internationally agreed standard of recommendations on what should be included in National Accounts and how these should be compiled.

The System of National Accounts (SNA) has gone through many iterations, the 2008 edition is the latest. Because it takes time to move from one system to another, South Africa still uses parts of the 1993 edition, especially the definitions. These are discussed below.

Since many sporting bodies and government departments and agencies responsible for the promotion and development of sport and recreation have encountered problems of collecting suitable data, sports observatories have been developed. In some cases, these sports observatories are part of the responsible department or agency while in other cases they are independent or part of the official statistical agency.

From an economic perspective, the UK Department of Digital, Culture, Media and Sport (DCMS) (2015) provides the following:

A statistical definition of sport is required to identify sport-related activities in NACE⁵ (derived from the French Nomenclature statistique des activités économiques dans la Communauté européenne). The estimates in this publication are based on the EU agreed definition of the sport economy ('Vilnius Definition') which sets out which categories or sub-categories are fully or partly related to sports and the definition to which they belong. Sport under the Vilnius Definition is comprised of three parts:

- *Statistical Definition: Comprised of “sporting activities” (the only part of the sport sector having its own NACE category).*
- *Narrow Definition: All activities which are inputs to sport (i.e. all goods and services which are necessary for doing sport) plus the Statistical Definition.*

⁵ Statistical classification of economic activities in the European Community, abbreviated as NACE,

Broad Definition: All activities which require sport as an input (i.e. all goods and services which are related to a sport activity but without being necessary for doing sport e.g. insurance or gambling) plus the Narrow Definition.

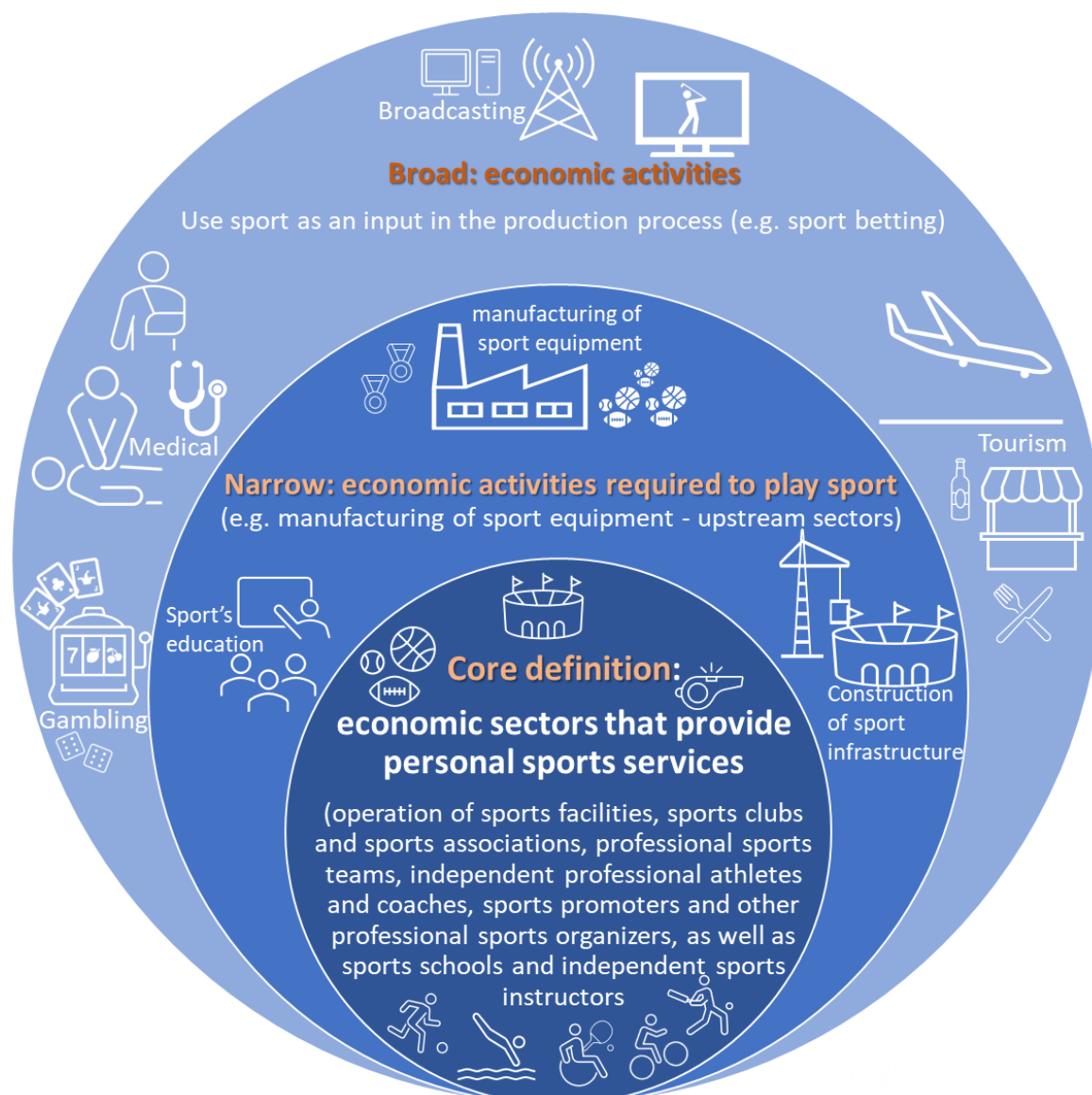


Figure 5: Classification of sport-related activities

Source: Adapted from UK Department of Digital, Culture, Media and Sport (2015)

The 'Vilnius Definition' is included in Appendix 2.

E-gaming

E-gaming has been a massive sports and leisure pastime around the world that has been attributed to cheaper and easier internet access to the internet. E-gaming tournaments have almost 200 000 online participants and around 60 million people watching tournaments online (Ndlovu, 2019). This of "interactive" sport is likely to become a significant contributor to the economy. According to USA Today, the worldwide video game market could grow from \$137.9 billion in 2018 to \$180.1 billion by 2021, with China, the USA, Japan, South Korea, and Germany ranked as the top five global markets (Capital International Group, 2019).

E-gaming in South Africa is taking off quickly because of increased affordability of their internet and smartphones. Telecommunication companies and broadcasters have tapped into the gaming culture and see it as an important part of their service offerings. SuperSport even has a dedicated channel to e-gaming. Between January and February 2019, it had a viewership of 2 174 000 viewers. The consumer profile is 76% black, 63% male, 52% age 15-34 and fall into the upper class (SEM 9-10) of the population (Ndlovu, 2019).

4.5.2 Sport Labour Market Classifications

Most people participate in sports at an amateur level. However, sports has become a professional occupation in most sporting codes. Some athletes earn 100% of their wages from the sport that they practice. For others, sport is used to augment their main vocation or occupation.

The earnings of athletes are asymmetrical. Superstars are able to earn a lot. At the lower end, athletes are not able to live off their earnings from sport. They nevertheless have to spend as much time and effort as the superstars. This time and effort spent usually comes at the detriment of their earnings and promotional opportunities in their main occupation. However even superstars have problems. Their careers are often short lived and especially in contact or collision sports, the risk of serious injuries that could end their careers and possibly even hamper transition to other occupations.

From an economic perspective, it would be interesting to understand some of the labour market dynamics of professional sport. Rocher (2016) in a paper presented at the European Association for Sociology of Sport disaggregated sport as follows:

- Main areas of employment
 - Teaching
 - Management
 - Training
 - Out of school activities
- Type of contract
 - Civil servant
 - Indefinite
 - Temporary
 - Self-employed
 - Without contract

In South Africa relatively little attention has been paid to estimating value of economic activity in the sports market possibly because of the difficulties formulating definitions for sport and especially delineating an economic definition of sport.

4.5.3 Sporting Infrastructure

Sporting infrastructure includes both the facility on which the sport is practised as well as facilities for spectators, appropriate change rooms, or even on-site medical facilities. South Africa's sports development and increased participation rely on adequate sport facilities. Infrastructure lays a foundation of the entire sport and recreation system, and the provision of sport facilities is an indispensable requirement to improving sport.

It is therefore necessary to measure the level of sporting infrastructure in South Africa and especially where it is in relation to where the population lives, goes to school, and works.

There are always spatial considerations that must be taken into account when sport and recreation activities are practised. In some cases, especially when the sport is played informally, almost any venue can be considered suitable. For example, an empty field with four poles representing the two goalposts becomes a soccer field or a street with a makeshift set of cricket wickets becomes a cricket field. However, even though this level of informality is useful in developing grassroots talent and keeping our youth active, infrastructure is generally considered essential.

Road races (including marathons, cycling, or even motorsports) use existing roads. In some cases, runners and cyclists share the road with other motorists. However, during especially competitions the roads are dedicated to the event. In such cases no new facilities or infrastructure needs to be built other than perhaps a temporary pavilion from which spectators can observe the event.

Informal infrastructure could include children's play parks, community gyms, greening of open spaces etc.

When it comes to more formal structures, there are also various levels of sophistication. During the 2010 World Cup in South Africa a number of stadiums had to be upgraded to meet the extremely high standard that was imposed as a condition for hosting the World Cup. Even training venues had to meet relatively high standards and South Africa spent a considerable amount in meeting these standards.

However, when it comes to school sports, facilities did not have to meet such high standards. This is particularly true when it comes to the number of spectators that come to each match. Unfortunately, the provision of school sporting facilities is asymmetrical in South Africa and previously disadvantaged areas do not always have the basic or minimum standards that are required.

4.5.4 Provision of Sporting Infrastructure

Sport policies aiming at increasing mass participation and club participation have stressed the importance of sport infrastructure. The National Development Plan has obligated the DSAC to ensure provision of sporting and recreation facilities in South Africa. Under Schedule 5B of the Constitution requires municipalities must provide physical sporting facilities in their jurisdiction. Further the NSRP recognises that South Africa has a challenge of provision, equitable access and maintenance of sport and recreation facilities. It acknowledges that failure to address sport infrastructure backlogs will hamper South Africa's transformation objective. Much of the funding comes from the Municipal Infrastructure Grant.

4.5.5 Classification of Sporting Infrastructure

There is a paucity in the academic literature on the classification of sporting infrastructure. There are a number of classification possibilities and it is probably useful to multiple systems that can then be aggregated and disaggregated and applied appropriately for the need the statistic is addressing.

The first classification would be facilities according to each sporting code. DSAC has developed a comprehensive classification system that could serve the purpose.

A second classification is according to the type of sports facility and include *inter alia* Polo ground, Athletic track, Bowling green, GAA pitch, Hockey pitch, Rugby pitch, Soccer pitch, Cricket pitch, Tennis court, Race track, Sports ground, Multiple use sports ground, Golf

course, Golf links, Pitch and Putt course, swimming pool. Further research is needed to extend and perhaps consolidated the list.

A third classification would include the group of athletes that would use them and could include competitive elite athletes, able athletes and disabled athletes; and non-competitive or recreational non-athletes (jogging, trim park, play ground for children etc.).

A fourth classification could include aspects such as ownership and access and would include whether access is inclusive with or without an access fee and if the facility is privately or publicly owned.

4.5.6 Mapping Infrastructure

Data displayed on the map often provides a better picture of the state of affairs. Geographic Information Systems (GIS) is increasingly been used effectively used for planning and especially in fields such as town planning. Where people live and where the necessary facilities are is important for both players and spectators.

The State of Queensland (2018) has developed a “Sport Planning Tool” that can show various combination of maps showing club infrastructure and membership data, along with current and projected demographic and socioeconomic information. The types of maps include:

- Clubs map
- Heat map
- Venue map
- Funding map
- Population map
- Socioeconomic Indices for Areas map (SEIFA)
- Analysis map

GIS practitioners use symbols and icons to identify infrastructure on a map.

This give a visual presentation of where infrastructure is. On its own this is not really useful, but by including overlays, it is possible to identify a number of other factors that are very useful for planning purposes. Stadiums can for example be built a locations that have existing public transport facilities that can ensure that the largest number of spectators can attend.



Similalrly, the location of clubs, and other infrastructure can be visualised in a way that the various sports codes are also shown.



Town planners also use maps to plan cycle or running routes using existing public infrastructure.

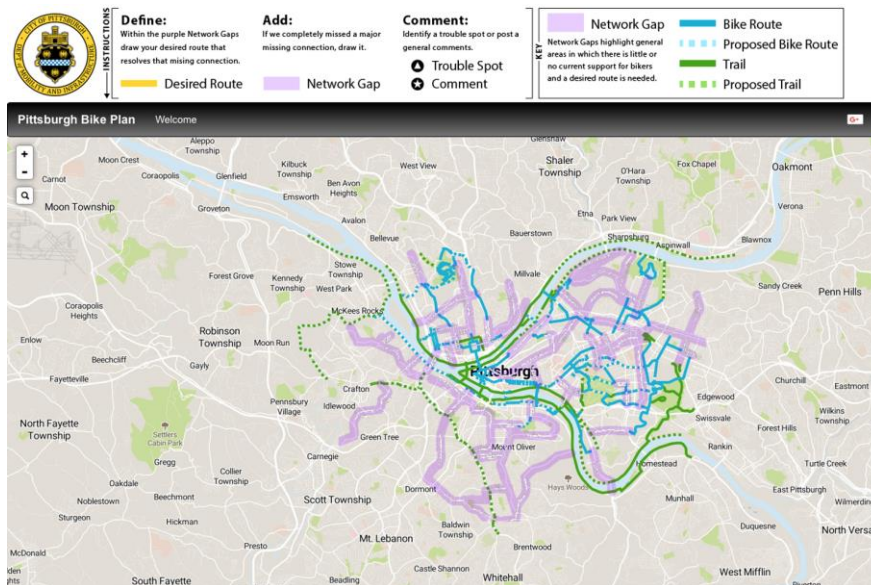


Figure 6: Cycle routes in Pittsburgh

Source: https://pittnews.com/wp-content/uploads/2018/10/N_Bike-Plan_City-of-Pittsburgh_WikiMapping_Mapbox_OpenStreetMap.jpg

Other Uses of GIS

Drones are also useful to observe spectator movement at sports stadiums.

GIS can also be used to identify characteristics, patterns, and movements of players to improve performance (John Eakins, 2020).

Role of GIS in the Sport Framework

Stats SA has a wealth of socioeconomic data that can be disaggregated to spatial levels. If the proposed framework for sport information includes a spatial variable, where possible, a geographic layer can be created that can be overlaid with another layer. This layer could include the populations characteristics including age and gender as well as economic variables such as income and gross value added. Overlaying the transport routes will allow for better planning of firstly, where sporting infrastructure is most needed and secondly, to plan for movement of people and traffic to and from the event as well as the regular traffic around the event.

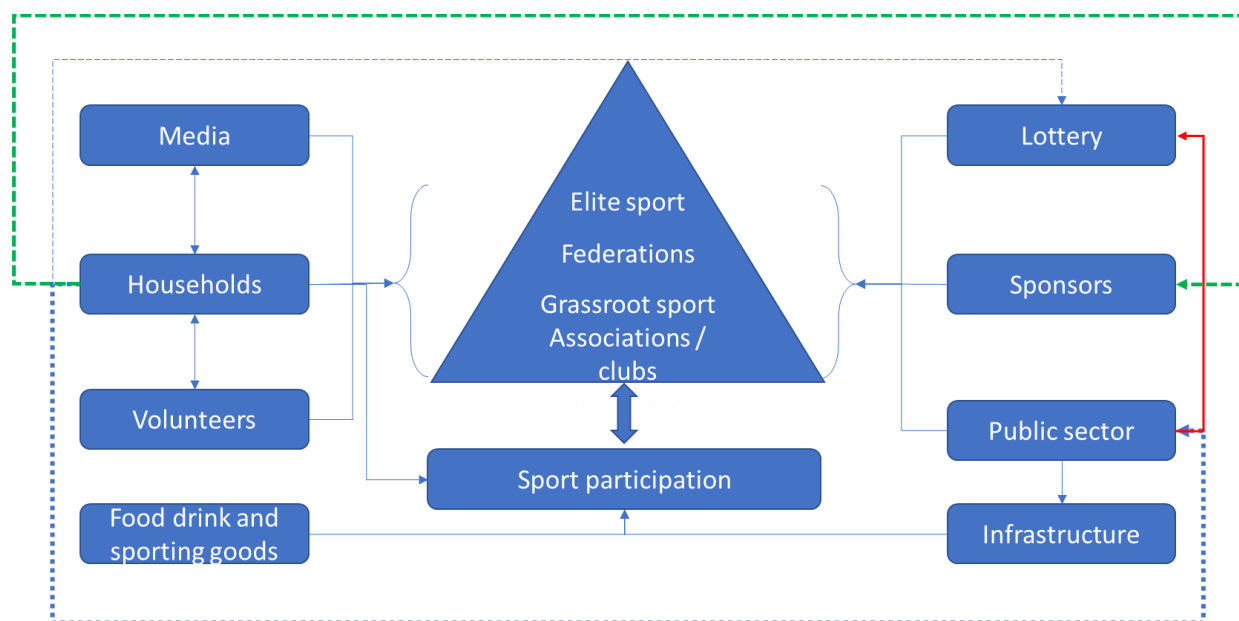
4.5.7 Sport Broadcasting

Broad casting is an important source of revenue for sport. Unfortunately, most of the revenue goes to major sporting codes. The White Paper states that

According to research, 75% of the total TV hours allocated to sports content in SA go to five codes, namely, soccer, rugby cricket, golf and motorsport. It is not surprising therefore that these same five codes also receive 72% of the total sponsorship rights fees invested annually by the corporate sector. Isolating the National Broadcaster, 73% of the total sports coverage went to just two codes in 2010, with soccer receiving almost 50% alone. Unfortunately, without TV hours sports codes have little or no chance to become financially self-sufficient (South Africa and Department of Sport and Recreation, 2013, p. 33).

4.6 Funding Sports

Miège (2009) shows how differences in the structure of sport organisations and legislation impact the way sport is financed. There is both private and public funding. Private funding includes household expenditure, sponsorship, and payment of broadcasting rights by television companies. Public aid to sport is either direct (in the form of subsidies) or indirect (in the form of the provision of personnel and infrastructure, or the reduction of tax and social charges).



An understanding of how sport is financed is critical to developing an Sport Satellite Account (SSA).

4.7 Economic Indicators and Satellite Accounts

Although the non-economic indicators are important and often drive the performance of the economy and the representative economic indicators, economic indicators are impassionate. The market generally takes all factors into consideration and evaluates in objectively and without any emotion. Because of these factors, economic indicators are especially useful for developing evidence-based policies.

Although there are many economic indicators that can be used, National Accounts are generally the most comprehensive. In addition, the SNA that was developed by the United Nations allows for cross-country and cross regional comparison. This makes it easier to identify best practice. At the heart of the SNA is the GDP.

4.7.1 The GDP

The SNA is used as an accounting system to measure many macroeconomic dimensions and is, used widely by governments' statistics offices, central banks and treasuries. Unfortunately, much of the SNA has been developed for the analysis of traditional sectors. The sectors that have traditionally been incorporated in National Accounts do not, for example, include tourism, information and communication technologies or the cultural and creative industries. This makes it harder to measure progress, develop appropriate policy or to measure its outcomes.

However, in the past two decades, there has been considerable innovation and also a change of focus.

4.7.2 Understanding the Economic Flow

The circular flow of income is a concept for better understanding of the economy as a whole

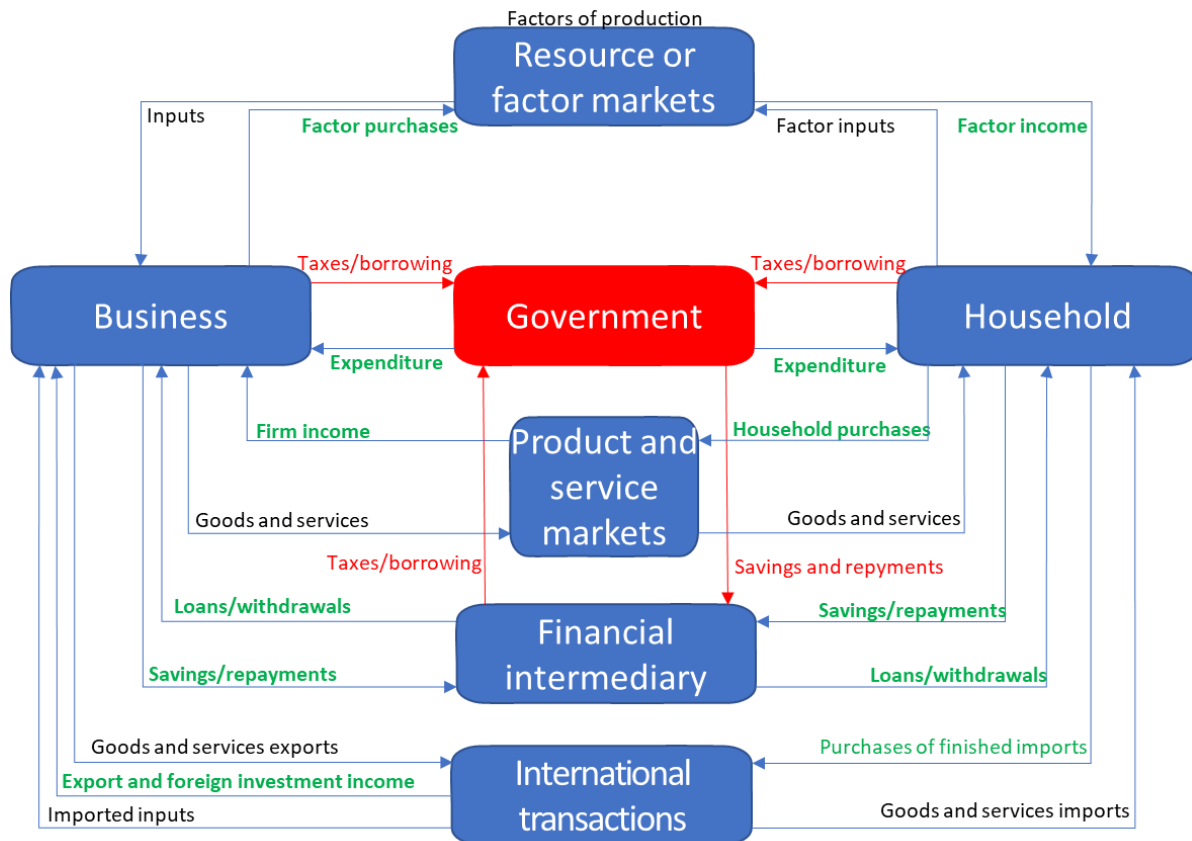


Figure 7: The circular flow of income is a of the economy

When economic agents complete a transaction, there is the provision of a good (or service) and payment (or the promise of a payment). In an economic system (generally a country) there are households that provide labour and other factors of production (such as financing and land). There are also firms that produce and supply goods and services. Government provides public goods.

Because we no longer live in a barter system of economics, money is needed. Some economic agents have surplus money (savings) or insufficient money (and need to borrow). Banks or other financial intermediaries ensure that the flow of funds works efficiently. They all the savings and provide loans to those that require this service.

Countries also trade with each other and therefore there are also exports and imports of goods and services that generally requires a foreign currency to conclude the payment.

Within the circular flow there are a number of factors that influence the sport economy that need to be taken into consideration. Households would supply the factors of production for the production of sporting requirements. Households also supply athletes (who may or may not be professional) and also volunteers. Sport is also consumed by households.

Business produce sporting goods and equipment. They also build the infrastructure that is required by athletes. Businesses also provide sponsorship that enables athletes (both

professional and amateurs) to partake in their sporting activities. Broadcasters and other media also responsible for producing content that households can consume.

Government not only regulates the economy but also connects taxes from both businesses and households. Regulations that control gambling including lotto provide further resources beside sponsorship for the practice and development of sport. Government also uses taxes that it connects to provide subsidies. In many cases local governments also build and maintain sporting infrastructure.

Sporting equipment is often very specialised and not all countries produce all the goods that are necessary to practice each sporting code. In some cases, specifications by the sporting federations of governing bodies prescribe the standards that equipment must be complied with. In such cases, goods are traded between countries and the volume and value of the straight will have an impact on the size of the sport economy.

These factors are not apparent when looking at national accounts. Even when the sectors are disaggregated, the value of each component discussed above cannot be accurately determined. It is for this reason that a SSA is necessary. However, calculating the size of any economy is a daunting task and many methods have been described. The most popular economic indicator is the GDP. There are three methods to calculate the GDP and each method should give the same result.

4.7.3 Calculating the GDP

The GDP is the central concept in the National Accounts. Simply put it is the monetary measure of the market value of all final goods and services produced in a country for a given period. The OECD (2008) defines it as “an aggregate measure of production equal to the sum of the GVA of all residents and institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs).” However, there are three methods that are used to calculate the GDP:

The Production Method

The **production method** (this focuses on value added during each manufacturing process);

- $GDP = \text{Output (at basic prices)} - \text{Intermediate consumption} + \text{Taxes less subsidies on products};$

The Income Method

The **income method** (this focuses on the income and from the factors of production including rent, interest, wages and profit);

- $GDP = \text{Compensation of employees} + \text{gross operating surplus} + \text{other taxes less subsidies on production} + \text{taxes less subsidies on products}; \text{ and}$

The Expenditure Method

The **expenditure method** (this is the sum of final goods and services consumed an economy);

- $GDP = \text{Final consumption} + \text{Gross capital formation} + \text{Exports} - \text{Imports}.$

These three methods should all arrive at the same figure for the GDP.

The GDP and Sport

These three measures are used to calculate the value for the whole economy. Some disaggregated information from a few of the accounts that are discussed above can provide

some information about the sport economy. Unfortunately, many sectors (including the sport economy) are not disaggregated and often form part of one or more other sectors of the economy. It is therefore necessary to use Satellite Accounts to measure the performance of the various indicators.

4.7.4 Satellite Accounts

The Satellite Account is a set of accounts and tables, based on the methodological principles of National Accounts, which presents different economic parameters of specific area in an interrelated fashion for a given reference date, therefore providing an economic measuring system of the industries and products that comprise the cultural field.

A Satellite Account forms part of the United Nation's SNA that were first developed in 1953 (although they have a longer history), with many subsequent revisions. The 1993 SNA recommended that any economic activity which is not included in the fundamental set of accounts should be measured by Satellite Accounts.

To maximise its usefulness, the guidelines and methodologies of SNA are necessarily of a general nature. The universality of the SNA approach is one of its major advantages and indeed served as a guiding principle for its development and design. However, the SNA does not provide sufficient information for all user needs.

Since the end of the 1970s, France has been using the term "Satellite Accounts" as a way of designating those statistical practices in specific horizontal areas related to the SNAs though with a specific approach but that nonetheless could be considered as satellite subsystems of that system because of the strength of their link to the "core" system.

SNA guidelines suggest the expansion of SNA through the development of Satellite Accounts. Such Satellite Accounts are developed and used to shed further light on data features needed for specialised analyses that are not contained or are not well represented in the central SNA framework but nonetheless reflect important economic, social and political concerns. They expand the capacity and utility of SNA without overburdening and disrupting the logical frame and integrity of the system as a whole. In such Satellite Accounts, amendments may be made to concepts and the classification detail of the central SNA.

4.8 South Africa's Satellite Accounts

South Africa is well positioned to produce a Sport Satellite Account. Stats SA produced South Africa's first Satellite Account for the tourism industry. Stats SA has also produced Satellite Accounts for the ICT sector and non-profit institutions.

As is the case with the sport, tourism and the contribution of tourism to the economy is not accounted for in the South African SNA. These activities rather fall under the auspices of industries such as transport, accommodation and recreation to mention a few. A necessary requirement of any endeavour of this magnitude is an enabling support network. The Tourism Satellite Account (TSA) is well supported by departments and agencies in the different spheres of government and data collectors, ranging from Stats SA, the South African Reserve Bank (SARB), the Department of Home Affairs (DHA) and the Department of Trade and Industry (the dti).

The committee of the TSA is divided into two levels:

1. The first level comprises the departmental heads of the different agencies. The approach followed by the TSA body prides itself on effectiveness and a clean delivery.

As prescribed by the Stats SA publication on the TSA (Statistics South Africa, 2007): “recommendations from the working group can be put into practise without undue delay.”

2. The second level of the TSA committee comprises role players within the industry “which allows members who are actively involved in tourism and tourism data to exchange ideas.”

The ICT sector is another sector which is experiencing strong growth. But as the activities of this sector is not directly quantified by the SNA, the value added by the sector to the economy was not measurable. The sector was thus well suited to the application of a Satellite Account, which was drafted in 2005 (see draft Information and Technology Satellite Account for South Africa, 2005). Key to the development of the ICT Satellite Account was the design of a coherent framework. The structure as prescribed by the Organisation for Economic Cooperation and Development (OECD) was used as the backdrop of the South African ICT Satellite Account, this allows international comparisons (Stastics South Africa, 2014).

From an environmental perspective Leiman and Harris (2009) argues that South Africa’s commerical fisheries requires a Satellite Account. Not only would a Satellite Account provide a salient measure for the economic contribution of the activity but also provides “information on the extent of stock depletion, past and present fishing effort, and the returns-to-effort reduction.”

The preceding paragraphs are testament to one, the capability of the South African data scientists’ ability to produce a well articulated and coherent system of Satellite Accounts; and two, the use of Satellite Accounts as a measure of value added to the South African economy is a viable option. As it was with the tourism sector and ICT sector, the contribution of the cultural sector to the economy is currently not measured explicitly.

A Sport Satellite Account (SSA) would permit activities within the sport to be compared with other economic sectors and contributors. Furthermore, policymakers would be well positioned to design and implement a policy system which supports the sport, empowering the sector to provide employment and a sustainable income for creative individuals. A value chain approach would define the mechanisms and identify the industries which provide inputs and receive outputs from the cultural sector. Furthermore, the SSA would enable sectoral roleplayers to delve deeper into the sport sector and determine on a object level what the contribution of each is.

4.9 Uses of the Sport Satellite Account

A SSA would measure the economic importance of culture and extracts economic information on culture from the SNA. It uses the same measures of inputs, outputs, and GDP as the SNA, and reorganises information on culture following a specific framework for culture statistics. The objective is to provide a set of macroeconomic variables that reveal, through statistical indicators, the productive structure of culture-related activities and the field’s importance in the economy as a whole.

Specifically, the macroeconomic variables considered as priority objective, from the perspective of the supply, have been the various components of the production account:

- Intermediate consumption,
- GVA at basic prices,

- Output at basic prices and
- The contribution of culture to the South African GDP.

In addition, the compensation of employees and Full-Time Equivalent employment estimations in terms of National Accounts can be estimated.

