

**Global
Commodity
Chains and
Economic Upgrading
in Less Developed Countries**

Peter Gibbon
**Working Paper Subseries on
Globalisation and Economic
Restructuring in Africa**
no. viii

© The author and Centre for Development Research, 2000
Published and distributed by Centre for Development Research
Printed in Denmark by Centre for Development Research

ISSN 0904-4701

Keywords:

Commodities
Commodity markets
Economic growth
Industrialization
International trade
Least developed countries

Africa
Tanzania

The Working Paper Subseries on Globalisation and Economic Restructuring in Africa are published within the framework of CDR Working Papers (green series). The papers are draft works produced as part of the research programme under this title, based jointly at the Centre for Development Research and the Institute of Geography, Copenhagen University. The programme started in 1998. From 1999 the programme will enjoy support from the Danish Social Science Research Council and the Danish Council for Development Research. It studies local, national and international dimensions of current changes in a series of global commodity chains emanating, in part at least, from Africa. For further information on the programme, please contact Peter Gibbon (e-mail address pgi@cdr.dk). *CDR Working Paper Subseries* are available on an exchange basis and individual titles are supplied free of charge.

Contents

Abstract	1
1. Introduction	1
2. GCC analysis: an overview	2
3. ‘Upgrading’ in GCC and other analyses	4
4. Extending gcc analysis to chains for primary commodities	8
5. Upgrading experiences in selected GCCs emanating from tanzania, 1984-99	15
(a) The GCCs for cotton and table fish and Africa’s changing role in them	15
(b) The changing regulative environment in Tanzania since 1984	17
(c) Sectoral interventions and their consequences	18
(d) Conclusions	23
6. Concluding remarks	24
References	27

Abstract

This paper describes how Global Commodity Chain (GCC) analysis can be used as a methodological tool for explaining instances of industrial upgrading, and failures to upgrade, in less developed countries. It goes on to provide a highly generalised GCC-based analysis of the structure of the global chains for primary food and beverage commodities, and to identify opportunities for upgrading within these chains. Finally, it argues that an effective system of national regulation is a sine qua non for taking advantage of these opportunities, and illustrates this in relation to a discussion of two primary commodity chains emanating from Tanzania.

1. Introduction

In a recent article on industrialization strategies in less developed countries (LDCs), Cramer (1999) argues that the processing of primary commodities can provide a major platform for economic upgrading. He further argues that no single strategy aimed at industrialisation on the basis of primary commodity processing can be applied successfully across all primary commodities and across all LDCs. Rather, strategies need to be tailored to particular cases. This argument is developed by way of a critique of various contributions to the existing literature on developing country industrialization. One of the main contributions criticised in this process is ‘global commodity chain’ (GCC) analysis. According to Cramer, GCC analyses of production and trade of primary commodities emanating from LDCs belong to a more general category of analyses which are essentially pessimistic concerning the prospects for upgrading. In particular, GCC analysis (‘reflecting intellectual roots in structuralist development economics’) is dismissed as especially ‘fatalistic’ concerning the limits of economic activity in LDCs, considering these to be determined in their entirety by ‘economic structures and behaviour in...OECD countries’ on the one hand and the ‘rigidly exploitative terms’ set by multinational companies (MNCs) on the other (op. cit., p. 1248, 1252, 1260).

This paper argues that, far from conforming to the description provided by Cramer, GCC analysis actually provides a relatively coherent heuristic device for arriving at precisely the case-specific account of conditions for economic upgrading in LDCs which he calls for. While indeed having some of its roots in ‘structuralist development economics’ (or, more properly, political economy), GCC analysis focuses on the opportunities and constraints presented by the forms of global integration of production and trade in specific commodities, on the basis of careful case studies of the ‘chains’ in which this integration is embodied. ‘Economic structures and behaviour...in OECD countries’ may form a constraint but - depending on how a given chain is organised globally - not necessarily so. Likewise, MNCs may indeed set ‘rigidly exploitative terms’ but, depending on a variety of conditions, may also permit or even directly inspire upgrading by low-income country producers.

Where Cramer's argument perhaps carries some weight is that, to date, GCC analysis which directly concerns itself with upgrading in LDCs has been confined to manufactured commodities, and in particular to textiles and garments. Analyses of primary commodities which have used a GCC framework have stressed upgrading possibilities to a markedly less extent. On the other hand, this may be an accurate reflection of commodity- and location-specific factors identified in the case studies themselves. It is just as dogmatic to expect that upgrading will be an active possibility with respect to each and every primary commodity in each and every LDC as it is to expect that it cannot be a possibility in any. However, the only way to evaluate the extent to which GCC analysis can generate analyses pointing to upgrading opportunities is to elaborate its conceptual and empirical framework beyond its current limits. A central objective of this paper is to further develop certain of the central categories of GCC analysis and to apply them, first to a general consideration of what will be called 'international trader-driven' GCCs, and then to two GCCs for primary commodities emanating from mainland Tanzania, to demonstrate how different kinds of GCCs are associated with different possibilities for various locally-based agents.

The paper is organised in six sections. Section 2 provides an overview of the content and scope of GCC analysis. Section 3 examines the 'take' on the issue of upgrading in so-called 'buyer-driven' chains which is offered by GCC analysis, against the background of a consideration of alternative approaches to the same issue. Section 4 embodies a reflection on a different group of commodity chains to that considered by GCC analysis to date, and on the abstract possibilities for upgrading which it presents. Section 5 describes the GCCs for table fish and cotton and the recent historical evolution of the Tanzanian segments of these chains against the background of different regulative interventions by government and draws theoretical and policy conclusions on this basis. The paper concludes with a balance sheet of the benefits and problems of using GCC analysis in relation to LDC upgrading issues.

2. GCC analysis: an overview

The roots of GCC analysis indeed lay in the 'dependency theory' of the 1970s, but more in terms of questions posed than with respect to concepts or methodology. Like dependency theory, GCC analysis addresses the issue of who controls global trade and industry, and how agents locked into lower-value segments of trade and industry can break out of this situation. But, unlike dependency theory, 'control' is not assumed to be located in MNCs with their own production facilities spread around the world, and the world is not thought to fall into neat 'core' and 'peripheral' geographical compartments. Furthermore the relation between the state and MNCs, both in Northern and in Southern countries, is no longer seen as the key link standing between development and underdevelopment. GCC analysis embodies a political as well as a theoretical acknowledgement that the repertoire of industrial policy tools recommended by dependency economists has only limited relevance in the present period. Finally - and underlying many of the

differences listed above - GCC analysis has a sectoral and regional focus demarcating it from dependency theory. Whereas the latter was concerned mainly with primary commodity-based industries in Latin America, GCC analysis has been mainly (though by no means wholly, see below) concerned with manufacturing industries in Asia.

The focus on 'global commodity chains' as units of analysis primarily reflects the importance assigned to the emergence of manufacturing systems which are dispersed and integrated on a world-wide basis, but in which at the same time power is mainly associated with system coordination rather than with a concentration of ownership of productive resources. Chain co-ordination reinforces or enhances barriers to entry, but more importantly allows 'driving' agents to institute measures which reduce costs and risks while increasing the speed and reliability of supply, or which increase sales. It thus offers a way out of the apparent circularity of dependency theory, where power within the global economy was measured in terms of profits, while profits were explained in terms of monopoly power. Since chain co-ordination leads to genuine increases in efficiency and cost-reduction it also offers a means of avoiding a zero-sum approach, in which profits are derived solely at the expense of all subordinate agents in a chain. On the other hand, it is stressed that chain co-ordination is still typically directed from northern countries, since it is usually associated with those links (or 'nodes') in a chain which have particularly high barriers to entry, and because international income distribution remains extremely uneven.

In an essay laying out the main elements of GCC analysis, Gereffi (1994, p. 97) identifies four dimensions of GCCs: their input-output structure, the territory which they cover, their internal governance structure and the institutional framework that identifies how local, national and international conditions and policies shape the globalisation process at each stage of the chain (cf. Gereffi, 1995). The input-output structure and geographical coverage of GCCs have mainly been used descriptively in GCC analysis, to outline the configuration of specific chains. Internal governance structures have so far received most attention, since this is where the key notions of barriers to entry and chain co-ordination have been applied. According to a recent (1999a) paper by Gereffi, the fourth dimension (the institutional framework surrounding a chain) mainly comprises conditions under which control over market access and information are exercised on a global plane and thereby - as will be seen shortly - how subordinate participation in a GCC may provide indirect access for small producers to markets, technologies and knowledge at lower costs than they would otherwise face.

