The Good African Society Index

Ferdi Botha

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Abstract

This paper constructs a Good Society Index for 45 African countries, termed the Good African Society Index (GASI). The GASI consists of nine main indexes: (i) economic sustainability, (ii) democracy and freedom, (iii) child well-being, (iv) environment and infrastructure, (v) safety and security, (vi) health and health systems, (vii) integrity and justice, (viii) education, and (xi) social sustainability and social cohesion. Each component is split into four sub-components for a total of 36 indicators. Tunisia ranks highest on the GASI, followed by Cape Verde and Botswana. Chad has the lowest GASI score, followed by Central African Republic and Cote d'Ivoire. The GASI is strongly related to the 2012 Human Development Index and, to a lesser extent, GNI per capita.

JEL codes: I31, O55, Z13

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1 Introduction

Over the past few decades, many studies have examined the dimensions of individual subjective well-being and quality of life. This important strand of literature has uncovered some vital aspects that enhance the well-being of people around the world (cf. Clark *et al.*, 2008; Dolan *et al.*, 2008). An interest has also emerged recently in examining societal well-being and the overall quality of societies or countries (Holmberg, 2007; Anderson, 2011a, 2012a; Pop *et al.*, 2013; Tay and Kuykendall, 2013). Knowledge of factors that positively affect the overall well-being of countries is important for understanding societal dimensions and how countries allow their citizens to lead normal and flourishing lives.

Within the context of research on societal quality of life (QOL), the concept of the Good Society has emerged as a framework for formulating how a well-functioning society can be created or maintained. Ideas surrounding the Good Society concept came from many different intellectual communities. The first

*Senior Lecturer, Department of Economics and Economic History, Rhodes University, Grahamstown. E-mail: f.botha@ru.ac.za

book, *The Good Society*, was written by Lippmann (1937), but another followed with the same title 60 years later by a group of philosophers and sociologists (Bellah et al., 1997). While social scientists were interested in the challenge of defining the key elements of the Good Society, some referred to it as the Civil Society (Ehrenberg, 1999), whereas others referred to it as Social Capital (Bourdieu, 1983; Coleman, 1988). Political scientists focused on democratic processes in society (Draper and Ramsay, 2011), while economists evaluated it in terms of a combination of economic and socio-political goals (Schiller, 2013).

Within the context of societal well-being, the Good Society Framework (GSF) provides a paradigm for examining the qualities that a good society has. Jordan (2012) discusses the GSF and provides some insight as to which aspects should form part of the GSF. As the GSF can be quite broad, it allows for flexibility in its application. Using the GSF as overarching foundation, previous work (Holmberg, 2007; Anderson, 2012a) developed a Good Society Index (GSI) based on a range of indicators consistent with the GSF. The better a country manages to attain the various elements contained in the GSI, the closer that country moves towards being a "good society," the traits of such a society in broad terms being that of, for example, genuine caring for others, sensible policy, and pursuit of improving citizen well-being (DeLeon and Longobardi, 2002; Holmberg, 2007; Tronto, 2007; Anderson, 2012a; Jordan, 2012). Given that examination of the GSI is a relatively recent area of research, it is no surprise that only three studies (Holmberg, 2007; Anderson, 2011a, 2012a) have been conducted in this area, two of which (Anderson, 2011a, 2012a) are extensions of the GSI for the same sample of countries rather than separate studies per se.

Ron Anderson (2011a, 2012a, 2012b) has been the strongest proponent and developer of the GSI. For the 20 richest societies, Anderson (2011a) constructed a GSI with 32 indicators falling into eight broad components (with four indicators per component).[1] Three Nordic countries (i.e. Sweden, Norway, and Denmark) topped the GSI. Somewhat surprisingly, the United States by far scored lowest on the overall GSI, and also scored lowest in most GSI sub-components, especially in the areas of *Health*, *Non-violence*, and *Integrity and Social Justice*. Important conclusions from Anderson's (2011a) research were that countries' wealth explain very little of the differences in quality of life across countries, and that only some countries managed to score quite highly on the GSI, suggesting that being a good society is not unchallenging. Using the same 20 developed nations, Anderson (2012a) later expanded his original GSI to include a total of 48 indicators based on 12 main components,[2] with additional focus on the issues of social cohesion and factors such as social- and environmental sustainability. Anderson (2012a) found that the Nordic countries rank highest on the GSI, with Sweden and Norway ranking first and second, respectively. Even with the

[1] The components are *Work and Income Equality*, *Child Well-Being*, *Safety*, *Health*, *Non-violence*, *Integrity and Social Justice*, *Democracy and Freedom*, and *Compassion* (Anderson, 2011a).

[2] Anderson's (2012a) index components are *Economic Sustainability*, *Child Well-Being*, *Safety*, *Health and Healthcare*, *Non-violence*, *Integrity and Justice*, *Civil Society*, *Compassion*, *Environmental Sustainability*, *Education*, *Social Sustainability*, and *Social Cohesion*.

expanded index, the United States again ranked last on the overall GSI and in almost all of the GSI components, ranking much lower than other countries in the areas of *Child Well-Being*, *Safety*, *Healthcare*, *Non-violence*, and *Integrity and Social Justice*.

