

## THE SOUTH AFRICAN SUGAR INDUSTRY IN THE 2010S: A LOOK INTO THE FUTURE USING SCENARIO PLANNING

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### Abstract

The global financial crisis that broke in late 2008 has had widespread impacts on the global economy, including developing countries like South Africa. Other uncertainties within the context of the South African sugar industry include slow implementation of government land reform policies and poor progress in reviewing sugar related legislation. Such uncertainty is not conducive to future investment and innovation. This paper aims to clarify key uncertainties using a classic scenario planning process, comprising three steps: (1) defining the rules of the game, (2) understanding the key uncertainties and (3) developing possible scenarios that emanate from them. The paper constructs possible scenarios for both the global and South African sugar industries looking forward into the next decade. There is not much that the current South African sugar industry stakeholders can do about the global economic situation, but they can influence the investment climate within the South African sugar industry. To do this, stakeholders need to foster internal harmony, which to a large extent requires an appropriate legislative framework, where only some elements of the current legislative framework require urgent review. Furthermore, stakeholders need to actively mitigate the threat of slow land restitution progress by collaborating with each other and government. If these two concerns are attended to, the future of the South African sugar industry is bright given (i) the recent rally in world market sugar prices, (ii) the relatively consistent demand for sugar in the medium to long term and (iii) the prospects of participating in the renewable energy arena that has large growth potential.

*Keywords:* scenario planning, future, competitiveness, framework, uncertainties

### Introduction

The global financial crisis that broke in late 2008 has had widespread impacts on the global economy, including developing countries like South Africa. One of the major impacts has been reduced demand for South African exports, particularly in the mining and manufacturing sectors. Fortunately, there has not been a dramatic effect on sugar markets, although tightness in the credit market has impacted on access to margin financing and new investments. Other uncertainties within the context of the South African sugar industry include slow implementation of government land reform policies and poor progress in the review of the Sugar Act (1978) and its associated Sugar Industry Agreement (SIA 2000). Coupled with poor financial returns in sugar cane agriculture in the 2008/09 season, such uncertainty is not conducive to future investment and innovation. In this context, the objective of this paper is to clarify key uncertainties and their possible future impacts on the South African sugar industry. The scenario analysis entitled 'The World and South Africa in the 2010s: A sobering reality

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<sup>1</sup> The views expressed are not necessarily those of the South African Cane Growers' Association.

for the ‘Rainbow’ Nation’ by Clem Sunter and Chantell Illbury (Institute of Directors Special Edition Newsletter, August 2008) is used as a template. These authors state that it is impossible to exactly determine what might happen in the future because of the immense complexity associated with global dynamics and their influences on South Africa. To accommodate such complexity, a classic scenario planning process was adopted. This approach comprises three steps: (1) defining the rules of the game, (2) understanding the key uncertainties and (3) developing possible scenarios that emanate from them. The rules of the game are those propositions that are virtually certain to apply under all scenarios. The key uncertainties are surprises that are ‘lurking in the woods’, including shock events that can have a sudden impact on the game or gradual threats that increase over time. This paper constructs possible scenarios for both the global and South African sugar industries looking forward into the next decade. The scenarios themselves are the possible outcomes to the game, which are intended to provide an effective framework within which people can ask themselves pertinent questions, debate the future as they see it and hopefully act quickly and judiciously on their insight.

