Food, Carvings and Shelter:

The Adoption and Appropriation of Information and Communication Technologies in Tanzanian Micro and Small Enterprises

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Declaration

This thesis has been composed by myself from results of my own work, except where stated otherwise. It has not been submitted in any previous application for a degree.

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Abstract

African countries have recently experienced an extraordinary and largely unanticipated boom in the uptake of mobile phones, and increasing rates of access to the internet. This thesis investigates how and why these information and communication technologies (ICT) are being adopted for use in Tanzanian micro and small enterprises (MSEs), and explores the changes they are bringing about to the existing business culture of marginalised economies.

The study covers three sub-sectors of the Tanzanian economy: perishable foodstuffs trading, the informal construction industry and the export of African blackwood carvings. The analysis is based on fieldwork undertaken over a total of 15 months in 2002 and 2003, during which time business networks were revealed by physically following entrepreneurs and their contacts operating in different locations throughout the country. Entrepreneurs were asked to draw their own comparisons between the traditional pre-ICT situation and the improved ICT access of today. The discussion is informed by the findings of semi-structured interviews with these individuals, excerpts of which are presented in the text to give voice to the entrepreneurs.

Various ingenious and at times unconventional methods of access to, and appropriation of, ICT is uncovered. Together these suggest that official indicators underestimate the thirst for digital consumption, especially for mobile phones, and help explain the flourishing informal economy of handset acquisition. Internet penetration and uptake for use in business, on the other hand, is revealed to be far slower. Nevertheless, the research does reveal that a sizeable amount of poorer entrepreneurs are using a triumvirate of hired or shared ICT – mobile phones, the Internet and the ‘old’ ICT of fax – to create what can appear to be a more formal enterprise than it may actually be. The ‘mobile office’ effectively allows poorer entrepreneurs to operate without premises, thereby saving costs on rent and allowing the enterprise to remain informal. This heralds a considerable change in the working practices of a significant branch of informal sector operators who have gone unnoticed, and calls for a reconstruction and redefinition of this crucial source of entrepreneurship in developing economies.

Despite the huge uptake of mobile phones in particular, the work also cautions that some traditional pre-ICT aspects of the African business culture look set to remain for some time. It becomes clear that where entrepreneurs do decide to use ICT, reputation and recommendation are still very significant. This information is usually passed on when an entrepreneur meets in person with contacts from his very fluid informal networks of knowledge. Trust, and the need for direct, personal interaction through face-to-face contact – one of the most pervasive features of African MSE economies – emerge as a common theme across the case study industries and are likely to remain a crucial aspect of the way most MSE business is conducted.

Mobile phones are seen to play a crucial role in improving the exchange of supply-and-demand information domestically, while a combination of applications (particularly e-mail) appear to act as tools with which to refresh relationships with sources of market information outside the country. It is suggested that ICT may be able to help entrepreneurs in moving from the personal to the impersonal exchange – a challenge that many other African businesses will also have to come to terms with as the Internet becomes an ever more important global trading tool.

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This thesis is devoted to Malin Mazengo. In the hope that, as your father wanted for you, your own children will live in a country free of poverty.

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Glossary and Acronyms

advansi	an advance, usually cash
akili	intelligence, nous
ana kwa ana	face-to-face
~beepu	to beep; a short, unanswered call on a phone, costing nothing and usually signifying a pre-arranged meaning between the caller and recipient. Also *~flashi*
BET	Board of External Trade
BICO	Bureau of Industrial Cooperation, University of Dar es Salaam
binadamu	humanity, human being (name of a carving type involving naturalistic human figures and themes)
Bongo	(slang). Dar es Salaam (and sometimes 'Tanzania', especially when the reference is made abroad); literally 'brains', which are required to survive in the city
Bwana Shamba	government-employed agricultural extension officer
CD-ROM	compact disc read-only memory
CHASAWATA	*Chama cha Sanaa na Wachongaji wa Tanzania* (Tanzanian Association of Artists and Carvers)
COSTECH	Tanzania Commission for Science and Technology

daladala	commuter bus
dalali	auctioneer, usually stationed at Kariakoo
DISS	Dar es Salaam Informal Sector Survey
EIU	Economist Intelligence Unit
ESRF	Economic and Social Research Foundation, Dar es Salaam
expo	exposition, international trade fair
~fanya deeli	to do a deal
FRELIMO	*Frente de Libertaçâo de Moçambique*, Mozambique Liberation Front
fundi	skilled artisan (pl., *mafundi*)
GDP	gross domestic product
GSM	Global System for Mobile communications (originally, '*Groupe Speciale Mobile*'). Second generation digital technology originally developed for Europe but which now has in excess of 71 per cent of the world market
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
huduma ya simu	phone kiosk; literally 'phone service'

ICT	information and communication technologies
ICWs	informal construction workers
ILO	International Labour Organisation
IMF	International Monetary Fund
ISP	Internet Service Provider
ITU	International Telecommunications Union
JASPA	Jobs and Skills Programme for Africa, ILO
jua kali	informal sector, a term commonly used in Kenya; literally ‘hot sun’, to which operators without roofed premises are exposed
KACE	Kenya Agricultural Commodity Exchange
Kariakoo	Dar es Salaam municipal market, the biggest and most important wholesale market in Tanzania. See also KMC
kijiwe	(slang). labour pool pick-up point
kinyago	carving, crafted image (pl., *vinyago*)
kiunganishi	(farmer acting as) field agent connecting other farmers with one particular *dalali*; literally ‘connector’
KMC	Kariakoo Market Corporation; state company under the Ministry of Local Governments that oversees the running of Kariakoo and other markets in Dar es Salaam

komoni	millet-based homebrew consumed in Mbeya region
madalali	plural form of *dalali*. auctioneers; in this case, of perishable foodstuffs at Kariakoo Municipal Market, Dar es Salaam
mafundi	skilled artisans (sing., *fundi*)
Makonde	(member of) Bantu-speaking agriculturalist tribe living in Tanzania's southern region of Mtwara and in northern Mozambique; famed for their carvings made from African blackwood
mfanyabiashara	mobile intermediary trader, and often used for anybody who acts as a middleman between the farmer and an urban market; literally 'businessman'
mpingo	African blackwood (*Dalbergia melanoxylon*)
MSEs	micro and small enterprises
mshamba	peasant; literally, 'person of the *shamba*', in urban areas sometimes used to call rural folk 'hick' or 'country bumpkin'
muuzaji hodari	a hardworking salesman
Mwenge	Mwenge crafts village, Dar es Salaam
mzungu	white person (pl., *wazungu*)
NEP	National Employment Policy

NGO	non-governmental organisation
NCITP	*National Information and Communications Technologies Policy*
NISS	National Informal Sector Survey
NRS	network reception spot; a location where mobile phone reception can be obtained only in certain areas as a consequence of more blanket coverage intended primarily to serve other areas
Nyumba ya Sanaa	Dar es Salaam's 'House of Art'
PRSP	Poverty Reduction Strategy Paper
ruksa	literally 'permission'; often associated with the presidency of the fantastically corrupt Ali Hassan Mwinyi, alias '*Bwana Ruksa*' ('Mr.Do-as-you-please')
ROK	(Government of the) Republic of Kenya
sasa hivi	right now; immediately
shamba	farm plot
SIDP	Sustainable Industrial Development Policy
simu	telephone. *Simu ya kawaida* is fixed line telephone, literally, 'normal telephone'; *simu ya mkono(ni)* is 'mobile telephone', literally 'telephone of the hand'

SME	Small and Medium Enterprise
SMEDP	SME Development Policy
SMS	Short Message Service; text message
starehe	pleasure, comfort, ‘the high life’
STIC	Study on Tanzania Informal Contractors
STICW-Dar	‘Support for Informal Construction Workers in Dar es Salaam’ project (with BICO, ILO, UNDP, and UNV)
TG29	Task Group 29 at *International Council for Research and Innovation in Building and Construction in Developing Countries* conference, Arusha, 21-23 September 1998
TiX	Tanzania internet eXchange
TTCL	Tanzania Telecommunication Company Limited; fixed line operator privatised in June 2000
uchwara	worthless
UDSM	University of Dar es Salaam
ugali	stiff porridge, a major component to the Tanzanian diet
ujamaa	African Socialism, literally ‘togetherness’; name of a composite carving type characteristically composed of a multitude of interlocking human figures

UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNV	United Nations Volunteers
URT	(Government of the) United Republic of Tanzania
USAID	United States Agency for International Development
VSAT	Very Small Aperture Terminal; a two-way satellite communication system
utafiti	research
vijiwe(ni)	(in/at the) labour pool pick-up points; plural form of *kijiwe*
vinyago	carvings, crafted images (sing., *kinyago*)
vitenge	printed cloth wraps worn by women
VoIP	Voice over Internet Protocol; internet telephony
wabenzi	the wealthy, Mercedes-Benz -owning elite
wafanyabiashara	plural form of *mfanyabiashara*
wahindi	South Asians of Indian and Pakistani origin
wakulima wadogo	small-scale farmers

wakulima wakubwa	large-scale farmers
walala hoi	the working class, but more often used now to refer to the chronic poor; literally ‘those who sleep exhausted’
wazungu	white people
WiFi	Wireless Fidelity; wireless local area network application
WIPO	World Intellectual Property Organisation
WSIS	World Summit on the Information Society
WTO	World Trade Organisation

Map of Tanzania

Introduction

The research goal

Since visiting Tanzania in my early teens, living in a rural community later for a year as a teacher and in subsequent visits, my greatest interest in the country has always been how its inhabitants ‘get by’, how they ‘manage with difficulty to live or accomplish something’ (Pearsall 2001: 770). Strategies for getting by in East Africa have been analysed by Wallman (1996) who shows how as serious HIV/AIDS-related infections and the formal economy were on the increase in the early 1990s so women in urban Uganda developed strategies to exploit – as much as they are exploited by – the informal economy. Women’s tireless role in this crucial means of generating income for the wellbeing of their households prompted me to conduct my first empirical field study (Molony 2000c) examining the methods women of rural Upare in north-east Tanzania apply to meet these ends. Far from resolving any issues the academic community were not aware of (or, for that matter, most Tanzanians), this early work served only to fuel my thirst for further study of the ‘ordinary economy’, an area that I was soon becoming convinced was hugely relevant to so many people’s wellbeing under very difficult circumstances.

It became clear during this early intimate exposure to people’s socio-economic realities that while the experience for many of the informal sector is one of over-competition and bare necessities, there is a different reality for a sizeable number of entrepreneurs. For these people, success appears to be their ability to move beyond the saturated and highly price-sensitive mass markets into the niches where there are better opportunities for a focus on innovation, diversification and quality. Compared with the majority of owner-operators I had covered so far in the earlier rural study whose well-known constraints (e.g., lack of capital and market) which I felt were long-standing and who to graduate required a massive range of assistance that realistically was not going to come, I questioned how some other operators whose businesses I observed in 2000 in the local Pare town of Same had been able to – I assumed – ‘graduate’. I had in mind a couple of enterprises supplying upscale secretarial services and found it intriguing that, since my previous period living in the study area in 1995, somehow a tiny number of entrepreneurs in this small settlement had managed to overcome so many obstacles and were offering their customers access to the internet.

More recently, over the last five or so years, information and communication technologies (ICT) in the form of the internet and, especially, mobile phones, have taken Africa by storm. Few technologies have been embraced by Africans over such a short period of time, and this in turn has spurred much interest in the potentialities of applications that can help the continent's development, not least in terms of aiding enterprise. Unfortunately much of this evidence is anecdotal and of little analytical value, or else is based on reports of unsustainable donor projects that fail to represent the typical situation for many ICT users.

The motivation for this study originates from a desire to provide a systematic, empirically-generated account on how ICT is being adopted for use in micro and small enterprises (MSEs) – a crucial source of income to the majority of Africans, and an area where these technologies are often regarded (e.g., UNDP 2001) as being of great benefit in helping alleviate poverty. The study is based on fieldwork undertaken on three sub-sectors of the Tanzanian economy over a total of 15 months in 2002 and 2003, during which time it became clear that some aspects of the context within which these technologies are (or are not) being used are quite different to those of the developed countries where much of the policy debates on the technologies have hitherto been generated. The risk here of extrapolating our external models of how these new technologies may be accessed and used more effectively, however, is that the particular needs, usages and especially the ways of doing business in African economies are ignored. In this light we ask how ICT is being integrated into the existing business culture, and what changes this is bringing to how entrepreneurs are making money. Based on the replies to these questions, we then consider how ICT may be better applied for business use in Tanzania.

The bulk of the following chapter fleshes out the debates surrounding the use of ICT in business. We begin with the ‘third way’ account of globalisation concerning the future of the world’s economies and the distribution of knowledge, a debate that I argue did not anticipate the liberalisation of the ‘Fourth World’ telecommunications industry. We then explain why it is valid to consider MSEs, and discuss the particular needs and challenges these technologies bring to how business is conducted. This is situated within debates surrounding the different levels of the ‘digital divide’ and how policy and on-the-ground initiatives have responded to the perceived requirements of ICT users in Africa within the context of potentially-transformative ICT for development. These debates provide background to the research questions that we sketch out towards the end of the chapter. We then conclude with an outline of how the remainder of this thesis addresses the ways in which ICT is being adopted for use in Tanzanian MSEs, and the implications of this for the business development of MSEs.

1 ICT and ‘Fourth World’ development

> We are resolute to empower the poor, particularly those living in remote, rural and marginalized urban areas, to access information and to use ICT as a tool to support their efforts to lift themselves out of poverty. *World Summit on the Information Society. 2003. Geneva Declaration of Principles, Principle 14*

> You have taught us Africans to have starters, followed by a main course and then a dessert. Please, Africa has had enough starters. Africa needs no more ICT projects. We’re ready for the main course. *Venâncio Massingue, Minister of Science and Technology, Mozambique. Chair of the Interactive session with Africa, World Summit on the Information Society. UNESCO, Paris. 12 May 2005*

1:1. The Liberalised Economy: social, political and economic background to Tanzania

The United Republic of Tanzania, whose current population is 34m (URT 2004c), was formed in 1964 by the union of Tanganyika and Zanzibar. From 1965-95 Tanzania was a one-party state, governed by the current ruling party *Chama Cha Mapinduzi* (Party of the Revolution, CCM) under the leadership of the late President Julius Nyerere. In the Arusha Declaration (1967) Nyerere embarked on a socialist experiment of *ujamaa* (African Socialism), based broadly on the Chinese Communist model but with African characteristics. This era was marked by a hostile business environment that discriminated against the private sector and, in the Leadership Code, attempted to inhibit indigenous entrepreneurship (Rugumamu & Mutagwaba 1999). The long lasting effects of this period have been to engender among Africans high risk aversion, low self-confidence, low creativity and low independence (Themba et al 1999: 6). It is argued (Kristiansen 1999: 81) that the period has also adversely influenced the investment patterns of the country’s entrepreneurs.[1]

[1] Kent and Mushi point out that the repression of bona fide operators presented something of an ideological paradox for the socialist state since the characteristics of informal sector activities in many ways represent the very essence of the concept of self-reliance (1996: 51). Echoes of the old socialist

Yet as we briefly argue in chapter four, despite Nyerere's efforts to eliminate the capitalist informal sector it never ceased to exist but just lived a quieter life (Trulsson 1997: 289) because the state's incapacity forced people to find their own solutions (Tripp 1997).[2] This was especially the case with the introduction of the structural adjustment programme in the mid-1980s when the ranks of the informal sector suddenly swelled with graduate retrenchees who the government made no attempt to redeploy. Until these cut-backs the civil service, for example, provided high job security because like most formal sector employment at the time it basically varied with capacity creation, not capacity utilisation (Wuyts 2001: 431). These retrenchees were joined by others who still held jobs in the formal sector but who were increasingly finding that with the erosion of real wages during 1980s they could no longer survive on government salary alone. Their solution was to engage in a process that has been referred to as the 'informalization of formal work' (King 2001: 99), switching back and forth from their 'main job' to informal sector.[3] Such white collar informalisation marked the beginning of an growing interest among professionals and public sector workers in 'education services' and 'other personal services' (URT 2002b: table 5.7), with worrying consequences to their formal sector job, particularly

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mentality are still evident in the latest employment policy paper, which now states that one of main aims of the policy is '[t]o ensure that activities initiated on self employment act as a basis for the development of the economy and are an inspiration for the culture of self reliance' (URT 1997c: 6).

[2] In their analysis of the 'African [read: Kikuyu] business creed', Marris and Somerset (1971: 91 fn1) note that one interpretation as to why Kenya was sympathetic to private African enterprise while Tanzania was not lies in the fact that the colonial presence in Tanganyika saw little European settlement so was principally political rather than commercial, and they speculate that for this reason Tanzania is more concerned with asserting political achievements. They do add, however, that at this stage in his speeches and writings Nyerere was still referring to these achievements by Western European standards, especially the appeal to the liberal tradition of political thought derived from John Stuart Mill and the Fabians, rather than Marxism. This is particularly interesting given that while at the University of Edinburgh (1949-1952) Nyerere was exposed to Mill's writings and other historical and philosophical staples at the same time as he was frequently engaging in discussions on Marxism with (mainly Nigerian) undergraduates. George Shepperson, who taught Nyerere at Edinburgh, believes that his formal education in the city (supplemented by much wider reading and debate), played an even greater part in influencing his political beliefs than even Nyerere himself admits in letters to his former close friend (Molony 2000a).

[3] In 1993 the Minister for Home Affairs, Augustine Mrema, sensing that many government officials were spending office hours on personal business, ordered that chairs used by government officials should be confiscated and surrendered to the police stations if the officials reported for duties later than 7.30 in the morning. The government's reaction in true '*Bwana Ruksa*' style (fn 6 below), drafted 'Act 10' to give workers enough time to rest and attend to their private ventures (Mbogora 1998).

among teachers in what has been termed the ‘improper economy’ (Kerr 2005).[4] In another turn in the privatisation of public authority (MacGaffey 1987), public sector workers also increasingly subsidised their poor salaries by asking for bribes before performing their duties.[5]

Under Mwinyi, Nyerere’s successor as President, the state slowly began to turn a blind eye and gradually gave way to legalisation, liberalisation and privatisation.[6] The official line of the Tanzanian government was that the state had recognised early that because of structural adjustment ‘the informal sector was offering not only a source of alternate employment but a source of income supplementation to formal sector workers who were being badly effected by the erosion of their real wage incomes’ (URT 1991a: 3.4). Like many other African governments in the 1990s, Tanzania thus began acknowledging what to many had been obvious for a long time: that the bulk of the working population of developing countries have not depended on government to assist them to survive and develop but have utilised their own resources, their family labour and informal credit to find new ways to become more productive (McGrath & King 1994: 119). Unsurprisingly, there was little mention from African governments that the significant shift to acceptance of the informal sector came at the same time that opposition parties were emerging who had the

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[4] It is difficult to argue against teachers using their skills in after school tuition as an opportunity for a better wages under difficult circumstances, but it clearly is an abuse of their authority when it impinges on their official duties and responsibilities as occurs in some schools in Tanzania when teachers use pupils as labourers in construction programmes (see Molony (2000b), for example). However in Bulgaria similar work conducted by women has been defended by Roth (2002: 87) as an attempt at ‘managing everyday life’ under the constraints of a deficit socialist economy.

[5] Hyden argues that the lasting effect of this bribery was a disintegration of the work discipline in formal sector institutions, especially government departments, and the inability of these institutions to serve society (Hyden 2000: 43). A recent study confirms that this attitude remains, with the mindset of many government officials still regarding entrepreneurs as a source of personal revenue undermining confidence in the government: ‘Officials request bribes to do most things within a reasonable period of time, and even then the entrepreneur is not guaranteed to come away with a license or registration at the end of the day. The examples of frustration circulate, discouraging other entrepreneurs from such a risky undertaking and undermining the credibility of the government in its role of economic guide’ (UNDP et al 2004: para.12).

[6] Ali Hassan Mwinyi’s presidency symbolised the government’s changing attitudes towards private entrepreneurship, although according to Magesi (1997) few economists are willing to categorise this move towards massive economic liberalisation as policy because it was obviously haphazard and wickedly corrupt. The pro-capitalist Mwinyi’s tenure was marked by *ruksa* (permission) politics which eroded respect for law and order and accelerated corruption and the incursion of business interests into the decision-making machinery for public affairs (Hyden 1999), and for this reason Tanzanians derisively refer to Mwinyi as ‘*Bwana Ruksa*’ (‘Mr.Do-as-you-please’).

potential to take the votes of the increasing majority who were not being cared for by the state.

In the 1990s new environment of multi-party democracy (CCM have overwhelmingly won every election) and the formal abandonment of socialist policies, Mwinyi's government undertook the *National Informal Sector Survey* (URT 1991b) (hereafter *NISS*). His administration brought in a wave of changes during the early 1990s that saw the informal sector formally permitted under the Zanzibar Declaration (1991); the effective permission of party and government officials to be involved in the hitherto forbidden informal sector activities under the Amendment of Leadership Code (February 1991); the abolition of price controls and confinement policies and an increase in producer prices and improvement in agricultural marketing. It took a number of years for these early moves to be followed by further policies, until an increasing support for the informal sector came in various government policy documents during the late 1990s.[7] The *Sustainable Industrial Development Policy* (1996), *National Employment Policy* (1997c), *Poverty Reduction Strategy Paper* (2000) and *Vision 2025* (2001) then all began pointing to the potential of the informal sector in generating employment and self-employment.[8] Many of these policies have been criticised for lack of 'joined-up government', however, as supportive initiatives from one line ministry are frequently counteracted by regulations from another (ESRF 2000: 12; Pfander & Gold 2000: 12).[9] This

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[7] A JASPA study (ILO 1993: 25), for example, revealed that there was still no institutional framework for promoting development of the informal sector in 1993.

[8] Hereafter *SIDP*, *NEP*, and *PRSP* respectively. *PRSP* seeks to make efforts to bolster private investment into informal sector, facilitate access to credit and training, and ensure an enabling environment for the sector, while Vision 2025 sees a role for education to innovatively engage Tanzanians in entrepreneurship and self-employment, and the need to strike a balance between state and other institutions in economic management, particularly informal sector.

[9] This was a main criticism of the *NEP*, for example, which fails to provide a co-ordinating mechanism between the Ministry of Labour and Youth Development and the local government authorities who were supposed to have committees for employment promotion in place and to create a conducive environment for employment and growth (ESRF 2000: 12). The *NEP* is under review at present (URT 2003c: 65) and according to Pfander and Gold is now to have a stronger commitment towards supporting (self-) employment within the informal sector and MSE sector (2000: 11-12) under the coordination of the Labour Department of the Ministry of Labour and Youth Development and monitored by the National Planning Commission (ESRF 2000: 32). In consultation papers for the new policy document the need for more practical support for the informal sector in urban and rural areas has been argued (Mbilinyi & Nyonyi 2000: 14), a case that has been made for some time by Lugalla who has consistently called for the need to address the process of rural-urban migration as a long-term

significant shortcoming has been addressed by the *SME Development Policy* (2002d) (*SMEDP*, section 1:19), which is the closest the government has got to producing an informal sector policy document.[10] In a tone that suggests the wish for a clear cut from the past, it recognises the importance of informal sector SMEs to the economy and acknowledges that policy thus far has been uncoordinated (URT 2002d: 11). In part, admits *SMEDP*, this is because of the government's own actions and unfavourable operating environment that has served only to create 'a persistent culture that has not recognised the value of entrepreneurial initiative in improving the lives of the people' (URT 2002d: 1). The policy also makes a start at amends for the government's poor record by tying in with the *Sustainable Industrial Development Policy* (*SIDP*) (URT 1996) and *Vision 2025* (URT 2001) documents to facilitate coordination. This time it is realistic on its own capability by setting only three aims: improving infrastructure, creating a conducive legal and institutional framework, and enhancing service provision (URT 2002d: 13).

1:2. Present state of the economy and economic outlook

With Nyerere no longer overseeing Tanzania's course, the present government has now felt comfortable to openly criticise the Arusha Declaration, as can be seen in the *Tanzania Development Vision 2025* policy document (URT 2001: 6), 'an in-depth assessment of our country's history and direction' (ibid.: vi) that states a clear break from policies of the past. Under the leadership of Benjamin Mkapa (who was elected president in November 1995 and re-elected for a second term in 2000) the country has embraced economic liberalisation and sound macroeconomic management, which has led to impressive growth rates unknown during the socialist era, and allowed the economy growing resilience against adverse shocks (OECD 2005: 432).[11] Real GDP growth has been strong, averaging almost 6% in the past three

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solution to the informal sector (1997: 450). See Van Donge (1992a; 1992b), for example, on the pull of Dar es Salaam for rural youth.

[10] In this policy the SME nomenclature is used to mean micro, small and medium enterprises (URT 2002d: 3).

[11] In a convergence of 'New Broom' and 'Critical Juncture' theses, Kjaer has recently (2004) argued that as a new leader Mkapa has more easily been able to initiate reform than an old leader might have.

years (EIU June 2004) and is forecast to remain around this rate in 2005-06, reflecting both the continued strong performance in the manufacturing, mining and construction sectors, as well as the solid growth in the agricultural sector. Inflation is expected to be low and stable, at 4%, in 2005-06 (EIU March 2005), having declined from an average of over 30% during the previous two decades.

According to the IMF's most recent Public Information Notice (IMF 2004), Tanzania's sharply improved growth performance, aided by sizable donor support (from 4.8% of GDP in 1998-99 to 11.9 projected for 2004-05 (IMF 2005a: 13)), has had a notable impact on poverty.[12] Yet the country remains very poor with many structural constraints to growth.[13] The mortality rate of Tanzanian children under five years is 165 per 1,000 children, life expectancy is just 43 years (World Bank 2004c) and the most recent *Household Budget Survey* (URT 2002a) shows 25% of citizens have no formal education and 29% can neither read nor write. The Economist Intelligence Unit remarks that if the economy is to achieve improved rates of growth, the performance of the agricultural sector, upon which the economy remains heavily dependent (chapter four), will have to improve (EIU 2004: 26).

1:3. Government policy on new ICT

A further reason the present government has attributed to the overall weakness of many sectors, including agriculture, is the low level of utilisation of science and technology (URT 2001: 10), and here criticism has been aimed in particular at the lack of official initiatives and policies towards the digital economy (Kassim 2000: v). Yet while calls are still being made for the constraints to ICT development in many countries to be addressed in national strategies (e.g., Nair & Kuppusamy 2004: 29-30), Tanzania has been quicker than many other African countries to develop its *National Information and Communications Technologies Policy* (URT 2003b),

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Mkapa has indicated that he will not amend the constitution in order to stand for a third term. The presidency looks certain to be taken by Jakaya Kikwete (Africa Confidential 2005).

[12] The IMF's June 2005 economic review puts the projection of net foreign inflows to the budget equivalent to 10.8% of GDP in 2004-05, noting that significant increases are crucial for the country to meet its Millennium Development Goal targets (IMF 2005b: 9).

[13] See Wedgewood (2005) for a recent assessment of this, with a particular emphasis on the country's efforts at poverty alleviation through improving the education and training foundation.

NICTP. The policy does well to recognise many of the challenges of the digital divide raised in chapter one, and is more realistic than the policies of some of its neighbours.[14] Tying in explicitly with the goals of *Vision 2025*, the mission of the policy is,

> to enhance nation-wide economic growth and social progress by encouraging beneficial ICT activities in all sectors through providing a conducive framework for investments in capacity building and in promoting multi-layered co-operation and knowledge sharing locally as well as globally. (URT 2003b: 2)

NICTP emerged from the 'eThinkTankTz' that was established in 1999 to bring together different Tanzanian stakeholders, and more recently an e-secretariat comprised of a more diverse set of stakeholders has been designated to coordinate the activities of the eThinkTankTz and to play a critical role in the follow-up and implementation of the national e-strategy. The main weakness of the *NICTP*, however, is that the role of the eThinkTankTz is not made explicit in the document. The implementation of the policy and the achievement of its goals and objectives is rather loosely attached as 'the responsibility of the entire government at all levels and in all sectors' (URT 2003b: 23). Unlike the *SMEDP*, where the Ministry of Industry and Trade is clearly charged with overall responsibility of coordinating its implementation (URT 2002d: 28), in *NICTP* the ambiguity over who is ultimately accountable for execution and follow-up runs the risk that Tanzania could lose its favourable position in the e-readiness rankings, which it is already showing signs of doing over the last two years.[15] This placing is shown in the *Global Information Technology* report which assesses the overall preparedness of a country to participate in and benefit from the networked world and where in 2004 the government's readiness came an impressive 36th place overall, with ICT as an overall priority for the government coming in 28th place (only three places behind Britain), while the

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[14] Rwanda's ICT policy, for example, has been criticised as being 'incredibly ambitious' and accompanied by 'unrealistic targets' that fail to relate to the *Poverty Reduction Strategy Paper* emphasis on agricultural development in its plans for economic change (Hayman 2005: 17).

[15] Overall Tanzania came 71 out of 102 countries in the networked readiness index rankings of 2004, with only five African countries (South Africa, Botswana, Namibia, Morocco and Egypt) ahead of her (WEF 2004). By 2005 she has slipped to 83rd place (WEF 2005).

government's procurement of ICT puts it in 17th place, ahead of any other developing country (WEF 2004). These commitments to ICT procurement show the government's seriousness in further transforming the prospects of a country where many technologies were banned under Nyerere's 1974 Prohibition Order on Electronic Computers and Television Sets (when in 1980 there were only three punched card computers in the entire country, all imported by special dispensation (Olomi 2001: 251-252)), to a situation where since 2001 all taxes and duties on computers and peripherals have been abolished.[16]

1:4. The telecommunications regulatory framework in a liberalised market

As part of Mkapa's efforts to transform Tanzania from a state-centred economic flyweight to one of Africa's success stories (Versi 2004: 16), the country has made considerable progress with privatisation and its steady withdrawal from running business. In terms of its response to the new challenges of the 21st century's digital economy, this has been most visible in its early start on deregulation of the telecommunications sector, as outlined in the landmark *National Telecommunications Policy* (1997d) where the government states its central objective of ensuring that telecommunication services are provided in a liberalised and competitive manner. (This began some years before the United Kingdom promoted deregulation of the sector in its *White Paper on International Development* (DFID 2000: 42)). Liberalisation opened the way for new mobile communications and data and internet service providers (ISPs), whose performance targets are enforced by the recently established Tanzania Communications Regulatory Authority (TCRA) which – as the pre-merger Tanzania Communications Commission (TCC) – has been in place longer than most telecommunications regulators. Largely because of its initiation of an effective regulatory regime for cell phones and a more competitive market than most countries of its size, TCRA is regarded as one of the most effective

[16] A tax waiver in 2002 led to a sudden mushrooming of I.T. vendors and 'box pushers' who, though bringing prices down for end-users, rarely offer customers a value-added service (Sebastian 2005).

in Africa (Støvring 2004: 21).[17] Nevertheless, there are concerns about how truly independent of government the TCRA is, whether it is independent of lobbying for preferential treatment by powerful stakeholders (Vodacom is often mentioned) and whether the regulator has the technical capacity to foster a level-playing field for the benefit of the consumer, without penalising participants, and of being proactive rather than reactive. There are some recent steps in the right direction, including forming a Consumer Consultative Council, but the capacity and ability of this useful body is also in doubt. Overall, however, Tanzania does have a far superior policy framework and regulatory regime to other countries in the region.

1:5. The Knowledge Economy

1:6. 'Black holes of informational capitalism'

The contemporary world is moving towards a new network-based economy in which there have been fundamental changes to the role and significance of information (Bell 1973) and knowledge (Paganetto 2004) as inputs to economic processes. This has been called 'the thin-air business' (Leadbeater 2000). In terms of globalisation, it is argued (Castells 1996; Held et al 1999) that economies largely rest on advances in information and communication technology by creating perpetually changing networks of interaction.[18] This is in contrast to previous times, when society was fixed in space and time.

The highly exclusionary networks of the global economy link only segments of economic structures, countries, regions and populations, depending on their position in the newest international division of labour concerning usefulness in the 'real time' flow of capital, knowledge and information (UNIDO 2000). By 2006 it is expected that this will favour almost half of the workforce in developed countries who will be

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[17] The TCRA was formed under the Tanzania Communications Regulatory Authority Act (Act 12 of 2003) which merged the Tanzania Broadcasting Commission and the Tanzania Communications Commission (the former independent regulator under the Tanzania Communications Act 18 of 1993).

[18] See King and McGrath (2002, especially chapter 2) for discussion on the implications for Africa of globalisation and the new knowledge economy.

employed by enterprises that are either producers or intensive users of ICT products and services (Roy 2005). In sub-Saharan Africa on the other hand, the average teledensity is a mere two lines in 100 inhabitants and only 0.6% of internet users worldwide are on the continent. Despite the growth of mobile phones, which has outstripped that of fixed lines, Africa still lags behind in the transition to an information economy (Commission for Africa 2005: 235; Hamel 2005). Africa looks set to remain sidelined for some time since its economies are rarely a viable entity under the dominance of free market conditions where Africa's reliance on primary commodities is unable to match advanced economies producing things that cannot be weighed (Castells 1996: 135-136). From the perspective of informational capitalism, African economies are therefore largely non-valuable and risk being bypassed completely by flows of wealth and information and shifted to a position of structural irrelevance (Castells 1998: 92; NEPAD Secretariat 2001: 6-7). Ultimately, it is argued, this will widen the digital divide (section 1:7) by depriving Africa of a basic technological infrastructure (Castells 1996) and lead to structurally irrelevant 'black holes of informational capitalism' (Castells 1998: 162). Together these herald a 'Fourth World' (Castells 1998: ch.2) of already economically peripheral economies that risk further marginalisation.

1:7. The Digital Divide

1:8. What is the digital divide?

Definitions of the digital divide vary greatly and the lack of universal criteria in assessing what the divide actually is means that there is little consensus on the extent of the divide and, as a consequence, whether it is widening or narrowing. It is clear, however, that it is more than a question of the gulf between those with physical access to ICT and those without, but is the cumulative effect of many missing pieces (Bridges 2001: 86). It is also inequality resulting from this gulf, the disparity between those who can effectively use information and communication tools, and those who cannot.

Barriers to ICT use in the South

More specifically, aspects forming the divide include the state of infrastructure in marginal areas, the high initial costs of hardware and software, and the various costs of training locals to use a new technology when they may never have used electricity. 'Facilitating skills' (Mansell & Wehn 1998: 111) are also required for the design, installation and maintenance of this equipment if it becomes available and, if it is to be sustainable, the skills need to be possessed by local technicians.

Of even greater importance to the subsequent sustainability of an ICT in the South is that it needs to be *affordable* or it will not be used, and this requires local economic conditions that can sustain its use. In each case study, however, it does become clear from looking at individuals' access to phones that ownership of a handset and SIM card certainly does not preclude access to mobile telephony. The International Telecommunications Union (ITU) indicators, which have shown a consistent, tremendous growth in sub-Saharan Africa customers over the last few years (chapter two), ignore the many options open for non-owners of mobile phones who wish to call and receive calls and to send and receive text messages. In particular, the ITU figures do not account for the multiple use of ICT, and therefore underestimate efforts that Africans are already making to access and use these latest tools of globalisation to their advantage. As Pekka Tarjanne, the Executive Director of the United Nations ICT Task Force and a Former Secretary-General of the ITU astutely saw the situation in 1998,

> most Africans will not gain access to telecommunications without African initiatives, taken by individuals. The individual who sublets his or her phone line or sets up a phone shop or telecentre does more to close the development gap than the great corporations and businesses of the world.[19]

The case studies expose other means of appropriation that today continue to contribute towards closing the digital divide in more subtle ways than are revealed by

[19] Pekka Tarjanne speaking at 'Africa Telecom 98', 3 May 1998. http://www.itu.int/newsarchive/press_releases/1998/19.html. Full quote from Benjamin (2000b).

ownership statistics alone. In locations where phone reception can be obtained as a consequence of more blanket coverage intended primarily to serve other areas we find what we call ‘network reception spots’ (section 3:10) that serve to illustrate well some of the innovative methods which individuals – and, later, communities – have adopted to take maximum advantage of what local coverage is on offer. Where reception is then made available we also reveal ways of recharging handsets in areas where electricity is not covered by the national supplier, and of paying for communicating by mobile phone when individuals cannot afford to purchase the equipment themselves.[20] ‘Non-owning users’ not only pay for using *huduma ya simu* but can also use friend’s phones, in which case the repayment need not necessarily be immediate and can even be in kind.

Of course, locals need to understand how to use the technology and its potential use needs to be understood and trusted, and relevant and appropriate to the needs of the user.[21] Often this will need to be experienced personally over time to convince a cash-strapped sceptic, and for this to occur the ICT needs to be able to be used by non-English speakers and, if it is text based, requires the user to be literate. In many Southern countries this will prevent women from using these technologies effectively because their literacy rates are usually lower than those of men. Other socio-cultural variables such as cultural restrictions on the education of girls and female social mobility more generally also come into play, adding to the range of context-specific constraints to the access and use of ICT.

International digital / development divide

These barriers to effective and equitable ICT use in the South should come as little surprise since the international digital divide is an integral part of a much broader

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[20] In July 2005 Vodacom introduced *Vodadukas* (‘Vodacom shops’) powered by solar energy to serve areas where electricity is not available (Guardian 2005).

[21] Duncombe and Heeks (2001b: 1.14) show how ICT-mediated information is often irrelevant because it lacks proximity to the source.

and intractable development divide of ‘haves’ and ‘have-nots’.[22] Efforts by inhabitants of Southern countries to improve their lot through ICT is limited not just by domestic constraints that a national ICT policy may strive to address, but also the broader constraints imposed by the structure and dynamics of the global economic system. Domestic policies that attempt to use the internet to improve trade and employment opportunities, for example, will be impeded from the start by the inequalities of the current global financial and trade regime. Similarly, a seemingly local initiative such as the provision of the internet to a school in the South cannot be realised easily when the country has a debt burden to pay off, nor can an underpaid and demoralised civil service gain much from attempts to use ICT to improve public administration. The international policy environment is therefore very important since the macroeconomic system prevents ICT use at the local level from reaching its potential. This can only be achieved either through substantial aid flows to narrow the technology gap, or by dialogue between those at the policy level of the organisations such as the International Telecommunications Union (ITU), World Intellectual Property Organisation (WIPO) and World Trade Organisation (WTO) whose decisions have far reaching implications over their counterparts at the national policy level of ICT initiatives (Hewitt de Alcántara 2001; Sachs 2000).

The apparent narrowing of domestic digital divides

As the digital divide closely follows disparities at the global level, so too do domestic divisions mirror existing socio-economic inequalities such as age, gender and disability.[23] In the South, rich-poor / rural-urban divides are particularly great, and these tend to reflect a further fragmentation of the domestic divide along education

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[22] See Tanburn and Singh (2001: 1-2) for the argument that the traditional category of ‘developing country’ does not always fit poor ICT infrastructure, with examples of countries often perceived to be poor performing better than some wealthier countries.

[23] Many of the studies of the digital divide by race have focussed on America, where European and Asian Americans vastly outnumber their Hispanic and African American counterparts in their use of ICT. This ‘digital apartheid’, as Jesse Jackson has termed it (cited in Singleton and Mast (2000)), closely correlates with income, a key factor in PC and internet access and telephone ownership. Telephone ownership is confined to only some 12% of the richest quintile in sub-Saharan Africa and South Asia (Pigato 2001: 19). A considerable gap has also been shown to exist between black and white nationals in South Africa, where the majority black population is heavily outnumbered in terms of internet use by the minority of whites.

and geographical location lines.[24] Yet domestic divisions *appear* to be narrowing because among the indigenous educated workers from privileged socio-political groups in the capital cities are workers for large and foreign companies who rapidly adopt the latest technologies (James 1999: 35) and distort the figures. The division also appears to be narrowing in the North because some domestic divisions between income, education and ethnic groups are decreasing for basic access to PCs and the internet, with most rich groups, especially the wealthy and educated, reaching near saturation in computer and internet take-up (Bridges 2001: 33). But in both North and South it is these privileged groups who acquire and use new technologies at such a quick rate that they become even more privileged. So while the 'info-have-nots' are gaining ground, the 'info-haves' are growing faster. In this light, ICT could be charged with exacerbating existing inequalities.

1:9. Approaches to the problems of the digital divide

Such inequalities are not always well recognised by studies and recommendations on the digital divide, which fall into the two categories of statistical studies and e-readiness assessments. Statistical studies count numbers of users, teledensity, and sales figures, to know the uptake of ICT in a given area and sometimes by demographic groupings. The sources vary greatly from international organisations seeking global statistics by country (such as the ITU and the Internet Software Consortium), to private statistical compilers and very specific reports, so methodologies also vary greatly. These are used to inform e-readiness assessments which measure a country's ability to integrate ICT into different sectors of society (i.e., schools, government and e-commerce). A weakness of these assessments is that they tend to neglect addressing the digital divide by socio-economic groups, so do not ask how technology is (or is not) being used in everyday life, nor the difficult area of how well technologies are being used (which is the value of case studies). One opinion is that enough of these assessments have been conducted now with frequent duplification (especially in e-readiness assessments), and it is time for

[24] Caution should be taken in assuming that all minority groups are excluded from ICT access, however, as Buré (2003) shows in her study of the digital inclusion of Edinburgh's homeless population.

implementation (Bridges 2001: 40). This is slowly happening, and e-readiness assessments across Africa are gradually translating into policy.

1:10. Policy development

Global responses to inform policy on the digital divide at the international level came with the World Bank's (1998) *Knowledge for Development*, which heralded the arrival of ICT as a new development concern. This was followed by the launch of the UN ICT Task Force in 2001 as a forum on discussions on policy and particularly on how ICT can help achieve the Millennium Development Goals. A similar initiative is the G8's Digital Opportunity Task Force, the largest and most comprehensively targeted at the digital divide and, according to one report, the most likely to make an impact on government policy.[25] Both are significant in that they represent and encourage new forms of collaborative interaction among government, private sector, multilateral, and non-profit organisations, such as the public-private partnership of the Digital Opportunity Initiative (DOI) between Accenture, the Markle Foundation and UNDP.[26] The latest milestone in the international dialogue around ICT and development is the World Summit on the Information Society which took place in Geneva in December 2003, and which aims again at the Millennium Development Goals by identifying strategies and actions that mainstream ICT into the work aimed at achieving them (WSIS 2003). The follow-up Tunis phase in 2005 will be an opportunity to test the international community's commitment to goals, such as getting every village at least one point of access to the internet by 2015.[27] A recent move towards this was made with the United Nations' launch in March 2005 of a Digital Solidarity Fund to finance projects that address the uneven distribution and use of ICT and enable excluded people and countries to enter the new era of the information society. Nevertheless, while agreed at the international level there is a risk that policy principles are transplanted to countries across digital divides without

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[25] Bridges (2001).
[26] See DOI (2001).
[27] The WSIS met in Paris in May 2005 to discuss 'ICT for Capacity-Building: critical success factors'. One of the foci of the meeting was satellite technologies, suggesting that this seems likely to be high on the agenda in reaching marginalised groups in remote areas.

being adapted to the local context. Countries are increasingly developing their own national ICT policies (chapter two), however, with an aim to addressing local needs and skills in the context of their particular political environment. Doing so should then more accurately be able to attend to access as a credible means of closing, or at least narrowing, the digital divide.[28]

1:11. On-the-ground initiatives

Increasingly operating in tune with national ICT policies, there are numerous on-the-ground initiatives working to provide technology access and help to put technology to use in the South. Yet private sector, for-profit programmes, most frequently in the form of telecentres or phone shops, may also be charged with actually widening the digital divide within countries because they tend to replicate the pattern of inequality at internal-country level, providing access to the middle and upper classes who can afford to use them. Unlike explicitly non-profit social programmes, on-the-ground initiatives generally do not address wider issues of divide, such as local content. Those donor programmes that do attempt this typically become known to Northerners through articles in the media – especially the internet – and tend to report on projects that involve anything from infrastructure and physical access providers, training programmes and telecentres, to school computer programmes, agriculture and healthcare.[29] These are usually portrayed as success stories or of holding potential, and it is rare that the project is revisited to assess its sustainability. They too often neglect related factors discussed above that address the access needs and active direction of the local society that would make a project self-sustaining, nor is mention made of failures. Little is also said about how and why ICT is being adopted and appropriated by individuals not attached to projects. Amid much talk of new models of social investment, Russell Southwood, CEO of Balancing Act and one of the foremost commentators on the use of ICT in African enterprise summarises the mismatch of agenda, noting that,

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[28] Bridges (2001: 73).

[29] See Digital Dividend (2004b) for a list of over 1,000 of these 'ICT-enabled' development projects, or Digital Dividend (2004a) for an interesting geographic and thematic overview of these initiatives.

> the actual practice has been a confused mix of traditional NGO funding with an overlay of upbeat venture capital rhetoric…. Doing good and doing business can overlap but they are not always the same thing. (Balancing Act 2003a)

Only a small number of people are acknowledging any of these problems and few discuss the need for more entrepreneurial attitudes and the desperately lacking hard-headed discussion about financial sustainability.

1:12. Liberalisation of the Fourth World telecommunications industry

While still holding true at the macro-level, Castells' gloomy predictions for the impending Fourth World did not anticipate the privatisation of the telecommunications industry across much of the African continent. Nor did they anticipate the subsequent large-scale investment in the ICT infrastructure of the South by domestic entrepreneurs who are working with international companies to serve a massive untapped market that is hungry for the mobile phones and internet access that the liberalisation allowed (section 8:4). Africa's mobile market, for example, has been the fastest growing of any region over the last five years, with over 13m new mobile subscribers added on the continent in 2003 alone, a figure equivalent to the total number of fixed and mobile phone subscribers in 1995. Internet users in sub-Saharan Africa are also set to rise, from just 4.5m in 2000 and 13.8m in 2003, to 18.6m in 2005 (ITU 2004d). So only a few years after Castells' influential 'Information Age' series (1996; 1997; 1998), broader sources of information are now increasingly becoming available in Africa as the internet expands within cities and communication by mobile phone is spreading rapidly into rural areas in a race to grab the market share. True, in the short term it is unlikely that these in-roads will pose any threat from Africa to the North and the continent will probably still remain largely irrelevant to the global economy for some time. But the recent boom of a reliable, and in some areas very high quality, ICT infrastructure in many African countries marks a massive improvement in information and communications technologies. As much of the donor literature on the ICT revolution in the South is at pains to point out (UNDP 2001; World Bank 1998; 2000a), this does indeed provide the opportunity to access international markets. Perhaps more realistically at this early stage, however, at the *domestic* level it also allows for more reliable communication and access to broader sources of information.

1:13. Post-Fordism, tacit knowledge and localised networks

To those who have access to it, the massive growth in information highlights the importance of selection and use, and calls for caution over the challenge of accessing and understanding the codified knowledge of others (Stiglitz 1999). This is a central tenet of the post-Fordist discourse, which emphasises how for enterprises this rapid technological change highlights the importance of lifelong learning and the need for workers to regularly 'retool' their minds (Reich 1991). It also ties in with flexible specialisation theory that is characterised by an emphasis on networking (section 1:20) and enterprise relationships (King & McGrath 2002: 24). Almost inevitably there are those who are unable to keep abreast with these rapid changes, and most at risk is the informal sector, which is in danger of becoming an unskilled, subordinate and dependent feature of capitalist development. The position of tacit forms of knowledge – 'know-how' and 'know-who' – the dominant forms of knowledge in Africa (Dahms 2001a: 1; Mansell & Wehn 1998: 257), and the localisation of external knowledge for the success of African MSEs, are therefore vital.

1:14. Small Enterprise Development

1:15. What exactly do we mean by 'MSEs' and 'entrepreneurs'?

There is no commonly accepted definition of micro and small enterprises, with some definitions using the number of employees to differentiate among categories, others using assets or annual turnover, but the specific definition often depends on the purpose and country context.[30] Perhaps the most appropriate way of describing MSEs is to disaggregate them into categories by their general growth prospects.[31]

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[30] The term '*very* small and micro enterprises' (VSMEs) has recently been introduced by McGrath

These can be positioned along an ‘enterprise continuum’ (Liedholm & Mead 1999; Mead 1999) of ‘upper’ and ‘lower’ fields (Seierup 1994: 15-19) where ‘survivalists’ can be distinguished from enterprises with possible medium-scale prospects. So long as this potential for graduation to more profitable business is accepted – and studies suggest this relates to a convergence of factors that include education, experience and the broader enabling environment (Mead 1999) – this study finds two broad categories of micro- and small enterprise most helpful, breaking the universe of MSEs into two groups. One is majority ‘livelihood’ enterprises, which contribute to the total income of the family, enabling them to purchase essential goods and services. Within this would fall most family farms, which are now finally recognised as the most numerous of small enterprises (Commission for Africa 2005: 239).[32] The other is minority ‘growth’ enterprises in which the owner seeks to expand activities to generate higher levels of return for consumption and/or investment and in which there is a higher degree of integration into market systems.[33]

Irrespective of their place on the enterprise continuum – and the case study enterprises range from some exceptionally poor farmers and carvers to wealthy *vinyago* traders with even larger export potential than they exploit at present – we apply the term ‘entrepreneur’ to all the individuals operating the micro and small enterprises covered in this study. In the Schumpeterian tradition (1971), entrepreneurship is associated with actors who break with established patterns of behaviour and are particularly innovative in the economic sphere of society (Nijkamp 2003). Trulsson, the author of one of the most detailed studies of entrepreneurship in Tanzania, sees that it is primarily about identifying and obtaining resources and combining them in novel and efficient ways (1997: 250). In both these senses – and

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(2005) in relation to enterprises with only one or two workers.

[31] Based on Duncombe and Heeks’ (2001b: 1.12) adaptation of Grindle et al (1989) and Mead (1994).

[32] The *Report of the Commission for Africa* is inconsistent on the status of family farms, at times referring to them as the most important of small businesses (e.g., 2005: 48), while at other times dividing the private sector into ‘micro, small and medium-sized enterprises and family farms’ (ibid.: 229). See King (2005: 2-3) for a brief discussion of the farm/non-farm distinction over the past 30 years.

[33] This dichotomy raises important policy questions over the balance between ensuring that the needs are met of the critical mass (of what are essentially poverty alleviating enterprises that make the poor a little less poor), and of programmes that may be weighted towards objectives of enhancing growth or even competitiveness (Rogerson 2001: 136).

certainly when compared with those individuals running the niche enterprises that Trulsson profiles – none of the enterprises covered in this study are operated by entrepreneurs. Proponents of the Schumpeterian position require that the entrepreneur demonstrates his or her ability through a change mechanism coined the 'entrepreneurial event' (Shapero 1984), in which motivational and contextual determinants come together through what Seierup (1994) terms 'a feel for the game', and where entrepreneurship is defined by successful operation of business activities (ibid.: 19). In the context of the very challenging conditions where the rules are often different from the Northern system, however, success is relative for those engaged in business in many developing countries. While their entrepreneurial credentials in the Schumpeterian use of the term are usually limited, I do feel that the entrepreneurial quality of *perseverance* should be taken into consideration given the particularly harsh environment they operate under. Together with their unquestionable 'feel for the game', their ability to stick at it and make a living warrants the application of the term 'entrepreneur' to the individuals covered in this study. Nevertheless, it is vital that the enterprise continuum holds and the distinction is kept between upper and lower fields of entrepreneur.

1:16. Why micro and small enterprises?

The importance of the small enterprise economy to economic and social development in Africa is 'almost undisputed' (Rogerson 2001: 115), with wide-ranging benefits from their role in income generation for the poor, to their massive contribution to employment creation and growth (Biggs & Srivastava 1996; Commission for Africa 2005: 239; World Bank 2004d: 39). Wider macro-economic benefits include their utilisation of local resources and little pressure on limited foreign currency reserves, their acting as a stimulus for the development of indigenous production of import-substituting goods and services (Harper & Tanburn 2004) and their contribution to inputs into larger-scale industrial and commercial activity central to the poverty-growth debate (URT 2002d: 4-5). This is particularly the case among 'emergent' or 'entrepreneurial' informal and small enterprises where owner-operators have had significant exposure to both formal education, training and employment (McGrath &

King 1999). These advantages have been bolstered by powerful arguments in favour of the relative efficiency of smaller enterprises (Afenyadu et al 1999) that have helped ensure that small enterprises have been placed high on the policy agenda for African development (King 1996a; 1996b; McGrath & King 1999), with a shift from the policy periphery to an increasingly central role in African development planning.

1:17. MSE constraints and non-financial services

Even while it has been shown that African MSEs may not ‘grow like mushrooms but die like flies’ (Fluitman & Momo 2002: 26), and while operators have shown incredible resistance in hostile environments to earn the title ‘pioneers of development’ (Marsden 1992), the potential for graduation (Mead 1999) is often not realised and the reality for most MSEs is stagnation. This is because African MSEs face a host of challenges influenced by constraints more generally to national economies at the macro-level (Killick 1999) which, mounting evidence suggests, strongly influences the pattern of growth of employment in MSEs (Mead 1999).[34] Common constraints are the restrictions of an undeveloped infrastructure, unfavourable legal and regulatory frameworks, an ineffective and poorly coordinated institutional support framework and limited access to finance (Commission for Africa 2005; URT 2002d).

