Article

Global Value Chains and Agribusiness in Africa: Upgrading or Capturing Smallholder Production?

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Abstract

This article critically examines the concept of agrarian value chains in Africa, exploring the extent to which they reflect the expansion of agribusiness and its influence on agriculture. It traces the rise of agribusiness in the United States as a system based on extracting value through control over input marketing, processing and retailing in the post-war period. It examines the close relationship between US imperialism and the expansion of agribusiness and the facilitation of agribusiness interests by the rise of neoliberalism and the opening of global markets. Against the backdrop of monopolies, mergers and takeovers, it questions the extent to which conceptions of upgrading through smallholder integration into agribusiness chains accurately reflects the fortunes of smallholder farmers. It argues that far from constituting a dynamic system of entrepreneurship that facilitates acquisition of new skills by farmers, upgrading of production, and higher incomes, agribusiness constitutes a system of value capture in which transnational corporations extend their control over production and marketing through takeovers and contractual arrangements that control farmers' production. This is largely absent

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from value chain frameworks, since they focus on the transformations of commodities rather than the existing relations of production, make assumptions about the relationship between upgrading and integration into global markets, and assume that failures to upgrade result from the peculiarities of national and regional settings rather than agribusiness practice. Three case studies are presented focusing on monopolies within the seed breeding, cocoa and pineapple and their impact on smallholders and national patterns of accumulation.

Keywords

Agricultural markets, value chains, agribusiness, food governance, smallholder integration, seed breeding, cocoa, pineapple

Introduction

In recent years, the concept of global value chains (GVCs) has become prominent in agricultural development literature on the integration of smallholders with agricultural markets and agribusiness. The participation of smallholder farmers in GVCs through contract farming and other arrangements are widely promoted as a way of 'upgrading' production, lifting farmers out of poverty and enabling them to adopt modern technology. It is widely argued that these arrangements enable farmers to adopt new technologies and standards and participate in certification schemes that enable them to gain more for their crops. In contrast, I argue in this article that integration into agribusiness value chains intensifies the loss of autonomy of farmers and makes them increasingly dependent upon inputs, proprietary seeds, and the regulation of production by agribusiness and loss of control over processing and marketing. The outcome is the increasing extraction of surplus by agribusiness and increasing cost of production for the farmer.

Most international agricultural markets are characterized by concentration and monopoly and intense competition to control markets—through outsourcing, takeovers, and mergers—and the control and regulation of production through contracts. These features have considerable impact upon agricultural production. Yet very little of this framework of international agribusiness is present in GVC analysis, which focuses on commodity crops and processes of technical innovation rather than on the social relations of production. In contrast with the commodity focus of value chains, the major agribusiness companies move across commodity

circuits, gaining access and controlling new commodity sectors through takeovers. This increasing competition drives some regions that cannot compete with the dominant regions to economic stagnation. The same applies to those farmers that fail to make the transition and negotiate the high costs of inputs or 'entry barriers'. But those farmers that are able to upgrade their production also face many problems and insecurities. Upgrading of production, or responding to commercial opportunities, usually means a venture onto a technological treadmill of increasing expenditures on inputs and seeds in an increasingly competitive world in which many perish. Moreover, those that succeed have to meet the criteria of producing particular standards and grades at competitive prices, and at significantly lower prices than in Northern agriculture, to make the investments of international agribusiness worthwhile. The consequences of receiving higher prices for crops are much higher outlays and investments, a greater use of inputs, the dangers of increasing farm debts, and fluctuating prices related to overproduction, trading monopolies and buffer stocks on the world market.

While the lands of smallholders may not be forcibly expropriated through this type of integration with agribusiness,[1] increasing economic distress and mounting farm debt may force many of them out of agriculture. Dispossession of farmers does not only occur through land appropriations, it also occurs through bankruptcy and distress sales. This is a model of agriculture that does not only occur in the South, but also in the heartlands of agribusiness in the United States, where periodic farm crises have forced family farms to struggle to keep up with the relentless technical progress in agriculture and mounting investments in new technology. These farm crises lead to the exit of growing numbers of farmers unable to continue competing on the treadmill of agricultural modernization (Lewontin & Berlan, 1986; Vogeler, 1981). These developments lead to the increasing capture of the value of agriculture off-farm by agricultural input and processing industries, displacing farm labour and the production of seeds, manure and other inputs by farmers (Lewontin & Berlan, 1986).

Although these 'entry barriers' reflect increasing competition within agriculture and result in the decline of the fortunes of many farmers, many GVC researchers, most notably Kaplinsky (2005), focus on the potentials of entry barriers to create opportunities for farmers in developing countries to upgrade their production and overlook the implications of the control over production and marketing by transnational agribusiness. The aggressive world of transnational competition is presented as entrepreneurial innovation in which farmers in the South can take advantage of the increasing global presence of agribusiness corporations to capture

value and 'rents'. This glosses over the fate of those farmers who experience declining fortunes because they lack the means to adopt new technologies, or are swept aside by the regulations and entry barriers introduced by agribusiness. More 'entrepreneurial' farmers are able to expand their operations at the expense of poorer smallholders who tend to be less well-integrated into agribusiness markets and who may be pressurized into distress sales to facilitate further expansion of contract farmers with loans from agribusiness and banks supporting agribusiness. Kaplinsky (2005) recognizes that the process of global outsourcing of agriculture by agribusiness may lead to a 'race to the bottom', in which less competitive regions become excluded and marginalized. But he vaguely attributes this to overproduction and the rise of the Chinese economy rather than the increasing domination of agriculture by transnational corporations (TNCs).

Other researchers, most notably Gibbon and Ponte (2005), tend to attribute inequalities in world trade to agricultural subsidies and preferential tariffs implemented by the United States and the European Union (EU) rather than to the actions of TNCs. They explore ways in which producers in the South can use branding and certification schemes to gain better prices (again focusing on the potentials of globalization rather than its downside). Even when raising the issue of global inequalities in world trade, these researchers still tend to focus on success and winners rather than critically examining the dark side of transnational agribusiness.

GVC frameworks tend to downplay the structural relations of domination of the North over the South and the conditionalities and pressures that are placed on developing countries to open up their economies to TNCs. They often present major developments in agriculture as resulting from the actions of independent 'lead firms' (usually TNCs), without examining the relationship between the neoliberal framework that dominates global policies and the representation of the economic interests of TNCs within these policy frameworks. A notable exception is Gibbon, Bair, and Ponte (2008, p. 316) who point out the following:

> [a]s it developed over the course of the last decade, however, GVC analysis has moved away from its world-systems origins, focusing on the elaboration of a firm-centred conceptualization of governance instead of delineating a general capitalist or systemic logic driving commodity chains. GVC analysis has also underscored the role played by particularly powerful companies – so-called 'lead firms' – in global economic governance in a completely new way. Instead of looking at how these firms influence international organizations in order to obtain rules as favourable as possible to enable capital

> accumulation, it conceives lead firms as the core actors in a segmented system of global economic governance. While recognizing that international organizations do indeed influence economic outcomes, this is not as a result of pressure by lead firms but rather through the impact of regulation on the way that lead firms organize international production networks.