## **The global sugar industry**

### **The rules of the global sugar game**

1. Historically, global sugar demand has consistently tracked global population growth and this trend is largely expected to continue, albeit with some decline in sugar demand in the immediate wake of the 2008/09 global financial crisis.
2. In recent history the global sugar industry has been dominated by sugar production in the European Union (EU), Brazil and India, with Russia being the dominant destination for raw sugar exports. This dynamic is evolving, given the deregulation of the high cost beet production in the EU resulting in reduced exports of refined sugar and the increased regulation in Russia that facilitates local beet production. Conversely, Brazil has rapidly expanded its cane plantings despite sometimes suppressed world market sugar prices on the back of their successful integrated sugar/ethanol/cogeneration business model. India is a wild card and swings between a major importer and a major exporter, depending on India’s legislated cane price, the extent of the monsoons and the relative financial attractiveness of alternative crops. The supply and demand dynamics in these countries have become major drivers of world market sugar prices.
3. Generally, the economic margins derived from sugarcane agriculture have decreased in real terms, which have caused average farm sizes to increase as farmers chase the benefits of economies of scale. Accordingly, entry into the industry becomes more challenging and, because potentially young aspiring farmers are attracted to more ‘rewarding’ industries, the absolute number of farmers is decreasing whilst the average age of farmers is increasing. This trend is expected to continue. In cases where economies of scale are growing, education levels of new entrants is expected to increase.
4. Prior to the global financial crisis, falsely inflated liquidity was partly responsible for strong global economic growth that resulted in high energy demand. Oil and energy prices have subsequently dropped in the wake of the global financial crisis. However, prices will rise again, given that the bulk of the globe’s energy supply is currently derived from non-renewable fossil fuels. Consequently, the demand for renewable energy is growing and will continue to grow at an increasing rate. Sugarcane is ideally positioned to play an increasing role in this regard in producing cogeneration electricity and bio-ethanol. The commercialisation of second generation technologies capable of better utilising the cellulosic component of sugarcane are expected to further speed up this trend.

5. Triple bottom line reporting is gaining momentum, whereby customers, governments and NGOs alike are more aware of and concerned about environmental and social issues in terms of their buying habits and their lobby in reviewing trade policies. As a result, there is an increasing focus on environmental and social responsibilities of producers. In terms of sugarcane agriculture, the Better Sugar Initiative (BSI) is an international Non-Government Organisation (NGO) that is at the forefront of this particular agenda, together with the Roundtable for Sustainable Biofuels (RSB). Customer and stakeholder demands, as channelled through these types of organisations, are expected to increase. This will include entire value chains, so millers will not be exempt.
6. Research remains a key element of a successful and sustainable industry, whereby the growing trend of securing exclusive Intellectual Property (IP) to establish a globally competitive advantage is increasing. Informal collaboration that was enjoyed in the past is likely to be replaced with formal partnerships and consortia. The requirement for high quality research shall remain, particularly with regards to plant breeding.

### **The key global sugar uncertainties**

1. The biggest threat to the global sugarcane industry is a global pandemic that impacts on population growth and therefore sugar and energy demand. The outbreak of AIDS and its rapid initial increase was cause for concern, but this particular pandemic has been checked by various government policies and behavioural changes. Consequently, the threat of a global AIDS pandemic and its impact on the world of sugar remains small, although a pandemic may present itself in another form such as the recent outbreak of 'swine flu' in Mexico (fortunately, this has turned out less severe than initially expected). A similar threat may arise through an increased intensity and extent of terrorism, with a worst case scenario of widespread conflict. This concern is expected to be mitigated to a large extent with the Barack Obama administration coming to the fore in the US.
2. A prolonged global recession is of concern because of its impacts on trade and investment; it is less of a concern for sugar demand as this largely tracks population growth. However, this would not be the case for bio-ethanol and cogeneration electricity demands. A further concern related to a global recession is if the US dollar were to be replaced with another reserve currency, which could create a new layer of uncertainty in the trade and investment arena. Although much is being done by governments around the world to mitigate the effects of the global financial crisis, the extent of the crisis implies that a recovery will be 'considered'. These dynamics also create uncertainty around input prices such as fuel, chemicals (including fertiliser), steel and capital equipment, and their impact on sugar industries. Furthermore, the recent tightness of credit markets has significantly curbed expansions, particularly in the Brazilian sugar industry.
3. There is now widespread acknowledgement that accelerated global warming is a result of human activity that started with the industrial revolution and that if it continues unabated, there could be serious consequences for the planet. Consensus, however, around the rate and impact of global warming remains elusive. From a global warming perspective, higher temperatures would in many instances benefit sugarcane agriculture, providing regional specific rainfall patterns are not compromised. However, the resulting polar ice melt and rising sea level might result in the inundation of some areas of sugarcane agriculture. Of more concern would be the inundation effects on large population groups and how their sugar consumption patterns would change in light of relocation strategies.
4. The trend towards biofuels and renewable energy is a direct consequence of global warming, as well as governments' fuel security concerns where crude oil is often a country's single largest import. This leads to difficulties in managing a nation's balance of

payments and its impact on the value of its national currency. Developing 'home grown' energy helps mitigate these concerns and stimulates job creation and rural development, which are particularly important ideals in developing countries. However, the establishment of large, viable biofuel and renewable energy industries requires resources and 'political will'. Despite the rate of adoption in the EU, US, Brazil and a few other countries, the rate of adoption remains uncertain elsewhere as 'food versus fuel' concerns provide an emotive counter-argument.

