THE FUTURE OF FARMING AND FOOD SECURITY IN SUB-SAHARAN AFRICA: THE BIRTH OF A NEW TRILEMMA

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12 Augustus 2015

Abstract

Africa could be a trillion-dollar food market by 2030, giving rise to a new context of foreign involvement. This change renders the classical debate of aid versus trade too narrow. Linking up to the topical corporate dilemma of trade versus foreign direct investment (FDI) implies the birth of a new trilemma. By drawing from a case study on dairy in Sub-Saharan African, this article questions the desirability of the focal shift towards the corporate dilemma and, through that, expected increase in reliance upon the scenario approach to mitigate risk. Reflection on a rule of thumb underlying scenario planning yields the conclusion that, while crucial to avoid proliferation of scenarios around every possible uncertainty, it leads to overemphasis on fulfilment of the economic responsibility of making profit in the future. As a result, scenarios constructed to support the corporate decision-maker are likely to leave risks imposed on others unaddressed in the constructed scenarios. To prevent the changing landscape from resulting in organised irresponsibility, a praiseworthy next step would be to develop a scenario approach that merely supports the pursuit of corporate self-interest, but also helps to ensure that this pursuit is balanced and restrained by moral responsibilities to the population of Sub-Saharan Africa.

Key words: global commodity trade; development aid; Foreign Direct Investment (FDI); food security; protectionism; scenario planning; utilitarianism; corporate social responsibility (CSR)

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1. Introduction

Growth of food consumption has outpaced growth of food production in Africa. The continent has become a net food importer. Rakotoarisoa, Iafrate and Paschali (2011) explain this food trade deficit since the mid-1970s. Overall, between 1980 and 2007, Africa's total net food imports in real term grew at 3.4 percent per year, but this growth was mostly fuelled by population growth. Due to various constraints including those directly linked to agricultural productivity – which is particularly low in Sub-Saharan Africa – domestic food production increased only by 2.7 percent per year, just barely above population growth rate of 2.6 percent per year. This implies that any increase in per capita consumption had to be met by an increase in food imports. In other words, self-sufficiency rates are declining and, through that, dependency on foreign partners growing. Nigeria, for example, was a net exporter of food until the 1960s. Now it imports $3 billion per annum more than it exports (The Economist, 2015). In a period of extremely volatile commodity prices (SOURCE), coming with severe implications for vulnerability of the African continent attached, food security is reappearing on the top of the public agenda.

The African desire to decrease dependency and vulnerability compares unfavourably with their expected inability to reverse the trend of growing food imports. Two facts are at the core of this challenge. First, the population of Sub-Saharan African countries is projected to double – for some nearly triple – by 2050 compared to today (Pflanz, 2013). Second, income elasticity for food consumption is high, especially for countries in Sub-Saharan Africa (Rakotoarisoa, Iafrate and Paschali, 2011). The latter fact reveals a self-defeating prophecy. Development of the domestic food sector may well go hand in hand with a raise in incomes of those employed in that sector, which would induce some dynamics of insatiable demand.

While the challenge of meeting the demand for food is predominantly threatening to African governments, the very same challenge gains increasing attention from corporate investors. However, from their perspective, insatiable demand is a positive challenge. Businesses have shifted plans to seize opportunities following from the rise of the African consumer (Hattingh et al., 2012) higher up in their strategic agenda. The World Bank statement that Africa could be a trillion-dollar food market by 2030 has given impetus for a range of reports, ranging from stressing the need for understanding consumers in the "many Africas" (Boston Consulting Group, 2014) to analyses confirming the robust economic activity, supported by strong domestic demand – notably investment growth (Punam and Ferreira, 2014). The rising African consumption has the potential to change the food and agricultural landscape. After all, the continent is becoming ever more attractive to international companies not merely from the supply side – that is, sourcing of raw materials – but also the demand side.

Today, African governments and (foreign) private investors share their dedication to meeting the insatiable demand for food. However, their underlying interests and objectives remain different if not conflicting.

Classically, the debate on the future of farming in Africa puts the dilemma on aid versus trade in the limelight.

TEDGlobal 2007 themed '*Africa: the Next Chapter*' illustrates a wider belief of the continent appearing to be at an important tipping point. On the closing day of TEDGlobal 2007, Ngozi Okonjo-Iweala, the former finance minister of Nigeria, summed up four days of intense discussion on aid versus trade. Despite – or perhaps because of – the widespread African intentions to shift away from reliance on development aid and to reduce reliance on commercial food imports, the discussion gets stuck on the well-worn path.