One important area that has not been studied sufficiently within the GSF is the African continent. Holmberg (2007) constructed a GSI with three components (life expectancy, infant mortality, and life satisfaction) for 71 countries, eight of which were African nations (i.e. Algeria, Egypt, Morocco, Nigeria, South Africa, Tanzania, Uganda, and Zimbabwe). Algeria ranked highest on the GSI among African countries, but was only ranked 55^{th} overall, while Tanzania ranked last on the GSI, followed closely by Zimbabwe. Furthermore, more democratic countries scored higher on the GSI, as did countries with low corruption and a high GNI per capita. Two potential limitations of Holmberg's (2007) study, however, is the fact that only three indicators make up the GSI and, at least within the context of the present study, only eight African countries were included.

It is well known that some of the poorest countries in the world are in Africa, in addition to many socioeconomic and political issues that negatively impact on the well-being of African citizens (Guest, 2006; Meredith, 2006; Mills, 2011). In constructing a multidimensional index of global suffering, moreover, (Anderson, 2012b) reports that from the ten countries with the highest levels of suffering, nine are in Africa. That said, however, some African countries do perform relatively well despite many challenges (Michailof, 2013). These issues, in addition to a lack of research, provide a unique opportunity to apply the GSF to African nations with the aim of creating an index that would show which African countries perform well in a number of domains and which do not. Such an index could also point to areas of priority for countries to focus on in order to become better societies.

An examination of factors that are associated with being a good society is thus important for understanding which elements make some African societies better off than others. Using the GSF, this study is the first to construct a GSI for African countries, henceforth termed the Good African Society Index (GASI), to examine various dimensions of societal performance.

The remainder of this paper is structured as follows: Section 2 presents all the components selected in the construction of the GASI, as well as the actual manner in which the GASI was built. Section 3 discusses the GASI results, while Section 4 concludes.

2 The Good African Society Index: Construction and Properties

The choice of indicators was informed by data availability and theoretical plausibility, while remaining consistent with the GSF and existing research. As data were not available on all indicators for all countries, the GASI was constructed

for 45 African countries.[3] Nine primary components were eventually decided on, namely *Economic Performance*, *Democracy, Freedom, and Governance*, *Child Well-Being*, *Environment and Infrastructure*, *Safety and Security*, *Health and Health Systems*, *Integrity and Justice*, *Education*, and *Social Cohesion and Social Sustainability*. These components each have four sub-components, for a total of 36 indicators making up the overall GASI is calculated. The nine main components, their sub-components and measurement, and sources are presented in Table 1. The main components as well as their sub-components selected are:[4]

2.1 *Economic Performance*

This component refers to how stable the economy is in general, and how current conditions are likely to play out in future. Good societies have strong and robust economies, and provide equally for all citizens. The indicators are:

- *Population living below poverty line of $2 a day*: Good societies have appropriate poverty alleviation programs and have low proportions of the population living in poverty. The lower the percentage of citizens living below the poverty line, the higher the GASI.
- *Real GDP per capita growth*: High levels of growth in real GDP per capita generally signify an improvement in overall living standards. The higher the real GDP per capita rate of growth, therefore, the better the society.
- *Export diversification*: The more diversified a country's exports, the higher the GASI score is expected to be, since countries are less vulnerable to global demand shocks. Also, more diversified exports are in general positively related to economic growth.
- *Income inequality*: In good societies, income is relatively evenly spread across the population. The lower the level of income inequality, the better the society.

[3] Countries excluded due to data unavailability are Eritrea, Equatorial Guinea, Libya, Mauritius, Sao Tome and Principe, Seychelles, Somalia, and South Sudan. Although data were available for Sudan, this country was not included since for some indicators it was necessary to use data prior to 2011 as well. With the split of Sudan into Sudan and South Sudan during 2011, any data pre-2011 include the current South Sudan as well.

[4] Though some sub-components are based on intuitive and theoretical reasoning, the various sub-components, and how they relate to the relevant primary component, are also supported by existing research. This research includes: Lewit and Mullahy, 1994; Robst and Graham, 1997; Banton, 1999; Al-Marhubi, 2000; Barro, 1996, 2000; Drèze and Khera, 2000; Raban and Ure, 2000; Robinson, 2002; Minujin and Delamonica, 2003; Neumayer, 2003; Weller and Singleton, 2004; Frankenberg *et al.*, 2005; Lerner and Schoar, 2005; Méon and Sekkat, 2005; Rivkin *et al.*, 2005; Almqvist-Tangen and Axelsson, 2006; Azarnert, 2006; Comanor *et al.*, 2006; Drury *et al.*, 2006; Martin, 2006; Holmberg, 2007; Levine *et al.*, 2007; Morapedi, 2007; Blume, 2008; de Kervasdoué, 2008; Doucouliagos and Ulubaþoðlu, 2008; Erdogdu, 2008; Müller-Riemenschneider *et al.*, 2008; Arkes and Klerman, 2009; Mamoon and Murshed, 2009; Sinding, 2009; Tiwari, 2009; Crush and Ramachandran, 2010; Ramessur *et al.*, 2010; Bosworth, 2014; Anderson, 2011a, 2012a, 2012b; Chavula, 2013; Jayasuriya and Burke, 2013; Pop *et al.*, 2013.

