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The Poor Relation. A political economy of the marketing chain for dagaa in Tanzania

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Abstract

Dagaa is the collective name in Tanzania for various types of sardine-like fish eaten in a dried form by poor and middle-income groups throughout eastern and southern Africa. This paper is a fieldwork-based case-study of the 'commodity chain' for dagaa. That is, it is a study of how dagaa is produced, marketed, distributed and consumed, of which groups are involved in each of these stages, how they are organised and how they inter-relate with each other. The aim is to identify basic principles of market structure and organisation and the basic pattern of distribution of earnings and profits.

The study mainly concentrates on 'dagaa Mwanza', the Lake Victoria fish which now makes up the bulk of dagaa consumed in Tanzania. It shows that over the last decade the trade has increasingly fallen under the control of a group of about one hundred wholesaler-cum-brokers based at Kirumba market in Mwanza town. This group has centralised control over the national and regional trade through establishing a high degree of regulation on Lake Victoria itself, in a context of falling catches and high demand. Unlike other fisheries, where regulation is often organised through sharecropping-type relationships, Kirumba traders' basically regulate the trade through various forms of cartelisation. The study examines how they work and what conditions they rest on.

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1. Introduction

Various small sardine-like fresh- and saltwater fish, consumed in a whole dried form, have been a significant part of popular diet over a wide area of (at least) eastern and southern Africa since written records began. In Tanzania at least, these fish are known collectively as *dagaa* [. The main species traded in mainland Tanzania under the name of dagaa are, in order of magnitude of sales, Restrineobola argentea (dagaa Mwanza), Limnothrissa miodan (dagaa kigoma) and the saltwater dagaa mchelle (Latin name unknown).] . Whether there was a long-distance trade in them prior to colonialism is not known, but such a trade certainly existed by the 1940s and 1950s, when the Colonial Labour Office recommended that plantations, large-scale farms and large public works distribute determinate rations of Lake Tanganyika *dagaa* (*dagaa Kigoma*) to African employees, as their fundamental source of protein.

Over the last three decades demand for *dagaa* seems to have expanded considerably, partly as a result of urbanisation, partly as a result of the rising relative price of other protein sources (notably meat), and partly as a result of certain economic changes associated with structural adjustment (see below). At the same time new sources of supply of *dagaa* have appeared to supplement the so-called *dagaa Kigoma*. A fishery for marine *dagaa* (*dagaa pwani*) developed around Dar es Salaam, Tanga and Bagamoyo using purse seine nets and large wooden vessels with inboard and outboard engines, and Lake Victoria displaced Lake Tanganyika as the main source of domestically-traded freshwater *dagaa*. By the 1990s there were several different types of *dagaa*, each named after its place of origin, being traded on a long-distance basis in and from mainland Tanzania.

Unlike in the cases of Nile Perch (Lates niloticus, *sangara*) and prawn, for which there are also active trades in Tanzania (see Gibbon 1997a,b) no local *dagaa* is exported in a processed or unprocessed form to the northern hemisphere, and the only industrial process to which *dagaa* is subject is milling (generally of *dagaa* of inferior quality). Because of this, and its relatively smallcontribution to the overall food security picture, neither production nor marketing of the fish has ever been subject to much government interest.

On the other hand, the magnitude and complexity of the marketing chains for *dagaa* make their study of great importance for understanding 'spontaneous' processes of market development, and private enterprise generally in countries like Tanzania. The absence of a northern hemisphere end-consumption market and of local factories producing for this market and intervening actively on the supply side enables the researcher to form a picture of how markets, prices and the distribution of returns develop when the market is not 'externally induced', and in particular to observe whether they are subject to the same tendencies toward imbrication in boom-bust cycles as other mainly northern-oriented markets for southern natural resources.

The basic conceptual framework employed here is the so-called 'filiиre' methodology for understanding marketing chains, as it has been adapted by authors like Harriss-White (1995) and Bernstein (1996). In this adaptation, marketing chains are analysed with respect to sequences of commodity production and circulation in 'core' and related chains, the divisions of labour accompanying them, the distribution of earnings and profits they entail, and the forms of social and economic organisation through which market power is organised to perpetuate or subvert such distributions. In this paper, the latter are treated as an outcome of the interaction between a given set of wider social and economic structures on the one hand and the strategies employed by specific groups of actors and actresses on the other.

The study of the *dagaa* chain is part of a wider project of the author to examine emergent marketing chains in post-liberalisation Tanzania. Besides *dagaa*, studies were also undertaken of the Nile Perch and prawn fishery chains during a 6-month period of fieldwork between November 1995 and April 1996. A study of the cotton sector, which unlike fisheries was very highly regulated, and where investment pay-back periods are longer than they are in the export fisheries, is planned for July-October 1997.

The *dagaa* study involved 48 extended interviews carried out mainly in the Lake Victoria and coastal fishing grounds with fishermen, traders of various kinds, *matajiri* (proprietors of boats and other equipment) and transporters. Interviews were also held with traders in *dagaa* at large markets in Dar es Salaam, Dodoma, Singida and Tabora and with *dagaa* millers in Mwanza and Dar es Salaam. This means that only two of the three main components (the *dagaa Mwanza* and *dagaa pwani* ones) of the complete *dagaa* chain were covered in their entirety by the fieldwork. The opportunity did not arise to visit Lake Tanganyika and therefore to study the production and assembly links of the *dagaa Kigoma* sub-chain. However, traders specialising in *dagaa Kigoma* were interviewed in other localities.

Interviewees were chosen on the basis of membership of a given division of labour category or sub-category in the chain, and availability. They were chosen in collaboration with research assistants with extensive prior knowledge of the local fisheries [.My research assistants for this study were Mr. F. Matimbo (Dar es Salaam), Mr. L. Mkwizu (Dodoma, Singida and Tabora) and chiefly Mr. R. Mhkela (Mwanza). I extend my deep thanks to them and to Prof. C.S.L. Chachage and Dr. S. Mesaki (Department of Sociology and Anthropology, University of Dar es Salaam).] . Interviews were usually in Kiswahili with questions and answers translated from and back into English. Interviewees were told that I was working on a background study of private business in Tanzania, sponsored by DANIDA as part of its preparations for redirecting some of its assistance from the state to the private sector. They were also told that the study did not involve making recommendations for support to either the fisheries sector in general nor to any individual or company working in it.

The paper opens with a sketch of the local physical and socio-economic settings which form a backdrop to the development of the *dagaa* chain. This is followed by a discussion of the macro-economic significance of the chain. Subsequently the paper turns to a description of the divisions of labour within the marketing chains for *dagaa*, and for the commodities which intersect with it either as inputs, services or goods which are produced with *dagaa* as a major input. Next comes a discussion of the social character of the actor and actresses found in the trade and the structures and strategies through which they interact. This is supplemented by an earnings and profits analysis. In conclusion the paper turns to general questions concerning the economic logic of production forms in the fishery, and market development and market power.

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2. The setting

The main *dagaa* fishing grounds in mainland Tanzania are around Kigoma on Lake Tanganyika, in Ukerewe, Geita and Sengerema districts in Mwanza region (Lake Victoria) and off Dar es Salaam city and Bagamoyo on the coast. As indicated, one of these fishing grounds (Kigoma) was not visited. There is another fishing ground for *dagaa Pwani*, around Tanga, which was also not visited.

Lake Victoria

Lake Victoria is the largest inland water surface in Africa. It is difficult to fully grasp its size. The Lake is large enough to have its own 'Sounds', 'Gulfs' 'Channels' and archipelagos. Modern passenger ferries circumnavigate it rather then sail across. The trip from the largest town on the lake, Mwanza to the two other largest Tanzanian ports take around nine hours each. If the current generation of industrial trawlers wished to fish in the centre of the Lake, their steaming time from Mwanza would be close to 18 hours. The area around the Lake is densely settled and, in parts, intensively developed. In recent years there has been much talk of an ecological crisis affecting the water body. By 1996 much of the shoreline, especially on the Ugandan side, was becoming choked by water hyacinth *(maguga maji).* On the Tanzanian shore some inlets tended to be blocked for a few days at a time, and the inshore *dagaa* fishery had begun to become badly impeded [.Water Hyacinth directly and indirectly affects the fishery. Directly, fish trapped in the weed (and in an accompanying parasitical plant) are vulnerable to asphyxiation and nets are subject to clogging. Indirectly, weed-cover lowers the water temperature and reduces light intake, which restricts the reproduction of the plankton on which dagaa feeds.] .

The Lake lies in the middle of a flat and gently rolling treeless plateau, at a height of around 1100m. Throughout the plateau are spectacular granite outcrops and close to Mwanza these form cliffs around the shore. Offshore are more granite outcrops, including the one which claimed the MV Bukoba with the loss of several hundred lives in mid-1996.

With the advent of colonialism the Lake and its shoreline was divided between the three east African territories and efforts were made by the colonial governments to integrate each of their Lake territories into their respective 'national economies'. Around what became the Tanzanian shoreline the bulk of the population belonged to the Wasukuma people. These practised farming of maize, cassava, groundnuts, sweet potatoes and chick peas in the high rainfall areas close to the Lake and cattle herding in the less densely populated and more arid ones.

After 1945, when British economic and political priorities dictated a shift to an explicitly 'develop mentalist' agenda, Sukumaland became the subject of probably the most comprehensiveof state interventions in the history of the colony. Under the 'Sukumaland Development Scheme' the area was designated for peasant cotton cultivation. Huge areas of bush were cleared, particularly in Geita and Biharamulo districts, local water supplies developed, cattle off take quotas introduced, cotton production promoted and land use and cultivation methods carefully monitored. To police the whole operation an overarching 'Native Authority', the Sukumaland Federation, was set up.

Most of the objectives of the Sukumaland Development Scheme failed miserably, but especially in the newly opened-up areas cotton production grew vigorously, buoyed by the rising world price in the post-Korean War period. Reliable data on acreages is lacking, but seed cotton output increased from 50,000 (180 kg) bales/year in 1950-52 to 227,750 bales/year in 1962-64.

After independence, cotton continued to increase in importance until the 1970s, whereupon its cultivation first stagnated, then contracted. Farming systems studies conducted in the area during the 1980s demonstrated an increasing substitution of maize and rice for cotton on better soils and in higher rainfall areas. The bulk of these crops were also traded, but in a developing network of regionally-based private markets around the Lake rather than in the nationally-based and state-controlled ones centred on Dar es Salaam, as cotton had been (Meertens, Ndege and Enserink,1995).

Increased local marketing of maize and rice was part of a general restructuring of the economy of the southern Lake area during the 1980s. Two other important elements of it were a revival of the gold mining industry (dormant since the 1960s) and an apparently huge increase in smuggling with Kenya following the reopening of the border in 1983. These, and especially the latter, were the basis for the amassing of considerable fortunes by certain African and Asian businessmen in Mwanza town, Tanzania's second largest (population somewhere between 0.25 and 0.5m in 1996), fastest growing and most 'wide open' town (see Gibbon 1997b).

Fortunes have also been made in the other main- and dominant- fishery on the Lake, that for Nile Perch. This large carnivorous and cannibalistic fish, which was introduced to the Lake in the 1950s, began to account for the bulk of its biomass by the early 1980s. After some initial consumer resistance it became locally a popular item of consumption both in artisanally smoked, fried and dried forms. In the second half of the decade a northern hemisphere market was developed for it as a 'table fish', substitutive of cod, and a number of industrial plants filleting and freezing for export were opened in Kenya. In the early 1990s plants also opened in Tanzania and in Uganda. On the basis of improved prices and factory sponsorship, there was a huge expansion in fishing effort and a significant upgrading of the 'artisanal' fishing fleet. The trade in 'artisanally' processed Nile Perch also remained a significant one, although it was now confined only to whole fish and fish parts which the factories were unable to buy or which they rejected (the fishery is treated at length in Gibbon (1997b)).

In the 1980s Nile Perch was locally nicknamed *mkombosi* (the saviour), for its appearance revived and expanded a Lake Victoria fishery which for the previous twenty years had appeared to be in the throes of terminal decline. The main commercial species, tilapia (O. esculenta and O. niloticus, *sato*) were becoming badly overfished, a succession of other commercial species (notably Bagrus and Labeo (*hongwe* and *ningu*)) rose briefly to prominence but then also declinedrapidly, and no real market could be found for the commonest Lake species, the small and unpalatable Haplochromis (*furu*)).

As well as its great importance in its own right, the Nile Perch is also thought to have indirectly created the basis for the rise of the *dagaa* fishery. During the period of its proliferation, Nile Perch seems to have fed mainly on *furu*. Since *furu* fed on plankton, this created opportunities for the proliferation of other species competing for this food source; the chief of these competitors was *dagaa*, which unlike *furu* tended to shoal at different levels of the water body to those in which the Nile Perch was present.

According to Chitamwebwa (1988) the *dagaa* fishery in the Tanzanian part of the Lake dates from sometime during the 1960s, having been introduced to the Mara shoreline from Kenya. The fishing method it was exclusively associated with at this time involved the combination of 'light attraction' with beach seines with 8-10 mm meshes. At least on darker nights, when kerosine pressure lamps with reflectors were floated on water bodies containing the fish, they attracted large concentrations of plankton- which in turn attracted concentrations of *dagaa*. Chitamwebwa states that the fish caught in this manner were dried on the beach and then purchased by Duluo women traders for sale in Kenyan markets [.In Kenya R. argentea is known as omena .] .

By the 1970s a local Tanzanian market had been established for sun-dried *dagaa Mwanza* and some intensification of production methods (the practice of mounting multiple lamps on anchored buoys) had occurred (Chitamwebwa, ibid.). During the first half of the 1980s traders from Mwanza town and Dar es Salaam began appearing in the *dagaa Mwanza* fishing grounds and, in a probably directly related development, techniques from the *dagaa Kigoma* fishery on Lake Tanganyika began to be introduced. The first of these was the introduction of fishing from canoes with lamps and (1.5m diameter) fine mesh scoop nets (*senga*), in rocky areas where beach seine use was impractical. Interestingly, the scoop net *dagaa Kigoma* fishery is one always said to have been practised by poorer vessel owners on Lake Tanganyika (Ndugumbi, 1988). Better-off vessel owners fished with beach seines also, or with lift nets (*vipe*, sing. *kipe*) suspended between the twin hulls of a catamaran.

Catamarans (and later, trimarans) of the kind commonly used on Lake Tanganyika seemed to have themselves been introduced to Lake Victoria around 1986. Unlike the *senga* fishery, their introduction seems to have been the result of direct migration of several dozen vessel owners, families and crews from Kigoma and elsewhere on Lake Tanganyika (including the Zairean shore) to various sites on Lake Victoria. In early 1996 I interviewed a number of *dagaa Mwanza matajiri* who had migrated a decade before from Kigoma or from Zaire, and who all gave as their reason that *dagaa* catches on Lake Tanganyika had fallen to sub-economic levels. The liftnets they brought with them were mostly primitive purse seines, roughly 16 m deep and between 55 and 140 m in circumference, operated with an average of three floated lamps.

By the late 1980s a market for *dagaa Mwanza* had developed not only in Dar es Salaam but also in the main fish-consuming regions of north-east (Tanga) and south-east (Lindi and Mtwara) Tanzania. Furthermore a significant export market (Zaire) had opened up, alongside a large 'supporting' market in Tanzania for *dagaa* unfit for human consumption, for the poultry feed industry. In the wake of the introduction of a combination of trade liberalisation and donor import support schemes in the mid-1980s, a poultry breeding boom had occurred in large towns,particularly Dar es Salaam. What was to become the leading local supplier of chicks and poultry feed, Inter-Chick, began large-scale purchases in Mwanza in 1986 (see below).

Even so, on Lake Victoria the *dagaa Mwanza* fishery remained very much a poor relation to the Nile Perch. As late as 1988-89, this fishery was said to account for only about six percent of total catches and 16 percent of vessels in Mwanza district (Reynolds and Greboval, 1989; Mlay and Mutsekwa, 1993). *Dagaa Mwanza*'s boom years were the first half of the 1990s; as will be seen, these proportions- though probably not the poor relation status- had changed dramatically by 1996.

By the mid-1990s the principal and secondary *dagaa* fishing grounds on the Lake were by and large the same as those for Nile Perch. The main fishing grounds lay off the islands in the south-western corner of Lake, in Geita and Sengerema districts, and off the very large island Ukerewe in the Lake's south-eastern corner. Here fishing was carried out from semi-permanent camps (*makambi*). However, as with Nile Perch but probably more extensively, less specialised and less capitalised secondary *dagaa* fisheries were based at villages and smaller landings around almost the whole Lake shoreline.

The largest dagaa *kambi* which I saw was based on Ukerewe and comprised 36 *vipe* (purse-seines used from catamarans) and four 'hurry-up' units (see below). Fishermen from each unit stayed together in sub-camps within the camp, organised by each of the *matajiri*. The *kambi* as a whole had an elected leader and a set of rules, but each *tajiri* or his deputy (*meja*) was basically responsible for the behaviour of his employees. Besides crew members and *matajiri*, camps normally comprised the *tajiri*'s own wives and children, camp cooks, skilled net menders and a floating pool of casual labour. The *tajiri*'s family, the cooks and some fishermen would typically rent huts built from papyrus reed by people from the nearest village. The catch would be dried on the open beach, either on grass or directly on the sand, and every few days local collectors (often themselves *tajiri*) or traders from Mwanza or further afield would visit the camp to buy. Sometimes they would spend a few days at a camp, waiting for a large enough load to fill one of the transport boats (*makarua*) regularly plying between the islands and Kirumba, the main landing beach (*mwalo*) two or three kilometres north of the centre of Mwanza town.

Many dagaa *sub-camps* were parts of much larger, mixed camps where most boats and crews were specialising in Nile Perch. Some of these *makambi* were extremely large and a few had their own *hoteli* (cafes), shops, mosques (but never churches) and even video halls. Others comprised just two or three vessels. On the whole, dagaa *makambi* seemed to be less temporary than the Nile Perch ones, not least because there were few or no engines in the *dagaa* fishery and hence the vessels were less mobile.

The largest physical site for the bulking and resale of *dagaa* in Tanzania is almost certainly Kirumba *mwaloni (literally 'at the landing')*. The *mwalo* itself is now a walled compound covering an area of about 250 by 800m, on a sandy bank rising steeply and evenly from the Lake like a terrace at a football ground. It is divided into distinct areas specialising in different commodities including, besides processed fish, bananas, building poles, firewood and charcoal. In each of the areas except the ones selling wood, goods are stored on *meza* (literally tables, actually stands) built from thick rough sawn cypress planks, resting on granite blocks. The stands are mostly 2-3 m long and 0.5 m above ground level, and some are stacked to a height of 2-3 m.Most are covered in blue tarpaulin sheets stencilled with the letters 'UNHCR', presumably emanating from the camps in neighbouring Kagera region, which until 1997 housed Rwandan refugees.

Kirumba mwaloni bears certain signs of recent formalisation. Besides the boundary wall and gates there are a couple of water taps, a public toilet and the offices of four or five cooperative societies, three of them dealing in fish. These are solid-looking wooden huts equipped with desks, chairs, filing cabinets and telephones, and with their walls covered with lists of direct dialling telephone codes for Tanzania and neighbouring countries. Next to the *mwalo* is a retail market and beyond it a relatively prosperous low-density African suburb. The road leading to the *mwalo* is crowded with trucks from all parts of the country waiting to be loaded with fish, and is lined by bars and 'niteclubs', eating places, guest houses and hair saloons. Not far behind it is at least one respectable modern hotel and an international telecommunications office.

When I visited Kirumba in the late 1970s it was little more than a landing for local fishing craft, and a suburban retail market. Traders I spoke to in 1996 told me that even in the mid-1980s there were little more than 10 *dagaa* traders there. By the time of Reynolds and Greboval's fieldwork in 1989 however, there were between 50 and 60 and by the time of van der Hoeven and Budeba's in 1993 there were 166 who were licensed. For most of this period the *dagaa* trade at Kirumba was dwarfed by that for artisanally-processed Nile Perch, but this epoch was already drawing to a close by 1993, when first Kenyan and then local Nile Perch processing plants rapidly captured 80-90 percent of the market for fresh fish. By 1996 there was clearly more activity in *dagaa* at Kirumba than there was in artisanally-processed Nile Perch, with around 60 stands with a total storage capacity of about 200-250 ton dedicated to the trade. The trade is wholesale insofar as the minimum amount officially traded is one 35 kg gunny bag (*gunia*).

Dar es Salaam

There has been 'artisanal' fishing for reef fish from several points around Dar es Salaam also for at least as long as written records have been kept. The main centres for this fishery were Msasani village, now firmly part of the city itself, and Kunduchi and Ununio villages about 20-25 km north of the city centre. Within 'old' Dar es Salaam there has also traditionally been two somewhat smaller bases for the reef fishery, facing each other across the mouth of the harbour. On the east side lies Kivukoni, generally regarded as a focus of urban settlement for fishermen from further south in Tanzania, and on the west- on a small promontory just below State House-lies what used to be called Banda Beach, but which is now known simply as 'Ferry'. 'Artisanal' vessels were traditionally both anchored at Kivukoni and drawn up on the beach itself at Ferry.

When I used to visit 'Ferry' fish market in the late 1970s it consisted simply of a once-daily sale of several piles of fresh reef fish by one or two municipally-employed auctioneers, on the beach itself and with a small, mixed crowd of restaurant owners, itinerant traders and well-off direct consumers as customers. Around the market were a few stalls selling fruit and vegetables and the ticket office and concrete runway to the Kivukoni ferry. On the beach stood a mixture of dugouts (*mitumbwi*) and canoes fitted with sails and stabilisers (*ngalawa*), and just offshore at the southern end were anchored a few steel-hulled and some large planked vessels *(mashua*) built to take inboard or outboard engines. Amongst these was a small fleet of so-called 'semi-industrial'purse seiners under the ownership of the parastatal Dar es Salaam Development Corporation (DDC). In the mid-70s this fleet had been extremely actively, but by 1980 was mostly laid up.

This 'semi-industrial' fleet was a development aid-induced local version of a fishery which had begun spontaneously in Dar es Salaam in the early 1960s using ring-nets or (c. 140 m circumference) purse-seines from 10-12 m mashua, accompanied by two or three kerosene lamp-carrying dinghies (Nhwani and Makwaia, 1988). The fishery spread to Tanga in the early 1970s and in Dar es Salaam grew to between six and ten vessels during the DDC interlude. Most of the DDC fleet was eventually scrapped but by 1986-7 there were 11 privately owned smaller purse-seiners operating from Ferry on a daily basis again (ibid.).