With regard to internal governance structures, GCC analysis distinguishes two basic types of GCC: 'producer-driven' and 'buyer-driven'. Producer-driven chains are generally found in sectors where production is capital- and technology-intensive, such as automobiles, aircraft, heavy machinery and computers. They tend to be multi-layered (first-, second- and third-tier suppliers) and to involve thousands of firms (including parents, subsidiaries and sub-contractors). Capital and proprietary know-how constitute the chief barriers to entry to the 'producer' node and very

large (usually multinational) corporations who themselves undertake the most capital-intensive part of the production process tend to play the central role in chain coordination. International sub-contracting of the manufacture of more labour-intensive components is common, as are strategic alliances between international rivals. Chains often take the form of investment-based vertical networks. The source of profit is the combination of scale of production, technological proprietorship and innovation, and organisational innovation (e.g., adoption of Just In Time (JIT), Total Quality Control, etc).

Buyer-driven chains are generally found in sectors where production is much more labour-intensive, but where design and marketing play a central role. The garment and footwear industries are the most obvious examples. The barriers to entry to the buyer node are the investment costs of market information, product design and development, advertising and electronically-based supply management systems. Branded merchandizers and large retailers, controlling the design and marketing nodes, play the central role in chain organisation. These produce and supply specifications to a very competitive decentralized system of independently-owned manufacturer-suppliers, typically located in Southern countries. Chains take the form of trade-based horizontal networks. The sources of profit are the 'unique combination of high-value research, design, sales, marketing and financial services' (Ramaswamy and Gereffi, 1998) which enable retailers, designers and marketers to act as strategic brokers in linking overseas factories and traders with evolving product niches in their main consumer markets.

The GCC approach has attracted significant attention from the early 1990s, on the basis of a number of interesting case-studies generated by the distinction between producer- and buyer-driven chains. GCCs studied include tourism (Clancy, 1998), services (Rabach and Kim, 1994), electronics (Kenney and Florida, 1994), auto components (Kaplinsky and Morris, 1999), fresh fruit and vegetables (Raynolds, 1994, and other works to be discussed below) and cocaine (Wilson and Zambrano, 1994). However, the GCC framework has been most widely applied to analysing exports of apparel from East Asia to the US (Gereffi, 1994, 1999b; Bonanich et al (eds.), 1994; Smith, 1996).

3. 'Upgrading' in GCC and other analyses

Applications of GCC analysis to the apparel chain have all strongly emphasised how its governance system has involved a continuous process of differentiation and externalization of functions by buyers occupying strategic downstream (i.e., close to consumer) nodes, as the latter have striven to concentrate on functions like design and marketing which generate very high profits. Historically, the chain has seen the differentiation of a distinct merchandizing function from one which was previously integrated with production. In this process, the first function to be externalized was production of specific standardized garments or parts of them. Later this was

followed by externalization of production of fashion garments, and later still by externalization of a 'full package supply' function. This entailed suppliers undertaking both own-equipment manufacture (OEM) and coordination of the provision of a succession of determinate mixes of standardised products, fashion and seasonal garments through their own external sourcing. Two main implications have been drawn from this by GCC analysts. The first is that, for suppliers, these historical processes have involved a succession of 'shake-outs' between those able to absorb newly transferred functions - and thereby achieve 'preferred supplier' status - and others. The second is that the acquisition by newly designated preferred suppliers of OEM/'full package supply' capability sets off a process whereby they themselves begin to transfer the least profitable parts of their new portfolio of functions to other nodes.

The processes described involved a series of redefinitions of the international division of labour. As the power of Northern branded merchandisers/large retailers first became evident in the late 1960s and early 1970s, the centre of gravity of the production function (especially for standardised products) shifted from Europe and North America to Korea, Taiwan and Hong Kong - contributing strongly to the latter's emergent 'NIC' status. However, as some NIC-based producers themselves became better established, they sought to upgrade their operations and transfer standardised garment assembly/manufacture to other more peripheral sites, where they would be able to take advantage of cheap labour supplies. On this basis developed the global garment industry's now classic structure of 'triangle manufacture', with production of lowest-quality garments being relayed by NIC proprietors to increasingly low-income countries.

In the latest application of GCC analysis to this chain (Gereffi, 1999b), many of the same points reappear. In this application, however, the historical trajectory described is taken a step further and the main focus is on opportunities and conditions for upgrading. The step further which is described is the transition of some 'full-package (apparel) suppliers' in the inner core of NICs from OEM to 'original brand name manufacture' (OBM), i.e. to becoming global, or at least regional, merchandizers. According to Gereffi, this transition has occurred on the basis of extensive organizational learning, which itself followed from extended and deepening participation in a particular kind of buyer-driven chain. The subject of organizational learning was the nature of the GCC for apparel itself, and in particular knowledge concerning the nature of buying intermediaries and end markets, concerning quality requirements, lead times and so on, concerning sourcing linkages and concerning supply coordination. Gereffi notes that this learning process was only possible for those enterprises which became parts of chains driven by Northern country retailers or merchandizers, as opposed to Northern country garment manufacturers whose demands on suppliers rarely progressed beyond assembly.

A very similar set of conclusions arises from recent work on the fresh fruit and vegetable trade to Northern country (actually, mainly UK) supermarkets - one of the few primary commodities to which GCC analysis has been applied. According to Dolan, Humphrey and Harris-Pascal

(1999), international horticultural supply chains ending with supermarkets have been characterised over the last 10-15 years by an increasing degree of 'buyer-drivenness', deriving largely from supermarkets' increasing concentration of control over information concerning consumer trends¹. Supermarkets have subsequently chosen to coordinate supply chains not directly, but through adopting JIT stockholding strategies and externalising a wide range of functions to preferred importer-suppliers. To qualify for this status, suppliers have to be able to deliver phytosanitarily tested, prepared, packaged and bar-coded products within 24 hours of an order. The result has been a combination of upgrading and 'shake-out' amongst importer-suppliers, followed by efforts by the latter to transfer some of their new functions upstream to exporters. Given increasingly tight demands on exporters with regard to quantity, regularity, quality and the access to cool chain pack-houses which this implies, the same double-edged process is observable at this 'node'. Moreover, it has implications further upstream, where horticultural production takes place. Chains which once started with smallholder producers in Africa are now supplied by large-scale farms with on-site pack-houses, mostly ones under the direct control of export companies themselves. There has even been a double process of upgrading/differentiation in the large-scale commercial farm sub-sector itself. According to another study, the three top Kenyan large-scale horticultural producers had a 45 percent share of total exports in 1996, while the top ten had a 69 percent one (Barrett et al, 1997).

A convergence can be noted between these conclusions and some of those emerging from recent contributions to the literature on industrial clusters - a literature which has occupied a prominent position in wider debates on upgrading in the last decade. This literature initially drew heavily on Marshall's (1890) formulation that agglomerations of firms can reduce costs by generating pools of specialised workers, supplies of specialised inputs and services and accelerated diffusion of certain kinds of knowledge. 'Cluster theory' went beyond this to make claims that, in certain cases, agglomeration could also promote a trajectory of technical learning and innovation (Humphrey, 1995). More recently, this claim has been qualified in the direction that, while physical-cum-economic agglomeration within a given sector is a necessary condition of upgrading, it is not a sufficient one. Leaving aside issues of the broader policy and macroeconomic conditions, cluster-based upgrading itself seems to take place only where there is some exogenous push toward to it and where there are local and extra-local 'network conditions' which favour it. The most important source of 'exogenous push', and the most important extra-local 'network condition' can be collapsed into a single condition - namely, a linkage to export networks. Furthermore, these same recent versions of 'cluster theory' also emphasise that the upgrading process is at one and the same time one of differentiation. Exclusion

¹ And a related growing concentration of ownership and market share in the retail sector. In most EU countries the top five supermarkets have a total food market share of less than 50 percent (Baas, van Potten and Zwanenberg, 1998).

of the many, in other words, tends to be the other side of upgrading of the few, at least where the latter process is 'buyer-driven' (Schmitz and Navdi, 1999).