This information allows analysis of the sport sector. Trends can be determined as well as factors that may influence these trends. This information will be useful for the development of policies (by government) and strategies by other role players. This will help maximise the impact of scarce resources used to implement the strategies and other interventions.

Sport-related industries have a strong relationship with other areas of the economy. They may be synergistic relationships that can be identified and exploited. Having a SSA will also allow to undertake Regulatory Impact Assessments (RIA) for Socioeconomic Impact Assessments (SEIA).

To determine the impact of a cultural events or investments in cultural activities, it is necessary to use an econometric model. This is discussed below.

4.10 Economic Modelling

Economic modelling is a critical tool in government policy, planning and budgeting processes at the national and regional level, and regional models have been developed specifically to increase understanding of the impact of changes, such as shifts in government policy or chance events, on a specific region.

Where disaggregated information cannot be identified directly from the various surveys all accounts that have been used, economic models must be used to derive the data that is required. The most common economic model that is used is the Input-Output model.

4.11 Sport Observatories

A Sports Observatory firstly aims to collect relevant data from the existing data of various stakeholders. The data are then “cleaned” and standardised where necessary for comparison. The data are then analysed and value added to it. Sports observatories often disseminate the data using a dashboard or making data available generally using the internet. In other cases reports are compiled and either sold to the public but made available to the relevant agencies responsible to develop and promote the particular sport and the relevant department or agency responsible for the development of sport and recreation in particular. The data are used to formulate policy for the further development of sports many countries have Sports Observatory that gather, analyse and publish data relating to sports activities and their contribution to the socioeconomic environment. This information is used as a basis for evidence-based policy making. In South Africa there is no mechanism to gauge the contribution of the overall sports sector, although there is a South African Cultural Observatory.

Sports Observatories an examples of Sport Observatories are discussed in Appendix 3.

4.12 Conclusion

Sport and recreational activities are practised by almost everyone in the population. It is only the degree or intensity that varies. The above classifications are useful to measure how sport and the practice of sport is changing. This is useful for both economic and noneconomic objectives. From a noneconomic perspective, correlations can be drawn (and even

sophisticated models developed) as to how each sport (or sporting code) is beneficial detrimental to society in terms of health and well-being. However, from an economic point of view they are also useful especially in terms of the type of equipment and infrastructure that is required for each classification.

As society changes, so does their preference for one sport over another. Lately this has been influenced by the availability of new technologies and ICT infrastructure. Research needs to be undertaken in South Africa as to how these new sports and changing sports could influence the economic activity in the country.

5 Economic Classifications for the Framework

To develop a framework to analyse sports as well as a Sport Satellite Account and a Sports Input-Output table, it is important to use definitions that are both suitable for the objectives of the framework and generally accepted by role players. Much of the discussion above has touched on a number of issues that need to be addressed.

The data collected in the framework should speak to the objectives of all stakeholders including individual sporting bodies and the government.

5.1 Institutional Units

According to United Nations (2009) “An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities.” These institutions may in goods or assets, make economic decisions, and incur liabilities (which implies future obligations). The SNA identifies two main units that qualify as institutional units. These are persons (or groups of persons in the form of households) and legal and social entities. The latter are those “whose existence is recognised by law or society independently of the persons, or other entities, that may own or control it.” The SNA recognises that some “unincorporated enterprises belonging to households or government units may behave in much the same way as corporations, and such enterprises are treated as quasi-corporations when they have complete sets of accounts.”

The SNA recognises that corporations are described by different names including corporations, incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, and limited liability partnerships. For the development of the cultural sector in South Africa it is also important to recognise that cooperatives have been defined by the Cooperatives Act 14 of 2005, and therefore recognised as corporations.

Government units are unique kinds of legal entities established by political processes that have legislative, judicial or executive authority over other institutional units within a given area.

The resident institutional units that make up the total economy are grouped into five mutually exclusive sectors⁶:

- Non-financial corporations;
- Financial corporations;
- General government;
- Non-profit institutions serving households;
- Households.

5.2 Productive Activities, Industries and Products

Production in the SNA consists of processes or activities carried out under the control and responsibility of institutional units that use inputs of labour, capital, goods and services to produce outputs of goods and services. Industries are defined in the SNA in the same way as

⁶ SNA 4.6 and <https://stats.oecd.org/glossary/detail.asp?ID=1413>

in International Standard Industrial Classification⁷ (ISIC)⁸⁹. That is an industry consists of a group of establishments engaged in the same, or similar, kinds of activity. An industry consists of a number of establishments engaged in the same type of production.

There are a number of other Industry classification systems or industry taxonomies that organises companies into industrial groupings based on similar production processes, similar products, or similar behaviour in financial markets. These are sponsored by different organisations and based on different criteria¹⁰. However, for the purposes of the study, the ISIC and the South African SIC will be used.

A one-to-one correspondence does not exist between activities and products. Certain activities produce more than one product simultaneously, while the same product may sometimes be produced by using different techniques of production. Products are classified according to the Central Product Classification¹¹ (CPC)¹². The rapid technological advances created new industries and products that needed to be tracked using the reference classifications¹³.

The CPC is a classification based on the physical characteristics of goods or on the nature of the services rendered, while the ISIC also takes into account the inputs in the production process and the technology used in the production process. The majority of links between ISIC and CPC will tend to be one-to-many links, with a few cases requiring many-to-one links.

In international trade, mainly for customs purposes Harmonised System(HS)¹⁴ is an international standardised system of names and numbers to classify traded products. It was developed by the World Customs Organisation in 1988 and has approximately 200 countries using it. The HS is harmonised at six digits internationally. Countries are permitted to add additional digits for policy, analytical, or other reasons that may be particular to the country concerned. South Africa has eight digits in its customs classification system.

7 United Nations. 2008. International Standard Industrial Classification of all Economic Activities (ISIC) Revision 4.

Department of Economic and Social Affairs, Statistics Division, Statistical papers, Series M, No 4, Rev. 4. United Nations, New York.

8 At the most detailed level of classification, an industry consists of all the establishments falling within a single Class of ISIC. At higher levels of aggregation corresponding to the Groups, Divisions and, ultimately, Sections of the ISIC,

industries consist of a number of establishments engaged on similar types of activities. (SNA 5.56

9 ISIC was initially adopted in 1948, ISIC Rev 2 was adopted in 1968, ISIC Rev 3 was adopted in 1989 (decade long review process), ISIC Rev 3.1 was adopted in 2002 and ISIC Rev 4 was adopted in 2006 (structure approved in 2006, manual published in 2008)

10 These include International Standard Industrial Classification of All Economic Activities (ISIC); North American Industry Classification System (NAICS); Statistical Classification of Economic Activities in the European Community (NACE);

Australian and New Zealand Standard Industrial Classification (ANZSIC); Standard Industrial Classification (SIC);

Industry Classification Benchmark (ICB); Global Industry Classification Standard (GICS); United Kingdom Standard Industrial Classification of Economic Activities (UKSIC); Thomson Reuters Business Classification (TRBC); and the Swedish Standard Industrial Classification (SNI).

11 United Nations. 2008. Central Product Classification (CPC) Version 2. Department of Economic and Social Affairs, Statistics Division, Statistical papers, Series M, No 77, Ver. 2. United Nations, New York.

12 The SNA uses the Central Product Classification Version 2 (CPC) 2 (United Nations 2008b)

13 CPC Provisional was approved in 1989, CPC V 1.0 was approved in 1997, CPC V 1.1 was approved in 2002

CPC V 2.0 structure was approved in 2006 (published in 2008)

14 World Customs Organization. 2007. Harmonized Commodity Description and Coding System, Revision 4 Brussels

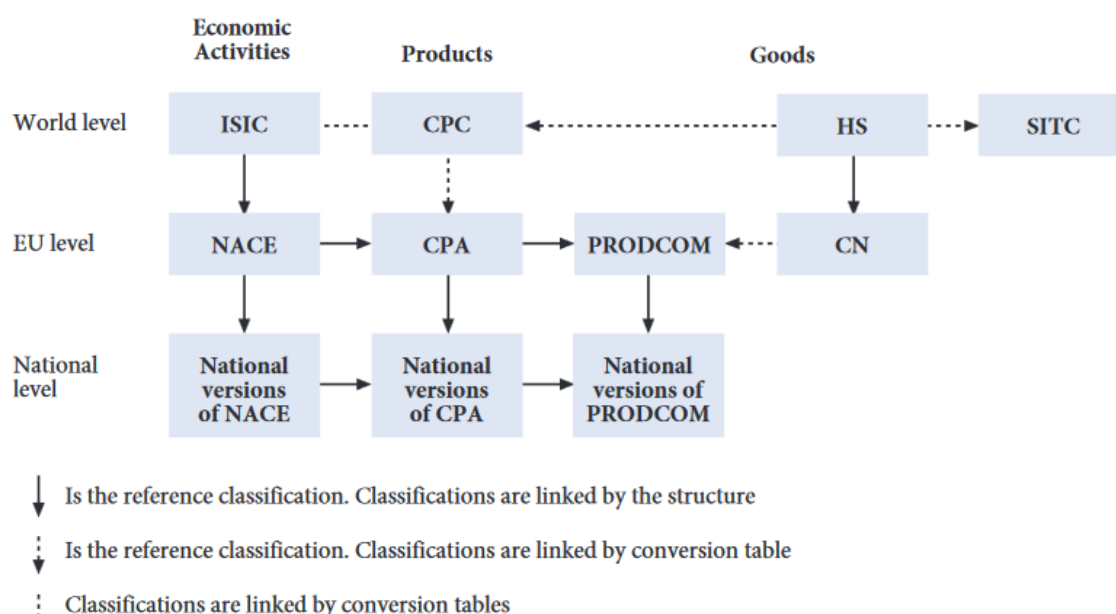


Figure 8: Figure 7: The relationship between the different classification systems

Source: OECD (1999)

Standard International Trade Classification (SITC) is also a classification of goods used to classify the exports and imports of a country to enable comparing different countries and years. The SITC is a useful classification system if it is necessary to compare trade statistics for periods before 1988.

The CPC for goods is tied closely to the HS and concordance tables exist to match them. Thus from the product has been identified as a cultural product according to the CPC classification will be possible to determine what the cultural exports and imports out of and into South Africa are.

Trade in Services

While the HS covers physical goods, trade in services refers to the sale and delivery of an intangible product, called a service, between a producer and consumer. Trade in services takes place between a producer and consumer that are, in legal terms, based in different countries, or economies, this is called International Trade in Services.

International trade in services is defined by the Four Modes of Supply of the General Agreement on Trade in Services (GATS).

- (Mode 1) Cross border trade, which is defined as delivery of a service from the territory of one country into the territory of other country;
- (Mode 2) Consumption abroad - this mode covers supply of a service of one country to the service consumer of any other country;
- (Mode 3) Commercial presence - which covers services provided by a service supplier of one country in the territory of any other country, and
- (Mode 4) Presence of natural persons¹⁵ - which covers services provided by a service supplier of one country through the presence of natural persons in the territory of any other country.

¹⁵ A "natural person" is a human being, as distinct from legal persons such as companies or organisations.

5.3 Best Practice in Setting Up Accounts

There are two main classification systems:

- Flat (one level)
- Hierarchical (several levels of aggregation)

The bottom level of a hierarchic classification is always the most detailed level and has the most precise information categories at this level are aggregated into broader categories in the classification.

The functional classifications, that are hierarchical, have three levels which are referred to as follows:

- 1) 01. Division
- 2) 01.1 Group
- 3) 01.1.1 Class.

The number of levels defined should be kept to the minimum to provide the detail needed for different types of description and analysis. Hierarchic classifications usually require no more than five levels but cannot have more than nine levels.

Flat classifications are used for demographic statistics e.g. male or female, while hierarchical systems are used for most economic statistics.

5.3.1 Coding Structure

Codes consist of one or more alphabetical or numerical characters assigned to a category in a classification. A code may consist of a combination of alphabetical or numerical characters. Numerical codes are more useful particularly when creating logical and sequential hierarchical classifications¹⁶.

The code structure should be robust enough that the addition of new codes can be done in the future.

Every category in a classification must have a code and the code structures need to be consistent and logical for each level they are used.

Categories in Statistical Classifications

it is important each classification and category within the classification must be exhaustive, in other words covers all possible values, it must be mutually exclusive. This implies that a member, units or activity should be allocated to category of subcategory. There should not be unnecessary or redundant categories. This impacts on the usefulness of the classification stop

Statistical classification should not have categories at the same level in its hierarchy which are too disparate classification should not have categories at the same level in its hierarchy which are too disparate in their population size. Statistical balance allows a classification to be **used** effectively for the cross-tabulation of aggregate data.

¹⁶ Leading zeros might be required to ensure a standard code pattern can be stored within computerised classification management systems.

Exhaustiveness

A classification should be exhaustive and include all possible values that the variable can take for the primary units for which the classification represents. Unnecessary categories hamper the effectiveness and usefulness of the classification.

Statistical Balance

Although statistical classifications will not always be nicely statistically balanced, categories should not have the same level in its hierarchy that are too disparate in their population size. Statistical balance allows a classification to be used effectively for the cross-tabulation of aggregate data. It is however necessary to maintain homogeneity particularly in statistical samples to ensure that identical elements are being classified in the same way. Forcing classification categories to conform to size limitations can mean that the categories will not be meaningful or useful.

Statistical Feasibility

It should be easy to distinguish effectively, accurately and consistently between the categories in the classification on the basis of the information available. Statistical feasibility is a fundamental aspect when considering how to use a classification in statistical data collections. With well-designed coding tools and procedures, it should be possible to code to the correct categories effectively.

Classification Units and Statistical Units

The classification unit is the basic unit to be classified in the classification (e.g. the job in an occupation classification, or the enterprise or establishment in an industrial activity classification.)

Statistical units are the units of observation or measurement for which data are collected or derived. Statistical units can be people, products, businesses, geographic areas, events, jobs etc. This may, or may not be the same as the unit of classification.

Time Series Comparability

In developing and using a statistical classification, consideration must be given to ensuring comparability over time between current and previous versions of the classifications. Time series breaks should be avoided but may sometimes be necessary when this reflects changes to the reality that the classification should mirror.

Time series can be managed through the use of correspondences or concordance that maps different versions of classifications together.

Descriptors

Descriptors describe the category of the classification and are usually very short. In some cases, as is the case with HS, additional material is provided to help ensure that the classifications are consistent and accurate. Explanatory notes may explain the content by giving examples of inclusions and exclusions, or provide rules or guidelines for how to use that particular category.

Each descriptor should be unique within the classification and meaningful, to illustrate with certainty the exact content of the category.

Coding Index

A coding index reflect probable responses to requests for information in statistical surveys or administrative forms. These are stored with the classification category to which they belong. A coding index is created to process responses.

A coding index is used to allocate a classification code to a response. It usually contains descriptions obtained from a variety of sources which include survey responses and write-ins in administrative forms. Misspellings may be included.

A coding index with precise rules on how it should be used in a coding operation should be constructed for computer assisted coding as well as for manual coding.

Residual Categories

Residual categories or supplementary codes are designed to classify responses that do not fit into the classification categories.

Units of Measure

Units of measure (units, litres, tonnes, kilograms, metres squared, value etc.) are often used with statistical classifications of trade and/or commodity data. Units of measure are away of quantifying the units being classified, and are part of the basic category definition.

Coding Decisions/Case Law/Determinations

It is essential to record and make easily available any previous quality coding decisions, case laws or determinations which may assist users of the classification. These decisions should be incorporated into the rules for using the coding index and may provide an agreed interpretation of how to:

- Classify new situations/responses;
- Classify difficult or unusual situations that the existing descriptive definitions do not easily resolve; and
- Classify categories for which there has been varied interpretations by users, to get consistent coding).

Correspondence

A correspondence provides a link between different versions of a classification or between different classifications. A correspondence detail shows a category in one classification relates, or links to, the new/other classification. Sometimes the category does not change across classifications, sometimes a category splits into several categories in the new/other classification, and sometimes there is no corresponding category. For the latter situation a decision needs to made as to the presentation in such instances with possible options being to exclude altogether or include and map to “no equivalent category.”

A correspondence can consist of the following relationships:

- One-to-One (1:1);
- One-to-many (1:m);

- Many-to-One (m:1); and
- Many to many (m:m).

5.3.2 The South African Statistical Quality Assessment Framework

The South African Statistical Quality Assessment Framework (SASQAF) provides a flexible structure for the assessment of statistical products. The SASQAF makes it possible for statistics to be certified as official. (Stats SA, 2010)

SASQAF can be used for:

- Self-assessment by producers of statistics;
- Reviews performed by a Data Quality Assessment Team (DQAT) for certification purposes; Assessment by data users based on the producing agency's quality declaration;
- Assessment by international organisations, again based on the quality declaration.

The SASQAF dimensions are:

- Relevance,
- Accuracy;
- Timeliness;
- Accessibility;
- Interpretability;
- Coherence;
- Methodological soundness;
- Integrity.

Each dimension consists of a number of quality indicators, together with standards to be adhered to.

5.3.3 Statistical Classification of Products by Activity (CPA)

The CPA, is the classification of products (goods as well as services) at the level of the EU. Product classifications are designed to categorise products that have common characteristics. They provide the basis for collecting and calculating statistics on the production, distributive trade, consumption, international trade and transport of such products.

CPA product categories are related to activities as defined by the Statistical Classification of Economic Activities in the European Community (NACE). Each CPA product - whether a transportable or non-transportable good or a service - is assigned to one single NACE activity. This linkage to NACE activities gives the CPA a structure parallel to that of NACE at all levels.

The CPA is part of an integrated system of statistical classifications, developed mainly under the auspices of the United Nations Statistical Division. This system makes it possible to compare statistics across countries and in different statistical domains.

5.3.4 Critique of the System of National Accounts

The SNA is very useful in that it provides for comparison over time and to lesser extent between nations and regions. These National Accounts are dispensable for describing and analysing economic change and therefore make a valuable contribution to economic decision-making. The SNA is however not without flaws. The core of the critique is that societies have focused on the GDP as the headline SNA measure of economic growth and national output. This does not take into account the quality of life that people may experience irrespective of

with the official GDP according to the SNA reflects. Nor does the GDP reflects externalities, such as pollution and global warming, that may result from growing economy.

The SNA, although it has a number of very useful features, does not capture important factors that influence the quality of life. In the cultural domain, there are many attributes that simply go unrecorded or are included under broad headings. Many cultural or creativity activities do not have an economic impact but do contribute to a better society. Other cultural and creative activities that do have an economic impact, whether significant or not, may go unrecorded. This makes it very difficult to analyse the state of cultural affairs, the impact they have on the economy, and more importantly how to plan and develop policies that achieve maximum benefits with minimal resources.

5.4 The Non-Observed Economy in the System of National Accounts

Complete coverage of economic production is a vital aspect of the quality of the National Accounts. This exhaustiveness is virtually impossible to achieve because of the difficulties in accounting for certain types of productive activities. Activities that are missing from the basic data used to compile the National Accounts because they are underground, illegal, informal, household production for own final use, or due to deficiencies in the basic data collection system are referred to as non-observed.

The vast majority of informal sector activities provide goods and services whose production and distribution are perfectly legal. Informal sector activities are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contributions, or infringing labour legislation or other regulations. Certainly, some informal sector enterprises prefer to remain unregistered or unlicensed in order to avoid compliance with some or all regulations and thereby reduce production costs. One should, however, make a distinction between those whose business revenue is high enough to bear the costs of regulations and those who cannot afford to comply with existing regulations because their income is too low and irregular, because certain laws and regulations are quite irrelevant to their needs and conditions, or because the State is virtually non-existent in their lives and lacks the means to enforce the regulations which it has enacted.

The most important changes in the international standards which have an impact on headline indicators such as GDP, concern the “capitalisation” of expenditures on research and development (R&D). SNA 2008, para. A3.46 states that: “The output of research and development should be capitalised as “intellectual property products” except in cases where it is clear that the activity does not entail any economic benefit to its producer (and hence owner) in which case it is treated as intermediate consumption. With the inclusion of R&D in the asset boundary, the 1993 SNA asset category of patented entities as a form of non-produced assets disappears and is replaced by research and development under fixed assets.” While according to the old standards, relevant purchases of R&D were treated as intermediate consumption, the new standards prescribe a recording as investments. This change from intermediate consumption to investments increases value added (measured as the difference between output and intermediate consumption), and thus GDP. However, a considerable part of R&D is not purchased but conducted within an enterprise. In this case, output is increased with the own account production of R&D-assets, thus also increasing value added and GDP.

GDP is primarily designed to measure economic activity, making no judgment on whether the activity is seen as “good” - for example building a school or hospital - or “bad” - for example

selling tobacco or products that are harmful to health or to the environment. The production of all goods and services and the income generated by these activities can take different forms: market and non-market; observed and non-observed; legal and illegal; etc. GDP as a concept is designed to be comparable across countries. If GDP was based on a “narrow” view of production that measured only legal activities, it would not be possible to compare GDP across countries, as GDP levels would be dependent upon (differences in) national law.

GDP therefore does not only include activities reported by firms or legal entities. Measurement of what is commonly referred to as non-observed activities is also to be included. In fact the most substantial part of the NOE, activities related to underreporting for reasons of tax evasion, have been included in the National Accounts of countries for many years now with next to no contention.

The SNA 2008 and its European equivalent, the ESA 2010, both recommend that hidden and illegal productive activities should be accounted for in GDP, as did the earlier standards, the SNA 1993 and the ESA 1995. But despite these longstanding recommendations, in the recent period, some commentators have begun to question whether illegal activities should actually be included in GDP and, indeed, other macroeconomic indicators that can be derived from the SNAs.

5.5 Defining Sport

Although Chapter 4 looked at various ways of classifying sports as it is practised, there are no official international classifications that are used globally. The cultural and creative industries (CCI) had a similar problem in the past. Everyone knows what should be included in either sports or CCIs but when trying to measure the economy (or other indicators) of the sector the lack of a common understanding and a precise definition become apparent. A few countries and regional trade blocs developed definitions for CCIs (some were broader than others and included the creative components while others did not) in the late 1980s and early 1990s. Although these definitions were used by the countries themselves, it was not until international bodies such as UNESCO and UNCTAD began to publish papers on the theoretical grounding, that global definitions began to appear.

5.5.1 Value Chain

UNESCO (2009) understood that for a robust and sustainable cultural statistical framework, approaches had to be developed that included the production cycle of CCIs.

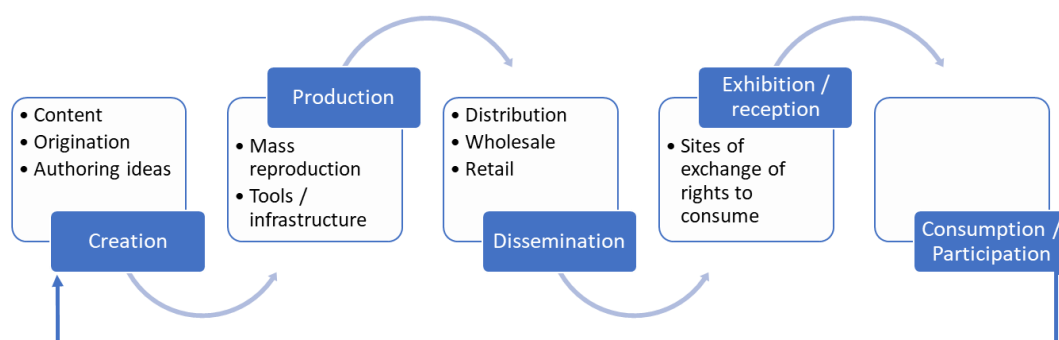


Figure 9: Analytical model of the ‘culture cycle’

Source (UNESCO, 2009, p. 18)

This included creation, production, dissemination, exhibition, and consumption or participation. These are graphically depicted above.

5.5.2 The Purpose of the CCI Framework

The purpose of the UNESCO CCI framework is to measure cultural activities, goods and services that are generated by industrial and non-industrial processes.

5.5.3 Core CCI Domains

The breadth of the cultural sector was also analysed. This ensure that the definition had a shared understanding. Although the definition of culture is very closely related to the ways in which societies, groups and communities define their identity, is was pragmatic. The definition of cultural domains follows a hierarchical model that comprises core and related cultural domains.

The core domains are a common set of culturally productive industries and activities that can be listed under the following headings:

- Cultural and Natural Heritage;
- Performance and Celebration;
- Visual Arts, Crafts;
- Books and Press;
- Audio-visual and Interactive Media; and
- Design and Creative Services.

Four transversal dimensions, because they require special attention from policy makers, were included because they apply to all domains:

- Traditional and local knowledge;
- Education and training;
- Archiving and preservation; and
- Equipment and supporting materials.

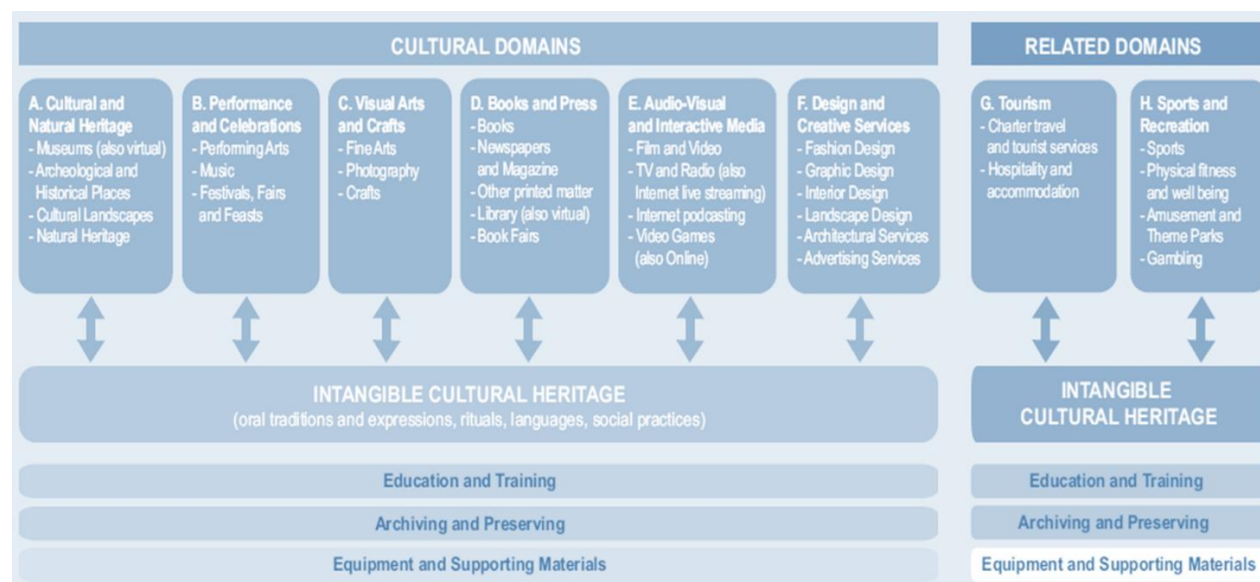


Figure 10: Domains and activities included in UNESCO's framework for cultural statistics

Source: UNESCO (2009, p. 24)

Because “sport and recreation, gambling, toys and games, and tourism fall outside the core set of cultural activities based on the definition given above and the review of current national classifications. That is why they are classified under the related domains. They represent categories that have a cultural character, but which have a main component that is not cultural (UNESCO, 2009, p. 28).

It is proposed that a similar process be followed in South Africa to develop a framework for measuring the sports and recreation economy. This paper has identified a number of methods to disaggregate the sporting codes in Chapter 3 and discussions are now needed to develop a framework. It is therefore also useful to look at the current work been done in this field to see how it can be adapted to South African circumstances.

5.6 The European Union

A number of countries in the European Union already established a number of sports observatories and have already embarked on developing a system of classification. Segments of the economy that are applicable to sport include *inter alia*:

- • Sports tourism;
- • Sporting goods;
- • Sports apparel;
- • Professional sports
- • Recreation
- • Outdoor sports
- • Sport marketing firms
- • Sports sponsorship industry
- • Sports-governing bodies
- • Sports infrastructure
- • Media, TV rights and advertisement
- • Managerial services
- • Sports medicine
- • Medals, souvenirs, shields
- • Insurance
- • Transportation; and
- • Catering.

5.6.1 The 'Vilnius Definition'

The European Union and many of its members, as well as the UK use the so-called The 'Vilnius Definition'. It is based on the CPA which is a hierarchical classification structure that is used to classify products (goods as well as services). The CPA is part of an integrated system of statistical classification that was developed under the auspices of the United Nations Statistical Division. The product classification is are designed to group products that have common characteristics. The system is used for collecting and calculating statistics on production, wholesale and retail trade, consumption, international trade and the transport of these goods.

The Vilnius Definition 2.0 defines sport according to its statistical definition (sporting services) or narrowly which includes all the necessary inputs for practising sport (to produce sport is an output), or broadly which includes both the statistical definition and their narrow definition as well as all products and services that have a direct or indirect relation to any sport activity but without be necessary to do sport.

The Vilnius Definition 2.0 is over 100 pages long and is very detailed¹⁷, however a list from the broad categories is included in Appendix 2.

It is recommended that the Vilnius Definition 2.0 be adapted to the official South African statistical classification is used by Stats SA.

5.6.2 Functional Classifications

The SNA uses special classifications to analyse consumption, or more generally outlays, by different sectors according to the purpose for which the expenditure is undertaken. Such classifications are referred to as functional classifications.¹⁸

Classification of Individual Consumption by Purpose

The classification of individual consumption by purpose (COICOP) is a classification used to classify both individual consumption expenditure and actual individual consumption¹⁹. It is designed to classify certain transactions of producers and of three institutional sectors, namely household, general government and non-profit institutions serving households.

The COICOP is used by Stats SA in the production of the “Income and expenditure of households”²⁰ (EIS) presents the results of the Income and Expenditure survey. The Income and Expenditure survey (IES) is based on the diary method. The IES is designed to collect information on items and services acquired by South African households, various sources of income acquired by participating households (monetary or in-kind). This was accomplished by collecting details of all expenditure by a participating household and all acquisitions of goods and services for the household’s own consumption within a given reference period. The results of the survey serve as an input into identifying the goods and services that should be included in the Consumer Price Index (CPI) basket of goods and services.

Data collected during the EIS is categorised according to the COICOP as well as income deciles. This allows analysis of which household income categories are spending on cultural products and activities.

The table below gives a snapshot of the expenditure of households per decile. In some cases, the data collected will be suitable for identification of cultural sectors without any modification. In other cases, the COICOP classification may have to be revised or disaggregated to ensure that non-cultural activities are included. The split within a category can be estimated and the expenditure allocated accordingly.