For some time the solution to this last complaint (which can be argued to be symptomatic of other problems) was micro-credit, but it is increasingly being recognised that there had been a tendency to overstate the importance of credit as a core constraint on small enterprise development (Dawson 1997). Instead research studies have again begun to stress the importance of lack of demand or market access, lack of product diversification, inadequate infrastructure, and poor access to raw materials as equally significant points for small enterprise development intervention, moving non-financial support services back on the policy agenda (Rogerson 2001). These non-financial services are any of ‘the wide array of non-

[34] These are extensively described and assessed in the MSE literature. See for example, Rogerson (1999); Von Massow (1999); Tybout (2000).

financial services critical to the entry, survival, productivity, competitiveness, and growth of [a small enterprise]…that improve the performance of the enterprise, its access to market, and its ability to compete' (CDASED 2001). Either provided by publicly supported programmes and organisations or the public commercial sector, these can include training, marketing assistance, research, business management, information and accounting, as well as higher-end strategic services such as technical assistance, product development and business linkage promotion.

The focus of non-financial services has now shifted from service delivery and provider-centric models to a market development demand-driven model that emphasises commercial, business-like interventions with much greater emphasis being placed on the dynamics of the market and its environment (Dawson 1997; Knopp 2001). This has been heralded by the utilisation of a sub-sector approach to the analysis and diagnosis of the constraints and the design of appropriate interventions, taking an MSEs entire system vertically, through input supply and the production process to the marketing of the product or service. The advantage over conventional forms of analysis which relied on broad, non-specific interventions is that by seeing the small enterprise economy as more than an undifferentiated mass of enterprises it helps identify problems and solutions that are highly system-specific and focused (Buckley 1998).

1:18. Up-to-date, system-specific demand-related information

Of all system-specific information, market-related information is most highly valued by MSEs because it is not readily available to them (Duncombe & Heeks 2001b; Mungunasi 2000; Pigato 2001). In the classic textbook version of a market-based economy, the importance of market information is that it makes all markets work because both consumers and producers know how to react to demand and prices. In the South, and especially in rural areas where information is 'poor, scarce, maldistributed, inefficiently communicated, and intensely valued' (Geertz 1978: 29), market signals flow sluggishly and the result is inefficiency and inequality for farmers – the majority of producers in the South – who are unaware of demand and prices (Eggleston et al 2002).[35] But the point here is not so much that there is market demand, rather that there is a great need for *relevant, up-to-date* (over static) *demand-related information that is specific to the MSEs' particular market* and, crucially, packaged in simple ready-to-use formats and available in the local language (written, speech, or multimedia). Here, it is argued, ICT located in one-stop shops or telecentres hold the potential for reducing information asymmetries faced by micro-entrepreneurs and can connect clients – commonly micro-entrepreneurs in the informal sector – to formal sector suppliers and markets (ITC 2001). Yet this does raise questions of the local relevance of content, the likely need for intermediation (Duncombe & Heeks 2001b: 4.63; Pigato 2001: 21) by 'infomediaries' (Schilderman 2002), and trust in the value of the information.

1:19. Enabling a business environment for the majority

We turn to trust shortly, but in the meantime address the pressing issue of the government's role in intermediation; first in facilitating the running of the MSE sector more generally, and then more specifically in relation to ICT. Where the enabling environment for the telecommunications sector is good (section 1:4), and often better than many other sectors of the economy, the government might do well to learn from its success in this area and better enable the environment for small enterprises to operate effectively.[36] One move in this direction has been recognition of the informal sector in the latest *Construction Industry Policy* (URT 2003a), an industry we turn to in chapter five. This is the first government document to spell out their intention to 'encourage, enable and improve the performance' (URT 2003a: 19) of a part of the sector that provides a livelihood to so many Tanzanians. The document outlines its intention to 'promote the useful existence of the informal construction sector as an integral part of the construction industry' and, in an important concrete measure, the government offers to support credit facilities for the sector (URT 2003a: 19-20). This is an encouraging development for the informal

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[35] In terms of prices, the ineffectiveness with which information can be transmitted across markets is shown by Badiane and Shively (1998) who studied monthly maize prices in Ghana from 1980 to 1993 and found that 'the estimated time to fully transmit a price shock [from the central market to each of two outlying markets] is about four months'.
[36] See Daftari in Thomas (2005) for the government's support of the ICT sector more generally.

operators, at least in the construction industry. Nevertheless, before the question of facilitating the use of ICT for small enterprises is raised there are many other familiar constraints to the progress of MSEs that still need to be overcome. Access to finance is still severely limited, the legal and regulatory frameworks are unfavourable, and institutional support is poorly coordinated and largely ineffective.

Some moves towards creating a better enabling environment for MSEs are met in the *Small and Medium Enterprise Development Policy* (*SMEDP*), but it still remains to be seen whether the fine words of the policy document will be translated into action. This is especially true in the crucial transition between official policy as set by the central government feeding down to the ground, for local application of official policy is not always clear to operators, especially, as King (1996a: 203) found in Kenya, when there is little information on the ground that is circulating in Swahili. *SMEDP* also makes no mention of privileged access to local bureaucrats in the local application of official policy which, while perhaps coming across here as a minor point, is a hugely significant factor on the ground for explaining why some MSEs manage to flourish. This is particularly the case in the dissemination of new rules and regulations that slowly come through with *SMEDP*, and in their execution. At present certain MSEs – often the wealthier 'information-elite' entrepreneurs we discuss in chapter six – are still at an unfair advantage because of their access to the right people to 'negotiate' with (Commission for Africa 2005: 16), and as a consequence they become even more privileged and leave behind the majority of entrepreneurs who are less well connected.[37] It is its focus on corruption and harassment that most sets the country's nascent *Informal Sector Roadmap* (UNDP et al 2004) ahead from the main government policy documents (including *SMEDP*) that it aims to complement.[38]

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[37] UNDP et al (2004: para.14) found that survivalist MSE operators tended to want to remain small and invisible and to avoid compliance, while 'entrepreneurs' could be split into two types: those who tended to comply to avoid harassment and be free to pursue their growth, and those who, while pursuing their growth, refused to comply with the demands of corrupt officials.

[38] In further recognition that labourers are working in larger groups (fn 28) and of the intensification of labour over machinery, the roadmap favours developing markets for the employment-intensive sectors like construction and manufacturing (UNDP et al 2004: paras.206-207), effectively treating the informal sector as a labour sponge.

To be effective to as many informal sector operators as possible and not just the most privileged with favourable access to information sources, *SMEDP* will need to ensure that it takes care to treat the informal sector as far more heterogeneous than it currently does. One danger relating to ICT, for example, is in its plans to enhance service provision through e-commerce (URT 2002d: 19). Here the majority survivalist SMEs whose needs may be better served through developing their entrepreneurship skills through education and training (ibid.: 27) are at risk of being left further behind by the minority who are set to gain from such ventures. In this and many other aims such as the creation of a national website for SMEs and a directory of service providers, *SMEDP* needs to be clearer which SMEs the intervention is aimed at and what the likely effects of this will be on the future of the informal sector. At present it makes little of the continuum of SMEs in Tanzania, and apparently treats the informal sector as an homogeneous mass whose constraints it plans to tackle wholesale. Here it is perhaps worth taking on board Fafchamps' observation that,

> perhaps the best measure of our lack of knowledge about how markets operate in practice is our propensity to call 'informal' everything that is not of Western inspiration…. African market arrangements and institutions take many forms, and it would be misleading to lump them together into a single 'informal sector'. (Fafchamps 2004: 4)

This differentiation is well recognised in Duncombe and Heeks' work on Botswana (2001a; 2001b), where they conclude that it is only flyers and potential flyers (all producing hardware and software in the ICT-sector) who should be the focus for ICT interventions because their enterprises require business interventions. For trundlers (those with a roughly static turnover and showing no great desire or capacity to expand) and survivalists, however, they argue that ICT is of limited value because they require welfare interventions. Yet for the enterprises covered in our three case studies and which would certainly be categorised as survivalists or trundlers by Duncombe and Heeks' (2001b: 1.12) application of the term, this underestimates the small but significant change to business that a phone can have. What to outsiders may seem a limited value of an information and communication technology may to the operators of the huge number of MSEs be a value that can make a considerable difference. As the Senior Statistician of Kariakoo Market Corporation (KMC) observes of farmers with better access to demand information from the wholesale market, for example, those with mobile phones now do not send their crops blindly but will know instead to divert their produce for minimum profit more locally instead of maximum loss in Dar es Salaam (section 3:11).

SMEDP's apparent treatment of the informal sector as an homogeneous mass also calls for the need to emphasise that when we talk of the majority of MSEs that have access to ICT, we are talking about mobile phones, not the internet. It becomes apparent in the case study chapters that no farmers or auctioneers (*madalali*) of perishable foodstuffs (chapter four) reported using the internet, and neither did construction gang-leaders (chapter five), carvers or collectors (chapter six). Only exporters of carvings reported using the internet, and this is mostly for e-mail and much less for accessing websites or promoting their own businesses on websites. *SMEDP*, which concentrates on entrepreneurs' use of the internet, is therefore largely irrelevant to the majority of enterprises which – when they do use ICT – rely almost exclusively on mobile phones as a significant cost-saving device in day-to-day business communication. As it was recently put in *The Economist* (2005b), '[t]he digital divide that really matters, then, is between those with access to a mobile network and those without'. This raises the important question of whether energies should be directed towards what is being used by the majority at present – mobile phones – or towards what may hold potential in the internet if the obstacles to its effective use, especially in rural areas, were overcome.

It is important to put this mobile phone uptake into perspective. In chapter five we note that although telephones are increasingly being used in the informal sector – Africa's ordinary economy – this is only by a small minority at present, with few gang members other than the leader using a mobile phone for work purposes. By no means do all farmers use mobiles to contact the market and, for reasons that include lack of network coverage, inability to afford handsets and airtime credit, or simply contentment with the status quo, very few carvers are using the technology either. Some carvers, for example, express contentment with dealing with their buyers face-to-face, and we ask whether anybody other than the gang-leader in the ICW gangs need to use mobile phones for work purposes anyway. (We suggest out-of-hours work was a reason that they could). Whatever the motivation for phone use among present adopters, it does seem that as coverage spreads to new areas, the future access to the technology is still likely to exclude the chronic poor at the lower end of the informal sector spectrum. The simple reason for this is that if current interconnection rates remain the same (sections 8:2 and 8:3), mobile phones will continue to be too expensive for them to use for anything but the most infrequent of occasions. This leads us to observe that, in terms of personal possession of a phone at least, the stratified ownership of handsets may reflect what is now perhaps the biggest split in employment in Tanzania. The split is perhaps no longer the formal-informal dichotomy, but increasingly that between a stratum of employers and middlemen, and a majority ‘informal proletariat’. In all but the most remote areas the employers and middlemen are using mobile phones where they can, while the majority informal proletariat are generally not using any ICT at all.

1:20. Knowledge-sharing, trust and social capital

As mentioned in section 1:13, the importance of linkages between MSEs and collaborating enterprises of different sizes is the opportunities that they present for sharing knowledge, much of which is tacit and difficult to codify (King & McGrath 2002: chapter 6). King’s evidence from Nairobi, for example, suggests that continuing relationships with larger firms are an important source of skills and technological development (ibid.).[39] Some evidence of the possibility for technology diffusion and learning or imitation effects among small enterprises (IDS 2004; Van

[39] Counter to these claims, disagreement exists about the extent to which vertical relations promote skill transfer (Adam (1999); Jeans (1999), and see Meyer-Stamer (1995) for some doubt) and thus constitute an important source of learning for growth within SMEs. Nevertheless, such dialogic engagement between Africanists and others with an interest in international theory about skills development is to be encouraged (McGrath 2005), as can be seen in DFID’s increasing recognition of the importance of linkages in their establishment of a Business Linkages Challenge Fund (Department for International Development (2000: 62)).

Dijk & Rabellotti 1997) in Africa also comes from enterprise clusters – a group of producers who are engaged in making the same or similar things in close proximity to each other (Schmitz 1992) – so long as the clusters are 'pro-active, consciously pursuing joint-action around problems and issues of common concern' (McCormick 1999b). Another associated thread are networks, which have long been seen as important to business success because they provide entrepreneurs with information about the wider world, in particular about technologies and emerging market opportunities (Barr 1999).

Despite the increasing academic interest in networks, however, the evidence from Africa of their benefits is weak when compared with the great advantages that some enterprises have derived from networks in other parts of the world (Liedholm & Mead 1999). This has been attributed to a lack of trust between collaborating enterprises, a 'neglected resource' in enhancing the competitive advantage of clusters or networks (Humphrey & Schmitz 1998: 57). In contrast to other enterprises covered in the international literature, African MSEs are seen to be unable to concentrate on reaping the benefits of joint action because they are distracted by establishing and maintaining trust (Barr 1999; Fafchamps 2004; Ishihara 2003; McCormick 1999b; Parker 1994; Pedersen 1999).[40]

Much of the lack of trust has been put down to the uncertainties created by an economic environment where the absence of a functioning legal and judicial apparatus regularly fails to sanction contracts (Murphy 2002). This can be because institutional practices are so complex that law cannot cover all contingencies, because there are no formal system of contracts anyway, or because people lack the contacts to access and take advantage of the law. Since 'organisational networks' (Karlsson & Westin 1994) are defined by contractual relationships (usually characterised by forward, backward and horizontal linkages) that require an accessible legal system, entrepreneurs therefore tend to shun the shifting alliances that weak ties demand and rely instead on what Granovetter (1985) calls 'strong ties'

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[40] Parker, J. 1994. 'Patterns of Business Growth: micro and small enterprises in Kenya'. PhD dissertation. Michigan State University, East Lansing; cited in Liedholm (2001).

based on ascribed or earned trust developed over long periods of time. This type of trust is found in relationships based on more personalised sources embedded in 'entrepreneurial networks' (McCormick 1996) that are often social (Lyon 2000: 664) and facilitate more than the informal enforcement of contracts. Crucially, they also allow for information sharing about prices, market conditions and referrals through social contacts leading to new business opportunities (Barr 1998; Duncombe & Heeks 2001b: section 4; Fafchamps 1999a; 2001; Fafchamps & Minten 1999; Murphy 2002).

Taken together, it is argued (Barr 2000: 539) that trust and networks create social capital – the networks of relationships within an economy or, crudely, 'who you know' (Duncombe & Heeks 2001b: 1.12). This acts as the glue of co-operative economic relationships and is the social interaction that underlies all such activity. Yet as Lyon's (2000) study of networks in Ghanaian agriculture shows, there are also extra-economic aspects of trusting relationships that lie in the domain of cultural expectations, social pressure and 'community' conceptions of reciprocity and obligation. This requires recognition that social reality is far messier than social capital theorists tend to imply, with context-specific rules and established norms which bring rise to inequalities and hierarchical patron-client relations (Pedersen 1999), generating contestations and struggles over access to social and economic resources.[41]

Social capital has gained importance over the last two decades, principally in the fields of political science and sociology where the likes of Bourdieu (e.g., 1986, on exclusive membership of networks) and Putnam (1993b, on social capital in geographical regions) began to critique the narrow analytic perspective on economic activities of the neoclassical school of macroeconomic thinking. The mainstream perspective on economic investigation sees economic transactions as defined by rational calculations of individual gains (or, 'rational choice theory'), and sidelines social and kinship obligations and with it the analysis of sociological conceptions of

[41] Norms define what actions are considered acceptable or unacceptable, and can be seen as the basis of building and maintaining personalised trust. The term can be challenging because, as with social capital, norms are intangible and difficult to observe (Lyon 2000: 665).

economic activities (Huysman & Wulf 2004: 1). Social capital, in essence, allows us to study the social aspects of economic activities (Fine 2001: 198), although it has been regarded simultaneously as an economic, sociological and political concept (Szreter 1999), and also as a geographical concept (Mohan & Mohan 2002).

With a spread of researchers from such disparate disciplines, however, it comes as little surprise that the term has no universally accepted definition, with some researchers considering it to be membership in groups and social networks (Belliveau et al 1996), others as a catch-all concept embracing social exchange and support (Adler & Kwon 2002). This lack of a rigorous definition has in itself led many economists (e.g., Durlauf 2002) to view the concept as woolly and based on inappropriate evidence, while others are wary of social capital because it is almost impossible to quantify, and question why the word *capital* is used since social networks lack a common currency and transferability (Robison et al 2002).[42] Some political economists and sociologists, on the other hand, are unhappy with the use of an economic metaphor to describe moral and social relationships, with those from the left preferring the terms *socialism*/*capitalism* because in policy social capital often leaves economic issues alone in favour of complementing economic with social engineering. It is here that the World Bank, in its uncritical acceptance of Robert Putnam's work in particular, is seen by some (e.g., Fine 2001; Harriss 2002) as guilty of adopting the concept of social capital to support its bias against state intervention and trade unions.

Aside from claims that Putnam and Coleman's work is based on false empirical observations (Fine 2001: 191), it is fair to say that, in general, most researchers seem to agree with Coleman (1990) and Putnam (1995) that social capital should be regarded as any aspect of a group that facilitates the group's interactions, both for that group and for its individual members. Yet one of the greatest difficulties of social capital is that whatever interaction is being measured – be it networks, norms, participation or reciprocity – there are problems in obtaining disaggregated data on

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[42] See Murphy (2002) on the difficulties of defining social capital, and Fukuyama (n.d.) for the difficulties of measuring it.

its dimensions. As Mohan and Mohan (2002: 199) observe, most indicators are derived from national studies that permit little disaggregating, and there are few international studies which attempt to ask comparable questions across a number of states. For those studies that do seek comparison nationally or internationally, the responses are often so context-specific that they are non-generalisable (Fine 2001: 199), or are so vague as to be of little help. One recent study examining the effect of social capital on industrialisation, for example, can only offer the least incisive conclusion on its generalisability, that

> the high degree of state economic intervention, widespread corruption, and ethnic diversity in Indonesia are hardly unique among less developed countries, and this suggests that the findings of this paper [that initial social capital does not predict subsequent industrial development] could be relevant elsewhere. (Miguel et al 2005: 14)

Indeed, some even posit that the rise of the social capitalist paradigm has actually turned social networks into a concept that conceals more than it reveals. In a new article that explores the role of social networks in businesses across Africa, Kate Meagher (2005) argues that the essentialism and cultural determinism of social capitalist perspectives have distorted our understanding of the continent's informal economies by conceptualising networks as 'social capital', to the extent that they tend to portray them as 'social liabilities' if they fail to promote economic efficiency and accumulation. Meagher's study is exciting because not only does it direct attention to what she persuasively argues are the more institutionally-sensitive network perspectives of 'legacies, linkages and localities';[43] she also offers a welcome break from the 'sack of analytical potatoes' (Fine 2001: 191) that those interested in social capital are forced to peel through at length in order to make a meal of some of the more unappetising chips from the literature. To be fair, social capital is still in the early stages of serious empirical investigation and we are yet to have a clear sense of its boundaries (Field 2003: 137) – particularly as researchers from disparate disciplines add to and increase the confusion of what has been

[43] These focus on how the economic performance of networks is shaped by their specific institutional content as well as by the nature of their linkages with the wider society and the state.

described as the ‘chaotic conception’ (Warde & Tampubolon 2002: 177). The risk, however, is that if researchers continue, as Ben Fine (2001: 192) puts it, ‘adding one more damned variable’ without acknowledging that as a result the other elements to which the contextual is added ought to be critically rejected, or reconstructed, we are left with much rich data that is useful for one particular locale but cannot be generalised and so is of little value elsewhere.

Trust is a particularly troublesome variable that is often associated with social capital (e.g., Fukuyama 1995), again because (as mentioned above with networks, norms, participation and reciprocity) there are difficulties with its aggregation. As Harriss (2002: 114) notes, for example, there is no reason to believe that trust developed through interpersonal relations (as in local associations) is simply aggregated up into societal trust.[44] A weakness of Narayan and Pritchett’s celebrated study of the role of social capital in influencing household outcomes in rural Tanzania is that – following Putnam’s lead in using data on levels of associational activity as proxies for social capital – they rely on this very assumption when positing (1997: 18) that greater levels of trust lead to higher village social capital.

What appears to make informal networks personal is direct, face-to-face contact, a pervasive feature of African MSE economies (Dahms 2001b: 9-10; Egbert 2004; McCormick 1999a: 1532; Mungunasi 2000: 4.1; Trulsson 1997: 132-133). Indeed, personal interaction cultivated through extensive face-to-face contact is so highly valued as the most effective method of business communication (McCormick 1998; Pigato 2001) that poorer enterprise owners will only act upon, and trust, information delivered on a personal level (Duncombe & Heeks 2001b: section 4). Given the arguments in favour of the transformative potential of ICT for African MSEs (section 1:23 below), the sudden interface between traditional, established social integration (produced and reproduced by face-to-face contact), and the suggested shift towards ICT that will bring system integration (produced and reproduced by individuals

[44] Harriss notes that some empirical research even suggests that the relationship may well run in the opposite direction, with trust in governmental institutions breeding greater interpersonal trust and a trust in society.

distanced between space and time (Giddens 1990: 18)), can therefore be seen to have implications for the way that African MSEs work.

Social capital – let alone trust – is largely missing from the ICT scholarship (Huysman & Wulf 2004: 7-8). Those contributions that have been made are heavily biased towards the internet and its use among development practitioners (e.g., Rohde 2004) and suggest that, whatever the relationship between online networks and social capital, the networks and the study of them are still too much in their infancy to reach any useful conclusions. Less research has been done on economic actors operating outside the aid industry in developing countries, although some work on the use of mobile phones in sub-Saharan Africa has been conducted by James Goodman (2005). His work that is available in the public domain was undertaken for Vodafone (giving an indication, perhaps, of why the work is so in favour of a positive link between mobile phone ownership and life satisfaction and a willingness to help others) and concludes that in South Africa and Tanzania mobile phones are used mostly in strong links (family and friends), but also in weak links (links with others outside the community, including businessmen) (Goodman 2005: 59, 63). The advantage of mobile phones in weak links is that they allow users to circumvent traditional social barriers which (he argues in an earlier study of mobile phones in Poland) 'has implications particularly for developing world economies and groups that are reliant on strong support networks' (Goodman 2003: 3). These findings seem to complement twelve World Bank-funded studies (2002) undertaken in developing countries that point to the importance of social networks in increasing the availability of information on such issues as crop prices, location of new markets, and sources of credit, and in lowering the costs of sharing this knowledge.

1:21. ICT for Development

1:22. What do we mean by 'information and communication technologies'?

Information and communication technologies encompass a set of activities that facilitate, by electronic means, the capturing, storage, processing, transmission, and display of information.[45] This includes both the information infrastructure (i.e., wires, transmitters, computers) and the information technology (i.e., the applications and content that travel through the infrastructures).[46] While it is recognised that '[t]he terminology needs to be inclusive and should avoid the use of the acronym ICT if it is only to be equated with new technologies' (Skuse 2001: 12), this study takes a 'narrow' view of new ICT. We pay less attention to the older ICT of radio and television, and largely consider the internet and mobile phones because they are the most widely used new ICTs among Tanzanian entrepreneurs.[47] Colle's (2000: 423) 'electronic multimedia' view of ICT is therefore discarded, for although it embraces telecommunications links, computers, network services, and databases, it also includes electronic media applications such as audio and video recordings, films, print duplicators – technologies that are irrelevant to the mainstream requirements of Tanzanian MSEs and to which, for the most part, entrepreneurs are a very long way from gaining access to. Of these two technologies it is worth noting that the mobile phone seems to evoke much less intellectual enthusiasm than the internet, around which ICT discussion tends to be centred and to which development assistance in terms of access is largely focussed (Hewitt de Alcántara 2001: vi). As Geser (2002: section 2) notes, in Castells' theoretical perspective (1996; 1998) only the internet is given the status of a mega-innovation that counts, while mobile communication

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[45] OECD definition cited by Hewitt De Alcántara (2001: 3).
[46] See World Bank (2000b).
[47] On the topic of the popularity of *mobile phones* as new ICT it is worth pointing out at this stage that in many examples given in this study farmers and traders refer in Swahili to the generic word for 'telephone' (*simu*) and not specifically to the 'mobile telephone' (*simu ya mkononi*). When asked if they meant the fixed line telephone (*simu ya kawaida*) or the mobile phone, the majority said the latter. As a couple of respondents explained, this is probably because although mobile phone coverage in many areas is still far from ideal, the accessibility, reliability and price (particularly when texting) of mobile phone use is so superior to the TTCL fixed line service that in both urban and rural areas fixed lines are increasingly ignored nowadays as a form of telecommunication. See also footnotes 16 (section 8:5) and 35 (section 3:10).

facilities are almost totally neglected, despite them being used by a broader strata of the world's population.

1:23. What is the case for the transformative potential of ICT?

Studies that have considered the indirect impact of ICT on development have drawn a distinction between ICT production, which has contributed significantly to the economic success of many of the 'tiger' economies (Mansell & Wehn 1998), and consumption, which is more likely to bring benefits to poorer countries (Kraemer & Dedrick 1998). The successful experience of East Asian countries has led support to an 'ICT-led' development thesis implying that poor countries can adopt 'leapfrogging' strategies. This view sees ICT as a 'window of opportunity' for developing countries to progress from a situation of 'zero' or 'limited' technology to widespread adoption of 'sophisticated' technologies, without going through the stages of technological adaptation and learning experienced in Northern countries (Hobday 1994). Having leapfrogged to these new technologies, ICT can then be used in Southern countries to plug knowledge and information gaps, which are seen to be primary impediments to their growth and development. As the World Bank (1998) has put it,

> Information is the lifeblood of every economy. In more traditional economies, information may be less codified, more often conveyed in personal interaction, but it is vital nonetheless….Without reliable information, markets do not work well. (World Bank 1998: 72)

In terms of markets, this confidence in ICT comes from the information-theoretic approach to understanding development which looks at the causes and consequences of transaction costs, uncertainty, incomplete markets and incomplete information, and attributes these constraints to information asymmetries (Akerlof 1970). Only with ICT, so goes the information-theoretic approach, can rural areas of developing countries then create integrated markets (Eggleston et al 2002). The evidence to support this approach has until very recently relied on the impact of ICT on economic growth from the study of *high-income countries*.[48]

A vast promotional literature also exists on the benefits and potentials of ICT as a tool for enhancing daily life by increasing access to information (DOI 2001; Gerster & Zimmermann 2003; UNDP 2001) for a whole host of areas from health, education, empowerment and participation, to protection of the environment. As the UNDP's Human Development Report, *Making Technologies Work for Human Development*, puts it when asking what is new about information and communications technology as a means for eradicating poverty in the 21st century, 'it is a pervasive input to almost all human activities: it has possibilities for use in an almost endless range of locations and purposes' (UNDP 2001: 35). According to the Digital Opportunity Initiative (section 1:10), this is based on 'ample evidence that a focused, micro-level application of ICT can contribute to individual development goals' (DOI 2001: chapter 2).

Again, the problem with such sweeping statements about what ICT can do for development is the very limited evidence that is used to support the case for how the diffusion and application of ICT can be a catalyst for economic competitiveness and growth in developing countries. Even when a case for the macro impact is made, such as the recent Vodafone-sponsored study by Waverman et al (2005), it tends to ignore that disentangling the development impact of ICT from those of other changes can be difficult, requiring good impartial data and careful attention to issues such as reverse causality (Eggleston et al 2002; Matambalya & Wolf 2001).[49] In fact ITDG's worldwide research (ITDG 2001) critiquing the *Making Technologies Work* Human Development Report (UNDP 2001) for DFID could identify no single proven sustainable model for poor to use ICT. To take the case of ICT and MSEs again,

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[48] Röller and Waveman's (2001) analysis over 20 years, for example, finds a significant positive causal link between telecommunications infrastructure and economic growth in 21 OECD countries. Vodafone has very recently looked at the impact of telecommunications on macro economic growth in developing countries and documents the (only positive) social and economic role they play in South Africa and Tanzania (Waverman et al 2005).

[49] In other words, does a positive correlation between improved ICT and economic growth reveal that (1) ICTs bolster growth, or that (2) growth nourishes improved ICTs, or dies it suggest both? (Eggleston et al 2002: 70).

there are few documented instances showing the direct relation between the use of ICT and increases in income for small-scale enterprises or households (O'Farrell et al 1999), and similar conclusions have been reached more recently by Russell Southwood (Balancing Act 2003b).[50] Even where benefits have been found, a useful study by Duncombe and Heeks (2001b) shows that those enterprises making significant gains have been using ICT for some time. These meet two very challenging criteria that act as key determinants of whether or not ICT is used within an enterprise: *threshold size*, typically expressed in terms of a few tens of thousands of US dollars of annual turnover, and *sub-sector*, with ICT-use being concentrated among areas where ICT were commonly applied to the primary value chain and/or linkages with ICT-using suppliers (e.g. printers/publishers or those in engineering services who rely on drawings) or where customers are located outside the country (manufacturing exporters and the tourist industry) (Duncombe & Heeks 2001b). As discussed in section 1:15, this is clearly a very small amount of MSEs in Southern countries, the majority being survivalist and predominantly rural informal sector enterprises with little or no access to telecommunications. It comes as no surprise, therefore, that one of the report's authors concludes that,

> ICT…remain out of reach for the majority of small enterprises. This will remain true for the foreseeable future – most African small enterprises will neither own ICT nor access and use ICT-based data. (Duncombe & Heeks 2001b: 2)

The result of all the optimism is that failure has largely been ignored, with estimates suggesting that the majority of ICT-based initiatives end in total failure of a system that never works; partial failure in which major goals are unattained or in which there are significant undesirable outcomes; sustainability failure or replication failure (Heeks & Davies 1999). The negative impacts such as job losses, increased stress, reduced flexibility, centralised control and surveillance and impoverished communications have also been downplayed (Heeks 1999), with too little emphasis

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[50] One new exception is a collaboration between Information for Development (i4d) and the International Institute for Communication and Development (IICD) that provides a series of articles on evidence-based real life experiences and impact in the field of ICT for development (iConnect Online 2005).

being placed on the importance of ICT for addressing the information needs of the poor. Taken together, the danger is that the policy debate becomes too strongly focused around the capabilities of ICT without enough evidence to substantiate the claims.

1:24. The Adoption and Appropriation of ICT

1:25. Adoption and appropriation of ‘neutral technology’

The emerging picture is one of a deficiency of evidence and analysis of everyday appropriation of ‘ICT for development’, especially for the African context where the social dimensions of technology in the field of ICT for income generating activities remain largely unexplored. Of the North it is argued that the lack of interest in the sociology of ICT can be attributed to a lack of contestation of the problematic aspects of technological determinism, which ‘leaves no space for human choice or intervention and, moreover, absolves people from responsibility for the technologies they make and use.’ (Henwood et al 2000: 9-10). This holds for the South too. The alternative to the dominant technological determinist approach, in its common forms, adopts what Henwood et al calls the ‘technology as neutral’ view, in which the usage of technology is emphasised. The advantage of this ‘technology as neutral’ model is that it gives ‘a prominent place to people, individually and in groups, making choices about how they want to use technological artefacts’ (ibid.: 10).

These choices are part of the adoption and appropriation process in which individuals and communities encounter, engage with and adapt an innovation. This is concerned with how decisions are made about innovation, the process of actually obtaining the product and then its implementation and use (Stewart 2001: 45) (in the case of an ICT, to meet specific information and communication needs).[51] In general, this is about creativity and power over the tools and content of communication. More specifically, adoption in this thesis refers to the factors that influence the decision-

[51] See Stewart (2001: chapter 2) for discussion on the key terminology (‘adoption’, ‘appropriation’, ‘domestication’, ‘consumption’, ‘use’, etc.) associated with the sociology of ICT.

making involved in the take-up of a new product and its diffusion over time through society. As Stewart (2002) shows, the adoption of new products and classes of products may be an individual process, but it is also social; and the social situation, whether it be within a closed community, or through a broader personal network, is a source of ideas, products, support and values. These thoughts are influenced by the work of Rogers (1995), who by studying the diffusion of innovations within a community, highlights the social nature of adoption – how an individual adoption is only part of a broader community of adopting. The concept of appropriation in the Tanzanian context is also dealt with, in section 8:6. Appropriation in this thesis refers to the process of an ICT-user reworking and personalising a new product to make it their own. This has been extensively studied in consumer research and the study of diffusion of innovations in the North, which show that the way we appropriate is shaped by our local environment and relationships, and our everyday activities and interests, and personal life goals and themes. As cultural studies has it, the consumer is active, a 'bricoleur', a tinkerer, engaged in a 'multidimensional process of negotiation involving humans and non-humans' (Akrich 1992). Again, little is known about how adoption and appropriation of ICT works in the South, and how it is initiated and maintained (Michiels & Van Crowder 2001), but what is likely is that the rate of adoption and appropriation is largely determined by the same practical constraints of money, space, time and skills (Dholakia et al 1996: 380) as the North.

1:26. The informal economy of ICT

The arena in which much of the process of adoption and use of ICT products and skills occurs has been referred to as an informal economy (Stewart 2001: chapter 6) because of the informal nature of the exchange and sharing of artefacts, information and knowledge.[52] More specifically, the economy is 'a social network exchanging and sharing goods, passing information by word of mouth and by demonstration, a place where people learn from each other and together' (ibid.: 324) and in which the individual is only part of a broader community of adopters (Rogers 1995). A key

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[52] For clarity the informal economy here should perhaps be more accurately referred to as the 'informal economy of ICT' so that it is not confused with the informal economy of *jua kali* (King 1996a) fame.

person in this economy is the opinion broker (Stewart 2001: 59)[53] or 'cosmopolite' (Rogers 1995: 273-274), an early adopter who travels widely and is therefore more likely to have strong links to and be influenced by other social networks or other external information sources. Through interpersonal communication (Stewart 2001: chapter 7) the opinion broker acts as a key element to creating a critical mass of adopters (ibid.: chapter 8).

As Stewart (2001) has shown, however, there are many products that do not need to be personally owned to be used, or for people to be affected by their presence. Nevertheless, the literature on ICT usage in the South – especially the digital divide literature with its exaggerated focus on access – is still dominated by misconceptions which fail to see that constraints to access that apply in high-income countries are sometimes much less important in the different socio-economic context of developing countries (Prahalad 2000). This can be seen both in the large-scale sharing of information resources such as newspapers, radios and televisions and, more recently access to the internet.[54] It also ignores that products in Africa, rather than being discarded altogether, are often adapted throughout their lifecycle, being recycled, as Kopytoff (1986: 399) has shown, to suit various demands from the first elite owner to be shared among the masses.

1:27. Research Questions

The appropriation of products to suit their African environment can seem some distance from the new post-Fordist demands of the knowledge economy. In an increasingly globalised world, however, in which multinational corporations are intensifying their efforts to explore new markets and where ICT is now deeply embedded in the conception and practice of socio-economic development (Thompson 2004), these technologies are no longer exclusively an issue for the

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[53] Rogers (1995: chapter 2) uses the term opinion leader as somebody important in determining the rate of adoption of an innovation system.
[54] Each computer with an internet or e-mail connection in Africa supports an average of three users (UNECA; cited in Akst and Jensen (2001).

North, and are now approaching economically poorer regions apace.[55] It is unfortunate, therefore, that the ferocious rate with which ICT is being adopted in Africa means that those interested in the effects of ICT – not least government policy makers – are being misled by what is now already outdated research. In the case of enterprise in Tanzania, for example, the working assumption which guided the national ICT policy document (URT 2003b) was that, 'with the exception of a few large banks and other companies, there is minimal use of computers and telecommunications in the business sector' (Miller Esselaar Associates 2001: 40). Inaccuracies like this point to the urgent call for research into how a large and seemingly absent segment of the economy operates outside the most visible confines of more formal business communication and knowledge retrieval systems. Such an insight would offer an inlet of crucial importance to our knowledge of the development of small enterprise throughout the South.

This thesis seeks to reply to that call by taking three case studies covering very different contributions to the Tanzanian economy, and looking at how ICT is being used by various entrepreneurs in day-to-day business.[56] For each case study key informants were identified as a starting point from which to locate and then follow their business linkages and those of their contacts throughout the networks of the sub-sector. This involved physically tracing the marketing of construction services and the entire domestic supply chains of perishable foodstuffs and African blackwood carvings. Interviews and discussions were then conducted with these various entrepreneurs to act as empirical evidence with which to assess how they communicate with each other in business, and the role that new ICT now play in these interactions.

Since there is very little detailed evidence of the appropriation of these new ICT in business – with sparse detailed analysis from developing countries beyond the oft-cited examples of farmers and artisans avoiding exploitative middlemen – efforts

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[55] Thompson (2004) analyses a recent speech on ICT by the president of the World Bank Group and shows that the discourse surrounding such technologies replicates and extends into the developmental sphere a markedly North American worldview.

[56] See section 2:2 for a detailed explanation of how and why the case studies were chosen.

were taken to reflect the reality of the majority, non-assisted African-run enterprises. This was achieved by ensuring that those entrepreneurs who were interviewed had not received assistance from donor projects, especially in their access to ICT.[57]

The contribution of the research is therefore to inform policy-makers both in Tanzania and further afield with detail on how ICT is being used, and the changes this is bringing to the existing business culture. This interface between ICT and business culture in Tanzania has hitherto been neglected. We then ask how the technologies may be better applied for business use in Tanzania, although it is also felt that there is much here that is transferable and will also enrich – or question – our knowledge of the use of ICT in business in other countries in the South. Ultimately, however, the interest is on the developmental applicability of what we learn about Tanzanian entrepreneurs' use of these new technologies. This is the concern of many of the entrepreneurs interviewed in the case studies, and the government's awareness of this was recently articulated in a discussion with the Director of Information and Documentation at COSTECH (the body who oversee foreign academic research in Tanzania), in which he expressed his appreciation of the many studies being conducted in the country in all academic disciplines but questioned how many of these have any impact on the ground.[58] To these ends, in addition to postdoctoral dissemination within the academic and donor community, the long-term objective of this research is to provide individual entrepreneurs who contributed so much to this research with oral feedback offering feasible interventions. Crucially, it is also for those policy-makers in Tanzania who have so much influence over the future course of entrepreneurship in the country.

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[57] One contribution is Nielinger (2003a) who, building on Matambalya and Wolf's (2001) solely productivity-based approach to the influence of ICT on enterprise competitiveness, uses what is now somewhat dated data from 2000 to provide empirical data on the ICT utilisation of select SMEs in Tanzania. As the author admits, however, it needs to be recognised that the choice of the information-intensive and internationally-oriented business segments (the tourist industry is one, see section 1:23) distorts this analysis.
[58] Discussion with Theophilus Mlaki, COSTECH, Dar es Salaam. 22 February 2005.

Research question 1

In terms of micro and small enterprises it is argued that one of the greatest benefits ICT can offer is the opportunity they present for obtaining information that will help develop integrated markets (Eggleston et al 2002). For enterprises in Africa the empirical evidence to support this is not overwhelming, but it is clear that under the present information asymmetries faced by micro-entrepreneurs there *is* a great need for relevant, up-to-date demand-related information that is specific to the MSEs' particular market. While it is probably true that, for the foreseeable future, ICT will remain out of reach for the majority of African MSEs and most will neither own ICT nor access and use ICT-based data (Duncombe & Heeks 2001b), the fieldwork for this study shows that in Tanzania entrepreneurs are well aware of the opportunities provided by ICT and are increasingly reacting to the situation by gaining access to the technologies.

This evidence suggests that while 'third way' proponents such as Castells (1996; 1998) look to have been correct in their prediction of Africa's fate in the macro-economic picture – a safe bet but six years ago – many fail to have anticipated the recent massive expansion in ICT infrastructure across most of the continent. 'Third way' proponents have also underestimated the response of many Africans to take advantage of the availability of ICT by using at times ingenious and (from the Northern view) unconventional methods. By seeking to reveal, using three case studies, how and why a growing and 'missing' group of ICT adopters are appropriating technology to suit the particularities of their socio-economic environment, the study therefore hopes to show that at least *in terms of access* the digital divide may now not be as immense as we in the North – and many policy makers in the South – are led to believe. The research question is: **How is ICT being integrated into the existing business culture?**

Research question 2

Castells also warns of a risk that at the national level the increase in access to ICT merely links up African elites to the global networks of wealth, power, information and communication (Castells 1998: 91-92), further marginalising the poor. The research for this study again challenges these predictions by showing that while no threat to the dominant global economic system is likely to be created by African entrepreneurs in the near future, there is a growing group of non-elite entrepreneurs who are learning to use ICT and are *not* being left behind economically. Part of the reason for the growth of this group is that in Tanzania, as in the North, access prices to ICT is falling, driven by ordinary rules of labour and demand. Put simply, businesses want a mass market for their goods, and companies are beginning to appear who can supply to customers seeking an affordable version. In this light, markets for ICT in Tanzania are acting pretty much like markets for radios, refrigerators, cars and mobile phones in the North (Singleton & Mast 2000: 32), which all started out as luxury goods and spread downward, not instantaneously but inexorably.

Perhaps a greater risk then is the effect that ICT is having on a business culture that relies heavily on, and trusts more, information delivered on a personal, face-to-face level. This calls to question how tacit knowledge – 'know-how' and 'know-who', the dominant forms of knowledge in Africa – is being dealt with when ICT is providing the opportunity to move beyond strong ties based on ascribed or earned trust developed over long periods of time. Here the study seeks to reveal whether information sharing about prices, market conditions and referrals through social contacts is leading to new business opportunities for Tanzanian MSEs. The research question is: **What changes is ICT bringing about to the existing business culture?**

Research question 3

Based on the replies to these questions, our final question considers, quite simply, **how may ICT be better applied for business use in Tanzania?**

1:28. Thesis outline

In addressing these questions we begin with an introduction to Tanzania's economy as background to the present government policy on ICT. This is presented in brief market commentaries of telecommunications systems and the internet in Tanzania, where we discuss why ICT is now popular, and with whom. Chapter three outlines the methodology, deals with some pertinent methodological considerations, and explains the rationale for using multiple case studies. These serve to answer Duncombe and Heeks' (2001a) call for sector case studies of secondary ICT users, focussing on linkages. Chapters four, five and six present separate case studies which use the findings of semi-structured interviews and open discussions with entrepreneurs to reveal how ICT really are being accessed, adopted and appropriated in the non-donor assisted real world of Tanzanian micro and small enterprises. The first case study traces the supply chain of perishable foodstuffs from the rural *shamba*s (farm plots) of Iringa and Mbeya to the wholesale market in Kariakoo, Dar es Salaam.[59] We then take a study of Dar es Salaam's construction industry in chapter five, which is followed by an analysis in chapter six of the use of ICT in the supply chain of Makonde carvings (*vinyago*), from the source of the wood of the African blackwood tree to their export as marketed products. The concluding chapter ties together themes arising in the three case studies with issues from this opening chapter. On the basis of evidence from the case studies we then assess how ICT is being integrated into the existing business culture, the changes this is bringing to the existing business culture and how ICT may be better applied for business use in Tanzania's particular setting.

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[59] Kariakoo municipal market is the biggest and most important wholesale market in Tanzania, attracting produce from all over the country. It is estimated (Chijoriga 1992: 5) that the market handles about 60% of all staples, fruits and vegetables which are brought into Dar es Salaam for wholesale purposes. The Kariakoo Market Corporation (KMC), formed under the Act of Parliament 36 (1974) to implement the running of Kariakoo and other markets in Dar es Salaam, is a state company under the Ministry of Local Governments.

2 The Research Process: journalist, businessman, spy

> The myth of the chameleon fieldworker, perfectly tuned to his exotic surroundings, a walking miracle of empathy, tact, patience and cosmopolitanism, was demolished by [Malinowski,] the man who had perhaps done the most to create it. (Geertz 1983: 56)

This study builds upon empirical data collected during two periods of fieldwork in Tanzania over a total of 15 months in 2002 and 2003.[1] The first period ran from April to August 2002, and the second from October 2002 to September 2003. In this chapter I recapitulate my research journey by mapping and discussing how I have negotiated the research process from deciding to undertake doctoral research through to the writing-up of the thesis. I place particular emphasis on how I focussed in on three case studies and then how I was able to achieve some success in locating and gaining access to my sample businesses people. I then locate the study within the qualitative tradition and the interpretive research framework, and explain why I chose to take multiple case studies to aid the generalisability of my findings. The validity of the research is then considered by looking at the methods of data collection I adopted and how I dealt with the challenges posed during the course of gathering this. I then explain my approach to the description and interpretation of the data, all the time taking into account the important influences of the research environment of these processes. Because of the constant personal negotiation over method (that is, the actual techniques or procedures used to gather and analyse data relating to my research questions) and methodological considerations (the analysis of how research should or does proceed), however, every issue that ever arose during the research process cannot be covered here. At the risk of losing detail, therefore, many issues that are covered have been condensed so that they could be included.

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[1] Many of my recollections here are based on a review of discussion papers written for supervision sessions, drafts of fieldwork strategy papers, field reports I submitted during the fieldwork, and a field diary I kept during both periods of fieldwork.

While a great deal was scrutinised at the time – and there was surely much I also unwittingly ignored – space does not permit the replication here of how I came to every decision I made. For this reason I sometimes have to present my actions as fact, without always rationalising them in depth and offering the pros and cons I had to consider.[2] The issues I do include are those I regard as the most salient features from the entire process of how I have come to my conclusions. In tune with the entire research process, therefore, the aim of this account has been to make it reflective, not merely autobiographical.

2:1. The emergence of the basic ideas: Tanzania, enterprise and ICT

My research proposal for the funding for this present work sought to examine a range of emerging areas of enterprise that I had identified in the earlier study of north-east Tanzania, urban and peri-urban entrepreneurs at the other end of the 'enterprise continuum' (section 1:15) and how they are able to exploit niche markets. Along with entrepreneurs operating fashion and design, food processing and furniture enterprises that I was to look at, my greatest interest was in the entrepreneurs in small towns such as Same who had begun to rent on-location the use of office computers for internet access. While it rapidly became clear when I later began my research in Dar es Salaam that such multiple application of products is commonplace in the informal economy, at the time in 2000 any form of access to the internet seemed to me very 'Western' and alien to the rural business landscape I was then familiar with where housewives sell their farm produce at the local market and *mafundi* repair seemingly irreparable Land Rovers with lump hammers. This exciting new area of computers-to-rent in Africa which I had never before witnessed led me to broadly state in the research proposal that one of the areas I wanted to look at was

[2] It is not the task here to regurgitate from the huge literature that exists on doing a research project, where much similar discussion is given to quantitative research methods and methodology, all with predictable table of contents covering almost every subject down to how to write field notes (Bryman 2001: 306-309). The greatest weakness of this voluminous literature is that it is often not aimed at research in foreign settings. There is some debate over the conduct and context of fieldwork in the South, placing a greater emphasis on the subjectivity of ethnographic work. See the list presented in Batterbury (1994: 64) and the recommended reading at the end of the same volume.

‘ICT’, then a niche market in as much as it was specialised and very new to Tanzania, and uncharted territory in the study of African MSEs.[3] In this area I proposed firstly to find out whether these modest ‘cyber cafés’ are a new emerging niche market with growth potential (which I quickly found was true) and then, quoting from DFID’s *White Paper on International Development* which had recently been released amid much talk about the digital divide, I questioned whether access to such new technology has ‘the potential to help poor people leapfrog some of the traditional barriers to development, by linking them into the new global economy [and] improving their access to knowledge’ (DFID 2000). Aware that the potential for MSEs in Africa to exploit the ICT niche had not been studied, my emphasis was on the ways in which entrepreneurs use their access to the internet as a source of developing their businesses.

2:2. Evolution of the research project

2:3. Edinburgh: September 2001 – April 2002

My research journey formally began upon receiving funding in September 2001 when I embarked on a series of fortnightly sessions with my supervisors. In October I produced a brief review document covering the main secondary sources pertaining to MSE development and ICT in sub-Saharan Africa, and then in November set about consulting academics and private sector and donor agency practitioners with knowledge and insight grounded in years of experience in enterprise development to get some judgement of their feelings about my field of research.[4] To these 24 individuals I posed a couple of broad questions, asking: if they believed my interest in the use of ICT in MSEs was worthwhile pursuing; what their experience of ICT in African MSEs was; what they or their organisation were doing in this field and whether they knew of others who may be worth contacting on this. The response was

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[3] Kenneth King and Simon McGrath first encouraged me to pursue this ICT lead, while I was more sceptical of the scope of such a study – in retrospect, probably because I was so used to witnessing a high failure rate among rural MSEs and took some persuading that such enterprises could survive.
[4] In a later article, King (2004) – who urged me to conduct this hugely important exercise – argues why consulting practitioners’ views is so crucial at this stage.

encouraging and, through bringing me up to speed with what was happening on the ground, began to open my thoughts to possible avenues I could follow.[5]

Questions of access to ICT arose and I started to think that I could pursue an analysis of the ways in which entrepreneurs use their access to ICT to develop business networks as a possible determinant of MSE 'success'. In determining how I might assess this in the field I discussed with my supervisors the possibility of looking at how entrepreneurs' differing points of access affect how they use ICT and (on the basis of my internet research) speculated on possible points of access: telecentres, and where ICT is supplied by an NGO and personal purchase. This was still all speculation, however, based on others' accounts of ICT in different parts of Africa, while in my mind ICT in Tanzania was still a frustratingly unreliable internet connection accessed through a dusty office in Same town. I was growing increasingly discouraged with having to rely on second-hand evidence and out-dated memories and did not relish the thought of having to wait until the beginning of my second year to finally get to see for myself what was happening on the ground.

By February this frustration intensified when in a further progress report I had to address the question of how my findings had altered the balance of my thesis. I realised that I still had more questions that answers. It therefore came as a massive relief when my supervisors suggested that I write a fieldwork strategy paper with a view to conducting a preliminary research *safari* exploring the state of ICT in MSEs in Tanzania. This report was submitted in March 2002 and, after discussion with a new co-supervisor and several drafts later, I then presented these thoughts to the

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[5] I benefited especially from the kindness of Donald Mead (Agricultural Economics, Michigan State University) who spent much time on a series of comments addressing my questions, and particularly urged me from his experience to try to see ICT only as enabling factors facilitated by institutional arrangement, a way of making relationships work once markets have been identified. Thoughtful comments that still stand out as having salience in my personal development of how ICT were then (and still are) being used in African MSEs were also offered by Abigail Barr (CSAE, University of Oxford) and Christian Rogerson (University of Witwatersrand), who brought to my attention a number of key texts by Susanna Wolf. Andy Jeans (Programme Manager, APT Enterprise Development) was crucial in first raising the issue of trust in relationships among those who will not always know each other, especially when ICT is being used.

doctoral peer-group at the Centre of African Studies, University of Edinburgh.[6] From this meeting I was excited to learn that as well as the internet, cell phone phones were now becoming increasingly widespread in Tanzania where formerly only the elite had access to mobile telephony, so I re-wrote my strategy paper to also include a whole new form of ICT I never knew had already been introduced in Tanzania. The aim now was to undertake a first phase of fieldwork to provide background on the role of ICT – the internet *and mobile phones* – in Tanzanian MSEs, to gain an insight into who are using these technologies and why, and how they are being used to aid small enterprise competitiveness. With this background knowledge, it was hoped, I would then be better informed about what my research questions might be, and to be in a stronger position to know which entrepreneurs I could work with later.

2:4. Tanzania, Phase one of fieldwork: April – August 2002

After submitting my research application to the Commission for Science and Technology (COSTECH, who conduct ICT research for the government) and quickly receiving the clearance forms (thanks to my ability as a their neighbour to check on progress every day), I gradually became reaccustomed to life in Tanzania. I undertook a period of formal Swahili tuition, and all the time kept my eyes open to the various uses of ICT in Dar es Salaam, my city of residence. I rented a room in Kijitonyama, a middle-class African residential area, and got to know workers throughout the city, chatting with them as they conducted their day-to-day business, especially those working locally in the now ever-present *huduma ya simu* phone kiosks and internet cafés. During this bedding-in stage, away from the academic setting, the learning curve was steep as I followed an array of different leads that I had never previously explored. Largely at random I used a combination of questionnaires, semi-structured interviews and chatting to survey staff and users in the internet cafés; computer and mobile phone technicians at their workbenches; government officials at COSTECH , an I.T. Officer at Tanzania Association of

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[6] Under the guidance of Simon McGrath, these short sessions provided a necessary forum for sharing early thoughts with other Africanists on possible research areas. I benefited in particular from the fresh-from-Tanzania views of Dave Edwards and Steve Kerr, who both acted as sympathetic sounding boards for my undeveloped interests.

NGOs and internet service provider (ISP) executives in their offices and when the occasion arose, youths on the street operating at the 'acquisition' end of the informal economy. I also talked with any entrepreneurs willing to entertain my questions about what they did and how they used their mobile phones and obtained access to the internet for their income generating activities. In a sampling method that I only deemed satisfactory because of the short period of time available to cover this first phase of broad exploratory research, the locating of these individuals relied for the most part on those people I came across on transient walks across the city, and whether they were prepared to talk with me. In finding internet cafés, for example, while the intention was to approach all 22 ISPs and then take a sample of their internet café customers by municipality, some ISPs were reluctant to give the necessary details. The cafés were therefore located instead by walking around the city's three municipalities of Kinondoni, Ilala and Temeke and choosing whoever was prepared to talk.[7]

Perhaps of even more importance, this period back in Tanzania also reminded me of the need for flexibility in planning and how to utilise my time realistically.[8] It was during this stage that I began to discard two areas I had considered in Edinburgh: an analysis of the influence of ICT on existing Asian trade networks, and the use of ICT supplied to small enterprises by NGOs.