When I returned to Ferry in 1995 the only recognisable landmark was the Kivukoni Ferry itself. Rather than a market, the area resembled a large village bisected by a tarmac road running round the promontory in a loop. On the seaward side of the road were two covered market halls with concrete floors, one of about 80 stalls and one of about 40, all selling fresh fish from iced containers. Between the halls were two large circular concrete auction rings. On the waterfront side of the market buildings were a series of around 20 artisanal processing operations and, between the market halls and the Kivukoni Ferry, another market comprising about 100 stalls selling fruit, vegetables, meat and second-hand clothes, and around 50 *hoteli*.Toward State House was an anchorage with an ice plant. Around the anchorage were about 25 *mashua*, apparently being used as reef fish 'collector boats', and similar numbers of *ngalawa* and *mitumbwi*. This part of Ferry market was said to have 'shot up' in the second half of the 1980s, when internal trade liberalisation coincided with a substantial increase in the rise of the industrial prawn trawler fleet. The trawlers had a very substantial reef fish by-catch and fresh fish became available in much greater quantities, and at lower prices, than ever before. Then, once a large market had been established, traders at Ferry began collecting reef fish systematically throughout the marine fishing grounds, and in particular from the area around Mafia island one hundred kilometres to the south.

The *dagaa pwani* fleet was still anchored at the city end of the promontory, on the other side of the Ferry to State House. By this time two quite different sorts of vessel were involved; a larger number of 10-12 m mashua with outboard motors, and a smaller number of rather larger ones with inboard motors. The *dagaa pwani* trade occupied most of the landward side of the Ferry area, a sloping dusty field of four or five acres. At intervals around the field were the sacking mats of the *dagaa* driers, those furthest up the hill drying for the chicken millers and those lower down drying *dagaa* for human consumption. None of the traders there whom I spoke to had been involved in the trade prior to 1985, and most thought that there were only a handful of independent *dagaa pwani* traders at Ferry even at this time. During the late 1980s most of those in the *dagaa pwani* trade at Ferry were drying on commission for traders from Kariakoo market in central Dar es Salaam; only in the early 1990s did the direction of trade change and 'did we become independent traders' [.These and other statements in quotation marks are actual statements by interviewees, given in the form in which they were translated by research assistants or directly transcribed from answers given in English.] .

By 1995, Kariakoo was supplied with *dagaa* very largely from Mwanza and, to a lesser extent, Kigoma. The dried fish trade here occupied the sweatiest, most over-crowded and most airless section of the basement of the cavernous concrete building housing the main market. *Dagaa* was piled up in sacks behind, alongside and underneath about two-thirds of the 70 or so stalls, the remainder of which were mainly selling smoked Tilapia and smoked and dried Nile Perch.Activity at this market was also said to have expanded dramatically in the mid-1980s, and control of it to have passed from the hands of 'Waswahili traders from Mombasa' toTanzanians.

The expansion of fish trade activity at Kariakoo and Ferry expresses only one dimension of the general expansion of trade in the capital city over the last decade. Traders at these sites are basically the elite of an army of plebeian traders. *Dagaa* has meanwhile filtered down to the smallest kiosk in the city through the proliferation and differentiation of other layers of private traders. By 1995, vernacular Kiswahili distinguished not only the *watu wa mbao* (literally, the people with tables) inhabiting markets like Kariakoo and Ferry, but *magenge* (stallholders in informal markets), *mama ntilie* (women sellers of prepared foodstuffs at regular roadside sites), *mafunga* (sellers of small piles of a single commodity at a regular roadside site or on a fraction of a stall at a *magenge* market) and *machinga* (hawkers), all of whom were buying from them.

Economic liberalisation

The *dagaa* boom, like those for prawn and Nile Perch, more or less coincided historically with the adoption and elaboration of structural adjustment policies in Tanzania. For a decade and a half prior to adjustment Tanzania had followed a path of 'socialism and self-reliance', which involved nationalisation of the 'commanding heights' of the economy, 'confinement' of most productive activity outside agriculture and all trade to parastatal or state-run cooperatives, and holding the exchange rate at a very high level in order to subsidise the import of capital goods. Simultaneously the rural population was forcibly resettled in villages, resulting in a massive disruption of agricultural production. Marketed agricultural output also declined as parastatal margins steadily rose, resulting by the end of the 1970s in a sharp decline in staple exports and a severe foreign exchange crisis.

From 1979 onwards, while the Tanzanian government and the international financial institutions were deadlocked over the terms on which the latter might extend balance of payments support, there was a widespread contraction in official economic activity and a growth in the so-called 'second economy'. The latter term subsumed both the mass diversification of popular livelihood sources away from export crop agriculture and official marketing channels generally, as well as smuggling, diversion of official imports, hoarding and illegal dealings in confined goods and forex.

After efforts to suppress these trends ended in fiasco and the death of their main architect, a gradual official opening began in 1984. The Tanzanian shilling was allowed to rapidly depreciate and traders holding hard currency were allowed to import goods into the country on a 'no questions asked' basis. This latter measure regularised a lot of existing 'second economy' activity. As deconfinement of exports and an easing of regulations governing the right to retain earned foreign exchange followed, a growth in exports as well as imports was stimulated.

This chain of events stimulated the trade in prawn after 1986 and the internationalisation of the Nile Perch marketing chain after 1989 through the substantial and direct increase in opportunities and incentives to export. A similar though much less profound effect occurred with regard to *dagaa*, with the opening up of private trade to Zaire and other countries. But as with artisanally-processed Nile Perch, margins in the *dagaa* export trade were not especially high, nor were goods high in demand in Tanzania available cheaply in the domestic markets of the main importingcountries. In the longer term therefore, these particular cross-border trades tended to become dominated by Zairean importers.

The relation between liberalisation and growth of the *dagaa* trade was largely indirect; the only direct relation lies in the abolition of retail price control in 1989- a control which was rarely enforced anyway. Perhaps the most important of the indirect connections lay in the nexus between the general legitimation of private enterprise amongst urban middle-income groups and the capital requirements for entering the trade. The relatively low level of the latter made it possible for many who had 'unofficially' accumulated modest capitals to find a relatively safe and steady source of earnings, by inaugurating a production or larger-scale trading activity. On the other hand, such entrants for the most part had some pre-existing connection to the fishery or to some branch of market trade.

As will be seen, part of the reason for *dagaa*'s subsequent profitability for these individuals was to be an increase in demand for animal feeds, which was itself a product of parallel investments in poultry by more or less the same social segment. Furthermore, because *dagaa* is almost infinitely divisible physically, many members of quite low-income groups could also enter the trade, this time at its lower levels. In both cases these opportunities were underwritten by the general growth of market infrastructure which accompanied import liberalisation, involving in the process the formation of large fleets of trucks and bicycles shifting consumer goods to distant parts of the country.

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3.*Dagaa* and the national economy

The displacement of *dagaa Kigoma* by *dagaa Mwanza* over the last decade as the main domestically-traded variety of *dagaa* is generally said to be the product of a an expansion of the fishery for the latter with a combination of falling production and the export of the great majority of remaining catches to Zaire for the former. Nobody at the headquarters of the Fisheries Department in Dar es Salaam thought it worthwhile even hazarding a guess about annual production of *dagaa Kigoma* - 'we get so little of it that its production is basically part of the Zairean economy, not ours'. I was routinely told by traders that *dagaa Kigoma* appears on the home market only when there is a surplus. Given the apparent steadiness of the trade in it in Dar es Salaam this is clearly an exaggeration, but it contains a kernel of truth.

The discussion here will consider *dagaa Mwanza* exports as well as the internal trade in *dagaa* generally, from a quantitative standpoint. However, the preciseness of the figures appearing in the subsequent tables needs to be taken with a pinch of salt, as will become clear. It is also important to make clear from the outset that 1995 was considered a year of very poor catches, at least relative to 1990-94 and the early part of 1996, and hence that sales would normally be considerably higher.

Table 1

Dagaa Mwanza exports in weight (tons)

1982	1,069
1985	2,073
1992 (July only)	1,110
1994	1,785
1995	1,676 (1) 1,751 (2)

	2,752 (Zaire only) (3) 3,700 (incl. domestic sales to Tunduma) (4)

Sources: 1982, 1985: Reynolds and Greboval (1989)
1992: van der Hoeven and Budeba (1993)
1994: Idara ya uvuvi, Wizara ya Utalii, Maliasili na Mazingira, Annual Report and Budget estimates
1995: (1)Mwanza RFO royalty payments records; (2)Kirumba mwaloni market office; (3)Mwanza South railway goods office; (4)own estimate (see text)

Whereas *Wizara ya Utalii, Maliasili na Mazingira* (the Tanzania government Department of Tourism, Natural Resources and the Environment) has produced export statistics for species such as prawn, lobster, octopus, sea cucumber and processed Nile Perch over the years, official statistics for exports of artisanally processed fish were produced for the first time only in 1994. In addition, statistics of a kind for *dagaa Mwanza* are available for some (parts of) earlier years from FAO publications like Reynolds and Greboval and van der Hoeven and Budeba, and for 1995 from several different official sources in Mwanza town. The magnitude of the differences is striking, with the figures for 1982, 1985 and 1994 appearing to be unrealistically low and that for July 1992 unrealistically high. While probably all of the 1995 figures are underestimates, the highest of the first three figures given for this year (which concerns exports to Zaire only) is probably the least unreliable official one, for those involved in dealings with all three of the offices involved reported only 'very modest' under-recording at Mwanza South. This would give a total export to Zaire of around 2,800 tons in 1995.

My own estimate of dagaa Mwanza exports in 1995 is around 3,700 tons. This estimate was arrived at as follows. According to Kirumba mwaloni market records in 1995, 85 percent of all *dagaa* whose final destination on market levy receipts was reported as an external one were bound for Zaire. There was a large number of minor destinations, mainly other countries in the Great Lakes region plus Zimbabwe. If this proportion can be accepted as roughly accurate, then total exports of *dagaa Mwanza* were in the region of 3,300 tons. To this should be added more than 8 percent of domestic sales, which were receipted as destined for Tunduma, the border point with Zambia, i.e. at least another 400 tons.

Export values are hard to compute. The price of *dagaa Mwanza* in Kalamie (the main port of entry to Zaire) in early 1996 was said to be around US$ 35 for a 45 kg *gunia*, or roughly US$ 778/ton, but this was in the context of a steep decline of prices from 1995, which for good grades had reached almost double this level. On the other hand, the quality of *dagaa* typically exportedto Zaire was in the lower range of that considered fit for human consumption and commanded a correspondingly lower price. Assuming an average export price of US$ 1,000/ton for 1995, total exports were probably worth around US$ 3.7m.

Table 2

The domestic trade in *dagaa*, 1995 (tons)

Officially recorded domestic sales of dry *dagaa Mwanza*, Kiruma market office	5,079
Own estimate, domestic sales of dry *dagaa Mwanza* at Kirumba	8,000
Own estimate, domestic sales of dry *dagaa Mwanza* outside Kirumba	1,000
Own estimate, domestic sales of dry *dagaa Kigoma*	4,000
Own estimate, production of dry *dagaa pwani* (Dar es Salaam and Bagamoyo only)*	1,500
Total domestic sales of *dagaa* (main three varieties):	**14,500**

*based on estimated catch of 3,800 ton and a dry: wet fish conversion ratio of 40%.

After deducting roughly 400 tons of 'domestic' sales which were actually bound for Zambia, officially recorded domestic sales in 1995 at Kirumba mwaloni should have been about 4,600 tons. Almost certainly this reflects systematic under-recording at Kirumba market office. However, simply applying to domestic sales the multiplier of 2 apparently implied by the divergence between actual and recorded exports may not be warranted. Considering the probable size of the total Tanzanian *dagaa* fishing fleet and the reported catches per vessel which will be considered in a moment, it seems that total production in 1995 was probably less than 25,000 tons of wet fish, or not more than 12,500 tons of dried *dagaa*. Assuming that perhaps 1,000 tons of dried fish by-passed Kirumba mwaloni (mostly destined for companies milling *dagaa* for chicken feed (*chakula cha kuku*) in Dar es Salaam), actual domestic sales of *dagaa Mwanza* at Kirumba mwaloni were probably around 8,000 tons.

Destinations of *dagaa Mwanza* recorded in levy receipt books at Kirumba mwaloni market office indicate that about a third by weight of all *dagaa* recorded as sold domestically in 1995 was bound for Dar es Salaam. The only other destinations accounting for more than six percent each of all domestic sales were Tanga/Muheza (7.7 percent), Mtwara/Newala/Tunduru/Masasi (6.8 percent), Morogoro (6.2 percent) and Songea (6.0 percent). The Dar es Salaam figure is so high because it is the main national centre for chicken feed milling, and because Mwanza-based agents for the Dar es Salaam millers purchase in Kirumba itself as well as on their own account. In 1995, because of the price effects of the general shortage of *dagaa Mwanza*, the largest single milling company in Dar es Salaam purchased only about 2,000 tons of *dagaa Mwanza*, less than one third of its average annual purchases in the period 1990-94. A representative of this company considered that in 1995 it accounted for about half of all *chakula cha kuku* supply in Dar es Salaam (overwhelmingly the largest market), but a rather higher proportion of *dagaa* for *chakula cha kuku* purchases, since other companies frequently used *dagaa* in lower ratios or substituted Haplochromis or *dagaa pwani* for it. Total domestic sales of *dagaa Mwanza* for the *chakula cha kuku* market perhaps amounted to 3,000 tons or about one third of the total domestic market for this product.

Levy receipt books for inward movements to the market at Kariakoo in Dar es Salaam give total purchases of 1,072 tons of *dagaa Mwanza* for human consumption in 1994 and 660 tons in 1995.By common consent these figures also involved an under recording of actual transactions, but to what extent is not known. Given this and the fact that larger Kariakoo traders made 'more sales outside the hall than inside it' (see below), total sales of *dagaa Mwanza* for human consumption to Dar es Salaam were probably at least 1,000 tons in 1995.

The only officially-derived figures on the *dagaa Kigoma* trade which I managed to obtain were for recorded purchases by traders at Kariakoo. These comprised 277 tons in 1994 and just under 300 tons in 1995, probably equivalent to a 'real life' volume of perhaps 500 tons. Because *dagaa Kigoma* even of poor quality commands a price similar to *dagaa Mwanza* of good quality it is not used for *chakula cha kuku*. Therefore the proportion of total domestic sales destined for Dar es Salaam is considerably smaller- perhaps 15 percent rather than 35 percent, of which perhaps something like 12 percent of all the internally traded product would end up in Kariakoo. On this basis, an extremely rough estimate for 1995 of the total domestic trade in *dagaa Kigoma* of around 4,000 tons can be arrived at. The *dagaa pwani* production figure given here covers production only at Dar es Salaam and Bagamoyo. The basis for its calculation will be explained later.

Summing-up these estimates in the context of a further warning concerning their reliability, the total domestic trade in *dagaa* in 1995 was in the region of 14,500 tons, of which well over half was in *dagaa Mwanza* of all descriptions, and about a fifth was *dagaa Mwanza* for *chakula cha kuku*. The total export and domestic *dagaa Mwanza* trade was probably around 12,500 tons. Domestically, *dagaa Kigoma* had been relegated to a secondary role, though the trade is probably still of greater magnitude than that for *dagaa pwani*.

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4.The marketing chain

As they are largely distinct, the discussion which follows will treat separately the marketing chains for *dagaa Mwanza* and *dagaa pwani*. The discussion will concentrate on the structure of the chains today, while the next will discuss the nature of the actors and actresses found at its various links, the social relations between them and the strategies which they have employed in order to establish and improve their positions. The marketing chain for *dagaa Kigoma* will be discussed at its points of intersection with that for *dagaa Mwanza*, that is, through the relation to it of down-country traders.

Dagaa Mwanza

(i)The Lake

In 1996 there were four different fishing methods used in the *dagaa Mwanza* fishery, each with its own means of production and labour process. Two of these were longer-established but decidedly waning in importance, and two more recent and by 1996 more or less dominant.

The oldest established fishing method for *dagaa* was beach seining. *Dagaa* beach seines *(makokoro*) which I saw were almost invariably much smaller than those used in the Nile Perch fishery and had much smaller 'crews', besides of course having far smaller meshes. Seines longer than 200 m seemed to be almost unknown and some were as small as 50 m in length. Typicallythey would be operated by a 'crew' of 6-8 men, including at least one operating a floated kerosene lamo *(karabai*). Those which were operating still seemed to be doing so only on relatively dark nights (perhaps 15-18 nights each lunar month (*gisa*)), from around midnight to close to dawn. A larger seine of perhaps 150 m whose operation I observed had cost something between Tsh 100,000 to 200,000 (US$ 180-360) to buy a few years before; such a seine's operation would normally require a dug-out canoe for net setting (cost around Tsh 80,000 (US$ 145) for one made from inferior local wood) and a couple of *karabai* (at Tsh 12-15,000 (US$ 22-27)/piece). Smaller seines would be operated without a canoe and probably with a single *karabai*.

The use of beach seines with cod-end mesh sizes of 10 cm or less on Lake Victoria was officially banned from January 1st, 1996, under the Fisheries (General Amendment) Regulations of 1994 (United Republic of Tanzania, 1994). Whereas this led to a major outcry and a general flouting of the law on the part of Nile Perch beach seine owners (see Gibbon, 1997b) there was little response from the owners of *dagaa* beach seines. Use of the latter were rapidly decreasing in popularity anyway as a result of declining catches, and the general attribution of this to over-fishing in very shallow waters. The owner of the 150 m seine whom I interviewed had seen his catches decline from 100 (35 kg) *gunia*/*gisa* (3.5 tons/month) when he first began operations with it in the late 1970s to 30-40 *gunia*/*gisa* (around 1.2 ton/month) in 1995-96 (lower figures were given by two other *matajiri* at other sites on the Lake). He was contemplating converting his *kokoro* into a *kipe* net (see below) and buying an extra canoe to make a catamaran. A number of owners of larger *kokoro* had already done this, while many smaller ones had converted their seines into 'hurry-ups' (see below).

The second production method was the use of scoop nets *(senga*) from paddled or sailed canoes, with a crew of two men utilising *karabai* on floated lightwood rafts, again basically in shallow waters. This was most skilled form of freshwater *dagaa* fishing, but although it was said to have been quite popular only a few years ago it was also clearly on the way out. I rarely observed this form of fishing and I did not manage to interview a *senga* vessel owner.

By 1996 the dominant inshore fishing method was 'hurry-up' and the dominant offshore one involved using *vipe* nets from catamarans. The expression 'hurry-up' was used to denote both a type of net and a fishing method, introduced from Kenya in the early 1990s (hence the use of an English name). The gear is a small ring net, around 13 m in circumference and 10 m deep, used with sinkers. New ones could be purchased for around Tsh 100,000 (US$ 180), although some were said to be considerably dearer. Most in fact were assembled from old, smaller *kokoro*. 'Hurry-ups' were used from paddled canoes with crews of four men and at least three and sometimes up to eight *karabai*. Unlike the other methods already described, the *karabai* are set at intervals and during the course of a night the canoe makes a lift from each of them, rather than remaining anchored close to one or two. I interviewed five 'hurry-up' *matajiri*, whose catches per vessel over the last few months had averaged between 13 and 30 *gunia*/*gisa* (0.5-1.1 ton/month). In fact, their catches had fallen considerably more sharply than those of the kokoro owners, for when 'hurry-ups' were first introduced they were said to have been yielding over 100 *gunia*/*gisa* each.

While seines and scoopnet operations were based almost entirely on smaller landings and villages, and involved crews who were not full-time fishermen, 'hurry-ups' were operated both from these locations and from camps, by a mixture of part- and full-time crews. *Kipe* operationsby contrast were almost exclusively based in camps and involved full-time crews. The advantage of the *kipe* over other *dagaa* fishing methods was that the vessels and gear involved could be used in considerably deeper waters (over 20m), where *dagaa* were thought to be larger and more plentiful. Many *kipe* catamarans were equipped with sail and a large proportion could also take an outboard engine, although I almost never saw one actually fitted. They worked with crews of four men. All fished with the net and a number of *karabai* set between the two hulls of the catamaran, which were both fitted with primitive hauling gear. The largest catamarans had hulls of up to six metres made from good hardwood (*mninga*), at a cost of Tsh. 0.17 (US$ 310) each, and operated with full-scale 'Japan' nets, up to 150 m in circumference and costing over Tsh 0.5 m (US$ 900) including ropes. More commonly they operated with lift nets about half this size, assembled from *vyandarua* (pieces of mosquito netting) at a cost around a quarter of this. *Vipe* catches had also fallen drastically in 1995; the three *kipe* owners I interviewed (all owning smaller units) had catches per vessel of only 30 *gunia*/*gisa* (1.1 ton/month).

When Ward et al conducted fieldwork on Ukerewe in 1994 (Ward et al, 1994) they reported a recent increase of fishing effort by *kipe* owners from 15 days/*gisa* to 21-25 days. By early 1996, when I visited the fishing grounds, *dagaa* fishing with *vipe* was being conducted every night of the month without exception. The length of time spent on the Lake each night had also increased, in some cases to almost 12 hours [.This did not necessarily imply an increase in physical effort by fishermen, who reported no increase in numbers of lifts per night, 'there aren 't so many fish, so there aren 't so many lifts. We spend a lot of time sleeping '.] .

The total number of vessels and persons involved in the *dagaa Mwanza* fishery is unclear. According to the Mwanza Region Fisheries Census of 1995, which locally was widely regarded as more or less accurate ('or at least a lot more accurate than any previous census'), there were a total of around 4,000 fishing vessels active in the Region, excluding Geita district. Here there were possibly 500-1,000 more. Most of these were targeting Nile Perch. My own estimate is that there were perhaps 3,000 crafts involved in the Nile Perch fishery in Mwanza Region and perhaps 3,500 on the Tanzanian part of the Lake generally. Since most other fisheries except that for *dagaa* had either died out or were carried out as a part-time activity by fishermen primarily involved in Nile Perch, there were correspondingly probably 1,750 craft fishing for dagaa in Mwanza Region and a little over 2,000 on the Tanzanian part of the Lake generally.

Of these crafts, probably around 500-600 were catamarans with *kipe* nets. The Census identified over 280 of these units in Mwanza Region excluding Geita district, where I observed a considerable concentration. The next largest category in the Census comprised '*dagaa* scoops', of which more than 800 were identified. Finally came *mitumbwi* operating in connection with *dagaa* seines, of which there were almost 500. There was no heading corresponding to 'hurry-up', presumably because the designers of the Census had been working with received and probably already outdated categories. By 1995 most seines had almost certainly been upgraded into *vipe* or (in the case of smaller ones) into 'hurry-up' units. 'Hurry-up' units may also have predominated amongst the 800-plus units identified as 'scoops', of which I noticed very few. It is worth adding in this context that in the Mwanza District Fisheries Office boat register for 1992-95 (see below), only 20 new scoop units were registered, out of a total of around 380 new *dagaa* units. My own estimate would be that there were perhaps 100 remaining *dagaa* beach seines, 100 scoop net operations and perhaps 1,250 'hurry-up' units. This corresponds to a total of something over 7,000 fishermen. All these figures should be treated with extreme caution however.