Data are also collected according to the gender of the household head and the population group of the household head.

Classification of Outlays of Producers by Purpose

The classification of outlays of producers by purpose (COPP) is used to classify expenditures by producers (intermediate consumption, compensation of employees, etc.) by purpose (e.g. outlays on repair and maintenance or outlays on sales promotion).

¹⁷ It can be found at https://ec.europa.eu/eurostat/documents/6921402/0/Vilnius+Definition+Sport+CPA2008+official+2013_09_19.pdf/30838d11-01ea-431f-8112-50786e187c1c

¹⁸ Department of Economic and Social Affairs, Statistics Division, Statistical papers, Series M, No 84. United Nations, New York

¹⁹ System of National Accounts (SNA). 2008, 18.1, 18.7.

²⁰ StatsSA report P0100

Classification of the Purposes of Non-Profit Institutions

The classification of the purposes of non-profit institutions (COPNI) is a classification used to identify the socioeconomic objectives of current transactions, capital outlays and acquisition of financial assets by non-profit institutions serving households.

Classification of the Functions of Government

The classification of the functions of government (COFOG) is a classification used to identify the socioeconomic objectives of current transactions, capital outlays and acquisition of financial assets by general government and its subsectors.

COICOP, COPP and COFOG are described as "functional" classifications because they identify the "functions" - in the sense of "purposes" or "objectives" - for which these groups of actors engage in certain transactions.

5.6.3 Use of Functional Classifications

All four classifications identify a number of socioeconomic functions which are common to one or more of the institutional sectors identified in the SNA. The words "function" and "purpose" are here used interchangeably. Functional classifications are primarily designed to classify transactions which result in "payables" - money paid or due for the acquisition of current and capital goods or of labour and other services, for the acquisition of financial assets or for the extinction of financial liabilities.

"Health," "education" and "culture" are examples of functions that are common to one or more institutional sectors. The four functional classifications can be used to calculate a country's "total effort," including capital formation, transfer payments, loans, etc., as well as consumption expenditure, to achieve objectives such as maintaining the health of the population or providing cultural creative services to its inhabitants. Some parts of this "total effort" are provided by:

- Households (e.g. expenditures on for local goods and services);
- Government (e.g. employing staff at heritage sites);
- Non-Profit Institutions (e.g. support and training for cultural and creative activities); and
- Corporations (e.g. purchasers of fine art and sponsorship of cultural events).

The table below lists some of the socioeconomic functions that are common to two or more of the four functional classifications. An "x" means that the function is considered relevant to a given institutional sector and is, therefore, identified in the functional classification applying to that sector; a "-" means that it is either irrelevant to the sector concerned or its value is believed to be quantitatively insignificant in most countries.

Table 3: Examples of Functions common to more than one classification

	Corporations (non-financial and financial)	General government	Households	Non-profit institutions serving households
	COPP	COFOG	COICOP	COPNI
Health	X	X	X	X
Education	X	X	X	X
Recreation	X	X	X	X
Culture	X	X	X	X
Social protection	X	X	X	X
Protection of the environment	X	X	X	X
Housing	-	X	X	X
Transport	X	X	X	-
Communications	X	X	X	-
Disaster relief	-	X	-	X
Economic/social development abroad	-	X	-	X
Religion	-	X	-	X

Source: OECD (1999)

5.7 Conclusion

Given both the complexity of the various sporting codes and the SNA (as prescribed by the United Nations and practised in South Africa, much work still needs to be done. It is proposed that the Vilinius Definition currently been used in the EU be adapted to the South African classifications.

A domain-type framework should also be developed so that a deeper understanding can be found of the sports sector and its contribution to the South African economy.

6 Satellite Accounts

The SNA has many uses and is very practical because it provides a standard that is used by many countries making comparison available. Unfortunately the SNA is fairly rigid and therefore fairly inflexible. It does not give information about areas, especially new economic fields, that may be of interest to policy makers and other stakeholders. To solve this dilemma Satellite Accounts are created.

Satellite Accounts are therefore linked to the SNA and provide a framework that allows attention to be focused on a certain field or aspect of economic and social life in the context of National Accounts. Examples are Satellite Accounts for the CCIs, the environment, or tourism, ICT, unpaid household work or volunteers.

Satellite Accounts are therefore linked to the main national account for a country but do not necessarily employ the exact concepts nor do they restrict themselves to financial data. Satellite Accounts are intended for special purposes or may be used to explore new methodologies and to work out new accounting procedures that, when fully developed and accepted, might become part of the National Accounts over time. Satellite Accounts can meet specific data needs by providing more detail, by rearranging concepts from the central framework or by providing supplementary information. They can range from simple tables to an extended set of accounts in special areas like for e.g. environment or education.

6.1 Satellite Account for the Sports Economy

A Satellite Account System is aimed at measuring the economic importance of a specific industry, which is not observable in the traditional System of National Accounts, because it does not correspond to a specific statistically delineated economic activity. Sport is one such area of economic activity (Sport Industry Research Centre, Sheffield Hallam University, 2010).

6.1.1 France

The first Satellite Account for the Sports Economy ever built was set up in France for the year 1971 (Malenfant-Dauriac, 1977). The sports economy was divided into six sectors:

- The commercial sector;
- Households;
- Public administrations (central and local);
- Sports associations;
- Financial institutions; and
- The overseas sector.

6.1.2 America

Humphreys and Ruseski (2009) developed components of a Sport Satellite Account to assess the significance of the US sports markets, though without using a standard national accounting methodology. They used data from the National Sporting Goods Association (NSGA) and the Behavioural Risk Factor Surveillance System. The NSGA data on sport expenditures and additional data from the Bureau of Economic Analysis allowed them to estimate the demand side of the US sports markets.

6.1.3 The United Kingdom

The UK built its first Satellite Account for the Sports Economy in 2010 based on 2004 data. This was building on the work that was done for the European Union's White Paper on Sport

(European Commission and Directorate-General for Education and Culture, 2007; House of Commons, 2008) the need was recognised to obtain more evidence in relation to sports. The European Union's Communication on Sport (European Union, 2011) identified the strengthening of evidence-based policy making in the field of sport as important. The production of Sport Satellite Accounts for each nation of the European Union was recommended.

The DCMS (2019) recognise that to measure the size of the size of various sectors of the economy it is important to define them. They use the British SIC codes to estimate the parts of the economy that are included in multiple sectors. This avoids the problem of double counting. What DCMS found was that in developing individual sector definitions, there was an overlap. They visually presented the overlap between the various DCMS sectors according to their version of the SIC codes. This is shown below.

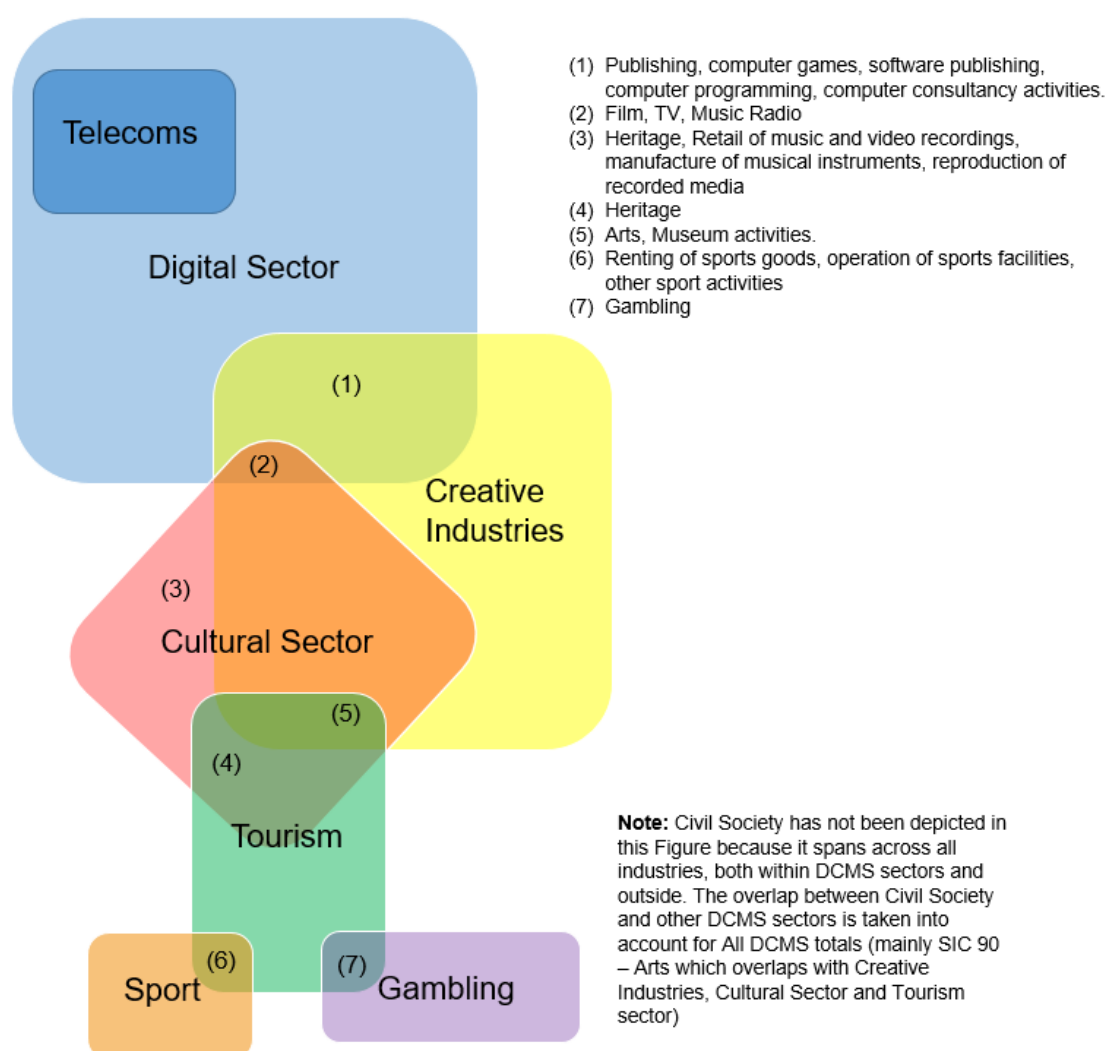


Figure 11: Overlap of SIC codes within The UK's DCMS Sectors

Source: DCMS (2019)

From this diagram it is clear that sport and tourism have common elements. It must have be stressed that this overlap is only apparent when using the British SIC codes. There are however significant overlaps with gambling (Forrest and Simmons, 2003; Levy and Galily, 2009; Lamont, Hing and Gainsbury, 2011).

The Department for Culture, Media and Sport (2015) built a second Satellite Account for the Sports Economy in 2015 for 2011 and 2012, including comparisons with previous years (since 2004). The sports economy is presented in terms of consumer spending, GVA and employment.

6.1.4 Other Sport Satellite Accounts

As a result of the EU's Sport Satellite Accounts Project (Thanos Panagouleas and Themis Kokolakis, 2012; Gratton and Kokolakis, 2017) the following countries have produced, or are in the process of producing a Satellite Accounts for sport:

- Austria;
- UK;
- Cyprus; and
- Poland.
- Austria;
- Cyprus;
- Germany,
- the Netherlands,
- Hungary, and
- Poland.

The advantage of the EU's Sport Satellite Accounts Project is that a common methodology for creating a Sport Satellite Account has been developed.

The Vilnius Definition of Sport was used to develop the Satellite Accounts.

6.2 Developing a South Africa SSA

Since the foundation of an SSA is the Input-Output Model and a Social Accounting Matrix it is necessary to understand how these are constructed and how they can be used (or abused).

6.2.1 Input-Output Models

Input-Output (I-O) analysis is a powerful analytic tool. Many countries, including South Africa, use **IO** analysis to examine their national economies. **IO** analysis is generally not well-known outside the economics profession. Policymakers need to understand the structure of the economy to make sound policy decisions.

Most developed countries have very detailed **IOs**. They find it easier to identify creative sectors – but not comprehensively. Nevertheless, many of these (and other) countries are developing Sport Satellite Accounts of their National Accounts to improve their policy making. Unfortunately, South African **IOs** are generally not as detailed as many of the developed countries. This together with the fact that there are no South African Sport Satellite Accounts makes policy making difficult.

One solution that will assist policymakers is the *estimation* of an expanded **IO** that includes the CCIs. Even though the sport **IO** is an estimation, it is based on actual data and well-based assumptions.

The next section discusses the structure of **IOs**, their history, South African **IOs**, the methodology used in estimating a South African sport **IO**, the assumptions that are made, and the data that is used.

The Structure of an Economy and IO Tables

An **IO** is essentially a matrix that represents the national (or regional) economic accounting in a way that shows industries trade with one another and their production (in other words; the flow of goods and services). The **IO** analysis is the standard method for measuring the effects of changes in the final demand for a product of an industry or sector (Surugiu, 2009).

The complex economic structure of each sector of the economy has many dynamic variables, each of which is unique. Each sector has some impact on the economic performance of the CCIs as a whole. This relates to the inputs into CCIs (raw material, labour, technology and capital) and outputs of CCIs (such as inputs into other sectors that they use as intermediary products, trade and export). It is virtually impossible to determine these backward and forward linkages and their subsequent impacts using conventional cost and accounting systems. This is especially true when these are highly aggregated. The mass of data produced by these conventional systems is distilled into aggregated or averaged factors, upon which fundamentally important operational and investment decisions (both by private investors or firms and government) are based.

The way in which these **IOs** are compiled is influenced by history and convention. Frameworks and guidelines agreed to at various international fora, including the OECD and UN, are playing an increasingly important role how **IOs** are compiled. These, together with the history of **IOs**, are discussed below.

System of National Accounts

Over the years there have been many developments that have contributed to this understanding. Since the late 1940s, the UN has been working on developing a harmonised SNA that helps with the comparison of different economies. It is an internationally agreed set of recommendations on how to compile economic activity in a coherent, consistent and integrated manner to generate a set of national macroeconomic accounts. There are also internationally agreed concepts, classifications and accounting rules. The integration of an **IO** framework into the SNA was developed and published in 1968 by the UN. This framework ensures that all National Accounts are balanced and that the three methods used to calculate the GDP are indeed aligned.

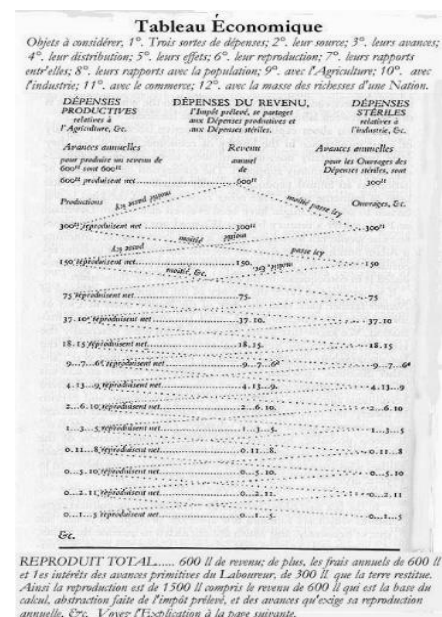
6.2.2 History and Background

The Physiocrats

However, the history of **IO** tables can be traced back to the Physiocrats. They were a group of French Enlightenment thinkers of the 1760s led by François Quesnay.

The origin of Physiocratic doctrine was the *Tableau Économique* (Quesnay, 1759). He diagrammed the relationship between the different economic classes and sectors of society and the flow of payments between them. Essentially the *Tableau Économique* was a descriptive device showing sales and purchase relationships among various producers and consumers in an economy. Through this, he developed the notion of economic equilibrium, a concept frequently used as a point of departure for subsequent economic analysis.

Figure 12: *Tableau Économique*



Social Accounting Matrices

Quesnay, Leontief and Stone's concepts have been developed and refined. Stone played a pivotal role in developing Social Accounting Matrices (SAM). Simple IOs have been augmented with additional information (especially on households and employment).

6.2.3 A Simple Input-Output Framework

An **I-O TABLE** focuses on the interrelationship between industries in an economy with respect to the production and uses of their products and the products imported. Generally, the **IO** framework is represented in a table. In this form, the economy is viewed as each industry listed across the top is a consuming sector and down the side is a supplying sector.

Figure 13: Basic IO Transactions Table

		Producers as Consumers								Final Demand			
		Agric.	Mining	Const.	Manuf	Trade	Transp	Services	Other	Personal Consumption Expenditure	Gross Private Domestic Investment	Govt. Purchases of Goods and Services	Net Export of Goods and Services
Producers	Agriculture												
	Mining												
	Construction												
	Manufacturing												
	Trade												
	Transport												
	Services												
	Other Industry												
Value Added	Employees	Employee Compensation								Gross Domestic Product			
	Business Owners	Profit-type income and capital consumption allowance											
	Government	Indirect business taxes											

Source: Miller and Blair (2009, p. 3)

Although most industries will provide goods and services for final consumption, they will also provide inputs into the productive process of other industries. Besides buying inputs from other industries, producers need labour and capital to produce the goods and services. In addition, firms may receive subsidies or be required to pay taxes. In an open economy, companies would also import part of their input for production. The "recipe" for the manufacture of an industry's products or services can be seen down each column.

Similarly, firms will produce products that will be used as inputs for the production in other industries. However, they will supply goods and services (final demand) for consumers, investors and government. They will also provide goods and services to foreign markets.

The **I-O TABLE**, as discussed above, therefore shows how the GDP for a country is calculated using the production method, the expenditure method and the income method. The table shown above includes only a few industries. Many **IO** tables have considerably more industries listed. However, the greater number of industries the more complex and complicated it becomes to "balance" the table, bearing in mind that the three methods used to calculate the GDP must arrive at the same value.

Although the table makes it easier to grasp the economic concepts behind the analysis, and the **IO** model primarily consists of a system of linear equations. Each equation describes the distribution of an industry's product throughout the economy.

Leontief introduced the assumption of fixed-coefficient linear production functions relating to input used by an industry. These matrices, including the F-matrix, is shown in Figure 3.

If we assume that there are only three industries present in an economy, Industry 1 would require inputs from Industry 2 and Industry 3 as well as from its own industry. Although the **I-O TABLE** which shows the actual amount used, it is more useful to assume how much of the other industries are required to make one unit. This is demonstrated by an example in the table below.

Figure 14: a highly simplified IO accounting framework

	Industries	Net final demand	Total output
Industries	F	Y	X
Value added (Primary inputs)	V		
Total input	X		

Source: United Nations (1999, p. 4)

Table 4: IO flow table and accounts

	Industry 1	Industry 2	Industry 3	Final demand	Total output
Industry 1	0	20	45	35	100
Industry 2	30	0	30	140	200
Industry 3	0	80	0	70	150
Value added	70	100	75		
Total input	100	200	150		

Source: United Nations (1999)

The value added row corresponds to the “V” matrix in the Figure above. The shaded area refers to the “F” matrix above. The total input row is equal to the total output row and corresponds to matrix “X.”

Table 5: IO interindustry flows and value added

	Industry 1	Industry 2	Industry 3
Industry 1	0	20	45
Industry 2	30	0	30
Industry 3	0	80	0
Value added	70	100	75

When Leontief introduced the assumption that there are fixed-coefficient linear production functions relating to each industry, **IO** analysis became an economic tool. These fixed-coefficient linear functions relate the inputs used by an industry along each column to its output

flow. In other words, for every one unit of an industries output, the fixed amount of input from other industries is required.

This is shown in the table below:

Table 6: IO coefficient table: inputs per unit of output

	Industry 1	Industry 2	Industry 3
Industry 1	0,00	0,10	0,30
Industry 2	0,30	0,00	0,20
Industry 3	0,00	0,80	0,00
Value added	0,70	0,50	0,50

This table can also be written in more general terms.

Table 7: IO coefficient table: inputs per unit of output

	Industry 1	Industry 2	Industry 3	Net final demand
Industry 1	a_{11}	a_{12}	a_{13}	Y_1
Industry 2	a_{21}	a_{22}	a_{23}	Y_2
Industry 3	a_{31}	a_{32}	a_{33}	Y_3
Value added	V_1	V_2	V_3	

These relationships can be written as follows:

$$a_{11}X_1 + a_{12}X_2 + a_{13}X_3 + Y_1 = X_1$$

$$a_{21}X_1 + a_{22}X_2 + a_{23}X_3 + Y_2 = X_2$$

$$a_{31}X_1 + a_{32}X_2 + a_{33}X_3 + Y_3 = X_3$$

Equation 1

In matrix form these equations can be written as:

$$\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix} \times \begin{bmatrix} X_1 \\ X_2 \\ X_3 \end{bmatrix} + \begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \end{bmatrix} = \begin{bmatrix} X_1 \\ X_2 \\ X_3 \end{bmatrix}$$

Equation 2

However, in any economy, they are considerably more than three industries and the more general way of denoting these is as follows:

$$a_{11}X_1 + a_{12}X_2 + \dots a_{1n}X_n + Y_1 = X_1$$

$$a_{21}X_1 + a_{22}X_2 + \cdots a_{2n}X_n + Y_2 = X_2$$

$$\cdot + \cdot + \cdots \cdot + \cdot = \cdot$$

$$a_{n1}X_1 + a_{n2}X_2 + \cdots a_{nn}X_n + Y_n = X_n$$

Equation 3

In matrix form, this is donated as:

$$\begin{bmatrix} a_{11} & \cdots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \cdots & a_{nn} \end{bmatrix} \times \begin{bmatrix} X_1 \\ \vdots \\ X_n \end{bmatrix} + \begin{bmatrix} Y_1 \\ \vdots \\ Y_n \end{bmatrix} = \begin{bmatrix} X_1 \\ \vdots \\ X_n \end{bmatrix}$$

Equation 4

Table 8: Technical coefficients of an I-O TABLE (Matrix A)

		Buying sector					
		1	...	j	...	n	
Selling sector	1	a_{11}	...	a_{1j}	...	a_{1n}	
		$\vdots$		$\vdots$		$\vdots$	
	i	a_{i1}	...	a_{ij}	...	a_{in}	
		$\vdots$		$\vdots$		$\vdots$	
	n	a_{n1}	...	a_{nj}	...	a_{nn}	

Using matrix notation, it is usually written as:

$$AX + Y = X$$

Equation 5

This relationship is the basic **IO** system of equations, where:

- Matrix A is the **IO** coefficient matrix;
- Matrix X is the output vector; and
- Matrix Y is the net final demand vector.

The solution of an **IO** model is described in discussed below.

Final demand (Y) consists of the household, government and rest of the world sectors. Value added (V) to the producing sector consists of the returns to factors of production (capital and labour) that receive interest and wages.

An **I-O TABLE** and associated model is generally constructed from observed data for a particular area. Most often this area refers to a nation. It could however also refer to subnational areas. The data are also collected for a given period of time, usually a year. Although theoretically, the **I-O TABLE** applies to units of production, this is impractical, and it is generally presented in monetary terms.

The discussion above referred to a closed economy and therefore did not include international trade (imports and exports). This is necessary because very few industries produce goods or services without using some imported components.

6.2.4 The Use of IO Tables

Equation 5 is very useful in that it is used to calculate the impact on an economy of particular shock. In other words, **IO** analysis can use to calculate the economic effects of exogenous changes in y (the net final demand vector). For example, the economic impact (in terms of industrial output, employment, and income) of a new sound stage for the production of motion pictures, in both the short- and long-term, on a particular (national or regional) economy.

Using equation 5, the impact of an exogenous shock is given by equations 6, 7 and 8. The model begins with a formula that states output is equal to final demand plus industry inputs:

$$x = y + F \quad \text{Equation 6}$$

Where

- x = output;
- y = final uses; and
- F = industry inputs.

To simplify the formula and enable algebraic manipulation, industry inputs are expressed in terms of portions of industry output by dividing industry inputs by industry output:

First Round Effects

The technical coefficients matrix(A) is derived by dividing interindustry transactions by output,

$$A = \frac{F}{x} \quad \text{Equation 7}$$

Where A is the coefficient matrix, and where each element is calculated as follows:

$$a_{ij} = \frac{f_{ij}}{x_j} \quad \text{Equation 8}$$

This formula is usually referred to as the direct coefficients or the direct requirements matrix.

Matrix A describes the direct, first round impact of any change in final demand. It shows how much input from sector i is used to produce the output of sector j .

Leontief Inverse Matrix

Rearranging the coefficient formula in terms of F gives:

$$Ax = F \quad \text{Equation 9}$$

Substituting for F in the equation 6 expresses the equation in similar terms:

$$x = Ax + y \quad \text{Equation 10}$$

The formula is rearranged to solve for y , in order to show the relationship between output and final uses. The formula is then solved to describe output as a function of final uses:

$$x - Ax = y \quad \text{Equation 11}$$

This formula can be simplified by applying the distributive rule:

$$(I - A)x = y \quad \text{Equation 12}$$

Where:

- I is an identity matrix.

The Leontief Inverse matrix is calculated when this is solved for production as a function of final demand. The model is solved for x in terms of y by dividing $(I-A)$ into both sides of the equation. In matrix algebra, the division is accomplished by inverting the matrix. In **IO** terminology, the inverse—that is, the function that relates final uses to output—is referred to as the total requirements matrix:

$$x = (I - A)^{-1}y \quad \text{Equation 13}$$

For this model to be valid, it is assumed that:

- The structure of the economy does not change. This is particularly relevant for the production functions.
- The economy is well described with linear production functions. This is particularly relevant when considering changes in final demand.

These assumptions are defensible for assessments over short time spans and small changes in final demand, respectively. Another assumption is that the region is large enough to make imports by individuals insignificant.

$$L_{ij} = (I - A)^{-1} \quad \text{Equation 14}$$

Where $(I - A)^{-1}$ and L_{ij} are generally referred to as the Leontief Inverse matrix.

It is often referred to as a Type I inverse matrix and shows how much of each industry's output is needed, in terms of direct and indirect requirements to produce one unit of a given industry's output.

Leontief Inverse and Further Rounds of Impacts

A Type II inverse matrix that shows the induced requirements (in terms of industry's output) of a production of one unit of a given industry's output can also be calculated. It not only takes the direct and indirect requirements included in the Type I inverse matrix, but also the flows of money in and out of households and the effect this has on each industry.

A similar process is used to derive a Type II inverse matrix as the Type I inverse or Leontief matrix. However, it is necessary to include households in the analysis. These are treated as an additional industry by adding an extra row "compensation of employees" and column final "consumption expenditure by households" to the direct requirements matrix.

This is given by:

$$A = \begin{bmatrix} (A_{II})_{ij} & (A_{IH})_i \\ (A_{HI})_j & \end{bmatrix} \quad \text{Equation 15}$$

Where:

- $(A_{II})_{ij}$ is the Direct Requirements matrix A , or the amount of industry i required per unit of industry j is the amount of industry i required per unit of total household income from all sources;
- $(A_{IH})_i$ is the amount of industry i required per unit of total household income from all sources;
- $(A_{HI})_j$ is the income paid to households per unit of output of industry i (compensation of employees divided by the total output of the industry).

6.2.5 A Brief Note on Social Accounting Matrices

A SAM is a comprehensive, economy-wide data framework that contains systemised information about the flow of financial and economic aggregates between the different economic interest groups and institutions in an economy (i.e. business enterprises, households, government, etc.) on a logical basis during a given period of time – usually one calendar year. The SAM, therefore, makes it possible to clearly distinguish between these interest groups and their role in the economy, to research the effects of interaction between groups, and to measure how the economic/financial welfare of each group is affected. The SAMs are converted by economists into user-friendly macroeconomic impact models that can be used to calculate the economic impact of “interventions” of programmes and projects on the economy. (Conningarth, <http://conningarth.co.za/overview/> accessed September 18, 2017).

SAMs (in much the same way that IOs do), simplify the representation of the economy being modelled. SAMs are currently in widespread use, and many statistical bureaux, (particularly in OECD countries and South Africa), create both a national account and this matrix counterpart.

Table 9: Representation of a SAM²²

	Firm	Household	Government	Rest of Economy	of Net Investment	Total (Received)
Firm		C	G _F	(X-M) _K	I	C+G _F +(X-M) _K +I
Household	W		G _H	(X-M) _C		W+G _H +(X-M) _C
Government	T _F	T _H				T _F +T _H
Rest of Economy	of (X-M) _K	(X-M) _C				(X-M) _K +(X-M) _C
Net Investment		S _H	S _G			S _H +S _G
Total (Expended)	W+T _F +(X-M) _K	C+T _H +(X-M) _C +S _H	G _F +G _H +S _G	(X-M) _C +(X-M) _K	I	

Once the SNA flows have been set up, other flows in the economy can be easily extended to include in SAMs simply by adding more columns and rows. Often rows for capital and labour are incorporated, and the economy can be disaggregated into many sectors. Each extra disaggregated source of funds must have an equal and opposite recipient. SAMs form the

²² Abbreviations: Capital letters: Taxes, Wages, iMports, eXports, Savings, Investment, Consumption, Government Transfer Subscripts: Firms, Households, Government, Consumption Goods, K: Capital Goods

backbone of Computable General Equilibrium (CGE) Models and various types of empirical multiplier models.

6.2.6 South African IO Tables

A few **IO** tables for South Africa are available and have been constructed for different purposes.

Stats SA

The **IO** tables for South Africa for 2014 compiled and published by Statistics South Africa (Stats SA)²³ is used to develop a sport **IO**. The 2014 **I-O TABLE** provides an update to the previous **IO** tables for South Africa report. This **I-O TABLE**, the latest available, provides a symmetric framework, based on the Supply and Use (SU)-tables (or SUT). This is used to construct direct and indirect coefficients. It presents an overview of the economy focusing on the inter-relations between industries, represented by a symmetric matrix which contains both Supply and Use data.

- Table 1: An I-O TABLE at basic values, which was also known as a transaction or flow table. Table 1 reflected the value of transactions that took place between the various industries in monetary terms.
- Table 2: The input coefficient or direct requirements table, which was derived from table 1. Table 2 showed all the direct requirements of each industry in relation to the total output of the industry.
- Table 3: An inverse coefficient or total requirements table, which in turn was derived from table 2. Table 3 showed the total requirements (direct and indirect) per rand of output delivered to final demand. By means of this table it was possible to calculate the impact of a change in final demand in the various industries.

Symmetric IO Tables or Supply and Use Tables

In national accounting and economic analysis, two kinds of **IO** tables are referred to Symmetric **IO** tables or Supply and Use tables. The major differences between an **I-O table** and Supply and Use tables are:

- An I-O TABLE is a product-by-product or industry-by-industry matrix. An I-O TABLE rearranges both Supply and Use information in a single table, and either a product or an industry classification is used for both rows and columns.
- The Supply and Use tables framework has two tables. The Supply and Use tables are industry-by-product matrices, and both industry and commodity classifications are used. The Supply and Use tables are often referred to as rectangular IO tables.