Bair (2005) argues that GVC research needs to focus more on the structural properties of contemporary capital and the regulatory mechanisms and market institutions that effect the operation of commodity chains to advance our understanding of both how these may be 'leveraged to advance the goal of firm-level industrial upgrading, but also how these chains, and the political relations in which they are embedded, contribute to the process of uneven development characterizing global capitalism' (ibid., pp. 171–172). However, these chains are not only embedded in external processes of uneven development, they are also driven by monopoly capitalist firms that press for market liberal policies that enable them to capture surplus value and dominate production and trade. Thus, these chains need to be examined in the context of the expansion of monopoly capitalism rather than some more diffuse notion of uneven development.

Most GVC analyses fail to explore the extent to which outsourcing is related to value capture and the siphoning-off of value from the South to major global corporations headquartered in the imperialist North (U. Patnaik & Patnaik, 2016; Smith, 2016). Although the prices paid for these commodities may be higher than the 'traditional' food crops within the national market, low food commodity prices within developing country markets are the product of long-term historical processes of imperial domination in which colonial powers have often used extra-economic coercion to promote export crop production at the expense of local food and artisanal (manufacturing) production (U. Patnaik & Patnaik, 2016). They are the product of a political process of incorporation into the world economy, which has created poverty, and have reshaped the agrarian economy to produce cheap commodities for Europe. They are not the product of a natural economy rooted in 'tradition' and a subsistence mentality as portrayed in modernization theory. Moreover, those that succeed have to meet the criteria of producing particular standards and grades at the lowest price and at significantly lower prices than in home production in Northern economies. The consequences of receiving higher prices are much higher outlays and investments, a greater use of inputs, the dangers of increasing farm debts, and fluctuating prices related to overproduction and buffer stocks on the world market. Thus, the expansion of agribusiness is related to a historical process of imperialism in which

the agrarian economies of the South have been transformed to meet the needs of the Northern food industries through colonial conquest and the use of political coercion to stimulate export crop production at low prices (U. Patnaik & Patnaik, 2016). Subsequently, following decolonization, aid, conditionalities and political destabilization have been used to open up markets for agribusiness, based on an association between geopolitical interests and capital investments.

This article explores the extent to which GVC analysis reflects or distorts the operations of agribusiness in Africa, and the extent to which value chains have become an analytical tool that serves the further expansion and control of agribusiness. The next section explores the rise of agribusiness as a global system in the context of colonialism and the rise of US domination of the world economy in the post-war period. This is followed by an examination of the rise of agribusiness in the United States and agribusiness influence over US international policy and aid. The collaboration between agribusiness and US neoliberal interests and the imposition of neoliberal policies on Africa to further agribusiness interests are explored. The final section provides three African case studies drawn from the markets for agricultural seeds, the cocoa sector, and pineapples examining agribusiness penetration and control over smallholder farming and the destabilization of autonomous forms of agricultural production.

The Rise of Agribusiness as a Global System

Lack of space prevents a detailed analysis of the role of colonialism in creating fertile conditions for the emergence of agribusiness in Africa. However, several studies show how tax and labour policies were often used to force African peasant producers into shifting towards export crop cash production (Allina, 2012; Amin, 1972; Lovejoy & Hogendon, 1993; Phillips, 1986; Shenton, 1986). Colonial rule resulted in the transformation and reorganization of African agriculture to meet the needs of European capital. It led to the emergence of monopolistic European agrarian trading corporations, large foreign plantations, appropriations of land to settler white farmers, and the increasing impoverishment of large numbers of African peasant producers whose surplus production was extracted.

By the 1940s, significant concentration occurred within agricultural marketing with a few firms dominating agricultural production and marketing throughout the continent. By the end of the colonial period,

concentration had resulted in several mergers through which two companies, Unilever (originally Lever Brothers) and Lonhro, came to dominate agricultural trade throughout Africa. Unilever had a base in both plantation production and trade and processing in Europe, which was focused on vegetable oils in Africa and Southeast Asia, and it had acquired the United Africa Company (UAC), among numerous other takeovers. Lonhro, which also had very significant mineral operations in Africa, had tea estates in East Africa, sugar estates in East Africa, Southern Africa and Mauritius, and livestock ranches in East Africa. Other important British firms in East Africa included Finlays in the tea sector and Wallace Brothers in plantations and ranches (Jones, 2002; Pedler, 1974). In West Africa, three companies dominated agrarian trade, UAC, Compagnie Française d'Afrique Occidentale, and Sociéte Commerciale de l'Ouest d'Afrique. Between them, they controlled over 70 per cent of the import–export trade in West Africa and consolidated their position through many takeovers (Hopkins, 1973; Jones, 2002; Pedler, 1974).

This rise of concentration in agricultural production had very limited impact upon the modernization of agricultural production of peasant producers. Surplus was largely extracted through coercion and an alliance with 'traditional' authorities rather than through the application of science and transformation of techniques. By the late 1930s onwards, the African colonial administrations began to acknowledge problems with the colonial modes of agrarian production in Africa (Cowen & Shenton, 1996; Hodge, 2007). After the Second World War, this led to tentative programmes to transform agriculture by promoting large estate cultivation, the beginnings of a modern agricultural research infrastructure, and the rise of the expatriate development expert working as part of the colonial administration (Hodge, 2007). However, the weakening of the European powers following the Second World War, the rise of anti-colonial struggle for independence, and the emergence of the United States as the major Western power meant that post-war developments in agriculture were promoted within a neo-colonial context of international development, largely under the directives of the United States.

Since the United States was not a significant colonial power, the rise of US power led to the articulation of a much more open architecture of international development, institutionalized through the International Monetary Fund (IMF), World Bank and UN systems. The main objective of international development as articulated by the US government was to contain the advance of communism and to foster the spread of US

institutions and values throughout the world (Escobar, 1995, Latham, 2011; Ross, 1998). The central tenets of international development assistance under President Truman became the dissemination of science and technology and the promotion of 'democratic fair dealing' and institutional reforms. This perspective was neatly summarized by the Ford Foundation (1949, pp. 26–27), one of the major partners of the US government in spreading the ideology of development:

> [a]s the tide of communism mounts in Asia and Europe, the position of the United States is crucial. We are striving at great cost to strengthen free peoples everywhere. The needs of such peoples, particularly in underdeveloped areas, are vast and seemingly endless, yet their well-being may prove essential to our own security. To improve their living standards they must import and use knowledge, guidance and capital. The United States appears to be the only country able to provide even a part of the urgently needed assistance.

US foreign policy went well beyond the goals of containing communism and promoting democracy, towards actively pursuing the interests of US capital and fostering the expansion of US multinational corporations. US policy was not only concerned with intervening in areas of communist rebellions, such as Korea and Vietnam, but was also extended towards countering and repressing national democratic struggles (which were seen as having linkages with communists and communist sympathizers), and those regimes that attempted to chart and independent economic course. When the government of Mohammed Mosaddeq attempted to nationalize Iran's oil reserves in 1951, the US and British governments responded by launching a coup d'état in 1953 (Klein, 2007; Latham, 2011).