No reliable statistics on vessel ownership have ever been produced at any stage of the development of the fisheries on the Tanzanian part of Lake Victoria (or for Tanzanian marine fisheries for that matter). However, by establishing a data base of all vessels registered at Mwanza District Fisheries Office between January 1 1992 and March 27 1996 I was able to construct an ownership distribution profile for the approximately 1,900 vessels registered in Mwanza town in this period. Easily the largest category of these was the 992 'artisanal' fishing vessels newly registered in the Nile Perch fishery. The next largest category was 378 'artisanal' vessels newly registered in the *dagaa Mwanza* fishery.

Vessels in this fishery registered in Mwanza town in this period neither comprised all new vessels commissioned, nor was their composition necessarily representative of *dagaa Mwanza* fishing vessels generally. Owners registering boats at Mwanza were likely to be somewhat better-off and more mobile than owners in the fleet generally. Hence the vessels registered were almost certainly more likely to be catamarans with *vipe* nets than in the fishery generally, and definitely less likely to be *mitumbwi* with scoop nets. This reflects an association between ownership of catamarans and *vipe* nets and degrees of commercialisation of/full-time involvement in the fishery. Notwithstanding this, some interesting patterns emerged.

Table 3

Distribution of ownership of newly registered fishing vessels in the *dagaa Mwanza* fishery, January 1992-March 1996

No. of vessels reg'd	1	2	3	4	5
% of owners	84.2	3.0	1.9	0.6	0.3
% of vessels	71.7	22.2	4.8	2.1	1.3

N owners = 322; N vessels = 378

Source:data base derived from Mwanza DFO boat register

Ownership of newly registered *dagaa Mwanza* fishery vessels was highly dispersed despite the register's implied bias toward better-off owners, with almost 94 percent of vessels being accounted for owners of only one or two vessels. This picture was in contrast to that for vessels registered in the Nile Perch fishery, where owners of only one or two vessels accounted for only two-thirds of all vessels registered. There is a tendency for concentration of ownership of registered vessels to be somewhat underestimated in Table 3 however, as the latter does not include vessels registered before 1992 or owned by *dagaa matajiri* and registered after 1992 but not used in the *dagaa* fishery. Since 1992 around 10 percent of *matajiri* registering ownership of *dagaa* vessels also registered vessels engaged in other Lake-based activities. Table 4 provides summary information on this group of owners and their vessels; this data will be returned to below.

Table 4

Owners of registered *dagaa Mwanza* vessels registering vessels involved in other Lake-based activities, January 1992-March 1996

Other activity	N. owners	N. vessels
a.Fishing for Nile Perch	21	51
b.Transport and collection	10	23
c.Both a. and b.	4	16

*Source:*as Table 3

Once *dagaa Mwanza* catches are landed they are dried over a period of 24-48 hours either on rocks, sacking, rush mats, plucked grass or fine, dry sand. Laying out of the fish, turning them during drying, gathering them after drying into 18 litre (= 4.5 kg) tins (*madebbe*) and pouring them into the locally standard 25 kg or 35 kg *gunia*, as well as weighing and loading them onto a transport boat on behalf of a trader, are all normally carried out by fishing crew members assisted by male casual labourers, women and children resident in the camps: 'it's not hard to get the crew involved. After all, it allows them to supervise my sales' one *tajiri* told me. The trader always keeps a close watch on the bagging operation in order to minimize adulteration of dagaa with sand (he may himself add sand at a subsequent stage, however). Where he buys *dagaa* already bagged (a rare occurrence, as few *matajiri* own *gunia*) the bags will be randomly sampled and the fish poured and re-bagged to check for sand content. This process is repeated at every subsequent link down the chain, except at local down-country wholesale markets. I was told that until 1994 traders invariably bought dagaa only when it was dried, but that because of the severe shortage in 1995 they had begun to buy wet *dagaa* direct from vessels as they landed at some of the larger camps (crews still took care of the subsequent drying).

When Ward et al visited a large *dagaa* camp on Ukerewe late in 1994 (Ward et al, op.cit.) they found that almost all *matajiri* were tied by incoming traders. The main bases on which they were tied were trader provision of gear and *mboga* (literally, a side-dish; figuratively, petty gifts). When I visited the same camp and others around the Lake early in 1996 traders were still supplying *matajiri* and crews with *mboga* (chiefly cigarettes) and with kerosene and wicks for *karabai*. Some were also taking badly damaged nets for repair, or good nets for conversion to 'hurry-ups' in Mwanza town. But nobody seemed to be advancing gear as credit, as in the Nile Perch and prawn fisheries, and no long-term contractual expectations seemed to be associated with *mboga* advances (although short-term ones clearly were).

Traders from Kirumba and further afield in Tanzania would normally show up at the *mwalo* on the Lake toward the end of a *gisa*, and *dagaa* would be stored in piles in the camps and close to landings in readiness for them. This was therefore also the time of the month when the stands at Kirumba filled up and when outside traders would arrive in Mwanza in force. As already noted, the great majority of *dagaa* caught on the Lake passes through Kirumba at one stage or another, even that sold at *mwalo* in Musoma, which is often brought onto Kirumba by truck. I happened to be interviewing at Kirumba mwaloni on 24th February 1996, the last day of one particular lunar cycle, and counted the arrival of a couple of truck loads of *dagaa* and no less than 35 fully loaded (500-plus 35 kg *gunia* each) transport *makarua* over a 24-hour period. The *makarua* were all sail-powered: 'all the motorised transport boats just carry *kayabo* (dried salted Nile Perch)'.

In early 1996 there were six main categories of trader buying *dagaa* on the Lake, and each tended to be associated in some way with a particular category of *matajiri*. The first group comprised a shifting number (but probably never more than about 25) of large-scale 'down-country' traders, travelling between the largest *dagaa* camps over a period of one or two weeks and buying between a half and a whole *karua* load (roughly equivalent to a 10 and 20 ton truck load, respectively). This group seemed to be purchasing mainly from *matajiri* owning one or two *vipe*, or a small number of 'hurry-ups'. These traders would pass directly through Kirumba mwaloni, paying labour charges for unloading and loading and a daily fee for storage on Kirumba trader's stands while they organised forward transport. Most of these traders came from Dar es Salaam, Mtwara, Morogoro or Tanga, and many were based in wholesale markets or had a string of retail outlets (or both) in these places. Even so, depending on market conditions they might change their objective. One from Morogoro whom I caught up with in Sengerema district told me that on a couple of occasions in 1995 his arrival with a large load at Kirumba had coincided with the arrival there of a big group of Zaireans. Because of a general shortage 'prices were extremely high and I decided to sell on the spot through a Kirumba trader'.

Secondly, there was also a larger number of much smaller-scale down-country traders travelling around the Lake and assembling significantly smaller loads of perhaps 50-60 bags of 35 kg (1.75-2.1 tons). These would try to target more or less the same population of *matajiri*, but because of poorer resources would usually have to wait until larger traders had purchased up to their own limits before they could enter the market. On the other hand, the limited level of their resources meant that they could not stay in the field as long as a larger trader, and that they could not visit as many camps. These traders would also have to wait longer at Kirumba to organise transport down-country, for they needed to form a group with other traders going in the same direction in order to hire a lorry. Both types of down-country trader were more frequently encountered travelling around on the Lake during the dry season than during the wet one, when prices at Kirumba mwaloni tended to drop and there was less profit to be made by by-passing it.

The largest traders based in the Mwanza area itself who were operating on the Lake comprised perhaps a dozen traders, either acting for large-scale *chakula cha kuku* millers and buying inferior quality *dagaa*, or partners of large-scale *dagaa* traders at Kirumba mwaloni itself who were mainly buying *dagaa* for human consumption. The nature of the business relations between partners in the latter type of operation will be explored later. The partner responsible for collection would normally be peripatetic and rely partly for directions on availability and price from the partner responsible for operations in Kirumba itself: 'Kirumba is the brains of the trade. It is where all the information becomes centralised'. These traders would be collecting from any vessels personally owned by the partner based at Kirumba (the 30 or so largest traders at the market were all said to own vessels, some up to five), and again from *matajiri* owning one or two more advanced vessels in larger camps. The partners typically assembled loads of perhaps 100-150 bags, but more frequently and over shorter periods than outside traders.

A majority of the supply actually traded at Kirumba mwaloni came from a fourth group, namely smaller-scale collectors. In reality these comprised overlapping sub-groups, of independent collectors and collectors working on advances from Kirumba traders or from agents of the leading companies milling *dagaa* for *chakula cha kuku*. Many collectors were probably simultaneously involved in all three roles, as well as serving as an agent for more than one trader. One I interviewed was collecting mainly from Koma Island in Sengerema. His routine was to take amotorised passenger *karua* from Kirumba twice weekly during the most active part of the *gisa*, reaching Koma in mid-afternoon. He would take with him kerosene, wicks and sometimes a net which had been repaired 'but the fishermen pay for these things, not me'. At around 6 pm, when the previous days' drying cycle ended, he would begin to buy, generally until around 10 pm. The next morning he would organise the bagging and loading and leave Koma with around 60 bags around lunchtime. Using a sail-powered vessel 'I can arrive back at any time of the day or night. But it doesn't matter, the market is always open'. This collector was working both on his own rather small capital and on three separate advances of Tsh 100,000 (USD 180)/trip by Kirumba traders. The Kirumba traders paid his transport costs and gave him a commission of Tsh 500/bag. A few collectors were land-based, operating at 'mainland' landings like Igombe and Kayenze, but most operated strictly on the Lake itself.

The largest- scale Mwanza-based buyers were not Kirumba traders but one or two big agents for the largest Dar es Salaam-based chicken feed millers. In 1995 the largest of all of these supplied one company with something around 800 tons; normally he supplied much more. The second largest was now milling on his own account, but in 1992 and 1993 supplied this same company with around 1,800 tons/year. These traders normally both collected through agents on the Lake and topped up consignments by buying personally in Kirumba, Igombe and Kayenze.

Finally there were two categories of *dagaa* fishing vessel owners who were actively involved in the trade. One group comprised a number of the largest dagaa *matajiri*. These were producing enough on their own account (100-150 bags/*gisa*) to make it worthwhile for them to try to leap-frog all other categories of trader operating around the Lake by personally organising the sale of their consignments to established customers in Kariakoo market, Dar es Salaam, or to some other large down-country market. Such leap-frogging enabled them to capture some of the intervening profits, just as it did for Dar es Salaam traders operating personally on the Lake. It was however a complicated operation to organise; on Ukerewe for example it involved travelling to the District headquarters in Nansio and obtaining a 'special license' from the District Fisheries Office. Even then, Kirumba and its various charges could not be completely avoided.

Normally these *matajiri* would also be collecting from other dagaa *matajiri* on the Lake. This was also the case for the sixth and last category of Lake-based trader, who were smaller-scale *matajiri* collecting from other small-scale *matajiri*, often based at smaller landings, and hiring transport to Kirumba, where they sold to or via (see below) traders at the *mwaloni*. There were more than one hundred persons moving into and out of this role, but according to most of the Kirumba traders I spoke to, the share of trade accounted for by this category declined significantly during the major shortages of 1995, as agents of traders from Mwanza and traders from elsewhere visited the remoter landings with increasing frequency. It was an accepted generalisation that an outside trader would always pay more than one based on the spot. Prior to 1995 this group of traders probably accounted for a majority of all *dagaa* purchases by weight on the Lake. In 1995 this had fallen to perhaps 20 percent, with partners and specialised collectors now accounting for the majority.

In some remoter parts of the Lake, especially those reasonably accessible to areas of high local demand (eg, the mining areas), a distinct sub-chain existed-but one which nevertheless conformed to a similar pattern. Here some of the last category of Lake-based trader would bring to local weekly general markets, such as that at Nkome in Geita district. On market days at Nkomeperhaps a dozen traders from around Kahama would appear, who would buy up to 30 or 40 bags each. In periods of high prices/shortage at Nkome these traders might themselves venture onto the Lake shore, the nearest point of which was only a few kilometres away. Equally, but mainly in periods of low demand at Nkome, *matajiri* might themselves organise a somewhat larger consignment than usual and sell direct in Kahama district. The trade at markets such as this tended to be most active during the dry season when supply of *dagaa* fell, but when alternative food sources became scarce and very expensive. As will be seen, this applied equally to demand in a wide range of down-country markets, especially those in arid and semi-arid areas. When I visited the weekly Nkome market at the beginning of the main rainy season in 1996 only 57 bags (about 2 tons) changed hands in 24 transactions.

(ii)Mwanza town

At Kirumba mwaloni in early 1996 there were about 150 registered traders in *dagaa*, but as elsewhere the number of active traders was lower than this, at around 100. All but two of these were men. All *dagaa* traders there were organised into a single cooperative society, *Ushirika was Wauza Samaki Mwaloni*, whose main function was more or less openly described by members as serving to reduce their trading license and income tax liabilities-although its leaders recounted elaborate stories about collective trading operations. The society was not admitting new members and hence functioned as a closed shop.

Kirumba mwaloni traders were engaged in two basic sorts of activity. Firstly, as already recounted, they were buying on their own account for resale. Secondly, they were serving as *madalali* or brokers. The brokerage function was mainly carried out in relation to smaller-scale *matajari* bringing *dagaa* into Kirumba on an unsolicited basis, and also sometimes in relation to that component of an agent's collection which had been purchased by the agent on the latter's own account. Brokerage involved finding a buyer for the *tajiri's* or collector's consignment, on the basis of an agreed reserve price, and with the *tajiri* being liable for levies, porterage and 'storage' charges. Depending on market conditions and other factors which will be discussed later, it might take anything from a day to a couple of weeks for the consignment to be sold. The Kirumba traders' commission was whatever they could sell the consignment for, over and above the reserve price. Brokerage of this kind is common for a wide range of commercial transactions throughout Tanzania and is known as *mali kauri* (literally, 'things to do with exchange').

Because of the existence of *mali kauri* there is no direct relation between individual levels of working capital and trading turnover in most Tanzanian commodity markets.

A relatively capital-poor trader may at certain times have a substantial turnover simply on the basis of his brokerage function. Traders at Kirumba tended to discuss issues of differentiation and hierarchy within the market mainly in terms of how many bags traders could buy when they purchased directly, either on the Lake or from incoming traders/collectors, or both, during periods of very high demand. At the time of my research the average price on the Lake of a 35 kg *gunia* of good quality human consumption *dagaa* had fallen to about Tsh. 9,000 (US$ 16.4), and 'average' size traders were typically making purchases of 100-150 bags each sales cycle, implying a working capital of Tsh.0.9- 1.35m (US$ 1,640- 2500). A 'large' trader was said to be anyone who could buy more than 500 bags/cycle, corresponding to a working capital of Tsh. 4.5m (US$8,200). It was generally agreed that only the best-off 20 or at most 30 traders could manage this; the maximum purchase anyone could make was thought to be 650-700 bags.

Many Kirumba traders still occasionally assembled loads to take speculatively for sale in distant markets like Dar es Salaam, Morogoro and Arusha, although this was said to be becoming rare-especially in relation to Dar es Salaam. This was in marked contrast to the situation prior to 1990, when the market for *dagaa Mwanza* still had not been fully 'made' and travelling out was a normal part of the life-cycle of all traders ('it's the way in which traders in distant markets become aware of you'). Since demand for *dagaa Mwanza* became well-established regionally and nationally, and since a pattern of systematic leap-frogging of intermediate markets by traders in areas of Tanzanian end-consumption began to emerge from around 1992-93, 'taking-out' from Kirumba had become mainly confined to occasional periods of generalised over-supply in Mwanza.

The two factors contributing most decisively to the establishment of a pattern of strong underlying demand for *dagaa Mwanza* were on the one hand the making of a market for it in Zaire and on the other the making of the *dagaa* for *chakula cha kuku* market. As already noted, these trades accounted for over half of all demand by 1996. A strong Zaire market dates from the late 1980s, and arose as the result of sorties by Kirumba traders to various markets on the land borders with Rwanda, Burundi and Zaire, followed by direct export to Zairean ports of entry on the southern part of Lake Tanganyika. Within some months traders from Kasai, which was to become the main point of end consumption, began to cross themselves into Tanzania in order to appropriate part of the profit hitherto accruing to traders from Tanzania and the border areas. Initially they are said to have tried Bukoba and Musoma as well as Mwanza, but almost exclusively gravitated to the last of these destinations as they discovered that consignments could be much more rapidly assembled at Kirumba than at any other place.

By the mid-1990s there were around 15 Kasai traders coming to Mwanza once a month for most months of the year, but making their largest purchases during the period January-July (covering the whole duration of the annual long rains). As a group they had considerably higher working capitals than the Kirumba traders themselves.

A typical consignment in early 1995 was said to be equivalent to 500 35 kg *gunia* of medium quality, purchased at around Tsh 9,300/bag; some went up to 3,000 *gunia* (purchasing price Tsh. 4.7 m (USD 8,500)- 28 m (USD 51,000)). The Kasai traders were said to be renters of 'wholesale shops' in their home areas. These 'shops'-cum stores were situated at central locations and served a bulking function for a revolving variety of wholesale trades. Although in the early 1990s the Kasai traders had typically brought gold with them to sell for Tanzanian shillings at the Bank of Tanzania in Mwanza town, the latter's cessation of gold purchases and an associated depression in the local gold price meant that by 1996 they were mostly bringing US dollars to trade with. One supplier told me that some Zairean traders were still bringing gold however, as well as cosmetics, perfume and textiles.

Zairean demand for *dagaa* appeared to be resilient, although the same strains were not placed on it as were placed on the trade for dry-salted Nile Perch, which earlier passed entirely through Rwanda. Nevertheless, during a dispute between Tanzania and Zaire in 1992 which affected visasand transit traffic, part of it was diverted through Dar es Salaam, the TAZARA railway and Zambia.

The *chakula cha kuku* trade started much earlier, although for many years it was on a small scale only. In the 1970s there was theoretically supposed to be an integrated fully industrial chain based on the Tanzanian part of the Lake, starting with industrialised trawling for <u>Haplochromis</u> by vessels belonging to the fisheries parastatal TAFICO and passing through three large feedmill plants, two based in Mwanza itself and belonging respectively to the parastatal Nyanza Fish and Processing Company at Ilemera and the animal feed parastatal TAFCO at Mwanza South, and one also belonging to TAFCO in Dar es Salaam. In reality the only significant consistent production was at the Dar es Salaam TAFCO plant. As the Nile Perch increasingly consumed <u>Haplochromis</u> stocks, and as some privately-owned animal feed producers began emerging in Dar es Salaam in the early 1980s, <u>Haplochromis</u> became replaced by low-grade *dagaa* and representatives of the new consumers came to Mwanza to find suppliers. With trade liberalisation, raising of chickens became a major middle-income supplementary livelihood source and opportunities emerged for larger producers using more systematic purchasing strategies. The most important of these was a company started by a European expatriate involved in the transport business. This company first began to advertise for local tenderers in the local press and by word or mouth via TAFCO in 1986 and by 1988 had become the largest single national purchaser of *dagaa* in general, and *dagaa* of poor quality in particular. During the 1990s other large *dagaa* millers emerged in Dar es Salaam, the main consumer opened a branch plant in Uganda- also supplied from Mwanza- and a number of small Mwanza-based milling operations also appeared.

The economic function of the Zaire and *dagaa* for *chakula cha kuku* markets was essentially one of price support during periods of otherwise low demand and high supply. *Dagaa Mwanza* catches tend to peak during the rainy season, when fish tend to deteriorate rapidly but when demand for good-quality *dagaa* for human consumption declines somewhat anyway. The over-supply of relatively poor quality *dagaa Mwanza*- and with it the very sharp fall in the price of *dagaa* generally (but especially *dagaa* of this grade)- which would otherwise arise in such periods, is thereby largely averted through the interventions of the

Zaireans and the agents of the *chakula cha kuku* millers. This does not amount to a price stabilisation function, however. There is also demand for *dagaa* from the *chakula cha kuku* millers and the Kasai importers even during the dry season when catches are lower and demand higher. At such times therefore prices tend to rise sharply, to a point where these agents withdraw. Corresponding seasonal changes occur in whether *dagaa* of the same specific qualities is traded as of domestic, Zairean or milling grade. The general structure of the *chakula cha kuku* trade will be examined in a subsequent section.

The principal destinations of the domestic trade in *dagaa* for human consumption at Kirumba have already been indicated. The trade is subject to a clear pattern of stratification. The big destinations (Dar es Salaam, the Tanga area, the Mtwara area, Morogoro and Songea), jointly accounting for almost 60 percent of all sales, tend to be supplied by traders with a wide variety of working capital levels although many buyers from these destinations will tend to by-pass Kirumba in one way or another. The destinations accounting for a smaller share of the market , including relatively nearby regional centres like Tabora, Singida and even Dodoma, tend to be supplied by small groups of wholesalers based on town retail markets. The main difference between these groups and those serving the popular destinations is that there are very few or no large-scale traders amongst the former.

Traders from the largest end-destination markets in Tanzania tended to travel individually to Mwanza, by bus, or amongst the wealthiest by 1st class train or even by air. Those deciding to buy in Kirumba- either because they discovered that the price or supply situation on the Lake did not justify travelling beyond Mwanza, or because they wanted to assemble a load on a scale which was possible only at Kirumba, or because there were severe limits on their time- might buy from a single Kirumba trader or from a group of them, depending on availability. Price competition between Kirumba traders was minimal (either on the Lake or in the market itself) and 'shopping around' by outside traders was generally for quantity and quality rather than price. According to Kirumba traders particular stands had regular customers amongst incoming traders, which were supposedly based on the former acting as social 'hosts' of the latter- helping to find them accommodation and providing other services, including security and organisation of transport. But incoming traders whom I interviewed either denied the existence or downplayed the importance of these 'services', and when admitting to a 'regular customer' status usually explained it in terms which were neither strictly social nor economic: 'the first time I bought from that fellow I made a really good profit, so for me going back to him was good luck'.