5. The other uncertainty surrounding biofuels and renewable energy is the multitude of developing technologies and the ambiguity around their expected commercialisation release dates. For example, would sugarcane fibre be best used to produce electricity, bioethanol, bio-oil or some other specialised product such as bio-plastics? In some respects this creates a disincentive to invest in a 20 year production facility using known commercial technology when there is a risk that a competitor might establish a second generation plant in 3-5 years' time with significantly better yields and profit margins. Together with the effects of the global financial crisis, many investors are adopting a holding position on new projects in this field, and the immediate future remains uncertain.
6. Sugar and correspondingly sugarbeet and sugarcane agriculture, have attracted significant political attention over the centuries, resulting in these markets being highly regulated. Some trade liberalisation has taken place in recent years, most notably a restructuring of the EU sugar protocol that triggered a 39% price cut over two years. This price reduction caused a number of marginal producers to exit and resulted in rationalisation amongst others. Such trade liberalisation is been driven strongly by the Global Sugar Alliance, which is a group of the world's leading sugar producing nations, representing over 50% of world sugar production and more than 85% of world raw sugar exports. The objective of the group is to achieve positive, progressive and meaningful liberalisation of the world sugar market. The group was established in November 1999, and its members (Australia, Brazil, Canada, Chile, Colombia, India, Guatemala, South Africa and Thailand) signed a communiqué calling for the World Trade Organisation (WTO) to initiate positive, progressive, and meaningful trade reforms. Any possible future reforms will be highly politicised and the process will be dominated by numerous lobby groups, which makes any outcomes and the timing thereof extremely uncertain.

### **The global sugar scenarios**

The two uncertainties that could have the most significant impact on the future of the global sugar industry within the next decade appear to be the extent of trade liberalisation and the prospects of a prolonged global recession. Figure 1 presents these uncertainties as 'opposing forces' that yields four scenarios.

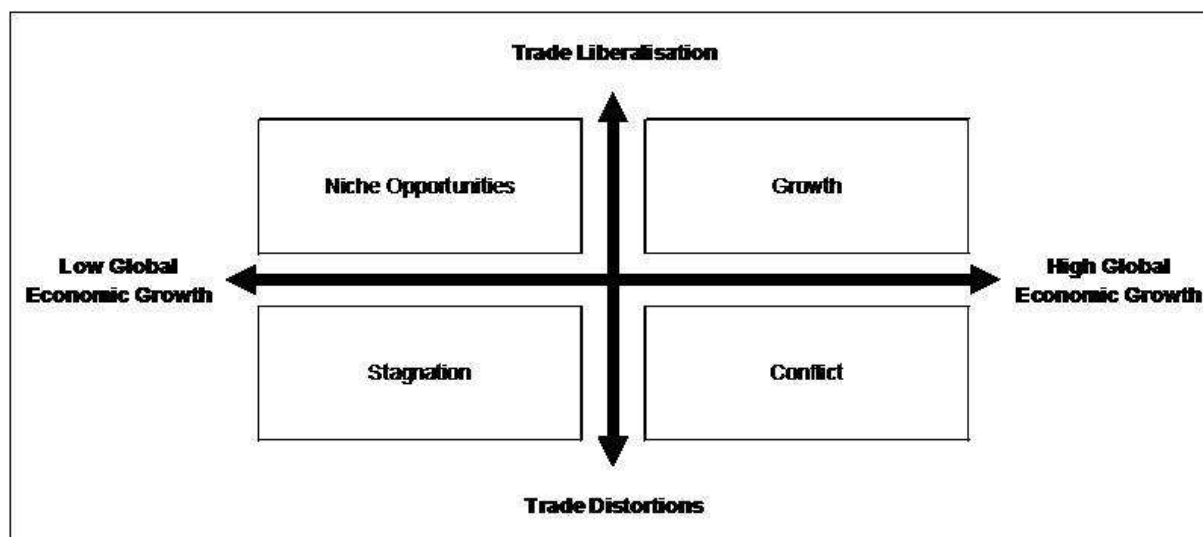


Figure 1. The global sugar scenarios.