(Source: Gerhard Bouwer <https://www.iioa.org/conferences/14th/files/Bouwer.doc>)

Other South African IOs

A few **IO** tables have been constructed in South Africa for different purposes. For example, Quantec has developed a standardised economic dataset compiled by combining a standardised **IO** framework, spanning four decades, with a comprehensive set of industry and National Accounts indicators. Conningarth Economists have developed a number of models

23 The **IO** tables for South Africa are compiled and published by Stats SA according to a framework that was developed based on best practices from other countries and the statistical office of the European Communities (Eurostat). The **IO** tables were developed to complement the existing SU-tables and to provide a more complete representation of National Accounts data.

based on standard **IO** analysis or the SAMs. They have also developed a number of regional IOs that have been used for subnational socioeconomic analysis.

International IOs

There are several initiatives aimed at compiling large-scale global multi-region **IO** tables. Global Trade Analysis Project (GTAP) has developed a database comprised primarily of **IO** tables. These **IO** tables are contributed by researchers across the world. GTAP is a global network of researchers and policy makers conducting a quantitative analysis of international policy issues. GTAP is coordinated by the Center for Global Trade Analysis in Purdue University's Department of Agricultural Economics. The focus of GTAP is on international trade.

The Eora multi-region **IO** database²⁴ provides a time series of high-resolution **IO** tables with matching environmental and social Satellite Accounts for 187 countries. The focus is on sustainability issues including the environment, energy, water, ecology, climate technology but also includes socio-economic factors.

The OECD/WTO Trade in Value Added database includes 61 economies covering OECD, EU28, G20, most East- and South-east Asian economies and a selection of South American countries. The industry list includes 34 sectors, among which 16 manufacturing and 14 services sectors. The years covered are 1995, 2000, 2005 and 2008 to 2011.

The World **IO** Database²⁵ has been developed to analyse the effects of globalisation on trade patterns, environmental pressures and socioeconomic development across a broad set of countries. The database covers 27 EU countries and 13 other major countries in the world for the period from 1995 to 2009.

6.2.7 Using Output Tables to Create a Sport Satellite Accounts

The EU Working Group on Sport and Economics (Institut für Sportökonomie, 2012) provide the methodology of how to create a Sport Satellite Account. Essentially, a regular Input-Output table is used. The sport component of each sector is then disaggregated according to the percentage of sporting related goods that it contains. The EU working group used the Vilnius Definition (which is described below) to determine the percentage of each of the sectors. They found that it is better to use the sport -related share in percentage terms rather than in absolute terms. Once this is done, the intermediary goods matrix is recalculated as well as the various consumption and value added components of the Input-Output table.

This obviously increases the size of the Input-Output table. If possible, the various sporting codes (or other classifications that are to be used) can be re-aggregated to reduce the size of the table and make it more manageable.

Once the table has been created, it can be updated using new survey data provided by Stats SA or other surveys undertaken.

6.3 Conclusion

Sport Satellite Accounts are being developed by number of countries and the methodology and lessons learnt can be used by South Africa to develop its own Sport Satellite Accounts. It

²⁴ <http://worldmio.com>

²⁵ <http://www.wiod.org/database/>

is important that the Satellite Account be developed in conjunction with Stats SA to ensure that there is consistency and comparability with other official statistics. In this regard a workplan has been developed and is discussed below.

An important tool that is used to develop Satellite Accounts is the Input-Output model. Given the rigorous that Input-Output tables offer and the fact that the methodology that has been used for several projects including Stats SA itself and SACO (with the CCI Mapping study) it is recommended that a Sport Satellite Account be developed.

The Sports Input-Output table will be able to generate data that can be used in the Sport Satellite Accounts discussed above.

7 Sport Enterprise Database

Since not all the information that is required for the sport information framework is available, it is necessary to undertake surveys. A database of sport enterprises is therefore necessary²⁶.

7.1 Sources of data

There are a number of existing directories that can be used for this purpose. Firstly, they are commercial directories including Brabies, Gafney, EasyDex, Yellow Pages, and Kompas. (Each of these have been designed for a specific target market and therefore they will be a degree of overlap.)

Secondly, their official data sources. However, these are collected according to certain acts that may preclude the names of the companies been provided for the sport framework. These include the Companies and Intellectual Property Commission database; the Central Supplier database; and the Exporter and Importer Registration database.

Thirdly, many provinces or municipalities have developed their own databases of sport enterprises. It is proposed that SACO enter into a Memorandum of Understanding (MoU) or Memorandum of Agreement (MoA) where data can be shared.

Fourthly, there are a number of membership organisations and associations (See Appendix 6) involved in sports. Again, it is proposed that SACO enter into a MoU or MoA where data can be shared.

Fifthly, many companies have their own websites. It is proposed that the internet be searched (either using automated search engines) or manually (using search engines such as Google). Software companies can be approached to write script to automatically search the internet. Alternatively, interns can be used to collect the data manually. This is a painstaking process.

Sixthly, whenever SACO has workshops etc., companies should be encouraged to include their data onto the database. Until now the focus has been on creative and culture but increasingly will be on sport as more sport-related research is commissioned. Especially if the workshops or events have been advertised, new companies and other organisations will have the opportunity to be exposed to SACO and contribute to the sport framework.

Finally, companies ought to have the ability to input their own information onto the database. However, rules will have to be put in place for the individual companies to place their own data into the framework and this data will have to be verified manually.

7.2 Data Management

Although, a database of sport-related enterprises will provide very useful information, it is critical that the database is managed effectively. The following guidelines can be used.

Custom fields - collect information enterprise specific data. In general fields can include short text, long text, indicator, select, multi-select, date, integer number, and decimal number; different data can be collected for different member and non-member plans. Specific information should include:

- Company name and contact information
- Geo-data are essential

²⁶ Some of this information has been adapted from a SACO report on Developing A CII-Index.

- Sport code
- SIC and HS and other relevant official administrative code should be used where possible
- Companies own description
- Pictures
- Date founded
- BBEE information
- Production capacity, turnover, capital (according to the Small Business Act)
- Ownership (gender and race)
- Other data

Member or company number - allow for automatic generation of a member ID number.

Sport code / business categories / product types - for members that are businesses, assign them to multiple categories or organise them by the products and/or services they offer; this allows admins to communicate with select members; this also allows for members to be searched on by these fields in the member directory.

Member documents - allow members to upload relevant documents (ex: licensure, certification, resume, company brochure, event flyers, etc.).

Custom reports - build stored queries and other custom reports via an easy-to-use tool. This can be used in compiling the State of Sport report and other reports required from time to time.

Broadcast of email messages and newsletter lists - allows you to manage a variety of lists for email distribution or mailing of publications. Therefore, if there are any changes to relevant legislation “members” can be informed. If there are any international or local trade shows or sporting events, targeted companies can be informed.

Administrator fields - admin fields can only be viewed by admin-level users, which allows admins to privately record notes on members and prospects. SACO will have to decide who has access to which level of data and what their privileges are about the changing of the data.

Permissions and security levels - there are multiple ways to grant access to administrators, board, and members; with this, you can be sure to grant access to who needs it and hide features from people who do not need access.

Projects - keep track of subgroups; also includes communication tools to allow communicate with one another (within domains / geographic areas etc.) via message boards; have their own web pages, etc.

Referred-by tracking - keep records of how sport-related enterprises were included on the database.

Profile field - for member directories, allow members to create rich-text content to display within a directory. Again, security is vital and rules will have to be put in place to manage how this is executed including passwords etc..

Data upload - this is necessary when as MoU or MoA has been agreed and new members may need to be added at a time.

Member change tracking - reporting is available to see who last changed a given record.

Member change notification – a protocol needs to be developed so that all companies on the database get contacted regularly (at least annually) to verify that the information on the

database is correct. If a member changes their profile info, a notification email should be sent to the administrator.

Enterprise directories - either virtual or printed directories should be available to all stakeholders including foreign missions. However, enterprises should have the option to opt in or opt out of the service.

7.3 Other Databases

A databases of the various national and subnational agencies that have been created to promote and develop sport should also be included. This database would include both public and private organisations.

Another database of education and training institutions together with the courses that they offer should also be included.

7.4 Tools for Data Storage and Analysis

There are at least four significant components that must be considered when creating the South African sport framework.

7.4.1 Hardware

The hardware will be used to store the information as well as providing the ability to manipulate and display the information. A server is required with sufficient processing power and processing memory. They should also be sufficient memory on a hard drive or similar device to store the information. Initially the data that will be stored will not be that large but provision should be made for the expansion of the system.

Depending on the security, the data can be stored off site and hosted by a service provider.

7.4.2 Software

Commercial software is usually purchased or licensed. Although initial purchase costs may be high, it may be more efficient. It must also be borne in mind that the software is developed and many computer programmes become redundant over time.

Nelson Mandela University may have access to many of the programmes that will be required and it is recommended that this path be investigated.

Open-source software that has been developed by communities of software developers is also a very useful option and is this type of software used more and more. It is therefore proposed that the data be stored, manipulated and distributed using open-source software to the extent that is possible.

7.4.3 Connectivity

The internet service providers will usually ensure that there is enough bandwidth to meet the requirements of the users. However as more and more graphics (and even videos) is included on the South African sport platform, more bandwidth is needed. This however is a short-term problem and can be solved. Additional bandwidth can be acquired when necessary.

7.4.4 Programmers

It is essential that the programmers understand all the issues at hand and create databases that are aligned to the various classifications and needs listed above.

It is recommended that the databases be developed by SACO together with the computer sciences departments at Nelson Mandela University and the other partner universities. This will reduce costs as well as providing an opportunity for students and researchers to learn and research new methods and programmes.

7.5 An Interactive Platform

The interactive platform is discussed in more detail in the sections below. However, the main facilities that must be included are raw data downloads, the creation and download of graphs and the creation and download of maps.

7.5.1 Raw Data Download

Users of the data will want specific data that can be “sliced and diced” according to their needs. In most cases the users will want specific information about a sporting code or sub-sector.

7.5.2 Graphs

Graphic depictions of the information are easier to interpret and can tell a story that the raw data cannot. The interactive framework should have the ability to generate graphs on the fly. In most instances these would be normal line graphs, pie charts or bar charts. However, the interactive framework should also be able to generate more complex graphs such as spider charts and bubble charts.

7.5.3 Maps

As discussed in this report, maps are useful not only to show the way there are groupings of industries (that can be used to develop clusters), but also to point out geographic inequalities. The graph can also be used to pinpoint where sport infrastructure is and also where the need for new sport infrastructure is needed.

7.5.4 Dimensions Included in the Interactive Platform

The sport economy not only generates incomes, employment. but also other economic benefits, social progress and cultural fulfilment. Isar et al. (1998) proposed that all the indicators be divided indicators under three headings, corresponding to the three major groups of issues to be considered:

- Resources;
- Capacities; and
- Economic, social, cultural, environmental outcomes.

An additional important component for the sport framework is a spatial dimension.

7.5.5 South African Sport Dashboards

A dashboard is a type of graphical user interface that provides views of principal data and statistics at-a-glance. Dashboards are often used in business and government to display key performance indicators relevant to a particular objective or business process. A "dashboard" can be regarded simply as another name for "progress report" or "report."

A "dashboard" is often displayed on a web page which is linked to a database that allows the report to be constantly updated. The South African sport dashboard would be linked to the sport framework's database. The level of data will therefore vary according to how often it is collected and its level of disaggregation.



There should be more than one sport dashboard. Ideally, a dashboard should be created for each sport dimension and sporting code (where applicable) at national and subnational levels.

7.5.6 Contents of the Dashboard

The



dashboard will include tables, charts, graphs, as well as maps.

The dashboard can be created for different groups (policymakers at national level for culture generally, policymakers at subnational level, CEOs of cultural agencies etc.). The

objectives of the target group should also be clear dashboard when designing the dashboard (is it for strategic planning, project planning purposes, or monitoring and evaluation (M&E)). The measures that will be included will

depend on the group for which it has been designed but will rely on the cultural domains, elements and dimensions discussed in this report. Spotlight indicators are vital especially if the dashboard is to be used for M&E and typically red, yellow, or green symbols that provide an at-a-glance view of a measure's performance.

7.5.7 Infographics

Infographics (a clipped compound of "information" and "graphics") are graphic visual representations of information, data, or knowledge intended to present information quickly and clearly. Although infographics are valuable, they do take time and resources to produce. Although software is available to assist, the development of an info graphic must be informed by a person who understands the data, the cultural domains, the various dimensions and other elements. They must also be a very good understanding of who will use the infographic.

Flowchart representation of key results from snapshot

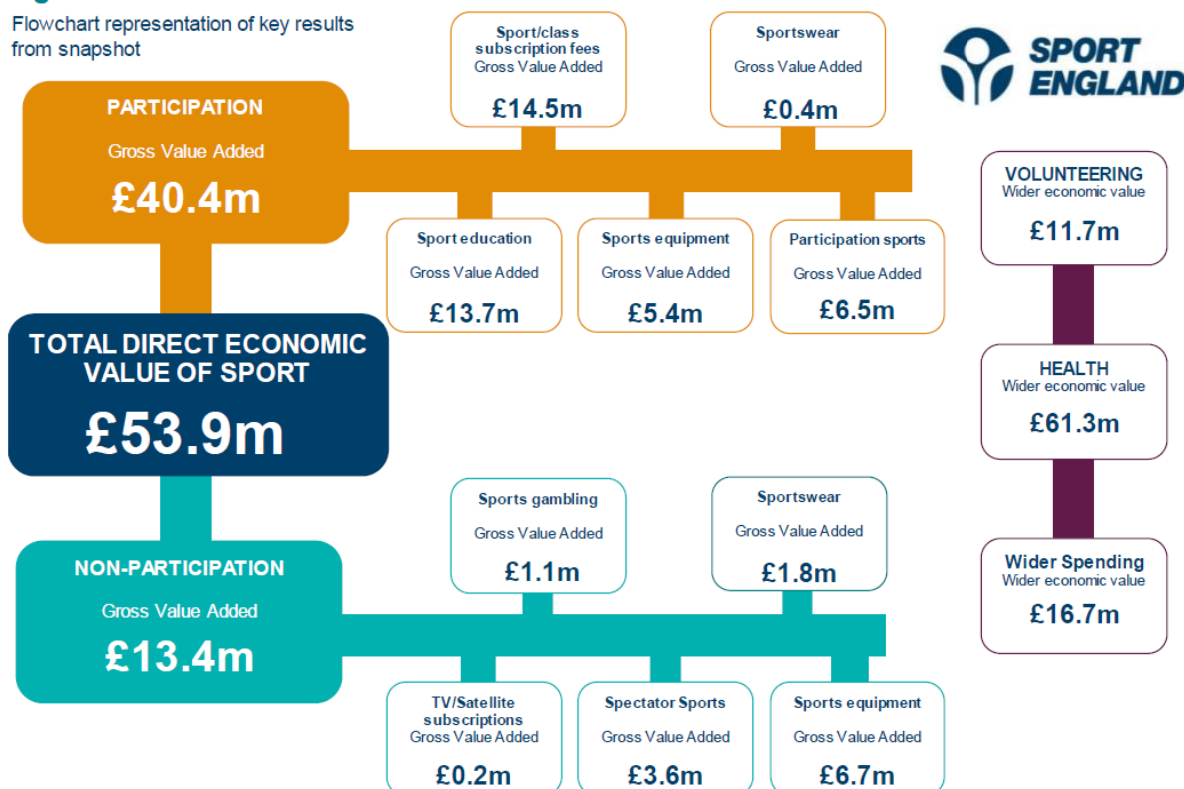


Figure 15: The Economic Value of Sport - Snapshot

Source: Sport England (2014)

Tufte and Graves-Morris (2014) state that graphical displays of “complex ideas should be communicated with clarity, precision, and efficiency and should:

- show the data;
- induce the viewer to think about the substance rather than about methodology, graphic design, the technology of graphic production, or something else;
- avoid distorting what the data has to say;
- present many numbers in a small space;
- make large data sets coherent;
- encourage the eye to compare different pieces of data;
- reveal the data at several levels of detail, from a broad overview to the fine structure;
- serve a reasonably clear purpose: description, exploration, tabulation, or decoration; and
- be closely integrated with the statistical and verbal descriptions of a data set.”



A

Figure 16: An example of an info graphic depicting the economic value of sport

Source: Sport England (2013)

7.6 Uses for the Sport Database

It is envisaged that the market for this platform will initially be relatively small and only used by the DSAC and SACO. However, as the research and especially the sport-community become aware of its existence usage will increase.

7.6.1 Academic Research

Academics should be encouraged to use this facility. There is a paucity of research in sport in South Africa and there are few local researchers. However, if data are reliable and can be easily accessed by researchers, more research will be undertaken. This research will answer many of the questions that are currently been posed by the Department of Sports Arts and Culture, SACO as well as other institutions. When this research has been published it will be available to policymakers and less commissioned (and expensive) research will be needed.

This interactive sport database will lead to increased output of sport-related research by academic institutions.

7.6.2 Evidence-based Policy and Strategy Development

As the database grows and is used more and more, the data will be interrogated more and more. This will ensure that any inaccuracies, shortcomings, or other problems can be highlighted and rectified. This will ensure that all the data that is being used to inform the development of policy and strategy is accurate and therefore the policies and strategies will be more effective and achieve the outcomes that are desired.

7.6.3 Reports

This interactive sport database should be able to generate regular reports once all the necessary information has been included.

Monthly Trade Report

The South African Revenue Service Customs and Excise data are released monthly. It is possible to determine the origin of the exports, country of destination, port of exit, and the HS classification (from which the domains and sub-domains can be determined). This data can give a real-time indicator of the state of South Africa's sporting goods and equipment.

Quarterly Employment Report

Stats SA provide data quarterly and the necessary data as regards employment in sport (as discussed above) can be extracted and therefore quarterly employment reviews can also be compiled.

Sport-index (Web-based Report)

It has been proposed before that a sport-index be created. Using moving averages and the most current data available, a picture can give the state of sports in South Africa. Using this information, either SACO or Department of Sport, Art and Culture (DSAC) can prepare press releases that will not only put these organisations in a better light from a public relations perspective, but also stimulate discussions about sport. These also contribute to the tangible development of sports in South Africa.

7.6.4 Modelling Sport

There are certain causal factors that influence the development of the sector. If these causal factors are understood, better business and policy decisions could be made. Economic models are used to do this, and they generally consist of a set of mathematical equations that describe a theory of economic behaviour. Economic model builders try to include enough equations to provide useful clues about how rational agents behave or how an economy works. An economic model is therefore a simplified description of reality, designed to yield hypotheses about economic behaviour that can be tested. A notable feature of an economic model is that it is necessarily subjective in design because there are no objective measures of economic outcomes.

The number of equations is often limited by the data that is available. The interactive sport database should fill this gap and allow for the development of robust econometric models that will be used for policy simulations, forecasts, and other predictions.

7.6.5 State of Sport Report

It has been proposed that an annual "State of Sport Report" be prepared to present a comprehensive picture of sport in South Africa. The report will have both policy and developmental objectives.

7.7 A phased approach to developing an interactive website

As discussed above there are numerous attributes dimensions and geographic locations that should be included in an interactive sport website. The Figure below is a facsimile of the current SACO home page (without the news and other current items). However, a new menu

item, Cultural Indicators, has been included. Once this page is live, this will take the viewer the appropriate page (Figure 2, below) where the information on cultural indicators will be available.

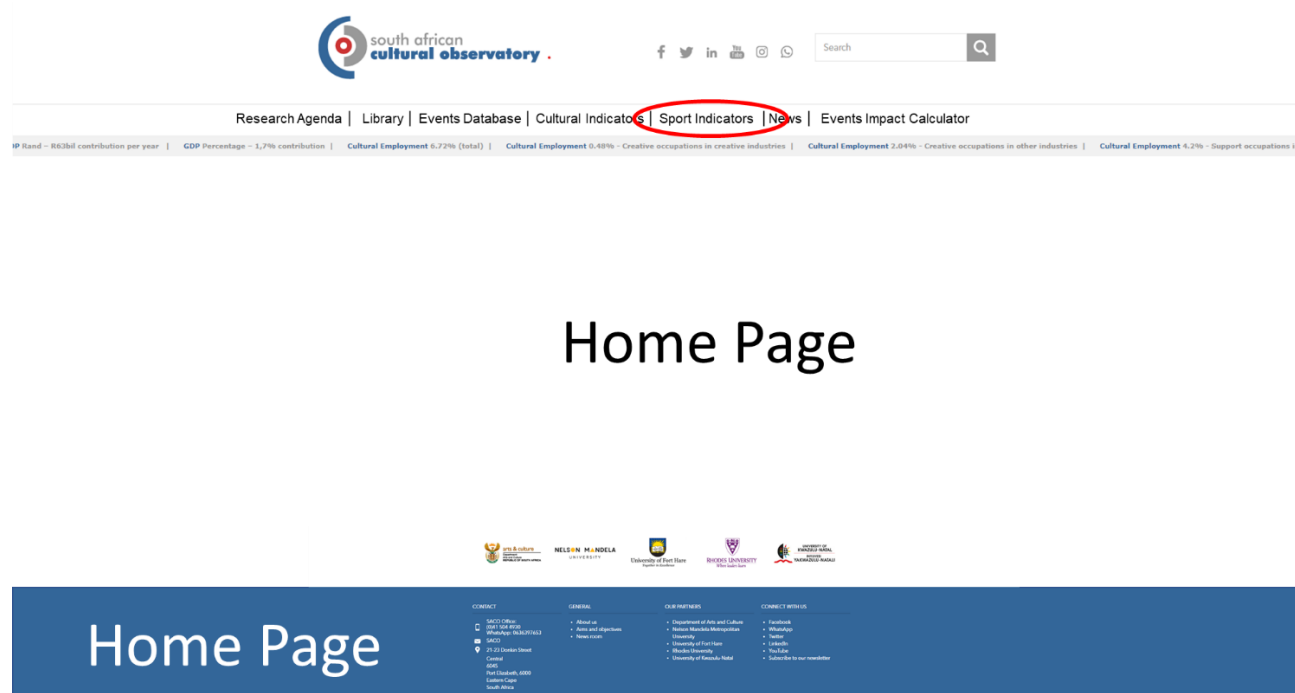


Figure 17: A representation of the SACO home page

7.7.1 Phase 1 Static South African Sport Satellite Account

Initially the interactive sport framework will consist of:

- Selected data from a South African Sport Satellite Account;
- Sport infrastructure map; and
- Methodologies and reports.

The interactive sport -framework will be static and only give selected information that is easily available.

The database should be able to provide data in an MS Excel® format from spreadsheets that are already loaded onto the system. The choice will be limited and no indicators etc. will be available.

Similarly, the maps will be maps that have already been prepared and are readily available.

Essentially, the first phase will be a “proof of concept.” The static data will become dynamic only after the databases discussed above and the necessary programming has been completed.

Over the years, SACO has prepared a number of reports that explain the methodologies of certain categorisations, the challenges and what recommendations are suggested to overcome these. Initially, these reports should be included in this framework. However, over time, concise reports describing the data, the sources of the data, the challenges still contained in the data and how to interpret the data should be compiled. The SACO reports and the respective updates can be used to augment the concise reports.

An illustrative landing or home page is presented below.

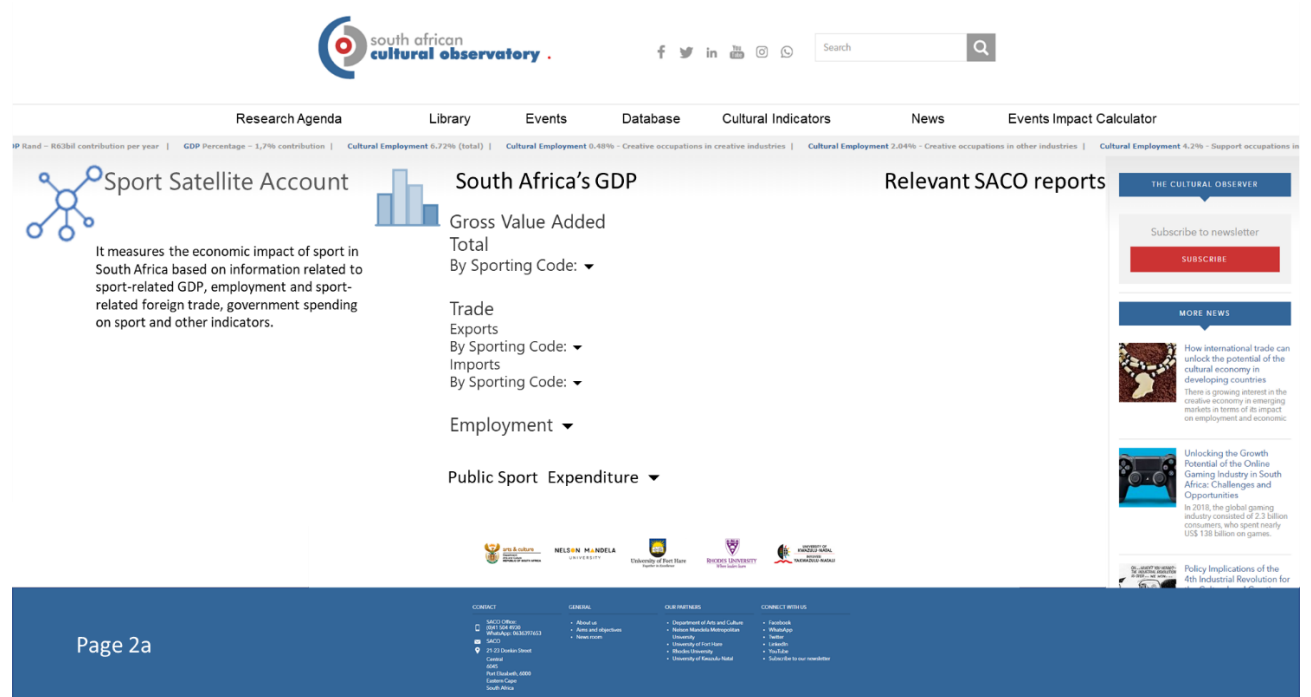


Figure 18: Cultural Indicator's landing page

Static South African Sport Satellite Account

The first phase should provide the unofficial South African Sport Satellite Account (based on SACO research and selected official data where possible). Although it may not be possible to get all the information required the Sport Satellite Account, this should nevertheless be the goal.

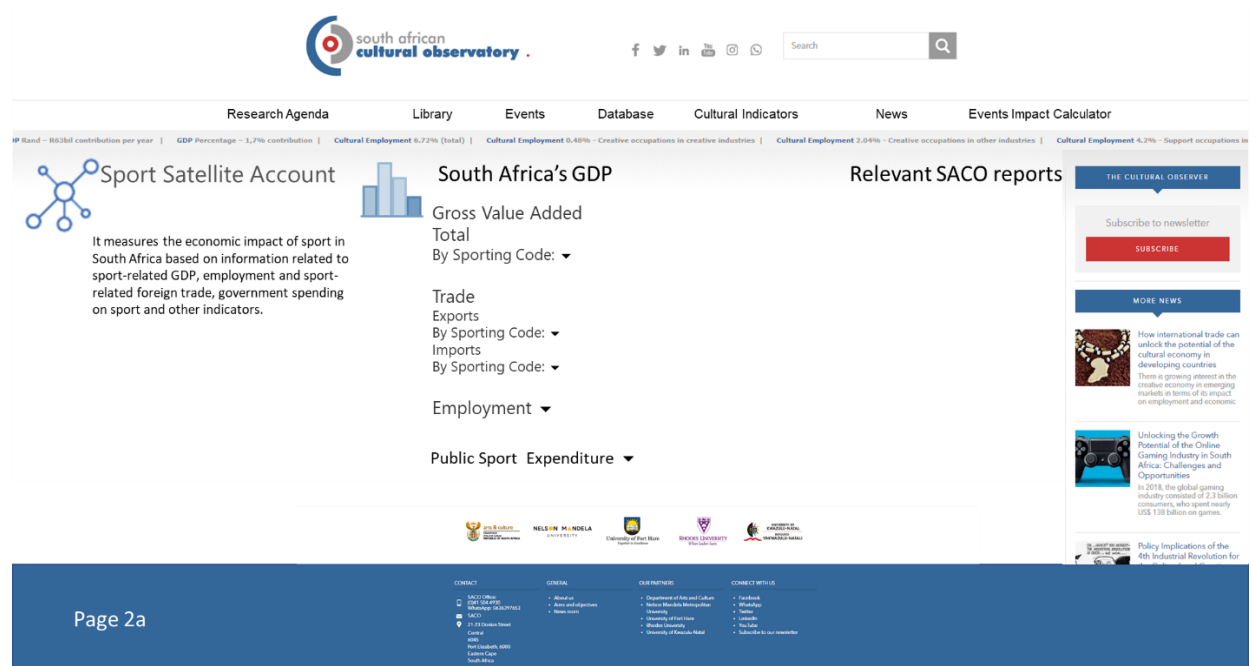


Figure 19: The economic indicators landing page

The Sport Satellite Account would be a static measure of:

- The contribution of the total sport sector to the South Africa's GDP.
- Employment
- International trade
 - This includes both imports and exports for all South African exports and sport-related exports;
 - Domains or subsectors should also be included;
 - Country of origin or destination and province of origin should be included;
 - The timeseries should also be included; and
 - This data will be obtained from the Comtrade database and also South African Revenue Service's (SARS) Trade Database.
- Public cultural expenditure
 - This information will be obtained from the various Treasury documents and budget speeches.

Economic Contribution

As discussed above, only a few economic cultural indicators should be presented in the first phase of this project. Indicative indicators are shown below.