Assembling a load corresponding to the limit of the incoming traders' working capital could take days or even weeks in the case of the largest traders (some Mtwara traders were individually buying up to two 14-ton truck loads). Incoming traders nonetheless had to come up with the full price of their purchase within 24 hours of 'reserving' it (against a deposit). Once a load was secured and its quality and non-adulteration verified (by random pouring of *gunia*), traders would arrange for repacking into whatever sized bag attracted the lowest levy by weight in their home market (a 55 kg *gunia* in the case of Dar es Salaam), and start negotiations for a truck or share of a truck to their destination.

The up-country lorry trade to Mwanza was a busy one and there was usually a buyers' market on the road outside Kirumba for making up back loads on the return trip to the coast. As a result, transport prices were relatively low and truck drivers from the coast normally gave credit to down-country fish traders. For the vast majority of traders whose loads did not justify the hire of even a small truck individually, the prime objective was to team up with a group of others from the same destination in order to hire transport jointly. A rule of thumb was to try to simplify consequent transactions by hiring jointly with traders with larger loads and to avoid hiring jointly with those with smaller loads, or who were travelling to intermediate destinations. Unlike the traders buying at other markets on the Lake to supply end-markets within the hinterland of the Lake itself, those leaving Kirumba almost invariably took public transport home rather than begging a lift. On arrival at their home market they would begin arranging payment for transport-and where possible also sales- prior to the arrival of their consignment. The transport market will be explored in more detail in a subsequent section.

While trade at Kirumba is officially a wholesale one with a minimum purchasing threshold of one 35 kg *gunia*, there is actually a small group of retail traders operating more or less under the protection of the otherwise cartelised wholesalers. Officially, this group move around the market cleaning up *dagaa* spilt during loading, unloading and re-bagging and assembling these into *madebbe* for resale. Almost certainly members of this group were also recycling a limited amount of wholesalers' own supplies, particularly during slow periods. This group of not more than half a dozen traders were a particular object of ire of *dagaa* traders at Mwanza Central Market (*Soko la kati*), the other main centre of the *dagaa* trade in Mwanza town. The latter saw this group'sconsolidation as the latest of a long series of reverses to what they claimed to be their previously eminent position within the *dagaa Mwanza* trade.

According to the officials of the *dagaa* traders' society at *Soko la kati*, this market had dominated both wholesale and retail functions in the *dagaa* trade in Mwanza in the mid-1980s. Smaller-scale collectors from all the landings on the southern shore of the Lake served by public road transport would bring *gunia* into Mwanza Central Bus Station next to the market, where traders from Soko la kati would take it for resale. On the demand side, up to 1988 even traders from *Soko la kati* 'were mainly taking out'. Then, in the late 1980s traders 'from all over Tanzania' began coming to *Soko la kati* to buy 20-50 'and even up to 100' *gunia* in the market, 'they even came from Mtwara. Some of them placed orders with us and paid in advance'. The turning point was said to be probably around 1989, when Kirumba became firmly established as the centre for the artisanally-processed Nile Perch trade. This was associated with a number of other changes, including both a growth of the water-based transport fleet and the establishment of the market for long-distance lorry transport around Kirumba. The Zaireans never went to *Soko la kati*. 'Gradually we were left with only smaller collectors - there are only about 10 who come there today- and, amongst wholesalers, smaller and occasional operators- people buying up to 10 gunia to take on the bus or the passenger train. Our big wholesale days now are train days'. An analysis of destinations of *dagaa* dispatched from Mwanza Town railway station by passenger train in the first four months of 1995 shows over 85 percent of it (78 tons) to have been sent to down-country stations between Mwanza and Morogoro, and mostly between Mwanza and Dodoma; only 10 tons was sent to Dar es Salaam over the same period [.Based on an analysis of Owners ' Risk Consignment Notes, January-April 1995, Mwanza Town station.] .

From 1993 the retail trade at *Soko la kati*, which by then comprised about three quarters of all sales, also started to be eroded. The *madebbe* trade at Kirumba dates from this time. 'We protested to the District Commissioner but we got nowhere. The Municipality favoured Kirumba because it brings them in a lot more money'. More importantly, a number of semiformal *magenge* markets sprang up around Mwanza town. In 1996 there were about five, all highly convenient to the town's main high-density centres. The *magenges* paid lower levy than the traders at *Soko la kati*, had lower overheads and only slightly higher prices. They would buy a *gunia* at a time from the collectors bringing into the Central Bus Station and also go in person on the bus to buy at Kayenze and Igombe.

Soko la kati traders had now themselves taken to going direct to Kayenze and Igombe for supplies, to supply *matajiri* at these landings with kerosene and wicks on credit, and to sell in *Soko la kati* itself in smaller units (4 litre or 1 kg *masadolin*, named after the paint brand). The *dagaa* traders' society there claimed 60 members but there were only a couple of dozen *dagaa* stalls in the market and some were not occupied continuously. Those who were active were turning over an average of only 30-50 35 kg bags/month in the dry season and 10-30 in the wet season. 'Nobody sells more than 70-80 *gunia* a month', implying probable working capitals of not more than Tsh 0.24- 0.48 m (US$ 436-872); 'as recently as 1993 we were all mostly selling 100-200 bags a month'.

Besides the traders at Kirumba mwaloni, *Soko la kati* and the *magenge* markets there were two other important traders of *dagaa* in Mwanza town in 1995. One of these was a town-based businessman (a former civil servant who had become familiar with the *dagaa* demand pattern -and probably certain Zairean importers- when stationed in Kigoma). He was working out of anoffice in the town centre- 'an office gives importers confidence; it is an address they can come back to if something goes wrong' and described himself as supplying 'big traders from Kivu who have permits to use lorries through Rwanda' rather than those from Kasai, like everybody else. He was being supplied directly by about six collectors; the quantities he was dealing with were not spectacularly large however- only about 12 tons or one largish truck load a month.

The last important trader of *dagaa* was also exporting to Kivu, this time direct to Goma town by air- presumably for the (then) refugee camp trade. The trader in question was the Asian leaser of a passenger plane, operating one flight a week back and forth between Goma and Dar es Salaam with a pick-up for passengers in Mwanza. The flight was rarely if ever full on the Mwanza-Goma leg, and the leaser had begun buying 250 gunia (8.75 tons)/week through an agent at Kirumba 'to help make the trip a profitable one'. The aircraft stopped operating in November 1995.

(iii) Down-country markets

Down-country markets were much more clearly segmented between *dagaa* for human consumption and *chakula cha kuku* than Kirumba.The overwhelming destination of *dagaa Mwanza* for *chakula cha kuku* was Dar es Salaam, but little of this passed through the city's main wholesale-cum-retail market at Kariakoo. Nevertheless Kariakoo was still probably the largest single centre for trading in *dagaa* outside of the regions of production. The trade at Kariakoo is a year-round one, as one would expect in a large urban area, and peaks during the inter-rain period and the wet season, when prices at Kirumba tend to fall and down-country 'afford ability' therefore increases.

In Kariakoo at the end of 1995 there were 316 registered traders in dried fish of whom 112 were women- numbers which had not changed much over the previous half decade. It was not possible to establish how many of these were engaged in fish trading on a full-time basis. There was a total of around 70 stalls, most of them shared between groups of traders either trading simultaneously on the same stall or dividing its use by day of the week, but with some traders renting up to three stalls on their own account. About three quarters of the stalls were trading mainly or exclusively in *dagaa*, although most were said to trade occasionally in other species too, and most again were at the time trading in both *dagaa Mwanza* and *dagaa Kigoma*.

Kariakoo traders were internally differentiated. Economically, as with 'artisanally'-processed Nile Perch, an important distinction was between those who regularly had to personally travel out to Mwanza and/or Kigoma to obtain their supply and those who could rely mainly on being supplied themselves by the larger *dagaa matajiri* or in the case of Kigoma, by Lake Tanganyika-based traders. The group who were mainly externally supplied were normally longer-established traders generally. They were themselves internally stratified between those most wealthy ones mainly trading in *dagaa Kigoma* and the remainder trading in *dagaa Mwanza*. In the case of those being supplied externally with *dagaa Mwanza*, relations initially established when 'travelling out' *from* the Lake had been more common were still being exploited. The mainly sedentary group as a whole seemed to obtain fish more regularly and in larger quantities than those who were mainly peripatetic. While they too were obliged to travel out themselves in periods of shortage, when they did so they bought in larger quantities than all but a few of those travelling out more regularly. The predominantly peripatetic traders were internally differentiated according to how many bags they could afford to buy when they travelled out. Unlike the mainly sedentary tradersthey were not really differentiated by whether they traded in predominantly in *dagaa Kigoma* or *dagaa Mwanza*; the highly constrained *dagaa Kigoma* supply situation meant that travelling out on a purely speculative basis to buy it could easily be a waste of time.

I only managed to interview two Kariakoo traders who were dealing mainly with *dagaa Kigoma*. Both had regular suppliers there, with whom they discussed availability and price over the telephone, and both were in the unusual position of receiving unaccompanied consignments -usually by rail- supplied on the basis of short-term credit (payment was remitted by bank transfer once information was received that a load had been dispatched). The relations of these traders to traders in Kigoma were long-standing ones, in both cases probably based on blood ties. On the other hand, both of these traders also 'travelled out' to Kigoma, and reported Kigoma traders also occasionally bringing loads to Dar es Salaam 'when they heard that there were acute shortages'. One was part of a long-established group of 4 or 5 women who normally travelled together to Kigoma, then collected individually beyond Kigoma in various lakeside villages, before linking up again in Kigoma town and hiring a truck back to Dar es Salaam.

Besides being supplied in the form of dispatched or self-procured relatively large-scale consignments, a large number of traders at Kariakoo were also partly supplied by smaller-scale traders from the Dar es Salaam area speculatively bringing a few bags into Kariakoo which they had purchased in Mwanza or Kigoma and brought by bus or sometimes train. The type of trader involved was not based in any of the permanent markets but was normally either a full-time peripatetic beginner engaged in some elementary form of capital building, or an individual who had had to travel to Mwanza or Kigoma for some other reason and who was anxious to supplement his or her income or subsidise his or her trip. They invariably had to accept sale by *mali kauri* on adverse terms (long waiting periods).

When differentiating other Kariakoo traders according to working capital, Kariakoo traders tended to use the same rules of thumb as traders at Kirumba. A large trader was one who could fill a 10-ton truck from Mwanza or Kigoma together with one or at most two other traders on a single trip; a medium-scale trader was one who would hire the same truck with five or six others; a small-scale one might need up to ten others. This corresponded to the working capitals necessary to buy 60-90, about 30 and about 15-20 bags respectively. Most Kariakoo traders, it was said, fell somewhere between the last two categories. However, the bags Kariakoo traders were talking about were, at 55 kg, almost twice as large as the bags used at Kirumba, and Dar es Salaam traders also had to cover transport costs.

When the price for better quality *dagaa Mwanza* for human consumption had fallen to around Tsh 9,000/35 kg gunia on the Lake in March-April 1996 the same fish was being resold at Kirumba for about Tsh 20,000/55 kg gunia. Labour and levies at Kirumba cost between Tsh 500-600/bag and transport to Dar es Salaam Tsh 3,000/bag. Working capital requirements (not counting personal transport and living costs while travelling) for 'big', 'medium' and 'small' *dagaa Mwanza* traders were therefore in the region of Tsh 1.4-2. 1m, 0.7 m and 0.35-0.45 m (US$ 2,500-3,800, 1270 and 640-820) respectively. However, only a few months before, in September 1995, the price of dagaa at Kirumba reached over Tsh 40,000/35 kg bag or around Tsh 65,000/55kg bag. Most Kariakoo traders simply withdrew from the market, but some, especially amongst the larger traders, continued to trade at 'normal' levels, implying actual working capitals of up to Tsh 6 m (US$ 11,000).

As already noted, Kariakoo traders in *dagaa Kigoma* were generally assumed to be considerably wealthier than those trading in *dagaa Mwanza*. The *dagaa Kigoma* premium over *dagaa Mwanza* varied between 50 percent and 400 percent depending on market conditions, and according to observers the price of a 55 kg *gunia* in Kigoma had never in recent years fallen much below Tsh 40,000. In March-April 1996 it was reported by Kariakoo traders to be around Tsh 60,000/bag, while rail transport and levies amounted to something like another Tsh 4-4,500/bag, 'express'. This suggests working capital levels in the range of Tsh 1-6 m (US$ 1,800- 11,000).

As indicated, Kariakoo was a retail as well as a wholesale market. In contrast with only a few years earlier, when the market predominantly served the function of co-ordinating the inter-regional trade in dry fish, an increasing proportion of the trade through the market had become a retail one. This was a consequence of the increased 'leapfrogging' of the market by traders from remote end-consumption destinations who were themselves now travelling direct to Mwanza. 'The main ones we never see here these days are the bigger traders from Mtwara and Tanga. We see them at Kirumba instead'. But small- and medium-sized traders from some remoter areas, particularly those just mentioned, still came to buy at Kariakoo 'especially those from Mtwara and Lindi at the end of the cashewnut season, when there's a lot of money washing around there' and indeed probably still accounted for the largest share of all Kariakoo sales. Most of this trade was in units of 5-10 bags. When they heard that there were shortages in Mtwara and Lindi, some Kariakoo traders also travelled out to sell there, though this would with considerably larger consignments. Few buyers purchased between one and five *gunia* at Kariakoo. There was little real wholesale trade other than to visiting long-distance traders. Instead there was a 'semi-wholesale' trade with *magenge* buying between a *debbe* and a *gunia* each, and a mass of better-off consumers buying by the *sanduka* (a 2 litre tin, containing about 0.5 kg).

Between Mwanza and Kigoma on the one hand and Dar es Salaam on the other the largest market is at Morogoro, which today besides serving as a local market seems to fulfill a similar function to Kariakoo for some small- and medium-scale traders from the south-west of the country (Iringa, Mbeya, Songea, etc). I did not visit Morogoro, but I visited some of the larger physically intermediate markets further north, namely Tabora, Singida and Dodoma. Each was of a broadly similar size (20-30 licensed *dagaa* traders, both wholesale and retail) and revealed a more or less similar pattern of development. Prior to around 1990 each had been mainly supplied by traders from Kirumba, but this function had now been entirely taken over by local wholesalers (*jumla*), normally about a quarter of all those trading fish in each of the markets concerned, who then resold to the others. Unlike Dar es Salaam, but apparently in line with most other rural parts of the country, demand peaked in the dry season when few or no other affordable protein sources were available. At these times the group of *jumla* would travel together once or twice a month to Kirumba (or, in the case of Tabora, to the islands) and fill a 7-ton lorry between them, implying working capitals equivalent to maximum purchases of about 30 35 kg bags each (something over Tsh 1 m in the dry season of 1995) [.These figures should not necessarily be taken at face value, since there is some doubt whether this level of purchases was actually maintained in 1995. Many retailers apparently stopped trading in these markets due to customer price resistance.] . The wet season trade was on a generally far reduced scale, with traders buying perhaps 40 35 kg bags between them once a month and sub-letting space to their home markets on lorries bound for Dar es Salaam.

Retail sales in these markets also shared a common pattern. Major demand was from village-based traders typically buying a single 35 kg bag for sale over a period which could vary between a couple of days and a couple of weeks. A second source of demand was from local institutional consumers, a third from local *chakula cha kuku* millers and a fourth from town-based consumers.Besides *dagaa Mwanza* there were also supplies of *dagaa Kigoma* and certain other *dagaa*, such as the so-called *dagaa Malawi* from Lake Nyasa, available in these markets. However, both the latter were being sold essentially as delicacies, in tiny 100 gm plastic sachets.

Dagaa pwani

With the disappearance of the industrial (steel-hulled trawler) *dagaa pwani* fleet sometime in the late 1980s, a single fishing method with two basic variants remained. This method involved fishing with makeshift purse seines or ring nets hauled on-board by hand, from powered plank boats or *mashua*, assisted by a pair of kerosene lamp-carrying dinghies. Variations in this method turned on the question of scale. Probably around 11 of the vessels involved in the mainland-based fleet [.There was a close relation between the Zanzibar dagaa pwani fishery and the Dar es Salaam and Bagamoyo-based ones. Vessels and gear frequently changed hands between Zanzibar - and mainland-based owners, and Zanzibari vessel owners, captains and crew were an important part of the mainland-based fleet.] were no more than 10-12m in length, powered by a couple of outboard motors (perhaps 40 HP) in all, with dinghies equipped with only one or two *karabai*, with ring nets of perhaps 10-12 pieces and with crews (including a captain) of perhaps 6 or 7 men. Around another 9 vessels were bigger craft, up to 20m in length, with inboard engines of 60 HP or more, dinghies each equipped with three or four karabai, ring nets up to 24 pieces and with crews of 10 men and two officers (a captain and engineer). There were a number of other small vessels, a few of them powered, which were said to be fishing for *dagaa pwani* with a single *karabai*-carrying dinghy and scoop nets, but I never encountered them.

Both of these variants had been present in the fishery for a quarter of a century, with little appreciable change in the fleet's internal composition or the fishing techniques employed. The major change had been rather in the favoured fishing grounds, which had shifted further off-shore into the northern sections of the Zanzibar channel (up to perhaps 16 km from Dar es Salaam and Bagamoyo) as fish-stocks in the immediate vicinity of Dar es Salaam harbour and Msasani became exhausted. Fishing remained between 4 and 8 hours a night, depending on the availability of fish, for the darkest 17 nights of each *gisa*. Lanterns were set around 30m from the mother vessel then, after fish began to shoal, very slowly drawn near to the mother craft to allow hauling to take place. Some vessels were still only making one haul a night, but a few were making more.

Outside of the fishing days each month, two to three of the pool of labour from which crew members were drawn (see below) would maintain and guard the vessel. Hull maintenance would be assisted by hired skilled specialists. The maintenance needs of the fleet were relatively high because of the heavy loads which the vessels usually carried. However, some of the vessels deemed to be not in need of intensive maintenance might be used by owners for other purposes during the non-fishing part of the *gisa*. Two of the three vessels in Bagamoyo were sometimes used in the prawn fishery, while some of the Dar es Salaam-based fleet was used for collection.

Both categories of vessels and gear represented very substantial investments by Tanzanian standards. A ring net alone could cost anything between Tsh 1.5 m and 3.75 m fully fitted, depending on the number of rolls. Altogether, a smaller unit might cost anything between Tsh 3.5 m in reasonable second-hand condition and Tsh 6 m new (US$ 6,300 and 11,000 respectively) and a larger one up to Tsh 12.5 m (US$ 22,750) in reasonable second-hand condition. I encountered no cases where a larger unit had been purchased entirely new.

This size investment was justified by the extremely high catches which could be obtained- again, at least by Tanzanian standards (especially the standards of the *dagaa* fishery). Owners of vesselsin the smaller category reported catches of around 500kg/day, or well over 100 tons/year, while those with vessels in the larger category reported catches of around 1.25 ton/day, or almost 300 tons/year. The owner of one of the largest vessels in the fleet claimed to be catching an average of 2 tons/day.

While there were three individuals who each owned two *dagaa pwani* units (all incidentally in the larger size category), nobody owned more than this number and all other vessels were owned individually. However, as with the freshwater fleet, a number of owners had vessels engaged in other fisheries or in fish trading. The largest total number of vessels operated by any *dagaa pwani* proprietor was four- two Bagamoyo-based prawn *mashua* and two *dagaa pwani* ones.

Unlike freshwater *dagaa* catches, *dagaa pwani* catches are sold fresh and by auction, both in Dar es Salaam and Bagamoyo. Auctions of *dagaa pwani* at Bagomoyo seem to take place only irregularly, however. In the inter-rain season at the beginning of 1996 the Bagamoyo *matajiri* were hiring a lorry to take their catches the 80 km into Dar es Salaam to participate in the Ferry auction.

On arriving back at port each morning, crews wash the catch in salt water and sieve it. It is then divided by the four main *dagaa pwani* species into piles and sold on the beach through a *dalali* (private auctioneer) instructed by the *tajiri* or his agent. Fish is sold in units corresponding to 18 kg buckets, which are drawn individually from each pile. At any given auction more than one vessel's catch may be sold, but the piles are kept separate. When I asked people attending the auction at Ferry whether anybody could bid I was told that this right was reserved for 'genuine traders only'. This basically meant that at the end of dry season auctions, when buyers of *dagaa pwani* for human consumption had taken what they needed, only Ferry traders specialising in drying for the *chakula cha kuku* trade- and not, for example, *chakula cha kuku* millers themselves or their agents- could buy what remained.

The latter point reflected the fact that the market at Ferry had a fundamentally different structure depending on the season. In the dry season, i.e., when conditions for sun-drying *dagaa pwani* were good, it was dominated by trader-driers based at Ferry itself. At this time they appeared to account for around 80 percent of all sales. There were said to be around 230 such trader-driers, of whom 200 were organised in a *chama* formed in 1992 to prevent their eviction from the area by the municipality. When I conducted interviews at Ferry during the inter-rains period at the beginning of 1996 no more than about 40 seemed to be active, and I was told that drying on the site peaked between July and October. At the auctions held in January 1996 these traders were buying between 5 and 100 buckets each (90kg and 1.8 ton wet respectively). Probably around three quarters were buying less than 20 buckets (360 kg wet), and there was only one person buying more than 70 buckets (1.25 tons wet). This was an indication of their working capitals rather than their turnovers however, for traders interviewed were participating in the auctions at very different intervals (every day at one extreme and once a month at the other). Partly this turned upon the species which a trader bought; the favoured *dagaa mchelle* could be dried and sold by the next morning but some of the other species took up to three days to dry.

There were consistent variations in price by species and by the condition of the fish sold at auction as well, I was told, by season. During the inter-rain period good quality consignments of *dagaa mchelle* were selling at around Tsh 4,500/bucket, implying working capitals for thosepurchasing of between Tsh 22,500 and Tsh.0.45m, with a heavy concentration below the Tsh 90,000 level (US$ 41, US$ 820 and US$ 164 respectively). I was told that during periods of shortage between July and October, the price might rise to Tsh 12,000/bucket, implying working capitals almost three times this level if purchases of the same magnitude were made. Even so, the *dagaa pwani* drier-traders were clearly the poorest relations of all within the trade.

Around a third of the drier-traders at Ferry specialised in buying inferior quality *dagaa* of all species for resale after drying to *chakula cha kuku* millers. These same traders also bought or begged reject fish and offal from traders across the tarmac road on the seaward (reef fish) side of the market, which they mixed with the dagaa. There was a much bigger price difference between *dagaa pwani* of inferior and good quality than between these two categories of *dagaa Mwanza*. *Dagaa mchelle* which was considered by Ferry trader-driers to be too 'soft' to be of human consumption quality, and which was left unsold at the end of the main auction was being disposed of to the *chakula cha kuku* driers at only Tsh 500/bucket. Even so, some were buying only 10 buckets and I did not observe anyone purchasing more than 60 buckets (equivalent to working capitals of Tsh 5,000- 30,000 (US$ 9 and US$ 45, respectively).