The **growth scenario** is where the Global Sugar Alliance members would like to be; i.e. in an environment of high global economic growth and trade liberalisation. It represents trade liberalisation whereby the Less Developed Countries (LDCs), which are in many instances the least cost producers, are able to access the large premium priced markets in the Developed Countries (DCs). It represents the most efficient allocation of global resources without any imposed constraints arising from a global economic recession. This is not an unrealistic scenario in the context of the next decade but is unlikely in the nearer term. Stakeholder resistance in DCs and their political influence should not be underestimated. The main drivers that could sway this resistance are the DC's stakeholder affinity for rural development and climate change mitigation.

The **conflict scenario** arises when trade distortions persist in an environment of high global economic growth. This environment is expected to frustrate Global Sugar Alliance members and others because their local industries are unable to participate in potential growth opportunities because of the trade distortions. This conflict scenario is bigger than sugar, it applies to many globally traded commodities. Initially, the ongoing conflict is expected to remain focused on the WTO and regional trade blocs such as the North American Free Trade Area (NAFTA), EU protocols and others. In the absence of negotiated settlements, it is unclear how far this conflict will spill over. Worst case is that trade issues are aligned with anti-globalisation factions and terrorism activity, but it is hoped that this is an extremely unlikely outcome.

It is likely that a trade liberalisation trend will continue, driven by climate change concerns, sympathy for poverty alleviation and the need for rural development in LDCs. It is also likely that low global economic growth will persist for a significant part of the next decade. This defines the **niche opportunity scenario**. It is expected that the sugar industry will be a relatively safe place to weather the global economic slowdown simply because sugar demand is strongly linked to population growth. Therefore, those sugar industries that are able to retain their credit lines and access relatively cheap production inputs should be able to actively take advantage of any trade liberalisation, which may well have a renewable energy flavour with associated carbon credit opportunities.

Should low global economic growth persist without trade liberalisation, the international sugar industry is expected to stagnate and rationalise in many instances; i.e. the **stagnation scenario**. Marginal production areas will be withdrawn from production, farm sizes will continue to get larger (as will mills) as cane supply areas are consolidated to capture the benefits of scale economies. Investment into the energy mix by sugar industries on an international scale is unlikely without the political will to relook at heavily regulated fuel industries across the globe. Any developments that take place in this regard are expected to be local initiatives focused on local markets.

### **The South African sugar industry**

#### **The rules of the South African sugar game**

1. It is comforting, from a global perspective, that sugar demand is strongly correlated to population growth (i.e. it has an inelastic demand curve) and is therefore a commodity that might miss the brunt of the global financial crisis. This population growth link also applies to the Southern African Customs Union (SACU) market which in the 2008/09 season contributed approximately 70% of the revenue used to calculate the industrial Recoverable Value (RV) cane price. This market for the South African sugar industry should increase, with the prospect of Swaziland gaining increased access to EU markets in the 2009/10 season and beyond. Providing tariff protection remains in place and if the value of the SACU market is not eroded, sugar production destined for the SACU market should remain the key focus area of the South African sugar industry. Tariff protection against cheap sugar imports is expected to continue because of the sugar industry's significant contribution to the local economy, particularly in terms of small-scale agriculture, poverty alleviation, job creation and Black Economic Empowerment (BEE).
2. The equitable sharing of the tariff and balancing the negotiating power between millers and growers will remain key principles that require sugar industry legislation, particularly in the area of notional sugar pricing in the SACU market for the sole purpose of determining the cane price. Consequently, sugar industry legislation is expected to remain, albeit with some adaptation within the next decade.
3. The legislative changes adopted in the 1990s have injected a level of market competition into the industry, which is expected to intensify over time, and filter through into non-market related activities. This trend has and will continue to be accelerated with increasing pressures from the Competitions Commission.
4. Despite the focus of government on service delivery within government structures, this is expected to remain poor in the near term at least; the primary reason being a lack of capacity amongst government employees. Capacitating and/or replacing key staff takes time and so does the process of realigning the underlying culture within many government departments. This has a direct bearing on the sugar industry because many facets of the sugar business involve government interaction.
5. Although sugar is expected to remain a relative safe haven during recessionary times, credit markets are expected to remain tight, curbing investments in both the milling and growing sections. Furthermore, returns on investment in other African countries that have access to preferential sugar markets, suggests that millers will prefer to invest their limited capital for maximum return outside of South Africa. Irrespective of trade liberalisation trends, this dynamic is likely to persist during the next decade because of the lower costs and higher yields enjoyed in countries to the north of South Africa.
6. Although molasses is currently a small contributor to gross industry revenue, the structure of the South African molasses market has fundamentally changed. In recent years industry