The screenshot displays the South African Cultural Observatory website interface. At the top, the logo and name 'south african cultural observatory' are visible, along with social media icons and a search bar. A navigation bar below the header contains links to 'Research Agenda', 'Library', 'Events', 'Database', 'Cultural Indicators', 'News', and 'Events Impact Calculator'. Below this, a series of small text links provide specific data points: 'IP Rand - R636l contribution per year', 'GDP Percentage - 1,7% contribution', 'Cultural Employment 6,72% (total)', 'Cultural Employment 0,48% - Creative occupations in creative industries', 'Cultural Employment 2,04% - Creative occupations in other industries', and 'Cultural Employment 4,2% - Support occupations in'. The main content area is titled 'Sport Indicators: GDP'. It features four dropdown menus for user selection: 'Unit' (with options like 'Rand million: Current prices', 'Rand million: Constant 2010-prices', 'Rand million: Constant 2010-prices - % annual change', and 'Percentage contribution by output concept by industry to all industries at constant prices - % of all industries'), 'Output' (with options like 'Total output or sales (intermediate output + final output) at basic prices', 'Final output (Expenditure on GDP) at basic prices', 'Gross domestic expenditure', 'Final consumption expenditure', 'Final consumption expenditure of general government', 'Gross capital formation', 'Exports of goods and services', and 'Exports of goods and services'), 'Economic sector' (a simple dropdown arrow), and 'Sporting Code' (a simple dropdown arrow). To the right of these menus is a sidebar titled 'THE CULTURAL OBSERVER' with a 'Subscribe to newsletter' button and a 'SUBSCRIBE' button. Below this is a 'MORE NEWS' section with two article teasers: 'How international trade can unlock the potential of the cultural economy in developing countries' and 'Unlocking the Growth Potential of the Online Gaming Industry in South Africa: Challenges and Opportunities'. The footer of the page contains contact information, social media links, and logos of partner institutions including the Department of Arts and Culture, Nelson Mandela University, University of Cape Town, University of Pretoria, and others.

Figure 20: Choices of units, dimensions, and domain

Based on what this user selects a graph of the economic indicator can be generated for a number of units as well as for various economic output indicators. An example is shown below.

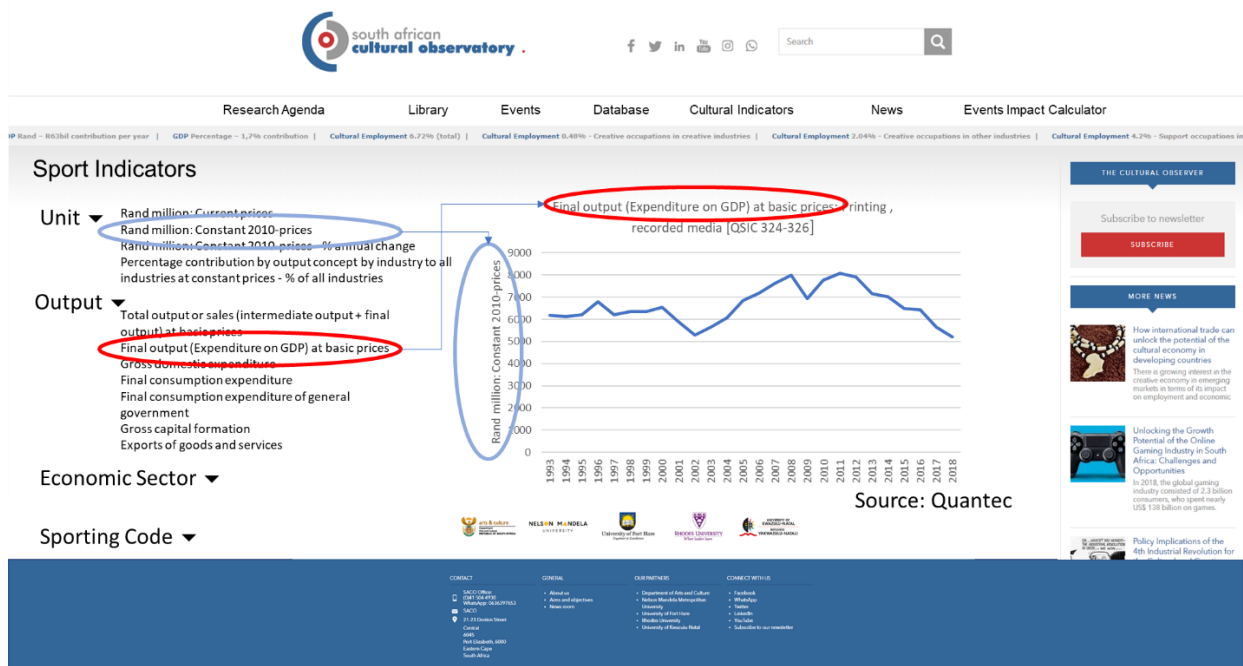


Figure 21: Example of a cultural economic indicator

Similarly, trade data should also be made available in the first phase. An example of what can be included as selection options for the user is shown below.

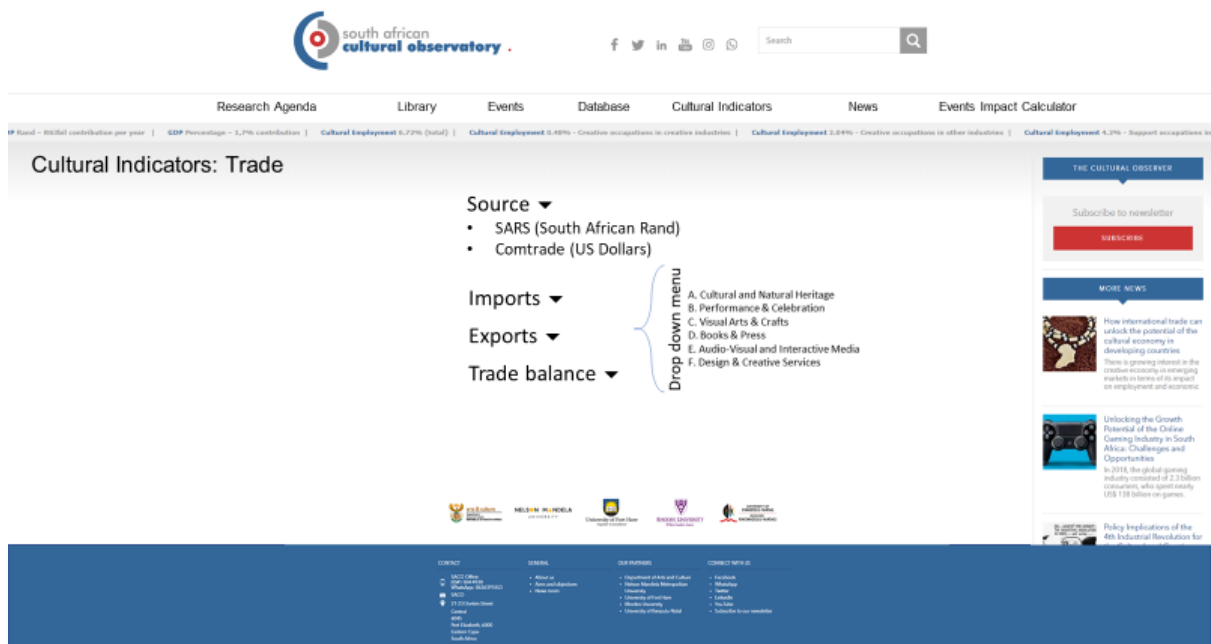


Figure 22: The trade indicators landing page

The output could either be an Excel® spreadsheet or a graph. A number of graphs can be included in the first phase. The total exports of sport products to the world together with the top supplying countries (for imports) could be shown on a single graph.

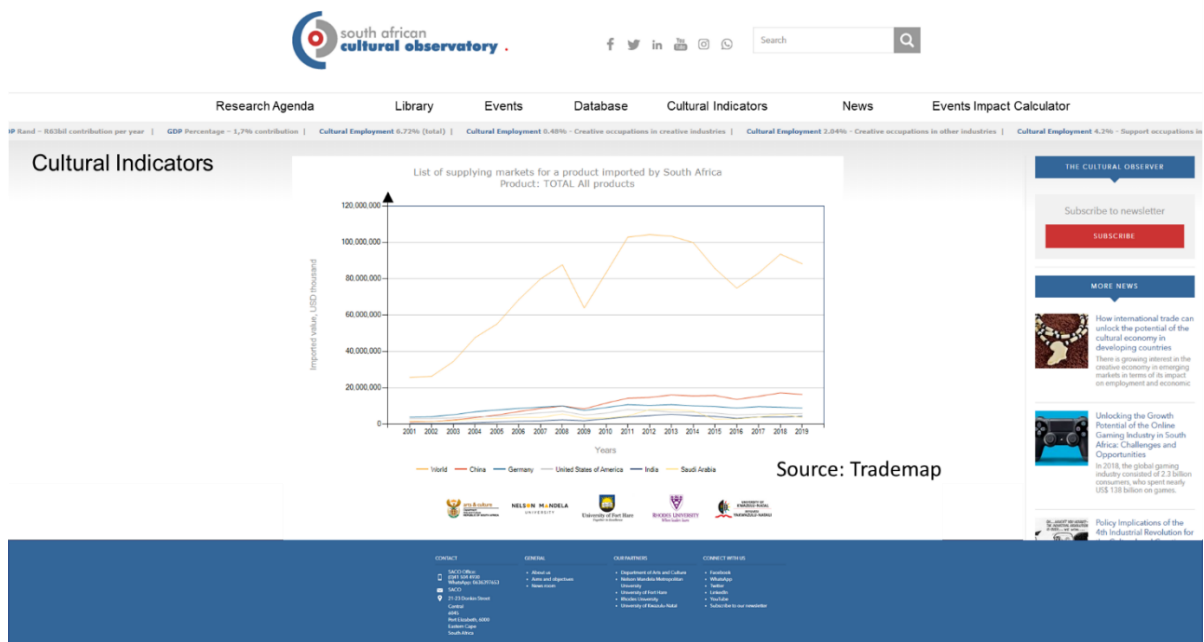


Figure 23: South Africa's total importers

When total imports and exports are shown on a single graph, as above, it is difficult to see how individual countries have changed over time. It is therefore proposed that another option be given to the user showing only the top five countries (without the global total).

Specific graphs can be prepared to show specific trade with specific countries. For example, graphs should be prepared for target markets such as for the Brazil, Russia, India, China and South Africa (BRICS) countries.

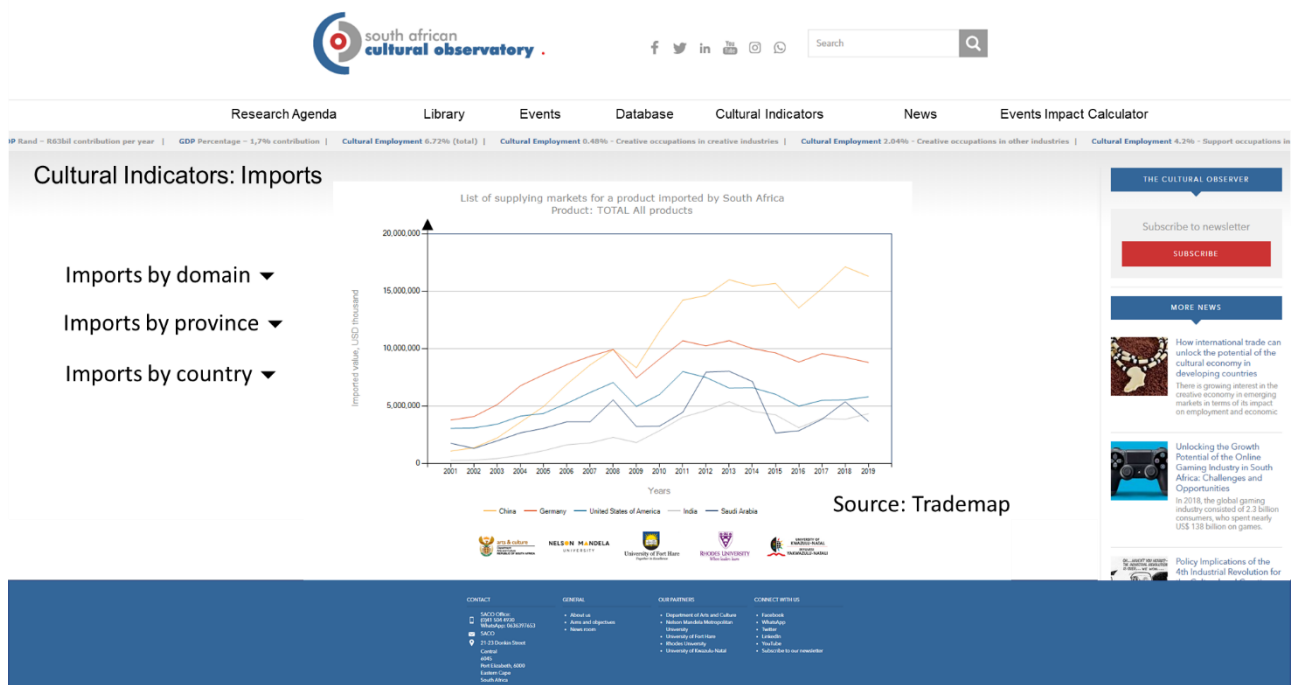


Figure 24: Top five supplying countries

Given the number of countries that South Africa trades with, a map is a useful tool that provides a lot of information in a visual format. A graph of cultural suppliers to South Africa is shown below.

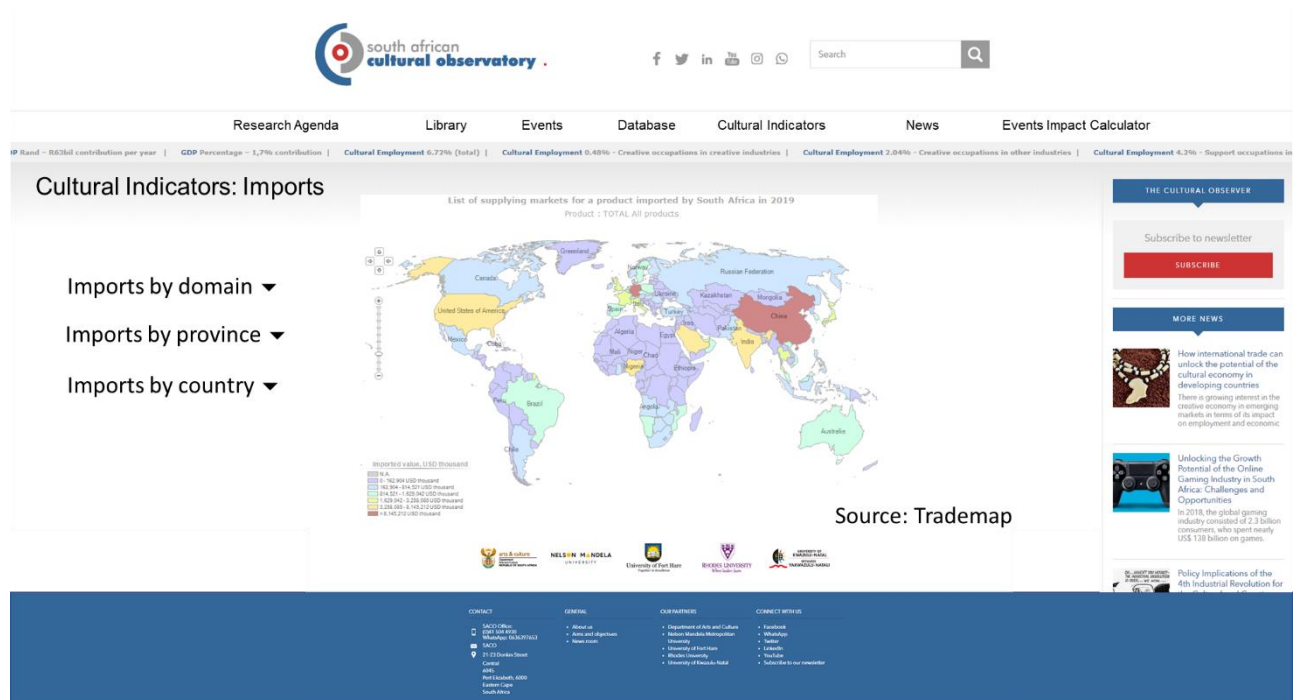


Figure 25: Source of South Africa's sport imports

As with the imports data can be shown for South Africa's exports to the world as well as to its top trading partners.

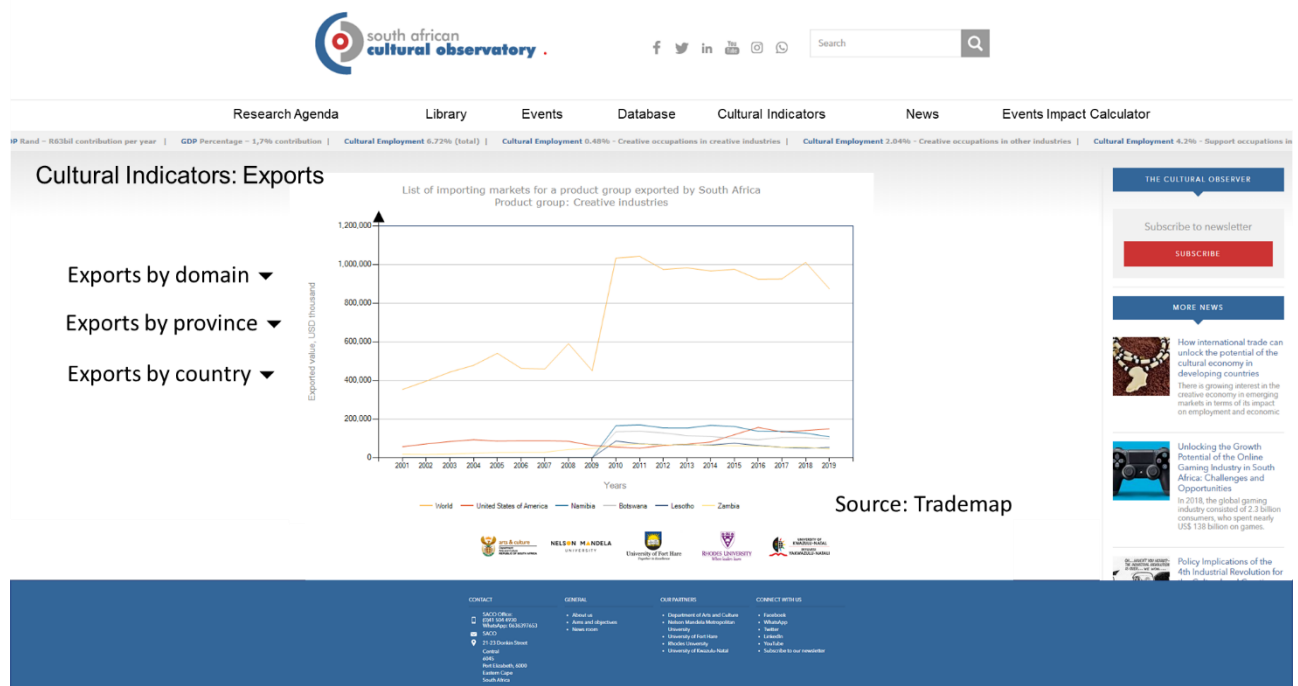


Figure 26: South Africa's sport exports

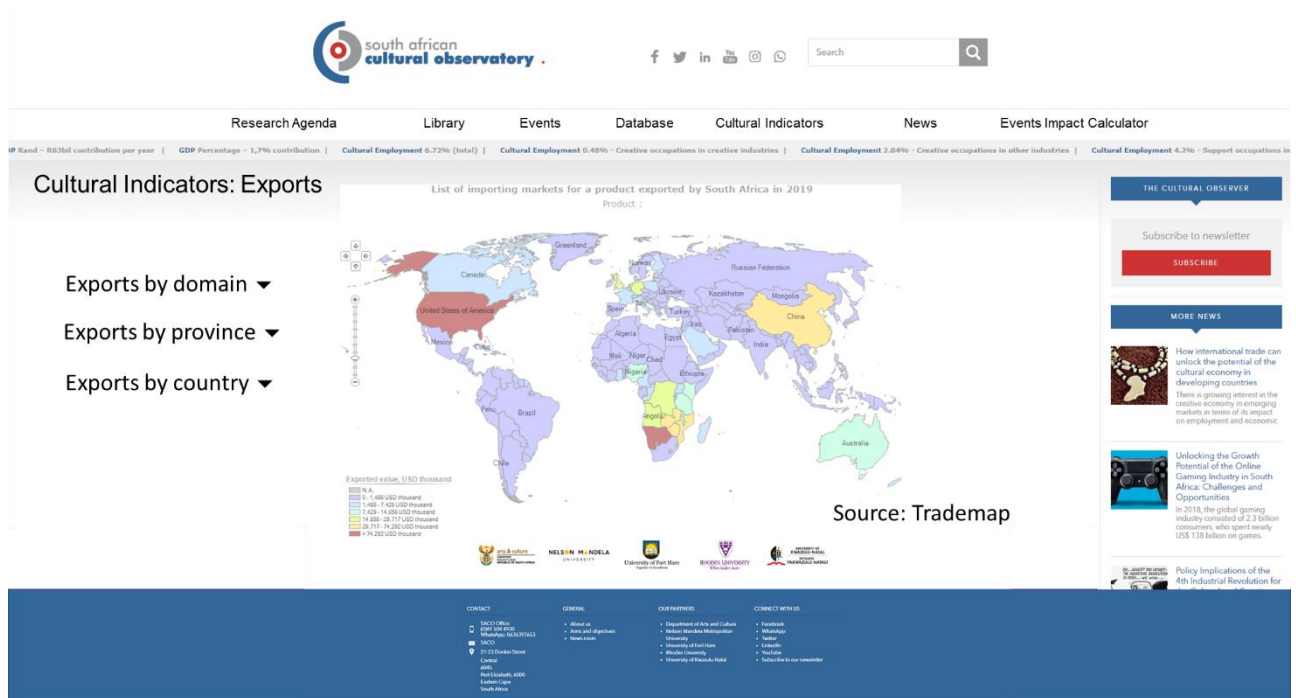


Figure 27: Destination of South Africa's sporting goods and equipment exports

A map is always useful to show a lot of information and should therefore be used to the degree that is possible for indicators where the data are available.

The examples used in the first phase show only country information. However, data are available to show subnational data as well.

Mapping Sport Facilities and Infrastructure

The Sport facilities map shows georeferenced information referring to infrastructure, agents and sporting activities, and socio-demographic data throughout the country. The mapped information comes from public and private entities, and from the collaborative contribution of the users. The map shows how the cultural fabric is distributed, where it is concentrated, what are the access problems, and so on.

A number of dimensions can be ascribed to each sporting facility. This includes which sporting code (or codes if there are more than one sport taking place at the venue), the state of the facilities, whether it meets international standards and which standards, or the number of spectators that can be accommodated.

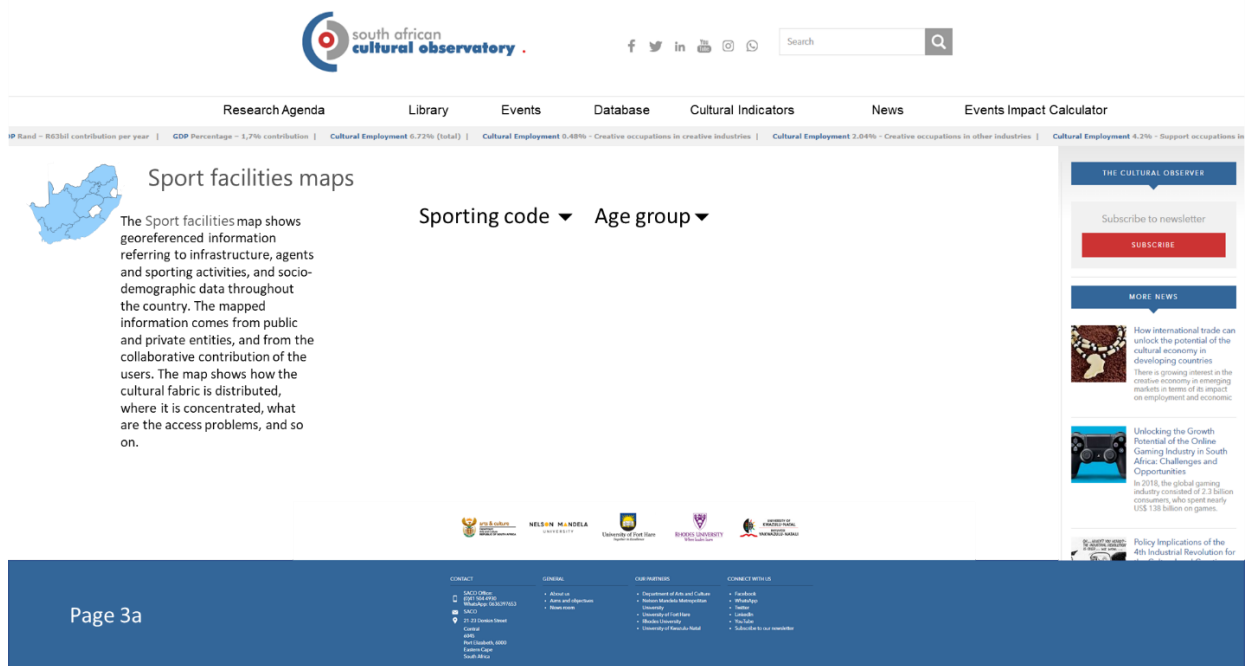


Figure 28: Home page to find sport facilities and infrastructure

Once the sporting code has been chosen and any other criteria that are associated with the code, a map will be shown depicting where the facility or infrastructure is. A map of golf courses in South Africa is shown below.

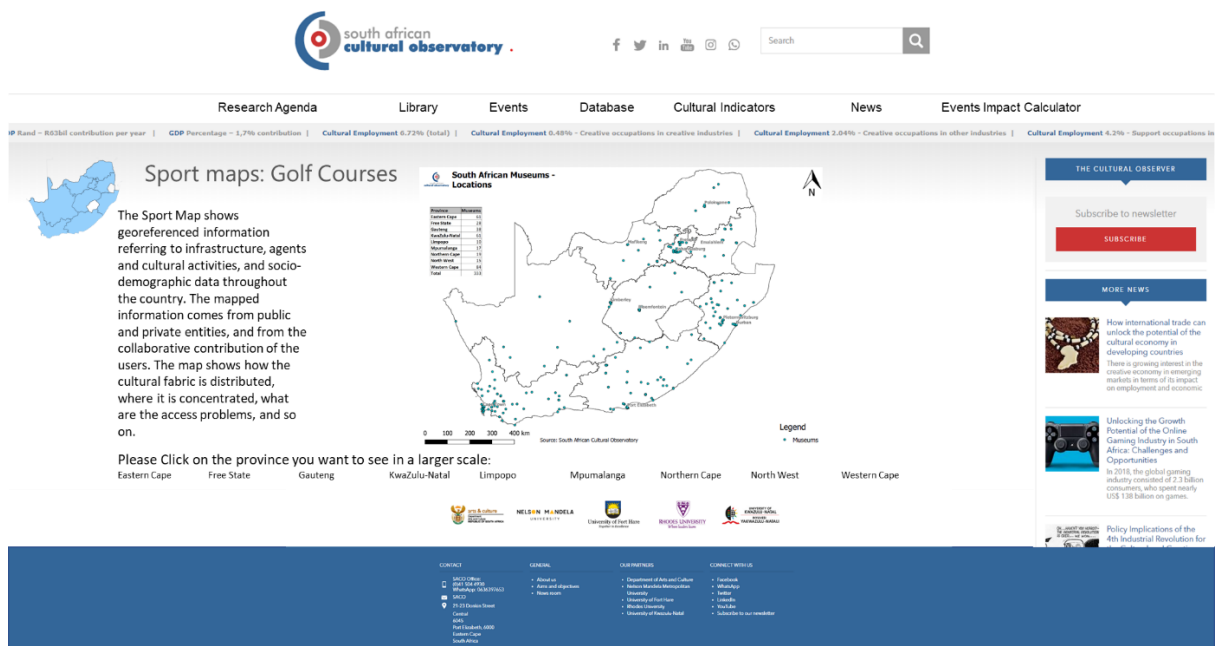


Figure 29: Map showing golf courses in South Africa

it should also be possible to focus in on an area and identify the facilities in the local municipality. Using other data, such as age groups or income groups, and overlay can be created to see the catchment area of the facility and if the targeted group is been served appropriately.

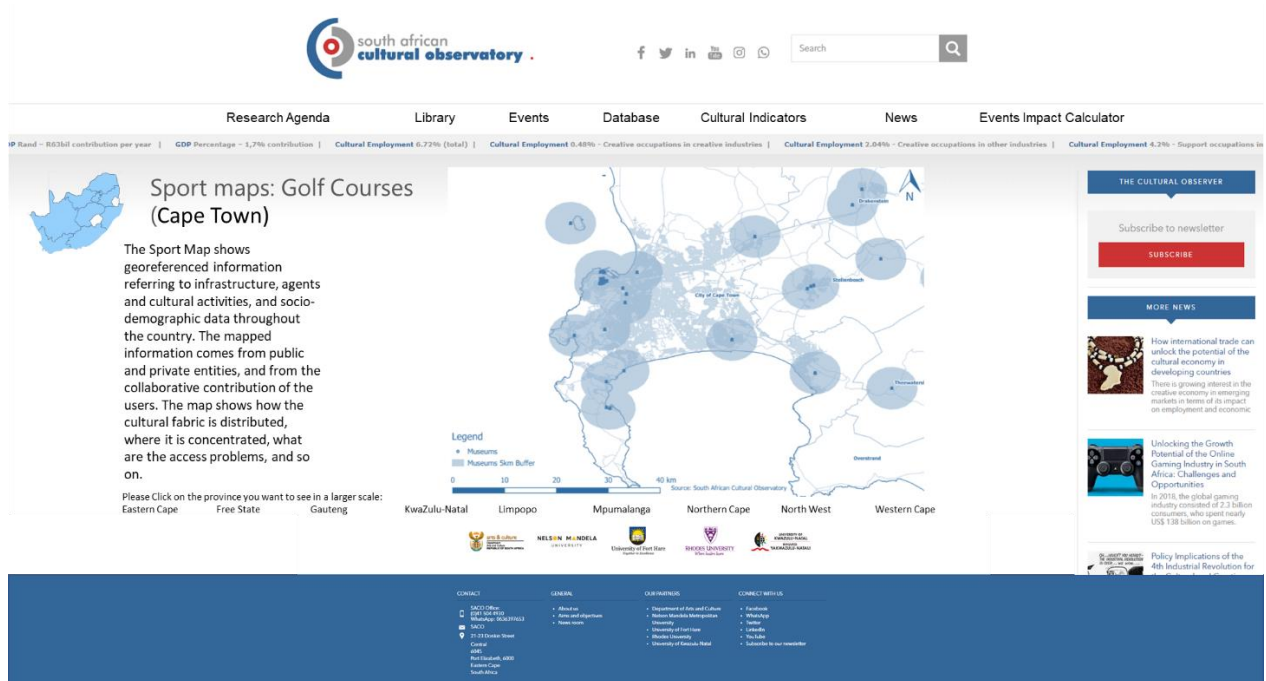


Figure 30: Map showing golf courses in Cape Town and with a catchment area

Maps with overlays could be used for planning purposes. Questions can be asked such as:

- How close is the facility to a school?
- Is there sufficient public transport for big events?
- Is it accessible for targeted groups such as disabled people?