2.2 *Democracy, Freedom and Governance*

Good societies are characterised by stable democracies, where individuals have freedom of speech and choice, and with an effective government. The indicators are:

- *Democracy index*: Democratic societies allow citizens to voice their opinions and have freedom of choice, among other things. Democracy may also have indirect effects such as greater political stability and economic freedom. The more democratic a country, the better a country's overall GASI score.
- *Freedom of the press*: In good societies, there is freedom of expression and freedom of the press. Greater press freedom is positively related to the GASI.
- *Proportion of female parliamentary members*: Good societies are focused on achieving greater gender equality. The greater the proportion of female relative to male parliamentary members, the higher the GASI.
- *Government effectiveness*: Good societies have effective governments that provide for the needs of their citizens. A more effective government is related to a higher GASI score.

2.3 *Child Well-Being*

This component deals with the well-being of a country's children and the systems put in place to enhance children's well-being. In good societies, children are well looked after, and programs are put in place to assist vulnerable children. The indicators are:

- *Child mortality*: Good societies have low rates of child mortality. The lower the mortality rate, the better the GASI.
- *Immunization against measles*: Coverage of treatments for immunization against various diseases is broad in good societies. The higher the immunization rate, the higher the GASI score.
- *Teen fertility rate*: Good societies have fewer teen pregnancies. The lower the teen fertility rate, the better the GASI.
- *Child nutrition*: In good societies, children are well cared for and have enough to eat. The fewer children that are underweight, the better a country's GASI rank.

2.4 *Environment and Infrastructure*

This component is concerned with the impact of a country's activities on the environment, as well as the quality and degree of infrastructure. The indicators are:

- *CO_2 emissions*: Good societies have relatively low carbon dioxide emissions. Lower emissions are related to a higher GASI score.

- *Forest area lost*: Good societies look after the environment, including their forests. A higher GASI is associated with a lower area of forests lost over a specified period.

- *Percentage of roads paved*: The more roads are paved as proportion of the total roads, the more comprehensive the transport infrastructure of the country. The more roads that are paved, the better the society.

- *Communication networks*: Good societies have well-established networks that foster efficient communication between citizens and businesses. These can include telephone infrastructure and internet access. Better communication networks are associated with a higher GASI score.

2.5 *Safety and Security*

In good societies, citizens are safe from personal violence, and citizens also feel safe. In addition, good societies have low murder rates and are politically stable. The indicators are:

- *Homicide rate*: Good societies have low rates of intentional murder. Higher (lower) rates of homicide are thus associated with worse (better) societies.

- *Road fatalities*: In good societies, there are few road accidents and, more important, few fatalities from the road accidents that do occur. Better societies therefore have fewer road fatalities.

- *Political stability and absence of violence:* Good societies have stable political systems, and low political violence. The greater the political stability and the lower the violence, the better the GASI.

- *Security apparatus:* Good societies do not have severe security issues such as violent protests, rebel activities, and riots. The lower the frequency and intensity of such factors, the higher the GASI score.

2.6 *Health and Health Systems*

This component reflects that state of health and health services in a country. The indicators are:

- *Life expectancy*: In good societies, people have the opportunity to live long lives. People have a higher life expectancy in better societies.

- *Infant mortality rate*: Good societies have sufficient health care to ensure that infant mortality rates are low. The lower the infant mortality rate, the better the GASI.

- *Obesity levels*: High levels of obesity are detrimental to the health of citizens and places strain on a society's healthcare system. The proportion of obese individuals is lower in better societies.

- *Doctors per 100 000 population*: This indicator indicates the availability of essential health care to citizens. The greater the density of doctors, the better the society.

2.7 *Integrity and Justice*

In good societies, governments and the public system possess optimal levels of integrity and are focused on getting things done efficiently. In addition, the justice system is effective and very few citizens are incarcerated. The indicators are:

- *Corruption*: High levels of corruption in a country suggest the lack of integrity of its public officials, and can be detrimental to economic growth and investment. Better societies have lower corruption.

- *Enforcement of contracts*: Being able to enforce any given contract in a relatively fast time, improves the ease of doing business, provides efficient levels of justice to the parties in a contract, and has the potential to provide transactions with high returns. The faster it takes to enforce a contract, the better the GASI score.

- *Prison population*: Good societies have low prison populations. Thus, the lower the prison population, the higher the GASI.