The remaining approximate 20 percent of purchases at the dry season daily auctions was mostly accounted for by non-Ferry based traders, some of them with rented pick-ups, generally from Coast Region (especially from around Kibaha) but a few from as far away as Morogoro.These were buying 15-30 buckets (270-540 kg) each and taking them away from Ferry wet. A few bought ice at the Dar Ocean Products plant next to the reef fish market and were shipping the fish in large polystyrene boxes. I was told that they were reselling to *mama ntilie* friers in larger centres in the Dar es Salaam hinterland. Besides these traders there were also local *mama ntilie* buying for frying and some *mafunga* buying for home drying and resale, both in quantities of not more than 3 buckets. Outside the framework of the auctions there were also said to be Kariakoo traders who had regular purchasing contracts with proprietors of some *dagaa pwani* boats, but I was unable to discover anything about this trade.

During the wet season the trader-driers at Ferry all but disappeared from the *dagaa pwani* market. At these times the majority of them traded instead, presumably on a small-scale or in relatively marginal capacities, in the reef fish market on the other side of the road. I received rather unclear answers about their precise involvement in this market, possibly reflecting the fact that it may have had a shifting character. The Coast Region traders continued to patronise Ferry in the wet season and, as with freshwater *dagaa*, non Ferry-based buyers for the *chakula cha kuku* trade played a much more prominent role. Although this would have to be confirmed by observation, I received the impression that at these times such traders could participate freely in the auctions.

The Ferry-based trader-driers had managed to become independent of commissioning Kariakoo traders in the early 1990s as a result of increasingly trading *dagaa pwani* direct in Mtwara and Lindi. This direct trade began in the mid-1980s. The Ferry drier-traders told stories about bringing *dagaa pwani* home to the south-east as presents during pre-Ramadhan *ngoma* (literally traditional dances, actually parties) and encountering local traders who were enthusiastic about promoting its dissemination commercially: 'they stopped us at the bus station in Mtwara and asked us to bring some for sale'. Given the processes by which fish markets generally developed in Tanzania, it is unclear why Kariakoo was not comprehensively 'leapfrogged' at an earlier stage. It is possible that most of the *dagaa pwani* trade at Kariakoo had been for milling all along.

The commercial content of subsequent developments points to the likelihood of Ferry traders becoming sedentarised. According to Fisheries Department staff at Ferry, the Ferry drier-traders were currently in the process of becoming commission agents for some Mtwara wholesalers, receiving advances from visiting Mtwara traders to buy and dry on their behalf. On the other hand, according to the trader-driers themselves, there were still relatively few Mtwara traders who had resorted in coming to Ferry personally and most Ferry traders were still basically buying, drying and transporting to Mtwara on their own account. After drying, the trade entailed packing *dagaa pwani* into 250 kg boxes and taking it to the bus stand in Kariakoo, where it was loaded onto buses heading south. There it was sold/delivered to a group of wholesaler-retailers, most of whom owned a series of premises in the main towns of Mtwara and Lindi districts. These wholesaler-retailers were also said to be agents for the main cashew-buying companies. At least some of the trader-driers reported trying to by-pass the big Mtwara traders and sell boxes directly in the villages 'demand is so great in some villages that one can sometimes sell a whole box full there'. Most of those travelling to Mtwara tried 'not to come back empty handed'. There was usually good demand at Kariakoo for fruit from the south-east, and this was the commonest item into which profits realised in Mtwara was converted. The largest Ferry drier-traders were said to be taking up to 12 boxes (3 tons dry, equivalent to 7.5 tons wet)/month. The average taken was more like one or two boxes, however, equivalent to purchases of 70-140 buckets of wet fish/month.

My impression was that the majority of the *dagaa pwani* for *chakula cha kuku* trade at Ferry was accounted for by a mixture of relatively large-scale general trading companies who produced chicken feed as one line of business (either directly themselves or sub-contracting millers) and individual chicken farmers buying ingredients for 'home mixes'. Most of the specialised integrated chicken businesses (see below) were not buyers of *dagaa pwani*- or at least not the Zanzibar channel variety. Depending on the season, members of the first category were either obliged to buy from the driers or to commission driers on their account. Individual chicken farmers mostly bought only from the driers. *Dagaa pwani* was sold to those in the *chakula cha kuku* trade in 55 kg bags. The two largest buyers during the wet season were said to be purchasing 60-70 bags (3.3-3.85 ton dry)/week between them.

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5.Intersecting chains

A number of product and service chains intersect with or branch out from the *dagaa* ones. These include the chains for fishing inputs, transport, market services and labour and for the commodities fished, processed or traded side by side with dagaa. They also include chains which *dagaa* enters as a traded ingredient, notably that for *chakula cha kuku*. Discussion here will be focussed on the chains for inputs, transport, market services, general labour and *chakula cha kuku*.

Inputs

The chain for inputs in the fisheries for *dagaa Mwanza* and *dagaa pwani* was notable insofar as, unlike those for inputs in most other commercial fisheries, there was little direct supply of major inputs by traders. As already indicated, the items most frequently supplied to *dagaa Mwanza* vessel owners by traders were kerosene and wicks for *karabai*, along with some personalconsumption items. Vessel owners had the resources to purchase these inputs themselves and the commodities concerned were normal household items in most better-off rural homes. The issue was rather that of convenience, particularly for the fleet based on the offshore islands- which was coincidentally the most highly commercialised, and therefore most intensive in its use of *karabai*. In any case, neither vessel owners or traders seemed to consider that providing or receiving supplies of this kind entailed 'real' tieing, as opposed to the much weaker and easily revokable 'tieing through friendship'.

The gear used in the *dagaa* fisheries tended to be more makeshift and less standardised than in the Nile Perch fishery. Theoretically both Japan nets and fully-fitted ring nets were available commercially, but I never met a vessel owner who had bought one from a dealer or who admitted having received one through a trader. Some beach seines were said by their owners to have come originally from the Norwegian fisheries development project based at Mbegani, near Bagamoyo. Similarly, all the ring net owners who I spoke to said that their gear first saw the light of day 'in a project in Zanzibar'. Most commonly though, gear in the *dagaa Mwanza* fishery was not industrially manufactured at all, although most of its components would have been at some time or another. All 'hurry-ups' and many *vipe* were patched together from a mixture of old beach seines, scoop nets and *vyandarua*. Nets tended to be recycled a number of times and in different combinations, and to be continuously under repair. Hence they tended also to be only rarely sold or purchased whole.

Engines were only an input in the *dagaa pwani* fishery. I was unclear where larger inboard engines and the vessels of which they were an integral feature were obtained new, for the only owners of them whom I spoke to had bought them second hand. While extremely expensive (from Tsh 1.1 m- 1.7 m (US$ 2,000-3,090) each, depending on size), outboard engines had been freely available in Dar es Salaam for most of the 1990s. Spares were a perennial problem though. Prior to trade liberalisation outboards had been much more difficult to obtain; some of the older ones at Ferry had been imported as 'personal effects' during 'study or official visits abroad'. The *mashau* they were mounted on were constructed to order at various sites up and down the coast; a 12 m one capable of taking a couple of outboards cost from Tsh 0.7m (US$ 1,275) upwards in 1995-96.

Transport

As in the case of artisanally-processed Nile Perch, but unlike those for fresh Nile Perch, prawn and reef fish, there were virtually no specialised *dagaa* collector vessels. Such vessels were only associated with trades involving ice preservation, where trading functions generally were capitalised in the form of a variety of assets other than money working capital.

The basic features of the market for transport for *dagaa Mwanza* broadly parallelled those for artisanally-processed Nile Perch, except as noted the Lake-based transport of dagaa Mwanza was almost exclusively by sail-powered as opposed to motor-powered general transport *makarua*. Despite a continuous upgrading of the Lake-based transport fleet, sail-powered *makarua* were still quite plentiful and no trader ever reported experiencing transport problems. On the other hand there appeared to be a wider range of prices for carrying *dagaa* than for carrying 'artisanally'-processed Nile Perch, with charges of between Tsh 800 and Tsh 2,000/*gunia* depending on distance and size of bag (passengers with more than one or two bags would normally travel free).These prices were virtually identical by weight to the price of transporting 'artisanally'-processed Nile Perch, although as the journey was by sail power it would normally take longer. The unit price by weight of taking *dagaa Mwanza* by road to Dar es Salaam was slightly cheaper than taking 'artisanally'-processed Nile Perch, by a margin of around 25 percent. Since the form of transport and the actual vehicles used in this case were identical in the two trades, the reasons for this margin are unclear.

Lorry was the preferred mode of transporting *dagaa* for most categories of trader, except those having a special connection to the railway or delivering to or from destinations where transport by road was impractical or (as in the case of Kigoma and Mtwara) in short supply. This was because road transport was considered faster and marginally more reliable. Its speed meant that traders saved substantially on waiting time. For the same reason traders preferred newer-looking lorries when these were available.

Long-distance road transport in Tanzania, both by lorry and bus, is controlled mainly by Asians. In the long-distance lorry traffic down-country from Mwanza a relatively small number of large companies based in Dar es Salaam predominate, employing drivers on a basic wage plus allowances basis. These arrive in Mwanza mainly with loads of second-hand clothes, cycles and electrical goods. After discharging their cargo, lorries normally drive to Kirumba. Here drivers call the lorry's owner(s) in Dar es Salaam to check on whether to return directly or wait for a backload, as well as to find out how long they should wait for a backload before giving up. If they get the go-ahead they then try to find a group of traders to negotiate with. Supply and demand is unpredictable but there is usually a surplus of supply.

There were about 20 lorries regularly using the Dar es Salaam-Mwanza route, mostly of 10 tons but some as small as 7 tons and others as large as 40 tons. They typically made the trip once every couple of weeks, although they might regularly be diverted to other destinations. Less than half these numbers were going on to Tanga and Mtwara respectively. Many consignments to these destinations were therefore transferred to other lorries when they reached Msimbazi Street in Dar es Salaam.

The Zaireans using rail transport also typically combined to jointly rent both rail wagons from Mwanza South and transport vessels across Lake Tanganyika. Each ton cost about Tsh 19,500 (USD 35) to Kigoma and then a further USD 20 (in hard currency) across to Kalamie Zaire. I was unable to establish transport costs on from Kalamie to various destinations in Kasai.

Trading inputs and services

The main trading inputs and services used in the *dagaa* trade comprised stall and storage hire, porterage and security. At Kirumba, traders' stands were considered adequate for storage (albeit open-air) as well as sales. Stand owners had been themselves responsible for their stands' construction in the late 1980s, remained responsible for their maintenance, and paid no rent to the market authority. Payment for the right to trade in the market instead took the form of a requirement to buy a trading license (in this case, a share of a collective so-operative one) and to pay levies of one hundred shillings every time a *gunia* was unloaded from a vessel or taken out of the market. There were far more traders than stand owners, resulting in a rental market. No owner could rent out his or her stand on a continuous basis without losing the right to trade in themarket; hence the normal arrangement was for individuals to rent a fixed proportion of a stand for durations of various length. Sub-letting half a stand commanded a rent of Tsh 5,000/month in early 1996.

Although the market at Ferry was much less formalised than that at Kirumba there were some important parallels. Adequate on-site open-air storage was readily available (against the boundary wall of the Ministry of Lands headquarters which the drying field adjoined) and traders paid to use the market through purchasing a common trading license and paying levy. The particular 'patch' on the field which a trader-drier occupied was decided on a daily first come-first served basis, but space in general never seemed to become exhausted.

The situation at Kariakoo was quite different. While stalls were the property of particular individuals and could be rented out to others in whole or in part, stallholders paid a monthly rent to the market authority for the patch of concrete that they stood on. This rent was supposed to cover various services including power, water and security. The last of these was provided [.Security at Kirumba and Ferry markets was the responsibility of individual traders.] , but the first existed only in the form of electric lamps and a power point in the traders' cooperative society office, to which a small fan was attached, while water was not available at all in the basement where the fish market was located. Stallholders were paying Tsh 2,000/month rent at the end of 1995, which was raised to Tsh 6,000/month by the market authorities in February 1996. However, the main problem faced by Kariakoo traders was that of storage. A few *dagaa* traders who were either also market officials or on close terms with them monopolised the rather small reserved storage space within the market itself, and all other traders were obliged to store outside the market. Traditionally this had entailed storing on privately-occupied open ground close to the market, at a small fee to the occupier. But in the last two or three years the Kariakoo area had become subject to a fairly intensive property development, resulting in the disappearance of open ground. The traders who could not find or afford current rentals for off-market storage space had adopted two coping strategies. The first was to join together to combine a series of sales businesses onto a single stall and use the stall space which was freed-up as a result for storage. The second, during 'slow' periods, was to provide *dagaa* on credit to Asian and Arab shopkeepers outside the market but still in the Kariakoo area, on the understanding that traders could reclaim unsold *dagaa* at any time. Recourse to giving credit in this way went against the grain of economic and social relations generally in the trade, and was recounted as an instance of traders' plight.

At all three markets porterage was highly organised. In each case porters had in recent years formed their own cooperative society (at Kariakoo named *Chimbu chimbu*), into which they paid a small daily fee. Membership of these societies was restricted and tightly controlled by existing members, as in similar societies in England. Formerly at Kariakoo the market authorities had themselves provided porters, but traders had started to employ their own in the early 1990s after mounting complaints about theft. This had led to the 'official' porters reconstituting themselves independently of the market authorities and negotiating a new relation with the traders which involved a system of zonalisation and of tallies. At Ferry and Kirumba such formalisation was absent, although at both these markets- unlike Kariakoo where each act of portering was based on a one-off contract- all porters observed a fixed set of charges (for example, carrying buckets of fish to or from the auction area at Ferry was charged at Tsh. 50/bucket).

A special set of market services was provided at Kirumba for Zaireans. This was justified by those providing it as a translation service (a large majority of Zaireans buying *dagaa* did not speak Kiswahili) but it actually mainly involved other services, most of which the same group of providers sold also to Zaireans who could speak Kiswahili. This group (*magofi*) and the services they offered, will be examined in Section 6.

Intersecting chains- chakula cha kuku

Milled *Dagaa* accounts for between 4 and 25 percent of the content of industrially-produced chicken feeds in Tanzania, depending on the type of bird which the feed is designed for (growers, layers, broilers, etc) and the producers' mix. Overall it accounts for probably around 7 percent of all feeds. Other components of chicken feed include maize meal, maize bran, rice bran, beans and imported manufactured 'pre-mixes'. Most chicken feed sold at around Tsh 100-150/kg in 1996 and, apart from the imported pre-mixes, *dagaa* was easily its most expensive component.

Industrial producers of *chakula cha kuku* fall into two or three main categories; in addition there are a mass of non-industrial producers. These comprise individual chicken raisers making their own chicken feed mixes from own-purchased ingredients, including small amounts of *dagaa*, and taking it for milling to local *posho* mills. It is impossible to guess what share of the total market is accounted for by this category.

Some aspects of the business of the largest single *chakula cha kuku* producer have already been described. During 1990-94 this producer milled over 60,000 tons/year of *chakula cha kuku*; in 1995 this fell to nearer 30,000 tons as *dagaa Mwanza* became difficult to obtain and very expensive. At this time the company began substituting *dagaa pwani* from Tanga and imported Danish herring meal for *dagaa Mwanza*, but only in limited volumes. Its main strategy was to intermittently withdraw from supplying many of its customers, at times concentrating on production only for its own (chick) stock farm. Even so, this company contended that it retained 50 percent of the Dar es Salaam region market in 1995 as a whole; its main customers were 'the big Kuria *kuku* farmers around Ukonga'. The company operated by supplying customers, through a network of local designated agents, with a package comprising chicks, feeds and drugs. The main incentive for customers to buy from and stay with the company was its supply of good-quality chicks, which were otherwise very difficult to obtain. The company purchased *dagaa* through a small number of independent suppliers based in Mwanza: 'we used to have our own employees do it but the losses were too great'. At least two of the suppliers, including one of the two most important ones, were or had also been local agents for the company, distributing its packages of chicks, feeds and drugs. As already indicated they had their own Lake-based collection systems- one even had a dedicated collector boat, the only one in the whole fishery-but also bought extensively at Kirumba, Igombe and Kayenze, particularly in the wet season when prices fell.

This group of supplier-agents, or at least the ones amongst them whom I met, were of a quite different social and economic status to other fish traders I encountered in Mwanza, and had notably different relations with Kirumba traders. It was said that they had established systems for placing advanced orders on credit. If so, this would have made them unique: 'they quickly established reputations as being good payers'. Equally important, they were traceable. These men(all were male) were really businessmen rather than traders. They were well-educated and operated from offices.

Besides the market leader there were one or two other integrated (stock farm to feed) chicken companies in Dar es Salaam, including one which was Italian-owned. These also had their own networks of *dagaa* buyers and officially-approved networks of local supplying agents, though the latter seemed to be confined to Dar es Salaam. There were also two or three other large-scale producers of *chakula cha kuku,* who were not integrated chicken producers but part of general trading company groups. Companies in the latter sub-category had a higher chicken feed market share than those in the former. However, each of the companies in the category generally was producing several thousand tons a year.

The Tanzanian market for chicken and even eggs was essentially a high- and middle-income one. Amongst other things, this meant that outside of the capital city and perhaps the northern highlands, demand could not sustain many large-scale chicken farms. In Mwanza, where both meat and fish were cheap by national standards, the only really large chicken producers were institutional ones, like the Ministry of Agriculture's Kilimo School farm. This in turn meant that local demand for *chakula cha kuku* was relatively low. Despite the fact that Mwanza town was the second largest settlement in the country and the only industrial centre in Tanzanian part of the whole Lake region, there were only four local industrial producers of *chakula cha kuku* between them producing a little over 2,500 tons/year.

The largest of these was the now privately-leased TAFCO plant, which seemed to be the main supplier to the institutional chicken producers. This plant, which had large mixing and milling machines, an elevator and no less than 7 silos with a capacity 200 tons, was being leased to a partnership of two local African businessmen- including one of the two most prominent in Mwanza town- but was currently producing just 30 tons of feed/week 'of domestic quality only'. It was currently being advertised for sale, despite the fact that its current operators had a long-term lease on it. The other three producers, who had much smaller mills with capacities of between 15 and 200 tons/week (for which they had paid between Tsh 3 and 10 m. (US$ 5,500 and 18,000)) were all also working at significant under-capacity, and one of them was on the verge of shifting into medium-scale chicken production instead. Both the others were agents or former agents for the national leading player. The larger of the two continued to obtain chicks for re-sale from this company, and had in addition bought his mill from them. It was he who had formerly been the company's principal supplier of *dagaa.* He now ran a variety of agriculturally-based businesses from his own smart (internally tiled) modern five-storey building on the edge of Kirumba.

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6.Actors, actresses and strategies

In Section 4 the main categories of actor and actress involved in the *daga*a trade were identified as *matajiri*, different categories of Lake- and fixed market-based traders, and labour in the employment of these functions. Understanding the political economy of a particular commodity branch entails other dimensions of analysis besides describing the division of labour between these categories. In particular, it involves understanding who the different agents are and how and why they go about business with each other in particular ways. In respect of the chains generally,some interfaces are more strategic than others and it is these which will be focussed on. They comprise relations between *matajiri* and fishing crews, amongst *matajiri* themselves, between traders and *matajiri*, between different categories of traders themselves, and between traders, their agents and their 'helpers'. In some cases important aspects of these relations have already been touched on; in these circumstances, the treatment here will be relatively brief.

Matajiri and fishing crews

Vessel-owners in the *dagaa Mwanza* fishery whom I encountered were all men in their 40s or older, and mostly tended to come from close to the areas where their vessels were based (even those fishing on the offshore islands of the Lake). In this last respect, this was in some contrast to the Nile Perch fishery on the same Lake, where vessel ownership was identified with coming from the Lake region generally, rather than the locality around where fishing was actually taking place. There were of course exceptions to this pattern, with a significant number of owners being Wanyema migrants from Kigoma and a few coming from other parts of Lake Tanganyika (including Zaire). But though I heard several times that there were 'a growing number of civil servants from the big towns' who had recently invested in the fishery, with one exception (an ex-policeman who also owned a *duka*), I never met any.

Dagaa Mwanza vessel owners- especially owners of *kipe* units- were generally well-off compared with other members of the local population. A number owned kiosks, shops or *hoteli* and one I interviewed owned two other vessels with engines and a pick-up. But because it was unknown for a *dagaa Mwanza tajiri* to own more than a handful of vessels, none of the owners I interviewed could be described as actually rich, as a number of people in the Nile Perch fishery were.

Dagaa pwani vessel-owners were also all men of a more or less similar age to the *dagaa Mwanza matajiri*, as far as I could tell, but there the resemblance ended. These owners fell into two clearly differentiated categories- although this differentiation did not correspond to one between the fleet's smaller and larger vessels. A little over half of the vessels were owned by reef fish traders from Coast, Lindi and Mtwara regions in the main section of Ferry market. These were wealthy men- in the same class as the bigger Kariakoo traders- although both their wealth and their fishing capital had been slowly augmented over a relatively extended period. The remainder were owned by government employees or former government employees- civil servants, parastatal managers and army officers- based in Dar es Salaam, usually personally without a background in the fishery but working in partnership with or in some way 'close to people with such a background'. Being based in Dar es Salaam was a *sine qua non* of participation. If such an individual was transferred he would have to sell his boat: 'supervision at a distance is impossible'.

Even in the 'poor relation' *dagaa Mwanza* fishery it was very rare to meet a *tajiri* who actively fished himself, although *matajiri* invariably referred to themselves as *wavuvi* (fishermen). Fishermen instead comprised only crew members, *manahodha* (captains) and *meja*s, or general supervisors. As in the Nile Perch fishery, captains had less responsibility than the title normally suggests. Where a *tajiri* owned more than a couple of vessels a *meja* would supervise all operations, including selection of fishing grounds and selling catches when the owner was not present. But where he owned just one or two vessels the *tajiri* would supervise everything except actual fishing operations himself. *Meja*s were hence chosen carefully and would usually beremunerated separately, but a *nahodha* would simply be a relative or a more experienced crew member, whose specific reward would be confined to petty cash and cigarettes.