The 1954 coup d'état in Guatemala provided a more specific example of how US geopolitical interests colluded with US agribusiness. In 1952, the government of Arbenz Guzmán in Guatemala introduced an Agrarian Reform Law that addressed highly unequal land holding in which 2 per cent of the population owned 72 per cent of the land. The land reform had affected the considerable estates owned by the US United Fruit Company, which protested to the US government. The US government responded by organizing a coup d'état, which toppled Arbenz in 1954 and introduced brutal repression of the progressive forces and ensured that the United Fruit Company would continue to dominate export agriculture (ibid.).

In the 1950s, the US government domestic agricultural policy was oriented towards supporting the rise of agribusiness and the increasing appropriation of value by the corporate agricultural trading and processing sectors. Between 1965 and 1975, expenditure of US farmers on

farm inputs rose from US$ 12.5 billion to US$ 75 billion (Brown, 1979, p. 59). Larger proportions of the value of agricultural production were transferred from farmers to agribusiness. During the early 1980s, Lewontin and Levins (1985, p. 211) estimated that 10 per cent of the value of agriculture was produced on farm, 40 per cent by the farm input industries and 50 per cent by transportation, processing and marketing industries.

The New Deal led to the development and expansion of public research in agriculture institutionalized in the land grant systems, in which agricultural colleges undertook both research and extension to farmers. Many modern agricultural industries had arisen in the public sector as an outcome of militarization during the Second World War, particularly in the fertilizer industry, where some bomb factories were converted to fertilizer plants (Ross, 1998). During the Second World War, the US government built 10 ammonia plants for the manufacture of explosives within the dam complex of the Tennessee Valley Authority. Towards the end of the war, as the demand for ammonia nitrate explosives declined, these were converted to fertilizer production (ibid.). The chemical input sectors had also expanded in the context of deployment of nerve gas, tropical defoliants, and the widespread use of insecticides in tropical areas to protect military personnel from malaria.

The synthetic fertilizer industry has developed on the back of public research. According to John Shields, Interim Director of the International Center for Soil Fertility (IFDC), about 75 per cent of fertilizers used around the world today were developed by the Tennessee Valley Authority in the United States (IFDC, 2008). With cutbacks and privatization, public sector research funding for fertilizers has declined. Nevertheless, it is estimated that the US$41 million invested in fertilizers up to 1981 has yielded over US$50 billion to US agriculture and considerable value to private fertilizer companies (ibid.). But these developments in fertilizer technology have not been very efficient. While the synergies between seed and fertilizer development programmes have led to dramatic increases in yields, these have come at high costs to farmers. According to Norman Borlaug (ibid.), one of the main architects of the Green Revolution:

> [w]ith the price of energy increasing, we need to find cheaper, more effective ways to nourish food crops. The price tag for increasing productivity in Africa will be quite high. The fertilizer industry needs to do everything in its power to minimize that cost. Farmers are paying way too much for fertilizer products because we are transporting millions of tons of material that is not nutrient and because much of the nutrients in applied fertilizers are never

> used by the crop. Nutrient losses to the environment are high with consequences for global warming and water pollution.

While Borlaug is making a plea for more public funding for research on fertilizers, this quote aptly illustrates the increasing extraction of agrarian value from farm production to agribusiness at a cost to both farmers and the environment.

The origins of much of the agricultural technology in the military–industrial complex during the Second World War have resulted in a large state influence on US agricultural technology. However, the public system of research has been structured towards promoting the commoditization of research and private sector interests. For instance, public research in the US seed sector has been primarily geared towards promoting hybrid seeds. Since hybrids seeds do not produce true to their parental stocks, farmers cannot gain good yields by saving and replanting these seeds. They must purchase new seeds from seed companies. Kloppenburg (1988) argues that at the time hybrid seeds were first taken up by the public research system, similar improvements in yields were being achieved through open pollinated varieties. Emphasis was placed on hybrid seeds to force farmers to purchase seeds rather than save and replant. Hybridization was deliberately promoted in policy to achieve the commercialization of seed. Active state support for hybrid seed development was introduced into US public agricultural research by Henry C. Wallace, the Secretary for Agriculture in the 1920s, whose son Henry A. Wallace happened to have set up his own commercial hybrid seed venture, Pioneer Hi-Bred (Ross, 1998). Today its successor, Dupont Pioneer, is the largest seed company in the world.

Contract farming has become a major avenue through which these new relations of agricultural production are realized. The contract ensures that farmers can participate in agricultural production by providing them with sources of credits to purchase new inputs. However, it locks them into input and processing markets by specifying what inputs need to be used and by offsetting loans through delivery of crops at harvest to specific processing firms. It shifts the risks of farming onto the backs of farmers, who have to bear the costs of crop failure. It erodes the autonomy of farmers and deskills their farm production (Lewontin & Levins, 2007; Watts, 1994).

Agribusiness has been exported worldwide through the initiatives of United States Agency for International Development (USAID) in conjunction with US private foundations, including Ford, Rockefeller and Carnegie, as a global system of agricultural development. International

agricultural development initially grew out of concerns with the rise of popular national democratic movements with a strong base among peasant producers in the former colonies and the strong representation of communist sympathizers and organizers within these movements. The Unites States sought to contain the communist influence on rural movements by promoting the development of the Green Revolution, based on technological innovation and promotion of rural capitalist agriculture (Lantham, 2011; Ross, 1998). The United States instigated the development of international agricultural research centres, which were focused on improving seeds for particular regions and adapting improved seeds to local conditions and reconstituting them within packages associated with the use of other synthetic inputs such as fertilizers. These research centres were often situated in regions with the highest diversity of cultivars of particular species. This enabled US seed breeders and researchers to gain access to new genetic materials that they could incorporate into their research programmes (Kloppenburg, 1988). It also enabled new demands for US bred seeds to be created in developing nations. In this system of international agricultural research, which became known as the Consultative Group on International Agricultural Research, basic and applied research were carried out in the North, applied research was carried out in the international research centres, and adaptive research was carried out in national research centres. This effectively built a dependency into the development of national agricultural research capacity in developing countries (Escobar, 1995; Ravnborg, 1992).

The rise of research and consultancies by TNCs for governments has been another avenue through which agribusiness has been able to influence international agricultural development and African agriculture. Dinham and Hines (1983, p. 39) argue that this provides the following:

> companies with a convenient opportunity to set a style of development which matches their own interests. Usually, this means large-scale developments, whether on an estate basis (owned by the State or a State Corporation), or through outgrower schemes, where farmers are provided with the necessary inputs (on credit) and grow the crops themselves on their own land. A centralised factory (either with or without a 'nucleus' estate) generally processes the crop.

Through consultancies, agribusiness companies are able to build up demands for their own products, such as seeds, pesticides, fertilizers and tractors, and to train local extension services in disseminating and using their products (ibid.).