molasses production has declined, whereas the fermentation and animal feed industries have grown over the same period. A national molasses shortage has transpired, which resulted in significant molasses imports during the 2008/09 season, creating a linkage to import parity pricing. The other benchmark price for molasses is its nutritive value as a fertiliser and animal feed, which also increased substantially in the 2008/09 season. There will be increased focus within the industry on molasses pricing going forward.

7. Another key focus area in terms of growing the revenue 'cake' will be the production of cogeneration electricity for sale to the national grid and possible production of ethanol for blending into the petrol pool. Attractive pricing and offtake arrangements for cogeneration electricity appear to be within negotiating striking distance with ESKOM, but a viable institutional framework for ethanol is further off. Nevertheless, both of these avenues will continue to be strong focus areas for the industry in the next decade.
8. Millers and growers will continue to rely on each other. The failure of one party inevitably results in the failure of the other party. Furthermore, international customers and stakeholders as well as local stakeholders and government are increasingly viewing value chains as a collective and holding them jointly accountable in terms of triple bottom line reporting. If anything, millers and growers will need to work closer together going into the future.

### **The key South African sugar uncertainties**

1. Mills with spare milling capacity have an incentive to attract additional cane from what would otherwise be uneconomic transport distances because of the nature of marginal milling profits. Left unabated, cane supply 'wars' between millers could undermine feedstock supply, impacting on investment decisions in both the growing and milling sections because of the threat of a mill closure. Ideally, cane supply should be rationalised in a prudent organised manner in a localised area, but this is difficult in the context of a competitive environment, including the threat of Competitions Commission action. The resultant uncertainties are significant for both millers and growers.
2. Part of recent cane supply 'war' dynamics has been the 'promise' of sharing revenue from the production of cogeneration electricity and ethanol. This might be an attractive prospect at first glance but considerable uncertainties arise regarding exactly how this revenue would be shared in the context of the current sugar industry legislation and how indeed the legislation would need to be changed to accommodate such arrangements. Furthermore, investments in these new activities require an enabling legislative framework in the energy sector and attractive product prices. Numerous uncertainties arise in this regard given current capacity constraints within government and ambiguity in terms of future policy direction.
3. Ideally, future government policy should be influenced by industry itself and 'balanced' by government. Unfortunately, the lack of consensus between industry stakeholders in recent times has inhibited the sugar industry from having a united front that can make effective policy recommendations to government. This applies not only in terms of renewable energy matters, but also with regards to the review of the sugar industry legislation. The resulting stagnation detracts from investor confidence because the uncertainties are not being attended to. It is unclear as to how and when these issues within the industry and between government will be resolved.
4. Part of the reason for the lack of consensus between industry stakeholders is the absence of an appropriate conflict resolution mechanism. In the past, significant disputes have been infrequent largely due to a 'consensus' culture that has developed over the years. However, as the industry evolves into a more competitive environment consensus

outcomes will become more difficult to achieve and even if achieved, consensus comprising the lowest common denominator may result in a lose-lose outcome. Furthermore, in the absence of consensus, the current *de facto* ruling that the *status quo* prevails can be obstructive. Although the Draft Code of Governance Principles for South Africa (King III as it is commonly referred to) advocates increased use of mediation and arbitration in companies for reasons of time and cost effectiveness, it remains uncertain how the South African sugar industry as a whole will respond.