NGOs

Previous research provided links with a large NGO in Tanzania (The Gatsby Trust) which supports MSEs and had recently provided computers to four associations to enable them to network with their members and others in marketing and business

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[7] Enoch Yonazi and his COSTECH colleagues researching for the elusive e-readiness paper adopted a more representative method for their field survey of Tanzania's internet cafés by assigning three research assistants to cover the main artery roads of the city and then the feeder roads, starting with the City Centre, then Temeke, the Port Access Road, Ubungo and the airport route (Discussion with Mathias Masawe, Senior Librarian, COSTECH, 17/07/02).

[8] This first phase is reminiscent of Barley's (undoubtedly exaggerated) account of his fieldwork in the Cameroons when he reports that one per cent of his time was spent doing research, while the rest was 'on logistics, being ill, being sociable, arranging things, getting from place to place, and above all, waiting' (Barley 1983: 98).

development. I steered away from donor-assisted projects, however, because I felt that – for all their attempts to create sustainability – in the area of small enterprise development NGO assistance projects are often artificially produced constructs that tend to represent the extra-ordinary and do not well reflect the reality of the majority, non-assisted African-run enterprises.[9]

Asians

While my intention had always been to focus my study on ventures initiated and owned by indigenous Tanzanians (with the hope that the work will contribute towards developing *African* entrepreneurship), I was, however, open to the study of Asian-run enterprises.[10] Though a relatively small minority group in East Africa, Asians are already well positioned and hold substantial economic influence and as a consequence their role as efficient capitalists has often been hindered by government policy on the mistaken notion that they constitute 'Asian capital' (Himbara 1997).[11] The present government, for example, though not explicitly stating Asians in its policy, is still seeking to redress this racial imbalance. It outlines this in its vision for 2025, by which time 'racial and gender imbalances will have been redressed such that economic activities will not be identifiable by gender or race' (URT 2001: 3).[12] It is the influential position of Asian capitalists in the Tanzanian economy that drew

[9] King (2004) also makes this point. See Batterbury (1994) for a discussion on the pros and cons of affiliations to development projects.

[10] The majority black Tanzanians descend from one of the country's 120 indigenous ethnic groups (such as the Makonde and Zaramo we introduce in chapter six). Though now passé among many northern-based Africanists, the term 'tribe' is used here to refer to these ethnic groups, to which every Tanzanian will usually regard themselves as being a member of. Tanzanian English-speakers use the term tribe, which is also the translation every Tanzanian I have ever asked uses for the Swahili word *kabila*. The term was also applied by Lyn Schumaker when presenting at the Centre of African Studies, University of Edinburgh, 04/11/04.

[11] In contrast to King (1996a: 47n) who uses the term 'Indian', the term 'Asian' is used here to refer to those who Swahili-speakers call *wahindi*, South Asians of Indian and Pakistani origin (Heilman 1998: 385). *Wahindi* began migrating in large numbers to East Africa during the colonial era and many have now become Tanzanian citizens, while others remain residents. Among other religious communities of Jains, Sikhs, Parsees and Catholics, the two main Asian communities in Dar es Salaam are Hindus and Muslims (mostly Ismai´li but also Ithnasheri and Bohora). Along with Mideasterners and Europeans, these non-indigenous Tanzanians still form under 1% of the population. See Gregory (1993).

[12] See Heilman (1998) on a history of animosity towards Asians, who have long been regarded by many urban indigenous Tanzanians as unpatriotic opportunists. Despite their formal legal rights, he notes, 'Asians are still a special group whose status is somewhat like that of guest; their ability to live and prosper in Tanzania depends upon the goodwill of their African hosts' (Heilman 1998: 382).

me towards hoping to investigate how they have managed to be so successful in business and, I hoped, might provide some clues for the development of indigenous African entrepreneurship.[13] I planned for such an analysis to obtain some awareness of how ICT have altered existing traditional trade networks, particularly in the light of a new generation of more technically-educated Asians who are beginning to take over business from elders who have long had a tradition of what Seierup (1994: 11) calls a 'feel for the game' of entrepreneurship.[14] Such an examination may also have revealed an internal digital divide – 'a part of the North in the South', both in terms of ICT assets and knowledge – that favours the minority of prosperous Asians over the majority African population, and would have provided much detail with which to then consider the influence of ICT on the ethno-economic balance of power in Tanzania.

In the event, however, I was unable to penetrate Dar es Salaam's Asian business community. This was despite having a couple of long time friends who are respected members of Indian communities and who may have been able to provide access to networks within these communities, but I did not wish to abuse the generosity they offered in other areas. Furthermore, I have always suspected that – perhaps inaccurately, since I must admit to having never tested this belief – penetrating these communities would be difficult and that Indians would be reluctant to share with an outsider much of their business practices in any detail, under the basic business

[13] More work has been done on Kenya's Indian business community. See Himbara (1994), for example, for discussion of the role of Kenyan-Indians as leaders of a dynamic entrepreneurial sector. Supporting Barr's (2000: 557) contention that the apparent superiority of some ethnic groups in business might relate to their tendency to build up and maintain more effective networks, see Fafchamps (1999b) on the circulation of information within Asian communities, and his later work (2004) where – while he does not rule out the existence of strong ethnic bias in other African countries – he concludes that network effects have a stronger effect on trust and information sharing than religion and ethnicity. For a study of the utilisation of ethnic ties and kinship relations within an African community (where cross-ethnic co-operation is rare) in Nairobi, see Ishihara (2003: chapters 5-6).

[14] Ned Bertz agrees with my belief that younger East African-born Asians are increasingly benefiting from community networks that stretch globally to Northern countries such as Canada where they studying subjects such as I.T., to then return home and set up I.T. businesses as the demand for these services increases. I would also agree with his contention that Asian success in their traditional domains of petty trading and import-export lies in their access to opaque credit networks (Discussion following Bertz, N. 2004. 'Educating the Nation: Race, Nationalism and the Indian Diaspora in the History of Tanzanian Schools'. Paper presented at States, Borders and Nations: Negotiating Citizenship in Africa, 20 May 2004, Centre of African Studies, University of Edinburgh).

principle that knowledge is power which those who hold it will not necessarily want to share it with others. Nevertheless, I did pursue my interest in ethnicity, especially between Tanzanian tribes and in inter-ethnic economic relations, by asking many of the Africans I interviewed or chatted with their experiences of dealing with Asians and their views on the group's dominance in the economy. These discussions would often offer anecdotes that reveal a fairly uniform picture of Africans' deep-seated views about Indians (and also Tanzanian tribes and, at times, white Africans), and these views reveal two camps of African-Tanzanians, broadly similar to those Heilman (1998: 377-380) identifies: those who concede that hard work, thrift, and skill contributed to Asian business success and that Asians should not be blamed for their prosperity, versus those who counter, for example, that Asians are corrupt, disinterested in national development and divert wealth abroad (Egbert 1998).

This on-the-ground research culminated in a 66 page report in which I described the eclectic findings arising from this first exploratory phase in Dar es Salaam, with a particular emphasis on internet cafés, mobile phones and call shops, and entrepreneurs' use of them in personal income-generating activities. The informal economy of mobile phone acquisition and sale was also covered in some detail, as was the role of the electronic engineer *fundi* as businessman and expert. With this I was able to reflect on those hypotheses I might pursue during the second focused phase of fieldwork, and what methods I would employ. To use a fishing analogy, the process can be seen to be akin to starting with a broad trawl net to catch everything, discarding that which I was not interested in (in the belief that one must be interested in what I was about to study for many years) to only then know what specific species were in the waters that I would want to be angling for later, and where I would find them.

Indeed it was during this first phase that I became acquainted with some individuals who were to prove crucial to the later research, and from where some of my early thoughts on some key themes emerged: Hamisi Geddy and Dickson Wiva, key informants in the *vinyago* case study were met through a helpful member of staff in an internet café in Mwenge (footnote 56, Appendix II) and who volunteered to approach them; a middleman using his mobile phone for trading fertiliser was met during a random street interview in the city centre, prompting an interest in the use of ICT in agriculture (chapter four) and entrepreneurs' use of call shops for their personal income-generating activities prompting initial investigation into what turned out to be what I regard as a triumvirate of ICT as the informal 'office' (chapter six).

2:5. Edinburgh: September – October 2002

Narrowing down on what to study, and which sectors to use as case studies

Having looked at as many opportunities as possible, upon my return to Edinburgh the field report served to generate discussion on the direction of my more substantial period of fieldwork, which I was keen start as soon as possible. By this time I knew that I wanted to conduct a longitudinal study (as best I could in the relatively short period available) maintaining regular contact with the same entrepreneurs or organisations over a period of time and following a sequence of events within their real-life context in order to connect directly with social reality, over an extended period, using multiple sources of evidence. This, I was sure, would involve a number of different enterprises, ideally in different locations, which I would take as case studies – a decision that was influenced by my reading of the structural adjustment literature where Ponte (2002: 4), commenting on agricultural change in the post-adjustment era, argues that by focussing on the macro-level, the richness of local-level experiences and divergent reactions to policy change is lost.[15] As Knorr-Cetina puts it:

> …it is through micro-social approaches that we will learn most about the macro order, for it is there approaches which through their unashamed empiricism afford us a glimpse of the reality about which we speak. Certainly, we will not get a grasp of whatever is the whole of the matter by a microscopic recording of the face-to-face

[15] Bryceson and Bank warn, however, that while richly detailed local case studies are being generated in this field, these can lack a sense of interconnection and an appreciation of overall social patterns, so local case studies must have must have larger relevance (Bryceson & Bank 2001: 18). This understanding of macro level development and the development of general models can only be achieved, argues Trulsson (1997: 318), when enough case studies allowing for comparisons across time and space have been undertaken and compared.

interaction. However, it may be enough to begin with if we – for the first time – hear the macro order tick.[16]

In Edinburgh I then wrote two drafts of a pre-phase two chapter outline, with a view to return to Tanzania in late October where I would then decide which networks I would physically follow from three of five possible case studies I had identified during the first phase of fieldwork: agriculture, construction, traditional craft, the motor vehicle industry, and ICT as businesses. To help me make this decision I planned to delve into all five possible case studies and see what emerged from this early analysis. In the pre-phase two chapter outline I sketched out the broad research questions I was interested in, along with more specific questions relating to all five of the prospective case studies, and methodological considerations I had to bear in mind (and which later provided a useful focus at times when I decided to take stock on whether I was conducting my fieldwork as considerately as possible). The research questions for each case study related primarily to how ICT is being used in Tanzanian MSEs; how they have been adopted and to what benefit when compared with previous and existing means of information and communication exchange and how they look set to change the way business is done in future. Among these questions (and certainly not exclusively) I sought to find out more specifically in what ways ICT have enhanced enterprise development and competitiveness in terms of an entrepreneurs' ability to adjust to new market conditions; to identify new opportunities and innovations within the enterprise and to minimise marketing and technology development costs through networking and forging ties with other actors. This was to be based on a prior investigation of the extent to which suppliers in traditional networks have adopted ICT and the shape that traditional, pre-ICT business networks took, who were involved in them, and how they were formed. Having established this I was then interested in finding out where the establishment and maintenance of trust fits into these relationships, at what stage ICT is then employed, and who act as the ICT intermediaries.

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[16] Knorr-Cetina, K. 1981. 'The Micro-Sociological Challenge of Macro-Sociology: Towards a Reconstruction of Social Theory and Methodology', in K. Knorr-Cetina and A. V. Cicourel (eds.). *Advances in Social Theory and Methodology: Toward an Integration of Micro- and Macro-Sociologies*. pp.1-47. Routledge and Kegan Paul: Boston; cited in Trulsson (2000: 155).

2:6. Tanzania, Phase two of fieldwork: October 2002 – September 2003

Deciding on case studies

On my return to Tanzania I was again based in a rented house in Kijitonyama, Dar es Salaam, where I spent the first two months in the University's East Africana section conducting a broad review of the published books, articles and unpublished theses covering enterprise development and my sectors of interest. I also tried to keep abreast of developments in the ICT field through accessing online articles in internet cafés, but found this very difficult with many unreliable and frustratingly slow dial-up internet connections.[17] At the same time I made it my business to engage in informal chats with people operating at all levels in my five sectors of interest, and from this I slowly gained an idea of the actors, places and issues concerning these areas. On the basis of these conversations I then set about creating questions for my forthcoming interviews, drawing in as much as possible on the research questions I had formulated in Edinburgh.

The process of engaging during the second phase of fieldwork with Dar es Salaam-based actors and academics operating within the five case studies helped in my desire to reduce this number to three studies, which I considered a manageable number of sectors. This said, and given the argument above in favour of multiple case studies, I sometimes think that it may have been beneficial to have confined myself to a smaller number of case studies – perhaps just one – and studied it for a longer period, which would have allowed for the detail in the writing-up stage, detail that is sometimes lost presenting three case studies under the constraint of a word limit. My

17 After a number of months I established friendships with many of the staff at COSTECH who kindly allowed me as a researcher, friend and neighbour to use their offices and their much more reliable internet access.

decision to not go below three case studies, however, was taken in order to obtain a spread of examples from different sectors and geographical areas and to achieve a better representation of the national, macro picture of the use of ICT in Tanzanian MSEs, while an upper limit of this number was taken so as not to dilute the research.[18]

The second-hand motor vehicle industry

One possible case study identified during the preliminary phase of fieldwork was the second-hand motor vehicle industry, where I considered comparing the use of ICT by vehicle importers with established business links in the Arab States and other African countries with the use of ICT by vehicle dealers in Tanzania using foreign custom-made websites (e.g., www.japanesevehicles.com) to obtain cars for sale. These operators are part of a larger penumbra of entrepreneurs such as the mechanics in Dar es Salaam who recondition and repair these and other vehicles, and I considered comparing the many operators who have been able to survive for decades by using the same methods (in the recycling of vehicles) with the more adaptive mechanics who are rising to the challenge of a radical change in techniques brought about by computerisation – raising questions of education, innovation and susceptibility to new form of information and communication. Despite these interesting issues, however, I abandoned the motor vehicle industry primarily because of the difficulty I had in getting hold of informants (admittedly, mostly importers, not mechanics) who were willing to speak to me in much detail, and also because I found from cross-checking that some of those who had spoken to me had given misleading data which I considered unreliable. As I found during the first phase of research from those few importers who I did manage to speak with and gain information, these importers rely heavily for import and selling on mobile phones, e-mail and websites. Yet I also learnt from other sources that a number of second-hand vehicle importers do so in defiance of certain laws and at times are also apparently involved in illegal

[18] I thank Ramadhan Mlinga, Head of the Department of Construction Technology and Management, University of Dar es Salaam, for this advice.

businesses for which vehicles can sometimes be a cover or means of transportation.[19] I did consider this a tempting challenge but, on balance, saw it as an unnecessary risk given that my training had not prepared me for researching what (from some accounts) may have been individuals with criminal motives or links.

ICT as businesses

I had planned to study not just the use of ICT in business but also the use of ICT as businesses in their own right by profiling a number of internet cafés, call shops and mobile phone retailers, considering determinants of sustainability with particular attention to government attitudes and customer demand. Aspects of ICT as businesses are dealt with in chapter two (and in the case study chapters where they are accessed for use in business), but more depth could have been achieved in a case study itself that delved deeper still, for example, into the networks that are involved in the acquisition and sale of the mobile phones that so many business and non-business users rely on to purchase their handsets. The option here was to start with some contacts made in the preliminary phase, such as Mwita, a Dar es Salaam es Salaam-based businessman who imports counterfeit mobile phones from the Far East, and also to continue to pursue *mafundi* involved in the 'not-new' and 'not-original' market in a bid to assess how people acquire and can afford to pay for the mobile phones that are now so popular, particularly in urban areas (section 8:6). In the event, enough leads were revealed with the remaining three sectors to place ICT as businesses not alone as a case study but as a common thread throughout the thesis, where examples are given of their use by entrepreneurs in areas such as the trading of food between rural areas of the country and Dar es Salaam.

Agriculture: the perishable foodstuffs domestic marketing chain

The preliminary phase of fieldwork revealed a small number of peripatetic traders involved at different points in the buying, transportation and selling of agricultural

[19] For example, MacGaffey & Bazenguissa-Ganga (2000: 26) report the connection between importation of second-hand cars and drug smuggling.

inputs and foodstuffs who were using mobile phones and *huduma ya simu* for contacting small- and large-scale farmers and buyers. Meeting these individuals by chance in the random sampling of the preliminary phase brought to attention the use of mobile phones among these crucial players in the country's vastly important agricultural system providing a living for much of the population, and it was proposed to trace the networks of such actors from buying point to selling point to get some sense of whether ICT were used throughout the marketing chain, and to what affect for all involved.[20] The country's agricultural sector is clearly too large to take as one, not least because of the plethora of different foodstuffs traded domestically, so I decided to narrow down to a particular subsector and follow the ICT networks of the highly mobile middleman who are relied upon to carry the food from Tanzania's farmers to the local and city markets. The influence of ICT on middlemen, it was judged, would provide information not only on how they themselves make profit by succeeding to deliver fresh food to the market on time, but also on farmers' abilities to obtain over distance the price signals that are required to make the markets work efficiently.

I initially considered following agricultural export businesses to see how the use of ICT within the networks surrounding traditional and non-traditional export crops contrast to those of the food crops cultivated for domestic consumption, but again was forced to focus on one area so as not to lose detail.[21] During the early review of literature at the beginning of the second phase of fieldwork I then came across an excellent thesis by Eliab Chijoriga (1992) (chapter four) on the role of middlemen in the marketing of staples at his previous employer, Kariakoo Market Corporation, and a study which turned out to be crucial to this case study by offering essential background to the players and processes of much domestic agricultural trading. I

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[20] In 1995 agriculture contributed to 55.2% of GDP and employed 84% of Tanzania's labour force (Ponte 2002: 38). See Crawford (1997: ch1) on the importance of agricultural and food marketing in developing countries.

[21] As Ponte (2002: 174) notes, along with the Ministry of Agriculture, crop boards, co-operatives, trade associations and larger farmer groups, large-scale farmers and traders are more likely to benefit from internet access to gain market information on international prices, commodity stock levels, futures and insurance markets, and can more easily network with potential clients in the North. Such a study may have provided some insights into the relevance and potential of ICT for small-scale farmers and traders at the domestic level.

contacted the author, who was now Director of Administration and Finance at COSTECH, and had a series of discussions on the possible course of my research, from which I benefited tremendously thanks to his wealth of experience from working at Kariakoo.[22] In the first place, while his own study was on staple foodstuffs, his suggestion that I study perishable foodstuffs over grains such as rice and maize would ensure that I researched crops which are transported huge distances and are susceptible to quick deterioration. The delivery process therefore relies on fast decision making, which in turn necessitates prompt communication lest they rot. Chijoriga then recommended various locations where perishables are mainly grown, from which I favoured Iringa (for tomatoes) and Mbeya (for potatoes) over Arusha, Kilimanjaro and Morogoro regions because the latter areas principally supply to other markets within the country, while Iringa and Mbeya concentrate on Dar es Salaam (which was chosen because it is home to the largest municipal market and would be logistically easier to research because it was my base in Tanzania). Having made this decision, Chijoriga then personally approached some influential Dar es Salaam-based *madalali* traders – men who he says gained their prominence by being trustworthy (Eliab Chijoriga, 06/01/03) – and encouraged them to assist me. After introductory meetings, three of these men (Festo, Kamwene and Sanga B.) then supplied me with the names of some farmers and key suppliers upcountry, and permission to observe their own operations during the collection and transportation of perishable staples. Having obtained these contacts I then set about designing a set of questions to help me to discover in what ways, if at all, ICT is used by suppliers throughout the marketing chain to obtain information on relative prices which allows them to make decisions on where to sell, and how access to ICT influences this decision.

[22] Along with academics such as Ramadhan Mlinga at the University of Dar es Salaam whose own research had some connection to my interests, Chijoriga proved far more willing to discuss my work than my academic contact who the government (COSTECH, ironically) assigned me to. Meetings with this individual, a member of a completely unrelated department at UDSM, never materialised.

Construction: the informal construction sector

Another chance encounter during the preliminary fieldwork stage was with Jill Wells, whose work on the construction industry in developing countries (Wells 1986) I happened to have read before arriving in Dar es Salaam. In tune with my previous research on the informal economy (Molony 2000c), I had been interested in a case study which drew some comparison between the formal and informal sectors and, especially since the motor vehicle industry research was not proving fruitful, I became increasingly interested in the work that a dedicated group of Wells' associates at the University of Dar es Salaam were conducting on a mass of small, unregistered construction enterprises which in recent years have grown in size and importance (Mlinga & Lema 2000; Mlinga & Wells 2002; Wells 2001). Wells introduced me to Ramadhan Mlinga (Head of the Department of Construction Technology and Management, University of Dar es Salaam [UDSM]) who had recently completed a study (Mlinga 2000) in which he uncovered strong linkages between formal and informal contractors within the industry, and which for me raised the question of whether ICT were being used in maintaining these and other linkages. As a starting point I drew up a set of questions which added the ICT angle to the linkages Mlinga had revealed, with a view to exposing possible differences in ICT usage between formal and informal operators and the real opportunities that these technologies offer to the increasingly important and growing mass of unregistered construction enterprises.

In doing so, my intention had been to use as an in-road my long-established Asian and indigenous African contacts in formal construction industry management (which I hoped would also help uncover the ethnic dimension I may have explored), until Wells then brought to my attention an ongoing 'Support for Informal Construction Workers in Dar es Salaam' ('STICW-Dar') project involving the International Labour Organisation (ILO), United Nations Development Programme (UNDP), United Nations Volunteers (UNV) and the University of Dar es Salaam's Bureau of Industrial Cooperation (BICO). This project aimed to facilitate dialogue between stakeholders and informal construction workers (ICWs) and had very recently conducted a comprehensive survey covering over 26,000 ICWs operating in Dar es

Salaam region, which I was very keen to obtain since I could never have hoped to achieve such a huge sample myself. I grew aspirations to draw from this sample my own representative group of ICWs who I could then interview on their experience of ICT in their various construction enterprises, yet while the academics supported my access to these documents, my polite requests to obtain the data received a cold response from the expatriate United Nations project leader who appeared to feel threatened by my interest in his work.[23] In an attempt to gain more background on the project and perhaps become better received by the leader I then attended two workshops in late February 2003, at which time I bonded with a number of 'leading beneficiaries' ICWs and exchanged contacts with a promise from them that I would be welcome to interview them at a later date for my research.[24] Despite this permission I felt that, since I had been led to the ICWs through the STICW-Dar project, I still had to obtain the consent of the project leader, but to no avail until a couple of short months before I was due to return to Edinburgh when he finally presented me with his list of the mobile phone numbers of the ICWs and allowed me to use these to contact them.[25]

Traditional craft: the *vinyago* trade

While my frustrations with the STICW-Dar project leader simmered, I worked on developing contacts with individuals operating at the urban retail end of the *vinyago* trade. This involved following up on links obtained through a particularly useful interview during the preliminary phase with Hamisi Geddy and Dickson Wiva, two Makonde carving exporters who later introduced me to Mary Shirima, an exporter

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[23] Ever since my first contact with the project I was warned by a number of associates who were sympathetic to my research (because, I believe, they could see its potential implications for the informal construction sector) that this individual would not take warmly to any form of interest from outsiders, not least academics. As King (2004: 5) remarks, 'the difference between – say – researching a UNIDO project on technological development of the informal sector and trying to understand technological change in the informal sector is as different as chalk is from cheese'.

[24] As a further reflection on what from previous personal experience I see as aloofness on behalf of UN staff towards the Africans they are paid handsomely to serve, I was sad to observe at the workshop that not one of the UN staff – nor for that matter, graduate Tanzanian UN 'Volunteers' – sat with the ICWs over lunch and chatted with them.

[25] These long delays led me to believe I might never access the data, so I spent a period in Mbeya during May 2003 researching the coffee industry as one of the traditional export crops discussed in the previous section.

with a shop in the Mwenge crafts village area of Dar es Salaam who in turn gave me much detail on the supply side of the industry. As with the perishable staples subsectors, speaking with such Dar es Salaam-based operators allowed me to start to create early subsector diagrams that I used as a basis for mapping the chain of supply from source to sale, and speculating on the ICT flows within this.

Together it is felt that the three case studies offer a sufficient cross-section with which to judge the use of ICT by stakeholders who contribute in very different ways to the Tanzanian economy. Doing so covers a wide geographical range and both genders, entrepreneurs within the case studies provide different degrees of formality, along with elements of the itinerant and the sedentary, across the urban and the rural; representation of 'flyers' and the subsistent (the rich '*wabenzi*' and the poor '*walalahoi*'), selling niche products and the market-saturated, and the perishable and the durable; those with mobile phone coverage and those without, the internet-connected and the unconnected and all the while covering the various different methods of ICT accessibility.

Sampling, locating and gaining access (Tanzania, Phase two of fieldwork, Interview round one: January 2003 – July 2003)

From previous research I had in mind that studying the MSE sector is often a matter of researching the hidden because those being researched are often reluctant to be opened up to the gaze of outsiders (Charmes 1999), and for this reason I wanted to seize the opportunities that were available from informants I had already identified. I soon found that these individuals – Eliab Chijoriga (and his *madalali* contacts), Ramadhan Mlinga (and his connections with many ICWs), and Hamisi and Dickson (who had already introduced me to Mary Shirima and some of her *vinyago* contacts) – offered to share with me their lifetimes of experience in their respective trades and were more than willing for me to access their own networks, so I saw it as logical to follow these connections that were presented to me.[26] I was aware that by following leads that were, in a sense, being offered, I would be open to the criticism that these might be limiting me only to those individuals who were chosen by these key gatekeepers. Yet I was also conscious that because of their low degree of formalisation networks are often hard to trace by outsiders (Tostensen et al 2001a: 27), so I decided to follow those I had the chance to enter (particularly with the difficulties fresh in my mind of entering Asian business networks).[27] Since I was looking at linkages and how individuals communicate with each other in business, I saw no problem in starting with approaching those individuals whom these primary informants identified as their own key sources in their operations and then to physically trace their contacts throughout the networks, interviewing as I went along. There was no pretence of 'random' sampling, therefore for – although my sample was open to whichever contacts the person I was led to talk with then suggested I might approach, at whatever location he / she suggested – by the very nature of these individuals being in the network they knew the next person(s) I was to meet. The decision about who these next informants might be were taken by the previous informant partly on the basis of their view of the importance of these suppliers / buyers, and whether they thought that these recommended individuals would be willing to speak with me.[28] In this respect my sample (Appendix I) was essentially developed through 'snowballing' because it relied on some regular contact (through repeat interviews) in informal settings (Irwin 1972), and built up bonds of trust and friendship to make possible access to new contacts – although with far lower risks to the informants and myself than where this method has been chosen for researching activity outside the law.[29] These contacts who were selected by the last informant were not always individuals who use ICT (even where coverage is available), which

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[26] The following applies more for the perishable foodstuffs and *vinyago* case studies than the informal construction sector case studies, where my sample was based more heavily on interviews with one group (ICWs) and rarely followed their contacts (usually materials suppliers and clients).
[27] 'Gatekeeper' is used to describe a range of actors who control access, channel activities, and so on (Ellen 1984), although Kaufmann (2002) prefers the term 'overseer' to convey a stronger sense of informant involvement in ethnographic research.
[28] They sometimes cross-checked with friends in the same network on the whereabouts of potential interviewees, and in turn these friends might offer advice on the suitability of the proposed contact(s).
[29] Examples of research where the risks to both parties have been higher are Leonard (1994), Tripp (1997) and MacGaffey & Bazenguissa-Ganga (2000).

made contacting them more difficult but ensured that my sample was more representative of those who for whatever reason have not adopted these technologies and, in some cases, do not use landline telephones when they are available for communicating with their business contacts. Furthermore, when I had been recommended to travel to a particular location because of the dominance of a particular trade there, I would not stick rigidly to all the contacts I was to meet, and would often diverge from the networks for a while and talk with those I met in various situations, and later try to pick up on those I was to meet – which was not always possible. After a while, therefore, the recommended contacts spread (almost inevitably) beyond the initial networks of my primary informants in Dar es Salaam, thus countering any risk of only meeting those individuals my primary informants at the point of entry wanted me to meet.

To research these networks I had to move from an intensively focused, single-site ethnography (hitherto only Dar es Salaam), to a multi-sited ethnography researching individuals I had never met before in various far-off settlements I had never visited. I set off to Mtwara in mid-February 2003 to carry out two weeks of introductory interviews with those involved in the early stages of *vinyago* production and, after a short period in Dar es Salaam, I then did the same in Iringa and Mbeya for almost a month from mid-March. On the basis of recommendations from my key informants in Dar es Salaam on who to first see and where to find them, I was able to select what Sanjek (1978: 257) describes as 'certain actors, activities, or locations as the anchor points for fieldwork'. As Bryceson (1993: 102), for research in the rural areas I started with the traders and radiated outwards along the marketing chain and, while contacts had often been established before arriving at a particular location, actually finding individuals required ingenuity, patience and a lot of time. Once located, these first interviews with the informants were of an introductory nature – both for myself and the interviewees – during which time I was at pains to take an informal stance by chatting with the farmers, carvers and traders and observing their businesses to get a feel of the environment within which they operate, and an overview of what methods of communication were being applied at their end of the marketing process. In the eyes of my taxi driver in Dar es Salaam, this kind of research (*utafiti*) that he sometimes observed me undertake in the city was very useful:

> I see that you ask all the things that Dar es Salaam residents already know! These are easy questions! But this is important because then they [the traders] grow to like you and trust you and you can ask them anything! It's a good way of getting information. I use *utafiti* when I want to find things out about girls! (Field diary notes after conversation with 'Chinga', my taxi driver, 09/07/03).[30]

With this background I could then build on the 'obvious questions' and the trust that these sessions created, to then return once I had created a lengthier, more detailed series of questions to form the basis of a more comprehensive interview. This process was aided by creating subsector diagrams to help visualise the networks I was tracing, to which I added communication channels and methods to map the flows of ICT usage.

Gaining access to these individuals for the first time in new locations such as the villages of Iringa, Mbeya and Mtwara was made simple by my key informants in Dar es Salaam providing me with the names of people who would introduce me to the area, and in some cases (unbeknownst to me) phoning ahead to ensure that I was going to be given their co-operation. Only later did I discover, for example, that the business networks I was to trace for the perishable foodstuffs case study had been in full swing shortly after Chijoriga agreed to allowing me into his networks.[31] It emerged that Chijoriga had phoned his contacts in the Kariakoo management, who met face-to-face with some key *madalali* in the municipal market, who contacted by mobile phone their suppliers in the collecting towns of Iringa and Mbeya regions, who in turn contacted their suppliers in the villages and on the *shamba*s through and face-to-face communication and letter delivered by messenger, all passing along the word that they were to welcome me and give me their full co-operation – because the

[30] For access to field diary text that is referred to in this thesis please contact the author at the Centre of African Studies, University of Edinburgh.
[31] Harriss (1992: 138) cites many authors who have not had the advantage of such gatekeepers and encountered problems with getting traders to talk.

(clearly influential) Chijoriga in his Dar es Salaam office thought the research was worthwhile. In the typical Tanzanian hospitality I became familiar with, similar introductions were also obtained in Mtwara from individuals I met in the town on the recommendation of Dar es Salaam traders, and who – in the case of Philipo Luvale (section 8:14) – then made great efforts to ensure my travels within the remote villages were successful. This co-operation was perhaps most obvious to me, however, with the majority of ICWs who I had first met over lunch and breaks at the STICW-Dar project workshop and who always welcomed me with warmth to the interviews at their location (usually a bar) of choice. With these men I felt a special bond because I could relate well to many of their trades having done similar jobs myself in the industry in London, and felt that I had a reasonably good knowledge of the areas Dar es Salaam city where they lived, worked and socialised, and of the 'looser' form of Swahili that some of them talk in. Once the STICW sample had been obtained and I had received 'permission' to gain access to the ICWs, none had a problem with themselves giving me access to interviews because of the bonds I had already formed, and this opened the way to some rich and lively discussion.[32]

2:7. The qualitative research tradition and the interpretive framework

Of all sources offering possible data collection methods to adopt for this study and in generating my thoughts on methodological considerations within which these methods are situated, the authors Aili Mari Tripp (1997) and, especially, Per Trulsson (1997) have held the most sway.[33] While part of their influence on me

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[32] These experiences with entrepreneurs during the second phase of fieldwork contrasted with the response of ISPs I approached in the preliminary phase, who tended to be guarded with their replies to my basic questions and in some cases seemed at times to be trying to impede my progress by demanding a plethora of introductory letters and e-mails to many levels of management before they would consider an interview. The ISPs would usually not disclose the amount of internet cafés they supply to, perhaps because they fear that I may be investigating their business for tax purposes, or because they believe that I will pass their information on to a competitor. I thank Mathias Masawe, Senior Librarian, COSTECH for this suggestion (17 July 2002).

[33] Another key influence that has drawn to my attention the need to problematise methodological issues when undertaking research was the 'Africa: Methodological and Practical Issues' course run by Simon McGrath and Steve Kerr at the Centre of African Studies, University of Edinburgh. I have benefited much from the course and subsequent discussions with the convenors, as well as Tom

undoubtedly lies in the fact that their studies cover entrepreneurship in Tanzania, it is their careful consideration of the methodological issues which surround those methods they adopted that I found most persuasive before the first phase of research in Tanzania. Both managed to persuade me that their conclusions are sound because they undertook the same exercise that is attempted here, one that Seale refers to as 'accounting':

> Telling the story of how a research project was done can serve many purposes, not all of which assist judgements about the credibility of findings or the quality of a study….Relevant methodological accounting, however, can assist readers in evaluating the quality of conclusions. (Seale 1999: 177)

The preliminary fieldwork confirmed to me that my personal strengths and interests lie in qualitative work, and I dismissed quantitative methods unless crucial on the grounds that, while they are often fruitful in generating interesting research questions, they are rarely capable of providing the more in-depth understanding the qualitative research techniques offer to explain social phenomena.[34] Conducting fieldwork also provided the opportunity to focus on developing the craft skills of my research so that my conclusions could be regarded as reliable as possible. Being away from the academic setting also brought with it a sense of relief that I now had some personal autonomy from the requirement some people seem to want to impose that research should reflect some thoroughly consistent relationship with a philosophical or methodological position. Nonetheless, before, during and after both periods of fieldwork the empirical data and theoretical perspectives did shape each other in a dialectical process. Empirical material generated research questions, and research questions guided the way the empirical material has been approached. Together with the pre-fieldwork phase and the writing-up, the entire process can be

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Cadogan who helpfully offered his reflections on methodological issues during the time we were both conducting fieldwork in Tanzania, and Barbara Trudell, whose methodological section of her thesis (2004) was influential in brining together some of the key headings of this chapter.

[34] Also, as MacGaffey & Bazenguissa-Ganga (2000: 19) note, quantitative methods and surveys cannot research activities marginal to the law, which in some cases I was to investigate.

seen as one of a constant series of (at times subconscious) personal negotiation over methodological issues.

For a research methods course that I undertook before embarking on fieldwork I had to label my ‘research strategy’, and decided that my approach was closest to the abductive research strategy. Here the researcher is prepared to use exploration and descriptions of everyday activities as a starting point towards gaining an understanding of the processes that are uncovered during that research. I was drawn to the wording in the key recommended course literature that stated that with the abductive strategy an adequate understanding of one’s exploration can only be achieved through a period of immersion in a social world, during which time some knowledge of people’s ‘reality’ is gained, based on thick descriptions derived from everyday accounts (Blaikie 2000) – in essence, ethnography.[35] This description seemed to suit an approach that I felt most at ease with, and I did submerge myself in this way – as best a white foreigner from a privileged background could hope to – into the social world of African business. In particular I was drawn to the abductive description of the study of activities in which social actors engage in their social lives, which then I roughly equated with empiricism, but at the time abduction seemed to offer something a bit deeper that required me to

> discover and describe this insider view, not to impose an outsider view on it. It is the everyday beliefs and practices, the mundane, tacit and taken for granted that have to be grasped and articulated in order to provide an understanding of these actions. (Sanghera 2004)

In retrospect, however, I do not think that I achieved this detail, and now feel that I had misunderstood quite what abduction required (at least by Sanghera’s account). In particular, I had underestimated how difficult it would be to achieve such a close –

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[35] I also confess that I was far more inspired by actually reading studies where they described their ethnographic approaches and that when conducting fieldwork I had in my mind some methods that they had adopted and which I felt most comfortable with. Texts that particularly influenced me this way are Trulsson (1997), MacGaffey & Bazenguissa-Ganga (2000) and, much later, Sommers (2001), especially where they discuss their methodologies.

almost scientific – analysis of the many individuals I interacted with in at least four huge geographical locales. On reflection I feel that the essence of the research strategy that I in fact adopted was one based more on the interpretivist approach. This contends that researchers have to interact with the subjects of the research, attempting to see the world from their standpoint (Vulliamy 1990) so to allow facts to speak for themselves to generate theoretical propositions (Winch 1994).

2:8. Subsector case studies and generalisability

After meeting both poorer and the more affluent entrepreneurs during the preliminary fieldwork I was also keen on looking at both survivalists and those who had shown some graduation in their ventures, and realised that by taking an entire subsector I was more likely to come across those at both sides of the wealth spectrum. To these ends I looked further into subsector analysis, which I hoped would also expose me to the links through this chain and provide the opportunity to examine these actors' communication channels and their use (or not) of ICT.[36] A subsector is defined as a final product or a key raw material or commodity, and consists of all the enterprises linked to the product or raw material of interest, from supply to production to distribution (Kantor 2000). The analysis of the subsector was developed by practitioners concerned specifically with enterprise development and who were seeking to avoid the tendency of viewing the MSE sector as though it were an undifferentiated mass of small-scale enterprises. It therefore allows for the development of specialised knowledge of the constraints and opportunities influencing a subsector and suggests a framework for appropriate policy interventions. The subsector approach focuses not on the individual enterprise *per se* but the system or subsector in which the enterprise operates (Buckley 1998), and involves a study of the vertical structure of a particular economic activity from input supply, through the production and marketing process, to the finished product. What is most appealing about this approach, however, is not its diagnostic and prescriptive

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[36] I thank the late John Grierson (at that time at the Swiss Centre for Development Cooperation in Technology and Management) for taking the time, in Edinburgh and by e-mail, to introduce me to subsector analysis, and Steven Haggblade (International Food Policy Research Institute, Washington, D.C.) for kindly answering my request to provide me with two of his studies.

nature, but its focus on the movement of the product or service through its various stages, in particular the attention it pays to (vertical) linkages between buyers and sellers (and to horizontal interactions, whether competitive or complementary, between enterprises performing similar functions) (Buckley 1998; Mead 1996). Furthermore, I understood from the subsector analysis literature that it should complement the ethnographic approach I am most comfortable with. It is concerned with following networks and so suited my emerging desire to locate business linkages (as 'ongoing commercial dealings between separate profit-oriented enterprises' (Grierson & Mead 1999)), and allow for an assessment of the extent to which ICT is used in these interactions.[37]

I worked on the logic that the more variation of subsectors I could include, the more likely it was that my findings would be representative of the situation throughout Tanzania. I therefore decided to approach various subsectors in order to cover multiple networks across different enterprises, taking a number of subsectors, each as a case study. I saw the case study as perfectly suited to my needs because it is an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin 1989: 13), but I was also aware that the generalisability of findings from a single case to an entire population is difficult to show given that 'the real business of case study is particularisation, not generalisation' (Stake 1995: 8).[38] Yet as Seale (1999: 106-118) argues, because it offers thick, detailed description which provides a vicarious experience of 'being there' with the researcher, generalisation is a desirable goal because the reader can then use his own human judgement to assess the likelihood of the same process applying to other settings which he knows. On this principle I was convinced that *multiple* case studies could only serve to further the generalisability of my findings in order to provide a clearer picture of the use of ICT across different sections of the economy. An appropriate label to give the approach I

[37] Much of the mainstream literature on subsector analysis either speaks of its strengths or offers dense results. The best publications addressing the methods of subsector analysis are available only for purchase from USAID/GEMINI in Washington D.C.. As it turned out, I did not follow the subsector approach exactly as prescribed in the literature, but I did benefit from its approach towards a thorough consideration for all actors throughout the entire chain.

[38] Robson (2002: 93) defines generalisability as 'the extent to which the findings of the enquiry are more generally applicable outside the specifics of the situation studied'. Maxwell (1996) makes a useful distinction between internal and external generalisability, with the former referring to the generalisability of conclusions within the setting studied and the latter being generalisability beyond that setting.

adopted may instead be one of a ‘flexible design research’ strategy, which Robson (2002: 164) argues is the most apt description for the combination of ethnographic and case study research.

2:9. Validity

What is more important than the name of the research strategy I brand to my study is the validity of the study itself. That is to say, whether the research method really assesses what it is intended to assess (Kvale 1996: 302). I do feel that collectively the iterative nature of the research process, the multiple methods I applied, and the length of time given to data collection help ensure that the research methods do indeed assess what they were meant to assess (i.e., how ICT is being integrated into the existing business culture, the changes this is bringing to the existing business culture and how ICT may be better applied for business use in Tanzania’s particular setting). Nonetheless, in an effort to show the validity of the present study I also feel that it is necessary to consider here two threats that Robson (2002: 171) identifies as holding the potential to challenge the trustworthiness of the flexible design research strategy; namely, description (that is the risks surrounding how the data is recorded) and the interpretation of that data. On this last important matter it is crucial for the validity of interpretation that this is contingent not only upon the ‘end product’, but also a demonstration of how that interpretation was reached (Mason 1996). We therefore briefly turn to the methods that were applied and the methodological issues which arose from these actions.

2:10. Data collection

2:11. Participant observation

As stated, the research methods I employed were principally qualitative, but eclectic, with no rigid adherence to any procedure. This was working on the premise that all social research techniques are subject to error and bias and that only through the use of a combination of contrasting techniques focussed on the same topic can such problems be minimised.[39] In order to capture more than the semi-structured interviews offered I therefore used multiple sources to enhance the rigour of the research and applied some standard participant observation techniques. Such 'triangulation' of techniques (Denzin 1988) included monitoring during transient walks (usually when searching for a farmer, carver, trader or *fundi* before an interview) when I would observe as much as possible relating to the actors and location of the case studies. This involved asking discrete questions where possible later on, and writing-up the relevant observations in my field diary at night in a bid to achieve Bernhard's (1988) recommendation that the participant observer must remove himself everyday from cultural immersion so as to intellectualise, put this into perspective, and write about it convincingly.[40] Or to use Mills' concept of the sociological imagination, I was trying to achieve the 'capacity to range from the most interpersonal and remote transformations to the most intimate features of the self – and to see the relations between the two.' (Mills 1959: 7).

Despite my efforts to engage reflexively with myself and the ideas raised by interacting with my informants, however, I do not claim to have succeeded in establishing a rapport with the community (other than in the neighbourhood of my Dar es Salaam residence, and perhaps in the trading basement of Kariakoo market) to the extent that people ignored me (Bernhard 1988). I was never in one location long enough to do so. For this reason, and because as a white man I was very conspicuous, I was never a very successful 'lurker' (somewhere between eavesdropping and

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[39] As Rusque-Alcaino & Bromley (1979: 185) observe, '[p]ure autobiographies can be as misleading as pure questionnaire surveys, pure reliance on government statistics, or pure observation and informal interviewing, but in combination these alternative techniques are much more powerful than any one technique used in isolation'.

[40] While my thoughts on possible avenues to explore occurred at points when an issue arose during the interviews and observation, some new slants on my thinking are very difficult to put a timeframe on since they slowly developed over a longer period when I would mull them over, often with no intent, at quiet times at home or travelling between case study locales. I had a chance to gather these thoughts in writing when I prepared field reports for my supervisors in Edinburgh (in the air-conditioned Tanzania National Archives which is blessed with a good electricity supply). These reports proved to be a good morale boost since, by being able to see the progress that I had made both in terms of my thought processes and covering my interviewing goals, it assuaged my occasional doubts that my fieldwork was not progressing at a pace I had planned when in Edinburgh.

participation (Strickland & Schlesinger 1969)).[41] When sitting alone I usually attracted attention, especially in rural areas, and I rarely succeeded in observing any more than the most banal incidents that an observant tourist may also have captured. Yet when I was approached by individuals who were curious about what I was doing, I was usually easily able to guide conversation into an information gathering exercise, the key points of which I would jot down afterwards. These impromptu discussions served any of three roles, by acting at times as a test for the interview questions, by bringing to mind methodological issues which had been overlooked, and by providing a further opportunity to gain differing perspectives on the case study in question and my research more generally. I would agree with Tripp, therefore, that it is in these discussions, rather than in formal interviews, when the most revealing comments are often made (Tripp 1997: 204); especially when alcohol was involved.[42]

The research methods built on my ability to connect socially with most Tanzanians, something I have found easy ever since I first visited the country in my early teens. In no small part my success here should be put down to the convivial and often very gregarious character of many of the individuals I have come across over the years. Throughout the research process I again met many new Tanzanians who, by being so welcoming, aided my entry into long-term fieldwork and made me feel more at ease with what I first thought of as a daunting process. It is largely because of this that after interview round one when I returned to Mtwara Region in mid-July 2003 and when I revisited Iringa and Mbeya regions in early September for the second round of interviews and ethnography, carrying out the various research methods seemed to come as second nature.

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[41] The key difference between lurking and casual observation is that the lurker very self-consciously locates himself at the periphery of a social setting and pays strict attention to his degree of unobtrusiveness in the situation, adopting a distracted, preoccupied, disinterested, or engrossed demeanour (Strickland & Schlesinger 1969: 248-249).

[42] The schedules of the Kariakoo *madalali*, for example, demands that they arrive at work very early to receive the perishable consignments fresh for sale that morning, and so their 'after-work' beers were to me 'breakfast beers'. On a number of occasions they insisted that I joined them since this was the best time for them to chat and, while this made information gathering a challenge, it brought out opinions on suppliers and other *madalali* which they were never so forthcoming with during their more sober appearances. I began by scribbling down notes on visits to the lavatory but, when it became clear that the *madalali* were not bothered by my note taking, I later did this openly.

2:12. Semi-structured interviews

The fieldwork of engaging with people came easily because I strove to keep my communication as unceremonious as I could, a method which appeared to sometimes have the desired effect of ensuring that my informants were as unaware as possible that I was gleaning information. Of course, this did not always happen, and some informants would sometimes appear a little agitated even though they had indicated that they were willing to take part in the semi-structured interviews. To ensure that my informants were comfortable I tried as much as possible to conduct the interviews – when it was practical – 'on site' in their work surroundings, which had the added effect on me of prompting more intellectual questions. I left the informant with the decision on where to meet, however, and this was often a public bar where they normally suggested that we then carried on with the discussion. While this meant that I was unable to see for myself some of the details that I would have been able to observe at their workplace (we would often then visit the workplace after the interview), a bar proved a good location for interviewing since curious listeners wishing to eavesdrop could only approach as close as the next table, whereas they could less easily be prevented from snooping in on our conversation if it were held, for example, in the marketplace. Other informants, worried perhaps of other people listening, decided on conducting the interview in a private place, which was usually their home.

Before any questions were asked, and sometimes at the point when I first approached a potential informant, I always gave background to myself and my research, covering such issues as what my research was about, who it is for and the name of my sponsoring institution. I also raised the matter of confidentiality and gave assurances about not having to answer any questions. I then offered the opportunity to ask questions on this. I presented a brief written outline of the research objectives (stating my aim was to write-up my research in such a way that it will not harm people or threaten their future use of resources), a laminated copy of my research clearance certificate, and a business card from my university with my contact details.[43] I was very careful at this point to be realistic about the likely negligible impact of my research on the informant(s).[44]

Except where the interviewee clearly spoke good English, interviews were conducted on a person-to-person basis in Swahili. For the first few months my knowledge of Swahili – though sufficient to ask the questions – prohibited me from understanding much of the replies, and my research assistant Chris (section 2:15 below) helped with the discussion. My linguistic skills improved with time, however, and I was later able to conduct interviews without an assistant, even during the few group discussions that took place with carving co-operatives. During these meetings care was taken to ensure that one person did not dominate the proceedings and that the emerging group culture did not swallow individual expression. Nevertheless, I did notice that,

> interviewing two people who are friends can be a good number because they compliment [sic] each other with their answers, prompting detail and sometimes clarification. Chris agreed, saying that he noticed that Frida would say something and then Audax would say something related and that he doubted if Audax would've thought of it otherwise!....I favour this over larger groups such as those interviewed during C&O [my MSc fieldwork] where a couple of women would dominate, while others (often the younger members of the group) would be largely silent and reluctant to speak in the presence of elders. (Comments in field diary following interview with Audax and Frida, 14/01/03)

The interviews were semi-structured with a view to creating a balance between certain predetermined questions and 'ad libbing'. They were framed in such a way that they could enable an understanding of the informant's views on the issues I raised, at the same time as providing an opportunity to offer their other thoughts on matters I may not have mentioned. This method allowed for flexibility away from a pre-set agenda in order to follow a logical line of inquiry to an interesting reply. It

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[43] I felt that the smart business card helped assuage any doubts, if they existed, about my identity, and also allowed for future contact should the informant require to get in touch about the research.

[44] One of the main objectives of my postgraduate fellowship at the University of Edinburgh is to offer my research findings and attempt to engage in dialogue with stakeholders in Tanzania so that the research may eventually benefit business operators at some level.

also provided more opportunity for me to try as best I could to make the interview more of a meeting between ‘conversational partners’ (Rubin & Rubin 1995: 10-12), to create a blend between an interview and a casual chat (Burgess 1984).[45] Here I feel that I gained much from the richness of tacit knowledge and from the more natural and interactive setting of the semi-structured interview. This gave informants an opportunity to question my fallible ideas and to set and challenge further lines of enquiry.

A small number of pilot interviews were performed, first with friends and then with key informants, and these proved useful in calling to mind new questions and in getting an idea of which questions were unclear and required re-wording. They also gave a good indication of how long future interviews would take, and provided a good setting to work on Chambers’ (1998: 202) advice that sitting, asking, and listening are as much an attitude as a method.[46] Furthermore, the pilot interviews allowed me to try to learn my questions by heart and to practice what Trulsson (1997: 51) has described as a ‘funnel technique’, which begins with wider issues and then hones in on more detail. I had learnt from conducting previous research on income generating activities (Molony 2000c) that pointed questions about earnings and profit margins can invite some unhelpful replies, so this detail was avoided.[47] Instead I strove for open-ended questions using clear language, made corrections as I proceeded, and revised and updated my questions as new issues arose.

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[45] MacGaffey & Bazenguissa-Ganga (2000: 20) discuss the ‘conversation’ as a research method.

[46] I thank Rehema Mputa for assisting me with translating many of my questions into better Swahili. Mock interviews carried out with internet café staff in the preliminary phase of fieldwork, for example, turned out to be particularly valuable in revealing that interviews with internet café managers are often much longer than expected because they frequently have to leave to assist customers. Comparing my questionnaires with those used in a study carried out by COSTECH was also useful in bringing to mind issues that had been overlooked.

[47] Bryceson (1993: 103, 157) also makes this point. My personal experience from previous fieldwork (Molony 2000c) was that people would either be reluctant and vague with their replies or tend to exaggerate their earnings. I therefore avoided such questions since probing risked breaching trust and could also misinform my conclusions.

2:13. Reliability and recording of the data

In quantitative research great store is placed in the extent to which a research procedure produces the same results each time it is employed. This is known as the 'reliability' or 'replicability' of the study (e.g., Black 1999). Yet I would argue that this should be no different in qualitative research. Although the attempt to use language to refer to, describe and explain aspects of the social world must ultimately depend on some modified form of realism, the qualitative researcher must still also be accountable for its accuracy, however subtle the language gets. Reliability and replicability are therefore very relevant, particularly since, as stated above, one of the challenges to the trustworthiness of the flexible design research is the way in which the data is recorded. Here the use of low inference descriptors in field notes and transcriptions are desirable ways of enhancing reliability (Seale 1999: 140-158) and are methods of recording the data that were employed in this study. Where impromptu discussions took place I would write-up the key points afterwards and transfer it to my field diary the same evening. With the semi-structured interviews I recorded the data in note form at the time, wrote it up immediately afterwards when possible and later entered it into my field diary. I also used a cassette recorder in a number of interviews where the informant was happy to be recorded and I later transcribed those parts of the conversations that I thought at the time exposed emerging themes (i.e., excluding points, usually relating to my prescribed questions, which I could write accurately at the time in note form and including those points when the conversation flowed faster or away from pre-set agenda so as to follow the logical line of inquiry).[48] On many occasions, however, I did not use the cassette recorder, never because my request to use it was denied but because I was often opportunistic in my interviewing and had not anticipated that the interview would take place when it did and had not brought the device. These decisions were taken mindful that some of the best research begins opportunistically through curiosity and a desire to discover (Buttimer 1993), and because experience had taught me that very little of the research arrangements go to plan in the field so much reliance must be

[48] Field notes entered later into my field diary are referenced as 'field diary' (e.g., field diary, 09/07/03), while verbatim text – also stored in my field diary – is referenced by the name of the informant (e.g., Bahati, 19/07/03).

placed on happenstance. When I managed to obtain a camera about half way through the fieldwork I then asked informants at the end of the interview for permission to take a photograph, to which they always obliged. This served both during and after the fieldwork as a powerful memory jog of the many individuals I had interviewed (Appendix I) and the circumstances and emotions that surrounded the different meetings.[49]

2:14. Important influences of the research environment

2:15. Research assistance

I benefited greatly from these meetings thanks to the help of a friend, Chris Mazengo, who I paid as a research assistant. The term research assistant almost seems inappropriate since he is so far from the image I had of a University-educated urban youth tutored in the various research methods to be applied to the fieldwork setting.[50] I met Chris when he was working in what he regarded as the mundane, unchallenging surroundings of a video rental shop by my house in Kijitonyama, and every day when I returned from my Swahili classes I dropped by his workplace and we spoke at length about life in Tanzania. I learnt of his childhood, his Catholic missionary education and stories of stealing sugar from his mother's pantry in the poor, dusty village of Bahi outside Dodoma on the central lorry route to Tabora, Rwanda, Burundi and the Democratic Republic of Congo. I learnt of his reluctance to be a shepherd as his grandfather demanded and of how as a youth he came to Dar es Salaam in search of work. I learnt about his different – at times outrageously dangerous – employment as a youth in the city, his scrapes with the law, his adoption of Muslim attire to blend into areas of the coastal city, and his physical and mental hardening as he adapted to cope with an urban setting where jobs were scarce and as the breadwinner he was expected to send remittances back to his family in the

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[49] I plan to adopt a method of thanking interviewees used by Tom Cadogan who made a point of returning to his informants with a print of the photograph. To the interviewee this photograph can speak a thousand words written in a PhD thesis that may never have any tangible benefit to the informant.