In the *dagaa pwani* fishery, with their larger boats and crews and more complex operations, the success of an operation often turned on the *manahodha*. There was correspondingly a recognised pool of such men at Ferry, mostly comprising Zanzibari sailors in their 50s. One I interviewed had been a *nahodha* for a total of 17 years, and was currently captaining his fourth vessel. He was receiving his own designated share (one eighth of the value of the catch, after deduction of expenses), plus discretionary bonuses when catches were good. Some Zanzibari owners (but not the ones from the mainland) gave captains the task of selling their catch on a continuous basis, in which case they in effect acted in the same capacities as *meja* in the *dagaa Mwanza* fishery. The vessel's engineer and its *karabai* operators also received discretionary payments in most units; *karabai* operation was considered to be both the most skilful and dangerous jobs amongst ordinary crew members [.One vessel owner reported that a few weeks before a karabai operator had been seized by a shark ‘and had had to retire from the fishery ’.] .

Crew members in both fisheries were again all male. Those in the *dagaa Mwanza* fishery were considerably younger (mostly aged 15-25 years) than those in the *dagaa pwani* one (who were mostly aged 25-40 years), and again more local in origin. In the *dagaa Mwanza* fishery, I heard several times *tajiri* say that they had selected crew members from 'neighbours in my home village'. Even the vessel-owners from Kigoma appeared to have crews mostly made up of other Wanyema migrants*. Dagaa pwani* crews by contrast were mostly medium- or long- term residents of one of the Dar es Salaam high density areas with high concentrations of immigrants from the coast south of the capital- Kigomboni, Kurasini and Mgalala. They all had some experience in the fishery from home, and had often come to Dar es Salaam spefically to become involved in one of the fisheries based in or around the capital.

In the case of both fisheries, crews (including most captains in the *dagaa Mwanza* one) formed a casualised pool of labour rather than enjoying even semi-permanent employment. In the *dagaa Mwanza* fishery, the pool would be made up of male members of the *tajiri*'s *kambi*. The *kambi* would normally include a few individuals over and above current crew members, including cooks (see below) and unemployed male relatives, friends or acquaintances of existing camp members. These had been sent for or simply had shown up, got permission to stay in the camp and- in exchange for food- began to help with odd jobs such as drying, loading, and maintaining the vessel. These normally got their chance on a vessel if a current crew member was sick, drunk or suffered expulsion from the camp.

Much the same went for the *dagaa pwani* fleet. Here the pool always included two or three youths who, whether they were paid or not, would take care of the vessel's security and do the labouring between *gisa*s associated with hull maintenance. Participating in this kind of work constituted a form of apprenticeship, and sooner or later those who applied themselves to it could expect to graduate to crew membership. One *dagaa pwani* proprietor I interviewed had a more complicated system which involved having a pool equivalent in size to two crews, which rotated every three days. The reasons for this were not completely clear.

Employment relations, especially in the *dagaa Mwanza* fishery, were clearly oppressive. *Matajiri* exercised arbitrary and virtually unlimited powers over crew members within their camps, although because these camps were usually small and because camp members normally had somepre-existing inter-relations, one did not find the same degree of bureaucratised oppression and bureaucratically-organised physical violence in them as in the Nile Perch fishery (see Gibbon, 1997b). On the other hand, given the extremely low level of attendant rewards, the ability of *matajiri* to attract and retain labour can only be explained in terms of the lack of other local employment opportunities (and, by implication, landlessness amongst youths).

Payment systems were remarkably standardised within and similar between the two fisheries, in contrast to the situation in the Nile Perch fishery. After deductions for owners' costs (kerosene, wicks, maintenance costs, fuel costs in the *dagaa pwani* fishery and food costs and cooks' wages in the camp-based *dagaa Mwanza* one), returns were divided equally between owner and crew at the end of each *gisa*. Where a *tajiri* owned more than one vessel, shares were calculated separately according to the catches of each vessel. In some cases (normally where it was substantial) the share of the *meja* or captain would be deducted from the crew's share; mostly it was deducted from the owner's. In the *dagaa Mwanza* fishery there seemed to be little transparency in how owners' costs were reckoned, with crew members being subject to discretionary charges for 'breakages and losses' for example. By contrast, in the *dagaa pwani* one it was claimed by some owners that these costs were 'clarified every evening before the vessel sails'.

There was an equal degree of transparency between the fisheries in what prices catches fetched for sale or at auction. Crew members crowded around visiting traders at the dagaa Mwanza landings to learn the prices a *tajiri* or his agent were receiving, and crew representatives attended the auctions for *dagaa pwani*.

As a result of the lack of a trade in wet fish in the case of the *dagaa Mwanza* fishery, and the combination of the low unit value of wet fish and the concentration of all sales at a single centralised auction in the case of the *dagaa pwani* one, there were few opportunities to cheat vessel owners. Captains and crews in the *dagaa Mwanza* fishery would have to secretly dry loads on distant beaches and later rendezvous there with traders, or, like captains in the *dagaa pwani* fishery, they would have to secretly transfer large quantities of fish to other vessels at distant landings or at sea. No doubt the latter occasionally occurred, but the only simple way of cheating an owner was for a *meja*, captain or agent to lie about how much had been sold, or- where they were also charged with organising supplies- about running costs. All the cases of cheating on owners which I heard about actually concerned the last of these possibilities. For the cheater the problem with cheating in this form was that it invariably involved artificial inflation of deductions, and therefore cheating on the crew as well. Especially in the *dagaa pwani* fishery, crew members tended to be highly sensitive to deductions, meaning that detection was not difficult. Hence, cheating on owners was generally held to be rare. Possibly for this reason owners spent little time cultivating patronage relations with crew members in the *dagaa pwani* fishery, even when these same owners functioned as master patrons in other fisheries (cf Gibbon, 1997a).

Besides crew members, the other main group of employees found in the *dagaa Mwanza* fishery were cooks. These were normally young women of not more than 30 years. As in the Nile Perch fishery they functioned also as prostitutes; unlike the Nile Perch fishery however, responsibility for their payment and even employment tended to have been transferred from *matajiri* to crews. These women led a fairly wretched existence, being paid derisory wages (Tsh 3,500- 7,000 (US$ 6-13)/month) plus 'tips' for sexual services) even compared to the Nile Perch fishery. Normallythere was one cook to every couple of boat crews. Cooks were universally said (amongst men, at any rate) to be 'mostly runaway wives'.Their careers were not long ones: 'when they get too old the crews simply chase them away'. Unlike in the prawn fishery camps where some *mama ntilie* also provided sexual services, but essentially on a self-employed basis, I heard of no cases on Lake Victoria where women who had been cooks had managed to accumulate enough to start a business.

Differentiation and relations amongst matajiri

Matajiri in neither the *dagaa Mwanza* nor the *dagaa pwani* fishery saw themselves as competitors. In the *dagaa Mwanza* fishery *matajiri* usually described their working relations with each as '*kama majarani*'- like neighbours: 'we borrow and lend from each other'. In some cases relations were much closer- the sub-camps comprising a larger *kambi* could be headed by several men related by blood. In one extreme but not exceptional instance I came across at a landing in Ukerewe, a single, loosely related family from Kigoma were between them operating no fewer than 17 *vipe* units. In other cases (sometimes the same ones) relations between specific *matajiri* were also commoditised, in the sense that one *tajiri* was purchasing for cash the catches of a number of others. It was not clear to me if and how commoditisation was either based upon or in turn modified 'neighbourliness'.

In the *dagaa pwani* fishery, relations between *matajiri* were as a rule characterised more impersonally. '*Matajiri* will exchange information about the availability of spare parts or give each other a tow at sea if one breaks down, but to borrow something important from another *tajiri* you need to be personally close'. Basically it seemed that the *matajiri* who were also Ferry-based reef fish traders had a network for cooperation which included lending each other 'reasonable' sums of money for a few days at a time, or much larger sums on a very short-term basis (usually only a day or two), but that such relations did not embrace the non-Ferry market based *matajiri*.

Some statistical material on differentiation in the *dagaa Mwanza* fishery, and qualitative material on differentiation in the *dagaa pwani* one, has already been presented. Also briefly mentioned has been the decline, to the point of insignificance, of traders' sponsorship of (particular categories of) *dagaa Mwanza matajiri* via the provision of gear. The presence, magnitude and nature of such sponsorship was of direct significance in generating the much greater differentiation visible in the Nile Perch fishery (cf Gibbon, 1997b) and, clearly, the absence of a similar system contributed to the depressed state of differentiation in the *dagaa Mwanza* fishery. More directly relevant however has probably been the presence on the Lake of opportunities to participate in the Nile Perch fishery.

In this context, an observation already made in connection with Table 4 above may be recapitulated. The table shows that between 1992 and 1996 a total of at least 25 *dagaa Mwanza matajiri* invested not in additional *dagaa* units but either in Nile Perch ones alone (51 units in all) or a combination of Nile Perch and transport or collection units (a further 16 units in all). Had these units been dagaa Mwanza ones instead, and as such included in Table 3, then the proportion of *dagaa Mwanza* owners with more than one unit would increase from 16 percent to 22 percent, and the proportion of units owned by individuals owning more than one would increase from 30 percent to 39 percent- producing a profile rather closer to that for the non factory-owned 'artisanal' Nile Perch fleet. Another major difference between the two profiles, namely theexistence of a number of private Nile Perch *matajiri* with fleets of more than 10 vessels, largely but not wholly accounted for by factory sponsorship in that fishery.

In the case of the *dagaa pwani* fishery, the factor most obviously retarding differentiation is the extremely high unit cost of even the more basic vessels in the fleet. In the absence of external sponsorship, and in a context of the general unavailability of public credit, total investments in a single line of activity of the order implied by ownership of three or four second-hand units (not less than Tsh 12 m and nearer to Tsh 25 m (US$ 22,000-45,000)) is extremely rare amongst Africans in almost any branch of the Tanzanian economy. Commoner forms of investment by *dagaa pwani* proprietors have been in augmenting the gear or engines of vessels already owned, and in buying vessels and engines for collecting reef fish- a type of investment with lower unit capital costs, lower overheads and lower risks.

The question remains of the sources of the inter-*tajiri* differentiation in the fishery which *were* present. Discussions with *matajiri* along these lines in the *dagaa Mwanza* fishery always developed along different lines to those in the Nile Perch one. In the latter case the more successful *matajiri* would invoke issues of fishing strategy (particularly mobility), diversification into capitalised fish collection, and prevention of theft of gear. In the *dagaa Mwanza* fishery, despite the facts for example that there were some *matajiri* who were clearly more mobile than others, and that some kind of relationship was evident between mobility, ownership of *kipe* units and higher catches, conversations would typically turn instead to issues of supervision.

This most directly reflected the fact that accumulation of vessels and gear by *dagaa Mwanza matajiri* was interwoven with the accumulation of assets outside the fishery, even for those making higher profits from combining vessel ownership with longer distance trade in *dagaa Mwanza*. Unlike the Nile Perch fishery, where a purely fishery-based accumulation was common, *dagaa Mwanza matajiri* normally used earnings from a first fishing vessel or beach seine to enter another branch of trade (normally retail) and then, if this proved successful, to use the earnings from retail to buy a second *dagaa* unit. Most *matajiri* also owned land, and were said to be buying cattle with some of their earnings and/or selling them when they wished to upgrade their fishing capacity. Such strategies depended on having a trustworthy person to manage one or other of the assets concerned on the *tajiri*'s behalf.

Of course, this was also a problem for certain categories of trader whose assets were physically dispersed, or who were regularly 'travelling out'; but whereas most of the traders I interviewed were successful and had therefore presumably solved the supervision problem, most of the *dagaa Mwanza matajiri* I interviewed saw overcoming it as extremely difficult. Essentially, their problem was that those who most 'naturally' fell into the category of candidates for trust- close relatives, especially brothers- were also those over whom least control could be exercised. One *dagaa Mwanza tajiri* I interviewed informed me that he had been let down by his only brother as he branched into other activities no fewer than three times (and by another relative once). The brother sat forlornly at a far table in the same *hoteli* while these stories were recounted *sotto voce*. When the *tajiri* concluded that 'the main problem I always have is to find someone reliable to delegate too, and that is almost impossible', I asked him why he had persisted with his brother after the first disaster. He replied:

'Who else could I trust ? And anyway, a brother is difficult to refuse, especially if he is already helping you in some way. If you get some other property he will always expect a share in one of your activities. The real problem is this: a Wasukuma cannot demand either compensation or even explanations from his own brother. To separate your business and your property from him you have to be very clever.'

As already indicated, when *dagaa pwani matajiri* made reference to differentiation within their fishery, it tended to be primarily seen in terms of having upgraded gear, an additional engine and a well-maintained vessel. At the same time it was stated that these assets were themselves indirectly functions of a pre-existing differentiation. The easiest vessels to maintain were inboard motor-driven ones, and these incidentally were also the most mobile and therefore obtained the highest catches. But one could only enter this virtuous circle if 'there had been proper consideration of maintenance and running costs by a *tajiri* before he invested in a vessel in the first place'. Differentiation was linked primarily to having the wherewithal to keep a vessel at sea, and mainly took the negative form of rapid turnover/exit by a majority of entrants. Most liable to such miscalculations were said to be 'those from non-fishing backgrounds who were poorly advised'.

Matajiri and traders

The group of traders (and collectors) who will be discussed here comprise those based in the first-line markets at which catches from Lake Victoria and the Indian Ocean were sold, namely Kirumba mwaloni .

The Kirumba *dagaa* traders were overwhelmingly male, almost all aged between 18 and 45 years, and mostly in their 30s. Those interviewed stated that a majority were from Mwanza region itself, with a high concentration from Ukerewe island, although amongst this same group of informants were two Wahaya from Bukoba, a Mgogo from Dodoma and a Mchagga from Kilimanjaro. All those I spoke to had entered the *dagaa* trade at Kirumba after trading in other non-fish commodities in the same market or at Soko la Kati, although before this they had a much wider variety of former occupations including industrial labour and civil service work. Unlike at Kariakoo and Soko la Kati, and probably because the *dagaa* trade at Mwanza hardly stretched back beyond the current generation of traders, none had depended on relatives already in the market to help get them entry. Many had subsequently introduced their own relatives (usually 'my young brother'), however. Out on the Lake, the collectors of *dagaa* whom I encountered were either these same 'young brothers', or semi-independents who had backgrounds in the fishery rather than in other branches of trade. One who I interviewed had even been a substantial Nile Perch fishery *tajiri* in his own right at one time, before losing all his gear through theft.

The main group of buyers at the *dagaa pwani* auctions, the Ferry-based trader-driers specialising in *dagaa* for human consumption, were as already suggested almost entirely from Mtwara and Lindi and again overwhelmingly male and in their 30s and 40s. The trader-driers specialising in *dagaa pwani* for *chakula cha kuku* were mainly a somewhat poorer stratum of the same group; amongst them however were a good number of women from Coast Region. Again as already indicated, involvement in this trade was essentially a seasonal one, and both categories of traders were amongst the lowest strata of operators (in the case of the women, *mama ntilie*) in the main reef fish market during the wet season.

The relative absence of tieing relations between traders and *matajiri* in the *dagaa* fisheries has already been referred to in a number of places above. The bulk of writing on 'artisanal' African fisheries (cf Vercruijsse, 1984; Tvedten and Hersoug, 1992, etc), not to mention on fisheries in the Third World generally (cf Platteau, 1989) suggests that such contracts are the rule, and the *matajiri* and traders in the *dagaa* fisheries were themselves aware that in this respect their situation was unusual. According to the oldest *dagga Mwanza tajiri* I interviewed, in the early 1980s traders from the coast operating on the Lake started coming to the main fishing grounds with kerosene, wicks and cigarettes. Those accepting these items on credit were supposed to repay with fish, but debts were typically more than repaid with a single catch and the Mtwara traders were not in a position to stay around to develop a long-term relation of dependence with particular *matajiri* anyway. However, traders from Mwanza itself responded to this one-off form of tieing by beginning to provide at least some vessels with gear. I never managed to establish whether this form of tieing was concentrated on particular gear types or how widespread it subsequently became- although Ward et al (1994) report it to have been generalised at the landing in Ukerewe which they studied.

Traders who I spoke to in 1996 told me that 'very few traders have provided new gear since 1995.' When I asked why, I was referred to the huge price fluctuations which occurred that year. The steep rise in price from the middle of the year onwards was said to have 'encouraged widespread unfaithfulness'. An obvious corollary of the rise in price was a sudden one-off increase of outside traders on the Lake, and thereby of intensified price competition and more opportunities to break contracts. Kirumba traders were then obliged to use their capital to pay higher prices for fish, rather than investing in new gear, in order to defend their market share.

In any event, there was a transition from tieing to a re-generalisation of the original 'Mtwara trader'-type system. Repeated over several trading cycles, the latter in effect means that where 'all other things (i.e., essentially price) are equal' a *tajiri* sells to a specific trader or collector on a 'regular' basis, but is not bound to. Besides obtaining provisions on credit, the advantage to the *tajiri* of observing such a relation is that the trader will normally take his fish even where there is a local surplus. On the other hand, in these circumstances he will have to grant the trader 50 or 100 percent credit for up to 14 days. There were cases of traders never returning to pay their debts, but in the *dagaa* trade (unlike prawn, for example) these were not common.

At Ferry, as already observed, sales were mostly on a spot basis for cash through an auction system, although access to this auction was not fully open. The prevalence of the auction-spot payment system reflected the fact that the resources of these *matajiri* far exceeded those of almost all traders. Only one or two drier-traders at Ferry could afford to buy the entire catch of a single vessel, and there were around 20 vessels using the auction. Traders simply had nothing to offer *matajiri* and therefore a sales system broadly favouring the *matajiri* prevailed. Insofar as credit relations were present, they were entirely on the side of the *matajiri*, when there were bumper catches or a shortage of traders at the auction: 'but we only give a buyer credit if he is known and is important'.

Some years before, traders at Kirumba had become sufficiently powerful to eliminate the presence of a somewhat similar system in Mwanza. I was told by older *dagaa Mwanza matajiri* that a decade before 'any *tajiri* could have taken his catch to Kirumba and sold it for cash on his own behalf to anyone he wanted to'. One claimed that fish was generally sold in this way throughmunicipally-employed auctioneers and that 'anybody' could attend the auctions. There had been specialist wholesalers at the market at this time 'but they were in a minority and also obliged to pay cash'. But now a *tajiri* bringing his own fish into Kirumba was now obliged to hand the catch over to a one of the wholesalers. In times of shortage the wholesaler would probably purchase it directly, while at other times he would take it on *mali kauri* (see above). The *matajiri* disliked the system intensely and normally referred to the Kirumba traders not as *wauzaji* or *jumla* (traders or wholesalers, the traders' own terms) but as *dalali* (brokers or middle men):

'One cannot bargain with these fellows. The *dalali* advises you on a price which will give him a fat profit. If you insist on a price which he doesn't like he will either simply hold onto the bags until the market price improves a lot or he tells you that your bags have become bewitched and are impossible to sell.'

Even in such circumstances the *tajiri* could not simply reclaim his catch free of charge: 'There's something they call *majimbo* [.The connotation of the term majimbo (official Kenyan Kiswahili for ‘region ’) in this context is obscure, and matajiri were themselves baffled by the why traders were using it. It had enjoyed heightened prominence in political discussion in Kenya over the period 1993-95 as a result of threats by politicians closely associated with Daniel arap Moi to divide Kenya into regionally- based ethnic states if the political opposition came to power.] . They want Tsh 500 for every unsold bag you reclaim'.

The only strategy available for *matajiri* dissatisfied with this system, and who wished to trade outside their home landing, was to by-pass Kirumba. But as already seen, this was not easy; nor did many *matajiri* have the capacity to assemble large enough consignments to make it economically feasible.

Relations and strategies amongst various categories of trader

Traders at Kirumba have already been introduced. On the supply side their main trading counterparts were *matajiri* and commissioned collectors/agents. Their relations with *matajiri* have already been described, while those with collectors/agents will be discussed in the next sub-section. On the demand side their main trading counterparts were- in order of importance- the Zaireans, agents for the *chakula cha kuku* millers (also already described), traders from big centres in Tanzania, and traders from smaller down-country centres.

Relations between the Kirumba traders and the Zaireans were entirely mediated through the category of intermediaries known as *magofi*. Actually, those really active in intermediation were a quite small group who comprised the cream of a much wider stratum of individuals hanging around Kirumba, Mwanza town passenger train station, and Mwanza Central Bus station. Similar groups operate in and around similar locations in most other larger market centres in Tanzania , as well as in tourist centres like Arusha and Moshi (where they are known as 'flycatchers' (Chachage, 1997)). Their role is to provide a variety of more or less genuine and more or less wanted services to 'strangers', from assisting them in negotiating with government agencies of various kinds to procuring them (or pretending to procure them) accommodation, transport, certain types of high-vale commodity, sexual services, and so on [.Because I fitted a certain identity description (‘you look like an aid worker ’), I was personally frequently approached at Kirumba by magofi claiming to be selling gold.] .

There were 10 Lingale and Kiswahili (and in some cases French and English)-speaking *magofi* at Kirumba who intermediated for the Zaireans. All were male; they were divided roughly evenly between a group with some personal connection to Zaire, and a group of Tanzanians who had deliberately set out to learn Lingale (it's becoming the international business language of the region'). Most of this group did not bother to solicit trade at the railway station: 'we are known. The Zaireans pass our addresses to each other. They appear at our doors'. The group took care of all aspects of purchasing, local transport and export for the Zaireans, from Kirumba to the Regional Fisheries Office (export documentation) to Mwanza South goods station (onwardtransport to Kigoma). In 1996 they were charging a total commission of Tsh 200/bag, plus 'legitimate expenses' (e.g., bribes). The group all had the same price: 'we set it together and review it together'.

The 15 or so Zairean 'regulars' at Kirumba were themselves were all from Kasai, roughly half men and half women, and spread across all age groups. As already indicated, one of the principal basis for Kirumba's success was that- at least in 1995 and 1996- the Zaireans were all buying *dagaa* exclusively from Kirumba, rather than trying to by-pass it, basically on grounds of convenience. However, there were other reasons too. According to most accounts, the Zaireans had on several occasions tried to by-pass Kirumba but had been prevented by political and physical interventions by Kirumba traders. A couple of Kirumba *dagaa* traders themselves said that their society had made representations to the Regional authorities when they heard that Zaireans were buying on the Lake. The content of these representations was that the Zaireans were depriving the traders of a living and the Municipality of one of its most important income sources (market levy): 'they listened to us and took action'.