Agribusiness corporations have also influenced international development agencies. During the 1960s, through the initiative of the US government, the Food and Agricultural Organization of the United Nations (FAO) established an Industrial Co-operative Programme (ICP) in which over 100 agribusiness corporations were involved in providing advice for FAO projects (ibid.). Although the ICP claimed its main objective was to promote responsible business investment to contribute towards social and economic development, it became an avenue through which agribusiness could create demands for their proprietary technologies in developing countries. Through the ICP, agro-mechanization centres were established in African countries, in which John Deere, Massey Ferguson, Caterpillar, and Fiat were able to stimulate markets for their products (ibid., 1983, p. 40). The ICP also facilitated the entry of agribusiness corporations into Africa, such as Del Monte in Kenya (George, 1976). Most controversially, its trypanosomiasis eradication programme became a conduit through which dangerous pesticides could be offloaded onto African countries, including dichloro diphenyl trichloroethane (Dinham & Hines, 1983; George, 1976). By the mid-1970s, as concerns began to be raised about the activities of TNCs in the South and the increasing presence of TNCS in UN development forums, the ICP came under a barrage of criticism. Gerlach (2008, p. 196) comments:

> [i]t was because of protests against multinationals – particular pesticide producers successfully penetrating the UN—issued by scientists, NGOs and international Confederation of Free Trade Unions, that the FAO Director-General Edouard Saoma dismantled ICP in 1978. FAO's official administrative history, published in 1981, concealed the fact that ICP, a political embarrassment, had ever existed.

However, the objectives of the ICP soon resurfaced in the Industrial Council for Development of the FAO in 1980 (Dinham & Hines, 1983), and it continues to have a lingering influence to this day in FAO programmes concerned with promoting responsible investments in agriculture and contract farming.

By the 1970s, as the world economic crisis deepened, many African nation states had ambivalent perspectives on TNCs and international agricultural development. Most had embraced US development assistance and notions of agricultural modernization and restructured their national agricultural research and extension systems in accordance with the models advocated by USAID and US foundations. However, African governments had also established state farm sectors, often with assistance from the

Soviet Union and China. They attempted to protect their national agriculture from the expansion of TNCs and support the development of a national capitalist agricultural class with favourable loans and subsidized inputs. This often created a tense impasse in the agricultural sector, in which agribusiness was present but hesitant to expand investments in case of state appropriation or increased regulation (ibid.).

Increasing opposition to TNCs was voiced in the Non-Aligned Movement, in the North-South Commission in the UN, in the policies advocated by the United Nations Economic Commission for Latin America for global trade reform, which influenced the New International Economic Order and the Special Unit For Technical Corporation among Developing Countries within the United Nations Development Programme, which in 2004 was renamed the Special Unit for South–South Cooperation (Bello, 2004; Golub 2013). In Africa, these perspectives were articulated in the Lagos Plan (Ake, 1996; Golub 2013). The proposals for reforms to the international trading system under North-South dialogue were rejected by the dominant US and Western European powers as the political tide in the West moved away from social democracy to neoliberalism in the Reagan era. As the world economic crisis of the 1970s intensified and as the influence of the Soviet Union waned and collapsed, African nations sought relief from economic crisis from the IMF. Relief programmes became conditional upon economic restructuring and the opening up of national markets to international capital during the 1980s and 1990s.

Agribusiness and Neoliberalism

In the United States, during the 1980s, agribusiness corporations gained increasing influence over agricultural policy, particularly following the rise of the biotechnology and information technology sectors. Agribusiness sought to capture the recent developments in seed biotechnology that had emerged out of university research by pressurizing for the privatization of research and the removal of state control over agricultural research. As Buttel (1991, p. 49) comments:

> there was a rapid transformation of the land grant research in the direction of an increased emphasis on biotechnology.... Further there was an important shift in the perception, if not the reality, of the land grant's predominant clientele having begun to shift from farmers to private-firms.

From the 1980s, there has been a profound shift towards private funding of agricultural research and the participation of land grant research in private research and development (Rivera, 1991). The original mission of the land grant research and extension system, to provide farmers with the public-domain release of finished crops, has been dismantled, and extension now functions to encourage farmers to purchase proprietary input commodities (Buttel, 1991, Swanson, Samy, & Sofranko, 2003). There was also a relaxation in anti-trust laws, which facilitated the emergence of concentration in agribusiness. Throughout the 1990s, mergers and takeovers became a dominant theme in the expansion of transnational agribusiness (Marion & Kim, 1991). The small private biotechnology boutiques that had emerged on the peripheries of universities in the early 1980s rapidly became subject to takeovers by large agribusiness corporations. This was also accompanied by a rapid expansion of US agribusiness into developing countries, following economic restructuring and market liberalization policies.

The US government has supported the global domination of US agribusiness in two spheres: by promoting expansion of US food exports and creating pressures for removal of tariffs and open markets through the World Trade Organization, and by supporting US agricultural input industries and food processors to gain an increasing foothold in developing countries. This has been achieved by creating pressures on developing countries to open up their economies to food imports. According to Bello (2009, p. 76), at the Uruguay Round negotiations in 1987, the US agricultural secretary John Block stated that '[the] idea that developing countries should feed themselves is an anachronism from a bygone era. They could better ensure their food security by relying on US agricultural products, which are available, in most cases at much lower cost'. Following structural adjustment, the main emphasis in agricultural development in Africa was to promote export agriculture to the detriment of food production. Imports of food rose dramatically in Africa from the 1980s. For instance, in Ghana, rice imports have risen from around 30,000 tons per annum during the late 1970s and 1980s to between 500,000–650,000 per annum since 2010.[2]

During the 1990s and 2000s, transnational agribusiness corporations expanded their operations rapidly throughout the world, moving into new sectors through takeovers. Most agricultural markets are now characterized by high degrees of concentration in which a few corporations dominate processing, marketing, and input supplies (Heffernan & Hendrickson, 2002). In the United Kingdom, the dominant four supermarket chains control about 80 per cent of food sales, and in the United

States the top five grocery stores control over 50 per cent of food retailing (Fox & Varley, 2004). The top eight transnational agribusiness companies in the world now account for 76 per cent of research and development (R&D) in the crop, seed, and biotechnology industries and five companies account for 74 per cent of R&D in agricultural chemicals industries. In US patents issued for all crop cultivars, 76 per cent were registered by the Big six companies—Bayer, Dow, DuPont, Monsanto, and Syngenta and Baden Aniline and Soda Factory (Fuglie, Paul, John, & David, 2012).

Mergers and takeovers also enable companies to widen their portfolio to operate financial wings that gain access to new sectors, knowledge, and skills. For instance, Cargill, originally a Mid-West US trader in grains, has diversified into livestock feed, livestock, seeds, coffee, cocoa and fertilizer (Broehl, 1998). By the early 1990s, it had operations and subsidiaries in over 60 countries. In 2005, it acquired a two-thirds share in the Mosaic Company, the largest producer of potash fertilizer in the world, with plants in 10 countries and operations in 40 countries. During the 1990s and 2000s, Cargill had become one of the three major cocoa grinding processors in the world, through the acquisition of private sector and state grinding facilities in Côte D'Ivoire (Losch, 2002). In 2000, Cargill acquired Esteve to form ECOM, the third largest coffee export company in the world (Newman, 2009). It has also expanded into future markets, financial services, and hedge funds and acquired the Black River Assets Management Fund with US$ 6 billion assets (Amanor, 2012).