[50] Kakuu Maghembe provided help with questionnaires during the preliminary stage.

village.[51] And as I listened to the tales this man in his early thirties quietly told me over a coffee and with a hint of nostalgia, I soon respected his resilience and pride and realised – as he had realised long before – that his ambitions to make a new life with a family in the city were not going to be met in his present job. All his weekly earnings save TSh500 (about 50 cents) were spent on food and his *daladala* fare to work from his home in Mtongani, or 'the ghetto' as he called it. So it was with a feeling of immense satisfaction that when Chris was considering leaving his job I suggested that he might accompany me as interpreter on my research travels, first in the city he has such an intimate acquaintance of, then further afield. I judged that his intelligence, resourcefulness and ability to create a bond with all Tanzanians (except, he admitted, 'the bossmen in their expensive clothes'), set him apart from the other assistants I might have chosen instead to help me with translating during the early stages of my fieldwork.[52] With no formal, academic background in social research I thought that he was also less likely to act as a 'filter' to what was being said during the interviews.

Chris first started working with me in January 2003, and I quickly began to appreciate his many qualities and soon realised that while researchers can go great lengths to ensure that the voices of the people they interview are heard, those individuals who help to make the interviews possible do not usually receive anything of the credit they deserve.[53] As Lyn Schumaker (2001: 12) has observed, '[r]esearch assistants generally *are* invisible in the finished texts of anthropologists both today and in the past and, like wives, often only receive a token measure of gratitude in the preface', and I would argue that part of the reason for this tendency to hide assistants is that researchers are reluctant to admit that they need the help of others. Perhaps

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[51] These conversations tended to take place in English since Chris' abilities in my language were stronger than mine in Swahili. Unfortunately for the development of my Swahili, this period seemed to set English as our language of communication which, while helping Chris to become far more fluent, is something I would have changed given the opportunity again.
[52] I have in mind some research University-educated assistants working with the STICW-Dar project who seemed to distance themselves from, and bring an air of superiority to, the less educated informal sector workers they were supposed to interact with.
[53] Robson (1994: 56-58) also makes this observation. A notable exception is Willis (1999: 11-20), who helpfully notes that 'one reason for our difficulty in putting a category name to our primary indigenous sources of knowledge is that the relationship has no exact parallel in the social experience of either Western or non-Western cultures' (Willis 1999: 19).

this is because the use of a research assistant might somehow detract from our own ability to draw conclusions, or adversely influence these conclusions through acting as a filter? I also believe that some researchers hide their research assistants from view in the text because they are embarrassed of the inevitable existence of power asymmetries in such a relationship, particularly the financial asymmetries that I think ultimately led to the souring of my relationship with Chris, a topic which I have discussed elsewhere.[54] Here I learnt that although there is a case for arguing that informants are part of the making of a participant-observer, both in terms of participation and observation which are subject to being controlled by overseers (Kaufmann 2002: 251), there is also a case for arguing that the relationship is not always one-way. The research assistant is often aware that he or she can likewise use the researcher a resource and a tool to help them make their way in life (Carrier 2004).

I had initially intended to use an interpreter only for the first few months, but Chris worked with me for longer as a constant ‘tour guide’ informing my developing cultural frame of context, and as a companion during the long and sometimes lonely periods away from Dar es Salaam. I tested ideas on him as a Tanzanian ‘insider’, and he helped to bridge my position as an ‘outsider’ with people involved in businesses that he too was often unfamiliar with, raising questions himself and offering observations out of his own curiosity. I soon realised that he was invaluable in gently applying, with respect, his powers of persuasion and skills as a listener gained not in the University but by speaking with his fellow countrymen over coffee on the street. This helped ensure that informants would be willing to talk, and I am convinced that Chris then played a crucial role in creating a personal chemistry with these actors and in allowing for the development of deeper relationships than would never have been possible without his help.

[54] I have discussed these power asymmetries in my relationship with Chris in Molony (2004). Some of these issues are raised in Wilson (1992) and, using the medium of drama, by Edmondson & Ajwang' (2003).

2:16. Perceptions of the researcher

While the vast majority of informants who were approached were happy to talk when asked to be interviewed, there were a few cases where we ran into difficulties. This, I believe, had much to do with the way different people perceived of me as an *mzungu* (white person) conducting research.[55] I was never able to interview staff at Mikono, a Dar es Salaam-based *vinyago* exporter with a bad reputation for not paying carvers, for example, and was later informed this was because they probably thought that I was an investigative journalist seeking to reveal their unfair treatment of carvers. In another incident of misperception, when walking the tracks between large potato fields to the house of the late Geoffrey Sanga, a field agent ('*kiunganishi*') connecting middleman in Mbeya region, suspicious villagers sought to misinform us of his whereabouts in the belief, he later told us, that we were disgruntled business associates seeking to settle a score. We were also accused in Mtwara town of working for a mobile phone company, and risked being assaulted by the very large and very drunk husband of a middle-distance *vinyago* collector, Bahati Mohamedi, who had invited us into her living room without his permission. Despite my careful explanation of the research, he insisted that my questions would be fed back to a mobile phone company who would be making profit from his wife's replies, at no profit to him, and I cut the interview short as he grew more threatening.[56] A more serious risk towards my own safety arose in Ilula Mtua, Iringa Region when – shortly after the beginning of the American-led invasion of Iraq – I was alone photographing with permission tomato packing by a mosque on the roadside (Figure 9) when a young man started the rumour that because of my interest in communications and my wish to take photographs I must have been working for the American Central Intelligence Agency. This potentially volatile situation was defused with humour. It

[55] Murison (2004: 208-211) devotes much consideration to the complications – and advantages – associated with 'being *mzungu*'. On this subject I would agree with Bryce Gormley (1994: 105) who observes that in many cases one gains the inherited reputation of being an *mzungu* – I too was judged on the attitudes and behaviour of other *wazungu* until I was given the opportunity to establish my own character at a personal level.

[56] His drunken state made it unclear if his anger was because we were in his house, interviewing his wife without his permission. Bahati had invited us in and I had not thought to ask if this was fine with her absent husband. This oversight on my behalf may have been because the women I had interviewed until this point were largely Christian women in the more culturally diverse city of Dar es Salaam, women who never required their husband's permission to be spoken to about their income generating activities.

followed an evening in another area of Iringa Region earlier in the year when the Executive Officer of Ukumbi ward, a veteran sergeant of Nyerere's war with Uganda and local trainer of Zimbabwean troops in their war of liberation, Frank Mkini, gave us food (as he put it, 'our basic human right while under detention') and then tried to place us under house arrest for being in his village without his permission.[57] We were taken before the less militant village committee and secured our release with charm and after buying them drinks through most of the night. On my next visit to Ukumbi I was informed that Frank – who, I was told, had mental problems as a result of combat stress – was convinced my research story was a cover and that, again because of my interest in telecommunications, I was conducting intelligence; this time for the British intelligence service.

More plausibly perhaps, I was also suspected by members of *Umoja Workshop*, an informal construction worker (ICW) group on the outskirts of Dar es Salaam, of conducting a feasibility study for a United Nations agency. Two group members aggressively demanded to know how my organisation was going to finance them, and this is after I made it very clear that I was not working with the United Nations and had only got their details from the United Nations 'Support for Informal Construction Workers in Dar es Salaam' ('STICW-Dar es Salaam') project (section 4:5). This situation was perhaps the most difficult to negotiate during the 18 months of fieldwork since it was most obvious to me then that I had failed in my efforts to express that my research was my own. It was also then that it most struck home that, as with most academic studies, it *is* the researcher who benefits from the research, however well-meaning otherwise (Howard 1994: 21). On this occasion Chris was also vocal to me in his observation that this is the case. I realised then that my research is unlikely to have any benefit to anyone other than myself in the near future unless my efforts to 'make something' of the research (Madge 1994: 99) are successful in feeding into action and help change the unequal power relations which enable the largely one-way flow of information from South to North. The guilt of the feeling that I was benefiting far more than those who were informing me was

[57] It was my error for having not paid a courtesy call to the settlement administration on this occasion, as recommended by Hershfield et al (1983: 241-245).

probably the most intense reflexivity I engaged in, but I do not wish to privilege the issue here over other ethical decisions for, as Madge (1994: 93) is right to point out, 'ethical' means different things to different people, and its meaning alters with time and place. What is perhaps more important is that I was engaging in reflexivity at all, which at its most basic 'makes a problem out of what was once unproblematic: the figure of the fieldworker' (Strathern 1991: 8). And this was possible because through courses in Edinburgh I had the opportunity to gain exposure to many well thought-out methodological discussions. As Seale (1999: 49) emphasises, regardless of the methodological tradition, such exposure is only likely to increase a desirable aspect of research practice: methodological awareness.

As described above, the *Umoja Workshop* situation was but one of the difficulties faced at points during the fieldwork. Though they could not easily have been predicted at those times, they were undoubtedly caused by perceptions of me as a foreigner, an *mzungu* with my own motives for gaining information. On the other hand, being an 'outsider' had its advantages since I was less likely to be associated with the Tanzanian state and, as a visitor making the effort to speak their language, I was somebody to be welcomed and cared for. As mentioned above, this reception was then further aided by introductions of recommendation from friends or business associates which probably served to legitimise me more in the eyes of informants. Yet one could argue, as Leonard (1994: 179) does, that the fact that all my informants were willing volunteers means that their accounts will not represent the full range of experiences. In this respect the truth status of what I have been told is uncertain since it can never be verified against the voices of those who have not been heard. And even for those who were interviewed, the power relationships of such an interaction – however much I might have attempted to avoid leading questions and tried to engage as much as possible in a casual conversation – are such that true disagreements may never come out.[58]

[58] I raised this point during a seminar on 'Qualitative Research Relationships in Practice: self and others in fieldwork interaction' (27 April 2004, Graduate School of Social and Political Studies, University of Edinburgh), but with unsatisfactory discussion from the majority of researchers conducting their work in Britain whose general experience is that their informants do use the interview to air their opinions. As discussed above (and rather unsurprisingly), my experience from this research

2:17. Data analysis: objectivity and the (re)presentation of informants

It is no solution to defuse these problems of power and privilege simply by inserting the self into the account and proclaiming that dialogue has occurred (Kulick 1995: 15-16). This is part of the larger problem of what we identified in section 2:9 as the third challenge to the trustworthiness of the flexible design research strategy: that of the researcher's interpretation of the data and the environment which informs it, and the risk of imposing a framework or meaning on what is happening rather than occurring or emerging from what is learnt. Given that the idea of research free from values is problematic (since no act of observation can ever be truly free from the underlying assumptions that guide it), a further attraction of qualitative research is that objectivity is considered a fundamental characteristic and does allow for a focus on the meanings which people give to their surroundings, rather than on the surroundings themselves (May 2001: 9-13).[59]

In tune with other recent research (e.g., Trudell 2004), the present study is based on the notion that an understanding of the truth of a situation can be attained, or at least approximated, by weaving together the threads of many perspectives and discourses. We have noted that this research involved collecting data from different sources and used different research techniques, and this generated an immense volume of data and made data analysis a complex task. This was eased by the fact that analysis is not a distinct phase in qualitative research (Bryman & Burgess 1994: 217) for, alongside the constant personal negotiation over method and methodological considerations, there is also a constant interplay of data gathering and analysis (Wiseman 1974: 317). Whenever this occurs there is no 'right' procedure in analysing and organising the data, but still the techniques employed do involve careful consideration at each stage of analysis. Yet as McCracken (1988) and Sayer (1992) note, the failure to

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is that most informants were more likely to express themselves in more depth when they know who they are talking to for longer than a one-off interview.

[59] One critique of the interpretivist approach in this respect is that it fails to acknowledge the theory-laden aspects of observations. We do not neutrally observe the social world, so collecting data is already fraught with assumptions, abstractions, ideas and concepts.

identify the ‘right’ way should not be an excuse for an amateurish analytical approach. While the analysis of qualitative data should allow room for it to be a creative process, it is nonetheless a process demanding intellectual discipline, analytical rigour and a great deal of hard work. But because different people manage their creativity, intellectual endeavours and hard work in different ways, Patton (1990: 381) suggests, there is still no ‘right way’ to go about organising, analysing and interpreting qualitative data.[60] Following Becker & Geer (1982: 241), I approached the analysis of the field data by dividing the process into three stages: ‘(1) the selection and definition of problems, concepts and indices; (2) the check on the frequency and distribution of data; and (3) the incorporation of individual feelings.’ In looking for emerging patterns I created a hand-drawn spreadsheet by case study with ‘discussion areas’ from the interviews in the rows and the names of informants in the columns, to which I added the interview data. The emerging recurring themes that I ‘heard’ (Rubin & Rubin 1995: 234-238) then served as a guide to my discussion in the three case study chapters.[61]

I include as accurately as possible what was actually said in our conversations in order to preserve the voices of informants while still maintaining a flow through the text where I incorporate my own feelings. This takes the form of referenced quotations from the individuals themselves.[62] It is inevitable in such a study, however, that the author is faced with editorial decisions that move the analysis of what is said into another domain and raises the question of whose voices we are left with when they are presented in the text. Here I would agree with Seale (1999: 178) that attempts to delete the author from the text, although required by the logical

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[60] These thoughts are influenced by Sanghera (1997).

[61] I used Trulsson (1997: 53-54) as a guide here, whose own approach seems to adopt the essence of Boyatzis’ (1998) work on thematic analysis. Miles & Huberman (1994) offer a series of 13 tactics to be taken together for drawing initial meaning from a display that involve forming patterns, looking at contrasts, clarifying relationships, and building coherent understanding. These were not adopted since their tactics seem to take data analysis as a distinct phase later in the research than when I had already begun to engage in the constant interplay of data gathering and analysis.

[62] The alternative would have been to include whole interview transcriptions, which I decided against because I feel it would make the presentation of data unnecessarily difficult to read.

demands of post-modern theory, seem an impossible task.[63] I have therefore attempted to deal with this hermeneutical challenge through the only means I see as satisfactory, which is the fairly conventional method of presenting these voices verbatim at the relevant point, followed by a bracketed reference indicating whose voice is being represented, and the date on which the conversation took place.[64] I do recognise, however, that while this aids the flow of the piece, this method still fails to relinquish that by choosing to use certain excerpts I bring my own interpretation on what I decide to use.[65]

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[63] Seale (1999: 159-177) then goes on to argue that experimental textual forms reflecting post-modern anxiety about this authorial presence can in fact mask a strong authorial presence.

[64] Quotes under three lines are presented in inverted commas in the main text body, and quotes over this length are indented and in a smaller font. In some cases my voice is also presented where the subsequent point may not seem clear without the question or comment I made during the interview. Ellipses are used at all other points where the presentation of my voice in the dialogue is not relevant, or where part of the informant's comment is not crucial to the point being made. More detail on the interviews are found in Appendix I, where they are listed by informant and indicated the informants' occupation / position and the date and exact location of the meeting. In the case of some carving co-operatives where I spoke with many carvers as a group while they worked, the quote is sometimes attributed to the group because the comments were offered without the time to record who made which remarks.

[65] Further methodological considerations and limitations to my methods have been presented in the text because I feel that they benefit more from the surrounding context.

3 Perishable Foodstuffs: from *shamba* to plate

> Telephones are another burning issue. Empirical work indicates that agricultural traders have access to phones for personal use but make virtually no use of them for business purposes. This is in part a reflection on the lack of trust between traders, but also on the absence of land line telephone services in agricultural markets. Consequently traders constantly have to travel to supply markets, raising transport and search costs. It would be much cheaper if traders could operate over the phone from their offices. The spread of mobile phones may ease this constraint. Time will tell. (Fafchamps 2004: 481)

In this case study we closely trace the supply chain of tomatoes and potatoes from the rural *shamba*s of Iringa and Mbeya to the wholesale market in Kariakoo, Dar es Salaam. We seek to find how ICT really are being accessed, adopted and appropriated by those many farmers and traders who are not directly influenced by donors. The evidence is based on semi-structured interviews and open discussions with 15 tomato and potato farmers, 4 intermediary traders (*wafanyabiashara*), 5 Dar es Salaam-based auctioneers (*madalali*) and various other key informants involved in the trade between the Southern Highlands and the commercial capital.[1] In doing so, we first lay out the case for food marketing as a case study, then show that for many farmers an auctioneer (*dalali*) who they sell to plays an important role in supplying credit when they have cashflow problems. Because of this central role that a *dalali* plays we spend some time analysing the interactions in the business relationship between the two and follow the stages of what is often personal, face-to-face interaction in the building of their partnership. This is a welcome addition to the little empirical work on the social relations of markets and how actors build up trust that enables more complex exchange that spot transactions to take place (Lyon 2000). For this reason the ‘mobile moments’ in this section of the chapter are few. A closer analysis of the relationship helps to emphasise how – while a *dalali* can play a key role as a creditor – the *dalali* can also use this position of power to persuade a farmer

[1] Interview details are given in Appendix I. A more detailed account of the methods is supplied in sections 2:10 of chapter two.

to supply only to him and to trust him on the price he says that he sells the farmer's crop for. In such a situation the farmer's exposure to prices being offered by other buyers can effectively be blinkered, which is the kind of sticky aspect of a real-world business relationship that those promoting ICT to link the farmer and market buyer directly (e.g., England 24 November 2004) would do well to observe.

Interviews for the case study mostly took place in March, April and September 2003. As discussed in the preceding chapter, I was able to penetrate the network of a small number of *madalali* with the help of Eliab Chijoriga, a foodstuffs marketing expert and Director at COSTECH who introduced me to Bartholomeo Sanga, Festo Mkilama and Kamwene Sanga. Chijoriga urged these *madalali* to give me the contacts of the farmers who supply to them, and they did so once I had gained their friendship and trust during our preliminary meetings. I then visited these farmers for initial meetings, thereby achieving a complete marketing chain of suppliers and traders whose business dealings I could physically follow in order to track their use of ICT. Despite the advantages of this method of sampling (section 2:2), my informants were restricted to those working within this chain and, much like other studies of traders in Tanzania (Bryceson 1993: 120; Sebastiani-Kuoko 1998: 58), all the farmers and traders covered in this sample turned out to be male. While all are African, the *wafanyabiashara* do not necessarily come from the region where the interview took place.[2]

3:1. Why food marketing as a case study?

Agriculture is Tanzania's most widespread economic activity, acting as the largest employer of the labour force. It provides a livelihood for some 80% of the

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[2] As with other areas of Africa, the female involvement in farming in this area of Tanzania is mostly restricted to labour. Women produce fruits and vegetables on a small scale and tend to only sell to traders who come to their farms or at local retail and at periodic markets on a very small scale. As Poole et al (2000b) note, such incomes from crop marketing can be the source of much suspicion between the genders. Men often expect to be able to keep both their own profits and those women in the household earn to feed, clothe and educate the family. For this reason women often try to avoid full disclosure of incomes, a situation which hinders market information exchange within the household. For further discussion on women's efforts in petty trading to make ends meet in the rural household, see Molony (2000).

economically active population and also makes the largest contribution to GDP, 45% in 2003 (World Bank 2005). The country's economy is thus predominantly based in the rural areas where about 70% of the Tanzanian population reside (World Bank 2004a) and where the extent and severity of poverty is greatest. The 1.33% average rate of growth of Tanzania's rural population, however, is much lower than the 5.06% rate of the urban population (UN-Habitat 2002) who in domestic urban food markets (where the urban poor spend well over two-thirds of their income (World Bank 1999)) receive almost all the remaining half of total agricultural output that is not consumed by subsistence farming. Added to this growth is the massive influx of migrants to cities such as Dar es Salaam (growing at a rate of 5.4%) (UN-Habitat 2004) which together are placing immediate pressures on food supply. This further calls for a greater understanding of the role of new ICT in the marketing systems that direct the production and distribute the output to the main points of consumption and ensure that the burgeoning urban population can buy affordable food. An understanding of domestic food marketing systems is also important because of agriculture's role in feeding into the industrial and commercial sectors that rely upon agriculture as a source of raw materials and as a market for manufactured goods (Crawford 1997: ch.1). The functioning of food marketing systems therefore has considerable impacts on both the livelihoods of rural producers and, at a time of rapid urbanisation and increasing levels of urban poverty, is also a serious issue in urban development. Despite this, research on agro-food systems has mainly concentrated on the export of produce (Lyon 2003: 12), a situation that runs the risk of ignoring the politically strategic importance of basic food entitlements at the domestic level as 'part and parcel of every Tanzania's birthright' (Bryceson 1993: 4). At a time when new ICT is hailed to revolutionise the way business is conducted (section 1:23), a study of the marketing channels through which much of the population makes a living selling the smallholder produce so essential in stimulating broader economic growth and contributing to rural (and national) poverty reduction (Kydd et al 2001; Kydd & Poulton 2000) is therefore crucial.

3:2. Historical background to food marketing in Tanzania

Before liberalisation, development in Tanzania was state-led, guided by Nyerere's philosophy that active intervention could direct the economy to achieve both productive and welfare objectives. This was enshrined in the 1967 Arusha Declaration (Nyerere 1968), which introduced the nationalisation of the main means of production, distribution and exchange, along with a series of public policies which put in place regulations and controls. Together these had the effect of inhibiting most private entrepreneurship (Rugumamu & Mutagwaba 1999). The suppression of individual economic creativity was at its most intense during the 1970s and early 1980s in the important area of agricultural marketing. Here the state used a series of measures to take control of maize and rice markets. The clearest example of this is in food crop marketing, which was single channel and placed under the direction of co-operatives. This move designed in part to eliminate private traders (Maliyamkono & Bagachwa 1990: 67) who government and party politicians at national and local level viewed as illegal profiteers who had to be eradicated (Bryceson 1993: 95). It was only in the early 1980s when the authorities realised the futility of the crackdown on 'economic saboteurs' that they fully grasped the magnitude of second economy (Maliyamkono & Bagachwa 1990: 83) and, under great pressure from the IMF (Bryceson 1993: 99-102; Ponte 1998: 319), made the first moves towards the reform of agricultural pricing and marketing.[3] Yet the picture that emerges is that regardless of the relaxation on controls from about 1984, private trading was always a pervasive aspect of nearly every Tanzanian's existence throughout the socialist era anyway, particularly when it came to the food crop sub-sector. That private traders in staples had been operating long before they were officially sanctioned is covered in considerable detail by Bryceson (1993: ch.5) and need not be repeated here. Others (e.g., Maliyamkono & Bagachwa 1993: ch.5) have also shown how in its attempt to control the market the socialist government set a series of disincentives for farmers to participate in the formal economy and these effectively led to the further

[3] The precise timing of the first step towards market liberalisation is debated, with some authors pointing to the 1984 budget, others to the 1986 IMF agreement. Ponte (1998) shows the most important marketing changes took place in 1987 when the government permitted the commercial sale of food crops (grains, pulses and oilseeds) and inputs. For detailed commentary on the transformation of agricultural marketing through the adjustment period see Bryceson (1993) and Ponte (2002).

development of parallel food markets, particularly for the predominant staples of maize, rice and to some extent wheat. Less attention, however, is given to trading carried out in the period from the socialist era to the present by farmers of the less heavily controlled perishable foodstuffs in these main potato and tomato growing areas. This is probably because of the relative unimportance of these crops politically against the predominant staples of maize, rice and wheat.[4]

Tomato and potato farming in Iringa and Mbeya regions

Iringa Region in the Southern Highlands is home to the Hehe, Bena, Kinga and Pangwa ethnic groups and covers 59,000 square kilometres. 73% of this is farmed arable land, the produce of which provides over 85% of regional GDP from the efforts of more than 90% of the regional population (URT 1997a: 31). The land produces maize as the staple food crop and large cash crops of sunflower, tea, tobacco and pyrethrum. These are fed by a single rainy season from November to May, leaving dry conditions for the rest of the year. Tomatoes are mostly cultivated in the midlands and highlands agriculture-economic zones where altitude reaches well over 2000 metres above sea level and rainfall ranges between 1000 and 1600 millimetres per year. Also in the Southern Highlands is Mbeya Region, home to various ethnic groups including the Nyakyusa, covering an area of 63,400 square kilometres and bordering Zambia and Malawi. 90% of the land is arable, farmed by 80% of the region's population. As in Iringa Region these farmers nearly all use the hoe for land preparation (Mussei et al 2000: 17) on an average of 2.5 acres of intercropping and/or monocropping land. The land is fed by reliable rainfall from October through to May. Cash crops of coffee, tea and cocoa are then cultivated from November to May, along with maize, rice and bananas to produce food harvests that tend to be less erratic than other parts of the country. Exportable surpluses of these staple crops are therefore a regular feature, and the long-distance trade in these

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[4] With the exception of Ponte's (2002) major work on fast crops, staples are the most closely documented food crop in terms of government and academic studies, largely because they dominate production and consumption. Maize in particular is grown by more than 50% of Tanzanian peasants for subsistence and commercial use and, often in the form of *ugali* stiff porridge, acts as the principal source of calorie intake in the country. For more on the political importance of staples see Bryceson (1993: ch.1).

accounts for much of the region's prosperity (Bryceson 1993: 113-114). 90% of the potato crop in Tanzania is produced by smallholder farmers from the Southern Highlands (Manyona 1991), mostly in districts where the conditions are best suited for tuber production (Rolot 2001: 191). While peaks do occur, in both regions conditions and farming practices allow for year-round supply of these perishables to Dar es Salaam's Kariakoo wholesale market.

3:3. Marketing chain, players and processes

3:4. Farmers

Based on personal observation and the categorisation of traders and the farmers themselves, the broad categories of farmer seem to reflect their access to capital. Small-scale farmers (*wakulima wadogo*, e.g., Lukelo Mahenge, Petro Lyelu) are often barely above subsistence level, risk averse (Thomson & Terpend 1993: 4) and, with the help of labour from members of the immediate family, rely on farming as their main source of income to cover basic needs.[5] Small farmers' outputs are low because they farm small areas of land (93% of farm families cultivate less than two hectares (URT 1988)) that they either own outright or rent from larger farmers, and they are now increasingly renting or selling out to their larger-scale counterparts in favour of wage labour or non-farm activities (Bryceson 2002b: 734; Ponte 1998: 334). Since they are producing less than other groups of farmers and their earnings are smaller, an individual small farmers' decision to supply distant markets such as Kariakoo is affected by his more immediate need for cash and the transport costs of sending small amounts over long distances. This group of farmers are numerically the most represented group in the country and make the largest contribution to the country's total crop output.

At the other end of the spectrum are a smaller group of large-scale farmers (*wakulima wakubwa*, e.g., Berod Pilla, Samwel Kiando) who, because their assets

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[5] As mentioned in section 3:4, however, very few farmers nowadays produce purely for subsistence consumption. See Maliyamkono and Bagachwa (1990: 3.1.2-3.1.4) for additional reasons that influence whether farmers participate in the market.

and annual turnover are greater than most MSEs (section 1:15), might rightly be categorised as medium-scale entrepreneurs. Large-scale farmers oversee the farming of larger areas of land than small- and medium-scale farmers (the group who lie between small- and large-scale farmers). Large farmers usually own this land themselves and in addition farm land that they rent locally from smaller farmers in different geographical across the country.[6] By having access to land throughout the year they can take advantage of optimal seasonal variations and can constantly have some piece of land under cultivation and supply the market with crops without a break. Berod Pilla, a tomato farmer based in Ilula (Iringa Region), for example, harvests and plants at different times in different five acre plots at different locations every year. In any of these locations large farmers do not usually undertake much or any of the actual physical labour of farming but instead use locally hired labour to aid the work of members of the immediate and extended family, some of whom may travel to help at busy times on their more distant rented plots. With higher yields resulting from their access to productive land throughout the year, their frequency of output reaching Dar es Salaam is higher than that of their smaller counterparts, with some of the largest farmers managing to supply Kariakoo almost daily.

Graduation from small to large farmer: poor culture of savings or simply a run-down of working capital?

In the graduation from a small-scale farmer to a larger-scale farmer it appears that a successful risk-spreading strategy (Ellis 2000; Tiffen 2003: 1359) combining ‘fast’ cash crops (i.e., those such as tomatoes with a rapid turnover from land preparation to harvest) and income diversification *can* be more than a forced survivalist venture since it provides the opportunity for expansion through cross-subsidisation between agricultural and non-agricultural trading activities.[7] When this is carried out

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[6] See Van Donge (1992a), however, for the argument that housing rather than the size of holdings can be a better indicator of wealth.

[7] Diversification is also not particular to agriculture, with large entrepreneurs in north-western Tanzania adopting diversification as a strategy aimed at avoiding putting all their eggs in one basket and to maintain a constant cash flow in a risky economic environment (Trulsson 1997: ch.8). See also Seierup (1994) for diversification as an investment strategy in the ‘upper field’ of entrepreneurship among Asians as well as black Africans.

successfully it then heightens one of the most salient features of de-agrarianisation, that of the massive difference between high and low income earners.[8] The farmers and traders whose livelihoods are invested in these perishable foodstuffs markets were consulted for their views on what makes the difference, and in general the consensus was that cross-subsidisation of funds from income diversification activities can only be a profitable undertaking so long as enough capital is available to be transferred, a point Bryceson underlines as one of the prominent paradoxes of rural dwellers' income generation sources. Non-agricultural involvement, she argues, tends to be triggered in part by capital constraints in commercial agriculture, while success in non-agricultural activities is largely determined by access to capital (Bryceson 2002a: 11) and the associated ability to bear risk (Wiggins 2000: 638). Indeed, the majority of *madalali* and farmers of all sizes suggested that capital reinvested in farming and other non-agricultural sources of income largely explains the huge disparity between farmers' total incomes.

During subsequent discussions three large farmers put their success in generating more capital than other farmers down to their ability to save and reinvest money into business rather than '*squandering it on beer and women*' (Samwel Kiando, 22/03/03), as one very successful large farmer observes of some of his counterparts whenever they have money.[9] This was also picked up on by a financial adviser to a large coffee marketing trust fund who believes that there is a poor culture of savings among many farmers (of any crop, not just coffee) because not all have managed to adapt to a situation in which seasonal credit is not supplied as readily as it was under

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[8] Personal communication with Deborah Bryceson at seminar on 'Poverty Policies or Policy Poverty: Paradoxes of Economic Reform and Occupational Displacement in Sub-Saharan Africa'. 14 January 2004. Centre of African Studies, University of Edinburgh. Bryceson (2002b: 734) gives the example that higher-income earners redirect portions of their agricultural capital to more lucrative non-agricultural activities, and in (2002a: 24) also cites Jambiya's (1998) study on the Usambaras where 75% invested agricultural earnings are directed into enterprises, and 84% of agricultural capital is sourced from non-agricultural sources.

[9] It has been suggested that Tanzania's education system improve numeracy and organisational skills in order to tackle poorly managed supply of credit and poor personal budgeting skills (Wedgewood 2005). In the same style as written references, where comments made during interviews are used in the main text the name of the informant and date of the meeting is given in brackets after the comment. The location of interviews and discussions are listed in Appendix I.

pre-liberalisation marketing arrangements (Gama Jordan, 26/05/03).[10] Under the present circumstances the challenge the majority of farmers are therefore faced with is that of avoiding the ever present danger of running down one's working capital by using it for *necessary* consumption rather than business operations (Bryceson 2002a: 11). It is in these areas of southern Tanzania where exactly this dilemma of exhausted working capital accounts for the high rate of turnover of non-agricultural income generating activities (Mwamfupe 1998).

From the perspective of a small farmer, notes Edward Sanga (16/05/03), large farmers are successful in accessing capital in the form of loans or credit not only because they have collateral but also because they have access to the right people to ask – a factor that has also been observed of entrepreneurs' privileged position in obtaining credit in north-west Tanzania (Trulsson 2000: 165) and among those who get to know the 'gatekeepers of the local money reservoirs' (Seierup 1994: 18) in small towns in central and western Kenya.[11] This follows the argument (Kydd & Poulton 2000) that different players have differential access to market information through relevant networks and that, in general, better capitalised producers may well be better placed to access market information early. Whether this is the case in terms of farmers' access to credit channelled into non-agricultural activities is unknown since this fieldwork concentrated on incomes gained through perishable foodstuffs, but it is no less likely that if credit is obtained for agricultural activities it is then cross-subsidised as freely as profits are. What *is* clear, however, is that in the absence of insurance markets to protect investments in highly perishable crops grown in a risky environment open to price fluctuations and transaction failure (section 3:8), the vast majority of tomato and potato farmers covered here turn to networks where they can access informal financial systems for credit cover against subsequent fluctuations in their income streams.

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[10] This comment echoes a study by Dorward et al (1998), who show that seasonal credit provision has been undermined by the liberalisation process and, while some success has been achieved within some export cash cropping systems, private market participants in domestic food systems are apparently still struggling to develop alternative mechanisms. As mentioned in section 2:3 (footnote 25), coffee marketing was researched for a short period as a back-up case study when problems were encountered in researching the informal construction industry.

[11] For more detailed analysis of the informal credit among farming communities see Kashuliza et al (1998).

3:5. Middlemen

Perishable foodstuffs can either be sold by a farmer at a nearby market, or to one of two types of middleman: he can either sell them locally to a mobile intermediary trader (*mfanyabiashara*; pl. *wafanyabiashara*), or send them to an auctioneer (*dalali*; pl. *madalali*) in a larger city market such as the Kariakoo wholesale market within the Kariakoo market complex in Dar es Salaam. The role of the *mfanyabiashara* (e.g., Emmanuel Wilson) is usually one of travelling straight to villages to source and purchase potatoes or tomatoes that are then sold to markets throughout the country. For those farmers without somebody to sell to in Kariakoo, the *mfanyabiashara* can save the hassle of finding somebody and dealing with communications (Angelo Kilave, 07/05/03). He can even be a buyer of last resort for those farmers with an established buyer in Dar es Salaam who informs them to sell locally when the price in the city is so poor that neither of them will make a profit if they are sent to Dar es Salaam. Sometimes buying between the farmer and *mfanyabiashara* are primary and secondary stockists who store the tomatoes / potatoes for a small fee. A sub-category of this type of trader is the *kiunganishi* (e.g., Geoffrey Sanga; literally 'connector', connecting farmer and *dalali*), who differs from the *mfanyabiashara* in that he is usually a farmer himself in the area where he lives and acts as a field agent representing *one particular dalali only*. He organises the collection of crops from the same pool of local farmers every season and sends them to his *dalali*.

The *dalali* (e.g., Kamwene Sanga) is an auctioneer usually stationed at Kariakoo where he receives farmers' produce (through a *kiunganishi* if he has one) and, acting as a farmer's agent, handles and sells it on to buyers who can be owners of, or distributors to, smaller sub-markets throughout the city as well as hotels and traders delivering to Zanzibar and even the Comoros. As we discuss in section 3:8 in relation to their role as credit suppliers, the most competitive *madalali* are supplied by a large pool of farmers and have multiple selling channels that enable them to oversee the efficient receipt and sale of consignments at even the busiest times.[12] As has been noted, traders tend to farm as their secondary occupation (Bryceson 1993: 121) or

[12] Bartholomeo Sanga, for example, is a *dalali* with over 20 farmers supplying to him at one time.

own land that is farmed on their behalf, and this is their main source of finance (Thomson & Terpend 1993: 11). Some of the most successful *dalali* also gain income from *daladala* commuter buses and taxis in Dar es Salaam and guesthouses or bars in their hometown or in Dar es Salaam.[13]

3:6. The trader hierarchy: risk-taking, experience and character

While it is uncertain why some successful farmers move on to trading instead of further progressing as cultivators, we have seen from the testimony of *madalali* that the decision to enter their trade was *apparently* not financially motivated.[14] What is also clear from the biography of *madalali* such as Festo Mkilama (Figure 10) is the necessity of being an *mfanyabiashara* as an essential prerequisite to becoming a *dalali*. In doing so, those *wafanyabiashara* who have the confidence to break away from only collecting produce from their original home locality take a series of high risks, not least the uncertainty of transport arrangements in rural areas and the availability of supplies and destination markets. This requires having to cultivate good relations in multiple new locales with suppliers and other traders for the purpose of gathering market and transport information which, as Bryceson (1993: 141) notes, demands a character that is resilient and gregarious. ‘Resilient’ and ‘gregarious’ are among the most appropriate words to describe the successful traders such as Bartholomeo Sanga and Kamwene Sanga in this sample who, many other traders point out, tend also to be socially popular at the same time as being respected by fellow traders and farmers as resourceful businessmen.[15] Although referring

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[13] *Daladala* are favoured for quick returns, while guesthouses are favoured as ‘retirement businesses’ (Eliab Chijoriga, 15/04/03). Real estate is often regarded as a good hedge against inflation (Van Donge 1992b: 197).

[14] According to Bryceson (1993: 130), access to large amounts of capital is not vital either to becoming a *dalali*. This is disputed by Van Donge (1992b: 183, 198) who sees that capital requirements increase as a trader ascends in the hierarchy, and notes the trader’s option of continuing to operate in a lower stage when his capital increases can make him richer than someone else at a higher stage.

[15] Unfortunately, the *mfanyabiashara*’s peripatetic existence also demands a sociable lifestyle in order to form and renew ties with potential suppliers and sources of market and transport relations (similar to that described of the face-to-face meetings in section 3:8), which in trading towns such as Uyole (Mbeya Region) frequently involves drinking in the roadside bars frequented by long-distance lorry drivers, staying in guesthouses and the ubiquitous presence of available women in both locations. This has been shown to be a significant factor in the spread of HIV/AIDS, particularly since trading is a

specifically to *madalali*, Bryceson judges well the qualifications needed to progress in trading:

> the main prerequisite is "being known". Several traders confirmed the importance of being popular. A wholesaler has to have 'nous' (*akili*) and a reputation for having many clients, being well-liked, respected and trustworthy. An outgoing personality, shrewdness and an aura of invincibility as 'Mr Fix-it' combine to form the mystique of the successful wholesaler. (Bryceson 1993: 130)

As we shall see, the successful trader applies these traits when operating in the markets where he gains the experience, contacts and reputation that attracts to his pool new suppliers who can then learn from his trading experience and, later on in their relationship, gain access to credit. To have the chance of reaping these benefits an emerging farmer new to the market must first position himself with a *dalali* because, as one informant puts it, '*farmers fail when they are unable to penetrate the network of madalali*' (Gerald Mgaya, 21/05/03).

Harvesting and transportation from the Southern Highlands to Dar es Salaam

The decision on when to harvest takes into consideration the use to which the fruits will be put (De Lannoy 2001: 470): how long the tomato can stay on the plant before it must be picked; how long it can be stored before it must arrive at the market in order to be fresh enough to sell and when the *dalali*'s other expected consignments are due to arrive so that there is no glut / shortage. The potato farmer has more time to make this decision than the tomato farmer because when ready his crops can stay longer before harvesting and can also be stored before transportation to Dar es Salaam. Once the crops are harvested and ready to be sent to Dar es Salaam they are graded and packed into locally-made wicker baskets (Figure 9) or gunny bags. The crop is then transported to the Dar es Salaam-Zambia TANZAM highway using a variety of means from bicycle or oxen cart to Land Rover or pick-up. The size of his

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youthful passion (Bryceson 1999: 179) and it is this group who are among the population's most sexually active. On the social culture of these towns, for example, see Gysels et al (2002).

crop and his ability to hire (or have his own) transport to send to Dar es Salaam then determines whether a farmer sends his crop alone or with other farmers' crops in a larger lorry. By going to lorry parks personally or phoning lorry owners or drivers he knows the farmer then finds a lorry that will deliver to Kariakoo and either pays the driver or owner himself if he has the cash, or asks the *dalali* to pay him in advance from the money the farmer will make from the sale of his crop. Any such logistical communication between farmer and *dalali* are usually conducted now by mobile phone where previously letters would be used or the farmer would have to be present with the consignment all the time.[16]

A small sample of 11 lorry drivers at the Dar es Salaam end of the Iringa / Mbeya run revealed about half have mobile phones they use for their work, having either purchased them themselves or had them issued by the lorry owner. One large farmer (Samwel Kiando, 24/05/03) now issues all his lorry drivers with mobile phones in case of breakdown. Despite this, however, and depending on his relationship with the lorry owner, a farmer may still wish to travel with the lorry. This may simply be because he may need to go to Dar es Salaam anyway to see his *dalali* or for other business, but it may also be because the farmer is wary that the crops he depends on for his livelihood may not reach Dar es Salaam without problems. Yet while lorry drivers may increasingly be equipped with mobile phones, a driver will usually first call his boss (i.e., not the owner of the perishable foodstuffs) in the event of a breakdown, at which point both drivers and farmers report that the owner tends to care more about fixing his lorry than the state of somebody else's perishable cargo. Although a driver with close ties to a large farmer will apparently act with more urgency in sorting the problem (by calling a nearby town with spare parts if the problem can be repaired, or informing the waiting *dalali* to send new transport from Dar es Salaam if it cannot) (Lorry drivers, 14/04/03), some farmers (e.g., Angelo Kilave, 07/05/03) still prefer to be with their crops and to make decisions themselves rather than rely on others' ability to communicate with new sources of transport. Farmers without a prearranged agreement to sell to a particular *dalali* in Kariakoo

[16] This case study looks only at mobile phone coverage since no farmers covered in the sample use the internet, public access to which is only available in a few urban areas (principally the cities of Iringa and Mbeya) of the Southern Highlands.

but who would rather sell in Dar es Salaam than locally to an *mfanyabiashara* can also send to markets outside Kariakoo during times of overabundance. Lorries are now increasingly by-passing the municipal market to go straight to these markets in avoidance of a law passed to ensure that all deliveries go via Kariakoo to be registered and taxed (Nicanor Omolo, 27/08/03).[17]

3:7. Interactions within the farmer-dalali business relationship

The relationship between supplier and *dalali* is set in a risky operating environment where farmers, particularly those marketing highly perishable fast crops such as tomatoes, invest much in the face of weather and price fluctuations and considerable threat of transaction failure. We have noted that farmers who are able to bear more of these risks are those with access to capital, which can be made available either through successful income diversification (which may at some time require a creditor) or, as we also discuss, through a *dalali* who absorbs the risk of not recovering the investment should the harvest fail. In an attempt to expose what can be a farmer's financial reliance on a *dalali*, we now follow the subsequent stages of interaction that strengthen the partnership until it reaches a mature, 'permanently connected' level. With this we can then assess the effects that ICT have on the interactions of these business relationships.

3:8. Stages of relationship between farmer and *dalali*

Stage one: Recommendations within the *madalali* network

In order to get into the network a farmer seeking a *dalali* will assume the *dalali* his family normally uses and who he will probably have already had dealings with on

[17] In high season, for example, there are around two thousand baskets being delivered to Kariakoo daily, and around three thousand to smaller markets that take the rest. This is apparently also the case for potatoes and many other vegetables (Shaibu Mlilapi, 14/08/03). See Lynch (1994) on the competition between Kariakoo market and what he argues are the city's more flexible informal sector markets.

another family member's behalf. Where this is not possible he will usually ask another farmer from his village with established links to a *dalali* the name of the *dalali* who he uses. If this established farmer agrees to act as 'relationship broker' he can say to the emerging farmer that a *dalali* such as Festo, for example, is a good *dalali* to work with because he can give cash advances, and in effect recommends the emerging farmer to Festo as somebody who can supply potatoes or tomatoes as he does. By using local social networks to provide him with information with which he can then assess the risk of going into business with a stranger the emerging farmer is reducing his own transaction costs (i.e., the search, screening, negotiation, monitoring and enforcement cost of transacting activities undertaken to mitigate uncertainty and reduce the risks of transaction failure (Poole & Del Campo Gomis 1998: 201)). The *dalali* is also reducing his transaction costs when the established farmer with whom he already has a business relationship is saying to the *dalali* that his friend from the village can reliably supply crops in the same way as he does. Lacking physical assets to offer as surety, the participants in effect pledge as collateral their social connections and reputation, in much the same way as Putnam (1993: 169) describes of rotating credit associations, allowing trust to become transitive and spread. According to a Kariakoo statistician who has worked for many years with *madalali*, in these situations farmers are most partial to trusting an unknown person when introduced or recommended by somebody they know, which in Kariakoo is usually an established farmer who has been in the business long enough to have identified a *dalali* with a good reputation (Nicanor Omolo, 27/08/03). Should business then start between the emerging farmer and *dalali* it will then be recognised by both parties that the established farmer who introduced them should be regarded as a friend and somebody to continue doing business with. Should business then cease between the two new business partners, perhaps because one accuses the other of cheating him through some means, the emerging farmer is by this time more familiar with the marketing process and Kariakoo market itself and will know of other *madalali* he can approach. Alternatively, established farmers can advise emerging farmers to approach a local *kiunganishi* who, with strong links to one particular *dalali* and living locally, is willing to take on a new farmer because he can keep a close eye on his progress and make extra money from his *dalali* by helping coordinate his supply. The emerging farmer is therefore only dealing with a *dalali* by proxy and, if he fails to meet him face-to-face, is less entitled to the benefits of a more personal relationship with him, though may receive them indirectly through the *kiunganishi*. All these negotiations, because they involve actors often in the same or nearby villages, are conducted face-to-face.

Wafanyabiashara as 'phone book gatekeepers'

If an emerging farmer does not manage to get good recommendations from other more established farmers in his local social network (perhaps because others are not willing to stake their own reputations on him), he may approach an *mfanyabiashara* to put him in touch with a *dalali*. This is a lesser risk for the farmer's reputation locally and future transactions if he fails to produce the goods to the *dalali* because the more transitory existence of the *mfanyabiashara* means that the ties between them are weaker. Furthermore, if the *dalali* is urgently seeking more farmers to supply him and has asked his current suppliers (farmers or *wafanyabiashara*) if they can put in touch any other farmers they know, he may also expect less reliable suppliers because his established suppliers are not first offering their reputations but rather are being asked to produce trustworthy people at short notice. This is a demand that the *dalali* recognises will not always work. Yet where ties are weaker because interaction is not so local and where recommendation is paid for on commission, not reputation, there is more opportunity for deviance. Cases are reported, for example, of *wafanyabiashara* taking crops from farmers, promising to reimburse them when they are paid by a *dalali*, and the crops then 'going missing' with little easy recourse to justice for the farmer. *Wafanyabiashara* can also use more subtle means of taking advantage of the situation where a farmer is not in the *madalali* network and has no access to a mobile phone, as in the case of Galuce and Msemwa (26/03/03), partners in a large potato trading town who supply the selective phone numbers of *madalali* in Kariakoo, to whom the farmer will ask the market price. Through having access to the phone and knowing *madalali*, these *wafanyabiashara* are in a win-win situation since they either get commission from the *dalali* whose number they recommend or, if the *dalali*'s price does not suit the farmer, they get a profit by buying from the farmer and organising the transport themselves.[18] In the meantime the farmer not only gets a poor price because the buyers recognise him as a small-scale farmer outside the *madalali* network and desperate to sell, but by supplying to *wafanyabiashara* he lacks the benefits that come with an established business relationship with a regular *dalali*.[19] A third, less frequent way an emerging farmer can get into business with a *dalali* occurs if he goes direct to the KMC offices himself where staff will introduce him to a *dalali* (Kuboja Ng'ungu, 27/08/03).

Stage two: Building relationships based on trust through a period of repeated fair exchange of crops for cash and information about demand

Transaction risks and the (un)ethical environment of trading

Those who make it into the *madalali* network and who have access to a mobile phone find that the amount of good information that is offered depends on the farmer's relationship with the *dalali*. The opportunities for trust to be breached arise all the way through the marketing chain, with farmers frequently complaining of problems further away from the village. Farmers give examples of lorry drivers being untruthful about the quantity of the consignment that they deliver, theft in the marketplace and unscrupulous *madalali* who, in Bryceson's account of staple food markets in Dar es Salaam, operate in an unsavoury ethical environment of trade (1993: 138). These 'risks of opportunism' that a farmer takes when entering the market are often taken alongside 'coordination risks' (the risk of failure of an investment because of the absence of complementary investments by other suppliers in the chain), another common transaction risk in the absence of a functioning legal

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[18] Though at no point was it revealed that the *wafanyabiashara* and *dalali* worked in tandem by reporting an inflated price, some informants (e.g., Kamwene Sanga, 17/04/03) suspect other tribes of creating a cartel that protects the interests of members of its own. In Sebastiani-Kuoko's sample (1998: 57) middlemen were either of the same tribe or very close friends.

[19] These two men, who as farmers, *wafanyabiashara* and owners of a central *huduma ya simu* (phone kiosk) could safely be termed 'entrepreneurial farmers', estimate that in the town of 77,000 inhabitants (URT 2004a) less that one quarter of farmers have mobile phones and fewer than one quarter use *huduma ya simu* to call a *dalali* in Dar es Salaam, meaning more than three quarters of farmers use the town's 18 or so *wafanyabiashara* (Galuce & Msemwa, 26/04/03).

and judicial apparatus that regularly fails to sanction contracts.[20] To counter any attempts to meddle with his crops on their way to, or at, the market, or if he suspects any dishonesty from his *dalali*, a farmer may go to Kariakoo personally to try avoid being cheated. As emphasised in section 3:8, however, one of the main disadvantages of the farmer being in Kariakoo is that it negates one of the main benefits of the mobile phone, that of obtaining up-to-date market information without having to be present at the market. Nevertheless, the farmer will usually travel with his crops to Kariakoo at least for the first time he supplies to a new *dalali* so that he can see how the market works if he is a newcomer, and to meet his new *dalali* if it is the first time they are doing business together.

Testing reputations by fair exchange

For the farmer to obtain this up-to-date market information while away from Kariakoo he must trust his *dalali*, and the *dalali* must trust his farmer. Because of the great transaction risks of the market, however, trust it at very low levels in Tanzanian food crop trading, with one analysis of horticultural markets (Poole et al 2000) showing the high risk – a one-in-three chance – of encountering payment problems. This may explain why in the horticultural study only 14% of these farmers sold to the same traders last time as the time previously, and why nearly all farmers in this sample have had dealings with other *madalali* who they left the first because of some breach of trust.

Testing a long-distance relationship through transfer of responsibility

Once the *dalali* can prove to the farmer that he can sell his goods quickly, at a good price, and report the profit honestly and pay him promptly, and once the farmer can

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[20] Risks of opportunism are most often observed as the delivery of sub-standard goods or services whose quality cannot easily be assessed when entering a contract, and include loans default by farmers; low prices offered by traders at harvest time (when farmers are desperate for cash) or in remote areas (where farmers have no other sales outlets) and use of inaccurate / loaded weights and measures. The cumulative effects of these risks can be to discourage more advanced, innovative risk-taking associated with entrepreneurship, undermining the very processes of exchange necessary for economic growth (Kydd & Dorward 2003). For more on the frequent cases of business failure among vegetable traders, see Van Donge (1992b).

prove that he is able to regularly supply crops to the market, an agreement is usually made that the *dalali* is now responsible for future consignments as soon as they reach the market. This agreement is often made between the two face-to-face at the marketplace, but is usually unwritten (Mlyavidoga 1998: 125) and unsigned and therefore not legally binding, with the emphasis being on trust. Now the farmer need not be physically present at Kariakoo because he can use a mobile phone to communicate with his *dalali* from a distance and in his absence has to trust his *dalali* to ensure that he is not cheated through theft or swaps. The *dalali* must check to see that he receives the right amount of consignments that the farmer reported when he phoned him, and that they all have the farmer's name on the label. It is also the *dalali*'s job now to be faithful in reporting to the farmer how much he sold the different gunny bags for, and to pay the farmer his money with as little fuss as possible.

Desire to retain reputation as trustworthy

When asked how they know at this stage that they have found the right *dalali* to work with, over half of the farmers offer that they know they are with the right because they can trust him. When pressed about why this is, they say that a good *dalali* will pay them a fair price without delay, which is conduct they equate with a good character. Lyon (2000: 672) received the same response from tomato farmers and traders in Ghana. And when asked how they know that their *dalali* has a good character, the Tanzanian farmers often say that they have been friends for a long time so know their business partners' honest character from experience. Again these sentiments are similar to those identified in Ghana's Brong Ahafo Region, where Lyon reports what he terms as 'networks of working relationships' as the most common reason for trusting someone. These are based on a long-standing trusting relationship of continued interaction where each party collects information on the capability of the other to build up confidence (Lyon 2000: 671). One successful large farmer, Samwel Kiando (22/03/03), then went on to explain that from his own experience the people who succeed in tomato farming tend to be those who realise the implications of being shamed locally if exposed as untrustworthy after reneging on a deal, and he and his long-term *dalali* know this and have formed a good relationship through repeated exchange.[21] In Putnam's words, this 'tends to encourage the development of a norm of generalized reciprocity' (1993a: 172), a highly productive component of social capital that – as we shall see by stage four – serves to reconcile short-term altruism and long-term self-interest.