- *Rule of law*: Good societies manage to uphold the prevailing rule of law. The better the rule of law, the better the GASI.

2.8 *Education*

The education component reflects the state of the educational system in a country, which include literacy scores and the quality of education. The indicators are:

- *Combined gross enrolment ratio in education*: Higher enrolment ratios lead to a higher GASI score.

    - *Expected years of schooling*: In good societies, people can expect to attain reasonably high levels of education. More expected years of schooling are thus related to better societies.
    - *Youth literacy rate*: Good societies place emphasis on improving literacy levels. The higher the literacy rate, the higher the GASI score.

- *Pupil/teacher ratio*: This can be seen as a proxy for educational quality. The lower the pupil/teacher ratio, the better the GASI.

2.9 *Social Sustainability and Social Cohesion*

This component deals with the sustainability of the social structure, as well as feelings of cohesion among citizens. The absence of such cohesion and factors negatively affecting social sustainability are potentially damaging to peace in a country. The indicators are:

- *Group grievance*: Fewer incidents of group grievance should foster greater social sustainability. Lower levels of group grievance are associated with better societies.
- *Human flight and brain drain*: Emigration of a large number of people possessing high levels of human capital are detrimental to the stock of human capital available in a country, and thus negatively affects the skills base. The lower the human flight and brain drain, the better the society.
- *Stock of immigrants*: Too many immigrants may cause social conflict, especially if locals believe that immigrants are taking their jobs. Great numbers of immigrants are associated with poorer societies, based on the assumption that more immigrants make group conflict more likely.
- *Uneven economic development*: Where economic development is unequal and does not trickle down to all citizens, people may become angry at the perceived injustice. More equal economic development is associated with better societies.

To calculate the GASI, the standardized scores of each indicator are calculated for each country. For country i, defining y_i as the relevant component indicator, $\bar{y}$ as the mean indicator score, the standardized score y_i^* is calculated as $y_i^* = (y_i - \bar{y})/\sigma$, where σ is the indicator's standard deviation. These are then re-standardized to possess a mean of 100 and standard deviation of 15. Thus, a GASI score of 100 implies that a country is ranked as average, while a GASI score above (below) 100 would imply above-average (below-average) performance. Standardizing each indicator with a mean of 100 and standard deviation of 15 is done for several reasons (Anderson, 2012a): Firstly, within the current context a negative value would not have much meaning. Secondly, the transformation is similar to that of an intelligence test and is hence more easily understandable.

The overall GASI is obtained by summing the mean index scores of all nine components: The higher the GASI score, the better the society. In some cases (see Table 1) such as income inequality, index scores were reversed prior to summation. This is because a higher score on the GASI is better, yet high levels of income inequality, for instance, are perceived as being detrimental to a country's GASI ranking. Table 2 reports Cronbach alpha coefficients for each sub-component as well as the overall index. All sub-components have alpha values exceeding 0.7, while the overall index has an alpha of 0.82, suggesting very good reliability.

3 The Results

Table 3 presents the results from the sub-components and overall GASI for each country in alphabetical order, whereas Table 4 contains the overall GASI ranking, in chronological order. Tunisia scores highest in the areas of *Child Well-Being*, *Environment and Infrastructure*, *Education*, and *Social Sustainability and Social Cohesion*. Tunisia also has the highest GASI score, and is thus, at least within this sample, the "best" African society, closely followed by Cape Verde. Tunisia's rank is due in part to its very high scores in *Child Well-Being* and *Environment and Infrastructure* relative to other countries. Botswana has the highest scores in *Safety and Security* and *Integrity and Justice*, and scoring highly all round, ranks third on the GASI. Ghana, South Africa, and Egypt[5] score highest on the *Economic Performance*, *Democracy, Freedom and Governance*, and *Health and Health Systems* areas, respectively. Interestingly, only Botswana and Cape Verde score above 100 in each of the sub-components, thus being the only countries able to perform above average in all areas of the GASI.

Chad is the lowest GASI-ranked country, scoring much below average in all components and worst in *Child Well-Being*.[6] The Central African Republic (CAR), Cote d'Ivoire and Democratic Republic of Congo (DRC) perform only marginally better than Chad.[7] Zimbabwe and the CAR perform worst in *Integrity and Justice* and *Education*, respectively. Notably, seven countries score above 100 in only one sub-component, suggesting that they manage to perform better than average in only one particular area, while the CAR, Chad, and DRC fail to score above 100 in any sub-component.

To examine how the GASI relates to existing indicators of well-being, the 2012 Human Development Index (HDI) and GNI per capita are employed, with GNI per capita based on the Atlas Method of the World Bank (2013b). Correlation coefficients between the GASI and the three indicators are shown in Table 5. With a correlation coefficient of 0.811, the GASI is very strongly and positively correlated with the HDI. There is also a positive correlation between the GASI and a country's GNI per capita, although the correlation (0.684) is not as strong as with the HDI, possibly suggesting that national income is not as important a prerequisite for a good society.