Expansion of Agribusiness in Africa Under Neoliberalism

Since agribusiness has many opportunities throughout the world its expansion into Africa has been highly selective. In contrast with the presentation in GVC analysis of highly dynamic lead firms introducing sophisticated production techniques in Africa, agribusiness has relied on donors and multilateral agencies to create pressures on governments to open up markets and create favourable infrastructures and tax concessions. Even after the implementation of adjustment programmes that have privatized the state sector, international agribusiness was hesitant to invest in the African agricultural sector. As a result, many donors supported non-governmental organizations (NGOs) to implement the privatization of public services, including agricultural

extension and seed distribution. As agribusiness investments in Africa expanded during the 2000s, this has resulted in the creation of complex linkages in which international agribusiness corporations contract out parts of their operations to other businesses or engage NGOs to develop business services for farmers and to build up logistics for their marketing operations. These developments occur in settings characterized by monopoly control in which the most promising sectors become subject to takeovers and mergers. This section documents some of the characteristics of these operations based on agribusiness interventions within the cereal seed, cocoa and pineapples sectors.

Transnational Seeds and the Decline of National Seed Breeding Capacity

Following the adoption of structural adjustment, most African nations have been pressurized into divesting their national seed companies. But, in many cases, these have not been taken over by transnational seed companies, which have rather preferred to focus their efforts on the most promising and largest seed companies in South Africa, which are then used to capture markets throughout Africa. There has been dramatic erosion in national seed companies and provision of seeds by national agricultural services throughout the continent in recent years and a displacement of local seeds by South African products.

Pioneer DuPont has established a presence in Africa through the strategic acquisition of a majority share in Pannar seeds of South Africa. According to Pioneer President Paul, E. Schickler:

> Pioneer is committed to long-term investment in South Africa to enhance productivity and food Security for the country and the continent…This partnership will accelerate the development of higher performing products for Africa's farmers.(Ashton, 2013)

Pioneer is establishing a regional research centre in South Africa which will enable DuPont's breeding technologies to be applied to Pannar's pools of germplasm to 'allow South Africa the opportunity to play a leading role in agricultural development for Africa'(ibid.).

In many other countries, private sector investment has not been forthcoming. In Ghana, a national adaptive seed research capacity emerged during the 1970s. With support from the International Institute for Tropical Agriculture, the International Maize and Wheat Improvement

Centre Maize, the International Rice Research Institute, the Africa Rice Centre (WARDA), and Canadian and German aid, Ghanaian seed breeding institutions began releasing certified varieties adapted to Ghanaian conditions. Most notable was the production of Quality Protein Maize Varieties. These developments coincided with the implementation of structural adjustment and donors placed pressures on the Ghanaian government to privatize seed production. The Ghana Seed Company was closed down, restructured and divested in 1989, but the government failed to find any private sector buyers (Amanor, 2010). Privatization then took the form of transforming the seed growers employed by the state into a network of self-employed seed breeders contracted by the state to provide seeds. Seed breeding was ultimately rescued by the Sasakawa Global 2000 (SG2000) programme, an NGO initiative of the Jimmy Carter and Sasakawa Foundations that operated through the extension services in Ghana to provide seeds and inputs to farmers on credit between 1986 and 2003 (ibid.). During the 2000s, the Gates Foundation Alliance for Green Revolution In Africa programme also moved into seed breeding in Ghana, encouraging the development of small private seed companies. However, as international agribusiness has consolidated its control over seeds and moved into Africa, new initiatives have displaced these earlier NGO programmes. In 2008, the Ghana Grains Partnership was established between private sector input suppliers, including YARA and Wienco, the African Enterprise Challenge Fund, farmer organizations organized by Wienco, the NGO Technoserve, the Ministry of Food and Agriculture, commercial banks, and food processors and retailers to provide farmers with credits and packages of inputs and seeds. These established a farmers' association, Masara N'arziki, in the three northern regions and Brong Ahafo. Farmers entered into contract agreements with Wienco and YARA, which specify the terms under which farmers are provided with access to inputs and conditions of repayment. The seeds supplied under the programme were Pannar hybrid seeds from South Africa (Guyver & MacCarthy, 2011). With the takeover of Pannar by Dupont Pioneer, a new partnership has developed among USAID, the US NGO ACDI/VOCA, and Pioneer-DuPont to actively promote the uptake of Pannar varieties in Ghana. Building upon the Ghana Grains Partnership, this also uses farmer associations to build market avenues and contractual arrangements. These often involve relations between input suppliers, banks and food processors and traders to deliver farm credit and input packages to contracted farmers or farmer associations. For instance, Global Agri-Development Company (GADCO), a rice production and processing company largely producing

for the Ghanaian market established in the Volta Region of Ghana by three entrepreneurs from Nigeria, Britain and India has gained funding from Kreditanstalt für Wiederaufbau German Development Bank to develop outgrower relations with farmers. Through these contracts, GADCO is able to secure the production of farmers for processing and marketing. It has relations with Wienco, YARA and RMG Concept Ltd. (the West African distributor of Syngenta products) to disseminate their input and seed packages to farmers (Amanor, 2017). The government of Ghana actively encourages these types of relations and has established an agribusiness unit within the Ministry of Food and Agriculture. However, this undermines the national adaptive seed breeding capacity, which is underfunded and increasingly marginalized. Agricultural research institutions are under pressure from government to become competitive and raise external funds. This results in researchers becoming consultants for agribusiness. They are under pressure to facilitate the expansion of agribusiness rather than critically question its development.

Cocoa Grinder-Traders, Ethics and Trade Monopolies

Cocoa exports from West Africa originate in the late nineteenth century. During the 1990s, the cocoa industry became subject to aggressive takeover bids and increasing domination by a few TNCs. Before this, cocoa marketing was largely controlled by national parastatal agencies, including marketing boards in former British colonies and *caisses* in French colonies, in which the internal purchasing was carried out by private firms in alliance with the state and international trading by the state. Advancement in processing technologies during the 1980s has enabled large cocoa grinders to dominate the industry. Before the 1990s, grinding and manufacturing had often been carried out by the same firm, which sourced particular beans from around the world and combined them into distinct blends. New processing technologies enabled grinders to achieve a wide range of products from similar beans, which opened up new economies of scale (Fold, 2001, 2002; Losch, 2002). However, this also leads to declining prices for the higher quality production of countries such as Ghana, as the technological advances enable grinders to accept lower price beans and to place less emphasis on acquiring higher grades of beans (Fold, 2001). The potential for national upgrading of production is limited and 'not a realistic option unless it is subsumed by strategic decisions by a Northern grinder' (ibid., p. 417), since the

major innovations are bound up with international processing technologies rather than farm production.

During the 1990s, global production was concentrated in five countries: Côte d'Ivoire, Ghana, Malaysia, Philippines and Brazil. Together, they produced 90 per cent of world supplies. Côte d'Ivoire dominated, producing up to 50 per cent of global supplies, followed by Ghana, which contributed around 20 per cent. The Ivorian state had large investments in processing, including the acquisition of processing companies in Europe (Losch, 2002).