Sub-Saharan Africa is standing at the dawn of a new era, with a rapidly increasing degree of foreign involvement. With this change in context comes the need to extend the classical debate on aid versus trade. Linking it to the topical, recurrent corporate dilemma of trade versus foreign direct investment would announce the birth of a fascinating trilemma.

The extended debate would have to acknowledge and attach particular importance to corporate social responsibility (CSR). The well-known sustainability pyramid of Carroll (1991), shown in figure 1, comes in helpful for understanding how the prime econo-

Figure 1 – The pyramid of corporate social responsibility (Carroll, 1991)

mic responsibility compares to further legal, ethical and philanthropic responsibilities. High resource dependency – knowledge and capital of corporates as opposed to formal authority of African governments – implies that both are critical actors for tackling the challenge of meeting demand. Shaping CSR so as to match an adequate layer of Carroll's sustainability pyramid (1991) is quintessential to prevent from blocking powers being exerted, but goes beyond the scope of this article. Rather, this article centres on a more fundamental, ethical question. Is the focal shift towards to the corporate dilemma – through that, expected increase in reliance upon scenario planning to mitigate risk (see paragraph 3) – undesirable?

The dairy industry in Sub-Saharan Africa serves as a vivid example of increased foreign involvement and the dilemma of trade versus FDI. Paragraph 2 discusses the challenge from a corporate perspective and feeds into the observation of the potential of scenario planning as an alternate approach (paragraph 3) to understanding the future of farming and food security. The results of this approach for the exemplary dairy case will be presented in paragraph 4. Hereafter, the ethical implications of reliance on scenario planning in the new era will be discussed. Paragraph 6 summarizes the main conclusions and presents an agenda for further research.

2. The strategic gamble on African dairy

Aid versus trade reappears in the international political scene regarding development of the African dairy sector, but equally in academic development studies, for example as the title of a report by Wageningen UR Livestock Research (van der Lee et al, 2013). Stress following from falling milk prices in the global market, in which the removal of milk quota in the European Union plays a prominent role, has renewed the sense of urgency and caused the search for new markets to move higher up in the strategic agenda of international dairy companies. A long-term FAO-OECD outlook (2013) of an average increase in consumption at 2.2% per annum for developing countries as opposed to less than 1% per annum in the developed world, has fed the desire to expand into new emerging markets. Investigation of the very same sector from a corporate perspective (Rabobank, forthcoming) yielded three strategies for business development:

- Direct *trade* in either dairy commodities or value-added dairy products.
- *Reconstitution*, which is using African processing facilities to make value-added products out of imported milk powders
- Setting up *local production*, or building the value chain from African farmer to consumer.

Together they make up the spectrum of the classical dilemma of trade versus FDI. Although choosing one of three paths of business development might seem straightforward, the search for a strategic balance is a severe challenge in reality.

At the core of this challenge is the fact that many factors are beyond the influence of individual market entrants or players, but their strategic impact considerable. Why is the uncertainty so great and inherent to Africa? Three paradoxes of what of Mazrui (1980) calls "the African condition" can largely explain it. The paradox of acculturation refers to the massive assault on African peoples by Western cultural and political forms, which had the effect of overwhelming traditional values and, as the physical colonial presence receded, left Africans with conflicting sets of identities. The paradox of fragmentation is at the root of African economic underdevelopment, which can be traced back to technical backwardness, maldistribution and the existence of many poverty-stricken societies within a resource-endowed continent. The pathology of a fragmented economy in turn creates the paradox of retardation. Put briefly, this third paradox is about the continent not acting as a unit in world affairs. In the contrary, the continent is subject to the weakness of its national, ethnic, ideological and religious cleavages.

With uncertainty and unpredictability inextricably linked to the African condition, the question often is not so much *whether or not* the macro-environment will change but rather *how* it will change. Tariff profiles illustrate that no uncontested answer may exist as to the direction of change. African governments may well lower their import tariffs once food security becomes the leading policy paradigm. On the other hand, the governments of oil-exporting African countries may be forced to raise their tariffs in search for additional revenues following budgetary deficits following a prices collapse of oil, gas and mining commodities.
What would become the common tariff profile once the promising three-partite agreement, i.e. the merger between COMESA, the EAC and SADC, has been signed off and effectively implemented? There is a crucial need for understanding the impact on the chance of success for those already embarked on a certain business development path. Imagination is key to being prepared for operation in a post-merger market called the "United States of Africa".
Given that tariff profiles are just one source of uncertainty, success or failure might become a matter of luck or bad luck in the eyes of the apocalyptic. The realist, however, should have come to the understanding that doing business in the African dairy sector is a matter of navigating uncertainty and mitigating risk.