The GASI is plotted against the HDI in Figure 1. Countries scoring high on the GASI generally possess a higher HDI score, and the relationship is quite

[5] Although Egypt ranks fourth on the GASI by scoring very high on most sub-components, the country performs very low in the *Democracy, Freedom and Governance* indicator, ranking 40^{th}. The latter is not necessarily surprising, especially given the political uprisings and violence during August 2013. Egypt's high ranking on the overall GASI may therefore be somewhat misleading, as the poor performance in the *Democracy, Freedom and Governance* component could very well offset the high scores in other components.

[6] If data availability permitted inclusion of all African countries, it is most likely that Somalia would have scored lowest on the GASI rather than Chad, as Somalia scored much below other countries in almost all indicators that were available for Somalia.

[7] Similar to the Egypt case noted in footnote 5, due to extreme ethic violence during the first half of 2014 the CAR might very well be the worst ranking country on the GASI, once more recent data become available, as such violence and instability would surely affect the CAR's *Safety and Security* score.

strong ($R^2 = 0.658$). Notable exceptions are Mozambique and Congo, for instance. Although Mozambique's HDI score is only slightly higher than 0.3, the country has a relatively high GASI score. Congo, on the other hand, has a moderate HDI score, yet ranks very low on the GASI (we can also compare Swaziland to Congo, where the former has a similar HDI score to Congo but fares much better on the GASI).

Figure 2 plots the GASI against GNI per capita estimates. There is a relatively strong ($R^2 = 0.468$), but weaker than with the HDI, positive relationship between the GASI and GNI per capita. Countries with better GASI scores generally have a higher GNI per capita. It is worth noting, however, that some countries score relatively high on the GASI despite having a low GNI per capita level. A noteworthy example is Ghana. In addition, Tunisia and Cape Verde score highest on the GASI, even with a relatively low GNI per capita, whereas South Africa and Gabon have the highest GNI per capita yet score significantly lower on the GASI as compared to Tunisia and Cape Verde.

4 Discussion and Conclusion

Based on the overall findings, Tunisia tops the GASI and is thus the best African society, at least based on the selected indicators. Cape Verde and Botswana are ranked second and third, respectively. Chad ranks lowest on the GASI, followed by the CAR. Other countries such as Cote d'Ivoire, DRC, and Guinea do not fare very well either. The GASI is relatively strongly related to the 2012 Human Development Index, with a higher HDI score in countries ranked higher on the GASI. Gross national income, however, does not explain all differences in the quality of societies. Although there is a positive relationship between country GNI per capita and the GASI score, many countries are good societies despite not being relatively rich.

This study does have some limitations worth mentioning. The somewhat arbitrary nature of the choice of indicators implies that possible alternative measures could also have been selected. It is thus likely that a selection of different indicators for a certain component could alter the final results, though the expectation is that the findings would remain broadly consistent. However, the indicators were selected with the aim of being consistent with the GSF and previous research. As such, we can have a reasonable degree of confidence in the indicators and overall results. It should also be noted that due to data limitations it was not possible to include all African countries in the analysis. Despite covering more than 85% of all countries in Africa, it is possible that inclusion of the excluded countries could have affected the GASI ranking results slightly.

Major concerns have also been raised about the reliability of reported statistics for African countries (Jerven, 2013). Such concerns clearly cannot be ignored, and some statistics used in constructing the GASI could to a certain degree be inaccurate or unreliable. As the data are all we currently have available for analysing the well-being of African economies, however, the likelihood

of data shortfalls should be accepted. Notwithstanding likely data inaccuracies, the overall results in this study are not far off from what we know about the various countries and what would be expected, given past events and circumstances. For example, South Africa by far scores highest in the *Democracy, Freedom and Governance* indicator, which is not that surprising given the country's remarkable transition to democracy in 1994 and resultant emphasis on the values of democracy and various freedoms. Moreover, Zimbabwe has been plagued by accusations of especially election fraud and unjust application of the country's laws. Perhaps not surprisingly, therefore, Zimbabwe scores lowest in the *Integrity and Justice* component.

This study shows that very few African countries manage to perform well in all aspects of the GASI. While some countries score high in some components, they also score very poorly in others. Most countries rank only average or below average on the overall GASI and its sub-components. The lowest individual country scores are, for example, in *Child Well-Being* (Chad), *Education* (Central African Republic), and *Safety and Security* (Cote d'Ivoire), while some of the highest scores are in *Democracy, Freedom, and Governance* (South Africa), and *Environment and Infrastructure* (Tunisia). Overall, most African countries have many areas in which to improve. Intensifying the focus on those aspects a country performs below average or even average in, is likely to be beneficial to the overall well-being of African citizens in the long-run.