On the basis of an exploration of the properties of chains 'driven' by Northern buyers for very different types of commodities, the above exposition demonstrates that GCC analysis does offer a specific perspective on the issue of 'upgrading' in LDCs. This perspective moreover appears to be supported by other recent work on these issues. Two things remain less clear. The first is the generalizability of the perspective, while the second is its policy implications.

With regard to generalizability, the perspective claims to be addressing only those GCCs where Northern merchandizers/retailers play a leading role. It is not clear how widely it is applicable to other 'buyer-driven' GCCs where agents other than merchandizers/retailers (e.g., international trading houses) may play a leading role. Nor is it even clear that all GCCs where merchandizers/retailers play a leading role indeed conform to the description provided. In both the chains described above there are certain background conditions prompting high 'spontaneous' degrees of upgrading (and thereby differentiation) amongst Southern country suppliers. In the case of the apparel chain which began to unfold from the East Asian NICs in the 1960s and 1970s, an important prompting factor was the Multifibre Arrangement, which provided a set of clear incentives for buyers and manufacturers from all countries to promote a rolling externalization of functions in a manner which promoted 'triangle manufacture'. As Gereffi (1999b) himself goes on to show, this upgrading trajectory is not being repeated (or at least, not in the same form) in the current growth poles of the international apparel industry - Mexico, Turkey, Eastern Europe and North Africa. Those experiences share the more recent international institutional context of regional free-trade agreements. These have prompted a different category of Northern country 'buyers', namely manufacturer-branders like Levi Strauss, into an intensified externalization of assembly work - a function where upgrading possibilities are few. Likewise, in the case of the upstream upgrading emerging in the UK supermarket-destined horticulture chain, an important influence pointed to by Dolan et al (op. cit.) has been the 1990 Food and Safety Act, which imposes an obligation on fresh food retailers to be able to trace their products to specific farms.

Given that certain LDC agents in the NIC-routed apparel and African-based horticultural chains experienced significant upgrading on the largely spontaneous basis of organizational learning, a policy implication could be that LDCs should promote economic activity in subsectors where there are global chains driven by Northern retailers or merchandizers. Secondly, in relation to these subsectors they could accelerate the upgrading process by intervening to (e.g.) selectively assist local enterprises, help strengthen their links with lead firms in world markets, support local institutions which could generate joint projects, help institutionalize in- and inter-firm processes of 'learning by doing', etc.

However this addresses only one side of what is clearly a trade-off between upgrading and exclusion, whose identification is one of the key elements of GCC analysis. If in certain GCCs the upgrading of a few (larger-scale) developing country producers seems to be accompanied by the marginalization of many (smaller-scale) others, then the positive implications for growth of dedicating resources to promoting involvement in these GCCs may be counter-balanced by negative implications for equity and perhaps also poverty reduction. Promotion of involvement in GCCs which are not 'driven' by retailers/merchandizers may have more positive implications for broadly-based growth.

4. Extending gcc analysis to chains for primary commodities

These observations point to a need to further develop GCC analysis if it is to be used to generate a more differentiated and precise perspective on LDCs' upgrading possibilities and options. In this respect, the type of chains for which its development is most crucial is that for primary commodities which, as Cramer points out, are these countries' main current link to the global economy.

Some elements of such an analysis are actually provided by Cramer himself, although in an unsystematic manner and only for cashewnuts. In relation to the prospects for upgrading of the Mozambican cashewnut sector Cramer (op. cit.) identifies three 'international constraints', namely levels and organization of supply from competing countries, the changing policy environment in competing countries and meeting international commodity standards. He further identifies levels and consistency of (unshelled cashew) supply, firm strategies and forms of Mozambican government support to the sector as significant 'local constraints'.

In GCC analysis terms, what is provided here is an account of certain of the input-output, territorial and institutional elements of the cashew chain. What is missing - at least explicitly - is the glue that binds these elements together, namely an account of the chain's coordinating agent(s), its form(s) of coordination and the historical dynamic which this embodies. Cramer's nearest approach to answering these questions is simply to point to the fact that vertically-integrated MNCs are absent from the chain (op. cit., p. 1254). The implication derived is that the chain can therefore be expected to embody 'free market' exchanges at all levels, and that - since the international trade is not distorted by Northern country protectionism - the major international-level constraints on developing a Mozambican cashew processing industry are only the rather undemanding international product standard and attaining international price competitiveness with the major exporter, India.

Actually, Cramer's assumptions are probably correct, but not by virtue of his argument. It has already been demonstrated that there are very different sorts of chain coordinating agent other

than those of the vertically-integrated MNC type, and that differences between how they tend to 'drive' such chains have (alongside other conditions) a definite bearing on prospects for LDC upgrading, even within the same commodity group. There also seems to be a clear link between chain coordination by different categories of (buyer-)driver and the prevalence within chains of different kinds of product quality conventions. In large part, the GCC for cashews has the properties attributed to it by Cramer because its coordinating agents are international commodity traders exercising a characteristically loose form of chain coordination, with a typically inclusionary rather than exclusionary quality convention (see below).

Chains of this kind exist for a number, but by no means all, primary commodities. Besides the horticultural chain, at least parts of which seems to be coordinated or controlled by Northern country supermarkets through a system of 'preferred suppliers' (see above), there are some GCCs for primary commodities which appear to be coordinated or controlled by a small number of direct producers (e.g., diamonds), others coordinated by industrial end-users (e.g., rubber), and others again by vertically-integrated MNCs who are both producers and global branders (e.g., bananas and, probably to a lesser degree, tea and sugar). In some cases, the physical properties of particular commodities play a role in making more likely the presence of (and chain coordination by) one type of agent rather than another. For example, tea needs to be processed industrially within a short time of picking while tea processing technology dictates that plants need a guaranteed throughput in order to function profitably; in the tea chain there are therefore likely to be found large-scale integrated factory estates. In most cases however the emergence of a particular coordinating agent and system of coordination has been mainly the result of changes in economic and political conditions. As Wallerstein and Hopkins (1994) point out, certain chains which were characterized by MNC-led vertical integration in periods of economic boom during the 20th century are now characterised by looser forms of coordination by international traders, while a number of chains which were driven by associations of direct producers during the period from the mid-1950s (or earlier) until the 1980s (e.g., coffee, cocoa) are now also under the leadership of international traders.

In the remainder of this section selected characteristics of international trader-driven commodity chains will be elaborated. The purpose is heuristic, namely to generate some preliminary observations concerning implications of the structure of these chains for upgrading issues in less developed countries. It needs to be signalled that what follows is extremely rough and general. These chains vary considerably and the formulation of upgrading issues for specific GCCs can only be derived from individual analyses.

By the end of the 20th century, international trader-driven chains were found mostly for those primary commodities with two or more of the following characteristics:

- relatively low value-to-weight ratios, with labour-intensive direct raw material production functions and with otherwise low barriers of entry to the this function.

- a globally dispersed² and locally discontinuous (including seasonal) supply pattern. This in turn implies major annual and seasonal variations in availability.
- strong tendencies towards market saturation, brought about by a combination of partial substitution by 'new' agricultural or manufactured products (cf. Goodman, Sorj and Wilkinson, 1987), accelerated entry by new suppliers and low price-elasticity of demand³.
- a final (or intermediate) demand side which is also either dispersed (e.g., cotton), or concentrated but segmented with respect to commodity variety (e.g., coffee, cocoa).

International trading companies play a coordinative role in these commodity chains by virtue of being able to continuously procure specific volumes and quality mixes for a number of processors. No individual supplier or country-specific association of suppliers has the capacity to perform this function, which moreover is uneconomic/impractical for processors to carry out. Entry barriers to the trading function are very high levels of working capital⁴ (necessary because of the high volumes traded); accumulated market knowledge - including knowledge of markets for trade-related services like transport, insurance and financial services⁵; and intangibles like reputation - itself largely a combination of reliability and discretion.

Traders' main source of profitability is volume rather than margins, which are low in most international primary commodity trade - although a few traders can command larger margins by specializing in premium commodity varieties. The importance of volume dictates a need for companies to command a broad coverage of supply sources for single commodities, and - where possible - across more than one commodity. At the same time, presence in commodity trade in general and in multi-commodity trading in particular dictates a need for companies to offset or hedge risk through a presence in futures, derivatives and financial markets, which can be also sources of profitability in their own right⁶. These requirements lay behind a tendency toward very high levels of concentration amongst international commodity traders, with only a handful of

² Increasing global dispersion of the supply of many primary commodities pre-dated the breakdown of their control by international producer organisations but has accelerated subsequently.