3. Scenario methodology

This context is where the added value of scenario planning comes is. This now scientific approach – once developed within Royal/Dutch Shell (Van Der Heijden, 1996) in response the oil and gas industry's exposure to a highly volatile environment – provides a systematic way out for decision-making under uncertainty. The point is not to pick one preferred future and hope for it to come to pass, nor to find the most probable future and adapt to it. The point is to make strategic decisions that will be sound for all plausible futures (Schwartz, 1991). Although it may not guarantee success, being ready for whatever future takes place and being able to influence it is a crucial part of the story.

Why is scenario planning gaining relevance for the African food and agricultural sector? According to Schwartz (1991) the need for strategic thinking is most obvious in times of accelerated change – in the case of African dairy marked, for example, the wave of merger & acquisitions that is taking hold (Wroblewska, 2014) – when the reaction time of organizations becomes crucial to survival and growth.

Amer et al. (2013) distinguish three schools of techniques or major approaches, of which the intuitive logics school has been followed for the exemplary case of African dairy (Sonneveld, forthcoming). This approach is rooted in scenario development models of van der Heijden (1996) and Schwartz (1991). The starting assumption of intuitive logics is that business decisions are based on a complex set of relationships among the economic, political, technological, social, resource, and environmental factors (Huss and Honton 1987). It allows for dealing with the very presence of those environmental factors are not precise, quantitative and predictable, but rather imprecise, qualitative and hard to predict (Huss 1988). The African food and agricultural sector is pre-eminently a sector in need for exactly this kind a structured approach to deep uncertainty.

4. Results

For the exemplary case of the African dairy business development, an iterative rather than workshop set up has been used for scenario planning. Following a series of interviews with both decision-makers and environmental experts, the response to the request for ranking has yielded a high degree of consensus among those involved. Notwithstanding moral concerns expressed during the majority of dialogues, the public opinion regarding adverse effects of globalization ended up bottom-ranked. In other words, while many reckon the existence of corporate social responsibility to contribute to, for example, resolving "the African condition" of Mazrui (1980), priorities are skewed to anticipate macro-environmental trends that more directly affect economic performance. The following fundamental axes of crucial uncertainties have been identified: *political stability* and its U-shaped relationship with corruption (Campante, Chor and Do, 2008), *public policy towards trade and FDI and quality of logistics infrastructure*. Jointly, they can be thought of as a volume in which three different courses of the future have been identified.

<u>Scenarios for business ecosystem development</u>

The location within this three-dimensional volume, as summarized in table 1, is characteristic to the logic of the constructed scenarios.

Table 1 – Direction of driving forces in each scenario

	Political stability		Public policy		Logistics infrastructure
		Corruption	Trade	FDI	
Dutch disease catching dairy	low	medium	inadequate enforcement		deterioration
Hitched to the African wagon	medium	high	restrictive	supportive	unequal development
Nesquick deal	high	medium-low	supportive	restrictive	gradual improvement

Dutch disease catching dairy

The abundance of natural resources of the African continent reveals a future course that renders dairy business into an uphill struggle. Gas, oil and mining reserves become increasingly exploited and new ones discovered. The 'resource curse' brings about severe political instability, which turns away local and foreign investors. Moreover, a boom of resource exports leads to an appreciation of the exchange rate that makes domestic products uncompetitive in international markets (Binswanger-Mkhize, 2009), subsequently constraining agricultural sector development. This phenomenon resembles what an effect more widely known as the 'Dutch disease'. Prospects of trade, notwithstanding the increasing dependency on import volume and poor enforcement of protectionist policies, are losing attractiveness. Political conflicts are associated with roadblocks and in the longer term cause the transportation infrastructure to deteriorate or even be destroyed, making it ever more difficult to distribute the imported dairy products to consumers.

Hitched to the African wagon

In this course of the future, doing business is no longer a matter of putting a dairy container on the shipping route to Africa. Local governments adopt a "we-can-feed-ourselves" attitude, which is being accompanied by severe protectionism against dairy imports. Instead, they pull out all the stops to raise self-sufficiency in dairy. The need for private capital investments in the local infrastructure and industry is acknowledged. FDI is all but discouraged. Governments not merely adopt an open door policy, but proactively attract foreign capital to improve the infrastructure and boost economic growth. The future presents the hurtling African train of which the group of foreign investors becomes the locomotive. In other words, multinationals get hitched to the wagon heading for local dairy sector development.