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Table 1: Good African Society Index components, measures, and sources

GASI component	Measure	Source
Economic Performance and Sustainability		
Percentage of population below $2 a day*	Percentage of population below $2 a day	UNDP (2007), World Bank (2013b)
Real GDP per capita growth	Real GDP per capita growth, 2010 – 2011 (in 2000 $)	World Bank (2013b)
Export diversification	Ranges from 0 (low diversification) to 1 (high diversification)	World Bank (2013b)
Income inequality*	The degree of income equality, via the Gini Index, ranging from 0 (perfect equality) to 1 (perfect inequality)	UNDP (2013)
Democracy, Freedom and Governance		
Democracy index	Democracy Index, 2011, scale: 0 (no democracy) – 10 (full democracy)	Economist Intelligence Unit (2012)
Freedom of the press*	2011 – 2012 World Press Freedom Index. A higher score denotes less press freedom.	RWB (2012)
Female members of parliament	Percentage of parliamentary members that are female	UNDP (2013)
Government effectiveness	Index measuring the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of government commitment to such policies. Ranges from –2.5 (weak performance) to 2.5 (very high performance)	World Bank (2013a)
Child Well-Being		
Child mortality*	Probability per 1 000 that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates.	World Bank (2013a)
Child immunization against measles	Child immunization rate against measles (% of children ages 12–23 months)	World Bank (2013a)
Teen fertility rate*	Teen (age 15–19) fertility rate per 1 000 women	UNDP (2013)
Child nutrition*	Percentage of children < 5 that are underweight	WHO AfDB (2013)
Environment and Infrastructure		
Carbon dioxide emissions*	CO_2 emissions per capita	AfDB, OECD, UNDP and UNECA (2011)
Forest area lost*	Percentage change in forest area, 1990-2010	UNDP (2013)
Paved roads	% of paved roads relative to total roads	AfDB, AUC and UNECA (2013)
Communication networks: Main line and mobile telephone subscribers	Main line and mobile telephone subscribers, per 100 people	World Bank (2013a)
Safety and Security		
Homicide rate*	Intentional homicides per 100 000 population	UNDP (2013)
Road fatalities*	Road traffic deaths per 100 000 population	World Life Expectancy (2012)
Political stability and absence of violence	Perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism. Ranges from -2.5 (weak performance) to 2.5 (very high performance)	World Bank (2013a)

Security apparatus*	Relates to the prevalence of security issues such as internal conflict, riots, violent protests, military coups, rebel activity, and bombings.	FFP (2013)
Health and Health Systems		
Life expectancy	Life expectancy at birth, in years	UNDP (2013)
Infant mortality rate*	Infant mortality rate per 1 000 births	AfDB, OECD, UNDP and UNECA (2011)
Obesity levels*	Prevalence of population (age 15+) that is obese, i.e. BMI > 30	WHO (2013)
Doctors per 100 000 population	Number of doctors per 100 000 persons	AfDB, OECD, UNDP and UNECA (2011)
Integrity and Justice		
Corruption	2012 Corruption Perception Index, measuring the perceived levels of public sector corruption. Ranges from 0 (highly corrupt) to 100 (very clean)	Transparency International (2012)
Enforcing contracts*	Number of days from the filing of a lawsuit in court until the final determination and, where appropriate, payment.	World Bank (2013a)
Low prison populations*	World prison population list, per 100 000 persons	ICPS (2011)
Rule of law	Extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, police, and the courts, as well as the likelihood of crime and violence. Ranges from –2.5 (weak performance) to 2.5 (very high performance)	World Bank (2013a)
Education		
Combined gross enrolment ratio in education	Number of students enrolled in primary, secondary and tertiary education, regardless of age, expressed as a percentage of the population of theoretical school age for the three levels	UNDP (2009)
Expected years of schooling	Number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child's life	UNDP (2013)
Youth literacy rate	People aged 15–24 who can read and write	CIA (2013)
Pupil/teacher ratio*	Number of primary school pupils per teacher	AfDB, OECD, UNDP and UNECA (2011)
Social Sustainability and Social Cohesion		
Group grievance*	Indicator of tension and violence among particular groups. Includes factors such as discrimination, powerlessness, ethnic violence, communal violence, sectarian violence, and religious violence	FFP (2013)
Human flight and brain drain*	Indicator related to migration and human capital flight given lack of sufficient opportunities. Related to factors such as migration per capita, human capital, emigration of educated population	FFP (2013)
Stock of immigrants*	Stock of immigrants, as % of population	UNDP (2013)
Uneven economic development*	Related to uneven commitments by government to the social contract within the context of ethnic, religious, or regional disparities. Includes issues such as income inequality, urban-rural service distribution, access to improved services, and slum population	FFP (2013)

Note: * indicates that index is reversed.