During the 2000s, European cocoa grinding companies declined from 40 to 9, as three transnational companies (Cargill, Archer Daniel Midland, and Barré Callebaut) established dominance, controlling about 70 per cent of global cocoa processing. The rise of the big three grinders was associated with the aggressive takeover of the Ivorian cocoa industry through what became known as the 'cocoa wars' (ibid.). This developed in the context of the expansion of the Ivorian state into cocoa production through the acquisitions of processing companies in Europe. As prices began to slide in the international market in 1986, the Ivorian state halted shipments to Europe and attempted to reorganize supplies by engaging in block deals executed through two European firms. The strategy failed, since there were large buffer stocks on the world market in future markets and increasing production in Malaysia, Brazil and Indonesia. This resulted in a severe economic crisis in Côte d'Ivoire, emanating from the huge dependence on cocoa. The Ivorian government was forced to seek relief from the IMF and the conditions for this involved divesting the state cocoa sector. The transnational grinders/traders then acquired major processing capacity and control over trading in the Côte d'Ivoire through which they are able to control global supplies (ibid.), complementing the processing capacity they also established at European ports, such as Amsterdam.

The impact of these economic struggles was to destabilize Côte d'Ivoire. Internationally, falling prices of cocoa resulted in Brazil and Malaysia drastically cutting back production. While Côte d'Ivoire continued to be the major producer, the internal production of cocoa was transformed from being dominated by large Ivorian farmers migrating into the western part of the country to small Burkinabe farmers working on the smallest of margins. The collapse of cocoa prices resulted in a labour crisis, and several international NGOs took advantage of this to depict cocoa production as being characterized by 'child slave labour'. The evidence was largely based on youth between the ages of 14 and 18 years originating from neighbouring Sahelian countries who were

working in cocoa production (Amanor, 2011). In the United States, the Harkin-Elgin Protocol threatened to blacklist cocoa produce from nations in which there was evidence of child labour. However, the crisis of farm labour and the rise of child labour issues, specifically, arose in the context of low prices for cocoa on the international market, the destabilization of the Ivorian economy by TNCs, and structural adjustment, which sought to shift the burdens of social services onto the people. None of this was taken into account in the international media and policy discourses, which presented child labour as resulting from cultural backwardness, poverty, and ignorance. This was presented in the symbols of 'ethical' commodity branding, which could not be easily countered by a historical, social and political economic analysis of recent developments in the cocoa industry.

These accusations occurred at a particular historical juncture, as part of a struggle to bring Ivorian cocoa production under the control of TNCs. This was difficult for the state to address, since it operated within a narrow techno-centric framework rooted in agricultural modernization bereft of any political economy analysis of the structure of international cocoa production and the role of TNCs within this sector, or any appreciation of the dynamics of cultural politics within civil society. The accusations were made in the contexts of the cultural construction of branding, consumer and advertisement cultures, notions of social refinement and distinction that underlined Western consumer culture of the 1990s. The implications of these accusations could only be addressed through access to networks and knowledge embedded in the rising constructs of GVCs, global trade, standards and values monitoring organizations, and systems of certification based on external assessors connected to global trade monitoring institutions that were now arising in the specific context of transnational domination of agriculture. Thus, these accusations played into the hands of the large transnational firms to gain control over West African cocoa production at the source of production (ibid.). The fallout from the economic crisis rapidly descended into political crisis and civil war in Côte d'Ivoire. With the onset of civil war, the transnational cocoa grinders relocated their operations to Ghana, where they established grinding mills negotiated in export free zones.

In contrast with Côte d'Ivoire, the Ghanaian state had resisted the divestiture of its control over international cocoa marketing, although it had allowed the privatization of internal marketing to small local trading companies which were pressurized to carry out these operations with low profit margins (Lavin, 2007). Since the state had been successful in maintaining a high quality product, its continued role in cocoa marketing has been accepted by the international financial institutions (IFIs). This

offers TNCs the unique opportunity to enforce control over cocoa production through the state.

Ghana has also been accused of producing cocoa using child slave labour and threatened by the US government with a boycott of its cocoa. This threat has pressurized the Ghanaian state to work closely with TNCs to control and monitor the production of cocoa, the logistics of cocoa production and the branding of Ghana cocoa. International NGOs, such as CARE International, closely work with transnational cocoa grinders to control and monitor production through such 'participatory' approaches as Farmers Field Schools (Quandzie, 2013). The 'child slave labour' narrative has provided an entry framework for closer monitoring and control over cocoa, which has been extended to concepts of 'sustainable production' and 'legality'. At a recent international meeting of the chocolate industry, Ghana's Minister for Land and Natural Resources stated: '[w]e call on all stakeholders to buy into the initiative to help curb illegal activities so that we protect our forest and cocoa' (Coffee and Cocoa International, 2018). This initiative is concerned with establishing a 'unified traceable system' that aims to track production from farms and exclude non-compliant farmers through the criminalization of their production. This tracking system is implemented through the conception of a commodity food chain. Labour and sustainability issues have become brand issues through which highly monopolistic companies can shift the gaze from anti-trust laws onto farmer practices and increase their control over the chain of production and exclude competition. These tracking systems enable transnational traders to keep on top of the ethical concerns and standards that characterize Northern markets and ensure farmer compliance, but offer little in terms of transforming living standards.

Transnational Pineapple Production and the Decline of African Smallholder Production

Large-scale export pineapple production first developed in Africa during the late 1940s when canning factories were established to process the fruit. These focused on developing smallholder schemes. The two major centres of African production developed in Kenya and Côte d'Ivoire. The dominant global centre of pineapple production during this period was in Hawaii, where the US corporations Del Monte and Dole had established large plantations from the 1920s. During the 1960s, Del Monte sought to shift production out of Hawaii as a result of increasing labour conflicts

and demands among its workers for higher wages (Dinham & Hines, 1983; George, 1976). It moved production to Kenya, where it acquired Kenyan Canneries in 1968, and the Philippines. In Kenya, it restructured production towards its own estates and phased out reliance on smallholder production (Dinham & Hines, 1983).

In Côte d'Ivoire, pineapple production became significant during the 1940s, when French colonists began cultivating the crop on plantations. In 1948, the Societé des Ananas de La Côte d'Ivoire established plantations and a canning factory and began exporting processed pineapple. In contrast with Kenya, production in Côte d'Ivoire was largely based on smallholders, and a number of farmer organizations and cooperatives catered for marketing and shipping to Europe (Colin, 2015; Willems, 2006). By the 1960s, Thailand and Philippines began to dominate the production of canned pineapples, and the Hawaiian corporations shifted their focus to fresh fruit production for the US market, responding to the availability of refrigerated ships and growing consumer preferences for fresh fruits. During the 1970s, Ivorian fresh pineapples began to dominate the European market. As Ivorian pineapple exports grew, a number of international corporations began to invest in developing their own estates and complementing this with contract arrangements with smallholders. The largest corporation was the Banana Crop Company, which in 1997 merged with Compagnie Fruitière, a French based multinational corporation, in which Dole acquired a 40 per cent controlling share. In the early 1990s, Ivorian pineapples supplied up to 40 per cent of the European market (Loeillet, 2003).