³ This has been reflected in a major decline in these commodities' barter terms of trade. In real terms, between 1980 and 1998, prices for cocoa fell 55.4 percent, for arabica and robusta coffee 40.1 and 61.1 percent respectively, for sugar 78.5 percent and for cotton 51.2 percent (based on World Bank, 1999, p. 68)

⁴ Much of the trade conducted by international trading companies is brokerage, i.e. purchasing for a commission on the account of others rather than buying on an own account basis. The extent of this varies from trader to trader and commodity to commodity, but nowhere comprises all of the business conducted.

⁵ For leading trading companies like E D & F Man (UK), Cargill (US), and Louis Dreyfus (France) this knowledge is based on presence in markets for 150 years old or more.

⁶ E D & F Man is involved in cocoa, coffee, sugar and wholesale financial services, Cargill is involved in cocoa, cotton, rubber, sisal, poultry and grains/feeds while Dreyfus is involved in cotton, coffee and 'energy products'.

companies controlling the lion's share of most trades. Additional sources of profitability involve being able to minimise inventories while retaining a high level of responsiveness to processors. This again reflects the importance of market information.

International trader-driven GCCs tend to take the form of shifting, highly filamented upstream vertical networks of trade and finance, combined with more permanent downstream and horizontal ones. International traders may establish a presence in particular supply markets for only a few years, and then only on the basis of seasonal contracts with particular local raw material suppliers. Even where relations with suppliers are more permanent they are rarely institutionalized and investment in (as opposed to advance of working capital to) suppliers is rare. Relations downstream with processors tend to be not only longer-term but also denser and trust-based, although not free of tensions⁷. Likewise, because responding rapidly to processor demands requires a flexibility beyond the capacity of any single international trader, there is a large and active secondary (inter-trader) market for most of these crops⁸.

Chain governance by international traders tends to be loose and indirect. International traders do not attempt to exercise much control over entry to the supply function, either by country or raw material trader. Prescriptions on commodity forms are much looser than in retailer/merchandizer-driven ones and while prescriptive grading classifications exist in most cases⁹, these often turn out to have been constructed by larger direct producers rather than having been imposed by traders (see below on cotton). The 'discipline' exercised downstream is essentially a market one; to become or remain 'interesting' to international traders, suppliers/supplying locations have to match certain price, volume and reliability criteria over the short- to medium-term. Usually they also have to command sufficient resources to undertake c.i.f. sales, an exercise which involves outlays and acceptance of longer payment terms. Except in extreme cases, quality tends to be punished at the level of price rather than exclusion from the market. Individual suppliers have an interest in 'keeping onside' of international traders because of the huge disparities in resources (financial and informational) between the two parties, because international traders can supply cheap credit and because seasonal contracts with them represent an important form of local collateral.

The broader institutional framework has two main elements. International trading companies share collective institutional frameworks in the sense of the formally organised commodity

⁷ One recent source of tension referred to in the literature on coffee is over whether traders or processors should bear the cost of holding inventories (Baas, van Potten and Zwanenberg, *op. cit.*).

⁸ In the mid-1990s the total international cotton trade was 15 m. tons, as against total world exports of only 6 m. (Heijbroek and Husken, 1996, p. 49).

⁹ There are some primary commodities such as tea where no universal grading system exists. These are traded via visual inspection at auctions rather than through standardised contracts.

exchanges in which they have traditionally been shareholders. But in many cases trader control of these exchanges has been loosening as their owners have looked to outside investors to finance the development of new services such as electronic trading systems. Likewise, while there is a dense network of formal and informal ties between trading companies, and sometimes informal territorial divisions of labour between them, there is also considerable direct competition - for example between older Northern trading houses and newer, mainly Asian- (especially Singapore-) based ones.

With respect to the institutional framework of world trade, the recent picture is one of disintegration of producer-driven international commodity agreements and discriminatory tariff-cum-licensing systems (such as the former EU banana regime). On the other hand, Northern markets for most temperate zone food commodities remain protected and there is some evidence of a tendency for new non-tariff barriers to be erected around them.

From the viewpoint of considering abstract upgrading options, the essential difference between international trader-driven chains and those driven by retailers/merchandisers is that there appears to be no general tendency in the former for chain drivers' lower-profit functions to be externalized upstream. Some scattered evidence exists of international traders upgrading their criteria for suppliers' qualifying volume levels over recent years¹⁰ in order to reduce numbers of suppliers and thus reduce system coordination costs. But this does not bear directly on non volume-related dimensions of upgrading, which therefore seem likely to emerge mainly through public action.

Non volume-related upgrading in trader-driven chains for primary commodities has traditionally been envisaged (apparently including by Cramer) solely in terms of producing countries vertically integrating into intermediate and possibly final processing. While the importance of this form of upgrading is undeniable, the model of trader-driven GCCs provided here points to the abstract possibility of two other forms of qualitative upgrading for primary commodities. It also suggests that a hierarchic relation may exist amongst them, whereby attaining the first is a necessary precondition for the second and third.

The first of these forms is the capture of higher margins on exports of existing forms of unprocessed raw material, by moving up the quality grade ladder, increasing volumes and reliability of supply, securing more remunerative contracts through forward sales and becoming active in hedging risk via utilising futures and options instruments¹¹. In less developed countries,

¹⁰ It has been reported that coffee traders now use a national production level of one million (60kg.) bags/year as a world market entry qualification for non-premium suppliers (Economist Intelligence Unit, 1999, p. 21).

¹¹ According to an unpublished World Bank study reported in the *Financial Times*, September 14 1999, less than two percent of futures and options instruments are accounted for by developing country producers.

where a majority of raw material production is in the hands of small-scale producers, this implies a need for public action.

Traditionally, the latter has taken the form of parastatal or state-supported cooperative systems combining measures to establish and maintain export quality (input supply, research and extension, price incentives, grading) with functions of forecasting volumes and bulking sales. The former measures should have made it possible to attain quality premia, the latter did allow premia to be generated via selling on a forward rather than a spot basis. These premia were largest where a tender system for was also operated.

Saturated global primary commodity markets mean that spreads between quality premia and discounts have risen considerably¹². But, with structural adjustment and market liberalisation, institutional frameworks supporting quality maintenance and allowing forward sales have disappeared. For reasons which will be illustrated below, export crop quality in LDCs is being undermined by free competition while - due to the trading of smaller and less predictable volumes and increased fear of supplier default - international traders are less willing to enter into forward contracts with private suppliers¹³. This points toward a further need for public action to secure effective local market regulation and export coordination. The latter could also provide a basis for involvement with risk hedging instruments.

While this form of upgrading is unusual in that it has a clear potential 'win-win' relation to social inclusion, the extent of its effectiveness appears to be limited by the very factors that give it this character - namely, easy entry conditions and mature (agronomic) technologies. This means that its conduciveness for allowing 'catching-up' with leading producers in given sectors is offset by the likelihood of long-term subjection to deflationary price pressures. Furthermore, the upgrading which is involved is a rather limited one. Implicit technological (as opposed to trading) learning requirements are few and there are no direct implications for downstream linkages.

A second form of upgrading involves the production of new forms - as opposed to higher grades - of unprocessed raw materials. The most obvious example is gene-manipulated food crops, with their strongly positive implications for savings on inputs. However, most of the qualifications applying to upgrading on the basis of producing superior grades of existing commodity forms apply also to this example: entry barriers are falling, long-term returns are therefore not particularly promising and learning implications seem non-existent. On the other hand, in relation

¹² Most obviously in relation to the arabica-robusta coffee price spread. During 1970-80 this was 5-20 percent of the arabica price. In the 1990s it has been between 17 and 58 percent (based on World Bank, 1999, p. 68).

¹³ A representative of the commodities research group LMC International stated at the 1999 Cocoa and Coffee trade conference in London that the majority of coffee was now sold worldwide on a prompt shipment basis, and hence that the majority of futures transactions were in the first two or three positions. Cocoa futures were also moving away from long-term positions and the proportion of spot and near-spot sales was rising.

to industrial raw materials it is possible to find examples of new forms which create rather than reduce entry barriers and which have more substantial learning implications. Moreover, because these examples involve raw material producers restructuring the chain by leapfrogging international traders and dealing direct with intermediate or final processors, they involve the capture for direct producers of additional rents.