Stage three: An established relationship and the importance of face-to-face meetings

Yet in order for trust to develop from repeated exchange something more than market information and crops need to be traded over time. As Festo (15/04/03) in Kariakoo hints at, he first got to know two of his main suppliers when they were small farmers and were often bankrupt. Despite his difficulties the farmer would always supply whatever he could solely to his *dalali*, who recognised this loyalty and so they met up (first when he used to travel to the village, then later when the farmer could afford to come to Kariakoo) and he helped him with his problems. What is most significant about this account is that only after the farmer and *dalali* met again face-to-face did the *dalali* consider helping his struggling farmer. Such meetings usually occur in Dar es Salaam and were apparently more frequent before mobile phones emerged to facilitate the exchange of supply and demand information and when farmers therefore had more reason to visit the market. However, they appear to be too important to business for them to fade away altogether, so the meeting can be planned by the farmer about once per season to coincide with another reason to visit the city and renew other relationships in addition to that with his *dalali*. Starting at Kariakoo market around mid-morning when the early, most frantic period of trading is over they can swiftly move onto the municipal market bar, which can take many hours. Depending on time and the strength of their friendship, what could most accurately be seen as fairly casual, alcohol-fuelled business meeting can then shift on

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[21] Putnam (1993: 168) gives the example of an Ibo village in Nigeria as a small, highly personalized community where the threat of ostracism from the socio-economic system is sufficient to act as a credible sanction to the risk of default in rotating credit schemes.

to other bars or to the *dalali*'s home for a meal.[22] The gains made from the meeting suggest that it is more than a courteous get-together, for the marketplace meeting appears to be of mutual benefit to both parties and is crucial in the business relationship between farmer and *dalali* because it allows for the flow of information both ways in a manner of communication that is more fluent than a time / cost-restricted phone call.

Sources of information and information exchange

The content of the marketplace meeting is not necessarily business that cannot be conducted over the phone. Nor is the meeting a cost-saving measure to avoid paying for lengthy calls, since the cost of getting to Kariakoo and being away from the farm can be high. Rather, for the farmer a personal visit to the *dalali* seems to be a move to ensure that there are no problems with the operation and a chance to catch up on the latest trends of the market and what may improve business. As one farmer put it,

> …the information is better because it is live and I am free to ask questions when they come to mind. I don't feel under the pressure like in a phone call when I can only exchange greetings with the *dalali* and find out about market demand. When we are meeting face-to-face I have more time to find out information that the *dalali* may know about sourcing cheaper inputs that I can then arrange while in Dar es Salaam, and what varieties are in demand and about new farming methods. (Angelo Kilave, 07/05/03)

Apart from his personal experience of farming, to the farmer the *dalali*'s 'surgery' apparently outweighs other sources of information. On crop production methods, for example, nearly all farmers say that they learnt methods when they started farming and are in a better position to know what is best for the particular soils and climate of

[22] These meetings seem similar to the market meetings among Chagga women described by Pietila (2002: 203) where women traders use market as a place to mix and get information. I was invited to one of these seemingly-spontaneous meetings which occurred after an interview with a *dalali* when a visiting farmer and some other *madalali* decided to relax and chat. A few snippets of information concerning weather and demand flashed by, but it seemed my presence turned events so I was unable to get a picture beyond the setting and atmosphere. I was keen to see who would be buying the beers since it would give some indication of the power relations, but it seemed that my presence again altered the flow since I ended up paying for most of the drinks.

their area than anybody else since they usually have years of experience. The only person they will take advice from is their *dalali*, whose advice on the application of pesticides and fertilisers has been shown to have improved the quality of farmers' tomatoes in Dar es Salaam's Temeke municipality (Nicanor Omolo, 27/08/03). On price information the word of traders when used in combination with meeting neighbours and other farmers at markets have been identified elsewhere as the most significant price information sources for farmers (Muturi 2001: 27). While information on prices in rural areas can amount to gossip (Lyon 2003: 15), when local farmers and *wafanyabiashara* who have recently been to Kariakoo are also consulted it is apparently used as an attempt to triangulate sources when speaking to a *dalali* is not possible. However, a *dalali* is seen by many farmers as the most highly regarded source of demand information, and certainly more reliable than the word of others in terms of the current price at the time a farmer has to make decisions about when to harvest and where to send his crops, because it is up-to-date and first-hand. Asking others about market prices is only useful when a farmer is trying to cross-check on a *dalali*'s price that he feels the need to question.

Other than the word of a *dalali* with whom a farmer feels he is in a trusted relationship, he tends to have a good deal of faith in his own judgement. For information on agro-inputs such as manure, for example, farmers are most comfortable with relying on their own personal experience, based on tests they have conducted themselves.[23] The '*Bwana Shamba*' local, government-employed agricultural extension officer is a better respected source because he knows the specificities of the local farming environment. He is certainly more highly regarded by farmers than cultivation advice articles written for national newspapers and which they criticise as not being appropriate to their particular climate and soils. The same is said for an education section to a now defunct weekly broadcast produced by

[23] There is always the possibility that farmers are unintentionally exaggerating their own role in these tests because it is on their own land and they feel very personally involved in the analysis of their lands' response to the new method / input, while under-reporting the significance of somebody else, possibly a local agricultural extension officer, in bringing new inputs or methods to their attention in the first place.

KMC and aired on Radio Tanzania.[24] The show also broadcast information on retail and wholesale prices for those crops most in demand (Kuboja Ng'ungu, 27/08/03), but farmers criticised the figures as representing only an average price for the previous week, which is not accurate enough for farmers seeking to know present or forthcoming demand.[25] As one farmer put it, '*[t]he radio lies. The dalali can know the exact price at any time, morning and afternoon*' (Edward Sanga, 16/05/03). Similarly, a few farmers expressed that they have little confidence in the radio as a source of applicable information on credit sources, since they know that although it may be available it will be a long and difficult application process which they feel is unlikely to bear fruit.[26] Those farmers who have obtained credit have done so from local small-scale credit banks, 'personal contacts' or, in the majority of cases, from their *dalali*. The internet is a source of information most (9/14) farmers in the sample have heard of, but none know what it does or how it could help their business.

In contrast to these other sources, the information exchanged at the impromptu marketplace meetings comes from the *dalali*'s own experience as a successful farmer (often with knowledge of the farmer's specific local farming environment) and his experience as a trader. It is also gathered when speaking with many other farmer-suppliers in similar meetings in the course of the year when he uses this chance to catch up on developments in the villages, in particular the growing conditions, and to hear the farmer's version of gossip on the farming progress of other farmers who may (or should) be supplying him. So while the farmer has the opportunity to learn from his *dalali* more about methods and the market, the *dalali* slowly updates from these meetings his database of shared practical experiences that are respected by the farmer more than any of the other sources of information available to them.

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[24] '*Lijue Soko La Kariakoo*' was produced by KMC and ran from the establishment of KMC until September 2002, when it was suspended for non-payment of fees. The programme has not been aired since.

[25] A separate study mentioned (though not referenced) in Thomson and Terpend (1993: 19-20) found that grain traders expressed annoyance that consignments they had transported to the capital achieved lower prices than those broadcast on the thrice-weekly broadcasts, presumably because the opportunity for profit had been recognised by a number of traders and the resulting inflow of grain had reduced prices.

[26] This contrasts with Zambian small scale farmers and traders for whom the radio is a very efficient way of disseminating information (Porter et al 2004).

An opportunity for the farmer to ask for credit

These marketplace meetings are of equal importance to the farmer because through being present and renewing ties the farmer is reminding his *dalali* that he is a reliable supplier of the crops that make him a *dalali* and earn him a living, and for this the farmer should be rewarded since the *dalali* cannot do business without him.[27] The meeting therefore also provides the farmer with an opportunity to ask for something more from the *dalali* that will strengthen their business relationship. It is at the marketplace meeting that the farmer may mention to his *dalali* that he has financial difficulties, particularly if he has spent the last of the profits from his last crop on the transportation of his goods to the market and so may require credit for farm inputs if his new crop has not sold at a good price. The *dalali*'s attitude to such requests is explained by a large farmer who is approached in a similar way by those he does business with:

> There's a time when customers get family problems and they come to you and because you know their importance in your business it's good to start helping them. So they won't run away from you. There are many ways to care for the customers, for example, helping them with their problems as long as they will do business with you. (Kuboja Ng'ungu, 27/08/03)

Apparently the question of financial assistance is not raised by the farmer directly but through hints, to which the *dalali* – if he wishes to help – responds with questions about the farmer's needs (Nicanor Omolo, 27/08/03). This interaction reveals *madalali* not only as a source of credit for a future crop (Bryceson 1993: 34), but also emerging as providers of credit for other requirements from school fees to large sums of business capital, this extending from an expansion of income diversification and commensurate cash flow complications discussed earlier.[28] The *dalali*, as farmer

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[27] I leave the reader to judge between Van Donge's (1992b) pessimistic/realistic account of the weak bonds of solidarity successful traders feel towards others because of the high incidence of transaction failure, and the next three quotes from farmers / traders whose altruism may have been voiced for my benefit.

[28] For reasons that were not given by one authoritative Kariakoo source (Nicanor Omolo, 27/08/03), input credit is more often provided to tomato and onion farmers, and much less frequently to potato

himself and often a businessman, understands these difficulties and when in a good relationship with a farmer and doing well himself can be very reasonable about the terms of repayment. Exoni, formerly a large tomato farmer, for example, lost almost his entire fortune when a lorry full of his rice turned over and petrol contaminated the entire (uninsured) load, making it unsaleable. This occurred in 1996 and his tomato *dalali* has still not pressurised him to repay the (re)start-up capital he loaned him since he knows that the farmer will have difficulty for some time, particular since his crops have been hampered by poor rains (Exoni Manitu, 15/05/03). As we shall see in section 3:12, if the farmer wishes for this earnings to be deposited in a bank account the *dalali* can be trusted to handle this on his behalf, so the *dalali* will therefore have knowledge of at least one source of a farmer's income and will have some idea when some farmers are able to repay a loan. This repayment or balancing of the books is another function of the marketplace meeting, since the large sums that can be involved in the rough environment of Kariakoo require the farmer to be at the market to handle the cash himself if his *dalali* does not. Again though, a *dalali* will not push too hard for repayment unless he has a good reason, for fear of the farmer – who he relies as a regular supplier of quality crops – calling into question his trust and supplying another *dalali* in return for credit. So the *dalali* must show the farmer that he can trust him and that he values this, even if this means that he will share a loss. As one *dalali* put it,

> even if he [the farmer] does not come back I will still give him money again if he asks next season because he helps me if he has a good season, and then I get to drink beer. (Festo Mkilama, 15/04/03)[29]

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farmers. Sums of money owed can apparently exceed TSh1,000,000,000 (Emmanuel Wilson, 22/05/03), which was worth $97,600 on the day of the interview.

[29] In the light of some large farmers' comments that smaller farmers do not progress because they squander their money on beer (and womanising) (section 3:4), this reference to only being able to drink beer when wealthy is telling of some larger farmers attitudes towards budgeting – they only spend on luxuries when they can afford to. See Van Donge (1992b) for the common failure of business partnerships owing to one partner engaging in what is diplomatically termed *starehe* – most often drinking and women.

Stage four: Mature, ‘permanently connected’ relationship

It is such gestures that create further trust between the two and cements the relationship into something more lasting. Now that the farmer has a reasonable creditor and the *dalali* a trusted supplier, neither seems inclined to jeopardise the relationship by doing anything that the other may deem dishonest. The farmers who have reached this stage of relationship with a *dalali* are a very small minority, usually medium- or large-scale farmers who we can call ‘permanently connected’ farmers – a term used by one *dalali* who sees two types of farmers that he deals with, ‘those who just come to Kariakoo with tomatoes and those others that are permanently connected to me’. The latter are a group of five or six farmers with whom he has ‘*close communications*’, to use his phrase (Shaibu Mlilapi, 14/08/03).[30] Among the sample of farmers these ‘permanent’ relationships have on average already lasted over five years, during which time the farmer has repeatedly proved his ability to regularly supply his *dalali*, who in turn has supplied credit when it is needed and a fair price that is paid swiftly. The relationship can now be described as having progressed to a further ‘mature’ stage in which the *dalali* gradually evolves further from being the farmer’s patron to a friend. As the farmer becomes more successful the *dalali* can then even approach the farmer for help with money when he has cash flow problems himself, a reverse of the situation in the early stages of their relationship. Indeed the large farmer’s income at times of good harvest can be such that he is able to show his thanks for his *dalali*’s co-operation by giving him a cash gift, maybe because the *dalali* has learnt from chatting in Kariakoo that there is great demand for a particular crop at a market somewhere else in the country and they have both made a good earning from working together to get hold of the required crop and send it to the market. As one large farmer who makes a point of ‘tipping’ one *dalali* whose knowledge of demand has often made him a good profit explains, ‘*I can say, “Just take some of my profit because you helped me”. It keeps a good business relationship when you give as a thank-you*’ (Samwel Kiando, 24/05/03).

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[30] I use the present tense here although the *dalali*, Shaibu Mlilapi, passed away when I was in Iringa speaking with some of his suppliers. This is a great shame because Shaibu had many friends in Kariakoo. His knowledge of farmers and markets in Tanzania is also a loss to this research, and it is unfortunate that I was unable to interview him in depth before his sudden death. Geoffrey Sanga also passed away, shortly after the second period of fieldwork.

This kind of gesture, which can be up to TSh200,000 (almost $200) maybe three times a year for some large farmers (joint interview with Bartholomeo Sanga and Festo Mkilama, 17/09/03), can also extend to public holidays among the most successful farmers who have the means to tip their *dalali* in what should be regarded as a calculated strategy aimed at maintaining goodwill and trust between the two businessmen.

3:9. The adoption and appropriation of ICT in the trading of perishable foodstuffs

While these interactions are important in establishing a long-term relationship based on trust that ensures the market regularly receives perishable vegetables and both farmer and *dalali* make a regular profit from it, farmers and traders alike report that most of the communication between the two is conducted at a distance. This communication occurs at a distance because it is impractical and unnecessary for either partner to travel to communicate with the other face-to-face, and concerns supply and demand information directly related to the buying and selling of a farmer's crops. As we shall discuss in section 3:11, however, before the introduction of more efficient communication technologies this information on supply and demand would often be exchanged through intermediaries and was often too late to be effective. It is here in exchanges of supply and demand information – the most frequent communication between the rural farmer and town-based *dalali* – that ICT hold the most benefit for both of them because they allow for the first-hand exchange of such information while it is still up-to-date and can be acted on. Despite the opportunities ICT offer, however, distance and the marginality of many farmers still makes it difficult for traders to do business with those residing in rural areas. In terms of the road infrastructure, other than the well-maintained TANZAM highway the remaining roads in the Southern Highlands are still in very poor shape. Those farmers far from the main road are not only marginalised because they have difficulty in reaching the market, but they become even more marginalised because private traders avoid those farmers in areas off the main road where transport costs are too high in favour of areas with a good transport infrastructure (Bryceson 2002b:

728) and shun those locations where information is more uncertain (Thomson & Terpend 1993: 8).[31] With an ageing and limited fixed line infrastructure and despite recent efforts by mobile phone operators to spread their networks, the problem of marginality that comes with distance from the main road largely transfers to the availability of telecommunications. Faced with the difficulty of even contacting traders in local towns, however, farmers and others have started to apply a series of innovative methods to take maximum advantage of what coverage is on offer and ways of paying for it when they cannot afford to purchase the equipment themselves.

3:10. Reactions to infrastructural marginality and market access constraints

Local network coverage and 'network reception spots'

When network coverage does not immediately serve a location where a farmer requires reception, farmers and others needing to contact towns and cities have managed to locate the nearest point of reception emitted from transmission towers ('base stations') adjacent to, and designed to serve, the Dar es Salaam-Zambia TANZAM highway.[32] This practice was witnessed in every settlement visited where potatoes and tomatoes are grown and which is within range of the signal given by the roadside base stations (about 30 kilometres diameter from the station) and where no natural features disturb the straight line of transmission. These we shall call 'network reception spots' (hereafter, 'NRS'), a term which suitably emphasises that it is a location where mobile phone reception can be obtained *only in certain areas* as a consequence of more blanket coverage intended primarily to serve other areas (in this case, the main road).

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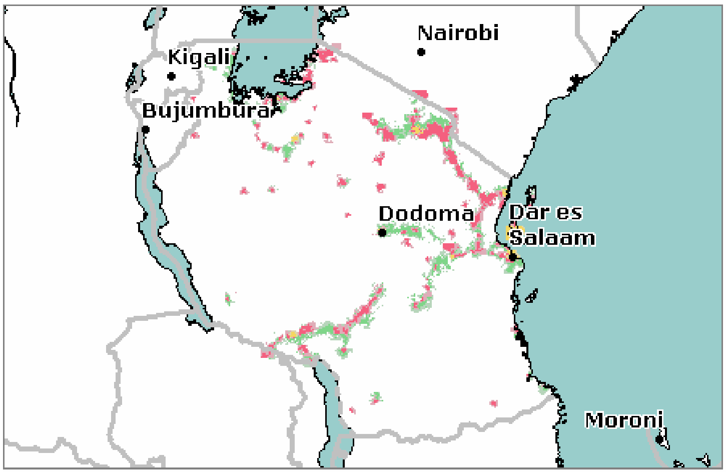
[31] A recent study of roads in the same area by Daemen (2002) reveals producer prices and sales production to be significantly higher on maintained roads, of which there are few in both Iringa and Mbeya. A strong relationship was revealed between producer prices and distance to trunk road, and producer prices were found to decline 50% faster on unmaintained roads than on maintained roads.

[32] The highway is marked in grey in the map of Tanzania on page xv.

Figure 1: Celtel, Mobitel and Vodacom merged coverage map, May 2005[33]



The location of the spots were first identified by villagers and *wafanyabiashara* who were travelling with mobile phones from the country's main towns (where coverage was first made available by mobile phone operators) and trying out reception areas by roaming around the countryside, starting with the areas nearest to their settlements and then branching out to areas of higher altitude and those locations with greater obvious chance of a clean line of transmission. Ntokela (Rungwe district) at an elevation of around 8,500 feet and five kilometres from the main road to Malawi is an example of an area where potato farmers have found a location on a rise on a track where both Vodacom and Celtel can be picked up near to their *shamba*s. Ukumbi (Kilolo district, Iringa Region) is another area where reception is intermittently picked up through what we could term an 'opportunistic physical NRS' at around 6,000 feet above sea level in a few square metres of a maize *shamba* (there is a clear path among the crops leading to the best area) and also where more reliable coverage is received on parts of a bare hill some half an hour away by foot (Figure 5).

A second type of NRS can been found in areas where there is no obvious line of transmission but where this time human (as opposed to natural) physical objects are exploited to receive reception. One of these 'opportunistic human NRS' was found in Mtitu (also Kilolo district, Iringa Region) 30 kilometres from the nearest known base

[33] Adapted merged version of GSM coverage maps, starting on page 276.

station at Ihemi on the TANZAM highway, where Angelo Kilave led the author to a swamp in a valley with no obvious line of transmission. Here he uses a line of electricity cables two kilometres from his house to serve as a spot from where he can contact his *dalali* in Kariakoo (Figure 6). Using a similar principle, farmers in Kidamali (Iringa district) have now taken the further step of creating what we can term 'manufactured human NRS', phone kiosks (*huduma ya simu*) set on stilts to obtain reception (Figure 7).

Oftentimes for especially marginal farmers in Iringa and Mbeya the NRS is anything up to two hours away by foot, so it is not unknown for a busy farmer wishing to contact Dar es Salaam to send others (usually a male youth, though sometimes women) with a mobile phone to the nearest *known* NRS so that a message he has written is sent. This method can only be used when sending information that does not require an immediate response, since even if a phone call were received in reply straightaway the youth would not be able to make decisions on the spot himself without the farmer who sent him. To deal with this problem a few farmers have arranged for their *dalali* or a relation to call them at a certain time on the same day(s) every week, making sure that they are at the NRS when the call is due. Yet if the NRS is far away a farmer risks wasting his time since he has to rely on his city contact remembering to call, and whether the contact does or not he still has to walk or cycle a long distance to do this and will therefore be away from the *shamba* for most of the day. Francis Mbegalo, one of the tomato farmers who has such an arrangement with his *dalali* says that he can lose a little of the advantage of having up-to-date knowledge of market demand through the phone call because of the times of day that he and his *dalali* can make this call. Francis is reluctant to be away from his *shamba* in the early morning when he does most of his farming, but the *dalali* and the market is most active at this time, meaning that when they speak in the afternoon – the only time the farmer can get away from the *shamba* to travel to the NRS – he loses a day's preparation time if he is to send tomatoes straightaway (Francis Mbegalo, 06/05/03).

Friends taking messages

Rather than spending time away from the *shamba*, farmers often find that it is cheaper to wait for a *dalali*'s communication via the mobile phone without arranging a set time. Obviously the farmer cannot wait at an NRS indefinitely and children/youths again cannot correspond effectively with a *dalali* over information that may require intimate knowledge of farming and marketing. The farmer's solution when he cannot be at the NRS is to leave his phone with – or use the phone of – a trusted friend who he can rely on to take calls from a *dalali*. This must be a friend based in an area where reception is fairly constant and, if the friend is to be responsive, he must also ideally be a farmer who will have experience of dealing with *madalali* and all the intricacies of the whole perishable food marketing chain. When a call or text is received by the friend on his mobile phone he will write it down and then either wait for the farmer to come by or, if they have a particularly close relationship, the receiver will send a 'runner' to deliver the note with details of the message from the *dalali*. Once more, the potential disadvantage of this method is that it relies on the goodwill and punctuality of others. As one farmer points out, however, these calls often take place just before harvest time when his money reserves are usually at their lowest and food stores depleted, so this method of having the *dalali* call him has the advantage that the urban-based *dalali* pays for the cost of the call or text, not the cash-strapped small farmer (Francis Mbegalo, 06/05/03).

Costs and attitudes: owners, non-owning users and non-users

The amount of cash a farmer has available to pay for the communication by mobile phone is a significant factor in a farmer's decision whether to call or SMS, but this also influenced by the purpose of the call, whether he knows how to send / receive (and read) an SMS, and whether he is in range to make a call, or if not write to an SMS that will be sent when the mobile phone reaches a point of reception. This last point is a significant advantage of the mobile phone's text function to farmers who are frequently out of range since, so long as the pending period does not expire, an SMS message can reach its intended recipient once he is back within range, up to five days later depending on the mobile phone operator. It also saves the cost of

speaking to somebody else who may answer the phone should the intended recipient not be there. Crucially, and this is perhaps the most attractive aspect of the mobile phone over the fixed line to the poor, a text message – that can be written in Swahili – is far cheaper than even the cost of a one minute phone call. It is for this reason that, for farmers and *madalali* alike, SMSs are more popular than calls.
As might be expected, larger farmers send and receive more texts (and calls) than smaller farmers, and very big farmers will tend to call when busy to save time spent writing out and reading texts. Among those who use their mobile phones less frequently, texting tends to be used when farmers and *madalali* are only going to make a small profit, for example when sending orders. Conversely, it is also the case that where a larger profit is likely to be made a farmer or *dalali* will make a call. One large farmer (Berod Mhanga, 04/09/03), for example, who sends to Mombassa and Nairobi in addition to Dar es Salaam, makes 15 calls per day and receives 20, whereas a medium farmer (Dominicus, 06/09/03) receives around 10 calls per day in the busy season. An *mfanyabiashara* (Emmanuel Wilson, 22/05/03) calls 8 to 10 times and receives twice as many calls, while a smaller farmer tends to only call once a week or less and, depending on their arrangements when out of network range, may only receive a call once every few weeks. The logical conclusion to be drawn from this evidence is that larger farmers have more contacts and more income to spend on mobile phone credit.

It is more often the smaller farmer who will use a friend's mobile phone to call a *dalali*, for which most farmers will pay their friend for the privilege. The *huduma ya simu*, where it is available, is the alternative means of gaining access but, because it is still not widespread in the most rural areas (because reception is not uniformly available), those entrepreneurs who offer the service do so at a rate far higher than the more competitive urban market. Businessmen in rural areas – who here are often successful farmers – are quickly seeing the potential profits arising from these services and, as we have seen of the 'manufactured human NRS' *huduma ya simu* of Kidamali, are going to innovative lengths to make the most of the opportunities open to them.

In general, those farmers who own mobile phones are large and medium farmers or, as one KMC source put it, '*the educated: businessmen and emerging businessmen, not mere peasants. The peasant-businessman uses them*' (Nicanor Omolo, 27/08/03). These members of a minority of farmers who, in addition to being able to afford the cost of a mobile phone and credit, may also be linked to the national grid or in rural areas own a generator with which to charge their handset.[34] When asked what influenced them towards buying a mobile phone most farmers replied that they saw the popularity of mobile phones when in Dar es Salaam and thought they would help business. This idea seems to have spread rapidly, probably because others have seen the advantages the first mobile phone-owning farmers gained, and now the majority of farmers are using some sort of access to mobile phones. In rural areas the popularity of the mobile phone is a more recent phenomenon, spreading roughly with available coverage, with most present owners now having obtained their handsets and SIM cards from 2003, as opposed to 2001-2002 in Dar es Salaam. In Kidamali village, for example, over the space of two months in mid-2003 four farmers purchased mobile phones, bringing the total number of tomato farmers owning mobile phones in the settlement to six (Exoni Manitu, 06/09/03).

For some small farmers with meagre incomes the financial cost of mobile phone access, let alone purchase, is so prohibitive that any type of regular use is simply not feasible. This can be because there is no (known) NRS and the nearest point of access is a *huduma ya simu* in a nearby town where the costs of travel and being away from the farm are usually deemed such that the journey is not worth the small profit that could be made. Usually in tandem with this reason, though not exclusively, a couple of farmers (Petro Lyelu, 06/09/03 and Lukelo Mahenge, 20/03/03) and one *dalali* (Kamwene Sanga, 17/04/03) have said that they do not use a telephone *per se* (i.e., they did not expressly state 'mobile phone') because they do not see its advantages:

[34] In 1988 only 2% of houses in Iringa Region had electricity (URT 1997a: 84-85). Samuel et al (2005: 48) reveal a positive correlation between mobile phone ownership and access to electricity.

> People talk much about the telephone these days, but personally I don't see how it can help me.[35] It is expensive to be told to bring my few tomatoes to Dar es Salaam for very little profit. I don't need to be told by somebody in the city that I am making little money here farming tomatoes. (Lukelo Mahenge, 20/03/03)

At a later interview the farmer went on to explain that by this last comment he meant that while he can be told to bring his small crop to Kariakoo the *madalali* there are 'greedy' and know the small farmers will make little profit from it.[36]

Huduma ya simu operators as information intermediaries

Many *huduma ya simu* customers in significant potato and tomato trading areas such as Uyole and Kidamali are using the service to contact *madalali* in Dar es Salaam (Arafa Ismaeli, 08/09/03; Shem, 06/09/03; Swiga Wilson, 08/09/03). In Kidamali, for example, the average tomato farmer without his own mobile phone or access through a friend will use *huduma ya simu* four times a day during harvest times, spending something in the region of TSh2,600-3,200 at the fair rate of TSh400 (40 cents) per minute (Shem, 06/09/03).[37] Farmers call their *dalali* to ask demand and price information, and also to inform him how many loads to expect and, when they have arrived, how well they are selling.

In the same way that a farmer cannot afford to be away from his farm plot to be waiting indefinitely at an NRS to receive a call, it is also not practical for him to wait

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[35] That he says 'these days' could infer the mobile phone, which in its relative novelty in rural areas is a hotter topic of conversation than the fixed line, irrespective of its availability. Where the respondent refers specifically to the fixed line telephone this is made distinct in the text, otherwise telephone / phone refers to the mobile phone.

[36] One reading of this comment could be that by speaking directly to a Dar es Salaam-based *dalali* – who, we must not forget, is usually a successful farmer from the same area – this particular farmer is reminded of his inability to make the profits he once enjoyed. For reasons unknown to the author though clearly significant to his demoted position now as a small farmer, he no longer has cordial relations with an established Kariakoo *dalali* who, as we discussed in section 3:8, can offer a financially supportive role to the struggling farmer.

[37] The cost seems to be at the discretion of the owner, who charged TSh400 per minute to customers when the author was present and told me this was his usual rate. There was no price list on display, but a farmer living nearby claims to be charged TSh500 per minute when also calling Dar es Salaam. On average he uses three '$5' Celtel cards a day, which he purchases for TSh5,000 in the local town (Exoni Manitu, 19/03/03)). TSh5,000 was worth almost $5 on the day of the interview).

for calls when he is not expecting them at the *huduma ya simu* he uses. It is then common for a farmer to give to his *dalali* the number of a *huduma ya simu* he frequently uses and to not be around when calls come in. In this event the *huduma ya simu* operator (often a women in larger settlements) may either ask the *dalali* to call back shortly if she thinks the farmer is within reach or, more likely, take a message and give it to the farmer when he comes by. She is not paid by farmers for receiving the calls, neither for asking around if farmers are nearby, nor for taking messages, but it is part of her job description since it maintains customer loyalty to her boss' business, with farmers going back to the same *huduma ya simu* that deals with their messages. Although the operators will never make decisions on a farmer's behalf, in some busy attended call *huduma ya simu* centres (Figure 8) in areas of high vegetable trading such as Uyole in Mbeya district where many farmers frequently use the same *huduma ya simu* the operators get to know the farmer's individual trading operations well and have experience in what details farmers need to know from *madalali*. A favoured customer can even get the written messages sent to him personally by somebody a *huduma ya simu* operator can trust to deliver it.

3:11. The effects of mobile phone access on agricultural trading

Better knowledge of demand and improved coordination of supply

12 of the 14 farmers expressed that the main benefit of the mobile phone for them is that it allows quick access to know the market demand and price, which allows the farmer to calculate more accurately when and how much to harvest and, in the case of large farmers away from their land, contact their workers to tell them to act on this information. Previously, when fixed line communication was difficult because it was unreliable, expensive and far from the village, a farmer either had to rely on the word of others (for example, asking a friend going to Dar es Salaam to say that his tomatoes are nearly ready and then having to wait for somebody to return with a reply), or he had to rely on letters. The reach of the postal service was (and still is) poor in rural areas, with postal boxes in local towns being the nearest a letter can be delivered without private assistance. Instead those wishing to deliver written correspondence still rely either on friends travelling to town, local bus companies or

the driver of the lorry in which the farmer's goods were being delivered.[38] The problem with this method is that letters are stolen, or the driver can sell a farmer's crops to another *dalali* and say that the person he was supposed to deliver the letter to was not there and then say that he sold them for a lower price because it was all he could get them for. It is partly because of these risks of opportunism, believes one prominent *dalali*, that these days about 75% of Iringa tomato farmers use some form of access to mobile phones and have completely stopped using written correspondence (Bartholomeo Sanga, 16/04/03).

While it used to be true that knowing the short-term demand in Dar es Salaam was immaterial for highly perishable crops such as tomatoes (Ponte 2002: 114), nowadays with better access to demand information from a *dalali* in Dar es Salaam farmers do not send their produce to the market blindly but can know instead to sell their produce to any *mfanyabiashara* or divert to Dabaga (where older tomatoes can be sent to be processed into other tomato-based products) for minimum profit more locally instead of maximum loss in Dar es Salaam (Nicanor Omolo, 27/08/03). Here the information available through the mobile phone offers an alternative for the farmer. Equally, if for some reason a glut occurs because of over-supply while their crops are on their way to Dar es Salaam farmers can also know to contact the driver of the lorry to get him to divert to one of the city's smaller wholesale markets. In much the same way, with a mobile phone a *dalali* can also better coordinate his supply to ensure it is steady and, if they phone him with enough notice of the status of their crops, simultaneously maintain good relations with his farmers by telling some, for example, that if they are able to wait two days (or, for potatoes, to store them) he will favour their consignments when they arrive over those of other farmers. When making these decisions with a cellular phone the *dalali* is now able to be reached more easily for meetings if they are required and at the same time to be mobile, allowing him to spend more time on other aspects of his business rather than be restricted to the environs of his (highly unreliable and often disconnected) fixed

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[38] Local bus companies are increasingly charging for this service where previously letters would be delivered out of good will. This has long been a paid-for service offered by the bus companies operating between larger towns, cities and internationally and, though expensive for the largest companies such as Scandinavia Express, are consistently reliable.

line.[39] In the same way the technology is potentially liberating for women intermediaries who tend to opt for the lower-risk intermediary trading over itinerant roles. These women are severely hampered by lack of transport and market information regarding town prices and demand (Bryceson 1993: 129) and because of their traditional familial obligations often restrict them to their villages, but the introduction of mobile phones may improve their position by allowing them access to price and demand information from those areas they are restricted to.

Better able to keep track of consignments

Both farmer and *dalali* are now able to keep a much better track of consignments when in transit and to know when exactly to expect arrivals, and to make decisions over what the driver should do with the perishable produce in the event of an accident or breakdown on Tanzania's dangerous roads.[40] This flexibility that the mobile phone offers should not be underplayed when a farmer's livelihood is at risk. Similarly, the lorry owner can also keep in touch with his driver if there are problems or to direct him where to pick up a return load if he makes a new deal. When the lorry has arrived in Dar es Salaam and the goods are in the hands of the *dalali* the farmer can more easily check if his goods have been swapped for better ones. Taking all these advantages as a whole, the ability to know that his supply is more likely to safely arrive intact and unharmed lead one *dalali* to remark that he now has better peace of mind over whether he will be able to feed his family the next day (Bartholomeo Sanga, 11/01/03). The same can surely be said of farmers too, knowing that their crops have a much better chance nowadays of reaching the place of maximum demand.

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[39] Each *dalali* has access to his own office space in which there used to be a TTCL fixed line which farmers could (theoretically) reach him through, but the market was disconnected because of unpaid bills (Festo Mkilama, 15/04/03). The telephone access may have been supplied to shareholders by the trading companies which Van Donge (1992b: 199) reports were emerging in the early 1990s. For the mobile phone operators the pay-as-you-go facility greatly improves the efficiency of revenue collecting and cancels any opportunity for customers to avoid payment of bills.

[40] Carrier (forthcoming 2005) observes how mobile phones are now being used in the trading of the highly perishable *miraa* stimulant throughout Kenya and the world. The substance begins to lose its stimulating qualities within about 24 hours, and the recent extension of the mobile phone network to the Nyambene Hills district where it is grown means that messages can be relayed far more easily back along the network to brokers acting on a trader's behalf.

Less time and money spent on travel

The other main benefit to the farmer beyond the money that can be saved ensuring his crops go to the right place is the money recouped in communication costs. While the cost of making a call is still high in Tanzania, even these costs are far lower than having no reliable access and having to travel personally to Dar es Salaam, or the risk of sending somebody else to make decisions that could just as easily be done in the village. The same holds true for *wafanyabiashara*, who previously took the risk of having to rely on uncertain transport arrangements in rural areas and of not knowing the availability of supplies and destination markets. This has been shown to be particularly costly where, in the absence of telephones, traders have to travel personally to obtain this information (Fafchamps & Gabre-Madhin 2001). On top of the transport costs are the higher costs of accommodation and food in the city, which of course increase if the farmer has to stay longer because he has difficulty in finding his *dalali*. As one farmer put it:

> Before the [mobile] telephone somebody accompanying their crops to Dar es Salaam would spend much money on travel and three day's costs for a guest house and food, which would add up to a lot. Now the costs are much lower because you can just make a phone call. (Exoni Manitu, 15/05/03)

With the expansion of cellular coverage to rural areas it means that money is also saved by not having to travel to a *huduma ya simu* fixed line to make calls, freeing up – in the same way as the *dalali* – more time for the farmer to concentrate on other business, especially farming.

3:12. Beyond the exchange of supply and demand information: the decline of the mobile phone in communication between trusted partners

Despite the crucial role mobile phones play in improving the exchange of supply and demand information between farmer and *dalali*, however, their use in all other aspects of the business relationship are limited, eventually reaching a point where they are almost redundant: During stage one where the farmer seeks a *dalali* to supply to, he relies on local social networks of other farmers in his nearby villages to recommend traders with a good reputation. Having decided on a suitable *dalali* – who he may or may not have had telephone contact with – the farmer then usually travels to meet the *dalali* personally and then starts to send all his crops to that individual, with any telephone contact again being in the exchange of supply and demand information.

If the farmer wishes to continue supplying the same *dalali* it is around this time (during stage two) that he may again then visit him personally in Kariakoo to sort out any teething problems that may have arisen and for the two to decide if they wish to carry on doing business together. After a period of months (perhaps a season) of repeated exchange at a distance with the farmer in the village and *dalali* in Kariakoo communicating supply and demand information by mobile phone, the farmer again visits his *dalali* at the marketplace to renew ties and exchange information about methods and the market. The flow of information seems to be mostly from *dalali* to farmer, although the *dalali* also learns about progress of other farmers in the surrounding villages and on growing conditions that help him predict further supply from the area. Both seem most comfortable with this 'question and answer session' being at a face-to-face level and indicate that the information could not so easily be exchanged so freely over the telephone.

By this time (stage three) the exchange of goods has usually been smooth for some period and the relationship between the two more established, allowing the farmer to approach his *dalali* for financial assistance. Again (and certainly for the first time the question is raised), the farmer is most comfortable with discussing credit personally with his *dalali*, not over the telephone. Indeed, the round-about, almost indirect way that he may ask the *dalali* for financial assistance would not be so easy if the two were not alone together, speaking face-to-face. So here the mobile phone seems most useful in getting hold of the farmer for the marketplace meeting, and for little else.

If the relationship then develops into the mature, 'permanently connected' relationship. At this stage (stage four) the mobile phone plays a still more minor role as the farmer trusts his *dalali* to sell at the best price with barely any communication, and to handle many of the farmer's finances in the city, depositing money into his bank account if he has one (or one belonging to a trusted friend) and paying remittances to relatives or others with whom the farmer is doing business. As some informants remarked, the *dalali* is caring for the farmer to the extent that it appears that he is a relation (Kuboja Ng'ungu, 27/08/03; Bartholomeo Sanga & Festo Mkilama, 17/09/03), so much so that one *kiunganishi* said the *dalali* he connects his farmers to is '*like a father in Kariakoo*' for them (Geoffrey Sanga, 23/05/03). By this period neither have much reason to communicate frequently with the other unless perhaps they wish to exchange information about demand in another market for another crop that could bring them a good profit, or if for some reason they wish to meet face-to-face.

This all relies on trust, but there is nothing conclusive from this case study (nor a recent study by Goodman, 2005: 64) to suggest that the mobile phone itself can actually facilitate the trust relationship between any type of farmer (small, medium or large) and his *dalali*. Although it does seem that those farmers with a closer bond of trust are less likely to be cheated by a *dalali* telling them lower prices, the reality is that the mobile phone cannot alter the trust and the *dalali* can still lie. We have discussed non-ICT methods of cross-checking prices, but where ICT is available it is surely better for farmers to have an independent source on the true value of his crops. IICD has a project which supplies market prices to cotton farmers in Tanzania (IICD 2002), but like so many donor projects this runs the risk of being unsustainable when funding dries up. A better alternative may be to learn from the current success of a project with investment from the private sector. One such example is the Manobi private telecommunications company's joint-venture with French and local entrepreneurs in Senegal, which uses Wireless Application Protocol (WAP) and short messaging service (SMS) technology via mobile phones to provide fishermen with up-to-date access to market prices for their perishable products (InfoDev 2003). This was inspired by the success of Manobi's similar scheme for Senegalese fruit and vegetable farmers, who at 29 cents a minute use WAP-enabled mobile phones to obtain prices that are updated in real time via a central processing and transmitting database by data collectors at various markets. Manobi and a similar service operated by the Kenya Agricultural Commodity Exchange (KACE) provide transparency of prices inside the market that their Tanzanian counterparts lack, but prompts the issue of what happens to relations with *madalali* – the crucial creditors for many farmers – if the farmers decide to supply to different buyers every time they send their produce to market.[41] The solution for farmers here may be to use more formalised banking, which in Tanzania is now slowly beginning to provide credit to small-scale customers (Andrew 2004). Alternatively, there is a market opportunity for mobile phone operators to target *madalali* – who generally have a much better record of getting credit to the rural poor than formal credit systems in low-income countries (Lyon 2000: 678) – as the pioneers of mobile banking services such as MTN Banking (Harrisson 2005).

Personal relationships and success without a mobile phone

That the mobile phone in this case study appears to have only one significant benefit in the trading of perishable foodstuffs – that of facilitating the flow of supply and demand information – raises a final question, whether it is still possible to operate successfully *without* a mobile phone? For the farmer, the answer is probably 'yes' so long as he is prepared to accompany his crops to Dar es Salaam and travel around the city finding better prices if the price offered to him in Kariakoo is not good, and this costs him time and money that could be saved using *huduma ya simu* to contact the market beforehand. For a *dalali* it would be more difficult, but one *dalali* does manage to do so successfully, if at times precariously, in seemingly frantic trading he conducts in Kariakoo *and the countryside*. Kamwene Sanga, a prominent and very popular Kariakoo-based *dalali*, is notorious for his refusal to use a mobile phone and mocked by his fellow *madalali* as a peasant ('*mshamba*') for it, explains his reasons for his personal rejection of the telephone in terms of how information he offers over

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[41] See http://www.kacekenya.com/marketinfo/sms.asp on KACE's SMS market information service, '*SMS Sokoni*'.

the telephone can spread so much that it becomes counterproductive to all and reduces prices:

> I don't trust the telephone; it always lies.[42] I can tell a farmer to bring potatoes because the price is high, but then when the potatoes are delivered to me he [the farmer] complains that the price has dropped. I receive calls at my office but I never call the farmers back… .They ask if they should pack, but when I answer and say 'Yes, send me potatoes', then many of farmers send me them, which lowers the price and the farmers then complain to me. (Kamwene Sanga, 17/04/03)[43]

In contrast to farmers who during the early stages of a relationship will use the mobile phone to coordinate supply, this *dalali* chooses not to use a telephone and – through a combination of having many contacts to sell to in Dar es Salaam, and disappointing some farmers when he cannot sell their potatoes for a good price – he still manages to deal with whatever is sent to him in Kariakoo and to sell it quickly. Ordinarily this would make a *dalali* unpopular among those who send to him and do not get their crops sold for a fair price, but something about this particularly charismatic *dalali* enables him to get away with it and still receive a steady stream of potatoes. This, Kamwene hints at, lies in his genial relationship with suppliers and buyers and in being selective about who one tells, if anyone at all, about the need for crops in Dar es Salaam, where the demand is.[44] Though farmers will share, when asked, information about market prices, farmers will not advertise that they are

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[42] Again, as with the farmer above this *dalali* makes no distinction between fixed-line and mobile phone. Unlike many *madalali* who tend to use mobile phones exclusively, this *dalali* uses only a fixed line located in his Kariakoo office and which he employs a secretary to answer. Distrust of advanced technology is apparent in West Africa, too, where at recent conference mobile telephony in Ghana Professor Kwesi Yankah made the observation that in his country the mobile phone is called *ahoma trofo*, 'the line that tells lies' (Doris Yaa Aggrey, DataBank. 2005. 'A Financial Analyst's View of the TAP – GREAT Mobile Telephony Workshop'. Digital Divide Network discussion group, http://mailman.edc.org/pipermail/digitaldivide/2005-June/002802.html, 29 June 2005).

[43] As footnote 25, these comments are similar to those reported in Thomson and Terpend (1993: 19-20) of grain traders who have expressed annoyance that grain which they had transported to the capital achieved lower prices than those stated on thrice-weekly radio broadcasts, presumably because, for the same reasons as here, the opportunity for profit had been recognised by a number of traders and the resulting inflow of grain had reduced prices.

[44] Such a high degree of confidentiality over market demand has been found among potato traders in the Northern Highlands of Tanzania who, functioning horizontally, work very closely with one another to maintain market domination (Sebastiani-Kuoko 1998: 57).

sending their crops when there is demand (Edward Sanga, 16/05/03). While it is a futile task to try to hide that they are preparing their crops because doing so often involves the help of many others and is highly visible, when demand information is first received is when it is most attractive to other farmers, and this is when some farmers say they are most selective about who they inform. As expected, those farmers who say they are selective about the demand information they offer to others will tend to choose to inform *only those individuals who they have a close relationship with*, which seems to partly explain the success of the above *dalali* who uses the telephone much less than others. While he is teased for shunning the telephone, Kamwene (the same *dalali* who is referred to above as being 'like a father' to his farmers) has personal relationships with many of the farmers in his home area who, along with fellow *madalali* in Kariakoo, widely respect him for his extra efforts to work at these relationships at a personal level. In a departure from Chijoriga's (1992) observation that *madalali* 'are stationed at the Kariakoo wholesale market and are only involved in receiving farmers who bring their produce to the market' (Chijoriga 1992: 7) and will only travel when supplies are low, Kamwene takes the time to visit his farmers in the farming areas even when he has no shortage of supply. The author travelled with the *dalali* to the *shamba* and at all times he seemed popular and showed little signs of arrogance that can so often distinguish a successful businessman and lead to resentment, with Kamwene taking the time to drink the local *komoni* [45] with the farmers who supply him and in doing so re-new ties in the way many other *madalali* will only do in Dar es Salaam when a farmer comes to them. Glaeser et al (2002) sees these as social skills – among them a long list of contacts, charisma and popularity – that fit an individualistic definition of social capital. By drinking with them and discussing farming, trading and anything else the farmers wish to talk about, he applying his social skills to meetings with farmers that are little different to those in the marketplace, but on their home turf. That the big man who they supply potatoes to comes to meet and drink with them was not lost on the farmers, whose appreciation was expressed by one small farmer of a (rather drunk) group who had congregated around him:

[45] A local bamboo-based homebrew. It is sometimes shunned as a poor-man's drink by wealthy urbanites who favour mass-produced, bottled alternatives.

> Kamwene comes to the *shamba* because he is a good *dalali* and he likes to drink *komoni* with us. Other *madalali* come to farmers when they want something, like a politician when it is time to vote. Kamwene comes many times and stays with us for a long time. (Geoffrey Sanga, 23/05/03)[46]

Once again these empirical findings from Tanzania have a close parallel to those that have influenced the conceptual literature on trust, and in particular the work of Lyon, who regards what he terms 'customer friendship' as a one of the key mechanisms of trust in the relationship between farmers and traders. Here the division between social and economic activities is unclear, with farmers and traders visiting their customers when passing, and gift-giving and reciprocity (both on village visits or where the farmer visits the customer) serving different purposes for the different actors at different times. According to Lyon's analysis of such a relationship, customer friendship can be seen to be economically functionist and is based on the same information and sanctions as working relationships (section 3:8), but also draw on shared concepts of morality and altruism based on culturally specific norms (Lyon 2000: 672).

The meetings also serve the purpose of facilitating his coordination which, by refusing to use a telephone, he cannot do easily otherwise. At times during the drinking in one very small hamlet Kamwene discussed with different farmers or groups of farmers when he wanted them to send their crops to him in Kariakoo, in negotiations that closely resembled those only a visiting *mfanyabiashara* would normally conduct but that, according to him, were not being conducted because he had supply problems. Rather, it would seem that by visiting the farmers as a *dalali* Kamwene is able to adopt the 'outwardly-directed social lifestyle' of the *wafanyabiashara* (Bryceson 1993: 141), a role he is comfortable with and that got

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[46] Kamwene Sanga will still entertain farmers when they come to him in Kariakoo. He is not difficult to coax into 'business drinking' as he once referred to my interviewing at nine o'clock, by which time he was drunk. Curiously, despite this lifestyle he is notorious for having managed to have sustained a high life while having not succumbed to *starehe* to the extent that it impinges upon his success as a *dalali*. As mentioned earlier, however, the great risk of *starehe* these days is not only dependency on alcohol but also greater exposure to HIV/AIDS.

him known throughout Kariakoo and among many farmers in his area. So while not having a mobile phone may make his job hectic and he loses some friends along the way when he is unable to sell farmer's consignments to his many contacts in Dar es Salaam, it also manages to get him known locally and, crucially, recommended to emerging farmers (who may also have attended or heard of his meeting-cum-drinking sessions in their local area). All farmers in the area he is from send to him (through his *kiunganishi*), which ensures Kamwene a constant supply of potatoes with which to supply the smaller markets of Dar es Salaam and further afield, and to make a good profit in the process.

The point most worth emphasising from this *dalali*'s ability to operate without a telephone and still have a steady supply of crops from the rural areas and buyers throughout Dar es Salaam and further afield is that he has managed to build relationships with farmers and buyers so that they only consider supplying to and buying from him, not because they know of no alternative buyer or seller but because he takes the time to do business with them face-to-face, even when farmers are unable to come to him to do so. One large tomato farmer explains that, irrespective of the location, physically meeting people is still important:

> For us Africans often an explanation over the phone is not enough even when you've greeted one another. When you see each other again you start afresh, greeting each other again. Likewise in business even if you've talked on the phone a businessman feels like he's not satisfied so he likes to meet face-to-face so you talk and this satisfies him. That's a way to build faith in business. You know nowadays there's so much competition in this business, so we get customers through information. It's imperative to see each other. (Berod Mhanga, 04/09/03)

The evidence of this case study on perishable foodstuffs trading supports Trulsson who notes that the telephone may be considered relatively unimportant because personal relationships are formed from meetings conducted in person. He offers an example of dealing with government administration where, 'if one does not appear in their offices in person, the case will not be dealt with. Using a phone call or sending a letter rarely generates the desired response. It is the personal encounter that matters most.' (Trulsson 1997: 133)

Summary

In this chapter we have explored the effects of ICT on what can be a pervasive relationship between a farmer and his *dalali*. We have revealed that while the internet is not used at all by either party, through various innovative means of access mobile phones are being integrated into the existing business culture because of the crucial role they play in improving the exchange of supply and demand information between farmer and the wholesale market. This information can be useful in freeing a farmer from sending his produce to the market blindly by allowing him to know whether to divert his crops elsewhere for minimum profit more locally instead of maximum loss in Dar es Salaam. Mobile phones can be seen to provide multiple sources of information and the creation of new relationships to the market, but play little part in hugely strengthening current relationships. The overriding drawback here is that because the sample farmers are largely using their *dalali* to furnish them with supply and demand information, this relies on the *dalali* being truthful in what he tells his farmer. In the present situation, for many farmers dealing with *madalali* in Kariakoo the reality is that the mobile phone does not alter this trust relationship.

4 Dar es Salaam's Informal Construction Sector

> The challenge, now that so many government policies are finally on paper in favour of small scale and micro-enterprise, is massively to support this quiet revolution that has already begun to happen, and encourage this technological confidence to move up market, to go to scale, even to contemplate what may now seem a pipedream – the implication of new information technologies for the *jua kali* sector. (King 1996a: 189)

Having looked at the use of ICT in trade and revealed the crucial role of face-to-face meetings, we now turn to the nature of business relationships in manufacturing, taking Dar es Salaam's construction industry as a case study.[1] Here again we seek to find how ICT really are being accessed, adopted and appropriated by the large amount of workers who are not directly influenced by donors. Given the important role in Tanzania – as in many other developing countries – of the informal sector (Commission for Africa 2005: 240), the responses of a sample of informal construction sector gang-leaders are used to look at whether linkages with the formal sector now benefit from the ability to use ICT to make contact with these potential sources of materials and employment. We also ask whether with mobile phones it is now any easier to stay in touch with private clients, the other important source of potential work. Does this mark a significant change in the ways informal sector operators find work and interact with clients so that they can make more profit? And does this have implications that can realistically apply to the significant majority of informal sector operators who do not use mobile phones for work? In attempting to answer these questions the chapter begins by stating the case for looking at the informal sector and, specifically, the informal construction sector. We then analyse

[1] My thoughts on the development of the informal sector benefit from discussions and seminars with Kenneth King and Simon McGrath and Steve Kerr at the Centre of African Studies, University of Edinburgh. In Tanzania, Jill Wells (formerly Bureau for Industrial Cooperation, University of Dar es Salaam and construction specialist, ILO) provided an invaluable background discussion on the current state of the informal construction sector and an introduction – and eventually access – to the STICW-Dar project. She also supplied later documents on the construction industry in developing countries. In addition, thanks go to Morten Lehmann, SME specialist at the ILO field office, Dar es Salaam, for kindly keeping me up-to-date on policy documents.

data obtained from semi-structured interviews with the leaders of 20 groups operating in the informal construction sector, opening with detail on the interview sample and background on the gangs covered. The fieldwork started with an investigation of their linkages with the formal sector which – though turning out to be fairly minimal – are discussed because they provide both a useful introduction to the use of mobile phones in the informal sector, and how the focus of the research changed to looking at why gang-leaders see the need to obtain mobile phones for use at work when much communication seems to be personal. In doing so, this section analyses the methods of communication over the entire process of a gang-leader finding, securing, and completing work. We then explore when and why face-to-face communication, calling, texting, and 'beeping' are favoured at different times during interaction with friends, clients, and other workers within the industry, and assess the applicability of government policy on ICT in the context of these findings.

4:1. Why the informal sector of the construction industry as a case study?