During the 1990s, the Hawaiian TNCs began to compete against Ivorian production in the European market. Del Monte and Dole moved their main production sites from Hawaii to Costa Rica where they were able to gain cheaper labour, large estates and financial concessions from the government. The most significant development in this period was of a new pineapple variety, MD2 (Del Monte Gold), which Del Monte was able to control. MD2 has a longer shelf life, uniform size, sweeter and less acidic taste and rich golden colour, but requires a complex array of fertilizers, hormones, and other inputs to be successfully cultivated. Willems (2006, p. 54) comments:

> the development of the new pineapple variety would most likely not have come to being without the enormous consolidation process that has taken place in the pineapple and other fresh fruit sectors; the establishment and growth of TNCs and other large-scale companies has strongly boosted development and innovation in the sector, which traditionally was too fragmented

> to allow for the level of investment in research, technological development, and marketing required for the development and introduction of the new variety.

MD2 was first developed by the Pineapple Research Institute in Hawaii, a research laboratory sponsored by a trade group of growers, which included Del Monte. The Pineapple Research Institute was dissolved in 1987, and its seedlings were turned over to its two remaining members, Fresh Del Monte and Maui Land and Pineapple. Del Monte shipped its plants to Cost Rica where it had acquired 15,000 acres of land. When the MD2 variety proved to be commercially viable, Del Monte began an aggressive campaign of protecting its plants through claiming patenting rights and initiating legal proceedings against any company planting MD2, including Dole, although its rights to MD2 were highly contentious.[3] Through this strategy, Del Monte was able to gain a monopoly over the planting of MD2 until 2003, when a legal appeal by Dole was upheld (Frank, 2003). By 2002, Del Monte controlled 85 per cent of the US market in fresh pineapples (Loeillet, 2003). Del Monte also set its sights on the European market. Its extensive investments enabled it to ship directly to Europe and to control the logistics of trading and offer deals directly to European supermarkets. European supermarkets rapidly shifted to the MD2 variety and demanded West African suppliers produce this variety. European traders preferred to deal with Del Monte, since it took responsibility for delivery and quality control (Jaeger, 2011; Willems, 2006). This competition from Del Monte also coincided with the increasing control of supermarkets over horticultural trade, increasing concerns in European markets with quality control and safety standards, certification programmes such as EuroGap and GlobalGap, and the introduction of tracking systems (Fold & Gough, 2008). These regulations made it increasingly difficult for smallholders to participate in pineapple production. The control of Del Monte over MD2 also made it difficult for Ivorian producers to gain hold of MD2 genetic materials and multiply these until well after Del Monte had established its market hegemony. Once this had occurred, Ivorian producers could no longer compete with the scale of production or uniformity of product and logistical controls achieved by Del Monte. As Colin (2015, pp. 19–20) writes:

> The necessary shift to this variety, much more costly to produce and imposing even stronger quality requirements, was somehow the deathblow of the small-scale pineapple sector in Côte d'Ivoire which was unable to impulse a product and process upgrading. …. [T]he outcome of this Ivorian story backs

up the pessimistic view regarding the sustainability of non-traditional small-scale export production, when faced with more and more exacting demand on the global market.

During the 1990s, Ghana emerged as the third major producer of fresh pineapple in the European market, behind Côte d'Ivoire and Costa Rica. Although pineapple production in Ghana was on a much smaller scale than Côte d'Ivoire, it nevertheless provides an interesting case study because donors took considerable interest in supporting it. There are also several publications dealing with its rise within a value chain framework (Fold & Gough, 2008; Jaeger, 2011; Ouma, 2015; Whitfield, 2016).

Ghanaian import–export traders pioneered fresh pineapple exports to Europe in the 1980s (Whitfield, 2010). The pineapples were sourced from the rural hinterlands around Accra in the Nsawam area, which had been the site of a collapsed pineapple cannery that had introduced the cultivation of Smooth Cayenne pineapples (Takane, 2004). Pineapples were initially sourced from smallholder farmers, but as the market developed, several of the pioneers established their own plantations, and some of them acquired expert advice from Côte d'Ivoire (Takane, 2004; Whitfield, 2016). In the early 1990s, Ghana emerged as primary supplier of high quality airfreighted pineapple to the EU market, controlling around 60 per cent of this market (Whitfield, 2016). As export production grew and airfreight prices increased in the early 2000s, Ghanaian exporters began to send larger proportions of pineapple by sea freight. The initial success of pineapple exports attracted European investors into the sector, and several European companies moved into pineapple production. The most significant investor was a subsidiary of Compagnie Fruitière, which operates in Ghana under the name of Golden Exotics. By 2007, Golden Exotics dominated Ghanaian production of both pineapples and bananas, exporting 40 per cent of pineapples and 80 per cent of bananas (Jaeger, 2011). The Swiss fruit distributor Hans Peter Werder, which worked with five Ghanaian exporters, accounted for another 40 per cent of exports (ibid.). Golden Exotics controlled the shipping of pineapples out of Ghana. Thus, by the mid-2000s, the Ghanaian pineapple sector was dominated by foreign capital.

During the early 2000s, exports of fresh pineapple rapidly declined as a result of competition from MD2. Ghanaians producers had attempted to upgrade production, adopt GlobalGap certification and convert to MD2 production at considerable expense. They had received support from donors keen on promoting horticultural exports, including the World Bank, USAID, Millennium Challenge Account and German

Corporation for International Cooperation. Nevertheless, they were unable to compete against the scale of production of Del Monte. The attempts to compete and upgrade production and certification to meet the demands of European supermarket chains had pushed smallholders out of production, as they were unable to meet many of the requirements, including access to running pipe-borne water, packing houses, and rigorous testing of pineapples for pesticide residues (Ouma, 2015). Pineapple production within Ghana increasingly became dominated by European capital, but even this could not compete against Del Monte. Researching into the Ghanaian pineapple industry using a value chain framework, Whitfield (2016, pp. 16–17) concludes:

> destabilization was not inevitable. The Ghanaian pineapple producer–exporters could have acted to improve the production, shipping and marketing of the Smooth Cayenne variety in the late 1990s, when the threat from MD2 was recognized. There was a large scope to improve pineapple production to deliver better quality and higher yields, and to invest in post-harvest infrastructure in order to deliver a better-presented and consistent product… [T]hey did not engage in continuous upgrading, process and product upgrading, to improve the production and marketing of the Smooth Cayenne variety. Upgrading is about acquiring capabilities and accessing new market segments in GVCs. Process upgrading is not just about increasing efficiency in the production process, but also about meeting standards…. Product upgrading is about moving into more sophisticated products with increased unit value. It does not have to entail an entirely new product, but can also be about improving an existing one and marketing it in a new way, which results in an increased value. The money was there to make the investments, but many of the Ghanaian producer–exporters did not see the need to do it.... Therefore, the real sources of destabilization were the lack of 'learning by monitoring' among firms, combined with the lack of collective action and coordination among firms necessary to enforce quality control and to address challenges of marketing and research in a way that reduced the costs of individual firms and pooled tacit knowledge.