Implicit in the conceptualisation of the upgrading involved here is the common distinction between standardised and differentiated commodities. A variation of this distinction which has been developed mainly in relation to primary commodities is that between ‘technically-specified’ and ‘user-specified’ commodity forms, employed by ‘Convention Theory’ analysts (cf. Nicolas and Valceschini, 1995). The former implies a direct producer, trader- or intermediate processor-inspired ‘quality convention’, the latter a final processor-inspired one. An example (Daviron, 1999) is the transition of some natural rubber producers from growing rubber subject to universal classification schemes from standardised cultivars, which manufacturers were obliged to blend, to growing so-called special ‘homologised’ rubbers (e.g., for ‘single rubber tyres’), from dedicated cultivars developed over a long period of interaction and certification between growers and final processors. Because final industrial processors are attracted to such relations mainly because they can simplify the manufacturing process, and because problems of perishability are less significant than for fresh fruit and vegetables, there seems to be no necessary implication of exclusion of smallholder producers as there is in Northern supermarket-driven chains. Relevant forms of public action in relation to this type of upgrading perhaps involve a combination of some of the interventions described in relation to upgrading to higher standardised quality grades, with others to build local links with globally leading final processors, develop local institutions which could build on existing networks embracing local producers and/or generate joint projects which could cope with the demands of new clients, etc.

Arguably, because this form of upgrading allows rents of international traders to be captured and a strong knowledge link with final processors to be established, upgrading on the basis of localising intermediate processing perhaps should no longer be considered of first importance. But intermediate processing is still a technologically irreducible stage of many commodity chains and within these it usually remains a necessary economic and learning precondition for entry to final processing. In addition, it normally has very positive implications for social inclusion, particularly when labour-intensive technologies are chosen.

Because public action to secure the localisation of raw material processing (intermediate and final) has a long history it should be sufficient merely to list some of the available options. These include bans, restrictions or disincentives (e.g., taxes/tariffs) on exports of given commodities in raw material form, and various types of public investment (and/or support to private investment) in processing itself - as well as in communications infrastructure, in increasing the availability/reliability of local raw material supply, export finance, workforce training and

international marketing efforts. In relation to Mozambican cashews, Cramer tends to dismiss the first type of intervention and places strong emphasis on a number of the second type. While in the particular case of cashews the empirical grounds of his dismissal of regulative options may or may not be well-founded¹⁴, in general it seems likely that they should be considered as necessary conditions for the launching of raw material processing industries under liberalized market conditions.

5. Upgrading experiences in selected GCCs emanating from tanzania, 1984-99

This section moves from abstract reflections concerning international trader-driven GCCs and openings for LDC upgrading within them, to a discussion of recent concrete experiences in relation to upgrading (and downgrading) issues in two such GCCs emanating from Tanzania, namely cotton and table fish. These case studies illustrate actual challenges facing producers in LDCs. The examples concern sectors which in Tanzania have both experienced boom-bust conditions in the last decade. They show the importance of success and failure at a regulative level as a basic parameter for upgrading generally, but also the fundamental constraints on regulation's effectiveness. The discussion has three components: an examination of the specific characteristics of these chains and the changing role of African production within them; a description of the changing regulative environment in Tanzania under structural adjustment, understood as a general framework for actual and possible public and private interventions; and an account of the unfolding pattern of interventions which occurred in particular chains, and their consequences¹⁵.

(a) The GCCs for cotton and table fish and Africa's changing role in them

Cotton: The GCC for cotton is unusual amongst those driven by international commodity traders in respect of the geography of its supply and demand functions. Its leading exporter (the US, with an around 20 percent world market share) is a Northern country, while a majority of imports are accounted for by Southern ones. It is also unusual in the extreme fragmentation of its demand function, geographically and by enterprise: the spinning industry globally has very low levels of concentration. Cotton's position in the overall market for fibres has become consolidated since the inroads made by synthetics in the 1960s and 1970s, and production and consumption have increased substantially over the last two decades.

¹⁴ It is based on the argument that India is expanding raw cashew production, thus reducing its dependence on imports. This overlooks East African cashew supply's historically counter-seasonal role in relation to the Indian market, implying that the effects should not be radical.

¹⁵ The author conducted fieldwork on the Tanzanian segments of the GCCs for table fish and cotton in 1996 and 1997. Fuller accounts of these chains are provided in Gibbon (1997a, 1998a,b,c and 1999a).

Within the cotton GCC there is a little vertical integration between direct producers and international traders¹⁶, but none between spinners and international traders. Mainly because of the sector's strong centrifugal tendencies, the role of bridging differences in quality, timing, origins and volume gives international traders a leading role. But producers are still powerful, as the nature of the dominant quality convention indicates. This consists of a classificatory matrix based on objective crop properties, established by the US Department of Agriculture and later globalised as a standard (see Heijbroek and Husken, op. cit., p. 12). The matrix generates a stratified pricing system, according to which 'extra-fine' Egyptian and US (Pima) cottons command a premium of 20-50 percent or more above the index price and American and Australian high-medium grades command a premium of 10 percent or more. Cotton from the second most important exporting regions, Uzbekistan, trades at around the index price. Besides grading premia there are also 'market window' ones, based on the timing of appearance of new crops on the world market. These are generally lower than quality premia and less stable.

In 1998/99, two quite different relations between African countries and the world market were evident. Six Francophone African countries between them accounted for about 16 percent of world exports. Trade was largely parastatal-organised, production was on the basis of a high-input system, yields were mostly above 400 kg/hectare and the crop commanded a slight premium over the Uzbek one. Anglophone Central and East African countries, which had been important producers in earlier times, now accounted for only 1.5 percent of world exports. Trade had been liberalized, production had largely shifted to a low-input basis, yields were in a range between 60 and 170 kg/hectare and the crop qualified only for 'market window' (new/old crop inverse) premia¹⁷ (International Cotton Advisory Committee, 1999).

Fish: Unlike the markets for most food commodities, those for fish have seen rising demand and prices for most of the last 30 years. At the beginning of this period global fish production and consumption was dominated by two distinct but similar systems. One was centred on the North Atlantic table fish, mainly Cod, industry. Its important players were the owners of large scale 'factory fleets', food manufacturers and wholesalers. The other was centred on western Pacific table fish, and its important players were Japanese factory fleet owners and large-scale trading companies (who often acted as the former's sponsors). Both industries had started to face serious resource-base problems. Cod in particular was seriously over-fished, leading to moratoria or severe restrictions being introduced by most North Atlantic littoral countries.

¹⁶ And between international traders and ginning machinery manufacturers.

¹⁷ Zimbabwe is an important exception to this pattern, and is not included in the Central and East African category for this reason. In 1998/99 its exports also had a 1.5 percent world market share, on the basis of a high-input based system subject to only limited liberalisation.

Four main responses followed. The first was a rationalization of North Atlantic factory fishing fleet operations. The second was for traders and producers to expand their definitions of 'table fish' - and thereby the latter's fishing grounds. Expansion occurred especially in the Southern hemisphere where new, relatively low-cost fleets were often started from scratch by local businessmen (cf. Schurman (1996) on the Chilean 'Southern Hake' boom). In many cases, including that of Southern Hake - the boom-bust pattern of events with cod was repeated, although over a shorter period. Nile Perch from Lake Victoria, which will be discussed below, is one of the latest in a series of species whose role in the world market is to substitute for and/or thereby cheapen cod.

Alongside a strategy of serially exploiting new 'table fish' species, some industrial fishing enterprises changed their focus of operation to very high-value deep-sea species such as tuna. This entailed heavy investment, mostly sponsored by US canners and Japanese trading companies, in specialised vessels with sonar, radar and satellite-based visual survey equipment. The global tuna fishery expanded at an extremely rapid rate after 1970, and tuna has now become the most important species worldwide (by value)¹⁸.

A fourth trend has been an expansion of aquaculture. The main cultivated species is prawn, but salmon and more recently halibut are also important. Along with tuna it has been these species which have been most associated with the Northern consumption growth. This growth led to an expansion of markets for counter-seasonal Southern hemisphere sea-caught prawn. By 1997 the global prawn trade was worth around US\$ 16bn/year (World Bank, 1999, p. 51).