The Nesquick deal

African governments predominantly follow the pathway of temporarily ignoring the dairy trade imbalance and to find ways to increase exports in other sectors to finance food bills (Rakotoarisoa, Iafrate and Paschali, 2011). In their quest for alternatives to ameliorate overall agricultural trade imbalances, governments pin their hopes on negotiating "Nesquick deals". In other words, they more frequently aim for setting up bilateral trade agreements that directly link powdered milk imports to exports of traditional agricultural commodities such as cocoa. Altogether, this scenario reveals a desire for stepping up the level of trade. Governments move from words to deeds to tackle what matters most to Africa: cutting excessive trade costs (Portugal-Perez and Wilson, 2008). Whilst the incentives for corruption by border officials already decline with the reduction and/or elimination of dairy import tariffs (Gatti, 2004), the far-reaching reform of border procedures renders corruption less perseverative than ever before. Driven by the vested interest in full realization of gains from trade, African governments make headway in the field of trade facilitation through a fast-track procedure. Africa delivers the proof of their ability to reverse the situation. After three decades in which Africa's share of the world exports pie has dropped by nearly two-thirds (Portugal-Perez and Wilson, 2008), their share is being enlarged again.

<u>Implications scenario planning</u>

How does the focal decision of a dairy company - *"Whether or not to invest in dairy business development in Sub-Saharan Africa - and if so, where and how?"* – look in each scenario? The art of taking the long view helps to decide whether to invest or pull pack investment. The implications of scenario planning yielded the conclusion that dairy business development in Sub-Saharan Africa is not for the risk averse. In terms of the three-dimensional typology of uncertainty provided by Walker et al. (2003), the uncertainty manifests itself at a level close to indeterminacy. Therefore, African dairy business development calls for robust plans – which will succeed in a variety of situations – (Lempert and Schlesinger, 2000) or adaptive plans – which can be easily modified to fit the situations encountered (Walker, Cave and Rahman, 2001). None of the three plans (trade, reconstitution or local production) was found to be robust across all scenarios. The decision would qualify as a medium to high-risk gamble anyway. However, a mixed approach has been proposed that features a balance than can be shifted as forks in the road appear. This recommendation is in line with Fontagné (1999), who states that trade and FDI should be regarded as complements not substitutes.

5. Discussion

In the exemplary case of African dairy, scenario planning provided decision support for finding the strategic balance between trade and FDI. What could addition of FDI through the corporate dilemma mean for the future of farming and food security in Africa? It should be noted that structural need for foreign private capital, enhanced by the African desire for aid independence, implies that the classical dilemma is not being replaced by the corporate dilemma, but the latter is gaining weight.

Scenario planning helps corporate decision-makers to navigate uncertainty, thereby to live up to their prime economic responsibility of being profitable, which is at the bottom of Carroll's (1991) corporate sustainability pyramid (see figure 1). This conclusion is rooted in a rule of thumb underlying scenario planning, which is that scenario drivers must be few in number in order to avoid a proliferation of different scenarios around every possible uncertainty (Schwartz, 1991). While crucial to prevent the learning process from dissipation, this rule of thumb at the same time tends to select those factors that directly affect economic performance as the critical scenario drivers. Is this tendency desirable? Talking in depth about financial risk attached to these stories enables the investor to be better protected against them. As such, the learning process helps to unlock the paralysis and is likely to result in actual capital investments. According to the FAO report by Schmidhuber, Bruinsma and Boedeker (2009), the gross capital requirement for agriculture in Sub-Saharan Africa amount to 940 billion USD over their 44-year outlook period until 2050. Moreover, they suggest that private sources (domestic and foreign) will be the prime source of capital. The public hand can play a role either in funding investments directly or by helping link, pool and promote private flows. However, “the African condition” of Mazrui (1980) mentioned earlier casts doubt on the effectiveness of the public hand as a mechanism to steer corporate behaviour in the right direction.

But what is the ‘right’ direction? According to Martin and Schinzinger (1996), all major ethical theories recognize the importance of self-interest while insisting that pursuit of self-interest must be balanced and restrained by moral responsibilities to other people. Ethical egoism, the view that challenges all these major theories, tries to reduce morality to the pursuit of self-interest. Adam Smith (1976) and Milton Friedman (1962) believe that society benefits most when corporations, as the expression of many individual wills, rationally pursue maximum profits in a competitive free market. This unachievable ideal of complete market freedom would resolve a core dilemmatic part of the decision between trade and FDI while eliminating further moral responsibilities.
Because of requirements of morality and prudence often point in the same direction, the pursuit of self-interest can work out in the advantage of all (Zandvoort, 2009). However, there are reasons to doubt that maximization of corporate profits does come at the benefit of Sub-Saharan African population, of which by 2011 roughly half still lived on $1.25 a day according to the World Bank. Due to the inequality of distribution of incomes, some will not be able to achieve food security.