Although this is written with the benefit of hindsight, it reveals many of the weaknesses of the value chain approach. The analysis is oblivious to the political economy of transnational domination of pineapple production. The value chain approach shifts the analysis away from monopoly control to the lack of a business acumen and experience of Ghanaian pineapple growers on open markets. The dealings of the TNCs are invisible and the Ghanaian producers and state are the problem to be investigated. However, given the complete domination of the US and European market production by Del Monte and Dole, the failure of

Ghanaian production cannot be laid at the door of Ghanaian entrepreneurship. It either must apply to all other pineapple producers outside of Costa Rica or more likely reflects the scale of accumulation by Del Monte and Dole and their ability to stifle competition. This domination has been facilitated by the long history of accumulation in horticultural crops and vertical integration from large estate production and input supplies to control over shipping. In the case of Del Monte, it was also facilitated by the manipulation of 'fraudulent' patenting rights to 'gain a head start over rivals' (Frank, 2003). Ghanaian cultivators were forced to adopt the MD2 variety after 2003, since European supermarkets refused to accept the Smooth Cayenne variety and shifted towards contracts with the large Costa Rican TNCs. Before this, Ghanaian producers had focused on upgrading Smooth Cayenne production by voluntarily accepting GlobalGap certification, and Ghanaian Smooth Cayenne pineapples attracted the highest price premium on the EU market (Jaeger, 2011). The largest Ghanaian producers also expended considerable capital in adopting the MD2 variety and multiplying it through in vitro technologies in laboratories.

These attempts to transform pineapple production in Ghana resulted in the increasing displacement of smallholders and, by the early 2000s, the domination of the industry by foreign capital. Thus, Ghanaian pineapple production cannot be depicted as one dominated by inexperienced first generation capitalists. The largest producer was Golden Exotics, a subsidiary of Compagnie Fruitière (in which Dole, one of the two largest TNCs in the global pineapple sector held a 40 per cent share). It had invested over US$ 25 in Ghana. In contrast with Whitfield's analysis, Danielou and Ravry (2005, p. 22) write:

> [t]he arrival of a multinational like Compagnie Fruitière should be seen as a boost for the Ghanaian pineapple industry as a whole, it brings state-of-the-art agronomic knowledge and a well-tested logistical capability through its Africa Express Line subsidiary, which is the largest specialized shipper of fresh produce out of the West African coast.

The earlier success of Ghanaian pineapple production attracted foreign agribusiness capital into Ghana, but at the point in time that they were poised to take over the Ghanaian production, the industry imploded as a result of the global domination of markets by US TNCs that had relocated from Hawaii to Costa Rica to conquer the global market. Thus, the essence of global fresh pineapple production is not creative entrepreneurship and upgrading, but monopoly competition.

The success of Del Monte and Dole in Coast Rica in conquering the world supply of fresh pineapples has raised many social concerns and left a sour taste. The literature on Del Monte and Dole pineapple production in Costa Rica is replete with references to increasing use of contract and casual labour, labour unrest and oppressive measures to de-unionize labour, the pauperization of labour and the pollution of streams and soils by chemicals (International Labor Rights Forum, 2008; Lawrence, 2010; Sekine, Jean-Pierre, & Shuji, 2008). The wholesomeness of Corporate Social Responsibility as reflected in the branding of the Dole Fair Trade pineapple has failed to transform the practice of capitalist production by TNCs or live up to the expectations of upgrading and improved standards of living.

Conclusion

The GVC has become an increasingly dominant framework in which to analyse agrarian relations of production under globalization. This framework is used in Marxian political economy approaches, in policy circles, by the World Bank and also in corporate business frameworks (Ouma, Marc, & Lindner, 2013). The attraction of value chain analysis is that the study of the various transformations that occur in the production of a single crop from planting to its consumption appears to provide a way of understanding the global food system. As Harvey states:

> [t]racing back all the items used in the production of that meal reveals relations of dependence upon a whole world of social labour conducted in many different places under very different social relations and conditions of production. That dependency expands even further if we consider the materials and goods used in the production of the goods we directly consume. Yet we can in practice consume our meal without the slightest knowledge of the intricate geography of production and the myriad social relationships embedded in the system that puts it upon our table. (1990, p. 422)

The value chain framework has the semblance of dealing with inequality and drawing on a Marxist framework of value and appropriation of surplus value. However, it confuses *expropriation of value* with *value-added* processing (Smith, 2016), and it increasingly deals with assumptions of *upgrading* facilitated by TNCs. In this, it has much more affinity with Schumpeterian notions of entrepreneurship than Marxism. Its central focus is on commodities and the transformations that

characterize the production and branding of commodities. As a result, the social relations of production and the political economy of monopoly are frequently relegated to the sidelines. The gaze of the researcher is not on the nature of agribusiness practice and the trading monopolies it engenders, but on the peculiarities of the environment within the state that prevent or enhance the potentials of upgrading. This is underwritten by a huge assumption that participation in the circuits of transnational agribusiness results in progress. In this, the assumptions of enabling global markets and internal constraints mirror the neoliberal discourse of good governance (Abrahamsen, 2000; Olukoshi, 1998). The imposition of conditionalities by IFIs and Northern imperial powers on African states to open up their economies to agribusiness domination is absent from this analysis, as are the controls imposed by co-opted states and international finance to establish tracking systems over smallholder production. These control, standardize, and homogenize production and enable non-participating and non-compliant farmers to be criminalized, delegitimized and marginalized.

While value chain frameworks often appeal to equity, social and environmental sensitivities, these are often shallow branding exercises that enable Northern consumers to feel good about their consumption activities, social consciousness and social distinction. At the same time, they raise the cost of participation in the global circuits of trade by implementing costly hurdles and control measures in the name of upgrading, which only the most powerful TNCs can negotiate. This forces smallholders and smaller independent producers into dependence on contracts with TNCs or into liquidation. Despite the various regulations and ethical standards, agribusiness production practices continue to raise social concerns about the environment and exploitative labour. At its worst, in corporate hands, value chain frameworks have become devices for agribusiness to exert greater controls over production through outsourcing various aspects of production; building alliances with input suppliers, processors, transporters and regulators; raising the cost of production through standards and certification schemes; and introducing tracking systems that monitor the movement of products from farm and ensure its compliance with production logistics and directives. The fact that both socially conscious intellectuals and monopolizing agribusiness can use the same framework of analysis calls for reflective concern. The assumptions about upgrading need to be replaced by a much more critical enquiry into the operation of monopoly capital in commodity circuits and the relationship among neoliberal market reforms, austerity, and the expansion of transnational agribusiness.

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1. An argument presented in favour of contract farming is that it does not appropriate land from farmers; therefore, it is seen as a benign alternative to 'land grabbing' (Cotula, 2013).
2. See Index Mundi: Ghana Milled Rice Imports by Year, https://www.indexmundi.com/agriculture/?country=gh&commodity=milled-rice&graph=production. Accessed 15 March 2015.
3. According to *Just-food.com*, 6 February 2002, 'US magistrate Judge Andrea Simmerton has now ruled however that Del Monte's letters to Costa Rican pineapple growers researching the growth and production of pineapple plants, which were sent in the mid-1990s, were intended to be and actually were fraudulent and misleading….. Another letter [written by Del Monte lawyers to pineapple growers] warned: 'Be advised that Del Monte is the developer of this plant material and intends to protect its interests as necessary'. Before quoting a US patent number Del Monte claimed to own. It emerged in Simmerton's ruling, however, that Del Monte does not hold the patent on its God pineapple, the MD-2 variety, but rather another variety, CO-2', www.justfood.com/news/del-monte-loses-bid-to-prevent-dole-foods-marketing-sweet-pineapple_id72846.aspx. See also Frank (2003), Janick (2003) and Greig (2004).

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