Significant changes have occurred in the organisation of fish GCCs as a result of these developments. The profitability and power of large-scale industrial fishing/cold chain operations has declined, although it has not disappeared entirely. New players have emerged as significant, or their importance has revived as chains have segmented. Large-scale farmer-packers, merchandisers and prepared food suppliers dominate the aquaculture chains. Trading companies remain the dominant players in the Japanese market, and international traders have made a comeback at least in the EU, on the basis of their role in the new/substitutive table fish and counter-seasonal prawn trades.

(b) The changing regulative environment in Tanzania since 1984

Against the background of serious economic crisis and considerable donor pressure, Tanzania began in 1984 to dismantle the comprehensive framework of economic regulation inherited from the British and elaborated in an 'African Socialist' direction following the Arusha Declaration

¹⁸ According to Schurman (1998), the world canned tuna market became saturated by the early 1980s, leading to vertical disintegration by US canners, who eventually metamorphised into merchandisers.

in 1967. This framework was particularly tight for most export commodities, which were regulated through a combination of state-sponsored cooperatives and marketing boards. Regulation in the fisheries sector was much looser however, mainly because most fish was then traded only domestically and in relatively small quantities. Liberalization since 1984 has passed through three main phases, corresponding to which there have been reductions in local state capacity on the one hand and changes in how Tanzania has related to the world economy on the other.

The first phase dated from 1984 to around 1990. This was characterised by a perpetuation of most pre-adjustment institutions and regulations, alongside a toleration of greater private participation in domestic retail trade and in 'non-traditional' exports (NTEs). Local entrepreneurial interest in the latter was encouraged, largely accidentally, by the specific combination of a parallel sector imports boom and by a very high parallel market premium for the US\$. The main NTE export lines in this period were artisanally-fished prawn and artisanally-mined gold. Towards the end of the period incentives for involvement in NTEs (except gold, where special regulatory conditions applied) declined sharply, however.

A second phase was ushered in in 1990 with the introduction of a comprehensive investment promotion scheme, the National Investment Act. New investments in designated sectors came to attract a five-year tax holiday, full forex retention rights, waivers/drawback rights on imports and free long-term land leases. There was a clear response in several sectors, particularly tourism, industrial gold mining and fisheries (cf. Gibbon, 1999b).

A third phase dates from around 1994, with two linked components. One was a privatisation programme (dating from 1992 but first gathering momentum in 1994). A second was liberalisation of the traditional export crop trades, including the trades in crop inputs. In the case of some crops - notably tobacco - liberalisation and privatisation have been linked, with major investments by US companies in local production and marketing. Meanwhile, apart from in the cases of tourism and industrial gold mining, investor interest in NTEs has shown signs of tailing off.

The interventions listed here are notable for what they failed to encompass as much as for what they did. Notably absent were systematic interventions aimed at increasing local shares of value-added. Also notably absent were the creation or preservation of institutions which could monitor and/or regulate export quality. This was particularly evident in regard to the liberalization of traditional cash crops where, although the pre-reform marketing boards possessed some capacity in this respect, this came to be lost. A related absence concerned measures to ensure the availability of good quality crop inputs at affordable prices.

(c) Sectoral interventions and their consequences

Cotton: Reforms in this sector were introduced against a background of a failure of the state-cooperative monopoly system from the late 1970s onward. The reasons for this failure were multiple; by the early 1990s the situation had become untenable, with the cooperatives illiquid and with primary marketing becoming partially demonetized (growers received payments sometimes only after a two-year delay, in a period of steep inflation). Seed cotton production fell from an average of 71,200 tons/year in 1971-75 to 46,200 tons/year during the 1980s. Initial more cautious proposals to liberalize cotton marketing were all abortive, leading to widespread donor insistence by 1994 on a reform in which all levels of trade and processing were opened unconditionally to private operators, prior to a new regulative apparatus being organised. The reform was accompanied by a parallel commercialization-cum-voluntarization of cooperatives, which soon was to lead to their fragmentation.

By 1997/98 season, liberalization had succeeded in creating a high level of competition in primary marketing, ginning (lint production) and exporting. In the case of ginning this was underwritten by the availability of cheap donor-funded credit to build ginneries, although no cheap public credit was available to fund working capital for seed cotton purchases. 21 private or joint-venture companies were operating, most of them with their own new ginneries, alongside upwards of 10 reformed cooperative organisations. In all the principal production centres there was a high level of price competition between traders at village level. However, just five operators, two older regional cooperatives and three large private ginners, managed to command 65 percent of all purchases. The remaining 25 or so operators had a combined market share of only 35 percent. This pattern reflected a highly uneven distribution of working capital.

To remain in the market, operators unable to command significant levels of working capital followed strategies of maximising the velocity of their capital. This entailed buying seed cotton regardless of quality and entering into ex-ginnery spot sales of lint on the basis of quality discounts. While more concerned about quality, two of the three largest private ginners had made a decision to prioritize attaining the market window premium for early season exports, a choice which was reflected *inter alia* in their choice of ginning technology (saw gins, which give fast throughput but which are unsuitable for higher quality grades).

Because a number of players were buying seed cotton regardless of quality, all others were forced into this strategy. Problems arising from this were compounded by the fact that many buyers operated over geographically extremely wide areas and failed to subsequently segregate crop from different locally-dedicated cultivars during ginning. This led to problems of mixing different seed types when the time came for the redistribution of seed to different parts of the cotton growing area at the close of the season. Moreover, seed which was redistributed to growers was often of poorer quality than in earlier periods, because many private ginners sold all seed of average and

medium quality to oil millers, where it commanded a good price (in 1997/98 season, ginners were not supposed to recover payment for seed redistributed to growers).

However, problems concerning seed were less severe than those concerning other inputs. Because of anticipated problems of 'free riding', no private traders supplied insecticide on credit. Because of an unwillingness to tie up scarce working capital which could otherwise have been used in seed cotton purchase, and because of difficulties of obtaining credit and/or suitable consignment sizes from importers¹⁹, only one or two supplied insecticide even on a cash basis. The larger cooperatives, who could obtain public credit but only on commercial terms, also severely cut-back on their insecticide procurement. Subsequently, a significant proportion of growers reduced insecticide use or stopped using it completely. Clearly, the failure of the market to punish the sale of poor quality cotton also contributed to this process.

Peasant producers gained in important ways from liberalization. Seed cotton sales were fully monetized, increasing real returns substantially. Furthermore, the positive effect of competition on their share of the current world market prices meant that they were sheltered from most of the secular fall in the real export price in the first two or three seasons after monetization was restored. A positive supply response occurred for two or three seasons, with some of the largest harvests on record, and because of faster marketing and processing, most exports qualified for the old/new crop inverse premium.

On the other hand, crop quality was clearly in decline due to reductions in input use and the ending of grading at point of sale, and this was reflected in an increasing volumes of claims by international traders concerning non-discounted sales of lint²⁰ and related reputational losses. Together with poor weather conditions, input-related problems also began to contribute to a major decline in output: the seed cotton harvest in 1998/99 fell below 40,000 tons for the first time in decades. Survey-based evidence (Gibbon, 1998a) suggests a decline in yields. Unable to procure cotton in sufficient quantity and quality, some less capitalized private ginners went bankrupt and others (including the most important MNC with local ginning interests, Cargill) closed their operations. Premia related to sales by tender, forward sales and sales on a c.i.f. basis were lost for much of the crop that was exported.

This story can be read as one concerning regulative failure, compounded by policy-makers' failure to properly understand the workings of commodity chains, locally and globally. With

¹⁹ After state marketing board lost its export monopoly, Tanzania's largest mixer of cotton insecticides withdrew from the market.

²⁰ At the end of the 1998/99 season, the two largest cooperative unions alone reported rejection by international traders of 9,460 bales - equivalent to about 8 percent of Tanzania's exports for the season (*Daily News*, 2 July, 1999).

regard to regulation, four years after liberalization the Tanzanian Cotton Lint and Seed Board (TCLSB) still had only five inspectors in the main growing area (which covers several hundred square kilometers). These were supposed to be monitoring sales at around 2,000 buying posts; none had transport. With regard to policy interventions/ommissions made without reference to commodity chain architecture, two in particular stand out. The first was to subsidize the entry of private ginners without reference to their levels of working capital; the second was make no provision for any form of export coordination. Only public action could have remedied these problems. The new private players were themselves too divided to support initiatives which could provide a basis for self-regulation and feared export coordination precisely because they believed it would slow the export process and thus deprive them of market window premia.