Table 2: Cronbach α coefficients

Item	Cronbach *α*
Economic performance and sustainability	0.84
Democracy, Freedom and governance	0.82
Child well-being	0.78
Environment and infrastructure	0.80
Safety and security	0.79
Health and health systems	0.80
Integrity and justice	0.81
Education	0.79
Social sustainability and social cohesion	0.79
Good African Society Index	0.82

Table 3: GASI components and overall GASI scores

	Economic Performance	Democracy, Freedom and Governance	Child Well-Being	Environment and Infrastructure	Safety and security	Health and health systems	Integrity and justice	Education sustainability and social cohesion	**Good African Society Index**	Rank
Algeria	110.05	92.22	119.45	108.06	92.01	114.79	98.49	114.65	106.89	106.29	6
Angola	101.92	100.41	90.70	97.17	106.53	90.69	99.79	103.73	97.65	98.73	25
Benin	97.84	102.70	96.09	100.89	106.81	96.18	104.91	93.28	109.90	100.96	15
Botswana	100.69	115.51	114.99	109.98	*115.86*	100.42	*112.79*	113.81	107.39	110.16	3
Burkina Faso	100.60	99.31	89.60	95.24	101.17	98.88	103.65	80.25	97.86	96.28	36
Burundi	101.73	99.98	97.90	*90.54*	88.92	94.18	95.28	98.51	100.74	96.42	35
Cameroon	105.89	96.19	89.75	95.52	95.18	92.19	97.53	101.63	96.90	96.75	34
Cape Verde	104.34	119.32	111.57	119.65	106.75	114.33	108.05	114.68	102.83	111.28	2
Central African Republic	86.59	89.56	92.61	96.16	84.64	92.99	97.21	*75.39*	92.95	89.79	44
Chad	93.39	87.60	*74.25*	94.54	93.32	89.50	94.82	81.45	85.65	88.28	45
Comoros	90.31	89.67	98.08	94.05	100.77	104.69	97.07	102.59	106.65	98.21	27
Congo	101.90	91.61	93.52	99.97	96.34	99.65	96.41	99.60	99.88	97.65	30
Cote d'Ivoire	91.84	84.50	90.47	101.81	*76.83*	97.77	98.96	88.93	85.00	90.68	43
Democratic Republic of Congo	96.59	*81.71*	89.34	94.96	86.09	91.61	91.85	97.50	90.29	91.10	42
Djibouti	103.93	87.10	100.28	96.62	110.51	99.36	111.64	88.94	98.21	99.62	19
Egypt	104.97	87.72	117.57	119.48	109.18	*115.27*	110.15	112.76	104.97	109.12	4
Ethiopia	107.57	100.39	99.48	93.01	91.88	101.29	99.54	88.63	98.11	97.77	28
Gabon	114.31	97.49	101.44	103.19	104.56	103.14	105.45	116.33	97.84	104.86	8
Gambia	87.28	90.31	105.83	107.13	111.12	100.20	101.16	94.76	95.63	99.27	22
Ghana	*114.64*	109.08	107.96	95.79	108.85	102.25	106.94	105.43	101.73	105.85	7
Guinea	100.61	94.13	86.81	99.65	88.93	95.22	89.18	91.67	91.53	93.08	41
Guinea-Bissau	111.43	91.09	93.89	100.93	94.51	90.91	103.03	87.98	97.11	96.76	33
Kenya	93.25	99.11	100.53	99.63	95.97	102.47	92.87	105.87	89.54	97.69	29
Lesotho	98.38	110.83	106.04	101.47	100.29	88.60	108.14	107.60	109.56	103.43	11
Liberia	102.36	96.65	94.35	94.76	103.39	93.69	112.23	104.31	98.28	100.00	17
Madagascar	*85.11*	98.75	89.25	98.42	102.31	106.57	103.69	100.71	108.91	99.30	21
Malawi	98.58	101.20	104.00	96.18	97.94	97.75	100.58	92.72	96.63	98.40	26
Mali	103.07	106.47	81.47	99.47	102.27	92.13	103.68	84.94	99.05	96.95	32
Mauritania	104.32	100.86	96.64	101.77	98.62	94.52	96.76	94.65	106.66	99.42	20
Morocco	105.75	95.06	121.19	109.86	105.40	111.22	101.32	103.60	104.51	106.43	5
Mozambique	101.34	113.04	95.88	95.60	109.34	95.25	102.75	92.02	101.23	100.72	16
Namibia	91.41	117.64	106.58	96.65	108.61	109.62	102.81	112.18	96.09	104.62	10
Niger	97.37	102.15	79.17	92.26	103.16	97.03	101.39	79.05	99.29	94.54	39
Nigeria	104.39	89.44	84.33	100.31	91.15	93.76	95.05	96.29	87.21	93.55	40
Rwanda	96.78	105.56	112.83	104.46	105.43	96.48	86.08	95.88	94.37	99.76	18
Senegal	97.88	109.92	101.82	100.14	105.98	100.66	107.03	90.13	104.74	102.03	13
Sierra Leone	97.95	97.92	88.62	94.81	104.11	*87.95*	98.12	87.27	94.58	94.59	38
South Africa	92.14	*126.98*	106.97	92.89	102.10	97.31	100.70	116.22	107.82	104.79	9
Swaziland	91.86	94.68	108.64	106.68	102.74	94.17	103.34	107.51	107.57	101.91	14