5. The principle of transferring land to the previously disadvantaged is good and supported across all sectors; however, problems have arisen in terms of meeting government's initial restitution and transformation targets. The first is that willing buyer, willing seller transactions in general have slowed and even ceased in some areas because of the uncertainties associated with pending land claims. Furthermore, these uncertainties create a disincentive to invest in farms under claim, resulting in reduced yields and challenging conditions when the claimants take possession. Secondly, the track record of claimants maintaining a sustainable farming business is poor, which amongst other things, can be attributed to (1) large numbers of beneficiaries having to make decisions by consensus, (2) limited commercial farming experience and capacity amongst the beneficiaries and (3) insufficient or inappropriate post-settlement support to address these previous concerns. Given that approximately 90% of the area under cane is under claim, of which approximately 50% of the area under cane has been gazetted, the consequences of a failed restitution process could be dire for the South African sugar industry. Although a number of industry stakeholders have actively engaged the process, particularly in terms of post-settlement support in the form of management company lease-back options, much is still to be done. The prognosis for the future remains uncertain.

### The South African scenarios

The two uncertainties that would appear to have the most significant impact on the future of the South African sugar industry within the next decade appear to be the extent of conflict between industry stakeholders and the prospects of the land reform initiatives being successful. Figure 2 presents these uncertainties as 'opposing forces' that yields four scenarios.

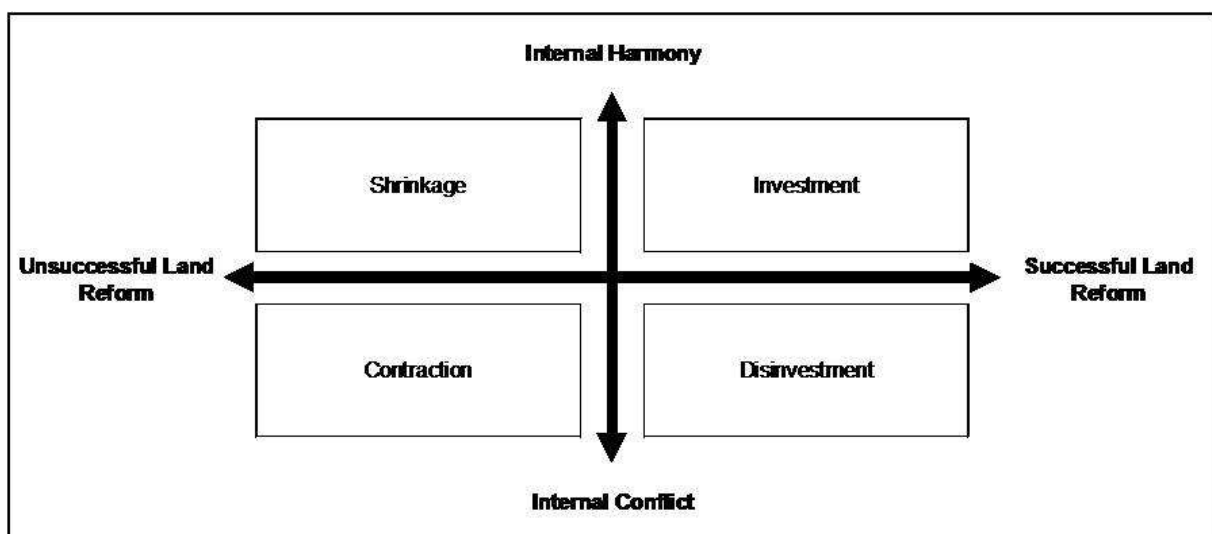


Figure 2. The South African sugar scenarios.

A successful land reform campaign that is resolved speedily, as well as industry stakeholders reaching an accord on how to resolve their differences and move forward with a common purpose would create an attractive investment climate, as represented by the **investment scenario**. This scenario remains probable even in the absence of such an accord, providing a robust and efficient conflict resolution mechanism is put in place that is respected by all parties. In terms of land reform, a consolidated industry approach is the best way to support government in ensuring a stable and sustainable outcome. This is best achieved by mandating and resourcing the South African Sugar Association (SASA) to actively facilitate policies and establish post-settlement support programmes, whereby implementation at a local level would still need to be managed parochially. The more difficult challenges to overcome include initial restitution policy inadequacies that have resulted in undue complexity and capacity constraints within government. This is not an unrealistic scenario in the context of the next decade, but is unlikely in the nearer term. Much goodwill is required to make this scenario a reality.