According to two Zairean *matajiri* I interviewed on Bwiru island, off Ukerewe, two groups of Zairean traders, each three or four persons strong, managed to establish bases on Ukerewe in June 1994. One group settled in *mabanda* (traditional grass shelters) on a beach in the Rubya forest reserve:

'They operated in a new way. They agreed advance prices with the *matajiri* and distributed their *gunia* to them. They were collecting 400-1,000 bags between them over a two week cycle. They were sending to Kalamie, but we don't know how. The other group were travelling over the whole island. They once collected more than 2,000 (25 kg) bags in three or four days; it filled five *karua*. The price here went up from Tsh 3,000 to Tsh 7,000 for a (25 kg) *gunia*. They paid a Tanzanian to pretend at Kirumba that the cargo was his. But everyone knew what was going on. The Kirumba traders got them arrested. They were charged with having travelled around Ukerewe without a permit and were fined US$ 1,000 in hard currency. They paid on the spot and people got even more angry. Soon after the District Forestry Officer staff came to Rubya and chased the ones there away.'

According to a Zairean *gof* at Kirumba it was 'feelings about bad luck' which finally stopped efforts to by-pass Kirumba, however. 'One group lost a cargo when their *karua* nearly collided with a ferry and capsized. This was taken as a sign and they stopped'.

A parallel instance where a group of traders had interposed themselves in a monopoly position and- partly successfully- prevented others by-passing or leapfrogging them, was that of the drier-traders at Ferry with their exclusion of the agents of the *chakula cha kuku* millers from the dry season auctions. As noted, this exclusion was not wholly successful, since there were still probably some private arrangements between these agents and vessel owners. The traders themselves were not particularly forthcoming concerning how- given their poor financial resources- they managed to exercise the extent of monopoly which they did. On the other hand this monopoly did not really threaten the dominance of the matajiri, since it did not impact on the prices they were receiving for their main product, *dagaa* for human consumption. In Mwanza traders from down-country Tanzania were more difficult to deter than those from Zaire. Down-country traders were too many and too widely spread to physically intimidated either by the traders themselves or by the local state working on their behalf. The Kirumba *dagaa* traders' society had also frequently complained to the authorities about down-country traders 'being allowed to roam the Lake', but had been told that the Regional government could do little aboutit. In the end pragmatism prevailed and Kirumba traders agreed that leap-frogging down-country traders could pass through the landing in exchange for paying them a toll.

In Mwanza the 'main offenders' with regard to by-passing the market were traders from Kariakoo in Dar es Salaam, with whom relations seemed to be generally poor. This was the only link between groups of traders in the whole chain in relationship to which ethnic stereotypes were regularly applied, at least on the side of the Kirumba traders. Questions about dealings with Kariakoo traders frequently set off a flow of invective against 'Waswahili' (people from the coast) and their alleged propensity to be smarmy smooth-talking confidence tricksters- in contrast to the supposedly stolid but honest Lake peoples. There was no corresponding stereotype on the Kariakoo traders' side, not least because the latter were drawn from a much more diverse range of ethnic backgrounds- including ones from around the Lake itself !

Kariakoo *dagaa* traders were mainly between 30 and 50 years; over a third were women (all in the older part of the age range). People from the Coast were only a minority of all Kariakoo traders, although they occupied leading roles in their society, *Ushirika wa Wauza Dagaa na Samaki*. Other well-represented groups included the Wachagga, Duluo (mostly women) and Wanyema (also a good proportion of women), although I also interviewed a couple of Waluguru fish traders [.Waluguru traders (from Morogoro region) dominated some branches of the vegetable trade at Kariakoo, according to van Donge (1995). Traders at the other down-country markets I visited were generally rather younger (in their 30s) than those at Kariakoo and Kirumba, overwhelmingly male and except for the market at Dodoma, drawn from the ethnic group predominating around the market town itself.] . A majority of traders had a history of family connections either with the fish trade at Kariakoo, or with trading on a significant scale in the fishing grounds themselves- although this did not exclude personal employment histories in, for example, a parastatal. Entry to the market was by 1996 only through nomination to the traders' society, by an existing member.

The main concrete complaint against Dar es Salaam traders was the inordinately long waiting time for payment experienced by most traders from Mwanza when they took out to Kariakoo and sold on a *mali kauri* basis:

'You ask them when it'll be sold and they look to heaven. You hear about people waiting there a month. It's a trick. The longer you wait, the more your money runs out and the lower is the reserve price you're forced to agree to. You end up without a profit.'

In Kariakoo these problems were acknowledged to an extent, but attributed to market conditions: 'they think it's us. But it's not. When one comes with a lorry, a whole lot of others come with lorries too. We can't create more customers than there are.' Mwanza traders were said by those at Kariakoo to have initially reacted to this situation by trying to disperse the loads they brought in amongst a number of Kariakoo traders:

'but it was a lot of effort to try to collect from so many people and they changed to trying to sell a whole lorry-load to a single individual. But people are reluctant to take such big loads; a large trader would have to break it up into three smaller ones anyway, so the problem becomes his instead'.

Since they have both made a market and successfully interposed themselves in a semi-monopsony position between the Lake *matajiri* and the rest of the world, the world has been obliged to come to Kirumba and pay on the spot in cash, or labouriously by-pass it in the ways described. Both in Kirumba and Kariakoo I asked traders why efforts had not been made to reduce the incentives to by-pass Kirumba, by establishing regular relations between traders in the two markets involving credit-based orders and dispatching. This would have cheapened down-country traders' costs and still left Kirumba traders able to protect their margins.The practical means were there for such arelationship: telephones and banks which just about functioned, and a well-functioning transport market.

The answers I received fell into two categories. The first was that strong price incentives to by-pass Kirumba would still have remained. The second was that systems of credit-based orders and dispatching, in the words of one Kirumba trader, implied

'that you have to trust someone and that that person has to trust you. Trusting someone means taking a big risk. It also means that the other person has to have a good reason to stay in the game. It's not easy.'

Some older traders in both markets said that there were a few relationships of the kind I described, but only amongst those trading between Dar es Salaam and Lake Tanganyika for *dagaa Kigoma* did I manage to interview anybody who had one. Moreover, while relationships between traders in Kirumba and Kariakoo were poor, their actual structure was not very different from that between traders in Kirumba and those in other down-country markets. Traders from Kirumba recounted experiencing the *mali kauri* system [.It is my guess that the mali kauri system probably originated at Kariakoo and was spread to markets in the rest of the country as traders from these areas encountered it on trips to the capital. A

Mwanza trader I interviewed told me that when he had first started taking out to Morogoro ‘there were madalali there but you could also sell directly to retailers if you wanted ’. This was in the late 1980s. By 1991 he stopped going there ‘now the mdalali had formed a wall. It was the same at Mbeya too ’.] at all other large down-country centres, while those from these latter markets all reported the near-impossibility of obtaining credit at Kirumba.

It is somewhat surprising therefore that at almost every large market from where I interviewed traders, including both Kirumba and Kariakoo, relationships amongst traders based in the same market were significantly more trust-based. The short- and medium- term credit relations present between operators at Ferry were also evident, both for goods and for cash (often for very substantial sums), everywhere else. This was usually explained in terms of the very good opportunities for enforcement of agreements provided by collective operation over time in the same fixed space. As a trader at Kirumba observed:

'If you are known there is no discussion (when one requests credit, P.G). There are defaulters but we always manage to resolve such problems within the market ourselves. Traders here can't just run away. Being 'known' isn't just a matter of years in the trade, either. It's about reputation. You cannot function without being trusted. If people don't trust you they can really mess you up.'

Interestingly, trust of this kind was not easily extended to dealings between two traders from the same market when it involved travel to a distant one. I was told at Kariakoo that Dar es Salaam traders occasionally asked others travelling to buy in Mwanza to do so on their behalf. As with other types of transaction they would name a reserve price (corresponding to a particular quantity and quality) and the other trader could keep the difference if he was able to get the consignment more cheaply. Problems arose firstly when the price in Mwanza (was claimed to have) exceeded the reserve price and the travelling trader demanded extra money, and secondly when the load in question could not command the buyer's excess price or the commissioning trader's reserve one (or both) when it arrived in Kariakoo. Where a dispute arose here it would be very difficult for 'public opinion' in the home market to be marshalled on one side or the other, since Mwanza price information would be generally incomplete.

Besides travelling out to buy (in which case working capital limits were a direct constraint), or with loads to sell (in which case *mali kauri* had to be confronted), the accumulation strategies employed by fish traders in down-country markets, like those which I guess had been adopted at Kirumba, turned around increasing volume. As already indicated, at Kariakoo 'who you sell to outside the market is what counts'. Obtaining a regular order with a number of *hoteli*, a miller or-above all- a 'tenderer' (supplier to institutional consumers) had three consequences. It increased profit magnitudes pro-rata, created economies of scale on own-account purchases and was an avenue for obtaining private credit outside the market. It seems that large customers were themselves reluctant to advance working capital to traders for such deals, and there was of course no general public market for such credit. But some of the larger Kariakoo traders I spoke to had their own credit-raising networks. One trader told me:

'It works like this. There are a group of people who regularly advance me money when they know I have organised something with a tenderer. They all worked for the same parastatal that I used to work for and we have kept in touch. The arrangement is a mixture between me buying and selling part of the load on their behalf and them advancing me extra money for my own share. They share the profit and I get my own loan without interest.'

By the same token, it was difficult for traders to contemplate supplying millers or tenderers unless they had access to private credit sources on longer-term bases that were available within Kariakoo itself: 'the absolute minimum size consignment someone like a miller would be interested in is 50 *gunia*' (at 55 kg/*gunia* this was equivalent to 2.75 tons). The biggest *dagaa* traders at Kariakoo were always the most difficult to interview, simply because they were almost always outside the market hall, organising one deal or another.

At markets like Singida, Tabora and Dodoma it was much harder for traders to find large institutional customers or larger-scale millers, and accumulation from fish trading alone was difficult. Demand here was also much more elastic than in Dar es Salaam, meaning that in order to survive during the wet season fish traders were generally obliged to have other sidelines which had nothing to do with fish. Because of the relatively high prices which still prevailed in early 1996, in the wake of the price instability of 1995, many of the regular *dagaa* traders at these markets had simply not re-entered the trade as normal during the short dry season of January to March. In both Dodoma and Tabora especially, almost half the fish stalls stood empty.

Traders and their helpers

Besides obliging market-based fish traders in Tanzania to incur heavy trading expenses by regularly travelling out to buy or to sell, the prevalence of the *mali kauri*/no credit system and of partly related strategies of leapfrogging mean that such traders were also dependent to a high degree on 'helpers'. In other words, in the act of addressing themselves to the prevailing 'lack of trust' between traders in different locations, traders had to take the risk of entering into employment relations where the problem of trust also had to be confronted.

Independent traders had employment-type relations with others in two basic capacities: either to travel out to buy on their behalf (I never encountered a case where someone was employed to travel out to sell), or to 'mind the shop' when the trader was out buying or selling in person. The first type of relation was either a commission one, or one which had only a notional employment content. The second was a genuine employment relation, although as will be seen in a moment it was frequently unpaid.

The employment of Lake-based buying agents by larger Kirumba traders has already been briefly described. In most cases the agent worked against advances provided by Kirumba traders to provide a specific number of bags of a specific quality, and was paid a commission in the form of the difference between the sum advanced and the sum the agent was actually able to purchaseat. Because Kirumba traders generally possessed excellent market knowledge they were able to predict actual commissions levels fairly exactly.

As already indicated, in many cases the informal contracts entered into here were not exclusive ones; a Kirumba trader would normally have more than one source of supply, including more than one agent. Agents, on the other hand, would also be working for more than one trader and almost certainly using their agencies to achieve economies of scale in trading on their own account. Since the agent was sometimes less experienced that the market-based trader, he might also benefit from picking up knowledge and advice.

I was told that there were some more or less exclusive informal contractual relations between Kirumba traders and agents. These seemed to be of basically two kinds, at either end of the 'employment' continuum. At one end there were relatives of the Kirumba traders, normally 'younger brothers', sons or nephews, working for nominal wages and/or the promise of start-up capital; at the other were agents working under unwritten but well-understood partnership arrangements. The former case was also prominent in the 'shop-minding' category and will be returned to in a moment.

In instances of unwritten partnership agreements, the two individuals concerned would work together on their own separate capitals. They would trade as distinct enterprises buying and selling on their own account, though with frequent mutual resort to advances and credit. A considerable degree of trust was present, but neither partner would consider pooling of capitals or profits. I was told 'these relationships don't last that long'. I never got a clear answer why. Out of three I came across the longest-lived was two years old and continuing.

'Minding the shop' while the owner was away was considered a less demanding kind of activity than buying directly from vessel owners, and was frequently combined with various tasks of a menial nature- in the case of the Ferry drier-traders, for example, taking care of drying operations. A large trader who was away a lot, for example hanging around Mtwara town waiting to be paid on *mali kauri*, would need more than one helper. The usual arrangement was for a 'young brother' son or nephew to be entrusted with cash transactions and for anybody at all to be employed on a wage basis to deal with the non-cash ones. Wages in this case were generally pitiful- equivalent to little more than cooks received on Lake Victoria.

When younger male relatives (or, in the case of some women traders, younger female ones) were employed, cash payment would often be entirely absent. Such relationships were construed as unpaid apprenticeships by the senior relative; how they were construed by the junior one can be judged by the fact that whenever I tried to interview those I knew to be in them, they invariably tried to convince me that they were working purely on their own account.

I am unable to say whether younger relatives actually get what is promised to them from such relationships- if indeed precise promises are actually made in the first place, which is doubtful. However, it was clear that in Mwanza town at least a few of the current generation of market traders had obtained their original working capitals in this way- capitals nowhere near enough large enough to start trading *dagaa* in Kirumba or even Soko la Kati, but sufficient to set up independently in petty trade. On the other hand these capitals were not earned easily. In two ofthe three cases of this kind which interviewees reported to me, the length of the apprenticeship involved was no less than five years.

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7.Earnings and profits

The quantitative information I collected was neither sufficiently comprehensive nor reliable enough for very precise statements to be made concerning earnings and profits in the *dagaa* chain generally. In particular, in relation to the *dagaa pwani* sub-chain I was unable to obtain information on either recurrent costs of fishing operations, or wholesale and retail prices in the main area of end consumption, Mtwara. On the other hand, reasonably comprehensive information was gathered on the *dagaa Mwanza* sub-chain. The analysis will begin from a consideration of incomes of *matajiri* and fishing crews.

The proprietor of a 150 m *kokoro* (beach seine) will have typically laid out a total capital of Tsh 257,000 (US$ 470), corresponding to a second-hand seine, poor quality canoe and a pair of *karabai* (lanterns). The average life-expectancy of each of these items would be around two years, corresponding to depreciation costs of Tsh 10,700/month. *Matajiri* rarely if ever calculate depreciation or subtract it as a running cost from total income, however. The latter will be typically calculated only as costs of food for the crew and helpers, lamp fuel and lamp wicks. Mostly the crew will be provided with fish, but about Tsh 100/day/crew member will probably be spent on *ugali* (maize meal), corresponding to a monthly food bill for eight crew of Tsh 24,000. Fuel and wicks for two karabai will probably cost a further Tsh 11,000/month. Assuming an average selling price of Tsh 8,000/35 kg bag and catches of 30 bags/month, the unit's income will be Tsh 240,000. After deducting expenses of Tsh 35,000, the remaining sum will be divided equally between tajiri (Tsh 102,500 (US$ 186))/month and crew members (Tsh 12,812 (US$ 23)/month each) The *tajiri*'s real returns after depreciation are Tsh 91,800 (US$ 167).

The proprietor of a 'hurry-up' unit will have typically laid out a total capital of a similar amount, namely Tsh 251,000 (US$ 460), corresponding to a makeshift assembly of second-hand net parts, a poor quality *mitumbwi* and perhaps six *karabai*. The likely lifespan of these components is again two years, corresponding to depreciation of Tsh 10, 450/month. Costs of food for four crew, lamp fuel and wicks together come to Tsh 47,100. Assuming the same average selling price and catches of 25 bags/month, the unit's income will be Tsh 200,000. Individual crew members will receive Tsh 25,000/(US$ 45) month and- after depreciation- the *tajiri* will be left with Tsh 89,550 (US$ 162)/month. Some *matajiri* own a number of 'hurry-ups'; in such cases their incomes will be a multiple of these figures.

Kipe units represent much more substantial investments than *makokoro* or 'hurry-ups', and as in the case of 'hurry-ups' there are a number of *matajiri* who own more than one. A *kipe* net itself represents an investment of around Tsh 250,000; a catamaran made from good hardwood costs in the region of Tsh 340,000; together with four karabai the total investment in such a unit is around Tsh 644,000 (US$ 1200). Because the unit is made from better materials than *makokoro* or 'hurry-ups', depreciation may be reckoned over perhaps five years, or at Tsh 10,733/month. Costs of food for four crew, lamp fuel and wicks come to Tsh 35,400/month. The unit's total income, based on catches of 35 bags/month, will be Tsh 280,000/month. Individual crewmembers will receive Tsh 35,000 (US$ 64)/month and- after depreciation- the *tajiri* will be left with Tsh 129,000 (US$ 235)/month/unit.

These figures can be briefly compared with those from the Nile Perch fishery. In each instance except *kipe* units, crew earnings were lower than in the Nile Perch fishery; likewise, incomes of *kipe* and Nile Perch plank boat *matajiri* are roughly similar but those of proprietors of beach seines and 'hurry-ups' are far inferior to those of Nile Perch *matajiri*. On the other hand, unit investments by Nile Perch *matajiri* are much higher than those of all types of *dagaa Mwanza matajiri*, and annual returns on capital outlay are lower than for any of the types of *dagaa Mwanza* units (cf Table 5).

Table 5

Crew earnings, owner earnings and returns on capital for different types of *dagaa Mwanza* (Nile Perch) unit, 1995-96 (Tsh (US$))

Type of unit	Crew earnings*	Owner earning*	Annual return on capital (%)
Beach seine	12,800 (23)	91,800 (167)	411
'Hurry-up'	25,000 (45)	89,550 (162)	440
Catamaran	35,000 (64)	129,000 (235)	240
(Nile Perch	21,180 (39)**	129,600 (236)	129)

*per month
**excluding earnings of captain
Sources:*dagaa Mwanza*- calculations in text, Nile Perch- Gibbon, 1997b

Discussion of earnings and profits for a number of different types of trader will set out from a consideration of mark-ups. These can be derived from Table 6.

Table 6

Prices (Tsh /35 kg *gunia*) , *dagaa Mwanza* trade, early 1996

Place	Good quality f.h.c.*	Lower quality f.h.c.	*Dagaa* for c.c.k.**
Lake islands (i)	9,000	6,000	4,000
Lake islands (ii)	7,000		
Kirumba buying	10,500	7,500	5,300
Kirumba selling	12,600	9,300	6,000
Kariakoo buying	18,250		
Kariakoo selling (i)	21,000#		

Kariakoo selling (ii)	24,500#		
Kalamie selling		15,600	
Dar es Salaam factory			15,750#

Key:
*f.h.c.: for human consumption
** c.c.k.: chakula cha kuku
#: converted from price for local selling unit
Lake islands (i):purchase by outside trader
Lake islands (ii):purchase by matajiri after departure of outside trader
Karaikoo selling (i): wholesale
Kariakoo selling (ii): retail

The first type of trader to be considered will be a large-scale Dar es Salaam-based merchant trading direct between the islands and traders in Kariakoo market in Dar es Salaam, taking 250 (35kg) bags twice monthly but not personally occupying a stall in Kariakoo. This trader's transport costs will comprise Tsh 800/bag islands-Kirumba and Tsh 3,000/bag Kirumba to Dar es Salaam. Levies, storage and porterage charges at Kirumba will come to Tsh 750/bag and levies and porterage in Dar es Salaam Tsh 865/bag. Personal expenses/trip will come to around Tsh 60,000/trip. Profits will therefore be Tsh 3,835/bag or Tsh 1.92 m/month less Tsh 0.12m expenses, or Tsh. 1.8 m (US$ 3,268)/month.

A second case considered will be the much more common one of a smaller-scale Dar es Salaam trader operating on the islands, purchasing 60 (35 kg) bags once a month. He will be operating with identical trading costs of and enjoying the same mark-up. Because of a shorter stay away, his travel expenses will be closer to Tsh 50,000/trip. His earnings will be Tsh 181,100 (US$ 327)/month.

A third case considered will be a larger-scale Kirumba trader, personally buying one consignment/month of 100 bags from the islands, one consignment/month of the same size from a Lake *tajiri* and one consignment of the same size from a collector. The mark-up on the first 100 bags would be on average Tsh 3,450/bag less transport, porterage and levy and society fees (together around Tsh 1,000); the mark-up on the second 100 would be Tsh 1,950/bag less levy, porterage and society fees of about Tsh 200 and the mark-up on the last 100 would be Tsh 3,450 less transport, porterage, levy and society fees plus collector's commission (together Tsh 1,500/bag). Total earnings per bag would in each case therefore be Tsh 2,450, Tsh 1,750 and Tsh 1,950 respectively, or in all Tsh 615,000 (US$ 1118)/month. From this should be deducted Tsh 5,000 for stand rent, Tsh 10,000 expenses on the Lake and Tsh 10,000 for assistance at Kirumba, leaving a net profit of Tsh 590,000 (US$ 1072)/month.

A fourth case considered will be a small-to-medium scale Mwanza-based collector, collecting 60 bags four times a month, 50 each time on behalf of Kirumba traders and 10 on his own account. On the 50 bags he buys on behalf of others all expenses will be paid by the

Kirumba trader and he will receive a commission of Tsh 500/bag. On his own 10 bags he will have a mark-up of Tsh 1,500 but will be pay Tsh 800/bag transport and Tsh 150/bag porterage and market levy. His personal expenses will be probably Tsh 2,000/ trip. His net profit will be Tsh 114,000/ (US$ 207 month).

A fifth case will be a Lake-based *tajiri*-trader sending on his own account 125 bags of 35 kg once a month to Kariakoo market in Dar es Salaam. This consignment will be divided roughly evenly between own production (70 bags) from two *kipe* units and fish purchased from other *matajiri* (55 bags). Costs (including depreciation) from the *kipe* units will be Tsh 92,266/month and wages, calculated on the basis of the local selling price of Tsh 8,000/bag, will be Tsh 280,000/month. Costs per bag for water and road transport, porterage and levies will be in the region of Tsh 5,115 including Kariakoo levy of Tsh 565/bag, and personal expenses for the tripand waiting time in Dar es Salaam Tsh 60,000. The tajiri's buying price on the island will be Tsh 8,000 and his mark-up on purchased bags therefore Tsh. 10,250/bag. This gives a total income from own and purchased bags of Tsh. 1.84 m/month. Total production costs (including wages) comprise Tsh 0.37 m and total trading costs Tsh 0.7 m/month, leaving a profit of Tsh 0.77 m (US$ 1400)/month, less whatever was paid to supervising camp *meja* (certainly not more than Tsh 20,000/month).