Tanzania	96.20	115.17	102.13	96.05	104.91	101.62	100.38	97.77	108.38	102.51	12
Togo	102.45	92.54	101.72	92.53	100.98	99.38	98.80	100.25	103.65	99.14	23
Tunisia	99.11	107.98	*122.95*	*120.32*	109.44	114.80	100.71	*118.48*	*112.11*	111.77	1
Uganda	97.03	105.08	95.58	94.07	85.37	99.76	98.91	100.20	97.38	97.04	31
Zambia	97.79	103.79	99.35	97.90	98.66	94.97	99.70	98.79	98.39	98.82	24
Zimbabwe	97.51	97.54	107.56	93.44	90.53	97.72	*85.12*	105.77	86.06	95.69	37

Table 4: Chronological GASI ranking

Rank	Country	Rank	Country	Rank	Country	Rank	Country
1	Tunisia	13	Senegal	25	Angola	37	Zimbabwe
2	Cape Verde	14	Swaziland	26	Malawi	38	Sierra Leone
3	Botswana	15	Benin	27	Comoros	39	Niger
4	Egypt	16	Mozambique	28	Ethiopia	40	Nigeria
5	Morocco	17	Liberia	29	Kenya	41	Guinea
6	Algeria	18	Rwanda	30	Congo	42	DRC
7	Ghana	19	Djibouti	31	Uganda	43	Cote d'Ivoire
8	Gabon	20	Mauritania	32	Mali	44	CAR
9	South Africa	21	Madagascar	33	Guinea-Bissau	45	Chad
10	Namibia	22	Gambia	34	Cameroon		
11	Lesotho	23	Togo	35	Burundi		
12	Tanzania	24	Zambia	36	Burkina Faso		

Table 5: Correlation coefficients

	GASI	GNI per capita	HDI
GASI	1.000		
GNI per capita	0.684***	1.000	
HDI	0.811***	0.879***	1.000

Note: $p < 0.001$***.

Figure 1: Relationship between GASI and 2012 HDI

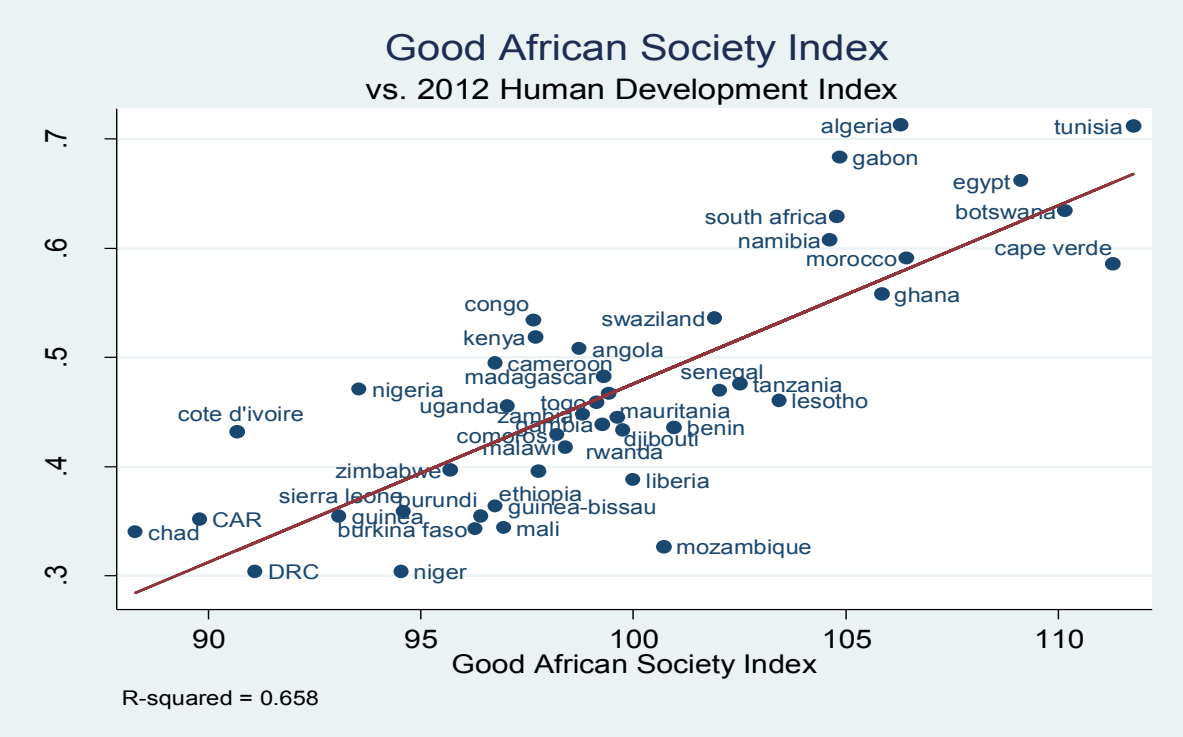

Figure 2: Relationship between GASI and GNI per capita