Although, it may be possible that sports federations, developers or any other private sector enterprise will be able to use this facility, its main purpose would be to integrate town planning activities in local municipalities with planning at national and provincial level to ensure that there is sufficient sporting infrastructure in South Africa.

7.7.2 Methodologies and Reports

Initially, existing SACO reports can be used for this section. There is not a lot of sport research in South Africa. The South African government, through the Department of Arts and Culture, its entities and SACO, is building a bank of research on these sectors and industries. This section of SACO's website features both the latest research coming from the international, regional and local sectors, and past research from across the world and sectors.

The current SACO website (<https://www.southafricanculturalobservatory.org.za/document-library>) users are encouraged to use the digital library to find sport publications, reports, frameworks and guides, presentations, working papers, multi-media and other open-source information.

Currently the SACO website has the following sections:

- Publications;
- Reports;
- Frameworks & Guides;
- Presentations;
- Working & Research Papers;
- SACO Conference Presentations;

- SACO Research Papers; and
- Other.

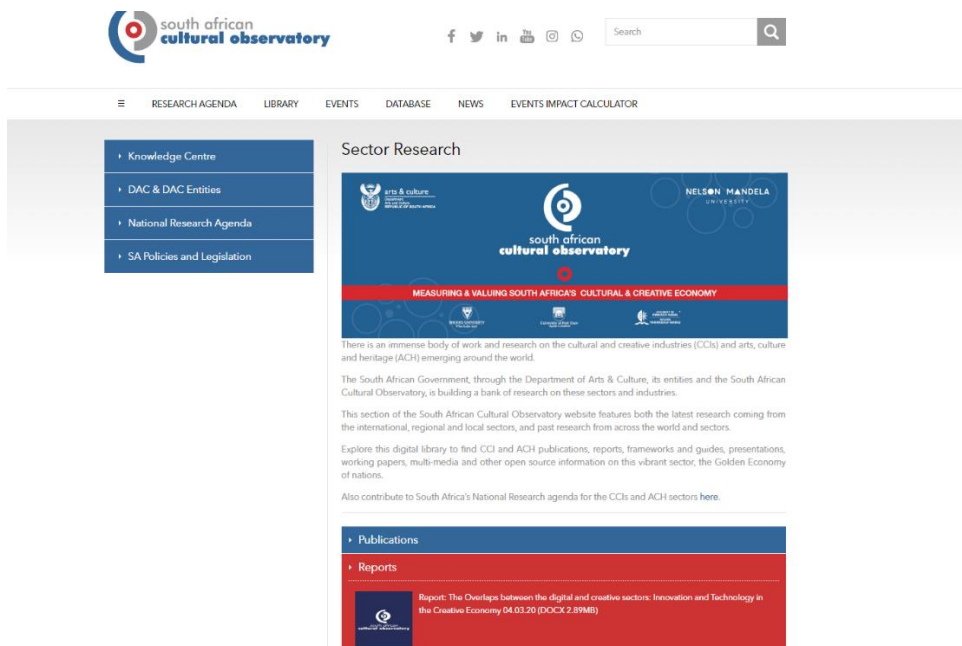


Figure 31: SACO's current page showing the reports that are available

These categories would be augmented with “A Methodologies Category” that will describe in greater detail where the data has been obtained, its strengths and limitations.

7.8 Phase 2 Static South African Sport Satellite Account and Static Sport Infrastructure Maps

Fortunately, SACO has a number of South African and world maps that can be used relatively quickly. There are also a number of databases that have been built up (but will need to be updated) that can also be used relatively easy. The second phase should provide a comprehensive framework that will serve as a “proof of concept.” This phase will provide only aggregated data.

7.9 Phase 3: South African Sport Satellite Account

Once proof concept has been sold and the technology and methodology have proved to be successful, SACO should proceed to the third phase. This will mean developing a comprehensive sport database of all the domains and the various elements that are required for the interactive’s sport framework.

7.9.1 Phase 3a: South African Sport Satellite Account

Official data must be collected and put into a format that can be used in the interactive framework. Most of the data are available in an electronic format and can therefore easily be converted into a format that can be used in the sport database.

Unfortunately, not all the information that is required will be available from the official datasets. In some cases, estimates will have to be made or have been made. The mapping project that was undertaken by SACO has a great deal of information already that can be included in the proposed database. (It must be indicated to users has been derived and is not official South African government data.)

In other cases, surveys will have to be undertaken. The existing company database that was prepared by Plus 94 can serve as the foundation. Unfortunately, it is somewhat dated and efforts must be made to update the information. In addition, additional fields will have to be added as discussed above to give a better picture of what is actually happening in the sector.

To support the development of sport enterprises database, directories will have to be acquired as described above and the information obtained used to augment the data of the existing company database.

7.9.2 Phase 3b: Distributed Content Management System

A dynamic content management system²⁷ is a software application that is used to manage the creation and modification of digital content. These systems are typically used for enterprise content management and web content management. These systems support multiple users in a collaborative environment by integrating document management, digital asset management and record retention. Web content management is the collaborative authoring for websites and may include text, graphics, photos, videos, audio and maps that display content and interact with partners.

Joomla is a free and open-source content management system for publishing web content (see <https://www.joomla.org/>). Joomla allows for indexing; search and retrieval; format management; revision control; and management. Publishing functionality allows individuals to use a template or a set of templates approved by the SACO, as well as wizards and other tools to create or modify content.

7.9.3 Phase 3c: South African Cultural Satellite Account and Provincial Data

As a separate project, an econometric model must be built that can provide information for the interactive sport framework. The model needs to be well documented and aligned to the South African SNA.

Initially the data would be updated annually, but as the model improves and the data integrity is tested, courtly data could be generated.

7.9.4 Phase 3c: South African Cultural Satellite Account and International Data

The data generated from the project described above must be aligned to the United Nations International Standards, the domain descriptions based on the UNESCO FCS (as adapted for South Africa) and International good practice (other cultural observatories across the world.)

7.10 Conclusion

It will take some time for the database and the proposed interactive sport framework to be developed fully. The rollout could be a lot quicker if additional funding and resources are made available for the project. Nevertheless, the phased approach will provide a lot of information in a suitable format to many users. As the database is used and feedback is received, these phases may be adapted.

7.11 Legal Issues

There are a number of legal issues that need to be highlighted.

²⁷

7.11.1 Partnerships

As discussed above, neither the South African government nor SACO have all the information that is required and partnerships with various organs of state, non-profit organisations, and the private sector will have to be made. The partnerships could be informal. However, it is recommended that the partnerships be either in the format of a MoU or MoA.

Owners of Data

There are various legal requirements that have to be met considering the ownership of data. The organisations sport enterprises, artists or other people that are involved have certain rights that would limit the use of their data without their consent. Therefore, special efforts must be made to obtain the consent. The consent should be in writing and must be kept on record.

Access to administrative data are difficult to obtain but SACO together with the DSAC should approach the respective agencies, organs of state, SARS, Stats SA, and Customs and Excise to see what data could be obtained and made available.

MoU/MOA/Agreements

The agreements should be drafted by lawyers (or the legal division of Nelson Mandela University with the assistance of DSAC). Standard agreements can be drafted and then adapted as required by the respective partners. The following issues must be addressed:

- Access to data
- Ownership of database

Use of the Data

The conditions under which the data can be used by internal SACO researchers, employees of DSAC University faculty, students, other academic researchers, private sector researchers and other stakeholders, must be included in a “Terms of use” clause that must be included on the website and agreed to by all users. All users must register to be able to use the data, or at least the protected parts of the data.

7.12 Conclusion and Recommendations

This is a long-term project and requires a commitment from SACO and all its main stakeholders including DSAC, Nelson Mandela University and the partner universities. Where possible resources should be made available either in cash or in-kind. University students and faculty members should be encouraged to participate in both the development of the sport framework and then to use the data that is available for further research.

It is essential that SACO pick the low hanging fruit as soon as possible and create as much excitement regarding the website and the proposed interactive sport framework as soon as possible. This will ensure that the project gets support and the resources it needs.

Local and international partnerships are crucial and agreements with stakeholders locally and other cultural observatories internationally should be made so that data, programming, and other aspects can be shared.

8 A Framework for Measuring South Africa's Sports and Recreation

8.1 Working with Stats SA and the Way Forward

The process map below shows the sequence of events that must occur before a Sport Satellite Account can be established. It shows only the high-level activities. Each of these activities are supported by numerous tasks that need to be carried out by various government departments in different spheres of government, relevant agencies, and other stakeholders. The main role-players, however, are Stats SA, DSAC and SACO.

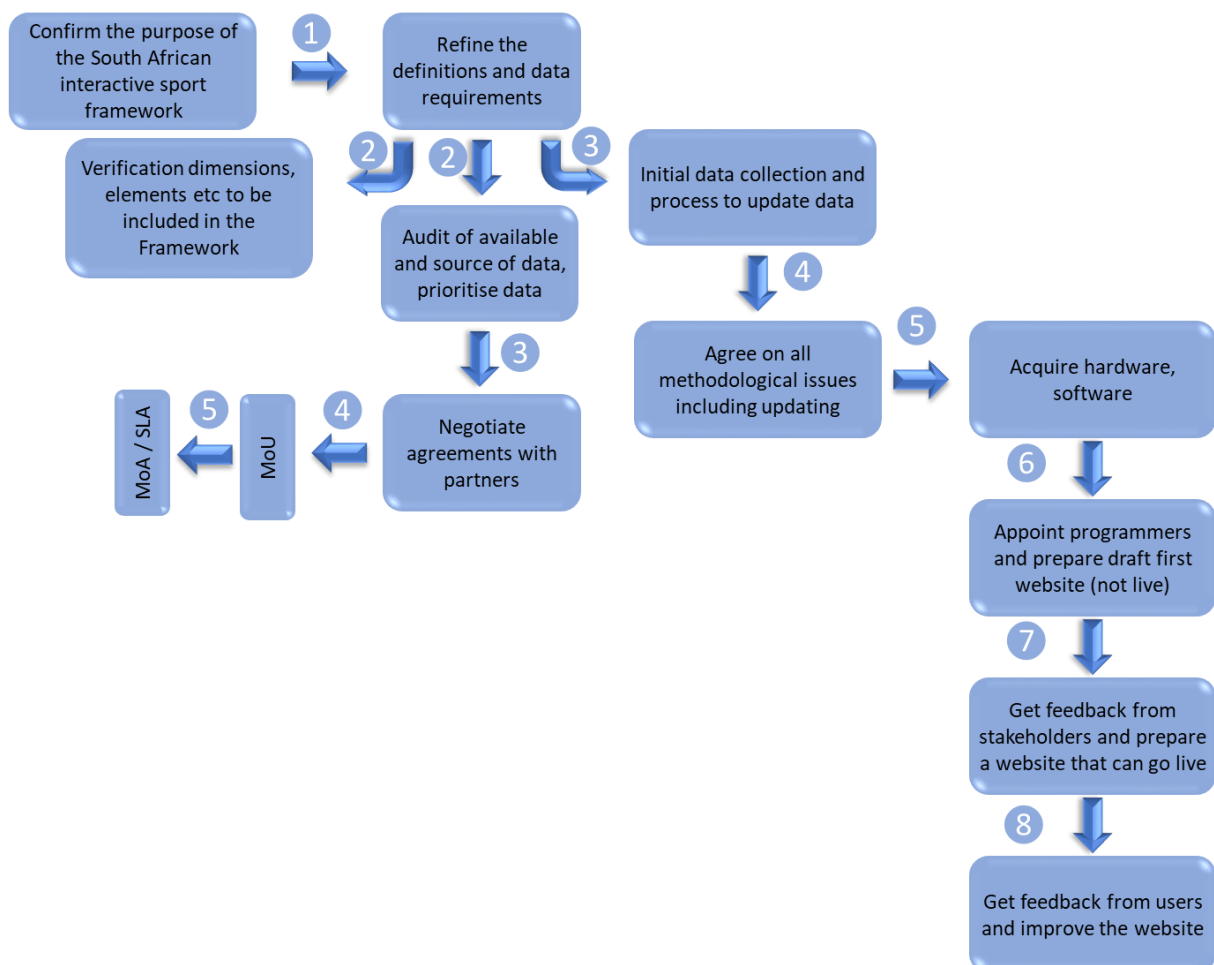


Figure 32: Proposed process to develop the framework

8.2 Memorandum of Understanding / Agreement

It is proposed that Stats SA, DSAC and SACO sign a MoU. It is a formal agreement between two or more parties are generally used to establish official partnerships. MoUs are not legally binding but they carry a degree of seriousness and mutual respect, stronger than a gentlemen's agreement. It is synonymous with a letter of intent that is also a non-binding written agreement that implies a binding contract is to follow.

The MoU should broadly spell out what the project intends to do and what the eventual impact of it will be. It can reinforce tasks that the three parties are already doing and how they can

cooperate better by working together. Since the MoU is not a legally binding document, it is not necessary to provide too much detail, especially regarding resources and outputs.

This tripartite MoU should be seen as the first step towards a legal contract. In this case it is proposed that a MoA eventually be signed by the three parties. The MoA should spell out what will be done, by whom, what the timeframes are, and what resources need to be allocated to the project. It needs to give more detail than the MoU. The MoA will also specify who holds the intellectual property and what other parties may do with information collected and tools developed.

8.3 Short-term Measures

in the short-term while the MoU and MoA are being negotiated and drafted, all the stakeholders should continue the process towards delivering a Sports Satellite Account for South Africa.

8.3.1 Skills

it is critical that all the stakeholders and especially DSAC and SACO develop a deeper understanding of the South African SNA and especially how data are collected and checked.

It is recommended that SACO and the University of Nelson Mandela, with the support of Stats SA, source the necessary skills to run workshops for stakeholders and role players.

8.3.2 Quality Control

Best practice guidelines for developing statistical classifications has been included in the appendices

8.3.3 Database

SACO has a database of over 20 000 organisations, companies, and individuals involved in the creative industries. The database includes a domain and a description of the entity. In most cases it has contact details and geographic coordinates.

It is recommended that SACO takes a lead role, with the support of Stats SA and DSAC, to build on this database. This entails ensuring that all the current information is correct. SACO will also have to ensure that the database is more comprehensive by contacting all other stakeholders and role players.

It is further recommended that the database be put on a website where the organisations, companies, and individuals can update the information when necessary (at least annually). SACO will need to take responsibility to ensure that each entity on the database is contacted either by email, telephone and even by mail annually, to ensure that they update their information.

This database can be used to collect ad hoc information that may be useful to researchers. However, once the MoA has been signed it is proposed that the database acts as a source for a large sample survey. Stats SA should advise how often such a survey needs to be undertaken and how often smaller sample surveys must be done to update the various time series data that is being developed.

8.3.4 Delphi Groups

Although this document, as well as other documents, have tried to identify what products and services can be associated with the sports in general. There is also significant international

literature regarding this. Nevertheless, these need to be interrogated and verified to ensure that they are suitable for South Africa, and what the South African Sport Satellite Account wishes to achieve.

The Delphi method is a structured communication technique which relies on a panel of experts who answer questionnaires in two or more rounds. After each round, a facilitator provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards the "correct" answer. Delphi is based on the principle that decisions from a structured group of individuals are more accurate than those from unstructured groups.

Best practice guidelines for developing statistical classifications has been included in the appendices and should be used as a guideline by the Delphi groups.

It is therefore recommended that focus groups or Delphi groups be organised to:

- Define the sector/industry/products/occupations; and
- Estimate what percentage should be allocated to each sector/industry/product/occupation.

There is software currently available that can facilitate this process. The software ensures that there is anonymity and that, if there are strong personalities in the group, they do not overwhelm other participants. This contributes to a more effective and efficient outcome.

8.3.5 Expert Group

Delphi groups are unfortunately only held when the need arises. They are difficult to manage and can also be relatively expensive. In addition to the Delphi groups, an expert group (and subgroups if necessary) can be useful. For example, in March 2015 the United Nations Statistical Commission created an Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), composed of Member States and including regional and international agencies as observers. It will provide proposals of a global indicator framework (and associated global and universal indicators) for consideration by the Statistical Commission.

The expert group should use the best practice guidelines for developing statistical classifications has been included in the appendices finalising the sport classifications.

It is recommended that a cultural industries expert group be convened by Stats SA, with the support of DSAC and SACO to verify the data from the Delphi groups and make decisions when necessary. The members of the expert group should be prepared to serve for at least two years.

8.3.6 Sport Specific SAM/IO

It is possible to develop an Input-Output tables for the economy and splitting cultural sectors from the other SIC sectors that are currently being used. It must be recognised however, that this IO will not be very accurate. The split between the sectors can be based on the output from the focus or Delphi groups.

This however, it must be seen as an interim measure. It will assist DSAC and other stakeholders and role players evaluate projects, programmes and other interventions. It will also provide a very rough estimate of the size and the impact that the CCIs have in South Africa.

It is recommended that an academic institution be approached to develop an interim unofficial Input-Output table that can serve as a training tool and provide rudimentary econometric analysis of the cultural and creative sectors.

8.4 Identification of Existing Data

As has already been mentioned in this report, Stats SA already undertaken a number of surveys that includes data from relevant to the cultural sector. Stats SA needs to undertake a full audit, with the assistance SACO and DSAC of this information, especially unpublished information. Where possible, Stats SA should share this information with SACO and DSAC.

SACO and DSAC on the other hand need to advise Stats SA of what comprises the cultural sector. In this regard, the outcomes of the Delphi groups and the input of the expert group will be critical.

It is recommended that where there are significant gaps in data that is needed to establish a CSA for South Africa, the expert group, DSAC, and SACO provide input into Stats SA's questionnaires that they currently use to collect data. (The additional questions should not be so burdensome as to hinder Stats SA's purpose for the questionnaire.)

9 Conclusion

Research into the sport economy is relatively new. Research is undertaken for many reasons, but academic research (to expand the knowledge base) and policy (to provide evidence for policies) are the two most important. To do this information is necessary. This implies that not only is there a need for an accurate and comprehensive database of relevant sport indicators, but there is also a need for the data to be made available to all relevant stakeholders. Access to the proposed sport database by policy makers, academics and other stakeholders is essential. The data must be relevant and classified in a way that is relevant and makes sense.

There has been a great deal of discussion and debate as well as proposals as regards what constitutes sport. It is proposed that South Africa adapt the Vilnius Definition as discussed above.

Where necessary, timeseries have been proposed. These also meet the international standards. The proposed interactive sport information platform will therefore show where there has been progress in South Africa and how this progress made against the progress in foreign countries.

In most cases, international coding systems are proposed (with only a few adaptations) and new coding systems are not necessary. Concordance tables are also available (and can be adapted for South Africa) to link industries, products, occupations etc. together. The sport framework uses both flat coding structures but mainly uses hierarchical structures. Every category in a classification must have a code and the code structures need to be consistent and logical for each level they are used.

Similarly, descriptors are based on international coding systems and have been adapted where necessary for South Africa. Definitional descriptions and explanatory notes of the coding system must be included in the interactive sport framework.

Data may often be considered to be a public good in that it could be both non-excludable and non-rivalrous. Public goods, especially where there are positive externalities, should be provided either by government or through government support.

Stakeholders need a comprehensive database that they can understand and use that is easily accessible and comparable across time, domains, and regions. This report proposes how this can be done.

The proposed interactive sport framework will make a useful contribution to both research and policy development. It will also make a contribution to M&E at both national and subnational level. It will be able to assist with benchmarking of especially the outcomes and impacts of interventions.

A great deal of work still needs to be carried out to develop the necessary computer programs that will support the interactive sport framework. Fortunately, other cultural observatories in this regard and through existing and proposed partnerships South Africa can learn from them.

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APPENDICES

Appendix 1. Understanding the Economics of Sport

The study of sports economics has expanded rapidly in recent years. Sport is a dynamic and fast-growing sector with an underestimated macroeconomic impact, and contributes to economic growth and job creation. It can serve as a tool for local and regional development, urban regeneration, or rural development. Sport has synergies with tourism and can stimulate the upgrading of infrastructure.

There is an increased demand for sport economic analysis. Some of this is relevant to commercial litigation in sport and for research into the incentive properties of sporting contests. It is also necessary for the development of appropriate evidence-based policy.

While the economics of sport does not have a long history, it does cover a number of disciplines in pure economics, applied economics and also business economics. Although Andreff and Szymanski (2006) track the economics of sport to Simon Rottenberg at the University of Chicago in 1956, Jay Topkis (1948) and Paul Gregory (1956) were looking at the issues of monopoly in professional sports and marketing equilibrium respectively. His focus was linked to labour economics of sport.

Andreff (2006) laments the main obstacle to analysing the economic analysis of sports in Europe in the 1970s was the absence of systematically published economic data about sporting activities. He has therefore supported and participated in setting up economic accounts of sports. In the late 1970s, Malenfant-Dauriac (1977) completed a doctoral thesis “The economics of sport in France. A Sport Satellite Account.”²⁸ Andreff (2006) primary question was what is the importance of sports in a country’s GDP, as well as how much “sport” is consumption and the contribution of the sports goods industry to the foreign trade balance?

According to The French government the size of the sport sector:

... generates around 2% of world GDP (nearly € 1.200 billion), and, excluding volunteering, its economic weight, calculated by INSEE through sports expenditure, was close to 1.9% of GDP in France in 2011, or € 37.1 billion, France moving slightly above the European average. Starting also from the principle that the sports sector has withstood the economic crisis particularly well and that it represents an important growth lever for the whole of the French economy, it is essential for all public and private actors to be able to have varied, reliable data analysed over time. So, the methods of cooperation envisaged between the various members of the Observatory are due to the carrying out of studies of shared interest which are the subject of co-financing and the dissemination of summary indicators on the economics of sport. The preferred working method aims to enhance the sources of the various public and private parties by adhering to the open data approach. A map of available sources, a draft work programme and a list of indicators for the economy of sport have been distributed to public partners. The Observatory of the Economics of Sport is therefore a place of convergence for the measurement and observation of the economics of sport. It makes it possible to establish links between the producers of data and to define the instruments for measuring the economic and social wealth created by this sector of activity (Ministère Des Sport, 2020).

²⁸ The title was “L’économie du sport en France: un compte satellite du sport”

Since sport is a favourite leisure activity either by active participation (competitively or leisurely) or passively as a spectator of sporting events. Passion for sport leads to a wide range of expenses:

- Athletes need:
 - Sports equipment;
 - Footwear and clothing;
 - Membership or other entry charges to use sports facilities;
 - Club membership;
 - Gym and exercise facilities.
- Further at events spectators:
 - Entry charges to attend events;
 - Branded clothing;
 - Programmes; and
 - Refreshment etc.
- Remote spectators often have to pay-to-view television or live streaming.
- In addition, there is advertising, sponsorship and branding to consider.
- Teams have managers, logistic coordinators, shareholders, coaches, and medical staff.
- Facilities have to be maintained as well.

Sports Observatories typically that gather, analyse and publish data relating to sports activities and their contribution to the socioeconomic environment. The segments of the sports industry

- Sports tourism
- Sporting goods
- Sports apparel
- Professional sports
- Recreation
- Outdoor sports
- Sport marketing firms
- Sports sponsorship industry
- Sports-governing bodies
- Sports infrastructure
- Media, TV rights and advertisement
- Managerial services
- Sports medicine
- Medals, souvenirs, shields
- Insurance
- Transportation
- Catering

The sports sector, besides intrinsic values such as performance of athletes also includes various economic indicators. These issues are discussed in greater detail below.

1 The South African Sport Industry

Besides the paucity of economic data, the analysis of both the cost and benefits of sport is complex. SRSA (2009, citing BMI, 2007) show the percentage expenditure in the sports goods and services provided and sold in South Africa.

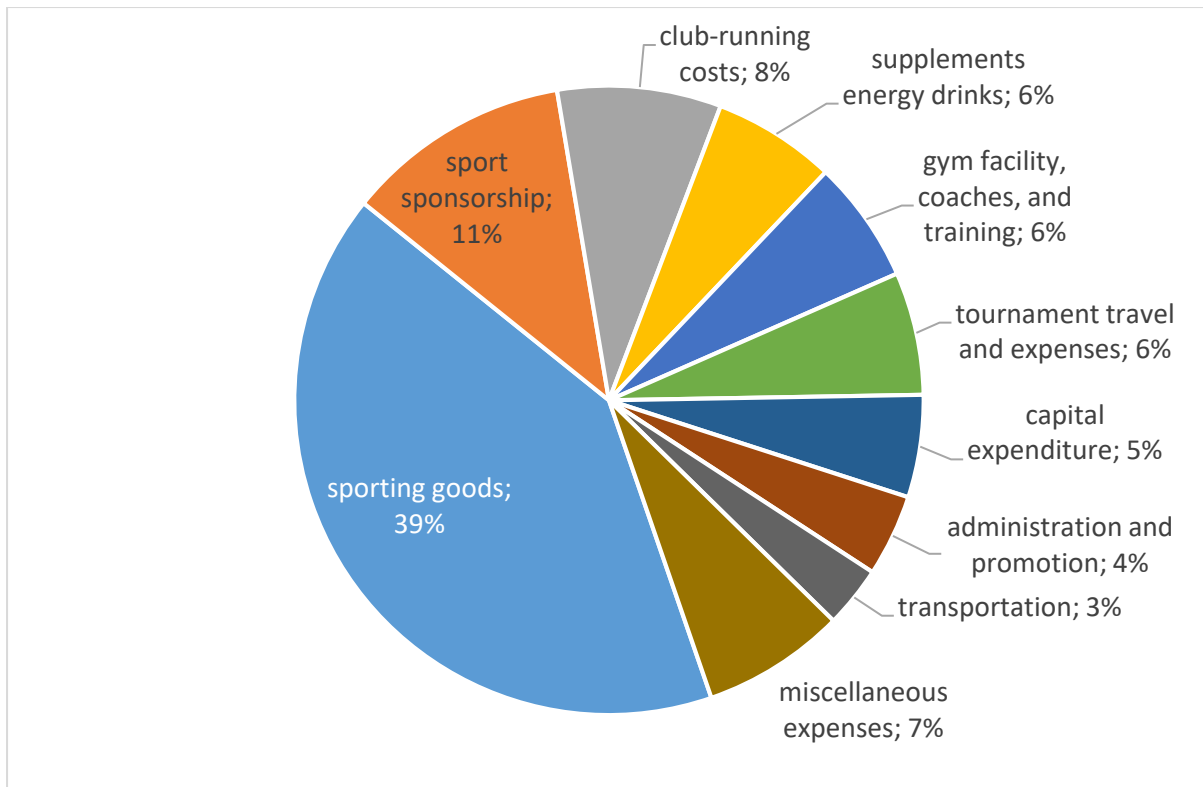


Figure 33: Percentage expenditure in the sports good and services

Source: Own calculations based on data in Swart (2017)

Sporting goods are the largest portion of expenditure in South Africa.

2 Demand-side Issues

To develop a framework that can be used by all relevant stakeholders, it is necessary to understand the various demand-side issues. Demand for sport focuses on the attendance and price of sport events, broadcasting right as well as sponsorship. It also included the subsidies of stadiums and sport arenas.

Consumption of Sport

How sport is being consumed is also changing. With technology and especially multiscreen consumption, sports lovers have thousands of sports events that they can view, either live (while the event is taking place) or on-demand (through internet streaming). With these choices, viewers are distracted. Therefore sponsors, advertisers and other content need to “capture consumers’ undivided attention” (PricewaterhouseCoopers, 2019). Sports betting has helped consumers to focus on certain events and is becoming an important catalyst in the new sport industry.

Spending by Stakeholders Is South Africa

According to Swart (2017) participants are the largest consumers of sports good and services as shown in Figure 3 below.

Both the classifications of sports good and services and the consumers of sports good and services probably need to be revised and defined to align with official statistical data provided by Stats SA.

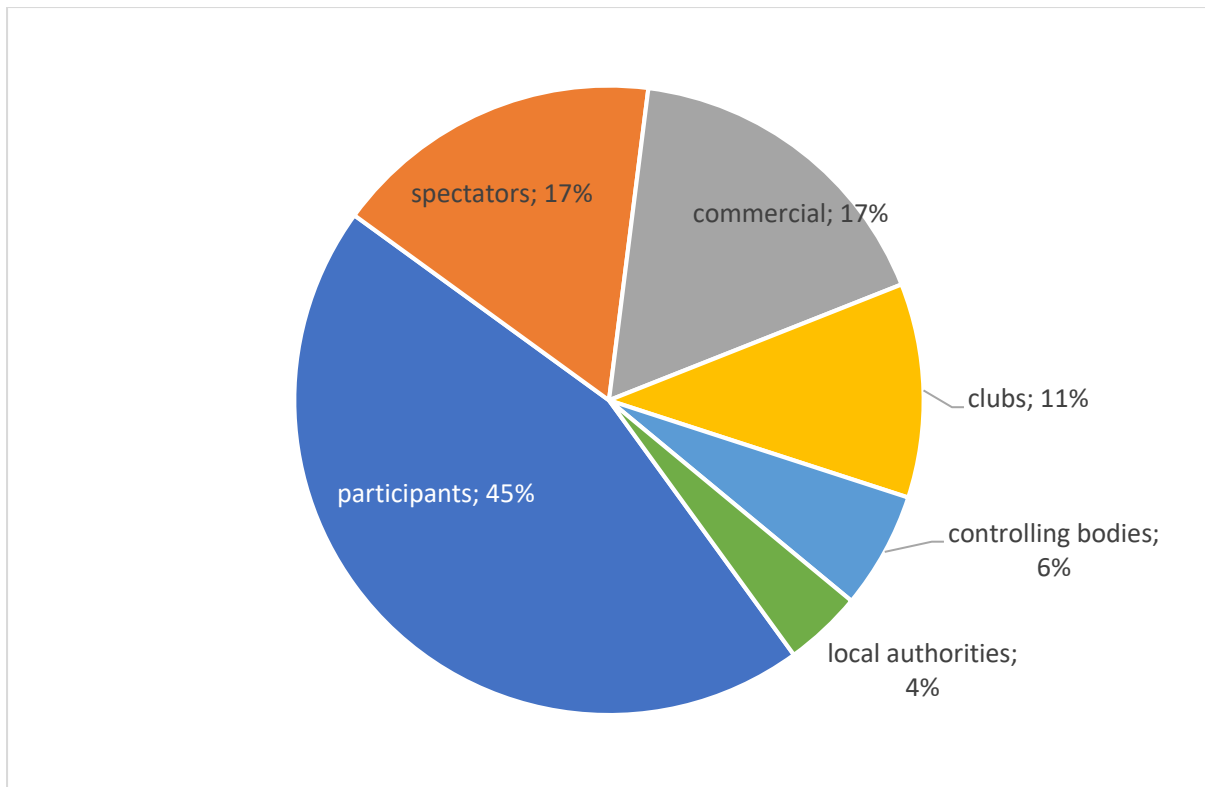


Figure 34: Spending by stakeholders

Source: Own calculations based on data in Swart (2017)

Participants

Intuitively, participants of any sport and especially professional sport would be considered to be on the supply side of the economy. However, some sports tend to attract more players and often more talented athletes than other sports.