It is vital that we consider the informal economy because of its importance as a source of income to so many people who operate within it. While it is difficult to present precise figures on the scale of the informal sector today, not least in terms of employment because many households (and individuals within them) do not rely solely on any one source of income (Wuyts 2001: 425), it is widely accepted that it is gaining in importance worldwide (Hussmanns & du Jeu 2002; ILO 2002b).[2] Tanzania is no exception, for while the highest proportion of the economically active population are still engaged in the type of traditional smallholder agriculture investigated in the preceding chapter, the informal sector is by far the most important employer in non-farm employment activities (the carving industry in the following

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[2] Showing the increased significance of occupational pluralism, the government's most recent *Labour Force Survey* (2000-01) devotes an entire chapter to employment in secondary activities – those activities that are next to the main activities performed by persons, and by definition occupying less time when compared with main activities (URT 2002b: 49). This indicates a growing awareness by the government of a hitherto largely ignored source of extra employment for a considerable proportion of the working population, up from 1.2m in the 1990/91 *Labour Force Survey* to over twice that amount (2.8m) in the year 2000/01(ibid.: 51).

chapter is one example).[3] The most recent survey of Tanzanian labour (URT 2002b), for example, puts the total number of persons employed in the informal sector at just under 3m (URT 2002b: table 5.5), which shows that the informal sector is now well over twice as large as the formal sector in terms of those engaged in governmental and parastatal (423,000) and 'other private' employment (756,000) (ibid.: fig. 3.2).[4] Almost half of those working in the informal sector are doing so in urban areas, with Dar es Salaam accounting for 356,000 (30%) of the total urban informal sector workforce of 1,200,000 (ibid.: table 5.5), a noticeable rise from the 1995 Dar es Salaam Informal Sector Survey figure of 346,000 (URT 1995).[5] This survey also shows that the sector had an output of TSh332billion and a value added of TSh205billion,[6] generating an income per person which is about two and a half times the minimum earning of a government employee (ibid.).

Part of the reason why it is difficult to present exact figures on the scale of the informal sector is because there is sometimes confusion over what the term refers to, and who and/or what exactly is being measured.[7] A 'universal' statistical definition (ICLS 1993) was adopted at the *15th International Conference of Labour Statisticians* in 1993 and has been effective in facilitating the tasks of national statistical agencies in carrying out informal sector surveys (e.g., URT 2002b), but the ILO (2002b) is slowly recognising the need for a redefinition as the sector grows and evolves into the new millennium, where already the real world dynamics of today's labour markets outlined in the opening chapter are revealing the changing nature of the sector. In the 'expanded conceptual framework' the informal economy is now

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[3] See section 1:15 (especially footnote 32) on family farms being recognised as the most numerous of small enterprises.

[4] The most comprehensive survey of the informal sector in Tanzania, the *National Informal Sector Survey* (1991b), showed total informal sector employment to be 2,369,380 (ibid.: table 1). ILO (1993) acts as a good introduction to the studies (and estimates) that have influenced previous discussion on the contribution and importance of the informal sector to Tanzania's macro economy until the recent publication of government studies (most notably URT 2002b) that are now providing more up-to-date statistics on some aspects of the informal sector.

[5] Hereafter *DISS*. Between 1991 and 1995, the increase in the number of people engaged in the informal sector in Dar es Salaam was around 9.5% (URT 1995).

[6] Just over $350m in July 1995.

[7] Studies have been based on a number of different parameters such as living conditions and capital intensity. See Hugon (1990: 71-72). Mead and Morrison (1996) have found only limited parallels between definitions based on different measures, leading them to conclude that the use of different definitions in multi-country analysis is fraught with difficulties.

seen as comprised of informal employment (without secure contracts, worker benefits, or social protection) both inside and outside informal enterprises (ILO 2002a), which appears to reflect increasing acceptance that the formal/informal dichotomy is losing relevance as the boundaries are increasingly becoming blurred (ibid.) – especially with the growing recognition of the massive increase in linkages cutting across the sectors, and in particular subcontracting, an issue we turn to in some detail in section 4:8 when looking at groups of informal construction workers (ICWs) in Dar es Salaam's construction industry.[8] Given that globalisation is making new ICT available to an increasing number of people at the same time as the informal economy is expanding to take in even more Tanzanians, it is imperative that we understand how these technologies are being applied to the day-to-day business activities of those who operate within 'the ordinary economy…that builds most of a nation's houses, runs most of its transport, makes most of its clothes, and trains most of its young people.' (King 1990: 145). The industry under investigation here is the informal construction sector; those people who erect most of the nation's buildings.

4:2. The informal construction sector

Construction as an industry is deemed an important area to case study because of the crucial role it plays in socio-economic development (Wells 1986: 13-33), with its impact being felt in terms of its direct and indirect contribution and backward linkages (Mlinga & Wells 2002: 270). About one-tenth of the global economy is dedicated to constructing and operating homes and offices, and the industry consumes one-sixth to one half of the world's wood, minerals, water and energy (UNEP 1996: 2). The industry contributes directly to output and employment (Mlinga 2000: 9.2.8) through construction activity – which in Tanzania grew at a real

[8] The increasing blurring of the line between the sectors that has come with increased interaction through subcontracting is further confused by scant attention being paid to the heterogeneous nature of the informal sector, which can be conveniently used as a catch-all phrase to delineate any select group of enterprises that fit the definition that particular study chooses. The danger of not recognising the heterogeneity and vastness of the sector, the huge differences between countries, regions, between trades and even particular trades (e.g., King & Abuodha 1995) and the existence of a continuum among enterprises (1:22) makes the concept of an informal sector difficult to operationalise. Furthermore, as Fluitman and Momo (2002: vii) note when reporting the large extent of heterogeneity among micro-enterprises in Cameroon, it is an approach that should render any generalisation suspect and be evident in interventions aimed at them.

rate of 12 percent in both 2002 and 2003 (OECD 2005: 434) – and indirectly facilitates the growth of other sectors such as agriculture, manufacturing and services by constructing the physical facilities they require for the production and distribution of goods and services. Even under economic reform in Tanzania where policy changes on construction employment under deregulation have been negative with respect to the safety of workers, the shift has had a good impact on employment, directly through labour jobs, and also on materials supply (Wells & Wall 2003: 329-330). The industry also has great potential for generating further employment, through its backward linkages with other industries, notably those involved in the provision of financial services to the industry (Mlinga & Wells 2002) and with the production and distribution of building equipment and materials (Wells & Wall 2003). In Kenya, for example, the increase in informal construction has been paralleled by an increase in employment in on-site jobs in stone dressing, and in stone quarrying (ibid.) where in Tanzania just under one-third of the jobs are held by women (URT 1991b: table 6.3).[9]

In essence the *informal* construction sector, as a component of the informal sector, bears similar characteristics and constraints to the rest of the informal sector, including, *inter alia*, a scarcity of markets; lack of registration, working capital, tools, transport and adequate working premises; unfairly low payment and poor technical and business skills (Rana 2003b).[10] In terms of ownership, Africans in the construction industry tend to be most represented in small firms that handle small jobs (Ngare 1998: 136). By the definition we use below these businesses are neither registered nor licensed, although about half undertake projects exceeding their legal

[9] Lugalla's survey of urbanisation and urban poverty in Dar es Salaam also found significant numbers of women in quarrying (1997: 439), as did Molony (2000c) in a rural area of the country. As ILO notes, however, 'the spectacular growth of female participation in the labour market in the past two decades, and their enhanced access to wage employment, have not been paralleled by similar progress in terms of quality employment' (2000a: 12).

[10] These constraints were raised at the STICW-Dar project's 'leading beneficiaries' workshop on 24 February 2003 and reported in the second workshop in Rana (2003b). Note that there is no specific reference to ICT here, although some leading beneficiaries did raise the issue of communication-related limitations are absent from the summary of constraints presented in Rana (ibid.) – which leads one to the conclusion that the potential of ICT as a communication tool to facilitate marketing is apparently not significant to the agendas of the project's executing agencies. For similar constraints on the informal construction sector in Kenya, see Ngare (1998: 138-141).

upper limit for operating without a license.[11] Informal contractors are usually under sole ownership and – close to the group numbers of this study's ICW sample (4:5) – made up of between two and five skilled and the same number of unskilled employees working on a part-time basis, operating from no fixed location or construction sites (Mlinga & Lema 2000; Mlinga & Wells 2002).[12] The enterprises own only basic tools which are purchased over time, and generally do not own plant or machinery but hire from an informal supplier and obtain materials from the client.

The main difference between the formal and informal construction sector, however, is the extent to which government regulations are observed. Yet as Mlinga and Wells (2002) argue, this difference often fails to create a cut-and-dry distinction since not only can it incorrectly imply that compliance to all government laws can be claimed by the formal and not by informal construction sector, but also regulation can take a variety of forms that fail to discriminate between sectors as it is. In the government's attempts to regulate different aspects of the construction industry, for example, it targets enterprises (e.g., registration), labour (e.g., labour laws) and those that relate to the activity or product (e.g., planning), and these efforts often cut across – and can be avoided by – formal and informal sector alike. It is because of this segmentation in the regulation of the industry, argue Mlinga and Wells, that it important when discussing the informal construction sector to make clear what the object of analysis is (ibid.: 270-271).

The definition adopted by the First Meeting of the International Council for Research and Innovation in Building and Construction 'Task Group 29' is a useful basic guide

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[11] It is a strength of the specialist surveys (e.g., Mlinga & Lema 2000; Mlinga & Wells 2002) (i.e., non-*NISS* and *DISS*), that they are able to reveal that around 12% of unregistered enterprises had a turnover of above the legal upper limit of TSh10m per annum, and some individual projects of over TSh5 where the full contract is undertaken for the private client's complete house (Mlinga & Wells 2002: 274). See Mlinga and Lema (2000: 2) for arguments on why the licensing ceiling requirements should be reviewed.

[12] Mlinga and Lema (2000) use URT (1991b), URT (1995) and their own 1999/2000 study on Tanzania 405 informal contractors (STIC) in four of Tanzania's fast growing cities to reveal general characteristics of informal construction sector contractors. It is worth noting that of these three studies STIC is probably the strongest for detail because it was carried out (more recently) by specialist scholars of the industry, unlike the government-published studies which address the entire economy.

when differentiating between the industry's two sectors.[13] TG29 takes the enterprise or individual as the primary object of analysis, and makes the differentiation between formal and informal by: the size of the enterprise; whether the enterprise/individual is registered and whether individuals within the enterprise enjoy some degree of social protection (such as a minimum wages, health and safety regulations, etc.) (Mlinga & Wells 2002: 271). In the context of developing countries the informal construction sector is seen in TG29 to comprise,

> unregistered and unprotected individuals and small enterprises that supply labour and contribute in various other ways to the output of the construction sector. (ibid.)

This appears to be the most widely accepted definition among those dealing with the informal construction sector in developing countries (e.g., Mitullah & Wachira 2003; Mlinga & Lema 2000; e.g., Mlinga & Wells 2002; Wells 1999). Nevertheless, there have more recently been calls (Mitullah & Wachira 2003: 7) to change the focus of the object of analysis to be in line with recent changes in focus on employment status (ILO 2002a) rather than the enterprise. This is because under the prevalence of outsourcing through labour subcontractors in the construction industry (ILO 2001) it is often the 'formal' employer – not the informal operator – who seeks to avoid his legal obligations (specifically registration and taxation), at the expense of the individual coming from the informal sector (English 2002b; WIEGO 2002).

The definition of the informal construction sector used for the purposes of this study is a stripped down version of TG29 that was used during fieldwork to conveniently describe to informants the broad area of research. When briefing informants on what was being studied for this part of the research, the informal construction sector was said to embrace,

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[13] Construction in Developing Countries conference, AICC, Arusha, Tanzania, 21-23 September 1998; hereafter 'TG29'.

> small, unregistered and/or unlicensed enterprises and individual, unprotected workers operating within the building construction sector, which includes building materials but excludes civil engineering.[14]

The informal construction sector is regarded as particularly important to case study because of its huge growth and increasing role within the industry.[15] Wells' early study shows that in developing countries such as Tanzania much of the construction industry up to the mid-1980s 'is not executed within the formal sector of the construction industry but takes place in the 'informal sector'' (ibid. 1986: 13). Subsequent studies show that in East Africa this trend has intensified over the last few years and, to some extent, this growth is captured in official figures.[16] For

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[14] The addition of building materials is used by Wells (2003: 326) and is correct for this research given the STICW-Dar project sample includes building materials suppliers (e.g., Iddi Sunga; Nordin Chopa). I would always ask informants if they understood the informal construction sector to be anything different, and all were happy with my usage of the term. This was deemed important to ensure that when we were talking about the formal and informal sectors both of us meant roughly the same thing although, particularly in the context of the ease with which *mafundi* cross the boundary (if indeed there is one), I question whether the gang-leader always knows for sure which sector other *mafundi* are in. This is worth bearing in mind with the responses for not only this study but all studies using others' views and experiences of the two sectors, and is an important area the literature seems to ignore.

[15] In both Kenya and Tanzania the rise in informal sector construction has been accredited to a fall in public sector construction as public resources for infrastructure were reduced with structural adjustment and public-sector building virtually collapsed (Wells & Wall 2003: 325-326), as Lwoga shows was the case in Dar es Salaam's Gerezani carpentry and metalworking cluster, where work dried up as the government stopped requiring their services (1995: 15-17). In Kenya the private sector accounted for more than 90% of building construction output by 1999 (Mitullah & Wachira 2003: 2.1), and in Dar es Salaam alone the same figure now accounts for the amount of residential buildings built entirely by those operating in the informal sector (Presentation by Oddvar Jakobsen, Deputy Resident Representative of UNDP, Tanzania at 'Inception "Leading Beneficiaries" workshop', 24 February 2003, UNDP, Dar es Salaam). In both countries the withdrawal of public sector construction has been accompanied by a reduction in effective regulation, which combined has created space for the growth of the informal sector (Wells 1999). The increase can be seen in other countries too, in Mexico 73% of employment in construction is informal, in India 94% (ILO 2002b: 35).

[16] As Mitullah and Wachira believe of the Kenyan figures (2003: 8), most government reporting on the scale of the informal construction sector – and probably the informal sector as a whole – are almost certainly underestimates. For this reason Wells believes there is little point in relying too much on national accounting data, in Kenya in part because the decrease in effective regulation of new building activities has led to less use of permits and is the reason the government has little idea on what is being built (2001: 272). Instead Wells looks more closely at output trend figures, which in Kenyan cement consumption suggests an expansion of unrecorded building activity showing private building thriving (2001: 268; 2003: 372), and in Tanzania takes an analysis of the revised national accounts which show a large amount of unrecorded building activity that was previously undetected (ibid. 1999: 3-5). A further method in Dar es Salaam has been to interpret the number of new buildings using aerial photography (ibid. 2001: 272fn), while in Mexico, Herbert and Pickering suggest comparing the number of new housing units financed to the estimated total construction volumes based on changes in the occupied housing stock (1997: 31).

Tanzania, Mlinga shows that the informal construction sector is growing and contributes significantly to the economy (Mlinga 2000), with Total Gross Output, Total Value Added and Total Capital Formation all increasing, by 185%, 244% and 173% respectively (Mlinga & Lema 2000: 8). The importance of Tanzania's informal construction sector is also shown in the employment figures, with the *NISS* in 1991 revealing that 163,438 operators and employees were working in informal construction (22,327 in Dar es Salaam, all of whom were apparently men) (URT 1991b), while the number of employees in formal construction in 1994 was only 22,000 for the entire country.[17] In Dar es Salaam the number of people employed by the informal construction sector increased by 13% over almost the same period (URT 1991b; 1995). Significantly, these figures do not include more recent figures that are now available on employment in *secondary activities*, which show that nationwide almost as many men, and as many women, engage in construction as a secondary source of employment. This effectively doubles the size of the workforce in the informal construction sector even before tertiary activities are taken into consideration: the latest figures (from 2002) show that 11.9% of 761,000 men and 0.1% of 678,000 women (6.3% of a total of 1.5m) are engaged in informal sector construction as a main activity, while 0.9% of 724,000 men and 0.1% of women (0.5% of a total of 1,363,000) are engaged in informal sector construction as a secondary activity (URT 2002b: 62). In terms of hours most worked for a secondary activity, this accounts for 13.7%, second only to the transport industry (ibid.: 53).

Dar es Salaam, urbanisation and 'modern' housing

Sub-Saharan Africa is the most rapidly urbanising region in the world (UN-Habitat 2003) and also has the highest demand for new infrastructure and buildings (Wells 2001: 267). Within Tanzania, whose 5.4% rate of urbanisation is far above average

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[17] URT. 1996. *Report of the Survey of Construction, Trade and Transport 1994*. Dar es Salaam: Bureau of Statistics, President's Office, Planning Commission; cited in Wells (1999: 6). For Kenya, Mitullah and Wachira cite the government's *Economic Survey* (ROK 1996) which shows that between 1992 and 1995 informal construction employment increased by 75% while other private sector employment only rose slightly, then between 1995 and 1999 the amount of people employed in the informal construction sector almost doubled from 31,600 to 58,900 (and its contribution to GDP was at an average of 1.6%) (2003: 8-9).

for the continent (UN-Habitat 2004)), Dar es Salaam is one of the continent's fastest growing cities, with the population almost doubling at the end of the last millennium from 1.4m in 1988 to 2.5m in 2002 (URT 1991c; 2004c).[18] In the context of limited employment growth in the formal construction sector, an increasing number of these new urban job seekers go to the informal sector and, traditionally, the construction industry (Wells & Wall 2003: 326).[19]

A good number of the city's new houses are modern, built from manufactured concrete blocks to create buildings that house owners are now striving to own.[20] Clearly these modern houses have the higher standards of comfort and security and this confers a greater degree of status on the owner, but these aspirations are coming at a time when the gap between the price of modern and traditional materials has widened considerably. The informal construction sector, as well as contributing towards some of the city's highest quality developments (Wells 2001), is showing itself adept at meeting this change in the taste towards modern housing that, compared with traditional *swahili* house built using poles, thatch and mud, requires more help to build and cannot be made so easily by the land owner. The client for these modern houses is usually a private house-owner (Mitullah & Wachira 2003: 3; Mlinga & Lema 2000: 7) who is building or repairing part of a residence and – irrespective his or her status – increasingly tends to employ various informal

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[18] As at January 2004, Tanzania was fourth in the world in terms of the amount of refugees it hosts (http://www.unhcr.ch/cgi-bin/texis/vtx/country?iso=tza), and many of these – particularly the male youth – travel to urban areas to make a living (Sommers 2001). Dyson (2003: 434) suggests that Dar es Salaam's high growth rate might simply reflect a change in the designation of an 'urban' area. Africa's annual average urban growth rate is 4%, twice as high as Latin America and Asia. 37% of Africans live in cities at present but this figure is expected to rise to 53% by the year 2030 in what has been calculated as the world's highest rate of urbanisation (UN-Habitat 2003).

[19] This has long been the case in Dar es Salaam as Leslie (1963) reports of the immediate post-independence period: 'The employment of a large part of the 35,000 Africans reckoned by the Labour Department to be in regular employment depends, not on current business, but on active expansion, in that so many are deployed directly or indirectly on construction.' (ibid.: 15). On the growth of Dar es Salaam in this period see also De Blij (1963). Fluitman and Momo show that in present day Yaoundé, Cameroon, the largest share (30%) of occasional wage workers in their sample of almost 700 operators covering 12 trades also work in informal sector construction firms (2002: 28).

[20] Ngare (1998: 138), for example, reports of Kenyan *mafundi* in traditional trades now being joined by those with the relatively new skills of terrazzo-laying and timber panelling. See Wells (1998) on more modest traditional housing and building materials in low-income settlements, and Kadonya et al for present day Dar es Salaam residential patterns (2002: 16-17).

construction enterprises to undertake their respective activities on a labour-only basis, rather than one enterprise to carry out all the building.[21]

4:3. Marketing chain, players and processes

4:4. The informal construction system

Clients' complete avoidance of the formal construction in favour of dealing solely with enterprises and individuals in the informal sector has been termed the 'informal construction system' (Wells 2001), the result of a combination of the shift from public to private building, the decline in regulation (especially in planning control) and the fall in work passing through more formalised systems of production. Under these conditions clients have greater options in the design of their buildings, which in most cases are designed as the work proceeds, with minimal consultation of specialists who, because of the high costs involved, provide only plans at a small fee. Under the informal construction system clients are also adopting a more 'hands-on' approach as supervisors in the construction of their buildings by seeing personally to the purchase of materials and by dealing themselves with a tradesman – acting as a foreman – who oversees all the skilled and unskilled labour on site. The informal sector acting-foreman supplies the labour directly to the private client, using his own networks to find the necessary informal sector artisans to undertake the skilled work and who supply their own minimal select group of casual labourers to carry out any unskilled work in what under this system are more labour-intensive production methods (Mitullah & Wachira 2003; Mlinga & Lema 2000; Mlinga & Wells 2002; Wells & Wall 2003). While the methods for the construction of a modern house has more sophisticated demands, the organisation of the informal construction system is similar to that used in traditional house building: the construction is a project-based (rather than firm-based) activity, formed around temporary coalitions centred on informal agreements between owners and building workers, with mutual trust in the payment of materials, and labour replacing formal written contracts (Wells 2001:

[21] An example of this system being used by a high status figure was observed when I was in the Dar es Salaam residence of Edward Lowassa (Minister of Water and Livestock Development), who was overseeing a group of informal construction *mafundi* adding a patio extension to his garden.

271-272).[22] The system can be seen as a more appropriate, 'Africanised' approach to the construction of modern buildings, a departure from the highly formalised and regulated British model of organisation Kenya and Tanzania have both adopted since independence and where Asians now have a strong representation as contractors (Mitullah & Wachira 2003: 2.4; Ngare 1998: 136) (e.g., Coastal Steel Industries; Shapriya) alongside international firms (e.g., Noremco; CG Jensen; Skanska; and Bailey & Roberts).[23] As well as being economically less expensive for the client, the informal construction system is also more accommodating towards the unpredictable cashflow of many Tanzanians since it allows for building to be more sporadic, starting when funds permit and stopping as they ebb (Wells 2001; Wells & Wall 2003).[24]

4:5. STICW-Dar project 'target beneficiaries' and 'leading beneficiaries'

Interviews for the case study were conducted mostly from late June to mid-August 2003 with 19 gang-leaders (and one labourer) who work in groups operating in Dar es Salaam's informal construction sector.[25] Their contacts were obtained from a

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[22] I am slightly uncomfortable with Wells' addition of 'mutual trust' here. With no binding written contract in the informal construction system the client is well aware that there is more scope for dishonest behaviour and little comeback, particularly if he or she does not know the contractor. Mohammed believes that private customers – and in particular, *wazungu* (white people) – will use the formal sector if they can afford to because they perceive that they do a better job (Mohammed Ali) (presumably without knowing that the formal sector can be subcontracting the work to the informal sector) and, believes Alex, the perception among clients is that the formal sector can also be trusted more because they are registered (Alex Gerson). We see this distrust towards the unknown informal sector operator in the reluctance of the formal sector to lend equipment, the implication that a *fundi* without equipment is a cowboy (section 4:8) and in Abdi and Hamisi's preconceptions towards an unknown *fundi* (section 4:10). See section 1:15 (especially footnote 32) also footnote 48 on mutual trust.

[23] Kinyanjui and Mitullah argue that the Asian representation is partly because of the preferential access to finance outside formal banking system. Kinyanjui, M. and W. V. Mitullah. 1999. *Inter-Firm Dynamics in the Construction Sector*. IDS Discussion Paper #296. University of Nairobi, Institute of Development Studies, Nairobi; cited in Mitullah and Wachira (2003: 2.4)). See Wells (1986: chapters 3 and 7) for a history of construction ownership in East Africa since independence.

[24] See Nyanje (2004), however, on the Engineers Registration Board's concern over 'shoddy work'.

[25] 'Group' and 'gang' are used interchangeably in reference to the sample groups. None of the leadership of *Walindila Kijiwe* were available so one of its members, so Said Dogore, a casual labourer from the group, was interviewed instead. Perhaps because he is not in the leadership, Said is the only ICW in the sample who does not use a mobile phone for work (according to him because he earns too little money). For this reason all replies relating to mobile phones only are therefore for 19 of the 20

sample collected by United Nations Volunteers (UNV) for their 'Support for Informal Construction Workers in Dar es Salaam' ('STICW-Dar') project with the United Nations Development Programme (UNDP), the International Labour Organisation (ILO) and the University of Dar es Salaam's Bureau of Industrial Cooperation (BICO).[26]

The 20 workers interviewed for the case study are seen as broadly representative of informal construction workers (ICWs) in Dar es Salaam region, their names having been obtained from a sample population of ICWs whose problems are being voiced in dialogue between a select group of outspoken ICWs and governmental, semi-governmental and private institutions stakeholders. The STICW-Dar project chose these groups from a survey it undertook between November 2002 and January 2003 to locate as many ICWs as possible who operate in Dar es Salaam region. This comprehensive survey was conducted at ward level, with researchers visiting active formal and informal construction sites, *vijiweni* (labour pool hang outs/pick-up points), hardware suppliers and construction material suppliers in every single ward in the region and recording the numbers of trades at each location. The survey revealed a total of 26,323 ICWs in Dar es Salaam region (Rana 2003b). Of this total located ICW population, the project is working with a 5% sample of 'target beneficiaries' comprising 42 different groups covering a total of 1,321 workers of different trades (ibid.), and from which a core group of 'leading beneficiaries' has then been selected to represent the 'target beneficiaries' at the project workshops. The selection criteria for the leading beneficiaries group took into consideration the need for representation across trades, gender (with groups with larger numbers of female members being favoured), length of experience in the informal construction industry, interest in the project and good communication skills. Spokespersons were

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interviews conducted. This does not affect replies from the sample relating to the groups' involvement in the informal construction sector, which includes Said's responses and therefore remains at 20.

[26] Lasting three years, the objective of STICW-Dar is to facilitate dialogue between stakeholders and informal construction workers – who the project defines as any 'individual or group who are not officially recognised by the government nor registered by [its] respective institutions' (UNV/UNDP 2003) – with a view to protecting and enhancing the position of ICWs, and to then produce and disseminate guidelines for the up-scaling and replication of the project (Rana 2003b). For more details on the project and its considerable success in supporting ICWs countrywide in such important ways as assistance in gaining legal recognition and with knowledge of their labour rights, vocational training, and access to health insurance, see Jason (2005).

then elected by the leading beneficiaries groups to act as their representatives on the project (Rana 2003a) and, despite females comprising 4% of the total identified ICW population (usually as unskilled labourers and female informal sector cooks) (ibid.)), are all male.

The 20 informal sector construction workers who were interviewed for this research were chosen from the leading beneficiary groups. Around ten of the spokesmen were first approached at an inception workshop for the beneficiaries in February 2003 where they agreed to be interviewed for this research at a later date and were then contacted later along with the remaining groups whose contacts were obtained on a list supplied by the STICW-Dar project leader shortly before the interviews for this research took place, between late June and mid-August 2003. The contacts list broke the 42 groups into municipality location (covering each district, 9 in Kinondoni, 13 in Ilala, and 20 in Temeke) and gave the group name and in most cases a contact mobile phone number, but no further details. Of the 42 groups in the original contacts list obtained from the project leader, phone numbers were not provided for 11 (although one was obtained later), two did not answer the phone after repeated attempts, for 9 groups the number was not in operation (possibly because it had expired), and one ICW was not interested in being interviewed, citing dissatisfaction with the project. Other than *Walindila Kijiwe* group (see footnote 25, page 149), the remaining 20 groups who could be contacted all agreed for a senior representative of the group to be interviewed, who usually emerged to be the gang-leader.

4:6. Networks of knowledge: finding and securing work, and getting paid

4:7. Sample gang structure

Gang leadership normally consists of a treasurer who oversees accounting when it exists, and a chairman. Although he is a skilled tradesman, the gang-leader will not always carry out work himself but, as we discuss shortly, will spend much of his time applying his experience, reputation and contacts to searching for jobs for the gang.[27] The remaining members compose gangs that in the sample range in size from three workers to around 200. If the two 'labour pool' groups (*Chama cha Mafundi* and *Umoja wa Wajenzi*) are removed then the mean average membership drops from 27 to 12.[28] The gangs cover a wide range of building trades (Appendix I), and of those informants who replied, 9 out of 20 have previously worked in the formal construction sector on a permanent basis (no = 6; not applicable = 5), while 10 have worked for formal sector contractors on a part-time basis (no = 3; not applicable = 7).[29]

Mobile phone ownership within sample gangs

Irrespective of group size, only a couple of gang members – usually those in the leadership – own mobile phones that they use for work. If *Bondeni Youth* is excluded (where 18 of the 20 members own mobile phones that they use for work), only 46 gang members of the 540 total represented in the sample own mobile phones that they use for work.[30] Of the 20 interviewees, only Said Dogore had never used a

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[27] It would be useful in terms of the group dynamic and labour relations to find out how the gang-leader is regarded by the other group members, whether he is seen as an employer, 'one of the boys' and on their side in the fair distribution of earnings to jobs found and work done, or whether he is thought as an exploitative middleman, and on how decisions are reached within the group. The sentiments of other group members on these issues would surely have implications for their willingness to take on other jobs 'on the side'.

[28] The majority of enterprises qualify as MSEs because they have fewer than ten members (section 1:15). The definition of 'group member' is a slippery term, and it is not clear what criteria the groups set for membership and whether these are always kept to. This figure is still a larger number than the usual in Africa, with Fluitman and Momo recording the average enterprise size in Yaoundé, Cameroon as six workers, but they also acknowledge that workers in the informal construction sector are known to move frequently from job to job, and from firm to firm (2002: 27-28), rendering figures measuring these enterprises by size only short-term. Recognition that the amount of workers in these groups are rising has come from the Tanzania government, with the benchmark for the number of paid employees in informal sector construction recently being raised from five to a maximum of ten paid employees (URT 2002b: sec5.2).

[29] The trades carried out by each group are recorded here and in Appendix I as the primary trade the gang-leader saw the group to specialise in. In some cases the informant could easily say that his group only carried out one task (i.e., Mohammed Ali would say that *Umoja wa Mafundi Almunium* [sic] only fits glass), but more often than not the informant would list all tasks they were capable of carrying out and at times it was unclear whether these were tasks they specialised in or – with a 'can-do' attitude (section 4:10) typical of the resourcefulness and connectedness of the informal sector – tasks they could subcontract to non-group members without the client's (or my) knowledge.

[30] I regret the error of having not asked the *Bondeni Youth* gang-leader why his group has so many members with mobile phones. This is a task for my next visit to the informants.

mobile phone for work. It is significant in terms of mobile phone ownership and usage that Said was the only interviewee who does not represent group leadership but is a casual labourer from a *kijiwe* (labour pool pick-up point) – suggesting, albeit from a small sample, that the further a worker is from the leadership of a group the less likely he is to own a mobile phone that he uses for work. According to gang-leaders and some ICWs spoken to outwith the sample, the main reason for their colleagues not using mobile phones for work is that it is too expensive to purchase the handset (without usually mentioning the huge running costs). Offering further evidence that mobile phone handsets are expensive to most Tanzanians, over half of the interviewees own inexpensive Siemens handsets, which are generally regarded by Dar es Salaam's fashion conscious youth as basic and affordable, at the expense of style.

4:8. Linkages with the formal sector: waiting to be subcontracted

One of the key research aims during the fieldwork for this case study was to investigate what part the introduction of mobile phones played in the linkages that Mlinga has exposed between the formal and informal sectors of the construction industry (Mlinga 2000; Mlinga & Wells 2002). [31] According to the informal sector gang-leaders the only significant linkages across sectors are backward linkages within the informal sector, which only occur to any significant extent in two areas: resource linkages, which are strongest in the supply of materials produced or used but no longer required by the formal sector; and market and employment linkages where formal and informal enterprises both cross the sectoral divide, with formal sector workers having second jobs in the informal sector, and unregistered enterprises carrying out subcontracting work, mostly on a labour-only basis, for larger formal sector contractors.[32] Subcontracting is the only common link, however,

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[31] These linkages, which can be categorised as social/political, technological, consumption and credit financing, are covered in some detail in Mlinga (2000).

[32] Subcontracting and supply linkages are part of the structuralist 'informalisation' approach to the informal sector which regards the expansion of informal activity as part of the restructuring strategy of the formal sector. This is in contrast to much of the work on African informal sectors which comes from a neo-liberal perspective (a lead taken by the ILO and World Bank), emphasising the withdrawal of the state, independence and growth. Linkages with the formal economy are a key theme of the

and we start with a discussion of this because the unpredictable nature of many subcontracting relationships shows how the research was guided away from the formal sector as a source of much work for gang-leaders and towards exploring their use of mobile phones in a more active search for employment.

In Dar es Salaam the opportunity for subcontracting work is usually provided by a formal sector contractor first approaching the informal sector contractor, often at a labour pick-up point (*kijiwe*) or one of the city's trade clusters such as Chang'ombe (carpentry), Gerezani (metalworking), or Vetenary (materials). This arrangement has for years so often been the case in other cities worldwide (e.g., King 1977: 74-79), where the opportunity presents the chance for a future relationship where the informal sector supplies labour to the formal sector[33] – albeit only to meet the demand and often unfavourable (and legally uncontracted) terms and conditions of the latter. In Tanzania these linkages are mostly on a labour-only basis from small unregistered enterprises operating in the informal sector supplying to the rest of the construction industry (ILO 2001; Mlinga 2000; Mlinga & Wells 2002: 278), and according to this sample are the most common point of contact with the formal sector, with 14 of the 20 gang-leaders reporting that they had in the last month been working, or were currently working, for another employer (i.e., in a subcontracting relationship) (e.g., Africanus Pius' gang of specialised concreters).[34]

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informalisation framework which sees that subcontracting eliminates incentives for technical progress, innovation and investment on the part of subcontracting firms. The neo-liberal perspective, on the other hand, considers linkages with formal sector, where they exist, as essentially benign and that forward linkages to the sector need to be strengthened by the increased patronage of informal sector firms which, it is assumed, will expand markets and improve the transfer of modern techniques to the informal sector (Meagher 1995). One reason this is not working and, suggest Liedholm and Mead (1987), a possible reason subcontracting has been much less prevalent in Africa and Latin America than in Asia, may be because of the propensity of the larger firms to import a large share of their needed inputs.

[33] As English has found in South Africa with the formal sector's preference for former employees to be employed whenever there is work (2002b: 52), these examples from Dar es Salaam do suggest that – although none of these men admitted to previously working for these companies formally – formal sector companies do like to hire the same regular (outsourced) workers who they are familiar with even if they have only even employed them before in an informal capacity.

[34] Others (e.g., Haan 2001b: 15) have found subcontracting in construction industry noticeably higher than other MSEs because, as Rogerson shows of South Africa (and equally holds for Tanzania), with the dramatic decline in public sector building activity there are fewer large projects for the government and greater competition for the remaining jobs (1999: 89). Registered contractors in the construction industry have reacted in a similar fashion to other formal enterprises worldwide that have been affected by globalisation and have changed their organisation of production to a new employment model

Details of the nature of these relationships are not known for all of the gang-leaders to give anything near a representative sample. It is possible, given the amount of gang-leaders who say that they get work on individual houses for private clients (17/20), that some of the subcontracting jobs they work on are for a client/acting-foreman on a private informal construction system job (or those 'straddler contractors' on the edge of the sectoral border who decide not to become formal),[35] and *not* always for larger formal contractors on sites where the main contractor is formal sector. Irrespective of the location, however, there are enough cases from the gang-leader sample to suggest that subcontracting to the formal sector (or at least to 'straddler contractors') is happening. Despite the increase in this kind of subcontracting arrangement, it can by no means be relied upon to sustain many groups in regular employment since – although clients (both formal sector and on private informal construction system jobs) prefer to deal with the same gang-leader in future – the relationship appears to be unpredictable and at times ad hoc, with the gangs only getting work when/if the formal contractor approaches the smaller informal sector firm.

Relations between formal and informal sectors: competition and antipathy?

The existence of some form of employment linkage raises the question over the extent to which skills are being transferred during the course of these subcontracting relationships, particularly when little is known about the Indian entrepreneurs who

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relying on more 'flexible' employment arrangements (ILO 2000a: 12). (See chapter one for background on the changing world of work). In Tanzania and Kenya this has taken the form of 'casualising' their workforce and relying on subcontracting work to the informal sector which has encouraged the growth of small-scale enterprises and self-employed builders (often specialised by trade) supplying labour and equipment. Bakuli (1994: 1610) and Ngare (1998) on Nairobi, Mlinga (1998) on Dar es Salaam; Wells (1999; 2001).

[35] Mlinga and Wells' research has revealed an overlap in size and activities between formal and informal construction enterprises, especially between newly registered enterprises with few resources (which they term 'small emerging contractors'), and enterprises with sufficient capital and equipment to register but that do not choose to obtain a licence and registration because they can operate effectively without them ('established informal contractors') (2002: 276-278). Such a comparison of what we might term 'straddler contractors' could not be made from this gang sample since details of capital assets were not recorded for most of the groups (because personal experience based on previous research of the informal sector in Tanzania (Molony 2000c) had pointed to the unreliability of replies to such a question). Asking the 'start date' of an enterprise was also not deemed a suitable question because, as King notes, the single start date of the business that researchers are always asking for is artificial owing to the gradual process involved in beginning a new enterprise (1996a: 146).

are well represented in the formal construction sector and are often highly educated/trained, with experience from abroad.[36] Not knowing more about these opportunities and exploiting them holds serious risks for the future of those (predominantly African) small-scale operators who, as it is with the informalisation of the industry, are being affected by 'a general lowering of the level of skill and, with the drop in people in permanent employment, far fewer opportunities for acquiring skills through apprenticeships and 'learning by doing'.' (Wells 1999: 7). It is therefore tempting to suggest here that measures could be taken to ensure that skills transfer is facilitated by policies that react to the increase in popularity of the informal construction system, at least perhaps by offering tax incentives to formal sector contactors who allow their qualified professionals to give advice on where procedures are incorrect or unsafe on these sites, or that recognise in the Contractors Registration Board qualifications where contractors meet certain standards of labour rights for their subcontracted employees. Yet the difficulty in expecting much more from the formal sector – for example, trying to get a formal sector firm to agree to having informal sector workers shadow their highly trained professional counterparts – lies in the fact that with the rise in informalisation the formal and informal sectors are increasingly in competition with each other, particularly since informal sector enterprises are showing themselves to be more adept in the construction of complex and much larger commercial buildings (Wells 2001), which are traditionally the preserve of the formal sector.[37] When asked whether he ever borrows tools from the

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[36] Despite the disadvantages of the subcontracting relationship (section 4:8), it does in theory also hold the potential for skills transfer from the more formally educated/trained, as the STIC survey found occurs with informal sector carvers learning technical and managerial skills when working for big contractors (Mlinga & Lema 2000: 7, 9). It still appears to be the case, however, that the literature on skills transfer has not reacted to the call for more attention to be paid to interactions between Africans and Indians (King 1996a: 198) who have long been strongly represented in the formal construction sectors of both Tanzania and Kenya (Wells 1986, chapters 3 and 9), and in racial issues in subcontracting relationships more generally, particularly in foreign-owned formal sector firms (King 2001: 7-8).

[37] This leads Wells to assert that the definition of informal sector as unregistered, unrecorded, informal, and often used in reference to poor quality rural housing, is no longer appropriate (2001: 269-270). The increase in good quality 'modern' housing built solely by the informal sector can now be observed in all of Dar es Salaam's most prosperous areas, and it is for these reasons that my opinion expressed in Molony (2000c) has changed and I am now less inclined to think that – in the construction industry at least – 'the informal sector is generally subordinate to the formal sector and dependent on its productivity' (ibid.: para.1.1). I would, however, stick to the comment that follows where I saw (admittedly, in a very different setting) a blurred distinction between sectors because of the existence of some formal-informal vertical links (ibid.). In some enterprises operating in

formal sector, Peter Makoye, a general builder, gives an indication of the competition from his own experience:

> …everybody is looking for food these days. When the formal sector sees somebody is looking for tools they won't [loan] them but can go to the place where that person is working and say, "That guy's not got the tools but I have them so I'm a better *fundi* and should be given the job instead because I can be trusted because I have all the tools for the work". They'll go to his job personally and say this. (Peter Makoye)[38]

While this seems like an extreme example, there are indications, from the formal sector, of antipathy towards informal sector operators and at times towards the government's double standards. Jaffer, for example, pays all his taxes and fees in full as a large formal contractor but is still pressurised into paying irregular contributions to inspectors who know he is successful and has the money to pay, while the government turns a blind eye to the illegal informal sector who pay no taxes (Jaffer). Job, despite his willingness to use many informal sector *mafundi*, shows contempt for the informal sector for different reasons:

> The [informal sector] *fundi*'s, they are cheap and can do the job quickly but you must watch them because they will cut corners. I know that if masons are laying more than 150 blocks per day, then they are cutting corners – maybe they can not be watering the bricks properly. (Job Mbele)

Nevertheless, many contractors do still use informal sector *mafundi* and in relations between the two much depends on the attitude of the formal sector firm towards its informal sector 'partner' and the terms of their affiliation, which in nearly all cases

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Tanzania's construction industry the boundary only now exists in terms of adherence to government regulations.

[38] Details of the interview date and location are listed in Appendix I. Unlike chapters 4 and 6 where the date of the interview is given beside the reference to identify from the multiple interviews for one person, the informants for this chapter were only interviewed on one occasion; so it is therefore not necessary to list the interview date in the text.

sees the latter in a position of unequal bargaining strength (ILO 2000b: para.104).[39] As English (2002a) argues, subcontracting *per se* is not a negative practice since it can provide specialisation of tasks, higher productivity and lower costs, but in some situations subcontracting can amount to little more than sweated labour (King & McGrath 2002: 25) and it is here when regulations are not adhered to and rights of employees violated that the practice is negative.[40] That this can be less the fault of the prime contractors as it is the fault of subcontractors (who are themselves employed for short periods of time) employing workers off-the-books on a short-term basis, however, seems to be ignored by some of the gang-leaders in the survey, who still see the error lying in the formal sector as paying unfairly low wages.[41] Salutare puts the situation well when expressing his opinion on the main difference between the informal and the formal sectors of the construction industry:

> The formal sector bosses pay for their workers if they are sick, and if they have to hang around without work they still get paid. The informal sector can be paid anything because there are so many labourers available, so the formal sector exploit them, paying them small wages. (Salutare Minja)

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[39] 'Relationship' is used intentionally here rather than 'contract' because a physical contract may not exist, further weakening the informal sector firm's recourse to legal justice when things go wrong. It is here that the ILO sees a place for government intervention through policies which ensure contractual arrangements, including subcontracting, are fair (which involves supporting MSE associations) (2000b: paras.104 and 125). Equally, this can go the other way with the informal sector enterprise not keeping to its side of the agreement, as was reported to have happened in some supply linkages to the formal sector observed in this case study.

[40] Indeed, the UNDP roadmap points out that labour laws in Tanzania are such that there is no disincentive to hire casual labourers (UNDP et al 2004: para.127). For examples of violations see English (2002a) on lack of safety procedures, failure to pay social security contributions and wages below the legal minimum in informal construction labour in the Western Cape, and for the same in Nairobi see Kinyanjui and Mitullah. 1999, op. cit. (fn23); cited in Mitullah and Wachira (2003: 9). See Thomas (1995: 55-66) for further discussion on backward and forward links between the urban informal and formal sectors and whether they are benign or exploitative.

[41] According to English, subcontractors are more likely than prime contractors to avoid issuing workers with written contracts and registering them with the relevant authorities, in order to evade the 'on-costs' associated with employment. This, she points out, is often the motivation for the 'outsourcing' of labour in the first place (2002b: 1-2). Demonstrating the reach of globalisation – as the word infers, at the global level – Leonard reports exactly the same of formal firms subcontracting to the informal (including construction) sector in one of Northern Ireland's most underprivileged housing estates where, under the increasing competition of subcontracting, off-the-books employment is regularly practiced as the most effective way of keeping costs low (1994: 174).

Where this comment is useful is the remark – echoed by others such as Hamisi Yusuf, Imani Sunga, and Juma Simba – that workers employed directly by a formal sector firm (i.e., not outsourced workers) are better looked after by their employers and receive benefits such as hospital treatment that informal sector workers have to pay for themselves. This came through as the most frequent response when gang-leaders were asked the differences between the informal sector and the formal sector of the construction industry *in terms of their uses of mobile phones*. Mention was made of the gang-leader's freedom over his formal sector counterpart in using his mobile phone in the workplace to arrange other work (Sulemani Vulale), but the most common response of those who saw a difference (7/8) related to formal sector *mafundi* not having to use their own money to pay for their mobile phone use for work purposes:[42]

> In the informal sector much effort is spent in finding work and getting hold of tools, spares and so on, but these are supplied in the formal sector. For all of this the formal sector *fundi* can be paid from the office for using his mobile phone for work. (Iddi Mnyongea)

Or as Peter put it,

> Most *mafundi* [in the formal sector] get work and then they can put credit on their mobile phones because they know that they will get a salary at end of month. But I don't know this, maybe I can be without a job for two or three months. (Peter Makoye)[43]

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[42] This difference is essentially that between wage-earning and self-employment as much as it is the difference between formal and informal sectors.

[43] It is unclear whether what gang-leaders say about formal sector *mafundi* getting money from office for mobile phone credit is true or just rumours. Equally, it has not been proven that since formal sector *mafundi* have a salary at the end of the month they are more likely to use their mobile phones than ICWs who can be without a job for a long period of time. However, one positive difference that Sulemani pointed out is that while the formal sector *fundi* has his mobile phone credit for work paid for (and both can use their mobile phones for obtaining work), the informal sector *fundi* can go anytime to secure a potential job he hears of while the formal sector *fundi* is restricted by set hours where he has to be at his job (Sulemani Vulale). Charles also regards the independence of the informal sector as an advantage because the informal sector *fundi* can move to another trade if the present trade does not

Peter's remark helpfully sums up this section on cross-sectoral linkages by showing that despite the increase in the formal sector using the informal sector for its labour, the formal sector can by no means be relied upon to sustain many groups in regular employment since the relationship is unpredictable and at times ad hoc, with the leader only getting work when/if his gang are required by a formal contractor. The question this then raises is why when most communication seems to be personal, with Alex managing to 'hear about a job' when meeting up with people, Zahoro learning 'from walking around and asking', and formal sector and private customers simply visiting the workshop clusters in Chang'ombe, Gerezani or Vetenary, do gang-leaders see the need to purchase mobile phones? Do mobile phones help in finding work in the majority, private informal construction system jobs?

4:9. Mobile phones in finding work: 'cheaper than a sign', 'cheaper than a *daladala*'

When it came to the decision to purchase a mobile phone, most gang-leaders (13/19) state that they judged themselves – apparently without the influence of others – that a mobile phone is important for work purposes.[44] The most cited example (12/19) of gang-leaders realising the potential benefit of a mobile phone for work was when they saw that they were losing potential customers who were looking for them.[45] Much like the large farmers we saw in chapter four, other ICWs like James emphasise the ability to stay in touch with their business associates while on the move:

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bring in enough money (Charles Matiku), and advantage which also applies for self-employment in the formal sector.

[44] Gang-leaders never mentioned their mobile phone's non-work/social application. It is worth noting that it is difficult to judge from these replies whether the respondents obtained their mobile phones after seeing or being told of its possible benefits, or whether they now report the benefits retrospectively having started to use a mobile phone and seen its benefits themselves.

[45] This is supported by English whose survey of informal labourers in Cape Town shows that residential clients tend to call back the same builder for repair and further building work (English 2002b: 48).

> I decided myself to buy a mobile phone when I saw people would come to buy scrap and I wasn't here and they would leave. And [now] when I travel customers know where I am and how they can do business with me. There can be somebody selling scrap in Dodoma, and that person doesn't have to travel to Dar es Salaam to see me if I want to buy it. He can just talk to me on the mobile phone. (James Cuthbert)

Having purchased a mobile phone all gang-leaders claim they notice that, in addition to being able to travel while keeping in touch with potential customers, mobile phones can also be of some help in finding work. For those with an employer (i.e., labour subcontractor) who finds work for them the mobile phone is a more reliable way of keeping in touch with him, saving time and money on finding him to see if work has come up:

> Before the mobile phone people were difficult to communicate with, but it's much easier now. It's easy to know where the boss is so he can call me and say where he has work. (Africanus Pius)

For the gang-leader whose responsibility it is to find work, and for the self-employed, some find that mobile phones cut the cost of having to travel to find work. This was mentioned by Imani:

> If I travel to the guy who is selling pallets and he's not got any I can waste money and not make a profit. But if I text him and he doesn't have any pallets I don't lose much money, only a few shillings. It's cheap to text on the phone, it's cheaper than using a *daladala*! (Imani Sunga).

Here the mobile phone seems to be more of an advantage when a gang-leader has many contacts to ask if they require work to be done, as we see with Sulemani, who uses numbers he has stored on his mobile phone to contact previous customers when he is out of work:

I save [previous] customers' numbers and call them to see if they have work. It's like a big banner for my business.

When you're looking for work and call them, does this work?

Sometimes.

And if it doesn't work, you are not able to get work, what do you do then?

I ask people, friends, where work is. (Sulemani Vulale)

From Sulemani's description of the areas he often works in, and of his description of his relationships with customers, he seems to have created himself a network of wealthy clients who are pleased with the work he does.[46] Once a gang-leader gets a good reputation, word can pass when a happy customer talks with his friends, as occurred before mobile phones became popular. The difference now, however, is that the *fundi*'s mobile phone can now be passed on too, as Hamisi recalls:

You can't get work without a mobile phone. Before I just had a sign by the side of the road and used it to attract customers.[47]

So you get more work now that you have a mobile phone?

Before I used a motorbike to travel around to construction sites to find work. Now with a mobile phone I get work through people saying to other people that they should use me, and they write down my phone number and then maybe I can get a text saying to meet somewhere to discuss a job. (Hamisi Yusuf)

Similarly, gang-leaders with friends (not necessarily in the construction industry) who have a good knowledge of where their services may be needed are able, as

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[46] When in the area of his customer base the following week I asked another electrician if he knew Sulemani, to which he replied that he did. Hoping to find what made him a good *fundi* I asked about his work and was told he is a good electrician and is very good with customers: '*Ndiyo, yeye ni muuzaji hodari!*' (Yes, he's a hardworking salesman!).

[47] The city council has imposed a 'sign tax' that, according to Massimo (an Italian ex-patriate informant in the *vinyago* trade), is so high that he is considering removing his sign (Interview with Massimo, 14 August 2003, 'African Art' shop, Mwenge). Metod, of Nguvu Moja Group, wrote his mobile phone number on a sign he erected to advertise his business but removed it when the council tried to make him pay. He now relies on word of mouth for his reputation to be spread, but still uses his mobile phone, leading him to conclude that, '*Bongo* is crazy! Mobile phones are cheaper than a sign by the roadside!' (Metod Bernard).

before mobile phones, to inform or recommend their ICW friend. Of course, this is not a new method of finding work, but the difference now is that the mobile phone means that they can more easily contact the gang-leader to alert him of the opportunity, as Iddi remarks of his friends informing him of work:

> It's easier [with a mobile phone] to get hold of somebody. Now I can ask around, ask friends, if they know of jobs.
>
> *Your friends, they are in the construction industry?*
>
> No, they are just friends doing things to live. Before it was very difficult to get hold of people, but now I can just use [my mobile phone] them to ask if they know of jobs. (Iddi Mnyongea)

Or Charles, the qualified civil engineer who has the advantage of contacts in even better networks:

> If I hear that there is a job that requires my work I need to communicate [with the potential customer] to get the job.
>
> *Where do you hear this from?*
>
> Friends from college and engineers I have worked with before call me to say that there's a job that needs my work and I ask them for the number of that person and I then call [the potential customer] to arrange to meet to discuss the job.
>
> *You couldn't do this on a landline?*
>
> You could, but in those days with TTCL there were many problems. The call with a mobile phone comes straight to me. (Charles Matiku)

Yet while we have seen that the mobile phone now helps the gang-leader in that his contacts can inform him of potential jobs and his number can be passed on to potential customers, he is still no less reliant on being acquainted with the right people who know of these opportunities and who know him well enough to care to recommend and/or inform him. Therefore, according to Mitullah and Wachira, the gang-leader spends much of his time networking with relatives, friends and potential clients in search of jobs (2003: 20), and it is here that his personal reputation as a skilled worker – and, to a lesser extent, the reputation of the other skilled workers who regularly work with him – is a key requirement in getting himself known to potential employers (ibid.: 21), be they private clients in the informal construction system or the person the client has assigned this task to (the 'acting-foreman').[48]

The 'graduate poor'

There is not enough data from the survey to draw satisfactory conclusions on how the groups are formed and how often their membership changes – with questions on ties between members often being met with statements that a group member is a 'brother' (which can stretch to almost any male relation) or a 'friend' – but there is likely that the gang-leader has a favoured core of workers comprised of those he regards as the best and most reliable and to whom he gives priority to when jobs come up (although that these criteria may be ignored in favour of employing a relation). To fill one of these positions in the group a prospective new entrant seems to have to have some form of personal contact with somebody in the group, preferably the gang-leader, as this example from Manzese area gives from a mason's apprentice:[49]

> To get work in the building industry is an enormous task especially for both skilled and unskilled personnel. For a casual labourer, for example, he has got to establish personal contacts with a mason and this takes time and involves mutual understanding. As far as I am concerned, my brother-in-law had (using his position as a Civil Engineer) to use

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[48] In an interesting parallel, Leonard (1994) shows how builders in Belfast's informal economy similarly get most of their jobs through word of mouth recommendation, and are recruited through network of friends, neighbours and relatives already in informal employment who act as intermediaries. This, she argues, is especially conducive to creating bonds of mutual trust (Leonard 1994: chapter 7).