A sixth case will be a *tajiri* with exactly the same resources, but not buying from other *matajiri* and taking out 70/bags month of his own production only to Kirumba. Like the collector just discussed (trader case four) his expenses will be Tsh 950/bag, plus Tsh 2,000 expenses for the trip and Tsh 10,000/month for a *meja* to supervise in his absence. With earnings of Tsh 0.735 m/month, total production costs (including wages) of Tsh. 0.37m and total trading costs of Tsh 78,500/month, his profit will be Tsh 286,500/(US$ 521) month.

The seventh case considered will be that of a medium-scale Kariakoo market-based trader, regularly buying around 40 bags of 55 kg brought into the market unsolicited, and travelling once a month to Mwanza to buy 60 more 55 kg bags. In his trip to Mwanza the Dar es Salaam trader would be incurring expenses of around Tsh 3,300/bag in transport and Kirumba porterage, rebagging charges and levies for each 35 kg bag bought in Mwanza , and a further Tsh 1,400 in Dar es Salaam for porterage and receipt and sales levies for each 55 kg bag.. His travelling expenses would be around Tsh 60,000/trip. With Kirumba purchases of 94 (35 kg) bags, a total mark-up of Tsh 0.987 m, and total trading expenses of Tsh 0.342 m, his profit from this transaction would be Tsh 0.645 m. His mark-up on the unsolicited transaction would be Tsh 2,750/bag less Tsh 565 levy, and his earnings Tsh 87,400. After stall rent and payment to a helper of about Tsh 12,000/month his total profit would be around Tsh 0.7 m (US$ 1272)/month.

An eighth case concerns a Kasai-based trader buying in Kirumba but selling only in Kalamie, the Zairean point of entry. Such a trader would typically be buying 500 bags of 35 kg (17.5 ton). Porterage and levies in Kirumba would come to Tsh 150/bag, transport from Kirumba to Mwanza South and labour at Mwanza South Tsh 150/bag and *gof* fees Tsh 200/bag. Export royalty was officially charged at US$ 10/ton; rail transport to Kigoma was Tsh 19,250 (US$ 35)/ton transport from Kigoma to Kalamie about US$ 20/ton. Traders' personal expenses were in the region of Tsh 60,000/trip plus a visa fee I was unable to establish. The mark-up from Kirumba to Kalamie was Tsh 6,300/bag or Tsh 3.15 m (US$ 5,727) in all. Charges denominated by the bag come to Tsh 500/bag and charges denominated by the ton US$

65/ton, equivalent respectively to total shilling costs of Tsh 0.31 m (US$ 563) including personal expenses, and total dollar ones of US$ 1,137.5. Net profit would be US$ 4,027/month.

The final case considered is that of a trader in *chakula cha kuku* collecting 50 tons/month, 25 tons from agents on the islands and 25 tons at Kirumba, and selling at the factory gate in Dar es Salaam. Assuming the agents to be working on a commission of Tsh 500/bag and transport to Kirumba and Kirumba charges of various kinds to amount to Tsh 1,550/bag, the mark-up after these costs would be Tsh 11,750/bag on a notional quantity of 715 bags, or Tsh 8.4 m in all. The mark up on the remaining 715 bags would be Tsh 9,750/bag, less levy and porterage charges of Tsh 150/bag, or Tsh 6.86 m in all. A supplier on this scale would hire transport by the (probably 14 ton) lorry load at around Tsh 1m/trip. The total profit would hence be around Tsh 12.26 m(US$ 22,290)/month. As indicated, there were only one or at most two chakula cha kuku traders in the whole country dealing with quantities this size.

Annual incomes should not be taken to be multiples of the trader monthly incomes described here, which all correspond to the respective 'high seasons' of the particular traders under consideration.

Table 7

Estimated monthly incomes in Tsh (US $), various categories of dagaa trader, 1996

1.Dar es Salaam trader operating in islands, 500 bags/month (17.5 ton) 1.8 m (3,268)

2.Dar es Salaam trader operating in islands, 60 bags/month (2.1 ton) 0.18 m (327)

3.Kirumba trader, 300 bags/month (10.5 ton) 0.59 m (1072)

4.Mwanza collector, 240 bags/month (8.4 ton) 0.11 m (207)

5.Lake-based *tajiri*-trader selling in Dar es Salaam, 125 bags/month (4.4 ton) 0.77 m (1,400)*

6.Lake-based tajiri-trader selling in Kirumba, 60 bags/month (2.1 ton) 0.29 m (521)*

7.Kariakoo trader, 100 bags/month (3.5 ton) 0.7 m (1272)

8.Zairean trader, 500 bags/month (17.5 ton) Tsh 2.23 m (4,072)

9.Mwanza *chakula cha kuku* factory supplier, 1,430 bags/month (50 ton) 12.23 m (22,290)

* including income from fishing operation

Except for those trading 500 bags/month, incomes from trading tended to be low and compressed. Except for exporters to Zaire, *dagaa* traders of roughly similar statuses to those in the Nile Perch trade earned considerably less than the latter. The only branch of the trade were earnings were spectacularly high was in the delivery of industrial-size consignments of *chakula cha kuku* to the factory gate in Dar es Salaam. Those involved could benefit from a huge mark-up (between 300 and 400 percent), but required a very substantial working capital- well over Tsh 10 m- to enter.

There are good reasons to suppose that these last two facts are linked. Whereas in every other element of the *dagaa* chain there was progressively less monopoly as the end-customer is reached, in the *chakula cha kuku* one there was increasing monopoly. As a result, the margin of over 100 percent enjoyed on the Lake by *dagaa* of good human consumption quality over *dagaa* for *chakula cha kuku*, became reduced in Dar es Salaam to a margin of exactly 25 percent.

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8.Conclusions

In conclusion a few reflections will be presented on the relation between the findings described here and the general literatures on the logic of production forms in African fisheries, and on market development, market power and accumulation in Tanzania.

Production forms in African fisheries

The great bulk of the literature on production forms in African fisheries- not to mention the Third World generally- takes as its central issue the survival of 'artisanal' production forms and of trader sponsorship of the fisheries, rather than their replacement by the large-scale 'capitalist'employment of wage-labour characteristic of certain other extractive branches. Two main explanations have been offered of this 'survival'.

The first of these is Vercruissje's (1984) version of the neo-Marxist theory of 'articulation of modes of production', advanced in an account of the historical development of coastal fisheries in Ghana. According to this theory trader sponsorship of 'artisanal' vessel owners and their crews is developed to take advantage of artificially depressed crew wage costs, in a situation where vessel owners' control over an indispensable element of the means of production obstructs the direct conversion of fishing crews into 'free' wage labour.

Vercruissje's analysis of this situation proceeds from the assumption that processes of capital accumulation and class differentiation have been present both in fishing and fish trading in Africa since the early colonial period, but became significantly accelerated from the 1950s onward. Accumulation was most marked in the trading sector, where the take-off of paid employment in (cocoa) cash cropping created a mass market for consumption items, including food. In the following decade post-independence aid programmes provided a basis for an upgrading of capital equipment in the fishery itself, largely in the form of engines. This in turn speeded up a process of adoption of more expensive and productive gear, which was already underway.

Because of its earlier and more firmly-based character, accumulation in trade came to dominate over accumulation in the fishery, and as the availability of aid contracted so trader sponsorship of vessel owners tended to substitute for it. In the process traders acquired access to an ultra-cheap form of labour-power, subsidised through the institution of paying crew partly in use values (from their own catches). Hence, while 'sponsorship' obstructs a so-called 'normal' process of differentiation from taking hold, it is also functional for traders.

The main alternative explanation of the prevalence of trader sponsorship in fisheries has also strong functional overtones although it arises from a very different tradition, namely rational choice theory. In a contribution drawing heavily from the analysis of sharecropping in India advanced by Bardhan (1984), Platteau (1989) advances the argument that sponsorship can be seen as a form of bargain between two parties who have complementary sets of resources at their disposal. These resources are not useful in their own right, but can be efficiently exploited if they are joined with those in possession of the other party. On the other hand, there are no easily available alternative methods for unlocking access to these same resources.

According to this analysis, fishing vessel owners have access to certain (but not all) means of production, to knowledge about production conditions, to production skills, and to (family/neighbour) labour and relatively efficient ways of managing it. But they lack access to credit in order to supply or upgrade other means of production. In other versions of the same theory they are also said to lack direct access to markets, by virtue of their full-time employment in fishing itself. Traders, by contrast, have access to capital and of course to markets, but lack knowledge of production conditions, easily supervised skilled labour and- most important- any means of stabilising their turnover close to their working capital limits. Sponsorship is a way of solving all these problems.

A general critique of how these positions (and related ones) characterise the content of the economic relation of trader sponsorship is offered in an accompanying paper on the Nile Perchfishery (Gibbon, 1997b), where sponsorship is the rule. These arguments will not be repeated here. Rather, the seemingly unusual absence sponsorship in the Tanzanian *dagaa* fisheries (or at least the *dagaa Mwanza* and *dagaa pwani* ones) will be used to raise issues about the general conditions under which sponsorship arises or fails to arise.

The *dagaa Mwanza* fishery is of interest in this context because it apparently presents an example of the reduction or dilution of sponsorship from a position where it was- according to some accounts at least- quite well established. If Vercruissje's theory was correct, one would only expect such a trend to arise either in a context of class struggle (organisation of one or other of the parties, or fishing crew members themselves, to (re-)gain control over the means of production), or if there was an externally-induced augmentation of vessel-owners' capital (e.g., renewed provision of gear through development assistance) or dissolution of traders' capital (e.g., via a collapse in demand). Likewise, if Platteau's theory was correct, one would only expect such a trend to arise from *matajiri* gaining access trading networks and/or credit for gear, or from traders overcoming their separation from the various elements needed to set direct production in train.

In fact, the dilution of the sponsorship relation probably occurred on a more conjunctural basis to those suggested here. As indicated, it was apparently precipitate simply by a tightening of the market on the Lake, in the form of the entry of a large number of external players prepared to bid up the price. Sponsorship could secure supply in conditions where there was little price competition, but not when this competition became highly active. Thereupon, Kirumba traders decided that it was no longer worthwhile investing in sponsorship. In the short-term at least, the investment sunk in a particular unit of gear could probably have been more profitably deployed to buy *dagaa* on the free market.

Meanwhile, the *dagaa pwani* fishery presents an example of a fishery where there has apparently never been sponsorship of vessel owners by traders. Rather, a considerable proportion of the means of production are themselves owned by fish traders. On the other hand, while these traders invest in production of *dagaa pwani*, they do not trade in it- even though many of them hail from the main areas of end consumption, and hence would be in a good position to distribute the fish. Moreover, while they directly involve themselves in mobilising and supervising labour in the *dagaa pwani* fishery where they do not trade, they apparently desist from investments in production- as opposed to collection- in the (reef fish) fisheries where they actually trade.

This case shows that there are no Chinese walls between trade and production in African fisheries, and no general tendency for trade to dominate over production- in a parasitic or any other specific form. It shows instead that where the productivity of capital can be relied on to be high and a good market is present for the product, direct investment by a wide variety of persons (including traders) may be anticipated. At the same time, if this product has a low unit value and is consumed on a highly dispersed pattern, the same well-capitalised individuals will prefer to invest their trading capital in buying and selling commodities of higher value and with more concentrated consumption patterns.

Since the presence of strong sponsorship relations- as opposed to highly diluted ones or no sponsorship at all- cannot be held to be general in Tanzanian fisheries, so where they are present they cannot be validly explained in terms of general features of Tanzanian production and trade.It is necessary to directly investigate sponsors' concrete motives for particular sponsorship relations, for example to reap a differential surplus profit, or simply to maintain a given volume level, etc, and to explore the precise set of conditions necessary for the sponsorship of any given item to serve its purpose. This implies a detailed examination of structural and conjunctural features of the sponsored assets and commodities in question and of the markets for them.

Market development and market power

In a companion paper on the Tanzanian Nile Perch fishery I show how the market for this fish experienced a process of comprehensive rationalisation and specialisation/differentiation as control of the fishery became concentrated in the hands of a number of modern industrial filleting plants, based mainly in Mwanza town and producing mainly for the EU market. In this process a distinct factory-organised purchasing network was established, concentrating on the collection of larger, good quality fish, and based ultimately on a large number of tied 'artisanal' producers. Earlier, many of these producers had also controlled large-scale 'artisanal' processing operations, but with the advent of the factories 'artisanal' fishing became a specialised activity largely separate from 'artisanal' processing. The latter continued to exist, but became internally separated into two differentially marginalised roles.

The first was to salt-dry smaller, uncollected and poor quality fish for middle-income long-distance African markets. The second was to fry fish parts and frames discarded by the factories during the production of filleting, for low-income local African markets.

Alongside these processes rationalisation and differentiation/specialisation occurred simultaneous processes of cartelisation and attempted cartelisation. After a long period of extremely intensive competition, which led to a huge rise in the price of fresh Nile Perch, the factory owners managed to fix a common fresh fish purchasing price in April 1996- which was apparently still holding in March 1997. Secondly, the group of traders in salt-dried Nile Perch at Kirumba mwaloni- just like those trading there in *dagaa*- gradually established a partial cartel which on the one hand discouraged Lake-based producers from selling in Mwanza town, and on the other prevented Zairean traders from proceeding to buy at points beyond Mwanza town.

The process of market development in *dagaa* was one of incomplete cartelisation without the comprehensive forms of rationalisation, etc. which emerged in the Nile Perch trade as a result of the dominating presence of the factories. Nevertheless, elements of rationalisation were present also with respect to the development of the *dagaa Mwanza* trade, produced in the process of incomplete cartelisation. Some of these elements have already been described, but the phenomenon will now be treated systematically. A useful starting point is a consideration of the practice of 'travelling out' by traders of various descriptions. 'Travelling out', it will be recalled, basically reflects a position of market weakness/price taking. It therefore casts a light both on relations of domination and subordination within markets, and their subjection to transformation.

Table 8

Historical summary of 'travelling out' in the *dagaa Mwanza* trade, 1985-96

	to Lake islands	to Mwanza	to Dar es Salaam
c. 1985	-	LC/M	K, SLK
late 1980s	K, DSM	LC/M, Z	K, LC/M, Mtw
1992-94	K, DSM, Z	LC/M, Z, DSM, Mtw	K, LC/M, Mtw
1995-96	K, DSM, Mtw	LC/M, Z, DSM, Mtw	LC/M

Key:
DSM:traders based at Kariakoo, Dar es Salaam
K: traders based at Kirumba mwaloni
LC-M:Lake-based collector/*matajiri*
Mtw: traders based in Mtwara/Lindi
SLK: traders based at Mwanza Soko la kati
Z: traders based in Zaire

The table indicates the prevalent direction of trading journeys by significant groups of traders, identified by their home market, at a series of junctures in the last decade or so. The table does not distinguish between trading journeys to buy and those to sell, but these will now be explained. All trade journeys to the Lake islands are to buy. All trade journeys to Mwanza town are also to buy, except those by Lake-based collector/*matajiri*. All trade journeys to Dar es Salaam are to sell, except those by traders from Mtwara/Lindi.

The partial rationalisation process which the table indicates is one where an increasing proportion of (but by no means all) buying and selling journeys converge on Mwanza town- actually, Kirumba mwaloni- while there is a diminishing concentration of buying and selling journeys to Dar es Salaam. On the other hand, there is still a significant concentration of buying journeys on the Lake, and buying journeys to the Lake by outside traders probably even increased in 1995. Historically what has occurred is a shift from a marketing chain structured in a 'relay' form, i.e. dominated by a series of distinct, consecutive movements down the chain, to a chain partly integrated around a single centre (Kirumba), but subject to countervailing shifts upwards.

Correspondingly, as Table 9 shows, there have been important shifts with respect to which specific groups of market traders occupied leading positions at particular links in the chain.

Table 9

Historical summary of leading players in particular links of the dagaa Mwanza marketing chain, 1985-96

	On the Lake	To DSM	Inter-provincial	International
c. 1985	LC/M	SLK	DSM	-
late 1980s	LC/M	SLK, K	DSM	K
1992-93	K	K	K, DSM	K
1995-96	K, DSM	K	K	K

Key:as for Table 8

Being a 'leading player' in a given link of the chain cannot generally be equated with control over that link; nevertheless there has been a combination of a clear reduction of numbers of leading players in the chain as a whole, and a related tendency for leadership to be displaced by control with regard to particular links.

To sum up, market development in the *dagaa Mwanza* chain has been accompanied by the emergence of a single leading group of traders, physically based in the market at Kirumba. This group achieved this status in the first instance through the capture of the international trade, where the largest customers were to be found, and in the second instance through a partial cartelisation on the Lake itself. The latter corresponds to a powerful position with regard to supply, the former to a very considerable augmentation of working capital. Subsequently, the establishment of the combination of a partial cartel and a bulking market on the Lake shore spontaneously began to generate processes of Mwanza-centred cartelisation in the down-country trade. On the other hand, under conditions of extreme shortages and very high prices in 1995, down-country traders still by-passed Kirumba to 'invade' the Lake in large numbers.

In the formulations advanced by Harriss-White (1995) and Bernstein (1996), the establishment of control over specific markets is analysed mainly in relation to control over access to various kinds of assets on the one hand, and/or a regulative process of more-or-less public institutional development on the other. The most important assets to which reference is made are production inputs and specific magnitudes of trading capital, while on the institutional side it is regulation of various conditions of entry which is mainly emphasised.

A certain pattern of informal institutional regulation was clearly also of some importance in the case discussed here, in the form of the institutionalisation of *mali kauri* at Kirumba and the mobilisation of the Mwanza regional government by Kirumba traders to stamp out Zairean trading expeditions to the Lake islands. These forms of regulation in turn assumed a certain degree of internal organisation amongst Kirumba traders themselves, whether through their trading society or independently.

On the other hand, control over assets has apparently been of rather restricted importance in determining the pattern and degree of control in the trade. Only in the case of working capital are significant concentrations of assets evident anywhere in the trade, but the players with the greatest magnitudes of working capital (the big *chakula cha kuku* millers in Dar es Salaam and the Zaireans) have either not been able to, or perhaps have not been interested in, exercising adominant market role. In the case of the Zaireans, the incapacity partly rests on the system of institutional regulation already mentioned. In both cases it also owes its existence to a combination of these players' enormous physical distance from the production process in a technologically primitive context, and to the tendency for demand from these players' to focus on lower quality grade products for which there is little competition from other end-consumers.

The combination of Kirumba traders' locational advantage under primitive technical conditions and the segmentation of demand in forms which lead to restrictions on the effectiveness of certain large concentrations of capital have therefore played a role alongside that of informal institutional regulation in the determination of the pattern of distribution of market power with respect to *dagaa Mwanza*. It is also worth pointing out that the resulting pattern was probably basically consolidated rather than undermined by the severe supply shortage in the second half of 1995. While the resulting price trend produced a dislocation between Lake-based *matajiri* and Kirumba traders, the supply and price trend meant that the 'invasion' of the Lake occurred in the wider context of most large down-country traders travelling only as far as Kirumba to secure their supply.

It remains to be seen whether the sharp fall in *dagaa* catches in the second half of 1995 is a signal of a long-term serious decline in the *dagaa* population, or whether it turns on more conjunctural factors. What can be said with some degree of confidence is that while there were strong 'boom-bust'-type features in the market in this period, especially on the Lake where the sharp rise in prices was accompanied by an invasion of speculative traders and collapse of *matajiri*-trader contracts, the general *economic* characteristics of the production and marketing chain do not correspond to the usual 'boom-bust' model.

The clearest local expression of this model is in the Nile Perch fishery, where steadily increasing demand and price trends were associated with much faster expansions of numbers of fishing vessels and fishermen and a major augmentation of capital employed in fishing, in the form of huge increases in gear and engines. Gear has also been systematically upgraded in the *dagaa* fishery, but on nothing like a similar scale, and- thanks to capitalisation being led by *matajiri* rather than factory owners- engines are virtually absent. This means that the economics of participation in the fishery are also different. While a fall- or possibly even a relative decline- in prices will make a large element of the motorised Nile Perch fishery uneconomic and lead to its withdrawal, this is unlikely to occur (or at least occur to the same degree) in the case of *dagaa,* with its much lower unit investment base. At the same time a really serious biomass crisis is unlikely to be induced by the *dagaa* fleet as it is presently constituted. On the other hand serious threats to the *dagaa* biomass can still arise directly through the deployment of trawlers no longer used in the Nile Perch fishery and indirectly, through a decline in the Nile Perch biomass and with it the revival of species which directly compete for plankton with *dagaa*.

Accumulation

The final question considered in this paper is that of accumulation. In companion papers to this one (Gibbon 1997a,b) I address the aspects of this issue most commonly found in the general literature, namely the relation between 'indigenous' (and, by implication, non-bureaucratic) African enterprise forms and accumulation on the one hand, and the relation between accumulation and politics on the other. The findings described above have implications for boththese issues, but not ones which are fundamentally different from those arising from a discussion of marketing chains for Nile Perch or prawn. Rather, the opportunity will be taken to make a brief point about the economics of accumulation in fisheries and marketing chains like that of the Tanzanian *dagaa Mwanza* one.

The most obvious observation in this context is that, except for a few large businessmen engaged in very large-scale agency agreements with the *chakula cha kuku* factories in Dar es Salaam, opportunities for accumulation on anything other than a minor scale are very limited. Returns to all *vessel owners* except those also engaged in long-distance trade are very low, and returns to most traders except those working in cartels or dealing in high-volume long-distance trade are little better. Unit returns for most participants in the Nile Perch and prawn marketing chains are also quite low, but the velocity of capital in these latter trades tends to be considerably higher, meaning that at least minor opportunities to accumulate are present.

Within the production process itself higher unit investments generate higher earnings than lower ones, but they failed to generate higher rates of return on investment. Within trade, the branches to which entry is most convenient for those based around the Lake are partly cartelised and entry is blocked to the more profitable roles. To make money out of *dagaa* it is necessary to enter long-distance trade, if possible in combination with direct production. However, this requires the same degree of upgrading of enterprise organisation as any other form of major diversification, and even in the Lake fisheries there was in 1995 at least one diversificatory alternative to *dagaa* which was clearly more profitable- Nile Perch. It was therefore hardly a surprise that discussions with interviewees about 'future investment plans' normally touched on diversifying into Nile Perch, retail trade or posho mill ownership, or more than one of these rather than buying additional *dagaa* vessels. Investment in *dagaa Mwanza* would not be abandoned in the process, but its importance in *matajiri*'s 'portfolios' had a tendency to diminish as their business careers advanced.

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