If industry stakeholders fail to resolve their differences, it is unlikely that the industry will provide the government with meaningful assistance in delivering a sustainable land reform outcome. More alarming is that, should the industry remain in disarray, it will be less inclined to adapt to or evolve into a more competitive environment. It is widely acknowledged that the industry has had a long legislative history that has been appropriate given previous government imperatives and international sugar dynamics, that has resulted in complex entrenched positions to date that are difficult to change without some degree of prejudice. Nevertheless, government imperatives and international sugar dynamics would appear to be changing at a faster rate than the rate of change within the sugar industry, which some would define as alarming! If the *status quo* perpetuates, prejudice will inevitably transpire of its own accord. This threat of inevitable prejudice, perceived or otherwise, is what will drive disinvestment, which characterises the **disinvestment scenario**. It is widely acknowledged that much of the legislation continues to be necessary and appropriate within the current and expected future context, but also that some parts are due for review. The ‘captains of industry’ need to (1) identify what needs to be changed in the current legislation, (2) resolve what the new policies will be and (3) effect an efficient change to avoid this disincentive scenario.

Assuming that an efficient change process is put in place, an unsuccessful land reform outcome remains dire, where ‘unsuccessful’ does not necessarily mean that land is not transferred to rightful beneficiaries. This might be an area of concern in some areas, to the extent that civil unrest breaks out with the effect of destabilising an entire local community. It is more likely that the resolution of claims is protracted, disrupting investment incentives in the interim, causing the underlying farm asset to depreciate and making resuscitation expensive for beneficiaries. For some highly geared beneficiaries such resuscitation might become uneconomic, in which case their income generating asset is lost as well as area under cane to the industry. An unsuccessful land reform outcome will most likely be characterised by inadequate post-settlement support and a gradual decline in productivity and ultimate bankruptcy of business ventures. Furthermore, prospects of transferring the land in question out of the hands of the beneficiaries will be difficult, with an inevitable consequence of area under cane lost to the industry; i.e. the **shrinkage scenario** where each mill area loses area under cane to a larger or lesser extent. This will result in many of the fixed costs in the industry associated with processing and services being ‘spread’ over a smaller base tonnage and therefore increasing the average cost per ton of cane delivered/processed. All existing industry stakeholders have an incentive, some larger than others, to avoid this outcome. Questions that need to be answered include, “Will collaboration be more effective and

beneficial to all?" and, "How can collaboration be best achieved?" It is unlikely that government will achieve a satisfactory outcome without industry support.

If dissent prevails between industry stakeholders and the land reform initiative fails to establish sustainable business entities, the resulting shrinkage of area under cane and spiralling disinvestment at worst, could be classified as industry contraction; i.e. the **contraction scenario**. This contraction might be classified by a number of mill closures and the consolidation of area under cane in others. It is not envisaged that the industry will cease to exist, on the contrary. As the industry shrinks, so the average sugar price realised by the industry increases because less sugar is exported into the lower priced world market, which has the effect of raising the cane price. Economic conditions would improve and further contraction mitigated; i.e. stakeholders that remain in the industry stand to gain from the exit of others. This scenario also becomes a possibility if the current global recession is prolonged, whereby the world sugar prices become depressed and farming and processing inputs become inflated. A 'collapse' scenario might also be possible if, over and above these factors, the legislation governing the South African sugar industry becomes inappropriate. This pessimistic outcome becomes less and less likely in the face of meaningful progress in land reform initiatives, black economic empowerment and increasing harmony between internal stakeholders.

### Conclusion

Sugar, both globally and locally, is a relatively good economic activity to be associated with in the short term to ride out the global economic crisis. Furthermore, the inherent potential of sugarcane to competitively play in the renewable energy arena is an exciting prospect for the future. There is not much that the current South African sugar industry stakeholders can do about the global economic situation, but they can influence the investment climate within the South African sugar industry. To do this, stakeholders need to foster internal harmony, which to a large extent requires an appropriate legislative framework, where only some elements of the current legislative framework require urgent review. Such a review should initially focus on developing a robust and respected conflict resolution mechanism. With this in place, all other issues in dispute are more likely to be resolved. The investment climate within the South African sugar industry is also compromised by slow land restitution progress, and again industry stakeholders can actively mitigate this threat by collaborating with each other and government. If these two concerns are attended to (i.e. internal conflict and slow land restitution progress) the future of the South African sugar industry is bright given (1) the recent rally in world market sugar prices, (2) the relatively consistent demand for sugar in the medium to long term and (3) the prospects of participating in the renewable energy arena that has large growth potential.