[49] A large percentage of workers are trained through apprenticeships (often 'assistants') in the construction industry (Kinyanjui and Mitullah. 1999, op. cit. (fn23); cited in Mitullah and Wachira (2003: 9)) and is also the medium through which skills are learnt in other manufacturing (ILO 1993: 21-23). Yet while a large proportion of master craftsmen obtain employment through developing subcontracting linkages with former apprentices (Haan 2001a), it looks likely that (at least in the construction industry) a worker's chances of getting into the jobs network through apprenticeship and 'learning by doing' will diminish if informalisation continues to reduce permanent employment (Wells 1999: 7) and the opportunity for a skilled craftsman to work with on a regular basis.

> not only knowledge about employment opportunities in the building industry but also his influence in facilitating my attachment to a local building company. The same applies to those labourers who seek casual work: one has got to be personally known to a mason before one is recruited for even daily casual work. (Mwami 1991: 66-67)

From among the group members the gang-leader usually has the most experience as an artisan and has the best access to contacts (Mitullah & Wachira 2003: 20) to inform him of work opportunities and to find reliable workers, as we saw earlier with Sulemani's ability to forge himself an excellent reputation that brings him a steady flow of customers in an affluent area of good quality housing.[50] I would argue that because of their ability to produce high quality work and build themselves a good name as Sulemani has done, gang-leaders are often those who Lugalla (1997) has termed the 'new poor' but who I shall term the 'graduate poor' to emphasise their education. These are individuals who policy makers assume are unskilled or have acquired their skills informally but who in this sample are sometimes high school leavers (ibid.: 439-442) or – in the case of Salutare and Charles, and some of the mobile phone *mafundi* – college/university graduates who have been pushed below the poverty line as a result of structural adjustment. The graduate poor are distinct from the 'chronic poor' who have used the informal sector (particularly for young men, the informal *construction* sector) as a safety net for many years, often as labourers with a very flexible job description in informal employment (Leonard 1994: 164) when they can get work but – because they are often unemployed – have poorer access to social networks for finding jobs (Meagher 1995: 268).[51] The

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[50] It is a weakness of this study that data was not collected on the history of the gangs and how the gang-leaders managed to reach their positions in the groups, whether they established the groups themselves, rose to their position at the top of the hierarchy, or were voted in by the other members. Yet in general it does seem from speaking with these gang-leaders during the interviews that some of them – but not all – seem to possess a certain charisma (similar to that of some *madalali* in chapter four) that could be applied to good effect in marketing and also, in some cases (e.g., Salutare Minja), a sharpness in the ways of the industry as a whole that is unusual to the average *fundi* spoken to outside the interviews. However, that these characteristics appear to be common among some of the gang-leaders may only be the result of the STICW-Dar project sample drawing on outgoing individuals, who might therefore be more forthcoming with their views than others not in the sample.

[51] It is these chronic poor who try to gain employment through a labour pool pick-up point (*kijiwe*) or, failing this, often physically come asking for work from gang-leaders in the hope that their trustworthiness will be assured by their assumed interest in earning money (Trulsson 1997: 250). There is a vast literature on how urban associations and networks (sometimes only claim to) represent their members at different levels of 'getting by'. From urban studies, Lourenço-Lindell (2001) asserts

‘chronic poor’ are increasingly being relegated to labourers rather than owners by the new entrance of those who Lugalla terms ‘entrepreneurs’, wealthier individuals with more access to capital entering the informal sector above the even graduates (1997: 442).[52]

‘Networks of knowledge’

While maybe lacking the capital of Lugalla’s ‘entrepreneurs’, the graduate poor to which many gang-leaders belong are well connected in terms of promoting their enterprises and expanding (ibid.: 442-443), and because of their experience in the industry have wider ‘informal social networks’ (Hart 1973: 77) for getting work and contracts (Mwami 1991: 67,87-88), or what King has called,

> *networks of knowledge* connecting these new entrepreneurs to markets, to low-cost suppliers, sometimes to their old firms through subcontracts, and to other enterprises. Some of these are as much social as technical or business networks…. (1996a: 190)[53]

In finding out about work opportunities the above comment seems accurate that the networks which count are as much social networks as any other, as can be seen in

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that informal networks of mutual assistance embedded in webs of social relationships are critical in the coping strategies of poor urbanites, allowing the poorest to gain access to the niches of the urban informal economy, find places to live and helping sustain them through crises. These can be compared with (more formal) associations, which can effectively exclude the poorest through participation fees (Tostensen et al 2001b: 23) but which are not always so effective in their stated aims. In Dar es Salaam, for example, Wenga et al (1995) show that many of the members of co-operatives and trade-based societies rarely have their interests presented and defended by the leadership who, faced with the unpredictability of local government, are forced to conspire extra-legal agreements that prevent them from challenging patterns of dominance and subservience. From sociology/anthropology Ishihara (2003) shows how faced with such pressures and weak law enforcement slum residents in Kibera settlement, Nairobi, utilise ethnic ties and kinship relations in preference to cross-ethnic deals, not because of certain intrinsic attributes of social networks, but simply because of the risk in dealing with someone whose personal background is unknown.

[52] In the construction industry, Lugalla’s new entrepreneurial arrivals to the informal sector might be located somewhere in the upper end where Mlinga and Wells identify ‘small emerging contractors’ and ‘established informal contractors’ (2002: 276-278). Perhaps with the rise of the informal construction system there is more opportunity for these individuals to shed their new ‘poor’ label and graduate, if not to the formal sector then at least in greater earnings.

[53] My emphasis. De Graaf and Flap (1988) show this use of informal social resources to achieve occupational mobility in America and Europe. The next chapter looks at the relationship between social contacts and global markets for local products.

business elsewhere on the continent in ad hoc discussions between white Zimbabweans at sports events and business conferences (Fafchamps 1999b: 33) for example, or Asians having a casual conversation at the club or mosque, or a business discussion at a family gathering (McCormick 1997: 122). If situated in the social capital literature these networks of knowledge are probably closer to ‘bridging’ (or ‘inclusive’) forms of social capital that link people to distant acquaintances who move in different circles from their own, than they are to ‘bonding’ (or ‘exclusive’) forms of social capital that are based around family, close friends and other kin and tend to be inward-looking and binds people from a similar sociological niche (Woolcock 1998). Or, to use the terminology that was originally applied to research into job seeking, the networks of knowledge these *mafundi* apply would be closer to Granovetter’s (1973) ‘weak’ ties that gave job seekers access to a wider range of information about a more diverse set of opportunities than ‘strong’ ties based on ascribed or earned trust developed over long periods of time.

For a gang-leader, however, as well as ensuring he has a good reputation to react to demand when friends or previous customers recommend him or tell him of possible jobs, finding new work is apparently more about chance and in being in the right place and hearing things and reacting to them than about positioning himself in a situation where more likely to be able to exchange information. This research did not study what conversation occurs on-site between tradesmen and groups, but from chatting with *mafundi* and the interviews with gang-leaders it does seem that in their eyes their network for finding work is open, more keeping their ear to the ground wherever they are and being prepared to follow-up on opportunities (even if these are hear-say or rumour) than it is a business network, as Peter shows slightly guardedly and with some amusement:

> No, I don’t have networks of *mafundi* I meet up with [to discuss things about the work prospects in Dar es Salaam]! [Laughs]. I just get on with work when I have it, and look for work when I don’t have it! Life is hard, do you see?
>
> *So you don’t discuss with anyone how you will get your next job?*
>
> That is my business!…[Laughs]…

> *…How do you do your business?*
>
> I talk with people who know about where work is.
>
> *And who are these people?*
>
> Friends. People I meet in the bars. I keep my eyes open for where [other *mafundi*] are working and where sites are starting. Life in Dar es Salaam is about brains, you know. That's why it [Dar es Salaam] is called *Bongo* ['brains']! You have to use your common sense! (Peter Makoye).

Despite these cases of gang-leaders being able to obtain work for their groups through friends, relatives and previous customers with whom they can keep in touch through their mobile phones, it is not surprising to learn that their contacts alone and acting on hearsay cannot always be relied upon as the sole source of getting work every time, particularly for those with fewer contacts. Clearly there are times when people the gang-leader knows do not require work to be done and do not know of work going on that requires their services. Indeed, none of the gang-leaders suggested that their contacts were so good that they had given up on what appears to be a common means of gaining employment in the informal construction sector, that of waiting for potential customers to come to them, either by relying on a customer's knowledge of the city's trade/service clusters and his or her ability to get to them, and/or from the customer seeing his advertisement (in the form of a sign or finished product (e.g., iron gates (Zahoro Maganga)) by the roadside. Nor did any gang-leaders say that their contacts in combination with their stated advantages of the mobile phone now meant that they have ceased physically walking to sites themselves to ask if their services are needed. At this point we now turn to the gang-leaders' negotiating of work, during which time his mobile phone takes a more minor role to face-to-face contact.

4:10. Securing work: negotiating the 'contract' face-to-face

The on-site face-to-face meeting

Irrespective of whether the gang-leader used a mobile phone in first contacting the customer or whether the first contact was face-to-face when he turned up on site, the two parties must meet. This meeting is face-to-face and is crucial, firstly, for the gang-leader to see the prospective job or, as James reports of customers inspecting his supply, for the gang-leader to see the materials he is buying and, secondly, for the client to assess the gang-leader's offer (and probably character) and for the two to negotiate a possible deal.

The meeting may or may not be arranged, depending on whether the gang-leader is acting on a tip-off about a possible job, or whether he has had prior contact with the potential (or previous) customer. All the gang-leaders said that if they have the potential customer's number they phone before the meeting (or are contacted first by the customer) in order to arrange the meeting time and place, which at this stage for informal construction system is usually the site. The customer appears to prefer – almost expect – to first hear the gang-leader's quote (sometimes giving prices for both formal and informal sector manufactured materials (Hamisi Yusuf)) and, as Zahoro finds when he cannot sell his metalwork through contacts or relying on roadside advertising, he must be prepared for their possible interest:

> I visit houses close to completion…to see the owner and ask him if they would like some good strong gates for security. I'll tell him, you know, "there are thieves in this area" or, "these gates would look ideal just here", things like that, and I bring out my book [photograph album] catalogue with photos of the jobs I've done before. (Zahoro Maganga)

Personality and trust

The customer's apparent openness (if not always receptiveness) provides the gang-leader with a chance to establish a tie with a person who may be able to open an opportunity, somebody he may not easily comes across otherwise, similar to the 'foot in the door' he so often lacks in contact with the formal sector. Here apparently it pays for the gang-leader needs to present himself as if at an interview, answering questions well and dressing smartly, as Abdi explains:

> You can't tell if he's going to steal, of course you don't give him the opportunity to do that, but you can tell by talking with him if he knows about his work, and if you see you can trust him, maybe because of his character, if he looks like a wealthy man with good clothes then maybe he is getting work and maybe you can trust him.[54]
>
> *So you need to meet him? You can't just talk over the phone, come to a deal, if you don't know him?*
>
> Of course not; he can steal if nobody knows him! (Abdi Hoza).[55]

As we have seen with some *mafundi* (and exemplified through Salutare), however, once a client trusts the *fundi* and he does a good job the client will use him in future and help spread his name among friends and admirers of the work – a beginning to the long-standing trusting relationship we discussed in the previous chapter. The attitude of the gang-leader, it would seem, is to go into the meeting with Obed's approach quoted above, that he is the ideal person to do this work. This requires the gang-leader to promote himself as a skilled and experienced artisan, and to become a salesman by adopting a 'can-do' approach where he presents himself as capable of arranging workers for any required task – a good attitude which bears similarities to that King has seen in Kenyan artisans who possess the confidence in their own technological ability (1996a: xvi). But as a stranger it is difficult for the gang-leader to convey trust to the potential customer, although the potential customer can use the meeting to attempt to judge this as best he or she can. The disadvantage for both parties is that with a *fundi* who is unknown to the prospective client, none of the mechanisms of trust – networks of working relationships; customer friendship; pre-existing networks; and intermediaries (Lyon 2000) – can easily be called upon to assess his trustworthiness or the character (*tabia*).

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[54] Unlike Abdi, most clients unfamiliar with building cannot easily tell about a *fundi*'s skill through talking with him about his work, so the customer may rely on the advice of others who do. As a former formal sector contractor Abdi is in a minority who could be able to judge this, and is clearly speaking hypothetically since he would have many contacts in the industry so would probably not employ a *fundi* from outside his personal networks.

[55] Peter also believes that the common perception among some customers and formal contractors is that informal sector contractors are less trustworthy because their profile is lower: 'Informal sector *mafundi* don't have visible offices like the formal sector, and they don't have transport that you can identify them by. There is no address, no phone number.' (Peter Makoye).

The verbal contract and pay

If gang-leaders succeed in their negotiations to work on residential building work, they then enter into 'verbal contracts with clients, which are not enforceable by law and are nothing more than "gentlemen's agreements"' (Mitullah & Wachira 2003: 20).[56] Some gang-leaders expressed the need at this point to raise the issue of an *advansi* (cash advance) before they start work, particularly for buying materials but also to cover the costs of the gang's wages and transport. All six gang-leaders who mentioned *advansi* said it needed to be discussed face-to-face. Similarly, the vast majority (16/19) agreed that the price must be discussed face-to-face with the customer, and sometimes in the presence of another of the workers. Gang-leaders were also certain that they had to discuss pay personally with rest of group, and that this could never be discussed over the phone. Again, Peter put it clearly,

> [The other group members] don't have phones, and if they did it would be bad to talk money over phone with people I work with.
>
> *Why is that?*
>
> It's bad manners. (Peter Makoye)

4:11. Selective communication when in work

Cost-saving for the customer

We have seen the mobile phone as an important business tool for the gang-leader in terms of not losing potential customers, and that it is also of some use for him in obtaining work. Equally, according to some *mafundi*, the mobile phone is also a popular communication device among customers once a *fundi* has started doing work for them, as Charles explains of a customer's desire to not have to waste time and money searching for the *fundi*:

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[56] Lyon (2000: 676) regards the verbal contract as a 'norm'.

> These days a mobile phone is very helpful for work. The first thing [a potential customer] can ask you when you meet is whether you have a mobile phone…. So that they can contact you without problems…. Maybe without a mobile phone you won't get the job. Having a mobile phone is very important these days. (Charles Matiku)

Attitudes to time, commitments and priorities

It is worth noting, however, that despite the advantage of mobile phones making it easier for the client to locate precisely where the *fundi* is and to arrange a meeting, it has no direct affect on the *fundi*'s timing and willingness to co-operate with the demands of a customer's schedule. This is a danger of thinking only in terms of the working environment that the poor *fundi* is constrained by and less of how his own (/the collective) work ethic affects (and/or reflects) the environment that he works in. There is no doubt that the average *fundi* has great difficulty in maintaining a steady income because of a host of constraints that to a small degree are alleviated by his use of a mobile phone. Yet one must be careful not to ignore the reality that at times – even when he possesses a mobile phone – the environment that the *fundi* operates in (and so to a certain extent, the environment he helps create) is one that sometimes appears to accept unbusinesslike behaviour: that he may not come to work and he may not give an explanation for this in advance; that he cannot be reached even by mobile phone; and when he is contacted he can make promises about returning to site and continuing the work '*sasa hivi*' (right now) yet he fails to appear for some time. Of course, as with anybody owning a mobile phone there are times when, for whatever reason, the *fundi* may not wish to be contacted by a client, but there are aspects of the work ethic that seem completely inconsistent with the notion of keeping the customer happy. As a businessman with former dealings in the construction industry both in Tanzania and worldwide (where he is bound to have experienced similar attitudes from construction workers), Abdi comments from his ideal view of seeing both sides of the situation, and makes it clear where his allegiances lie:

> Of course I use these [informal sector] *mafundi* because I know them. But with these other guys you get games, you phone them up, "I'm coming right now!" they say, and

> you wait and … you have to keep chasing them but it makes no difference, you still get excuses. Or they can just switch their mobile phone off if they know you're after them to do work they've not done properly. (Abdi Hoza)

In defence of the *fundi*, it seems that when agreeing to take on work for a client in the informal construction system he applies his 'can-do' attitude to negotiations in getting the contract in the knowledge that jobs can sometimes be few and far between, and it is for this same reason that if other attractive work comes up unexpectedly in the meantime (as we have seen can be the case because of the ad hoc nature of his information sources on such matters) he will also take the work and go missing from one site because he is attending to the other. While doing this the *fundi* appears to see no need to inform the other client that he may not be at work and is particularly reluctant to make a call from his mobile phone to do so, but this is difficult to condone when much of the rest of the country appears to operate this way, and especially when there is in fact often no physical contract to enforce, only a verbal 'gentleman's agreement'. Clearly the *fundi* is adopting a risky plate-spinning strategy that could see him lose the custom of impatient clients more used to co-operating around shared schedules, and in doing seems to rely as much on the ability to communicate as the *inability* to communicate and stay out of touch.

Cost-saving for the *fundi*

As well as the customers' cost saving, and despite the high cost of mobile phone ownership, 14 of the 19 gang-leaders also pointed out that a significant advantage of mobile phones is that they help cut their travelling costs when he has work. This was expressed by Peter (who in Mjimwema is detached from the city by a ferry ride across the mouth of Dar es Salaam harbour):

> The mobile phone makes arranging my time easier. Yes, the difference before and after mobile phones is very big. Now I don't have to [pay the *daladala* fare to] travel to Mwenge, for example, to say something to a customer about work. (Peter Makoye)[57]

Mohammed the glass fitter also realised this when working in his last formal sector employment and now continues to use his mobile phone in his present work in the formal sector:

> When I was working for Dar es Salaam Glassworks I bought a mobile phone myself so that I could communicate with my boss, and with the site and the workshop. I bought it because it helped me to plan my travelling during the day, and it saved journeys back to my boss because I would sometimes get to him and then be sent back to near where I had came from. It was expensive on petrol when I was driving all the time.
>
> *Does your mobile phone still help you now?*
>
> Without a doubt; but it eats money, so you have to be careful! You have to make sure you only use it when it is important.
>
> *When is it important to use your mobile phone?*
>
> When you need money! (Mohammed Ali).

4:12. Service culture and cost-saving: 'the customer is richer than the *fundi*'

Minimal communication initiated by the *fundi*

Although Mohammed did not divulge more details on when exactly he would judge it important to use his mobile phone, it is clear from the replies from gang-leaders below that the high cost of mobile phone airtime is a significant factor in whether it is used to communicate for work, and by which method (i.e., calling or texting).

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[57] The distance from Peter's house across the harbour to Mwenge is about 12 kilometres.

The gang-leader's decision on which method to communicate by his mobile phone is influenced firstly by the amount of credit he has available on his mobile phone, which is often very low. Of the 18 gang-leaders who answered when asked how much credit was on their mobile phone at the time, for example, five gang-leaders had no airtime credit on their account, and four has less than TSh500, while only two interviewees had more than TSh2,000.[58] Secondly, assuming enough credit is available (the alternative being to use *huduma ya simu* or borrow a friend's phone), the gang-leader's decision on whether to text or call when using his mobile phone is influenced by his judgement on whether what he is set to gain through this communication can be justified in terms of its possible financial benefits.

Frequency of mobile phone use per day

When asked how often they normally use their mobile phone for *making* work-related calls, most gang-leaders pointed out that the reply depends on how good business is at the time and so could not give an accurate 'on average' figure. The replies given are for 'when business is good', which is generally when they have at least one job going on that day. Seven gang-leaders said that they make around one or two work-related calls per day 'when business is good', four between three and five calls, while the remaining three make more than five work-related calls per day from their own mobile phone.[59] The amount of work-related calls received are slightly larger (seven gang-leaders receiving three to five work-related calls per day, and six receiving more than five per day), these mostly being from customers when the gang has work or, as Nordin points out, from formal sector contractors if they require materials. When he is not in work, however, the number of calls received

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[58] 50 cents and $2, respectively. The current balance of course depends on when, how often and how much is charged to the account, and how often and for how long the phone is used for calling/texting. These figures give little firm evidence of how much money a gang-leader usually has available for phone credit because the question was only asked once, and it is possible that all gang-leaders happened to have little credit at the time they were asked. Cross checking these figures by asking the airtime balance of other *mafundi* (and non-*mafundi*), however, does suggest that most Tanzanians have little airtime balance charged to their account. There is also probably some significance in that, when asked their airtime balance, none of the interviewees needed to check because they already knew it – which suggests that they closely monitor their mobile phone use and that it is probably a significant cost to their budget.

[59] Three interviewees did not reply directly, two make one or two work-related calls a week.

drops to nearly no calls per day, and he has to start making calls himself. In terms of texts sent per day, these closely match the frequency of calls made, although five gang-leaders say that they never send texts because they risk wasting their money by not getting a reply (Metod Bernard; Obed Samwel). Juma, for example, said, '*I will reply to a message by text if I am sent one, but if I need to get information I prefer to call because it wastes time waiting for a reply*' (Juma Simba). Gang-leaders receive slightly fewer texts than they send, perhaps because as James points out, '*you don't have to reply to every message you receive – you can give information that doesn't require a reply, or a beep can tell the person "Yes", "OK" or, "I agree"*'(James Cuthbert).[60] Furthermore, the recipient may not have the airtime available to reply (more likely an ICW than a customer) or does not regard a reply to the text as important.

Minimal communication with the client: being seen to have money

Gang-leaders will choose to call direct when making first contact by mobile phone with a customer whom they have not yet met personally and need to meet (section 4:10), and in all contact with a customer if in their eyes it is a '*big job*' (Hamisi Yusuf; Mohammed Ali; Hassan Ndahili) because, as Peter put it, '*you need to show the customer that you have money [to spend on a call] and are not a fundi who can send thieves to steal from them*' (Peter Makoye).[61] This need to appear to have money to spend on airtime seems to be important because, suggests Metod, a *fundi* who does not have credit can create a poor impression on a potential customer:

> If you are talking with a customer [on the mobile phone] it can be bad to ask them to call back because it shows you have not got money, so you must pay for the call. If you

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[60] *~beepu* (from the English, 'to beep') is when a call is made but the caller hangs up before the phone is answered, thus registering the caller's details (name, number, and time of call) at no cost to either party so long as the caller's account is in credit. Unless pre-arranged, however, the meaning of a beep can be unclear because it means different things to different individuals. *~flashi* ('to flash') is also used, particularly in Kenya.

[61] What constitutes a 'big job' is unclear, with gang-leaders generally describing it rather vaguely as one that brings in good profit.

> have no money [during the phone call] and must ask him to call back you can tell him that your money has almost run out and not allow the call to cut out because they may think you are not serious and are playing games with them, or you are a poor *fundi* with no money, which can make them think you don't get jobs because you're not a good *fundi*. So you have to use your brains and trick them, do you see me? Maybe you can say that your money is going to run out and you're far from a shop to get credit, so you ask them if they can call you back quickly. You see, the customer is richer than the *fundi* – he is getting lots of nice things done to his house so he must be much be richer than me! I don't have a house with big gates at the front like some of these guys with money! (Metod Bernard).

'Like writing a letter': texting versus calling

So long as credit is available, calling can be used if the gang-leader is in a hurry to communicate something to a customer or even another group member if they are elsewhere and their help is needed (Salutare Minja; Mohammed Ali) but, as we have seen with farmers in the trade of perishable foodstuffs conveying buying and selling information, gang-leaders use texting more often than direct calling as a means of communicating by mobile phone, primarily because it is cheaper (Africanus Pius; Hamisi Yusuf; Salutare Minja; Charles Matiku; Obed Samwel; Imani Sunga); Peter again:

> People are frightened of calling direct!
>
> *Why are they frightened?*
>
> They're saving money. Maybe they plan to use only 5 dollars per month, so they are thrifty with their money. (Peter Makoye)[62]

For this reason gang-leaders see it as acceptable to use texting when information that does not require a reply is being sent, such as informing a customer that their order is ready (Karanje Suleman; Vitus Sangade), and especially if it is a reply to another text (Alex Gerson; Juma Simba).

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[62] At the time of the interview Vodacom was still using the dollar denomination but after much discussion in newspapers has since moved to the shilling in line with the other mobile phone operators.

The advantage of a direct call, on the other hand, seems to be that – so long as the conversation is brief – it is sometimes faster to speak, and easier to convey detail that involves discussion or opinion, than to text (Charles Matiku; Obed Samwel). As Peter again points out, speaking ensures immediate reply (Peter Makoye), while others stress that texting can often be ignored (Metod Bernard; Zahoro Maganga; Juma Simba) even if an answer is required, because the recipient can have no credit with which to reply (Nordin Chopa). In a very good parallel, James likened texting to that of relying on the postal service to communicate, which we have also seen in the preceding chapter is often an unreliable means of communication: '*A text message is like writing a letter because you sometimes have to wait a long time to get a reply!*' (James Cuthbert). This helpfully highlights that however useful a mobile phone may be in terms of being able to communicate, for the average gang-leader sending and receiving information is expensive and, even where they are set to gain from the communication, the gang-leader cannot always rely on the goodwill of another person to reply because that person may also be on a tight budget.

'You can't beep a client'

Aware of the cost of communicating by mobile phone, well over half of gang-leaders (11/16) said that they use their phone to 'beep' when they need to communicate with somebody who knows what the beep signifies. In this situation the caller dials the number of the person they wish to communicate with (or the mobile phone that person too is borrowing) and hangs up just before incurring charges; thereby making it more likely that they can use a friend's handset for free because the call is not charged to the owner.[63] This is also a common means of communication between rural and urban areas, the idea being that the recipient then returns the call based on the number left on the handset, and since the rural caller typically contacts an urban resident who is wealthier than them the city dweller is often in a position to return

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[63] While a friend may not ask for remuneration, many *huduma ya simu* will charge for this service. Another act of intelligent consumption that Alhassan notes is chip switching to make cheaper calls through using the same network. This is carried out especially among wealthier urban mobile phone users in Dar es Salaam who can afford the initial costs of additional SIM cards.

the call. As one farmer interviewed for chapter four put it, '*[the person being beeped] is a rich family member, because people contact relatives in town when they are looking for money*' (Shem, 06/09/03). According to recent research (Scanagri 2005: 9), there is also evidence that the city dweller *is* willing to pay the costs for their rural relatives and actually call back.[64] Of course the beep does not always act as a prompt to call the 'beeper' back, for to more advanced users it can signify any prearranged message, but it always relies on some form of beeping 'etiquette' (Scott 2003) which determines who will beep, and to whom beeps will be returned. In Mozambique, for example, in personal or private interactions it is apparently not proper for a man to request a call back through a beep to a woman, even if he is completely broke (Chango 2004). In all cases this is largely based on financial resources since, even if the beep indicates a prearranged message that does not involve a call, it is only possible to do this if the beeper has credit.[65] Figures from Uganda, for example, suggest that people from rural and low-income areas are less willing to pay for a call for, although the proportion of successful beeps made from personal phones is slightly higher than *huduma ya simu* (45% against 40%), *huduma ya simu* beepers are more economical with their own air time and call back only 34% of people who beep them (McKemey et al 2003: 36).

In the case of the construction industry, beeping need not be with somebody the gang-leader is in frequent business contact with, but can be an ad hoc arrangement that in the following example from Zahoro ensures the person whom he beeps knows that he does not expect him to pay to get in touch:

> If the supplier is not there when I visit, I leave my number and ask the person I see to tell his boss to beep me when he comes back. This doesn't cost the guy who beeps me because beeping is free, so he is able to do it. (Zahoro Maganga)[66]

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[64] The 'beeping' phenomenon is commonplace in rural China (Ulrich 2004: 28-29) as well as being widespread across Africa. According to one Dar es Salaam-based newspaper it is 'an open secret' that people in Tanzania have mobile phones just to receive calls (Daily News 10 June 2003).

[65] Vodacom Tanzania Limited now offers a 'Call Me' service that allows users to send a free message to another Vodacom subscriber requesting them to call back. A new 'Credit Transfer' service also allows users to send pre-paid credits to other Vodacom subscribers.

[66] 'When business is good' seems to be when a *fundi* has (at least) one job going on in a day.

Of the 11 gang-leaders who use beeping in business (i.e., outside social mobile phone use), all said that they would beep an ICW or somebody else working in the construction industry but, significantly, all but three gang-leaders who answered showed disapproval that a customer is beeped, apparently again because it implies the *fundi* has no money:

> If I have no credit on my phone and I need to speak with a client I will call from a friend's phone or use *huduma ya simu*. You can't beep a customer many times, it will annoy him! (Peter Makoye).

This suggests a certain unwritten rule among gang-leaders that it is acceptable to beep other ICW or if they have made an arrangement, but it is not acceptable to beep a customer. This is not to say that the *fundi* will instead call a customer, rather that with the customer he will avoid communication that he pays for unless it concerns getting a job, getting materials to get the job done, and getting paid for the job when finished.

Fundi initiates and pays for 'essential communication'

From the interviews with gang-leaders and conversations with other *mafundi* it seems that communication *mafundi* initiate on their mobile phone (i.e., which they would be paying for) tends to be reserved for the most essential communication, which falls into three general categories: making first contact with a potential customer (if the customer has not contacted him first) to arrange the face-to-face on-site meeting; secondly, communicating with the customer to make sure he obtains the materials for the work (if this is the agreement at their face-to-face meeting, section 4:10) so that he can then complete the work. Hassan, for example, appears willing to pay for communicating from his mobile phone when he needs something from a customer to get the job done:

> Sometimes I have a job but cannot get hold of the customer. I will use my mobile phone to say what [materials] I require if something new comes up and I need a certain

material. I can also tell the guy selling wood to contact me when he gets hold of it. Ah, yes, the difference [before and after getting a mobile phone] is very big. It saves time, before I did much walking and travelling in the whole of Dar es Salaam, it's a big city, do you see, to contact customers about materials and possible jobs. (Hassan Ndahili)

Thirdly, communicating again with the customer to pay him or her (the remainder he may be owed if given an advance, as agreed in the face-to-face meeting) on completion of the work. For Mohammed (who we saw above is wary of the costs of his mobile phone use), this point seems to be a time when he is willing to pay for the call, because it is cheaper than the alternative of travelling across the city:

It takes an hour to get to a customer in Mbezi and back, so it's easier, much less money, to phone to say the job is finished. (Mohammed Ali)

Hassan gives a pointer for why it is now that communication by mobile phone is important; the *fundi* needs to get paid:

You must have cash to pay for communication. For example, you will have to tell the customer the job is ready at the end and this is when you get paid – you need money to get money! But because at the end of a job you have been surviving on nothing the call can be from *huduma ya simu*. Or maybe you can ask to use a friend's mobile phone if they have money on their phone and you don't [have money on your mobile phone] because you haven't been paid.

Do you pay your friend for using his phone?

It depends. Many times you will have to reimburse your friend when you are paid. *Huduma ya simu* don't give credit, and these days money is so difficult in *Bongo* [Dar es Salaam / Tanzania] that friends will ask you to pay back the three hundred shillings for using their phone because they will need it to eat. (Hassan Ndahili)[67]

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[67] It is interesting to note that unlike in the rural Southern Highlands where *huduma ya simu* operators are willing to give credit and deliver messages and where we have seen that friends are willing to accept approximate repayment for the use of the mobile phone, this is not Hassan's experience in the city. The immediate difference here is that in rural areas there are probably more local customers and trust is higher because customers are better known and more easily located if they defer payment.

Of course there are cases where *mafundi* will call outside this general pattern, especially those with more money, but this does seem to be a general trend among those in the ICW sample. When asked to comment on my hypothesis that *mafundi* will only tend to pay for communication when it is getting a job, getting materials to get the job done, and getting paid for it, James replied:

> Yes, you need to get work to feed the family and pay for school fees, so you cannot be talking to the customer on your phone like he's your friend at the bar! I get work and I do work, but if I need to talk to the customer I make sure I do not waste my money on the phone! (James Cuthbert).

Again, like Mohammed, James here does not go into detail on what calls he would regard as wasting money – whether he would see letting the customer know he cannot come to work as a waste of money, for example, is not clear – but it does look as if most gang-leaders seem reluctant to pay for communication that keeps customers up-to-date with progress reports, preferring instead for the customer to pay for contacting them.[68] This appears to reflect a customer-service work ethic that is far from ideal and can imply, despite the apparent efforts mentioned above of *mafundi* to be seen to be wealthy and trustworthy, quite the opposite (particularly when bearing in mind the unfavourable impression a customer may be left with if a *fundi* is not on site and unreachable). Comments from *mafundi* about their reluctance to pay for all but the most necessary communication give some indication from the interviews of attitudes towards the customer, who in the eyes of the *fundi* is often perceived as the richer party and seems to be obliged to make the phone call where possible.

Perhaps the most important point to take from this discussion on attitudes towards expenditure is that while mobile phones are useful for not losing potential customers and saving some costs, they are still not cheap to use for the self-employed *fundi* in the informal construction sector, so he will limit his use of the mobile phone, and the methods of communication he uses, to particular people and situations. This is a

[68] It is questionable, of course, whether workmen in any other country would always keep customers informed with progress reports.

general trend to which there are surely exceptions, and the discussion of this trend here is not one that intends to cast judgement, rather to show how costly it is to use a mobile phone in Tanzania and why it is that at times it can seem to the customer that the *fundi* is deliberately incommunicado. What is interesting, however, is that although informal sector gang-leaders are generally regarded as offering a more reasonable deal for the customer, they are still very proud of themselves and confident in their abilities, and in no way subordinate to their formal sector counterparts. This seems to come across in their mobile phone use when in contact with a customer – particularly at certain times in their working relationship – where they appear to take action to avoid being perceived by the client as in any way 'poor'.

4:13. ICT in Dar es Salaam's informal construction sector: 'eyes and ears'

The chances of getting work are improved if the gang-leader is well known in the industry, both in the formal sector where he can increase his chances of getting subcontracts, and in the informal sector where he can obtain work from an acting-foreman or direct from the client on a private informal construction system job. Since recommendation (closely linked with reputation) seems to be passed by word of mouth, the gang-leader with a mobile phone is still no less reliant on being acquainted with the right people who will care to inform him when opportunities of potential private customers arise. Although not enough is known about on-site networks, it does seem from this research and the work of Mitullah and Wachira (2003) that *off*-site the gang-leader spends time in his informal networks of knowledge, composed of friends and relatives (not exclusively those in the construction industry) who may have some ideas on where his gang's services are needed. These networks are very open, with the gang-leader constantly relying on 'eyes and ears' by listening to conversations in social settings (particularly bars) and being prepared to follow-up on opportunities if they arise, and by continuously being on the look out for emerging sites through much physical searching for work.[69]

Where mobile phones are of help in finding work is that they make it easier for previous customers to locate the gang-leader (where before, if unsuccessful, they would go to another *fundi*), and when recommending a gang-leader previous customers can also pass on his mobile phone number to potential customers. The other big advantage gang-leaders report of mobile phones is that they save time and, crucially, money spent on travelling to communicate with suppliers and employers, from finding work through to completion of the job.

When the gang-leader has identified a job, the process of actually winning the ‘contract’ involves negotiation, during which time his mobile phone takes a more minor role to face-to-face contact. This is important because while within the informal construction system the client appears to show a preference for hiring workers known within his or her personal network of contacts, when the prospective contractor is not known to the client and has not been recommended by his or her associates the gang-leader can use the opportunity of being with his potential customer to win the deal by presenting himself as a trustworthy, skilled and experienced artisan, ‘the best man for the job’ who can arrange everything without the client having to worry about hiring anyone or finding any equipment. Being present with the potential customer also allows the gang-leader to assess the job and negotiate on the price (and a cash advance), which can only be done face-to-face. Should the land owner accept, this is then enshrined in a verbal ‘gentleman’s agreement’.

Once the work has started the mobile phone then comes into play again when/if the gang-leader wants to know something from, or confirm something with, the customer that does not require the customer being there – such as the purchasing of further

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[69] ‘Eyes and ears’ is a phrase used by a formal sector bricklayer when dispensing his advice on how to get ‘weekend’ (i.e., private, untaxed) jobs in the south of England. The author has worked in the construction industry in the London area (first for Irish ground worker gangs, then as a hod-carrier for English bricklayer gangs) for a total of 18 months between 1996 and 2000.

materials if it has been agreed that this is the gang-leader's task. This saves both the client and again the gang-leader the costs (of time, and money on petrol) spent having to find each other in the city. However, because of the high cost of using a mobile phone the gang-leader is very careful in choosing when to use it for work and – depending on who he is contacting and for what reason – whether the method of communication is by calling, texting, or beeping. It appears that he must be *seen* by the client to appear to have money, so he calls or texts in this situation, but tends to restrict this to calls about one of three reasons concerning: finding a job, getting materials to get the job done, and getting paid for it. In communication with another informal sector construction worker, on the other hand, the unwritten rule seems to be that it is more acceptable to beep to communicate a pre-arranged message or to signal the need to return the beeper's call.

4:14. The mobile phone and the informal sector: real opportunities?

Yet besides saving time and, most importantly, saving money, what *real opportunities* do mobile phones open up to the gang-leader? Is there really something pedestrian about the additionality of an informal sector operator having a mobile phone? A handbook on ICT for entrepreneurs in developing countries puts the case well:

> Mobile phones are particularly suited to business users. They let you answer customer calls immediately, and reach staff or business contacts while you are working away from your business premises. A mobile phone will give you greater flexibility, faster customer response and time savings…. For small businesses, answering a call immediately, rather than responding later, could make the different between winning or losing an order. If you spend a lot of time away from your business premises, on site or with customers, a mobile phone will allow people to contact you at any time of day. (Duncombe & Heeks 2001c: 19)

The difficulty when reading such literature on advice in the development of MSEs is that while it supports advantages of the mobile phone that gang-leaders themselves report to have found, the advice it offers also exposes many of the fundamentals of running a business that most of this sample (and probably the majority of informal sector operators) lack, such as keeping customers up-to-date. Duncombe and Heeks note that a telephone, for example ‘will be particularly useful for keeping customers informed about problems such as late deliveries or production problems’ (ibid.: 18), but we have seen that this is rarely the case when gang-leaders have not finished orders on time or are unable to come to work. This may have something to do with a slight culture of secrecy about the entrepreneurs’ affairs or the costs of communication that we have seen the gang-leader is so careful to monitor, but it may also be simply because many informal sector operators have low levels of marketing and commercial skills (section 1:15), especially when it comes to putting the customer first. The nascent *Informal Sector Roadmap Study*, with the example of businesses closing up for several weeks at a time for the operator to attend family functions such as weddings or funerals (UNDP et al 2004: para.154), sees the general attitude as a socio-cultural constraint hampering business growth.[70] It may take a generation until a more customer-focussed culture is developed, and this can only come through basic business training of the type the government promises in its *SMEDP* (URT 2002d: 18).

However, we have seen individuals taking initiative in promoting their businesses to customers through using ICT, such as Sulemani who uses his mobile phone to store the numbers of all his previous customers and calls them periodically to see if they have any work to be done or if they know of other potential customers. We have also seen Zahoro use his photograph album as a catalogue for promoting his skill through visual images of his product range. But at no point did any gang-leader have a business card with their group name, trade and space for a mobile phone number to be written (rather than printed on the card, since people commonly change their numbers) that could act for the entrepreneur as a powerful symbol of his seriousness

[70] The *Informal Sector Roadmap Study* is sensitive to these social imperatives for entrepreneurs ‘which are essential to their identity and culture in the name of competitiveness’, and offers suggestions for strategies when businesses are closed for long periods (UNDP et al 2004: 155). The roadmap has been described by one of its main architects at as ‘an attempt to form indicators because since *SMEDP* the government has done no more than pay lip-service to the informal sector…. [The roadmap] is of little use though because the recommendations are just that – they’re not enforceable.’ (Anonymous. Strathclyde Graduate Business School, Glasgow, 29/07/05).

and professionalism that gang-leaders are so keen to portray in their manners and appearance when visiting potential clients.[71] These cards can be well-made within the informal sector at minimal cost and handed to customers, and perhaps with one for a friend admiring the new building work done on their house. The use of business cards is common practice among taxi drivers in Nairobi, but not among their counterparts in Dar es Salaam nor in many informal sector trades with frequent customer interaction in the city, reflecting poor basic marketing skills that a different, more 'advanced' group of entrepreneurs in the following chapter on *vinyago* seem to have grasped to great effect. This small step for entrepreneurs running MSEs is possible when it is considered that only a few years ago mobile phones themselves were unheard of among informal sector operators, but we have seen how they are now a normal part of day-to-day business.

Nonetheless, we must be careful to note that although mobile phones are increasingly being used in the informal sector – Africa's ordinary economy – this is only by a small minority at present, with few gang members other than the leader using a mobile phone for work purposes. So is there evidence of the need for other group members not in the leadership to obtain mobile phones for work? No gang-leaders expressed great problems arising from members not having mobile phones and since the application of mobile phones within a group is largely towards obtaining work (the gang-leader's task), then there seems little need for others to acquire them for work purposes. This is especially the case given that the price of the handset – let alone the running costs – is outwith the budget of many informal sector workers, but it does mean that the gang-leader still has to travel to the labour pool pick-up (or site, if they have work) in order to contact the gang members. Where the mobile phone may be more useful for gang members is when they might offer their personal contact number in advertising their individual services for out-of-hours work separate from their informal sector employer, as Said reports some casual labourers may be doing at his labour pool pick-up point. This may be regarded as underhand within the informal sector group and would probably affect group cohesion, but is

[71] Vodacom includes in its prepaid package a 'number for life', meaning that there is no validity limit, no need to buy air time or recharge credit. It is no longer just pay-as-you-go, but only-pay-as-you-need without any time constraint.

something Alex admits to doing in order to undercut his formal sector employer and obtain jobs under the informal construction system. Rather than purchasing a mobile phone, however, a gang member doing this would probably judge that it is cheaper to have good relations with a local *huduma ya simu* operator or a friend (as Metod does), although such associations have not been studied here in the urban setting. Yet irrespective of the source of the communication, what is important again is that this offer for work is accompanied by delivered promises, reliability and quality work that help the businessman foster a good reputation, which Sulemani shows has enabled him to build a network of wealthy clients who are pleased with his work and pass on their satisfaction to friends. It is likely that this recommendation of the *fundi*'s good work will still travel by word of mouth, but for gang-leaders working both autonomously and in subcontracting relationships, and for the self-employed within the informal sector more generally, it does appear important to have a contact number too – not least in the savings many gang-leaders report they yield in terms of travel expenses, which critics seeing the mobile phone as offering only a 'pedestrian' benefit to MSEs would do well not to underestimate.

The ownership of, or access to, a mobile phone and having business cards displaying the phone number applies more to the self-employed 'graduate poor' (who probably mostly already own mobile phones as it is) and not the *walala hoi* 'chronic poor' at the lower end of the informal sector spectrum to whom mobile phones are unlikely to feature in their list of priorities. Indeed, the stratified ownership of mobile phones along these lines is a good indicator of what is now perhaps the biggest split in employment in Tanzania, which is no longer the formal-informal dichotomy but increasingly that between a stratum of employers and middlemen (mostly using mobile phones), and a stratum of employees, apprentices, family labourers and marginal-owner operators (generally not using mobile phones), who constitute a majority 'informal proletariat' – a divide that is far wider than when Portes et al (1986) made this observation over a decade before the rise of subcontracting and the emergence of labour subcontractors/middlemen we increasingly see in the informal construction system.[72]

Government intervention in relation to ICT in business, where it exists, also appears to be aimed at the ‘employers and middlemen’ stratum, and among them those who use the internet, which in the construction industry seems to be the preserve of the formal sector (in Jaffer’s case, for e-mailing international suppliers and as a source of information on new designs. Although no gang-leaders reported using the internet, the government has plans in its *Small and Medium Enterprise Development Policy* to create a national website for SMEs and a directory of service providers (URT 2002d: 19). It still remains to be seen what form this takes in order to provide for the majority who will have to rely on government supply of these services, and also whether in reality the purchase and running of ICT can be prioritised over other areas of the budget such as education and healthcare, but it does seem as if the focus on enhancing service provision through e-commerce (ibid.) will benefit more those entrepreneurs we address in the following chapter whose connections branch internationally. For the new businessmen in construction and those others located in the ‘employers and middlemen’ stratum of the informal sector more generally, a local directory listing of MSE phone numbers by trade may be more appropriate, paid for by private advertising much like *The Yellow Pages* in Europe and North America. No such document exists in Dar es Salaam for the majority informal sector businesses, but if distributed adequately within the industry and to potential customers advertising the services of informal sector enterprises within the neighbourhood it would go some way towards helping the marketing needs of those operators who at present rely on waiting for employment opportunities or approaching would-be sources of employment.

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[72] The heterogeneity of enterprises in the informal sector, together with the linkages we discuss in section 4:8 – especially the propensity for subcontracting and inequalities this can bring – strengthens the call for the expanded conceptual framework (section 4:1) and especially the conceptualisation of the MSEs by the nature of employment relation (section 4:2). A study carried out by Lachaud distinguished five sub-groups based on this criteria, an approach that for purposes of more effective intervention would help better expose subcontracting and other forms of irregular and unprotected employment. Lachaud, J. P. 1994. *The African Labour Market*. ILO, Geneva; cited in Wuyts (2001: 430).

Summary

This chapter has analysed the communication involved in finding, securing and completing work in the informal construction sector, and reveals that since small enterprise development policy concentrates on use of the internet, much policy is not relevant to the majority of informal sector enterprises. When informal sector enterprises do use ICT, they rely almost exclusively on mobile phones as a significant cost-saving device in day-to-day business communication. We note that although mobile phones *are* increasingly being used in the informal sector – Africa's ordinary economy – this is only by a small minority at present, with few gang members other than the leader using a mobile phone for work purposes. Despite having better communication with clients, however, entrepreneurs do not appear to have dramatically altered their unbusinesslike and seemingly carefree attitude towards keeping customers informed when prearranged timings cannot be met.

5 African Blackwood Carvings: from *mpingo* tree to export carving

> At all levels of the [African art] trade, individuals are linked to one another by their vested interest in the commoditization and circulation of an object in the international economy. (Steiner 1994: 164)
>
> Due to lack of knowledge and capital, the [Mwenge] operators have not tried to market their carvings overseas. (ILO discussion paper on Dar es Salaam's urban informal sector; cited in Lwoga 1995: 19)

This case study follows the entire market chain of Makonde carvings (*vinyago*), from the source of the hard, heavy wood of the African blackwood tree (*Dalbergia melanoxylon* in Latin, or *mpingo* in Swahili) to their export as marketed products. We use the findings of semi-structured interviews and open discussions with 11 carvers and carving groups, 9 collectors, and 17 Tanzanian-based retailers in the *vinyago* trade to show how ICT really are being accessed, adopted and appropriated without the influence of donors. In doing so we first look at the three geographical areas where carvers work and we observe how they communicate with their only source of contact up the *vinyago* marketing chain, the collectors. Three sets of collectors are identified and we look at how they have appropriated ICT to suit the demands of their work, which for some can involve much long-distance travel because their job demands that they are physically present at both ends of the marketing chain, with carvers they buy from and retailers they supply. A particular focus is given to women retailers who – as we have seen in the perishable foodstuffs case study – in Tanzania are traditionally assigned more menial roles, and in the *vinyago* trade are not allowed to carve but may only polish figures or, in some cases, act as assistants in Dar es Salaam's retail outlets. But where in other countries on the continent females working in the handicrafts industry are only engaged in the trade as long-distance suppliers (Steiner 1994: 41), in Dar es Salaam some women have also carved a niche for themselves in the high-profit area of export. Three businesswomen with a special talent as retailers are profiled and their use of ICT is compared against that of their other counterparts in Mwenge crafts village, a location where ICT prove to have some considerable use in facilitating these women's natural talents in business.

5:1. Why African blackwood carvings as a case study?

Studies looking at artisans in poorer countries often argue of the injustice cast upon carvers and other producers who, in order to sell their products to upscale handicraft boutiques, art galleries, and specialty import stores which pay high prices for traditional arts and crafts, have to work with parasitic middlemen – they are rarely called middle*women* – who mark up the prices significantly, leaving the local producer with a fraction of the profit. The export of goods made from *mpingo* is no exception.

Mpingo leaves a fine rich dark finish, most often seen in the North in woodwind instruments, but in Tanzania it is usually expertly crafted into one of three main styles of carving (*kinyago*): *binadamu*, 'human being' naturalistic figures and themes; *shetani* sprit figures and themes and *ujamaa*, 'family' or 'socialist' composite works composed of a multitude of interlocking human figures (Figure 13).[1] Wealthier urban retailers – both male *and female* – then make a significant profit selling these beautiful carvings to buyers abroad. In recent years *mpingo* stocks in Kenya have been completely exhausted such that carvers must now obtain their wood from the local *miombo* scrub woodland of Mozambique and Tanzania where the tree only here reaches harvestable size in sufficient abundance to be a commercial proposition (Ball 2004: 1). Much unlicensed felling of this protected species goes unreported in local forestry statistics, however, and as the tourism industry in East Africa expands, demand for the wood is only likely to increase –

[1] pl., *vinyago*. The term 'Makonde carving' is not used here since not all of the carvers of African blackwood sculptures are Makonde and the themes found in retail outlets are not always those traditionally associated with the Makonde, or styles that were originally designed by carvers of Makonde heritage. The term *vinyago* is preferred. Under Nyerere carvers were sent around the world at government expense to exhibit the country's socialist art as presented in the *ujamaa* figures (Saetersdal 1998: 288).

which, in the short term at least, is good news for those many carvers and carvers' families in these economically depressed areas of rural Tanzania which depend on the wood as their sole source of income.[2] At present it is also good news for the middlemen and women ('collectors') and retailers further afield who also benefit tremendously from the trade in the products of this precious commodity since, in one way or another, almost all blackwood sculpture is now exported out of Tanzania, often from Dar es Salaam's Mwenge crafts village.

With the spread of the internet and other information and communication technologies, development agencies dealing with handicraft markets (e.g., the World Resources Institute (2003), Gamos (2003)) now argue that artisans finally have an opportunity to access tools that give them a competitive alternative. However, there is very little evidence to date of non-donor funded appropriation of these new ICT. Indeed, while Kingdon (2002) has done some exceptional work on the emergence of Makonde sculptural forms and West & Malugu (2003) have done some work on the retail chain, no serious attempt to date has been made on investigating the communication between suppliers and their customers in this important market.

Mtwara Region and the Makonde

Mpingo trees are particularly concentrated in Mtwara Region, Tanzania's southern most region that is largely inhabited by the Bantu-speaking agriculturalist Makonde tribe of Mewala, Tandahimba, Masasi and Mtwara rural districts on the inaccessible high plateau north of the Ruvuma river that separates Tanzania from Mozambique (URT 1997b). The last two generations of Makonde have migrated across the Ruvuma in increasing numbers at first to work on Tanganyikan sisal plantations, and later as refugees of the war of liberation waged by FRELIMO forces in Mozambique

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[2] There have been few conservation efforts to replenish the species, with the current extraction rate of 20,000-30,000 trees per year diminishing the harvestable population at a rate of 5% per year. West & Malugu (2003: 28) calculate that the equivalent of 5,270 harvestable *mpingo* trees are used by Mwenge carvers alone. The African Blackwood Conservation Project (2004) website (www.blackwoodconservation.org) quotes from the International Union for the Conservation of Nature/World Conservation Monitoring Centre, whose *World List of Threatened Trees* states that for African blackwood, '[l]evels of exploitation are very high and larger or suitably exploitable individuals are becoming scarce. There is cause for concern over genetic erosion in many populations'.

(Kasfir 1980: 67). Around the same time, in the early 1970s, the government favoured investment in industries and other large scale ventures in Dar es Salaam, Mwanza, Arusha and Mbeya, leaving Mtwara (and Lindi district, its northern neighbour), unable to attract significant amounts of investment from national budgets (Lerise et al 2001: 3). Mtwara has never been able to recover and has since remained isolated from Dar es Salaam by an extremely poor transport infrastructure and poor telecommunications coverage, which in 1997 had a maximum capacity of 1550 telephone lines throughout the district (URT 1997b). At present the district is still cut-off from Dar es Salaam by one of the country's worst main roads, and Mtwara and Masasi are the only towns with mobile phone coverage.

5:2. Marketing chain, players and processes

5:3. The supply of *vinyago* to Mwenge crafts village, Dar es Salaam

According to Kingdon (2002: 66), the first non-functional Makonde objects were made specifically for the Portuguese market and invented by Nyekenya Nangundu in the Mozambican village of Miula, in Cabo Delgado, at some time in the 1920s.[3] Other Makonde men then learnt to carve 'curios' for sale because of the economic hardship caused by taxation under the colonial regime, and the carvings then evolved to represent their suffering and were later sold by the Makonde to bring in profit that was sent to finance FRELIMO against the Portuguese (Kingdon 2002). The marketing of wood carving was nationalised in 1970 (Kasfir 1980: 68) but the National Arts of Tanzania parastatal was beset with problems and shortly reorganised to form the Tanzania Handicrafts Marketing Corporation (Mwabuki 1978: 54). Nevertheless (and much like the persistence of foodstuffs trading in Iringa and Mbeya discussed in chapter four), trading in *vinyago* continued throughout the period of nationalisation, with collectors circumventing the regulations by travelling from Mtwara to Dar es Salaam with unfinished figures which they then had carvers

[3] See Kingdon (2002: chapter 3) for discussion of patronage, particularly Mohamed Peera's influence over the whole course of the development of the Makonde blackwood sculpting movement. I thank Deborah Fahy Bryceson, Afrika-Studiecentrum, Leiden University, for bringing Kingdon's work to my attention.

complete in the city before exporting the figures through their private channels (Origines, 30/07/03). Today the basic domestic supply chain moves the wood from a carver who produces a carving that he may sell to a collector or directly on to a retailer, who either sells the carving in Dar es Salaam or exports it. Both these activities usually occur through Mwenge, a collection of tiny shops selling handicrafts adjacent to one of the city's main commuter bus terminals about ten kilometres northwest of the city centre.[4] Taking advantage of good transport links and the size of the plot, other resellers and merchants (not carvers themselves) have subsequently moved to Mwenge to set up businesses selling *vinyago*, making the crafts village the continent's hub for the retail of African blackwood carvings and a classic example of what the guidebooks could market as a success story in demand-responsive African entrepreneurship. Close to 80% of sales at the market are *vinyago* (Bevan & Harrison 2003) supplied by over 1,500 individual carvers (West & Malugu 2003: 16), most of whom are of Makonde ancestry.