Fish: The discussion here will centre on Nile Perch. This fish began to be commercially fished from Lake Victoria for domestic consumption only during the mid-1980s. Fisheries operations were organised by vessel-owners, generally owning three boats or fewer, operating out of Lakeside village landings with two person crews. The typical boat used 10-30 six-inch gillnets, hung singly, and fished only during the darkest 15-21 nights of the month. Most fish were processed artisanally by employees of the owners and then sold to market traders from the larger Lakeside towns; a few were bought by white-collar businessmen, gutted and frozen ('semi-processed') at a public cold store and sent onto Dar es Salaam by air or train to be sold in the capital's main market. A roughly similar situation existed in Kenya, the most developed country in the region.

In 1989 the first Nile Perch processing factories opened in Kenya, exporting frozen fish fillets ('processed' fish) to Israel. A significant part of the capital of these factories appears to have come from Israel (Abila and Jansen, 1997). In 1990, agents from these factories with export licenses began buying fresh fish at Tanzanian landings for transport by boat or truck to the Kenyan factories. This situation persisted until 1992 when, apparently at the suggestion of FAO, the Tanzanian Ministry of Natural Resources instituted bans on the export of fresh fish in general, and also of semi-processed Nile Perch. These bans were (and continue to be) evaded, but not on a significant scale. Their main consequence was that Kenyan factory owners opened branch plants in Tanzania, to be followed shortly after by Tanzanian nationals²¹. By 1997 there were 11 factories in Tanzania, as well as a further 24 in Kenya and Uganda. At this time the factories accounted for around three-quarters of the approximately 50-60,000 tons of Nile Perch caught annually in Tanzanian waters.

The factories obtained their throughput mainly from artisanal vessel-owners, and competed with each other to distribute nets and sometimes engines to them. Those receiving the latter were expected to collect fish from other vessel-owners too and to deliver it to the factories. As

²¹ Mostly Tanzanians of Asian and European background.

competition increased in the years prior to 1997, there were inter-related increases in producer prices, in fleet sizes²² and in fishing effort. Producer prices doubled in real terms between 1989 and 1992, and then more than doubled again by 1996 when they reached around US\$ 1/kg. The fleet size of one vessel-owner reached almost 90 boats carrying 7,000 nets, plus various auxiliary craft. A number of other owners accumulated 20-30 vessels. Vessels themselves were now larger, in order to carry more nets (typically 60 four-inch gillnets, hung double) and crew. They fished every night of the year and sometimes during daylight hours; as inshore stocks became depleted, the fishery became reorganised into owner-controlled camps on the offshore islands.

Until early in 1996, around 15 percent of the total Tanzanian Nile Perch catch was accounted for by light trawlers (none with on-board processing or freezing capacity), mostly owned by the factories. This time under pressure from UNEP, the Tanzanian government banned trawling on Lake Victoria in 1996. The ban was again evaded, but again not significantly. Instead, factories now started to build their own larger-scale 'artisanal' fishing vessels, in one case with 53 vessels.

Until 1996/97 the fishery was on a continuous upward curve. In 1995 employment in the sector had reached around 20,000 persons and local income from the trade was worth around US\$ 22m/year. Exports of fillet - now almost entirely to the EU - reached around 15,000 tons by 1996, worth almost US\$ 50m. There were some grounds for concern with regard to resource depletion (vessel unit catches were dropping, as was the average size of fish caught), and with regard to the marginalization of the domestic trades, which now only had access to those fish rejected or for some reason uncollected by the factories. Artisanal processing had begun to show some recovery however, with a trade developing in fried factory waste products.

Against the background of the trade's increasing impact on EU table fish markets, Lake Victoria Nile Perch became subject to non-tariff based import controls for the first time in December 1997. An EU-wide ban on Nile Perch imports apparently followed the discovery of traces of salmonella and cholera in imports to Spain, although the precise nature of the complaints was never clarified. The ban was lifted in July 1998, on condition that exporters be hygienically certified by importing countries' health authorities. According to the Tanzanian Minister for Natural Resources, this certification process was completed in early 1999. But shortly afterwards Germany, Italy, Holland and France banned imports again; in March this ban was made EU-wide. This time the ban followed official Ugandan reports on the use of poison as a fishing method. Poison fishing was indeed prevalent in certain parts of the Lake, although in 1997 it had mainly targetted tilapia rather than Nile Perch (according to the factories' trade organisation no imported Nile Perch with poison traces had been discovered). The producer price fell to US\$ 0.25/kg,

²² There was also an increase in numbers of artisanal vessel targetting Nile Perch, to reach approximately 3,500 in Tanzanian waters by 1997; however, because of a lack of reliable information on earlier periods, this increase cannot be quantified.

making uneconomic the operations of the motorised part of the artisanal fishing fleet and forcing the factories to develop new markets.

New markets were found in Japan and the US, and exports to Israel resumed. But overall export levels declined steeply, probably by around 70 percent. In September 1999, EU fish inspectors visited the Lake and demanded certificated local testing laboratories and stringent landing site inspection as preconditions for the ban to be lifted. Recognizing that government lacked the resources and capacity to fulfill these requirements, owners of the Ugandan factories supported the establishment in Kampala of a branch of a Belgian laboratory and stated that henceforth they would collectively regulate landing sites (*East African*, October 4, 1999). Kenyan owners supported the renovation of an existing laboratory in Kisumu and built dedicated jetties at certain landings, on an individual basis (op. cit., October 18, 1999). The Tanzanian owners' trade association announced that they would also reconstitute themselves as a regulatory body (*Business Times*, October 7, 1999). Whether this private-led materializes, and if so how effective it might be, is an open question (see below).

(d) Conclusions

The first of these case studies describes not only a failure of Tanzanian direct producers to improve their role in the cotton GCC by upgrading within the confines of the existing raw material form, but actually a worsening of their role. The second describes the attainment of a highly inclusive type of local upgrading in the table fish GCC, brought about by vertical integration into final processing. But this upgrading proved unsustainable in the face of a raising of EU market entry barriers.

Although probably they bring with them lower margins of these margins and fewer learning opportunities than local upgrading in the form of transforming the nature of the exported primary commodity itself, it is these forms of upgrading which remain most accessible for LDCs. The second case shows however that upgrading primary commodity production on the basis of an inclusionary type of vertical integration carries with it the additional problem of sustainability, unless the nature of the exported commodity can be transformed into one meeting 'industrial' quality requirements (conforming to laboratory-based standards).

The cases show the importance, but also the limitations of public regulative action around upgrading issues in LDCs. In the case of cotton, not only was serious regulative intervention completely absent around the quality issue, but the broad institutional environment of donor priorities helped introduce to the market a large number of 'short-termist' players who otherwise might not have participated. In the case of table fish, serious regulative interventions were made, which largely succeeded in their objectives because they were cheap and very easy to implement.

In a situation of declining state capacity, the more demanding public regulative interventions necessary to sustain upgrading²³ were never contemplated.

The case studies also show that Tanzanian cotton ginners/exporters and fish processors/exporters were incapable of collective 'private' action to prevent downgrading or sustain upgrading. In 1997 there was desultory discussion²⁴ of how to address the cotton quality problem in the Cotton Association, a body representing ginner/exporters which the Tanzanian government itself had to breathe life into. The Association proved too divided to agree on a plan of action: smaller ginners advocated the setting up of local monopoly buying situations, which might have encouraged ginners to provide inputs on credit and should have prevented seed-type mixing, but certain larger ginners opposed this as uncompetitive. The fish factory owners' association was basically the brainchild of two or three owners and lacked the wholehearted support of others. It had a history of failed attempts to introduce a producer price cartel and was truly unanimous only in its hostility to the prevailing export tax regime. Here were two industrial clusters with few or no spontaneously-emerging agglomerative externalities, even though they were both linked to international 'buyers'. The decisive constraints appeared to be the nature of the buyers and the position of the 'clusters' within the GCCs: at the extremely competitive point of raw material collection.

The combination of weak state regulative capacity and lack of private interest in self-regulation which the case studies reveal unfortunately almost certainly also point to a corresponding absence of state capacity and self-help based private interest in upgrading interventions of a non-regulative kind. Given the already noted 'arms' length' relations with suppliers preferred by international traders, by a process of elimination it seems that only an externally-financed public initiative aimed at upgrading local joint public-private regulation remains as a possibility. However, there are no indications within current GCC analysis of how this could be made to succeed.