Besides the athletes themselves, there are several other groups that need to be considered. These include the administrators and adjudicators. The adjudicators (or umpires and referees) can be considered to be athletes and their own right and in some sports have to be as fit and talented as the actual performing athletes. Others include coaches, managers, broadcasters, announcers and many other individuals who has strong associations with a team or sport.

Consumers or Devotees of Sport

The observers (spectators, fans, and other supporters) are the backbone of the economics of any sport. Many of these people what sporting events live and at the stadium or via electronic media. Others will follow teams through traditional media. Understanding the consumers is also important to develop a framework.

Spectators can play an important role in the outcomes of matches, especially “home games.” Considine(2020) describe how evidence results from the larger data sets on football matches “show that the home team enjoy a goal difference advantage and take more points per game (although the summary statistics on the latter might raise some questions). The authors estimated that 60% of the points advantage that comes from home-field advantage can be attributed to the impact of the larger crowd.”

Fans

Fans, a word that probably has its root in fanatic, or considerably more enthusiastic, passionate and expressive. Because of the role of fans at live sporting events, and otherwise equal contest may swing in favour of the home team (home-field advantage). Many categories of fans have been identified and range from devoted fans to temporary fans. Fans, although are often local, may travel great distances and at great cost to encourage their preferred athlete or team.

To assist advertisers and marketers, Hunt et al. (1999) develop a typology of the sports fan using five different types of sports fans exist:

- temporary,
- local,
- devoted,
- fanatical, and
- dysfunctional.

Dysfunctional fan uses the sports team, player to identify him- or herself and is vital for their self-identification and maybe even existence. The temporary fan was limited in terms of time and the local fan was limited by geography. No such limitations exist to the devoted fan who are attach to a personality, team, league, or sport Hunt et al. (1999).

Spectators

The word spectators derived from the Latin word *specto*, meaning to watch. The spectator remains passive and does not interact directly with the event or game being played. Spectators tend to be more analytical and show less enthusiasm. Spectators are often based near the teams home ground. Spectators would also appreciate the game for what it is rather than for who is playing or taking part.

Each of these fans would need different messages, channels, tools or techniques to reach them to drive sports consumption as well as other goods and services related to the sport. The more successful, reaching the fan, the greater the economic multiplier will be.

Supporters

Supporters for an athlete, club or team may be either spectators, fans, or a benefactor. The role of a supporter, however, is more developmental. A supporter tends to hold a long-term view and would tend to support irrespective of how the team or athlete is doing. The focus is therefore on encouragement. This can either be an emotional-type of encouragement or by providing resources (or sponsorship) with the hope that the performance would improve.

Mega Events

Over the past few decades sport has become significant economic segment in social entertainment business and has become more commercialised. Any people, fans or causal supporters who follow major events such as the Olympics, world cups, leagues or many other professional sports for that matter know that the world of sport is big business. Participants are often paid relatively large salaries, stadiums are expensive, accessories and clothing are designed for specific sporting codes, there is advertising and sponsorship as well as sports research and medicines. There are also broadcasting rights, advertising, investment, sponsorship, concessions, merchandising and ticket sales. Besides the activities directly

related to sport events, many sporting activities rely on inputs from many other economic sectors. Sport also boosts sectors such as tourism.

With mega-sports events and to a certain extent the price of cities, there are large sports stadiums and other sporting facilities being built. Although these stadiums are also used for other events, they do allow for more spectators to attend matches and other sporting events. However, most sport is watched remotely. This can be at home, the sports bar, casino, fan parks, and other public places. Although entrance fees may be charged, consumers attending these events tend to spend a lot on food, beverages, branded clothing, and other consumables related to the sport.

Volunteers

On the other hand, notwithstanding the overall economic importance of sport, the vast majority of sporting activities takes place in non-profit structures, many of which depend on public support to provide access to sporting activities to all citizens.

Intellectual Property Rights

A growing part of the economic value of sports is linked to intellectual property rights. These rights relate to copyright, commercial communications, trademarks, and image and media rights. In an increasingly globalised and dynamic sector, the effective enforcement of intellectual property rights around the world is becoming an essential part of the health of the sport economy.

Sport Tourism

Globally sports tourism is huge and has a massive impact on tourism profits. The European Commission (2014) estimates that an average of 12 to 15 million international trips were made worldwide in 2013 for the main purpose of watching sport events.

Sport tourism is an important segment of the South African tourism industry that is growing rapidly and has potential to grow even faster. It is therefore an important niche market. South Africa has shown that it is able to major world cups despite been considered a “long haul” destination. Each major sporting events such as a World Cup brings in a number of players and spectators that in their own right give sporting tourism boost. However, the benefits go beyond that. Firstly, athletes can see what facilities and the standard of the facilities are that can be used for training. Many of South Africa’s training venues and high-performance centres are at altitude. This gives athletes that train at altitude an advantage when they compete at coastal level. Secondly, many of the spectators that come for the sport event will also indulge themselves in other tourist attractions. After experiencing these attractions, they are likely to entice friends and colleagues to come to South Africa and a number of these “sports tourists” will return to see other parts of the country.

The framework should therefore identify the number of visitors and visitor-spend associated with attending a sporting event that can be used in the various econometric models discussed below to determine the indirect economic benefits of hosting sporting events in South Africa.

According to Swart (1998) there was a lack of sport tourism planning. Evidence-based research could assist with better sports planning in the future. The collection of the sports data and the development of econometric models and other impact assessment tools would help assist planners in determining what sports events to target that would have the best outcome

for South Africa as a whole. It would also ensure that the South African taxpayer gets value for money and a good return on the investment that is made to attract the sporting events.

It is also possible that sporting tours of smaller sporting codes would also achieve similar outcomes, albeit at a smaller level. The proposed database should therefore include as many sporting codes as possible and as well as incoming sporting tours.

3 Conclusion

The sports sector, besides intrinsic values such as performance of athletes also includes various economic indicators. As the old adage goes “if you cannot measure it, you cannot manage it.” It is therefore imperative that indicators be developed, and the various elements discussed above be measured. These indicators must be comparable over time to see if there is any progress or backsliding and reasons for these. Similarly, indicators must be comparable over space, both international and subnational. This will show where there are lessons that be learnt. Indicators across the various sporting codes will achieve similar goals.

Appendix 2. Vilnius Narrow and Broad Definition of Sport

The Vilnius Definition 2.0 is over 100 pages long and is very detailed, however a list from the broad categories is included below:

- Agriculture, hunting and related service activities
- Agricultural service activities necessary for growing of bush for racehorses
- Farming/Breeding of racehorses
- Breeding of racehorses (e.g. artificial insemination of racehorses), Cleaning of racehorse stable
- Manufacture of food products and beverages
- Manufacture of dietary supplement (for athletes)
- Prepared feeds for race horses
- Production of energy drinks used during sports activities
- Manufacture of textiles
- Manufacture of sails for boats; Manufacture of sleeping bags; Manufacture of parachutes;
- Manufacture of rope used for sports activities (climbing)
- Manufacture of wearing apparel
- Manufacture of leather clothes used for motorsports activities
- Manufacture of workwear used for sports activities (e.g. pilot jackets)
- Manufacture of other outerwear used for sports activities; Manufacture of riding dresses
- Manufacture of underwear used for sports activities (e.g.: skiing)
- Manufacture of caps used for sports activities (e.g.: skiing); Manufacture of gloves used for sports activities (e.g.: skiing); Manufacture of tracksuits; Manufacture of ski suits
- Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- Manufacture of saddle goods
- Manufacture of footwear used for sports activities (e.g. tennis shoes, football shoes, running shoes,...)
- Publishing, printing and reproduction of recorded media
- Printing and service activities related to sports books, newspapers, journals, periodicals
- Manufacture of coke and refined petroleum products
- Manufacture of Petrol used in sports vehicles
- Manufacture of chemicals and chemical products - "Medical Care"
- Manufacture of pharmaceutical preparations used for sports-activities (e.g. medical care for athletes)
- Manufacture of chemicals and chemical products - "Injury"
- Manufacture of pharmaceutical preparations used for sports-activities (e.g. after injury during sports activities)
- Manufacture of rubber and plastic products
- Manufacture of pneumatic rubber tyres used for motor sports cars; Manufacture of pneumatic rubber tyres used for motor sports motorcycles or bicycles; Manufacture of pneumatic rubber tyres used for motor sports aircrafts
- Manufacture of fabricated metal products, except machinery and equipment
- Manufacture of weapons and ammunition used for sports activities (e.g. Biathlon)
- Manufacture of bicycle chains (used for sports activities); Manufacture of hooks (used for climbing); 'Manufacture of Swords, cutlasses, bayonets, lances and similar arms and parts thereof (used for sports activities, e.g. foil fencing)
- Manufacture of watches and clocks

- Manufacture of watches and clocks used by athletes (e.g. divers, alpinists)
- Manufacture of motor vehicles, trailers and semi-trailers
- Manufacture of motor vehicles used for motor sports; Manufacture of snow mobiles used on ski trails; Manufacture of golf cars
- Manufacture of bodies (coachwork) for motor vehicles used for transport of sports equipment; Manufacture of trailers and semi-trailers used for transport of sports equipment
- Manufacture of other transport equipment
- Building of sporting boats
- Manufacture of sporting aeroplanes; Manufacture of sporting gliders and hang gliders; Manufacture of sporting balloons
- Manufacture of motorcycles used for motor sports; Manufacture of bicycles used for sports; Manufacture of invalid carriages used for sports
- Manufacture of riding sports equipment (horse and cart)
- Other manufactured goods
- Manufacture of skis, bindings and poles; 'Manufacture of ice skates and roller skates; parts thereof; Manufacture of water-skis, surfboards, sailboards and other water-sport equipment; Manufacture of other sports goods; 'Installation, repair and maintenance services of skis, bindings and poles; 'Installation, repair and maintenance services of other sports equipment
- Manufacture of billiard tables; Manufacture of bowling alleys; Manufacture of video sports games; Manufacture of video game consoles used for playing sports games; 'Installation, repair and maintenance services of bowling-alley equipment
- Manufacture of orthopaedic shoes used after sports injury or athletes in disabled sports
- Manufacture of goggles used by diving/swimming athletes; Manufacture of contact lenses used by diving/swimming athletes; Manufacture of spectacles used by alpinists, climbers)
- Manufacture of articles used in dental surgery (after sport injury)
- Manufacture of bathing caps and other products used in sports
- Repair and installation services
- Repair of sporting boats and parts of sporting boats, sporting aeroplanes and parts of sporting aeroplanes, weapons used for sports
- Repair of snow mobiles used in ski trails, invalid carriages used for sports, golf cars
- Repair of rope used for sporting activities
- Installation and repair of bowling-alley equipment, equipment of fitness facilities and the like
- Construction
- Construction of sports-infrastructure
- Sale, maintenance and repair of motor vehicles and motorcycles
- Sale of motor sports vehicles
- Maintenance and repair of motor sports vehicles
- Sale, maintenance and repair of motorcycles and related parts and accessories used for sports
- Wholesale trade and commission trade, except of motor vehicles and motorcycle - "Medical care"
- Agents involved in the sale of race horses
- Agents involved in the sale of sports clothing, footwear, leather goods
- Agents specialising in the sale of pharmaceutical and medical goods used for sports-activities (e.g. medical care for athletes)
- Wholesale of race horses

- Wholesale of dietary supplement (for athletes) in specialised stores; Retail sale of energy drinks in specialised stores (used during sports activities)
- Wholesale of sails for boats; Manufacture of sleeping bags; Manufacture of parachutes;
- Wholesale of sports clothing; Wholesale of sports footwear
- Wholesale of records, audio and video tapes, CDs and DVDs with sports content;
- Wholesale of pharmaceutical goods, orthopaedic appliances and medical and surgical equipment used for sports-activities (e.g. medical care for athletes)
- Wholesale of video sports games; Wholesale of video game consoles used for playing sports games
- Wholesale of sports goods
- Wholesale of records, blank audio and video tapes, CDs and DVDs for sports content;
- Wholesale trade and commission trade, except of motor vehicles and motorcycle - "Injury"
- Agents specialising in the sale of pharmaceutical and medical goods used for sports-activities (e.g. after injury during sports activities)
- Wholesale of pharmaceutical goods, orthopaedic appliances and medical and surgical equipment used for sports-activities (e.g. after injury during sports activities)
- Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods - Medical care"
- Retail sale of dietary supplement (for athletes) in specialised stores; Retail sale of energy drinks in specialised stores (used during sports activities)
- Retail sale of sport clothes
- Retail sale of books (sports-related contents); Retail sale of sports magazines; Retail sale of sports newspapers; Retail sale of books, magazines and newspapers (part of sports-related contents)
- Retail sale of recorded audio and video tapes, DVDs, CDs and records with sports content
- Retail sale of bicycles and sport goods
- Retail sale of video sports games
- Retail sale not in stores of sports clothing
- Retail sale of sports footwear; Retail sale of sports leather goods
- Retail sale of pharmaceutical and medical goods used for sports-activities (e.g. medical care for athletes)
- Retail sale of automotive fuel used by the athletes during motor sports competitions, trainings
- Retail sale of photographic, optical and precision equipment used for sports (e.g. Diving, swimming)
- Retail sale of photographic, optical and precision equipment used for sports (e.g. Diving, swimming)
- Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods - "Injury"
- Retail sale of pharmaceutical and medical goods used for sports-activities (e.g. after injury during sports activities)
- Land transport; transport via pipelines
- Transport of athletes to competition; Transport of athletes to training site; Transport of sports tourists to sports events; Transport of sports tourists to destination of sports holidays
- Water transport
- Transport of athletes to competition; Transport of athletes to training site; Transport of sports tourists to sports events; Transport of sports tourists to destination of sports holidays
- Air transport

- Transport of athletes to competition; Transport of athletes to training site; Transport of sports tourists to sports events; Transport of sports tourists to destination of sports holidays
- Hotels and restaurants
- Spending of athletes during competition, training; Spending of sports tourists during sports events; Spending of sports tourists during sports holidays
- Publishing services; motion picture production and sound recording
- Publishing of books (sports-related contents); Publishing of sports newspapers; Publishing of newspapers (part of sports-related content); Publishing of sports journals and periodicals;
- Broadcasting and news agency services
- Broadcasting and news agency services with sports contents
- Financial intermediation, except insurance and pension funding
- Financial services for sports clubs; Financial services for athletes
- Insurance and pension funding, except compulsory social security
- Risk insurance (e.g. insurance for Olympic Games); Infrastructure insurance; Private insurance for athletes
- Professional and scientific services
- Legal activities for sports clubs; Legal activities for professional athletes
- Financing and accounting activities for sports clubs; Financing and accounting activities for professional athletes
- Consulting and public relations activities for sports clubs; Consulting and public relations activities for professional athletes
- Research and development in all fields of sports (Formula 1, other motor sports,...)
- Sport event photography and videography services
- Veterinary services for race horses
- Administrative and support services; travel agency and related services
- Renting of sports equipment
- Renting of video tapes with sports content (Snowboarding, Skateboarding)
- Temporary employment services for sport events and sport tourism
- Reservation of transport, accommodation and tickets for athletes (during competitions) and sports tourists (during sport events and sport holidays)
- Construction and maintenance of sport lawns
- Public administration and defence; compulsory social security - "Medical care"
- Public administration of sports services
- Compulsory social security activities (in order to provide medical care for athletes)
- Public administration and defence; compulsory social security - "Injury"
- Compulsory social security activities (after injury during sports activities)
- Education
- Sports education in elementary school (spending for sports trainers, teachers)
- Sports education in secondary school (spending for sports trainers, teachers)
- Sports education in higher education (spending for sports trainers, teachers)
- Sports education services (skiing lessons, swimming lessons, riding lessons etc.)
- Sports education dancing schools
- Sports education in flying and sailing schools
- Educational support services for sport trainer
- Health and social work - "Medical Care"
- Hospital activities for athletes (in order to provide medical care for athletes)

- Consultations and treatment by general practitioners for athletes (in order to provide medical care for athletes); Consultations and treatment by medical and surgical specialists in ambulatories for athletes (in order to provide medical care for athletes)
- Other human health activities for athletes (in order to provide medical care for athletes)
- Health and social work - "Injury"
- Hospital activities for athletes (after injury during sports activities)
- Consultations and treatment by general practitioners for athletes (after injury during sports activities); Consultations and treatment by medical and surgical specialists in ambulatories for athletes (after injury during sports activities)
- Orthodontic services for athletes (after injury during sports activities)
- Other human health activities after injury during sports
- Recreational, cultural and sporting activities
- Betting on sports events
- Services of lockboxes and changing rooms in recreation parks and bathing beaches, services of marinas and ski slopes, services of table football games, coin-operated machines for car racing games, etc.
- Repair services
- Repair of orthopaedic shoes, footwear and leather goods used by athletes
- Repair of sport clothing
- Repair of bicycles
- Repair of sports equipment

Appendix 3. Sports Observatories

A Sports Observatory firstly aims to collect relevant data from the existing data of various stakeholders. The data are then “cleaned” and standardised where necessary for comparison. The data are then analysed and value added to it. Sports observatories often disseminate the data using a dashboard or making data available generally using the internet. In other cases reports are compiled and either sold to the public but made available to the relevant agencies responsible to develop and promote the particular sport and the relevant department or agency responsible for the development of sport and recreation in particular. The data are used to formulate policy for the further development of sports many countries have Sports Observatory that gather, analyse and publish data relating to sports activities and their contribution to the socioeconomic environment. This information is used as a basis for evidence-based policy making. In South Africa there is no mechanism to gauge the contribution of the overall sports sector, although there is a South African Cultural Observatory.

1 The Swiss Sport Observatory

Since 2004 the Swiss Sport Observatory has been collecting and analysing sport-related data on behalf of the Federal Office for Sport. The Observatory's main objective is the independent monitoring of the development of Swiss sport and sports policy. The indicators or indicator groups of the Observatory are assigned to the following six thematic areas:

- Sport and physical activity promotion: indicators of sport and physical activity behaviour and the corresponding offer structures.
- Education and research : indicators on school sports and the training of sports teachers, and coaches
- Competitive and top sport : Indicators on the subjects of top sport, youth development, sport events and sport reporting.
- Fair and safe sport : indicators on sport- specific accidents as well as on doping and environmental problems.
- Swiss sports system : indicators on various players in Swiss sports and the economic impact of sports.

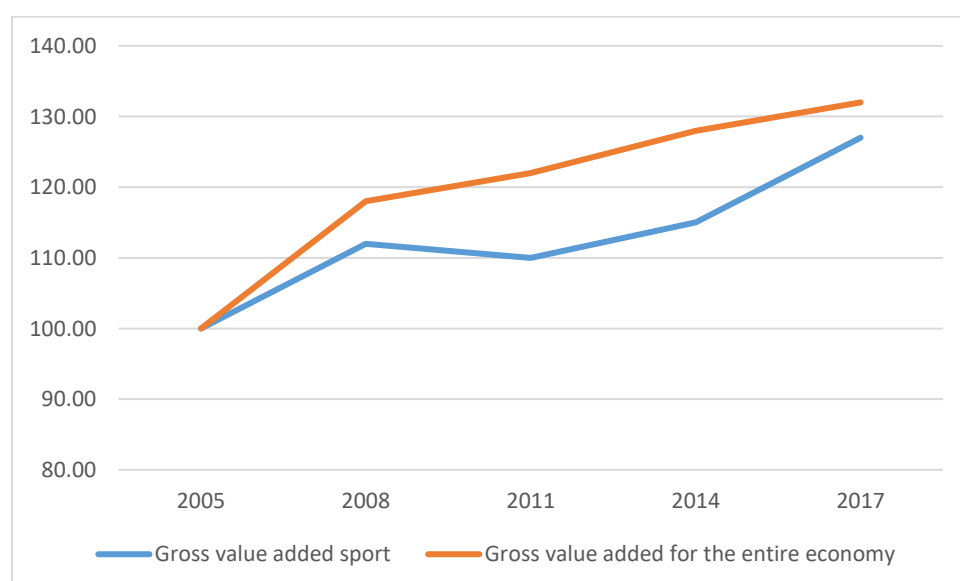


Figure 35: Gross value added (GVA) in sport and in the overall economy, 2005 - 2017 (indexed values)

Source; Hoff et al. (2020)

The Sport Observatory's activities are supported by the Federal Statistical Office, the Swiss Council for Accident prevention, the Swiss National Accident Insurance Fund, Swiss Olympic and further partner organisations.

Regular publications such as the GVA of sport and the whole economy as shown below are prepared.

2 The International Centre for Sports Studies Observatory

The CIES Observatory, a non-profit institute based in Neuchâtel, Switzerland is a research group within the International Centre for Sports Studies (CIES). The research team gathers experts specialised in the statistical analysis of sport. Its aim is to provide top level services for sports-governing bodies in the areas of questionnaire surveys, databases, data mining, business intelligence, and reporting (CIES, 2020).

The CIES Observatory brings together experts in the statistical analysis of all areas of sport. Since its creation, it has rapidly established itself as one of the leading providers of sports questionnaires, athlete and player surveys, data mining, business intelligence reports and research publications. In cooperation with partner universities and institutions the CIES publishes research focused mainly in the areas of law, sociology, geography, history and economics of sport.

3 Banque des Territoires

In 2016 the Minister of Sports, officially launched the Observatory of the Economics of Sport (OES). The OES has set itself three objectives: to bring together the best analytical tools to precisely assess the impact of sport for the French economy; create closer relations between public and private actors promoting studies on the subject; and finally to pool their economic data and information (Lesay, 2016).

Catalonia

The Catalan Sports Observatory. A service created on the initiative of the General Secretariat of Sport of the Generalitat de Catalunya in 2006 and developed by the National Institute of Physical Education of Catalonia (INEFC) with the collaboration of other institutions linked to the sport in Catalonia.

The Observatory is aimed at people and public and private social agents involved in the field of sport in Catalonia in order to offer multidisciplinary data that allow careful monitoring of the evolution of the sporting phenomenon in Catalonia (Catalan Sports Observatory, 2020).

Scotland

The Observatory for Sport in Scotland (OSS) is Scotland's only research think-tank devoted to commissioning, collating and communicating research, evidence and analysis into sport in all shapes and forms across Scotland, and its value to all ages in society. It has a growing network of supporters and contributors from across the world, all focused on finding solutions to the big problems in sport, health and well-being.

The OSS fills a gap in the Scottish sports landscape by independently-gathered information that will drive open, ongoing and transparent debate and decision-making aimed at taking sport forward. The OSS's mission is

- To develop an evidence base regarding the impact of sports policy initiatives in Scotland and internationally, in particular related to community sport participation, which is a fundamental human right;
- To inform, initiate and analyse public debate on key issues impacting upon sports in Scotland; and
- To establish a pool of knowledge and general overview of academic and other forms of sports research, both nationally and internationally, based on existing and original research (Raeburn, 2015).

4 Other Observatories

Other observatories already up and running in

- Denmark
- Sweden
- The Netherlands
- Switzerland
- France (within the Ministry of the City, Youth and Sports: Sports Directorate - Office of Sports Economics)

There is an increasing cooperation between the various observatories, particularly the European sports observatories. This cooperation includes the carrying out of studies of shared interest subject. It also includes issues such as to co-financing and the compatibility of information in the dissemination of summary indicators on the economics of sport.

According to the International Centre for Sports Studies there is a focus on methods to enhance the sources of the various public and private parties and also by adhering to the open data approach.

5 Statistics Generally Collected by Sports Observatories

Since the nature of sport varies across countries and each country has different institutions and mechanisms that it uses to promote and develop sport, the information that is collected often varies.

In some cases sports observatories will focus on intrinsic aspects such as the performance of participants in the sector and is usually is measured by the number of medals won at competitions.

Sports observatories may also measure the infrastructure that is available for sport and its accessibility. This may include using GIS to determine how far both spectators and participants have to travel to use the various facilities.

Many of the sports observatories are interested in various segments of the sports industry. These include aspects such as:

- The activity and participation levels of the population and particular segments of the population
- The impact of sports tourism on the sport and the national economy.
- The manufacture and trade of sporting equipment
- The manufacture and trade of sports apparel
- The analysis of professional sports, especially from a labour market perspective
- The types and levels of recreation been consumed by the population
- The extent of outdoor sports
- Sport marketing firms

- Sports sponsorship industry
- Sports-governing bodies
- Sports infrastructure
- Media, TV rights and advertisement
- Managerial services
- Sports medicine
- Medals, souvenirs, shields
- Insurance
- Transportation
- Catering

Source: Adapted from the International Centre for Sports Studies

6 Conclusion

Observatories play an important role in the provision of statistics and statistical analysis of particular fields of study or particular subjects. The South African Cultural Observatory (SACO) is a national statistical and socioeconomic research project, established by DSAC, with the purpose of developing a comprehensive cultural information system in South Africa. SACO is hosted by and based at the Nelson Mandela University, and co-hosted in partnership with Rhodes University the University of Fort Hare and the University of Kwazulu-Natal. The primary cultural domains, as identified by UNESCO, such as arts, tourism, heritage, libraries and museums, are the main research focus of the SACO. Since the merger of the Department of Arts and Culture on the one hand and Sports and Recreation on the other, it would seem as though SACO could play a supportive role in sports statistics until a permanent home is found to house a South Africa Sport Observatory.

Appendix 4. Available Data in South Africa

This section discusses available data sources that already exist that can be utilised to produce the South African Sport's Satellite Account. The table below provides an overview of the data followed by a brief description of the data source. Typical sectors are provided as an example for each source that can (depending on the definition of Sport's Satellite Account), be considered.

Table 10: Potential data sources that can be used in the Sport's Satellite Account

Survey/administrative data	Coverage	Frequency	Demand or supply side data	Conducted by whom	Classification
Annual Financial Statistics	12 922 (2014 Annual Financial Statistics (AFS))	Annually	Supply side	Stats SA	SIC
Large sample surveys	-	Periodically	Supply side	Stats SA	SIC
Income and expenditure of households survey	31 419 dwelling units (2010/11 IES)	Every 5 to 6 years	Demand side (expenditure data)	Stats SA	COICOP
Living conditions of households		Every 5 to 6 years	Demand side (expenditure data)	Stats SA	COICOP
Quarterly Labour Force Survey (QLFS)	Approximately 30 000 dwellings	Quarterly	Employment demand	Stats SA	-
TSA	-	Annually	Supply and demand	Stats SA	CPC
Non-profit institutions Satellite Account	-	In progress	Supply and demand	Stats SA	-
Supply and Use tables	62 industries by 104 products 171 industries by 104 products	Annually Periodically	Industry supply and demand	Stats SA	SIC (industries), CPC (products)
Quarterly employment statistics	20 000 formal non-agricultural business	Quarterly		Stats SA	SIC
Volunteer Activity Survey	Approximately 2 909 individuals	Periodically	Supply	Stats SA	-
Financial statistics of consolidated general government	-	Annually	Supply	Stats SA	-
National Treasury, Budget Vote data	Budgeted and actual expenditure data	Annually	Supply	National Treasury	-
Trade data	Approximately 5300 at 6 digit level	Monthly	Import (demand) Export (supply)	SARS	HS

Annual Financial Statistics from Stats SA

The AFS provides supply data of cultural activities. The AFS is published by Stats SA on an annual basis in November each year and it is used in the annual calculation of the GDP. The 2014 AFS is for example based on a sample of 12 922 enterprises that was drawn from the total enterprise population (that is obtained in cooperation with the SARS). According to Stats

SA, all enterprises are first stratified by the predominant type of activity (according to SIC codes) then by size, using turnover as a measure of size. All enterprises in the size group representing the largest enterprises according to turn over were selected; imply a census of large companies and not just a survey. These large enterprises account for approximately 41% of the total sample. For medium and small enterprises, samples are drawn by randomly selecting the allocated number of enterprises within these groups and each industry. The AFS data excludes agricultural activities, selected financial activities and the general government. The 2014 AFS consists for example of 299 industries (290 disaggregated and nine aggregated). The AFS provides financial data on income items, inventories, expenditure items, profit/loss, tax and dividends and assets and liabilities. Typical sectors (or part thereof) that can be considered includes sporting activities (SIC 9641).

Large Sample Surveys

The large sample surveys are periodic surveys done by Stats SA. The personal services industry survey covers Divisions 92 (Educational services) to Division 99 (Other service activities). Division 96 covers recreational, cultural and sporting activities. The sample for the surveys is drawn from Stats SA's Business Register that is based on units registered for value added tax (VAT) and income tax (IT) at SARS. Results from these surveys are used for compiling SA's National Accounts including GDP and gross fixed capital formation. The 1993 edition of the Standard Industrial Classification of all Economic Activities (SIC), Fifth Edition, is used to classify the statistical units in these surveys. The SIC is based on the 1990 International Standard Industrial Classification of all Economic Activities (ISIC) with suitable adaptations for local conditions²⁹.

Income and Expenditure of Households Survey and Living Conditions Survey

The Income and Expenditure³⁰ Survey and Living Conditions Survey provides household income information and household expenditure (demand). These survey data are collected by Stats SA using the Classification of Individual Consumption According to Purpose (COICOP). The 2010/11 Income and Expenditure survey has a sample size of 31 419 dwelling units. The 2005/06 Income and Expenditure survey has a sample size of 22 617 dwelling units that were covered during the 12 months of data collection. The COICOP for the 2010/11 Income and Expenditure survey covered 755 consumption categories, 36 in-kind consumption categories and 15 non-consumer price index consumption categories. It also covers income, in-kind income, savings taxes, transfers and debts

Living Conditions of Households

The living conditions survey is conducted by Stats SA and the aim is to provide data that will contribute to better understanding of living conditions and poverty in South Africa. Data for the 2008/2009 survey³¹ was collected from 25 075 households across the country over 12 months using a combination of the diary and recall methods. Data are collected using the COICOP classification.