Increased reliance on scenarios planning may be exactly one of the reasons for doubt. The rule of thumb to avoid proliferation of scenario drivers may be expected to accelerate decisions to actually allocate capital. However, this rule of thumb is also at the root of an important limitation. Legal, ethical and philanthropic responsibilities – top layers of Carroll’s pyramid that may be in tension with the economic responsibility that undergirds all else – tend to be submerged in the decision support resulting from scenario planning. After all, the rule prescribes to reduce attention to those driving forces that are critical to successful fulfilment of economic responsibilities, but these driving forces need not be equally important for successful fulfilment of other corporate responsibilities. Constructed scenarios are intended to change the mind-set of the management making the decision about investing in African dairy, but the approach, if used from a corporate perspective, may be associated with the limitation of revealing merely vulnerabilities of a strategy in relation to making profit. Other vulnerabilities will remain hidden.

Notwithstanding the importance of scenario that centre on critical uncertainties to maximization of profit in the inherently risky African continent (Asiedu, 2006), food corporates struggling with the dilemma between trade and FDI must reckon the need for attention to other moral responsibilities linked to their investment decision. Maximization of profits may be assumed to be in direct conflict with affordability, thereby access to food of the majority of the African population among which consumption is still strongly linked to per capita income. Thus, the decision is no longer merely a corporate decision but simultaneously an ethical decision. Ethical principles can be used to support this process, but Utilitarianism and Kantianism are rival accounts of what those principles should be (Zandvoort, 2009).

The crucial limitation of Utilitarianism in this context is that it is insensitive to distribution of advantages and disadvantages. In many situations, informal rural markets are very efficient for consumers to buy milk at a reasonable price and for producers to sell milk and receive a fair price (Makoni et al., 2014). Food corporates that set up local sourcing operations by means of entering into contract agreements with smallholder dairy farmers, regardless of the price paid for it, cause raw milk to be processed and enter the formal retail channels in predominantly urban areas. At the same time, they indirectly reduce the availability of milk on the informal rural market, causing prices to rise. The rural consumer becomes worse off. Trade, on the other hand, might not provide a brighter outlook. Cheap imports are at the advantage of consumers, but could make dairy smallholders worse off due to distortion of the local market. In conclusion, even though greater involvement of international corporates could contribute to net social welfare, it might not constitute Pareto improvement for the Sub-Saharan population.

Kantianists, on the other hand, would argue that business development cannot be judged by its consequences because it cannot be guaranteed that what one intends to do, i.e. maximize profit while contributing to net social welfare, actually occurs. The case study revealed that African dairy business is fraught with uncertainties. Ultimately, dairy sector dynamics are complex and the influence of driving forces unforeseeable. Therefore, the moral worth of investing in African dairy business should be defined the act of willing itself.

6. Conclusion

If scenarios can provide the decision support for minimizing financial risk, it should be possible to leverage the same approach for minimizing the risk of making parts of the African population worse-off. Given that the decision-making process does not practically allow for the agreement of those who run the risk, it becomes a corporate responsibility to question whether the same maximization of profit cannot be achieved in another way, with fewer risks. Reflection on the scenario planning conducted to support dairy business development in Sub-Saharan Africa feeds into the conclusion the rule of thumb that avoids a proliferation of different scenarios around every possible uncertainty is also at the root of overemphasis being placed on driving forces critical to the fulfilment of the economic responsibility of making profit. Corporate decision-makers in the face of uncertainty may find added value in decision support provided through scenarios, which could accelerate actual allocation of capital so badly needed for the future of farming in Africa. However, this rule of thumb central to construction of scenarios tends to result in vulnerability of the investment decision for fulfilling legal, ethical and philanthropic responsibilities being submerged. Therefore, the interests of others who run a risk due to investment decisions supported by these scenarios are likely to remain unaddressed.

Taking a Kantian approach, the moral worth of scenario planning could be increased by ensuring that ethical risks actually are addressed. It would be praiseworthy to be willing to prevent scenario-based decision support from harming others. Therefore, a logical next step would be to develop a scenario approach that does not merely consider critical uncertainties or scenario drivers of economic success, but at least prevents from risks run by others that are not able to give their informed consent from being left out the scenarios. Ultimately, it is the birth of the trilemma, and the increasing dominance of the corporate dilemma therein, that sheds light on the shortcoming of traditional scenario planning approaches.

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