6. Concluding remarks

Contrary to the claims made by Cramer, GCC analysis clearly provides new insights into discussions about upgrading by LDCs. Actually in recent years upgrading has become a central concern in GCC analysis, especially in the work of the analysis's main protagonist. In this, the heuristic distinction between 'producer-' and 'buyer-' driven GCCs is used to identify different processes whereby upgrading occurs on the basis of a combination of general structural change

²³ E.g., controlling the distribution of thiodan (the main poison used for fishing), ensuring proper fish handling conditions at landings, etc.

²⁴ Schmitz and Nadvi (op. cit.) make a similar point in relation to Kenyan fish processors, a group studied as part of their project, but who were not reported on at length in the *World Development* special issue.

and the enterprise-level learning it makes possible. At the same time a trade-off problem between upgrading and exclusion is noted. The application of GCC analysis to generate a further heuristic category, international trader-driven GCCs, further enables the elaboration of an abstract menu of upgrading opportunities in relation to certain primary commodities produced in less developed countries. In some respects, this menu has an internally hierarchical form, with the realisation of certain opportunities constrained or closed until others have been realised first.

Case studies of the local (LDC) segments of particular primary commodity chains show the practical difficulties and complexities of realising even the most basic upgrading options generated by the abstract analysis earlier. In Tanzania existing donor private sector development policies, extremely low state capacity and an absence of the properties often spontaneously attributed to 'industrial clusters' combined with tendencies of international traders to minimise their involvement with local suppliers to create a situation whose apparent intractability provides a fundamental policy challenge. While GCC analysis can also identify the reasons for some of these constraints (e.g., the reasons for the lack of agglomeration), there are no obvious answers to this challenge be found within its present incarnations. At the same time, the further development of GCC analysis does seem a promising avenue to follow in seeking such answers.

References

- Abila, R. and E. Jansen (1997) From Local to Global Markets: the Fish Exporting and Fishmeal Industries of Lake Victoria, IUCN East Africa Programme (Nairobi), Report No. 2
- Baas, H. A. van Potten and A. Zwanenberg (1998) *The World of Food Retailing: Developments and Strategies* (Utrecht, Rabobank)
- Barrett, H. et al (1997) Prospects for Horticultural Exports under Trade Liberalization in Adjusting African Economies, Report submitted to DfID (ESCOR), mimeo.
- Bonanich, E., L. Cheng, N. Chinchilla, N. Hamilton, and P. Ong (eds.) *Global Production, the Apparel Industry and the Pacific Rim* (Philadelphia, Temple University Press)
- Business Times*, Dar es Salaam, various
- Clancy, M. (1998) Commodity Chains, Services and Development: Theory and Preliminary Evidence from the Tourism Industry, *Review of International Political Economy*, Vol. 5, No. 1 pp. 122-148
- Cramer, C. (1999) 'Can Africa Industrialize by Processing Primary Commodities ? The Case of Mozambican Cashew Nuts'. *World Development* 27 (7) 1247-1266
- Daily News* (Dar es Salaam), various
- Daviron, B. (1999), personal communication
- Dolan, C., Humphrey, J. and Harris-Pascal, C. (1999) 'Horticultural Commodity Chains: the Impact of the UK Market on the African Fresh Vegetable Industry', IDS Working Paper 96, Institute for Development Studies, University of Sussex
- East African* (Nairobi), various
- Economist Intelligence Unit (1999) *Tanzania Country Report*, No. 2
- Financial Times*, London (various)
- Gereffi, G. (1994) 'The Organisation of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks', in Gereffi, G. and M. Korzeniewicz, eds. *Commodity chains and Global Capitalism*. Praeger, Westport, CT.
- Gereffi, G. (1995) 'Global Production Systems and Third World Development', in Stallings, B. (ed.) *Global Change, Regional Response - the New International Context of Development* (Cambridge, Cambridge University Press) pp. 100-142
- Gereffi, G. (1999a) 'A Commodity Chain Framework for Analysing Global Industries', *American Behavioural Scientist*, forthcoming
- Gereffi, G. (1999b) 'International Trade and Industrial Upgrading in the Apparel Commodity Chain', *Journal of International Economics*, Vol. 48, No. 1, pp. 37-70
- Gibbon, P. (1997a) Of Saviours and Punks: The Political Economy of the Nile Perch Marketing Chain in Tanzania, Centre for Development Research (Copenhagen) Working Paper 97.3
- Gibbon, P. (1998a) Peasant Cotton Cultivation and Marketing Behaviour in Tanzania since Liberalization, Centre for Development Research Working Paper 98.16
- Gibbon, P. (1998b) King Cotton under Market Sovereignty: The Private Marketing Chain for Cotton in Western Tanzania, 1997/98, Centre for Development Research Working Paper 98.17
- Gibbon, P. (1999a) 'Free Competition without Sustainable Development ? Tanzanian Cotton Sector Liberalization 1994/95-1997/98, *Journal of Development Studies* Vol. 36, No. 1
- Gibbon, P. (1999b) Privatisation and FDI in Mainland Tanzania, 1992-98, Centre for Development Research Working Paper 99.1
- Goodman, D., B. Sorj and J. Wilkinson (1987) *From Farming to Biotechnology* (Oxford, Blackwell).
- Heijbroek, A. and H. Husken (1996) *The International Cotton Complex* (Utrecht, Rabobank)
- Humphrey, J. (1995) 'Industrial Organisation in Developing Countries: From Models to Trajectories', *World Development* Vol. 23, No. 1 (special issue on Industrial Organisation and Manufacturing Competitiveness in Developing Countries) pp. 149-162
- International Cotton Advisory Committee (1999) *Cotton: Review of the World Situation*, Vol. 53, No. 1
- Kaplinsky, R. and M. Morris (1999) 'Trade Policy Reform and Competitive Response in Kwazulu Natal Province, South Africa, *World Development*, Vol. 27, No. 4 pp. 717-737
- Kenney, M. and R. Florida (1994) 'Japanese Maquiladoras - Production Organisation and Global Commodity Chains', *World Development*, Vol. 22, No. 1 pp 27-44
- Marshall, A. (1890) *Principles of Economics* (London, Macmillan)
- Nicolas, F. and E. Valceschini (1995) *Agro-Alimentaire: une économie de la qualité* (Paris, INRA/Economica)
- Rabach, E. and E. Kim (1994) 'Where is the Chain in Commodity Chains ? The Service Sector Nexus', in Gereffi and Korzeniewicz (eds.), pp. 123-41

- Ramaswamy, K. and G. Gereffi (1998) 'India's apparel sector in the global economy: catching up or falling behind', *Economic and Political Weekly*, January 17
- Raynolds, L. (1994) 'Institutionalising Flexibility: a Comparative Analysis of Fordist and Post-Fordist Models of Third World Agro-Export Production' in Gereffi and Korzeniewicz (eds.), pp. 143-161
- Schmitz, H. and K. Nadvi (1999) 'Clustering and industrialisation: Introduction', in *World Development* Vol. 27 No. 9 (special issue on Industrial Clusters in Developing Countries) pp. 1503-1514
- Schurman, R. (1996) 'Snails, Southern Hake and Sustainability: Neoliberalism and Natural Resource Exports in Chile', *World Development*, Vol. 24, No. 11 pp.
- Schurman, R. (1998) 'Tuna Dreams: Resource Nationalism and the Pacific Islands' Tuna Industry', *Development and Change*, Vol. 29, No. 1 pp. 107-36
- Smith, D. (1996) 'Going South: Global Restructuring and Garment Production in Three Asian Countries', *Asian Perspective*, Vol. 20, No. 2 pp.
- Wallerstein, I. and T. Hopkins (1994) 'Commodity Chains: Construct and Research', in Gereffi and Korzeniewicz (eds.), pp.
- Wilson, S. and M. Zambrano (1994) 'Cocaine, Commodity Chains and Drug Policies: a Transnational Approach', in Gereffi and Korzeniewicz (eds.), pp 297-315
- World Bank (1998) *World Development Indicators, 1998* (Washington)
- World Bank (1999) *Global Commodity Markets, Vol. 7, No. 1* (Washington)