29 StatsSA, 2009. Personal services industry, 2008. Statistical release P9001. <http://www.statssa.gov.za/publications/P9001/P90012008.pdf>

30 StatsSA, 2012. Income and expenditure of households, 2010/11. Statistical release P0100. http://www.statssa.gov.za/?page_id=1854&PPN=P0100

31 StatsSA, 2011. Living Conditions of Households in SA 2008/2009. Statistical release P0310. <http://www.statssa.gov.za/publications/P0310/P03102008.pdf>

The General Household Survey (GHS)

The GHS presents the results of the survey conducted annually by Statistics South Africa since 2002 of South African households. The survey collects information on a variety of subjects including education, health, the labour market, dwellings, access to services and facilities, transport, and quality of life. The survey replaced the October Household Survey (OHS) which was introduced in 1993 and was terminated in 1999.

QLFS

The QLFS is a household-based sample survey conducted by Stats SA. It collects data on the labour market activities of individuals aged 15 years and above who live in South Africa. The survey sample is of approximately 30 000 dwellings in which households reside. This data can provide insight into employment³².

Tourism Satellite Account (TSA)

The TSAs³³ quantify cultural services as one of its “characteristics products.” This is expressed in terms of domestic demand, international demand (exports), total domestic supply and tourism spending abroad (imports). The first five digits correspond to the CPC³⁴, Version 2.0 code, and the sixth digit is used exclusively for the TSA.

Volunteer Activity Survey

The Volunteer Activities Survey (VAS) collects detailed information on volunteer activities. Statistics South Africa conducted its second VAS in the second quarter of 2014, after the first one had been conducted in 2010. The survey is household-based and collected information on the volunteer activities (a maximum of three activities) of individuals aged 15 years and older in South Africa. The respondents were selected from the households enumerated during the QLFS. It covers unpaid non-compulsory work; that is, the time individuals give without pay to activities performed either through an organisation or directly for others outside their own household in the four weeks preceding the survey interview. The survey covers three of the main volunteer activities in which respondents were involved. The volunteer activities could be conducted directly, through an organisation, or through both (direct and organisation-based volunteering). Approximately 2 909 individuals eligible for VAS were followed up to conduct detailed interviews about their volunteer activities during the reference period.

The 2014 survey include estimates on the number, hours and value of volunteer work for different organisations including and culture and recreation³⁵.

Non-profit Institutions Satellite Account

Stats SA is in the process of developing a non-profit institutions Satellite Account and published the first working paper in 2012³⁶. They gradually started to begin with a consolidated account of the Non-profit institution (NPI) sector, that is, the short form of NPISA, and

32 StatsSA, 2016. Quarterly Labour Force Survey. Quarter 2. Statistical release P0211. <http://www.statssa.gov.za/publications/P0211/P02112ndQuarter2016.pdf>

33 StatsSA, 2016. Tourism satellite account for South Africa (TSA), final 2012 and provisional 2013 and 2014. Report 04-05-07. http://www.statssa.gov.za/?page_id=1854&PPN=Report-04-05-07

34 Cultural services according to the ISIC, Rev. 3 includes 9232, 9233 (9232-1, 9232-2, 9233-1, 9233-2)

35 StatsSA, 2015. Volunteer Activities Survey. Statistical release P0211.3. <http://www.statssa.gov.za/publications/P02113/P021132014.pdf>

36 StatsSA, 2012. National Accounts, The status of the Non-profit Institutions satellite account for South Africa. Discussion document: D0407.1. <http://www.statssa.gov.za/publications/D04071/D04071.pdf>

particularly excluding the details of volunteer labour with non-market output of market NPIs. Stats SA concluded that it is not currently possible to compile the full elaboration of the NPISA tables to a required standard. As a result the compilation of the full set of integrated economic account (IEA) per institutional sector and for the total economy is still in a development phase (the household sector and NPISH are combined and the balance sheet section is not yet compiled). There is unfortunately lack of sufficient data for the compilation of the full IEA. The proposed NPISA is proposed to consist of six tables, most with multiple parts including:

- Aggregated NPI sectors (transactions, flow and stock and other variables like number of volunteers);
- Categories of expenses (operating expenses, intermediate consumption, compensation of employees), sources of revenue, transfer payments, paid and volunteer employment and compensation and asset accumulation and position;
- IEAs by sector and type of institution;
- Output, value added, employment and final consumption expenditure by sector and type of institution; and
- Non-profit entities, members and membership.

Supply and Use Tables

Supply and Use tables are the cornerstone of the SNA. The SU-tables provide a coordinating framework for checking both the accuracy and the consistency of the data contained in National Accounts. One of the many other uses of the SU-tables is that they can be extended to Satellite Accounts (accounts linking the SNA with specific fields of enquiry). The intent of Satellite Accounts is to make apparent and to describe in more depth aspects that are hidden in the National Accounts framework or surface only in a limited number of points (Stats SA, 2014). Culture, like tourism is not an industry and cannot be classified separately.

The supply table shows the source or the origin of the goods and services produced within the economy for a given year in a matrix format. The supply of goods and services is measured at basic prices, which is the preferred method of valuing output in the SNA. The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable plus any subsidy receivable on that unit as a consequence of its production or sale. Basic prices exclude any transport charges invoiced separately by the producer.

The use table displays the demand for various goods and services, which may be used as intermediate inputs (goods and services that are purchased by an industry from other industries or imported to produce its outputs) or for final consumption by households, government, etc. The SNA recommends that intermediate and final consumption expenditure be valued at purchasers' prices. The purchasers' price is the amount paid by the purchaser, excluding any deductible VAT or similar deductible tax, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchasers' price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place³⁷.

The SU-tables are available annually in a 64x104 product matrix and periodically available in a 171x104 matrix.

The SU-table include for example recreation, cultural, sport activities.

37 StatsSA, 2016. Supply and use tables, 2010. Report 04-04-03. http://www.statssa.gov.za/?page_id=1854&PPN=Report-04-04-03

National Treasury, Budget Vote Data

These datasets provide information on government expenditure given the annual budget cycles³⁸. Vote 37 provides for example medium term budgets for sports arts and culture. Expenditure on sport includes for example:

- South African Institute for Drug-Free Sport
- Culture, Arts, Tourism, Hospitality and Sport Sector Education and Training Authority
- Boxing South Africa
- South African Sports Confederation and Olympic Committee
- Various sport federations
- The Sports Trust

Trade Data

SARS is the legislatively empowered controlling entity for statistics on the importation and exportation of goods³⁹. This data are categorised according to the HS. At the international level, the HS for classifying goods is a six-digit code system comprising approximately 5 300 article/product descriptions that appear as headings and subheadings, arranged in 99 chapters and grouped in 21 sections.

³⁸ National Treasury. Documents, Medium term budget policy statements. <http://www.treasury.gov.za/documents/mtbps/2015/tablesAENE.aspx>

³⁹ SARS, Trade statistics. <http://www.sars.gov.za/ClientSegments/Customs-Excise/Trade-Statistics/Pages/default.aspx>

Appendix 5. Sporting Codes and Classification Systems

A matrix can be used to classify sporting codes into domains that can be used as the basis for developing a Satellite account that will provide the information required for the framework for measuring the sports and recreation economy.

Table 11: Sporting codes and classification systems

Code	Domain	National affiliation	International affiliation	Individual sport	Team sports	Mainly male	Mainly female	Mixed	Disabled
Aerobics, Pilates etc.	General fitness								
Aquatics	General fitness								
Archery									
Athletics	Track and field								
Badminton	Racquet Sports								
Baseball									
Basketball									
Boxing	Martial art								
Canoeing									
Chess									
Cycling (track)	Track and field								
Cycling (Road)									
Cycling (MTB)									
Dance sport									
Darts									
Equestrian	Track and field								
Fencing									
Football/soccer									
Golf									
Gymnastics									
Handball									
Hockey									
Ice hockey									
Judo	Martial art								
Karate	Martial art								
Modern Pentathlon	Track and field								
Marathon	Track and field								
Mountaineering									
Netball									
Rowing									
Rugby									

Code	Domain	National affiliation	International affiliation	Individual sport	Team sports	Mainly male	Mainly female	Mixed	Disabled
Rugby 7 s									
Sailing									
Softball									
Squash	Racquet Sports								
Shooting									
Swimming									
Table Tennis	Racquet Sports								
Tennis	Racquet Sports								
Taekwondo	Martial art								
Tennis									
Triathlon	Track and field								
Volleyball									
Waterpolo									
Weightlifting	General fitness								
Wrestling	Martial art								
Cricket 5day									
Cricket 50overs									
Cricket 20/20									
Qwaqwa Sport ⁴⁰									
Tae-Kwando									
Volleybal									
Kgati	Indigenous Games								
Morabaraba	Indigenous Games								
Ncuva	Indigenous Games								
Khokho	Indigenous Games								
Dibeke	Indigenous Games								
Intonga	Indigenous Games								
Diketo	Indigenous Games								
Jukskei	Indigenous Games								
Drie Stokkies	Indigenous Games								

⁴⁰ <https://www.ufs.ac.za/kovsiesport/kovsie-sport-divisions/qwaqwa-sport-home>

Appendix 6. Sports Federations

There are a number of sports federations and bodies. This is a list from Sports Recreation South Africa. (Source: <https://www.srsa.gov.za/sports-federations> downloaded 6 June 2020).

1 National Federations

1. Aero Club of South Africa

Organisation Level: National

Contact: Sandra Strydom

Position Secretary

Cellphone: 0630731399

Email: sandra@aeroclub.org.za

Postal Address:

P.O. Box 18018

Germiston

Rand Airport

1419

Organisation Level: National

Contact: Paul Lastrucci

Position Chairman

Cellphone: 0828227018

Email: paul@aeroclub.org.za

Postal Address:

P.O. Box 18018

Germiston

Rand Airport

1419

2. Athletics South Africa

Organisation Level: National

Contact: Aleck Skhosana

Position President

Cellphone: 0837898877

Email: skhosita@gmail.com

Postal Address:

P O Box 2712

Johannesburg

Houghton

2041

Organisation Level: National

Contact: Richard Stander

Position CEO

Cellphone: 0723478964

Email: ceo@athleticssa.net

Postal Address:

P.O. Box 2712

Johannesburg

Houghton Estate

2041

3. Badminton SA

Organisation Level: National

Contact: Glen Brothers

Position President

Cellphone: 0828521098

Email: badminton@sa@mweb.co.za

Postal Address:

P.O. Box 11191

Centurion

0046

Organisation Level: National

Contact: Celeste Coughlan

Position Secretary

Cellphone: 0785501548

Email: chiefoperations@badmintonsa.co.za

Postal Address:

P.O. Box 11191

Centurion

0046

4. Basketball South Africa

Organisation Level: National

Contact: Sanele Mthiyane

Cellphone: 0824408382

Email: kznsportcouncil@gmail.com

Postal Address:

Wembley Sports Complex

Turfontein

106 Turfontein Rd

5. Body Building SA

Organisation Level: National

Contact: Wayne Price

Position President

Cellphone: 839678978

Email: wayne@waynesgym.co.za

Postal Address:

Gables Centre

Hennopspark, Centurion

Hendrick Verwoerd Drive, 0157

Organisation Level: National

Contact: Marie van der Westhuizen

Position Secretary

Cellphone: 746622900

Email: ifbbsasecretary@gmail.com

Postal Address:

Gables Centre

Hennopspark, Centurion

Hendrick Verwoerd Drive, 0157

6. Bowls South Africa

Organisation Level: National

Contact: Robert Forbes

Position President

Cellphone: 0825561377

Email: rob.forbes@bowlssa.co.za

Postal Address:

P.O. Box 5815

Cresta

2118

Organisation Level: National

Contact: John Ravenscroft

Position Secretary

Cellphone: 0833256436

Email: john@bowlssa.co.za

Postal Address:

P.O. Box 5815

Cresta
2118

7. Boxing SA

Organisation Level: National

Contact: Tsholofelo Lejaka

Position CEO

Cellphone: 0795099840

Email: ceo@boxingsa.co.za

Postal Address:

1077 Arcadia St

Pretoria

2nd Floor Hatfield Forum East

0001

Organisation Level: National

Contact: Zukisani Nazo

Position Secretary

Cellphone: 7986826515

Email: zwai@boxingsa.co.za

Postal Address:

1077 Arcadia St

Pretoria

2nd Floor Hatfield Forum East

8. Canoeing South Africa

Organisation Level: National

Contact: Collin Simpkins

Position Secretary General

Cellphone: 0832631927

Email: sg@canoesa.org.za

Postal Address:

postnet Suite 621

Kloof

P/Bag X4

3640

Organisation Level: National

Contact: Kim Pople

Position President

Cellphone: 829298221

Email: president@canoesa.org.za

Postal Address:

Postnet Suite 621

Kloof

P/Bag X4

3640

9. Chess SA

Organisation Level: National

Contact: Hendrik Du Toit

Position President

Cellphone: 0832598747

Email: president@chessa.co.za

Postal Address:

173 Erasmus Ave

Pretoria

Raslouw

157

Organisation Level: National

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Position Secretary

Cellphone: 0832597791
Email: secretary@chessa.co.za
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173 Erasmus Ave
Pretoria
Raslouw
157

10. Cricket SA

Organisation Level: National
Contact: Welsh Gwaza
Position Secretary
Cellphone: 0608853642
Email: welshg@cricket.co.za
Postal Address:
P.O. Box 55009
Northlands
2116
Organisation Level: National
Contact: Chris Nenzani
Position President
Cellphone: 832128254
Email: chrisn@cricket.co.za
Postal Address:
P.O. Box 55009
Northlands
2116

11. Cycling South Africa

Organisation Level: National
Contact: Gregory van Heerden
Position Secretary
Cellphone: 0829409368
Email: secretarygeneral@cyclingsa.com
Postal Address:
P.O. Box 167
Belville
7535
Organisation Level: National
Contact: Zamuxolo Xatasi
Position President
Cellphone: 0721098476
Email: ysterxatasi@ymail.com
Postal Address:
P.O. Box 167
Bellville
7535

12. Dance Sport SA

Organisation Level: National
Contact: Thabo Phiri
Position President
Cellphone: 0822669680
Email: thabophiri2@gmail.com
Postal Address:
34 Suikerbekkie ave
Rooihuiskraal
0157
Organisation Level: National
Contact: Samson Mshengu

Position Secretary
Cellphone: 0829395857
Email: shosfa@yahoo.com
Postal Address:
34 Suikerbekkie Ave
Rooihuiskraal
0157

13. Darts South Africa

Organisation Level: National
Contact: Pat Conyngham
Position Secretary
Cellphone: 0837354905
Email: patcdsa@telkomsa.net
Postal Address:
5 Weaver Place
New Germany
3610
Organisation Level: National
Contact: Graham Stark
Position President
Cellphone: 739758566
Email: gcstark@telkomsa.net
Postal Address:
5 Weaver Place
New Germany
3610

14. Fencing Federation of South Africa

Organisation Level: National
Contact: Mike Stafford
Cellphone: 0825689967
Email: mike.s@guth.co.za

15. Judo South Africa

Organisation Level: National
Contact: Ina van den Heever
Position Secretary
Cellphone: 0823399147
Email: gensec@judosouthafrica.co.za
Postal Address:
31 Elizabeth Eybers Ave
Welkom
Jan Cilliers Park
9459
Organisation Level: National
Contact: Temba Hlasho
Position President
Cellphone: 0823215614
Email: jsapres@judosouthafrica.co.za
Postal Address:
31 Elizabeth eybers Ave
Welkom
Jan Cilliers Park
9459

16. Jukskei South Africa

Organisation Level: National
Contact: Nico Nel
Position President
Cellphone: 0834558214

Email: nico.nel@angloamerican.com

Postal Address:

25 King Street
Kroonstad
1740

Organisation Level: National

Contact: Deidre Smit

Position Secretary

Cellphone: 0834671306

Email: jukskeisa@jukskei.co.za

Postal Address:

25 King Street
Kroonstad2940

17. Karate South Africa

Organisation Level: National

Contact: Gillian Elson

Cellphone: 0825511375

Email: secretary@karate-sa.org

Organisation Level: National

Contact: Sonny Pillay

Cellphone: 0825577784

Email: president@karate-sa.org

Postal Address:

117 Kenneth Kuanda Rd
Durban North
Northway
4051

18. Lifesaving SA

Organisation Level: National

Contact: Helen Herbert

Position Secretary

Cellphone: 0829011203

Email: generalmanager@lifesaving.co.za

Postal Address:

35 Livingstone Road
Durban
Windermere
4001

Organisation Level: National

Contact: Dhaya Sewduth

Position President

Cellphone: 0829905942

Email: president@lifesaving.co.za

Postal Address:

35 Livingstone Road
Durban
Windermere
4001

19. Martial Arts SA

Organisation Level: National

Contact: Louise Viviers

Position President

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Email: louiseviviers@gmail.com

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14 Kamp Street
Potchefstroom

Miederpark
2531
Organisation Level: National
Contact: Gregory Hart
Position Secretary
Cellphone: 0824529213
Email: martialartsa@gmail.com
Postal Address:
14 Kamp St
Potchefstroom
Miederpark
2522

20. Mind Sports South Africa

Organisation Level: National
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Email: mindsportscorrespondence@gmail.com
Postal Address:
33 Main Road
Fishers Hill
1408
Organisation Level: National
Contact: Colin Webster
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Cellphone: 0780693089
Email: mindsportsorrespondence@gmail.com
Postal Address:
33 Main Road
Fisher's Hill
1408

21. Motorsport SA

Organisation Level: National
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2nd Floor, Meersig 1
Constantia Kloof, Roodepoort
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1715
Organisation Level: National
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Postal Address:
2nd Floor, Meersig 1
Constantia Kloof, Roodepoort
Cnr Upper Lake Lane & Constantial Boulevard
1715

22. Netball SA

Organisation Level: National
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0001

Organisation Level: National

Contact: Blanche De la Guerre

Position CEO

Cellphone: 0834471774

Email: blanche@netball-sa.co.za

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846 Park Street

Pretoria

Arcadia

0001

23. Play Sport4Life NPC

Organisation Level: National

Contact: Miles October

Position Founder Director

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Email: miles@ps4l.org.za

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3B Langham Street

Cape Town

Maitland

7405

Organisation Level: National

Contact: Carolyn Inglis

Position Secretary

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3B Langham Street

Cape Town

Maitland

7405

24. Powerboat South Africa

Organisation Level: National

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Postal Address:

29 Golden Gate Boulevard

Vaalpark

P.O. Box 60784

1948

Organisation Level: National

Contact: Jolandie Pieterse

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25. Ringball South Africa

Organisation Level: National

Contact: Letitia Greenberg

Position Secretary

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Postal Address:

31 Aland Road
Valhalla
0185
Organisation Level: National
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0185

26. Roller Sport SA

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Sinoville
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Organisation Level: National
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Sinoville
0129

27. Rowing SA

Organisation Level: National
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P.O. Box 2563
Parklands
2121
Organisation Level: National
Contact: Sean Kerr
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Email: sean@burghgroup Holdings.com
Postal Address:
P.O. Box 2563
Parklands
2121

28. SA Baseball Union

Organisation Level: National
Contact: Marc Moreau
Cellphone: 0825706285
Email: president@baseball.co.za
Postal Address:

P.O. Box 751571
Gardenview
2047

29. SA Bridge Federation

Organisation Level: National

Contact: James Grant

Position President

Cellphone: 0828008211

Email: jgrant@telkomsa.net

Postal Address:

The Links
Linksfild
10 Club Street
2192

Organisation Level: National

Contact: Sheila Francis

Position Secretary

Cellphone: 0822595178

Email: sabf.secretary@gmail.com

Postal Address:

The Links
Linksfild
10 Club Street
2192

30. SA Confederation of Cue Sport

Organisation Level: National

Contact: Anand Naidoo

Position President/CEO

Cellphone: 0835012181

Email: anand.goodwill@gmail.com

Postal Address:

P.O. Box 1786
Roodepoort
Strubensvalley
1735

Organisation Level: National

Contact: Alexander McCartney

Position Secretary

Cellphone: 0824503349

Email: sandy.mccartney@paramountgroup.com

Postal Address:

P.O. Box 1786
Roodepoort
Strubensvalley
1724

31. SA Deaf Sports Federation

Organisation Level: National

Contact: Julius Maxajwe

Position President

Cellphone: 072 302 4466 (sms only)

Email: president@sadeafsport.com

Postal Address:

P.O. Box 15207
Panorama
7506

Organisation Level: National

Contact: Amos Mashele

Position Secretary
Cellphone: 0722475052
Email: generalsecretary@sadeafsport.com
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P.O. Box 15207
Panorama
7506

32. SA Equestrian Federation

Organisation Level: National
Contact: Willem Edeling
Position President
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Email: presidentsaef@saef.org.za
Postal Address:
P.O. Box 30617
Kayalami
1684
Organisation Level: National
Contact: Wessels Strauss
Position Secretary General
Cellphone: 0670370457
Email: sg@saef.org.za
Postal Address:
P.O. Box 30617
Midrand
Kyalami
1684

33. SA Federation BOCCE

Organisation Level: National
Contact: Mario Serra
Cellphone: 0835476644
Email: Mario@casaserena.co.za
Postal Address:
P O Box 1954
Edenvale
1610

34. SA Figure Skating Association

Organisation Level: National
Contact: Ricardo Jacobs
Position Acting President
Cellphone: 083 438 5258
Email: natsecsafa@gmail.com
Postal Address:
P.O. Box 16657
Dowerglen
1612
Organisation Level: National
Contact: Deborah Rees
Position Secretary
Cellphone: 0828289836
Email: natsecsafsa@gmail.com
Postal Address:
P.O. Box 16657
Dowerglen
1612

35. SA Fitness Sport Aerobics Federation

Organisation Level: National

Contact: Keith Barends
Position President
Cellphone: 0748863900
Email: keith@hrcapacity.co.za
Postal Address:
P.O. Box 3779
Tyger Valley
7536

Organisation Level: National
Contact: Lynette le Roux
Position Secretary
Cellphone: 0714828647
Email: sasaff.gsecretary@new.co.za
Postal Address:
P O Box 3779
Tygervally
7536

Organisation Level: National
36. SA Football Association

Organisation Level: National
Contact: Danny Jordaan
Cellphone: 0829903842
Email: danny.jordaan@safa.net
Postal Address:
P.O. Box 910
Johannesburg
2001

Organisation Level: National
Contact: Dennis Mumble
Cellphone: 0829900956
Email: dennis.mumble@safa.net
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37. SA Freshwater Angling Association

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38. SA Golf Association

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39. SA Gymnastics Federation

Organisation Level: National

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40. SA Handball Federation

Organisation Level: National

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41. SA Hockey Association

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42. SA Ice Hockey Association

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43. SA Inflatable Boat Ass

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44. SA Korfbal Federation

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45. SA Majorette and Cheerleading Association**Organisation Level:** National**Contact:** Wane Oberem**Position** President**Cellphone:** 0825610992**Email:** president@samca.org**Postal Address:**

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46. SA Masters Sports Association**Organisation Level:** National**Contact:** Petro Saunders**Position** President**Cellphone:** 0845859832**Email:** info@samaster.co.za**Postal Address:**

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47. SA Modern Pentathlon Association**Organisation Level:** National

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48. SA National Archery Association

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49. SA National Boxing Organisation

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50. SA National Climbing Federation

Organisation Level: National

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51. SA National Pigeon Organisation

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52. SA Orienteering Federation

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53. SA Polo Association

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54. SA Powerlifting Federation

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55. SA Rugby Union

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56. SA Sailing

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57. SA Sheepshearing Federation

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58. SA Shooting Sport Confederation

Organisation Level: National

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59. SA Sport Anglers and Casting Confederation

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60. SA Sport Association for Intellectually Impaired

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61. SA Sports Association for Physically Disability

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62. SA Table Tennis Board

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63. SA Taekwondo Federation

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64. SA Tenniquoits Board

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65. SA Transplant Sport Association

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66. SA Tug of War Federation

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67. SA Underwater Sport Federation

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68. SA Water Ski & Wakeboard Federation

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70. SA Wrestling Federation

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71. SA Wushu Federation

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72. SASCOC

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73. Snow Sports SA

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74. Softball South Africa

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75. Sport & Recreation SA

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76. Sport for the Intellectually Impaired SA

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77. Sporting Chance Development Foundation

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78. Squash SA

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79. Surfing SA

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81. Tennis SA

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82. Tenpin Bowling SA

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83. Triathlon South Africa

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84. University Sport SA (USSA)

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85. Volleyball South Africa

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86. Womens Golf SA

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2 Provincial

Provincial sporting bodies

Eastern Cape Sports Confederation

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Source <https://www.srsa.gov.za/sports-federations> -
https://en.wikipedia.org/wiki/Sport_in_South_Africa

Appendix 7. Sport by SIC

1 Sport Includes SIC 9641 (Sporting Activities)

This group includes the organisation and operation of any kind of sports events outdoors or indoors for professionals or amateurs, and the operation of the facilities in which these sports are performed.

This may involve organisations such as

- football clubs,
- bowling clubs,
- swimming clubs,
- golf clubs,
- boxing,
- wrestling,
- health or body building clubs,
- winter sport clubs,
- chess,
- draughts,
- domino or card clubs,
- field and track clubs,
- shooting clubs, etc., and
- the operation of the facilities for all these sports if they are especially used and designed for them.
- Such facilities may be arenas and stadiums, whether or not enclosed or covered, with or without provision for spectator seating.

Also included are activities related to

- the promotion and production of sporting events
- individual own account sportsmen and athletes,
- judges,
- timekeepers,
- instructors,
- teachers,
- coaches, etc.,
- the activities of sport and game schools
- racing stables,
- kennels and
- garages.

Hunting for sport or recreation and related service activities.

2 Manufacture of Sports Goods

39230 Manufacture of sports goods

- articles and equipment for gymnastics, athletics, outdoor and indoor games, and swimming and paddling pools;
- hard, soft and inflatable balls;
- racquets, bats and clubs;

- requisites for sport fishing including landing nets;
- requisites for hunting, mountain climbing and other sporting activities; and
- sports gloves and sports safety headgear.

3 Other SIC Codes

- 38420 Building and repairing of pleasure and sporting boats
- 3860 Fixed-wing, manned motorised aeroplanes for the transport of goods or passengers, for use by the defence forces, for sport or other purposes;
- 3871 motor cycles (including mopeds) and cycles fitted with an auxiliary engine, whether or not with attached side-car; delivery or sporting motor cycles;
- 62393 Retail trade in sports goods and entertainment requisites
- 61399 Wholesale trade in other household goods n.e.c.
- This subgroup includes wholesale trade in other household goods n.e.c. such as photographic and optical goods, games and toys, bicycles, musical instruments, sport and recreational goods, firearms, travel goods, leather goods, garden tools and lawnmowers, lighting equipment and cleaning material

4 Manufacturing Codes that Include a Component of Sport Goods

- 3121 Manufacture of made-up textile articles, except apparel
- The manufacture of boat sails is classified under group.
- 3140 Manufacture of wearing apparel, except fur apparel
- The manufacture of sports clothing is classified under group.
- 3162 Manufacture of luggage, handbags and the like, saddlery and harness
- The manufacture of saddlery and harness is classified under group.
- 3170 Manufacture of footwear
- The manufacture of sports footwear is classified under group.
- 3577 Manufacture of weapons and ammunition.
- The manufacture of arms is classified under group
- Division 38 Manufacture of transport equipment.
- The manufacture of sports vehicles other than toboggans
- 3842 Building and repairing of pleasure and sporting boats.
- The manufacture of boats is classified under group
- 3924 Manufacture of games and toys.
- The manufacture of billiard tables or bowling equipment is classified under group
- 3929 Other manufacturing n.e.c.
- The manufacture of whips and riding crops is classified under group.

Appendix 8. Dimensions Included in the AFS Survey

Income

- Turnover;
- Dividends;
- Government subsidies and incentives;
- Capital transfers received from government;
- Interest;
- Profit on financial and other assets: disposal of assets, realisation for cash and revaluation of assets;
- Profit on financial and other liabilities: redemption, liquidation and revaluation of liabilities;
- Profit on foreign transactions resulting from changes in foreign exchange rates;
- Provisions;
- Research and development;
- Royalties, franchise fees, copyright, trade names, trademarks and patent rights;
- Other;
- Total income.

Inventories

- Opening value of raw materials;
- Opening value of work in progress;
- Opening value of finished goods;
- Total opening value;
- Closing value of raw materials;
- Closing value of work in progress;
- Closing value of finished goods;
- Total closing value.

Expenditure items

- Purchases;
- Advertising;
- Amortisation;
- Bank charges;
- Bursaries;
- Computer expenses;
- Containers and packaging materials;
- Depreciation;
- Employment cost.

Expenditure items

- Excise and customs duty;
- IT security services;
- Insurance premiums;
- Interest;
- Losses on foreign transactions resulting from changes in foreign exchange rates;
- Losses on financial and other liabilities: redemption, liquidation and revaluation of liabilities;

- Losses on financial and other assets: disposal of assets, realisation for cash and revaluation of assets;
- Mineral rights leased;
- Motor vehicle running expenses;
- Operational leasing and hiring of plant, machinery, equipment and vehicles;
- Paper, printing and stationery;
- Postal and courier services;
- Property tax;
- Provisions;
- Railage and transport-out;
- Rental of land, buildings and other structures including water and electricity;
- Repair and maintenance;
- Research and development;
- Royalties, franchise fees, copyright, trade names, trademarks and patent rights;
- Security services;
- Staff training;
- Subcontractors;
- Telecommunication services;
- Travelling, accommodation and entertainment;
- Other.

Total expenditure

- Profit/loss, tax and dividends;
- Net profit before providing for company tax and dividends;
- Company tax paid or provided for during the financial year;
- Dividends paid or provided for during the financial year;
- Net profit after providing for company tax and dividends.

Non-current assets

- Property, plant and equipment and intangible assets;
- Long-term investments;
- Other non-current assets;
- Total non-current assets.

Current assets

- Trade and other receivables;
- Cash and cash equivalents;
- Inventory;
- Other current assets;
- Total current assets;
- Total assets.

Equity

- Total equity

Non-current liabilities

- Long-term loans;
- Other non-current liabilities;
- Total non-current liabilities.

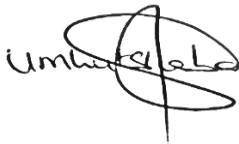
Current liabilities

- Trade and other payables;
- Bank overdraft;
- Other current liabilities;
- Total current liabilities;
- Total equity and liabilities.

PPE

- Carrying value of property, plant and equipment and intangible assets at the end of the financial year

APPROVALS FOR THE SOUTH AFRICAN CULTURAL OBSERVATORY - Framework for measuring the Sports Economy: Moving towards a (scoping for a Satellite Account)

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