Interviews for this case study mostly took place during the months of January-February and July-August 2003 and were conducted with 11 different carvers or carving groups, nine collectors, and 17 different retailers and exporters in Mtwara Region, Pwani Region (surrounding Dar es Salaam) and Dar es Salaam city.[5] As discussed in 2:2, the idea of studying *vinyago* trade emerged during the first phase of the research after a particularly helpful interview with Hamisi Geddy and Dickson Wiva at the urban retail and export end of the *vinyago* trade, and who later introduced me to Mary Shirima in Mwenge crafts village. It was Mary's suppliers in the township and villages surrounding Dar es Salaam and Mtwara who I then

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[4] Lwoga (1995) and West & Malugu (2003) differ slightly in their views of the structure of the two distinct groups that have now apparently emerged and are represented in Mwenge. Lwoga (1995: 18) sees a carvers' group, *Chama cha Wachonga Sanaa na Wauzaji wa Tanzania* (CHASAWATA) and, representing the retailers who run the shops, the Mwenge Arts and Crafts Dealers Association. West & Malugu's (2003: 18) (methodologically more sound) report, on the other hand, states that the community is registered as CHASAWATA (the Carvers Association), under which the groups are subdivided into the Mwenge Handicrafts Village of 36 carving co-operatives, and Mwenge Arts, comprising of merchants exploiting business opportunities. There was little evidence of group activity from either organisation during repeated visits to Mwenge but, as visible by their occupations, a clear distinction between carvers in groups and individual retailers was evident.

[5] Interview details are given in Appendix I. A more detailed account of the methods is supplied in sections 2:10 of chapter two.

travelled to, and it was Mtwara where I met Philipo Luvale who directed me to some of his carving contacts I traced throughout the region. Together these individuals and groups constitute a spread of points along the marketing chain of producers, suppliers and retailers of African blackwood carvings who I could then physically follow in order to investigate their use of ICT.

5:4. Mtwara carvers' use of ICT: 'you can't eat a phone'

The carvers covered in the sample fall into three main groups based on their geographical location: those based in the villages of Mtwara region (five in sample); those in Dar es Salaam's townships and the city's surrounding villages (three), and carvers based in Mwenge crafts village (two), also in Dar es Salaam. Here we concentrate on the Mtwara-based carvers working in groups who, unlike Zaramo carvers and their Makonde brothers residing in villages around Dar es Salaam, are fixed in villages or the outskirts of town in Mtwara region and will rarely travel to Dar es Salaam.[6] The *mpingo* wood is obtained from the bush around the villages, and can take days to reach. The carvers do seem to have some personal contact with at least one middleman, probably because collectors see their high quality and distinctive products as providing better profit than more generic 'African' curios such as whistles and traditional three-legged wooden stalls produced by other tribes such as the Gogo of Dodoma. However, this personal contact with collectors tends to be unannounced, especially in the many remote villages without mobile phone coverage, and frustrates some carvers who regard collectors as

> worthless (*uchwara*) because they are unreliable, you cannot prepare for what they want because they won't tell you beforehand what they want, they just come without a message. (*Makonde Carving Group*, 17/02/03)

[6] This is in contrast to the Mwimbe Handicrafts Workshop Group, an ethnic Gogo carving group in Dodoma, whose leader, Augustino, reveals that if business is slow and the group is rarely visited by collectors then one member will travel to Dar es Salaam to sell their handicrafts.

Masasi, President Mkapa's birthplace, is the only town with mobile phone reception outside Mtwara, leaving *Idanankalima*'s 35 carvers in Ndanda and the *Makonde Carving Group* in Chikundi to rely on landline coverage. Collectors picking up *vinyago* from carvers in Mtwara's villages prefer to base themselves in Masasi because of the ease with which they can contact Dar es Salaam by telephone (*Makonde Carving Group*, 21/07/03), and when in Dar es Salaam these collectors will sometimes try to contact mutual friends in Masasi to pass on messages when they need certain *vinyago* in a hurry. Even in Masasi, however, few carving groups use any form of telephone access (i.e., TTCL, *huduma ya simu* or private mobile phone) or other communication (i.e., e-mail, fax or letter) to contact collectors about demand, and are unwilling to travel to meet collectors. As well as cost, this may also have something to do with literacy, and with carvers' apparent dislike of travelling far from their villages – a feeling that was expressed by a number of group members, including one carver in Chikundi:

> I am quite content to carve here. Why do I need to go to [Mtwara]? I don't need to go there, so I certainly don't need to go to Dar es Salaam. (Omari, *Makonde Carving Group*, 21/07/03)

The alternative to not travelling outside the village, therefore, is to wait for collectors to arrive and to deal with them personally. As carvers in Chikundi have expressed it, however, even if there was reception in their village they think that some collectors would still rather visit carving groups personally because collectors like it that carvers are not aware of the market in Dar es Salaam. As one carver put it,

> When they [collectors] come personally to carvers we are kept busy carving and thinking that they will buy everything we carve, and this means we won't go looking for other buyers. (*Makonde Carving Group*, 21/07/03)

This view is supported by carvers in Masasi who feel that collectors do not seem keen to encourage mobile phones because they want to keep their carvers in the dark about their profits:

> I think that collectors don't promote mobile phones because if carvers have mobile phones then the collectors have no job. But we know they make much money. The only time they want to contact the carvers is if there is a rush to produce *vinyago* for Dar es Salaam because they need to send *vinyago* to customers abroad. These messages are passed on to friends with mobile phones, who pass the message on to us. (*Uvwima Carving Group*, 22/07/03)

What is particularly interesting is that the apparent monopoly collectors have over the many Mtwara carvers unwilling to travel or contact other buyers (even when they could use *huduma ya simu* or TTCL) does not seem to concern those carvers who were spoken to. Instead, their main complaint seems to be that collectors do not always buy what they have ordered the group to carve:

> I know that the collectors make much money. I don't care, that is their business. All I want is a steady amount of work to carve so I can feed my family. Because some collectors don't tell us what they want we just carve and then the collector comes and says, "I don't want [this type of carving]. I want these", and he buys what we have, but we have been carving [this style] because he bought them last time, and then we are left with little money for our family…. Those collectors who are using mobile phones are successful because they are sure that what they are carving will be sold. (*Makonde Carving Group*, 21/07/03)

In defence of the buyers, one Dar es Salaam retailer explained that she believes that '*carvers in the villages don't understand the concept of orders*' (Damaris, 15/08/03), so placing orders with carvers and receiving them as agreed is never a smooth process. But the above comments from *Makonde Carving Group* suggest that Mtwara-based carving groups sometimes lack buyers who are willing to give them specific orders that collectors will always collect in full and pay for when they are produced on time. Not being able to contact the market in Dar es Salaam directly appears to be less of an issue to the carvers, who clearly have a good grasp of how orders work under the basic principles of supply and demand economics. Indeed, for all Mtwara carvers covered in the survey the principal motive for their work seems to be economic, and this is doubtless more so the case in the post-structural adjustment era, some 25 years since Kasfir (1980: 70) first argued the point. I would argue, therefore, that while, as Kingdon (2002: 166) suggests, some carvers are also motivated by challenges and self-discovery in their work and the desire for acknowledgement of their individuality, this is only true for the elite of fine master carvers who Kingdon spent much time with during his fieldwork. For many of Mtwara's *vinyago* carving groups covered in this study, their work is becoming more commercialised as they are increasingly being told what to carve by collectors who supply Dar es Salaam retailers who, as we shall see, now have a better knowledge of demand because of their access in the city to ICT. Kingdon's elite master carvers who apparently do not create work with 'Western' aspirations in mind (2002: 150), I believe, are a dying minority whose creativity and love of carving is being eroded as the market becomes more efficient thanks to retailer's better knowledge of exactly what foreign buyers want.

According to two Mwenge-based retailers (Mary and Justina) and Strattoni (a large-scale exporter of handicrafts that end up in Northern department stores), the foreign demand is increasingly for large quantities of very similar *vinyago* pieces, and this can have the effect of reducing the carvers from inspired artists whose work reflects their soul to more of a worker on a production line.[7] Whether under this system the carver receives more frequent orders and therefore makes more money is unclear, but the bottom line is that no carver in this sample could afford not to carve what the collector demands, and that any form of communication – and especially mobile phone communication – is very expensive, as the leader of *Baymwone Carving Group* explains:

> Collectors tell us what to carve and then they may not collect exactly what they have ordered, and we [the carvers] go hungry. But we have to wait for him [the collector] to call Dar es Salaam themselves. They know buyers there. Besides, a mobile phone is too expensive for carvers when we have to eat. You can't eat a phone! (Andrea Ukoti, 22/07/03)

[7] See Kasfir (1999: 109-111) for an interesting commentary on whether Makonde sculpture is an 'art' or a 'commodity', and Kingdon (2002) for an in-depth discussion of innovations in the development of the Makonde carving blackwood movement.

5:5. Collectors' use of ICT

Long-distance collectors (e.g., Anna Mishiri; Audax; Imakulata) trade with the large tourist areas of northern Tanzania and Kenya from Mtwara or, more often, Mwenge. They stay in the carving location for the weeks or months it takes to amass a large collection of *vinyago*, then deliver them personally to retailers who have placed their orders with the collectors. Anna Mishiri, for example, a Chagga businesswoman from Machame in Kilimanjaro, travels about three times a year by bus from her base in Dar es Salaam, stays in Masasi for up to a month while her order is being prepared and then travels to Manyara and Ngorongoro in the northern circuit of Tanzania's tourist game route to sell *vinyago* at high-class boutiques, a journey of some 1,500 kilometres. Middle-distance collectors (e.g., Alex Milanzi; Bahati Mohamedi; Gaudance; Maiko Bakari) operate between Mtwara carvers and Dar es Salaam, while short-distance collectors (e.g., Audax; Mangwana) obtain *vinyago* from carvers working in Dar es Salaam townships and surrounding villages. Because of the shorter distances involved, shop owners also sometimes collect from these carvers themselves. These visits usually involve personal visits without prior communication, although Audax prefers to call if he can to ensure that the carvers are all present when he arrives to collect. This, he admits, is often not possible however, because although some of the carving locations have mobile phone reception not many of the carvers have mobile phones. The collectors themselves may also have no access to electricity for charging their handsets even if reception is available. Mangwana, for example, has Vodacom reception in Chanika but the village has no electricity for recharging, so he recharges when he goes to Pugu or Dar es Salaam, where he uses electricity at his friend's house at no cost. When he returns to Chanika he leaves his phone on to receive calls about orders from traders in Mwenge, making sure not to use his phone for anything but important calls because this uses the phone's battery:

> *But what are 'important calls'?*
>
> Business calls.
>
> *And how often do you make business calls.*

> Rarely. I let the buyer call me.
>
> *Why?*
>
> If I call them it wastes my battery and I pay for the call! (Mangwana, 21/01/03)

Cost-saving measure and mobile phone ownership: 'mobile phones are for people of the town'

Perhaps because of the good profit many collectors are making, few long- and middle-distance collectors complained about the cost of using mobile phones, and those who did complain certainly mentioned cost far less than farmers and informal sector construction workers in the other case studies. Nevertheless, cost-saving measures are still taken by collectors, most notably in using *huduma ya simu* for making calls. Imakulata, for example, contacts her buyers in Nairobi about their orders and uses *huduma ya simu* when in Dar es Salaam because the operator shows her a stopwatch which she uses to more accurately measure her expenditure than when using her own mobile phone. According to Davina (01/08/03) (who is the only *huduma ya simu* operator within the premises of Mwenge crafts village), *huduma ya simu* is popular among her customers because they can better restrict their call time when they can see it in front of them (while others use her service to call customers in Arusha and Zanzibar because they have no credit on their handsets).[8] As we have seen in the perishable foodstuffs case study, however, the usefulness of *huduma ya simu* as a message-taking service does depend on good relations with the operator, as Maiko explains:

> Before I bought my mobile phone I used to use TTCL or *huduma ya simu*. But without a mobile phone I couldn't be contacted easily by customers. For example, a customer wanted to give me an order and he would phone my brother but sometimes he [my brother] was not there. So I would use the *huduma ya simu*, but that was not reliable either because I didn't have a good relationship with those people….They can take

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[8] Davina uses a Mobitel business line, which she chose because it was the first company offering a business line service. She makes a TSh100 (10 cents) profit per call, and averages about 30 callers per day, most of whom make calls lasting two minutes (Davina).

> messages from Dar es Salaam but I wouldn't always get the messages and this would annoy the customers and I would lose out on getting orders. (Maiko, 22/07/03)

An alternative to using *huduma ya simu* when not owning a handset is to borrow a friend's mobile phone, as Gaudance does when he is in Dar es Salaam:

> *Why don't you buy [a mobile phone] for yourself for when you are in Dar es Salaam?*
>
> Being in the city eats my money! I don't drink beer there, I drink beer in the village because that is where my friends are and the beer is cheaper! I am in the city to make money, not to spend it! So I use my friend's mobile phone to call different possible buyers in the city….I pay [my friend] maybe every few days. He records how much I spend and I pay him when I make the call, or later when I make more money.
>
> *So why don't you buy a phone when you make money?*
>
> A mobile phone is expensive and no use to me in the villages. Mobile phones are for the people of the town!....The mobile phone is no use to me here because it doesn't work! I cannot waste my money on one if I am not using it! (Gaudance, 21/07/03)

Gaudance's comments as a rural-based businessman who often deals with urban customers reveal much about priorities and attitudes to money and new technologies across the rural-urban divide, an issue that we cover in more detail in the next chapter. His view of the uselessness of mobile phones outside Dar es Salaam is not shared by all, however, as Bahati – who lives in Mtwara town, where reception is available – explains now that she has managed to obtain a mobile phone '*through a swap with somebody, a friend, in Dar es Salaam*' (Bahati, 19/07/03):

> Now I can know what customers want in Dar es Salaam, and when. Without a mobile phone I used to take my carvings to Dar es Salaam without getting an order, and maybe there's no demand or I bring the wrong designs for the demand and I have to accept a bad price. (Bahati, 19/07/03)

Need for face-to-face contact with retailers: 'you must see the *kinyago* – you can't hear it over the telephone'

Mobile phone ownership does not preclude having to spend time with both carvers and retailers. For instance, although Imakulata is able to use her own mobile phone with a Kenyan SIM card when in Nairobi, she must stay in the city for a long time because her buyers often take weeks to pay her and she cannot trust them to send the money, '*so I have to physically be there to ensure that they pay me*' (Imakulata, 17/01/03). Alex makes a very similar comment that also explains why the collector and retailer need to meet to discuss carving styles:

> I must travel with the *vinyago* because retailers are not honest…. they [the retailer] may not have the money to be able to pay and cannot be trusted to send money. So I have to wait, and this can take a week. The buyer also has to show the collector exactly what style he wants for the order. You must *see* the *kinyago* – you can't *hear* it over the telephone! (Alex Milanzi, 18/07/03)

Gaudance makes the same point as Alex and Imakulata about the need to be with retailers, but also stresses that the collector must also spend much time with carvers for the same reason:

> *Can't you just tell [the retailer that his order is complete] and then send the order on the bus with somebody you trust?*
>
> They [the buyers] like to see me so that they can explain styles and adjustments to be made on future *vinyago*. They use examples to show me so that I know what they want. This can't be done with somebody else – it must be done with me because I supervise the carvers when I am with them in the village and explain to them what the retailer has told me. (Gaudance, 21/07/03)

The process of supervising carvers can, according to Anna, take over a month (depending, obviously, on the size of the order) and is also necessary to ensure that the carvers do not do work for other customers, and this requires paying for some of the work in advance (Alex; Gaudance).[9]

5:6. Mwenge crafts village retailers and buyers

Mwenge crafts village is a collection of handicrafts shops to the north of Dar es Salaam's city centre, attracting tourists visiting Dar es Salaam on their way to the game parks, Kilimanjaro, Zanzibar or surrounding countries. The best profits in the *vinyago* trade can be made from export, however, with Mwenge-based retailers sending carvings and other handicrafts to other African countries and, for even better returns, to Europe, North America and the Far East. Most of these buyers are middlemen themselves, selling on to galleries and department stores, but some come to Mwenge in a more casual capacity as tourists or departing expatriates buying souvenirs and gifts for their return, and later decide to import *vinyago* for sale at home. As we shall see, many customers who import *vinyago* from Mwenge do so having been to the crafts village at least once before they make repeat orders from abroad through businessmen and through businesswomen owner-managers such as Damaris, Justina and Mary, women who are now so successful in their formal *vinyago* trading enterprises that they can pay for their own frequent international travel.

Damaris Dandi

Damaris, a member of the Chagga tribe, owns shop 17 in Mwenge crafts village and describes herself as '*a businesswoman with a keen interest in fashion, and an occasional exporter of vinyago*' (15/08/03).[10] In terms of business ownership

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[9] It is puzzling that the *Makonde Carving Group* carvers complain above about not having much contact with 'worthless' collectors, yet two of the middle-distance collectors (Gaudance and Maiko) and one long-distance collector (Anna) were observed sitting with carving groups, waiting with them over a number of days to complete their orders. It is possible that these collectors were awaiting carvings from multiple groups in the area and visit each group for a few days to make their presence felt as 'serious' customers (Figure 14).

[10] Trulsson (1997: 316) notes the popular view that the Chagga are seen to be more prone to engage in enterprising activities than most of their Tanzanian brethren, but is quick to add that as 'entrepreneurs' they are little different from other Tanzanian entrepreneurs.

Damaris could be described as a true entrepreneur in the Schumpeterian sense (section 1:15), having moved into *vinyago* in 1997 as a way of bringing in dollars with which to buy the clothes from New York and London wholesale outlets which she sells as her main business in shops in Dar es Salaam city centre. Her eye for economic opportunities, grasp of current and future trends and eloquence in business English can be seen in her projection of the *vinyago* market:

> I see that worldwide the *vinyago* market is saturating, so I am paying little attention to it. The Japanese market is beginning to become over-supplied, and the European market is moving towards things people can use. (Damaris)

That Damaris and other women like her in Mwenge are able to make projections, we later argue, can in part at least be put down to their foreign connections.

Justina Matondane

Justina (Figure 17), a Haya from Bukoba in north-western Tanzania and owner-manager of 'Kiwawe' shop in Mwenge, started business in the 1980s selling vegetables from a small stall near the crafts village.[11] In 1985 she then ventured into dealing in *vinyago* and other crafts having 'suspected' that Kenya was a good nearby market for *vinyago* and *vitenge* (cloth wraps), and where she would be able to learn from the women in business there who she knew were ahead of Tanzanians in terms of their knowledge of exporting. Justina took five *vitenge* samples to the 'African Heritage' shop weekly market in Nairobi and these caught the director's eye and she soon received a big order from her. When Justina observed that African Heritage

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[11] The Haya are also regarded by many Tanzanians as having a strong entrepreneurial streak. For a taste of attitudes towards ethnic groups within the country see, for example, the exchanges between Tanzanians in a politics forum in an African web discussion: http://www.youngafrican.com/yaforum/topic.asp?TOPIC_ID=4368.
As stated in section 2:4, no more than anecdotal evidence was obtained relating to ethnicity and business, so West & Malugu's Mwenge survey is useful in this area by showing that the Chagga, Zaramo and Makonde dominate trading, and of the 42% of those surveyed who were Chagga, all bar one were female (West & Malugu 2003: 19-20). Also see an article by Dickinson (2004) on Tanzania women fuelling a brain gain: http://news.bbc.co.uk/2/hi/business/3995027.stm.

were making a good profit through sending her products abroad she then made moves into exporting *vinyago* and other crafts herself.

Mary Shirima

Like Damaris, Mary (Figure 18) is also a Chagga from Kilimanjaro. She began her business in Dar es Salaam's Mbuyuni area, on Bagamoyo Road, at the same time as holding her job issuing business licences at the Department of Trade and Industry. Mary established her 'Star Art and Craft Company' and in 1994 'felt' that she had a good chance of making more money than in her government job and took a redundancy plan when it was offered. Mary moved into her present shop in 2000, which was owned by a businessman living in Bagamoyo and whom she paid six years' rent in advance.

Experience and fluency in English for business administration and face-to-face bargaining

What most immediately sets the women *vinyago* owner-managers apart from the other women (and men) working as suppliers and retail assistants is that the Mwenge women all have a strong working knowledge of English and are confident with conversing in the language with foreigners. Justina has managed this through taking English classes, while Mary initially puts her fluency down to strict teachers who ensured that she met the standard for government employment. This employment prepared her for dealing with accountancy and in all the administrative work required in running an export enterprise, which she thinks is more important to the customer than whether she comes from a carving tribe. Regardless of their ethnicity as non-Makonde, all three women have more formal education and exposure to office work than any carver or collector interviewed for this case study. As Elkan (1958) has shown in an early article on carving in Kenya, individuals among the Kamba made use of their education to take advantage of the lucrative post-war American export market in a way the less educated Makonde were unable to:

> Although the Kamba dealers lacked nothing in business sense, they were hampered in the development of an export trade by the fact that hardly any of them – not even the most successful – had had more than the most elementary education. This did not in the least interfere with their trade so long as it did not involve any paper work, but export trading required them to fill in many forms and to enter into lengthy correspondence with overseas clients.... The ability to write English and to fill in forms brought in a number who, though all of them Kamba, knew nothing of carving but were willing to try their hand at trade. (Elkan 1958: 321)

In contrast to Northern stores, none of the Mwenge shops have price tags on their *vinyago* or other goods; so the customer is drawn into talking with the salesperson who states the price as a matter of fact and with little indication to the customer that this is open to negotiation. After informing the customer about the background to a *kinyago*, the face-to-face conversation between Mwenge shop owners and both tourists and foreign wholesale / bulk buyers has aspects of 'performative' bargaining (Steiner 1994: 72) because the seller, having purchased the object from a middleman or direct from a carver at some profit to himself or herself, has the advantage of knowing what an object is worth *in the African trade* having purchased from a middleman or even direct from a carver. At the same time it is also retail bargaining because the buyer is dealing not with a marketplace seller who – while all too aware of the foreigner's wealth and purchasing power – may not always understand an object's worth *in the Northern market*. Instead the buyer is dealing with sophisticated, worldly individuals such as Mary and Justina, who are more conscious of an object's worth in the Northern market *relative to its worth in the African trade*. The shop retailer is in a more favourable position because she is able to straddle both African and Northern worlds by knowing a product's real (economic) value in the African market and also by being attuned to the tastes and desires of the Northern market and how much foreigners are willing to pay for a product. Through dealing with foreigners the retailer is aware of the 'foreign' value of these goods and is able to interpret their demand.

Accessing foreign markets for international exposure

Along with talking to customers in their shops, Damaris, Justina and Mary also gain information in what Damaris describes as, '*the places where the customers come from – the countries where the money is*' (15/08/03). All three journey abroad to international trade fairs ('expos') and have travelled throughout the world, something only a tiny elite minority in Tanzania are able to do. It is here, I would argue, that these women exercise their 'linking' social capital. When abroad they can reach out to new contacts entirely outside their community and who enable them to leverage a far wider range of resources than are available within the community where the horizontal 'bonding' and 'bridging' forms of social capital (section 4:9) reside. Linking social capital, by contrast, is a vertical dimension that consists of relationships up and down the social scale, and allows the entrepreneurs to leverage resources, ideas and information from contacts outside their own social milieu (Woolcock 1998: 13-14). Travel, believes Mary, was her highest learning curve in the export business:

> A trip abroad makes me remember "*this* is where the market is, [it is] not in Mwenge!". I realised this when I first left Africa and I remember it every time I go on a trip. Visiting the countries I export to is the best way of learning about the export business. (Mary, 29/01/03)

Damaris, who has attended expositions in Lisbon and China but concentrates on the Japanese market thanks to 'Expo 2000' in Hanover where she made some deals with large customers, agrees on the importance of international exposure:

> [Expo] fairs are the way into the export market, they are the best means of meeting serious foreign buyers, big buyers. Trade fairs bring in much more money than business in Mwenge, which has been badly hit by [repercussions of the terrorist attacks in America on] September 11th because there are less buyers who are coming from Arusha

> and Zanzibar because tourists are not coming to East Africa since Osama started his business. (Damaris, 15/08/03)[12]

Both Mary and Justina managed to find foreign buyers quickly during their earliest visits and so, having begun to achieve their objective of supplying their first export customers, also used trade fairs as an opportunity to sell on-the-spot. Justina believes that when abroad she was helped to 'secure a market in Europe' shortly after the first two exhibitions partly because fortune was on her side: 'It was around the time of big corruption in Kenya, the time when the Kenyan shilling dropped heavily against the dollar'. Yet Mary, who on one trip to America met a business partner based in California and who she made 'a good deal of business with', puts her success less on luck and more on knowing the right people:

> It is so important to know how to do business with foreigners, because this is where the big money is….You must have good products, of course, really good quality *vinyago* are so important, but you must know how to do the exporting, all the business with forms and people here [in Dar es Salaam] who can make your life easy or difficult…. I first learnt it from a friend here [in Dar es Salaam] who helped me very much. She introduced me to the Board of External Trade. (Mary, 13/01/03)

For Mary this contact at the Board of External Trace (BET) seems key to her entry into the export market while she was in her government job, and if it was not for the help she received from her friend at the BET, Justina also believes that access to foreign markets would have been much more difficult because her contact put her in touch with donors who helped her gain exposure:

> It was very difficult when I started. I knew the importance of foreign markets but I needed to find the right way of getting to the markets in Europe, America, Japan, in the

[12] This is a reference to Al-Qaeda activities in East Africa. On 7 August 1998 the group detonated two bombs which destroyed the American embassies in Dar es Salaam and Nairobi and led many Northern governments to advise their nationals against visiting Kenya and Tanzania.

> world. So I got much help from my friend [at the Board of External Trade] and this helped me meet the buyers in these countries. (Justina, 01/03/03)[13]

Like Mary, who now tries to travel for business once a year, Justina is now able to use the money she has managed to accumulate from her exporting business to pay for her own travel abroad. After her visit to Germany she was invited again, and also to some paid trips to Japan, but many of her subsequent visits abroad she has managed to finance herself, so that in total she has visited Germany, Japan, Turkey and America 18 times, 10 of these visits as funded tours, the remaining 8 on trips that she has funded herself:

> Now that I can survive alone I can get big orders without any help, but this means that I have to keep going to exhibitions, to keep sharp about the trade and know how big buyers operate and when the buyers see that you are sharp they realise that you are serious and then you can maybe be trusted [by them] as a supplier. But if I cannot attend the professional shows – I could not go one time to Frankfurt because I have a problem with my knee – then you cannot get orders. You have to be there to show you are serious. Big buyers who I make money from, they have to see me for me to get orders. (Justina, 01/03/03)

Factors influencing the Mwenge women's graduation in enterprise

How then did Justina and Mary progress from small-scale traders (in Justina's case, selling fruit from a stall in Mwenge) to major *vinyago* exporters? Is there anything unusual about their ability to graduate? In the first place, both were sure after a short period of trading that exporting was the key to higher profits, and they would surely have known this because they had seen other dealers in Mwenge doing so from their

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[13] With both women their contact at the BET was able to help them in their early *vinyago* exporting pursuits, particularly through putting their names forward to foreign donors. This bilateral donor assistance took two main forms, firstly in seminars where Mary was sponsored by USAID to attend separate study trips and seminars in America. Justina, through contacts at the Chamber of Commerce who offered her advice on licensing, insurance and freight charges, also attended study tours, sponsored by the German bilateral development agency, GTZ. After completion of the seminars, or sometimes in conjunction with them when the study tour was abroad, the donors' second form of assistance with Mary and Justina's entry into the international trade fair circuit was financial, either by paying for all expenses at expos, or by contributing to participation fees.

shops. Mary and Justina also both indicated that the profits are far higher when exporting to foreign buyers who distribute, and that the best chance of meeting these buyer is by going to expositions, not waiting in Mwenge. However, it was not until the idea of attending international trade fairs was suggested to them (at different times) by a friend at BET that they started to make moves into foreign markets, and this was only made possible by their friends' ability to put them in touch with donors who would sponsor them, since getting to expositions requires capital that neither had when they started looking at the international export market. Having received this help they then made contacts abroad who took large orders and were then later able to finance their own international business travel.[14]

While Mary and Justina's graduation was not one from economic *necessity* to business since both are married to wealthy men who could at the time have ensured that they were never destitute, a brief look at three factors Olomi (2001) identifies as influencing this transition among owner-managers in Tanzania also helps to explain why these individuals were able to progress from having a small turnover to businesswomen making far higher profits from international customers.[15] Olomi first identifies resources that are under the control of the owner-manager, and Justina and Mary both believe that capital is what allowed them to progress before they entered the exporting market. As mentioned in chapter one, limited access to finance is – from the entrepreneurs' perspective – the most common constraint to MSE progress, and the *vinyago* market is no exception, with Mangwana and Imakulata both attributing the high capital costs involved as explanation for why they have not been able to venture into exporting. However, it is the ability to *build* capital that Mary emphasises when asked what made capital more accessible to her:

> It was not banks I got my money from, it was saving my own money! Banks don't give you money for free! People do not [save their money] in Tanzania, that is the problem, even when they make money they come to you and say they have none and this is

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[14] Burkinabé agro-exporters (Freidberg 2005) appear to make similar use of sponsored trips abroad to broaden personal social networks and sources of income.

[15] Steve, one of Olomi's (2001: 247) entrepreneur informants, himself made money at one stage in the *vinyago* business.

> because they drink, men drink, these carvers [pointing outside] drink and spend money on women when they get money! Or they are so poor that they cannot save money, they do not earn much money, and they do not know how to save! (Mary, 13/01/03)

Mary is also in a privileged position because her husband's connections enable him to help her with much of the export side of her business at the port or airport. This is the only other contact she mentioned besides her BET friend, but it is likely that she knows others, particularly from her previous job at the Department of Trade and Industry, who can help her with business when problems arise. As Damaris put it in a comment that demonstrates how the informal sector pervades the formal sector (section 1:1) (and which acts as but one example from the fieldwork of the corruption that the *Report of the Commission for Africa* (2005: 16) seeks to address), '*in Tanzania, anyone you know who is in government, in any job, they can help you because they get paid so little these days!*' (15/08/03).[16] The majority of Tanzanians without these connections, those who Mary refers to earlier who 'are so poor that they cannot save money', are at a disadvantage because they do not know the right people, and this is probably due in some part to Olomi's second factor influencing transition, that of the owner-manager's business concept, 'a mental image of the business in its ideal form' (2001: 300). Olomi sees that this concept is closely related to the entrepreneurs' level of education and managerial experience (which, by turn, are also positively related to growth motivation and then actual firm growth). All three are all educated women and have some experience (with the exception of Justina) in white collar employment, if not in management.

This ties in with Olomi's third factor, that of environmental conditions, which those with contacts to people in business and government are likely to be in a better position to influence, in the way Damaris eludes to above regarding proximity to those in any positions of power. Yet as Justina points out, this need not be access to people who will help in business by doing something dishonest, for it can be access to people whose job it is to help businesses:

[16] Mwenge businesses are deemed formal because the owners are required to obtain government licenses for their businesses. Similarly, carvers are legally required to be members of groups which must register for a small fee with CHASAWATA.

> Customers were complaining about freight charges and other things, so I went to the Chamber of Commerce and other associations and government offices, and they gave me information on licensing, and what I needed. The government is good if you get a good person and you become their friend….[When dealing with BET] I felt that the government was serious about dealing with problems. (Justina, 01/03/03)

This is not the view of the average entrepreneur, particularly those in the informal sector who feel that the government in doing little to help them, but seems to reflect the view of women in a more elite position in Tanzanian society who are able to become friends with people of influence who can affect the business environment, at least for themselves when the need arises.[17] Indeed, one could even argue in Justina and Mary's case where they were helped by their friend at the BET that, since civil servants are so poorly paid as Damaris explained (15/08/03, and as we discussed in greater length in section 1:1), they work especially hard where their clients are promising entrepreneurs entering lucrative markets and who – unlike entrepreneurs in the lower echelons of the informal sector – are potential business partners or sources of information.[18]

5:7. Retailers' use of ICT

We have seen how mobile phones have been applied in communications between Mwenge and the source areas of *vinyago* in the villages of Mtwara and the townships and surrounding area of Dar es Salaam. We have also seen how women retailers have used their local networks to gain exposure to international *vinyago* buyers, apparently without the use ICT since neither technology was easily available in Dar es Salaam in the mid-1990s and earlier when they were working on these links. We now turn to how these women have adopted new ICT for use in their dealings with their most important customers, foreign buyers.

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[17] The women retailers in Mwenge who Kamuzora (2003) profiles have all worked in high profile positions for employers such as the World Bank.

[18] This may explain why both businesswomen were so reluctant to divulge details about their BET advisor.

Sample female retailers’ use of ICT: internet use, almost exclusively for e-mail

To communicate with foreign customers Damaris, Justina and Mary all use fax, mobile phones and e-mail. They tend to reply by the means they are communicated by and this varies depending on the customer. Damaris, for example, gives her fax, phone and e-mail contacts to customers, and her customers tend to use fax to contact her. Mary does the same and her customers prefer e-mail. If they initiate the communication themselves, however, for short messages the women favour texting by mobile phone and, for longer correspondence, e-mail. Whether it is by landline or mobile phone, says Justina, calling internationally is far too expensive, and since most communication concerns ordering, all three women believe that e-mail is sufficient for this purpose.

Before e-mail was accessible in Dar es Salaam, international business correspondence by these women used a combination of fax, letters and landline phone calls, either using their own home or business lines or, on occasion, using call centres. The telephone was avoided as much as possible because of the high cost of a call, and letters were regarded as the most affordable means of communication but were shunned in favour of fax which, though more expensive, was far faster and, significantly, deemed more ‘professional’, as Justina explains:

> I learnt that I was taken more seriously when I started trips abroad, customers would fax me when I gave all my details at trade fairs in those days, they would use fax and they would not use other [means of communication]…. [Fax] shows the customer that you are serious….it means you have committed yourself to business. Anybody can have a post office box number. And with a fax the customers knows that you can do business quickly with them, supply them when they have demand. Then the customer can rely on you and you get more orders. (Justina, 01/03/03)

As we shall see in a comment from Frank Morenje, e-mail nowadays has a similar impression on customers but, from the perspective of the female Mwenge-based retailers here, the motivating factor is not only customer’s preference to use e-mail for contacting their suppliers but also its speed and the ability to store previous correspondence, as Mary remarks:

> …customers like to use e-mail, and so do I because I can reply to them quickly, and I know that I will be getting a reply from them quickly, and then I can know that I'll be getting orders, and I can place my orders with the carvers. The business is quicker this way, and I know my buyer prefers it.[19]
>
> *So e-mail is fast. Are there other ways it helps your business?*
>
> Yes, I can use it to store messages that I receive and send to customers. This is easy and I don't have to do anything, it just saves the message [automatically]. (Mary, 13/01/03)

Although, as might be expected, all women replied that internet access should be cheaper, none regard it to be so expensive that they cannot use it. All three women are now wealthy enough from their business pursuits to afford regular access to the internet. In using this form of ICT, cost is apparently now less of an issue, perhaps because of their ability to be able to spend more on communications nowadays or maybe because internet has become such an important means of communication that the costs are worth paying. This is not to suggest that the women are wealthier *because* they use the internet, nor should it be thought that the internet is used exclusively for work. Justina, for example, uses e-mail as much for corresponding with her children in Manchester as for her *vinyago* business. Nevertheless, Damaris and Justina all regard the internet to be important enough to have their own access at home, and Mary sees it necessary to check her account in an internet café every couple of days where buyers will usually be making enquiries about the state of their order or payment. Having accompanied Mary to the internet café on a number of occasions, however, it does not seem that her use of the internet is for anything more than e-mail. Damaris and Justina report similar usage, although they do consult media websites occasionally and also sometimes look at the sites of other *vinyago* dealers they know who are based in Mwenge to see what carvings they are selling. In

[19] Although Mary says 'buyer' in the singular, she has multiple customers so probably meant to say 'buyers'.

the main, though, other than some occasional non-*vinyago* web browsing, the women's use of the internet is primarily for e-mail.

What is most remarkable about the three Mwenge-based women's use of ICT is that, despite their regular use of the internet, none have their own websites. This could be in part because they rarely use websites themselves and therefore do not fully appreciate the use of them, although none of the women admitted to this. When asked why they did not have websites, each woman gave very similar replies – some giving the same reply a year after they were first asked – stating that they did want to get a website or were 'planning' to do so, but had not got round to it.[20]

Sample male retailers' use of ICT: limited success with the web and frequent use of e-mail

While the three female Mwenge retailers in the sample do not have their own websites for their *vinyago* businesses, it is notable that some of the men covered in the sample do. Ahmadi ('Mochiwa') Mnungwana, with a degree in electrical engineering from a Canadian university, started trading *vinyago* in 1984 when two American colleagues at the NGO he was retrenched from suggested he entered the market in the United States. He did this for six years with no premises until in 1990 he bought a shop in Mwenge. Ten years later he then had a website made {africawoodartist.netfirms.com}, and in this sample is the only owner-manager African retailer with an active website. Overall the website is reasonable, although some links have been 'under construction' for a long time.

Frank Morenje (Figure 16), whose parents started their family shop in 1986 after realising (much like Mary) that there was more profit to be made in *vinyago* than in their government jobs, is the other owner-manager Tanzanian retailer in the sample

[20] The planning does not seem to have come to anything in more than a year, although Justina did approach the University of Dar es Salaam (where she did a two week basic computing course) but the quote was too expensive for her.

with a website {africancrafts.tripol.com/70}, although his has not been operating for over a year, despite him still advertising the URL on his business card.

In addition to these two owner-managers in the sample is Massimo, an expatriate Italian businessman whose business next to Mwenge crafts village was approached in order to cover a high-profile foreign-owned enterprise that may help explore any possible differences in the approach to ICT-use.[21] Massimo has an active website {africaart.co.tz} for his business, that he advertises in a prime location to attract other expatriate customers on the main road leading to the city centre from the most luxurious houses in Msasani.

Gwalugano Ayubu, born in Dar es Salaam of Maasai and Nyakyusa parentage, is an artist and the Public Relations Officer at *Nyumba ya Sanaa* arts house where he oversees the NGO's website {catgen.com/sanaa/EN/}, which has active links throughout and a well-designed, clear layout. Like Massimo's business, *Nyumba ya Sanaa* is well-advertised to expatriate customers through advertisements in areas which foreigners frequent, and is also well-advertised in tourist brochures and guidebooks, perhaps more so than Mwenge.

Whatever their background, all four retailers except Gwalugano at *Nyumba ya Sanaa* (which is well known among the expatriate communities) say that they receive very few orders from their sites, and seem to be disappointed by the lack of response. Frank, for example, says that he paid 'too much' to have his website constructed since it bears little fruit, while Massimo puts the poor customer interest in his website down to the payment restrictions in Tanzania:

> My customers are all over the world and want to pay by Visa, but they cannot pay by Visa because my business is in Tanzania, unless I call Nairobi every time there is a transaction in the shop, and this costs me money and I cannot get through to [the Visa office in] Nairobi sometimes. And the international customer cannot pay easily online –

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[21] The only significant difference appears to be that Massimo is the only retailer who offers the Visa payment facility.

> they have to send an e-mail to me, and this all takes time and they can just go to other websites and pay straightaway using Visa or American Express or MasterCard. (Massimo, 14/08/03)[22]

All four men arrange for payment through the prospective customer e-mailing them and agreeing on the method of payment, which can be an international money transfer company such as Western Union or MoneyGram, as Mochiwa offers on his website (Figure 15). Difficulties of payment does not seem to affect Gwalugano, however, who reports that, unlike Mochiwa, Frank and Massimo's enterprises, orders through the internet are a common source of *Nyumba ya Sanaa*'s business. Gwalugano, who has secondary school education, advertises *Nyumba ya Sanaa*'s website quite well to the centre's current visitors, but believes that his success in sales through their website has been boosted by using the internet to contact previous visitors, those who over the past ten years or so have visited the centre for any of the reasons given above. Gwalugano's marketing strategy – far more active than any of the other retailers in the sample – has been to use the Google search engine to locate previous visitors and customers whose business cards his predecessors have collected over the years. Although most of these cards are too old to have an e-mail address listed on them and the name of an individual on the card is often no longer with the company, the Google search does tend to reveal an e-mail of the company, who he then sends a brief opening letter to. He finds that these business enquiries receive enough responses to make his searching worthwhile.

Despite the disappointment of websites in terms of orders from new customers, however, Mochiwa has no regrets for having had a website constructed since some existing customers use it as an electronic catalogue to check new products:

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[22] One Tanzanian bank currently provides point-of-sale card acceptance services (primarily at 'Travel and Entertainment' merchants) through Visa Kenya. Visa now has five member banks in Tanzania and expects over the next 12 months that 2 more banks will expand their Visa services to include Visa card acceptance at a broader retail base. 'We believe that within two years, Visa card acceptance at retailers will become a 'way of life' in Tanzania as is the case in countries such as Kenya with over 600,000 Visa cards in issuance and over 7,000 Visa acceptance locations'. Personal communication by e-mail with Gavin Young, Sub-Saharan Africa Business Development Manager, Visa, 28 October 2004.

> I get some orders from the website, but not many. I think that customers go to it when they want to see my products before they come to the shop to make orders, but not many do this. And [regular international] customers use it to see if I have made any changes to my collection before they make another order. (Mochiwa, 13/08/03)

Origenes, who has no web-presence at present because he is first waiting to build up a 'healthy stock' of *vinyago* to meet the possible rise in demand, is probably therefore realistic about his customer's future use of his forthcoming website, mainly as a catalogue:

> I want customers to see what I have, and to then come to visit the gallery itself. It is good having photos [on the website], but the serious buyers will want to see the *vinyago*. So the internet for me will give my business a higher profile in America, Europe, Japan and these countries…but I'm not sure if I'll get many orders. (Origenes, 30/07/03)

This wish for a higher profile to create a favourable impression on customers, is also expressed by Mochiwa, who regards his website as

> showing that I am professional in this business. Customers will know that Mochiwa is dealing crafts in Tanzania and he is serious!....It shows that I care for my business, that I am wanting to do business throughout the world! (Mochiwa, 13/08/03)

Of all the sample Mwenge-based retailers with and without websites, only Gwalugano in his searching for potential customers uses the internet anywhere close to its potential. For those retailers with websites, one reason for this may be because the internet has not proved itself as a useful source of orders, while e-mail bears more fruit and is used extensively. As one exporter put it,

> I don't know if I need a website, I get business from e-mail and this works well. I hear that it costs much money to buy a website and to change it many times, and I don't

> know how to do this….But I can use e-mail, it is easy, I can send and receive messages with customers anywhere! (Hamisi, 10/01/03)

This response is curious since Hamisi and his close friend, Dickson (who also exports *vinyago* from Mwenge) have shown a willingness to learn to use e-mail after an important customer insisted on this method of communication, and Dickson now believes that because of this their strongest ties are with agents who they supply to in America and Denmark, with whom '*being in contact by e-mail is better than anything before*' (Dickson, 01/08/02). What is more surprising, however, is that regardless of the considerable time they spend accessing their e-mail accounts in internet cafés, neither Hamisi nor Dickson have ever used websites to actively search for prospective customers by exploring for shops and galleries to export their *vinyago* to. As with the other 20 or so dealers in Mwenge who Hamisi says use internet cafés to e-mail customers who they have met in Mwenge, both Hamisi and Dickson wait in Mwenge for customers to come to them first. Before they used e-mail, Hamisi and Dickson would use call shops to fax and call their customers, but this proved very costly and, they now notice, far too slow when compared with their present use of e-mail. Nevertheless, they will still use call shops now if they need to speak urgently with customers who are overseas (mobile phones are too expensive for this), but avoid doing so because of the high costs.

Frank also now finds that checking his e-mail account about three times a week in any of Mwenge's 20 or so internet cafés where the server is efficient is cheaper than any previous methods, and Mochiwa is now so busy with e-mails that he cannot afford to wait when the server is slow, so has chosen to have internet at home. Even this expense, he thinks, is cheaper than using letters and phone calls because of the speed with which he is able to respond to enquiries. Again indicating his wish to be perceived as a 'serious professional', Mochiwa sees having an e-mail address not only as a crucial tool for international business, but also a sign to customers of his business competence:

> Having e-mail at home is important because I can check my account every night without problems, I get about ten business e-mails a week, but at the internet café I can be waiting for up to an hour. With internet at home I can reply straightaway, and this is good for the customer, he [sic] knows that I really want to do business, and that I'm going to send his order or…let him know how long his order will take. This is important, for the customer to know quickly what is happening with his order, and if I can give this information quickly then it is good….The customer knows that I am able to do business efficiently. (Mochiwa, 13/08/03)

The need to give the right impression to customers is also felt by Frank who, although he uses e-mail as his main source of communication with customers abroad, still wants to purchase a fax machine '*because some customers prefer to use fax – and I like to be able to communicate the way customers want because [then] they know that I have an office and I'm not just a guy on the street*' (Frank, 01/08/03). Mochiwa, whose fax machine is at home with his internet access, sees the need to keep his machine because although a single fax to Europe costs as much as US$3 and internet access in a café as little as 50 cents an hour (and far cheaper still when the service is hired from an ISP), he prefers to make business agreements by fax since a fax is acceptable by Tanzanian law as an authentic transaction document, while e-mail is not. Customers also forwards letters via fax too, which he finds easier instead of having to go to his postal box every day (Mochiwa, 13/08/03).

As with the wish to adopt fax to be able to communicate with customers using the medium they prefer, some retailers who now use e-mail were also influenced to do so by their customers. We have seen how Hamisi and Dickson were directly encouraged by a customer to use e-mail and took it upon themselves to do so because the customer indicated – almost insisted – that this was a requirement to them continuing in business together. Others decided themselves to learn to use e-mail and to obtain an account because they realised its importance for their work, and this also seems to be motivated by their customers' use of the technology. Mochiwa, for example, was asked by a number of customers what his e-mail address was and he '*went to town and asked somebody at an internet café to open an account because I realised that this is now the way that business is done internationally*' (Mochiwa, 13/08/03). Mary has a similar version of why she obtained her accounts, for she regards e-mail as '*the way that the wazungu gave their names [i.e., contacts] to each other at expos*' (Mary, 13/01/03). Gwalugano, who taught art for a brief period in Finland, also realised the popularity of e-mail when he was asked for his address at the college he was attending:

> It became clear very quickly that e-mail is the way to communicate, not by giving your address where you live, or a letter or meeting people as much as we like to do here [in Tanzania], so I learnt how to use e-mail so that I could communicate with people at the college. (Gwalugano, 31/07/03)

While the desire to learn to use e-mail appears largely to be driven by foreigners' use of the technology and retailers' wish to use the same medium, the retailers have used local informants to teach them. Hamisi, Dickson, Mary and Mochiwa first went to internet cafés in Dar es Salaam to learn, Gwalugano consulted a friend in Finland, Frank learnt at college (in the relatively early year of 1996), and Justina and Origenes were taught by their children, who themselves had also learnt basic ICT applications at college in Tanzania.

ICT for customer relations

Other than Gwalugano, who is active in finding customers, it emerges from the (albeit few) replies from retailers that the search capability of the internet is not used to find potential customers, and those with websites find that they do not entice many new clients. New clients buying in bulk tend to be found abroad by those retailers who are able to attend international trade fairs, and the remaining customers are found in Mwenge. In most cases these customers are one-time buyers (tourists and expatriates) visiting Dar es Salaam principally for reasons other than buying *vinyago* or, in rarer cases but purchasing far larger orders, foreign *vinyago* dealers who visit Mwenge every few years to inspect the entire range of *vinyago* and other handicrafts that the retailers have to offer. These customers are dealers who

> come from abroad because they don't know the choice in Mwenge – not everybody [in Mwenge] has websites and there are many styles of handicrafts and the dealers. They come about two or three times, tell the retailers what they want sent and then replicate their order. (Mochiwa, 13/08/03)

Unlike Steiner's (1994: 46) account of art and handicrafts trading in West Africa, these customers mean that some retailers such as Hamisi and Dickson can make some currency from repeat sales.

For Mwenge-based retailers it is in communication with these repeat foreign customers – bulk buyers who they meet at expositions or who visit Mwenge on a number of occasions – that ICT prove to be most useful, not in *making* customers since this is done face-to-face in Mwenge or at expositions, but in *keeping* customers. Mary, for example, sees e-mail and SMS as,

> like being face-to-face with an *mzungu* in their country, but I am here in Tanzania, ready to find any *vinyago* the customer needs because e-mail or text is fast. And so [the customers] come to me every time, I am their person in Tanzania and because I have e-mail and it is fast, the customer always uses me and so I can keep my customers. (Mary, 13/01/03)

Using ICT to keep international customers is achieved through having e-mail access and SMS with which to receive their messages (about obtaining the *vinyago* for an order, for example), reacting swiftly to this information and replying using the same medium. In this respect the ICT is a technology that both customer and retailer employ to ensure that a message is communicated in the most efficient way possible so that both parties make a profit, and is a cheaper and usually more reliable method of conducting business that was first established when both parties met face-to-face. Yet nothing here is particularly unusual about the way that these technologies are applied in business dealings elsewhere in Tanzania, between Tanzania and other countries, or between businesses in the North. What is new to the use of the ICT by the Mwenge entrepreneurs when compared with their other means of communication is that e-mail and SMS is being used to convey the typically Tanzanian gesture of frequent greetings, allowing them to strengthen their relationship with their customers. Because a text or e-mail is comparatively cheaper, more reliable and far less hassle than direct calls, fax and the postal service, retailers can send a brief greeting to their customers in the same way that they visit a colleague or customer in Dar es Salaam, as Frank explains:

> I use text or e-mail to greet my customers, maybe every few months, to say "How are you? How is your family? How is business? I hope that you and your family are well!", these greetings that we have here in Tanzania. And customers like this, I think it makes them remember … how we are friendly and [that Tanzanians] will ask these greetings…and the customers will reply and sometimes they make an order. It reminds them of our friendship. (Frank, 01/08/03)

Justina also uses the term 'friend' when referring to business customers to whom she sends Easter and Christmas greetings by e-mail or text. She calls these recipients abroad her 'customer-friends', contacts who later questioning reveals appear to be international customers who she is friendly with but who she first met through business. However, she appears to have little other social contact with these 'friends' other than as buyers she sends goods to and, on the odd occasion, buyers who she will sometimes meet again at expositions. Justina's motivation for these greetings, it emerges, is so that the customers will remember her name. By couching the communication in social terms through referring to 'friendship' in greeting business customers, we see here that ICT is being used as a tool for 'keeping up appearances' where frequent personal face-to-face contact (whether it is business or social) is not possible.

These greetings through e-mail or text probably have at least two effects that benefit the Mwenge-based retailer. The first is that it allows for further learning about international markets and tastes, as Frank shows:

> I try to be friends with my customers by greeting them [through e-mail or texts], and when I am friends with them, then I can learn about the market and what they think about the *vinyago* business….I can ask them a question when I text…a question like "How are *vinyago* selling in America?" or "What are the [buyer's customers] liking this

> year?", and I learn from this. This way I also learn about the markets in different countries. (Frank, 01/08/03)

Secondly, given the high costs of international flights, the northern customer will be aware that frequent personal contact between the two cannot reasonably be expected, so the occasional text or e-mail greeting from a Tanzanian supplier who the northerner may well regard as a poorer – but very friendly – African probably goes a long way in personalising and strengthening the relationship between the retailer and at least some international customers. Friendships, whether social or business, are made by face-to-face contact but require continual reworking and are vulnerable to changes in the life-course and strategies of the participants (Seierup 1994: 12), which are all the more likely at a distance such as that between retailers in Mwenge and customers around the world. Through using e-mail and text these brief messages of greeting are used to reinforce relationships with customers, with the possibility that 'friendships' may bring with them more trade, or at least better market information.

There may also be some significance in Frank's remark that when he contacts his foreign customers he wishes for them to remember the warm reception that they receive from those who are 'suffering in Tanzania'. Although it is unclear if he is referring to his own position (which could hardly be described as one of misery when compared with much of the population living in abject poverty), it could be argued that this comment is indicative of some retailers' acute grasp of common Northern perceptions of Africans as the wretched downtrodden (Green 2000), and that these emotions are sometimes being manipulated for gain by those such as Frank who have good contact with wealthy customers through their access to e-mail and mobile phones.[23]

In a similar vein, it could also be argued that the three female retailers in the sample choose to avoid using websites to sell their produce not because they cannot afford web construction, nor because they are illiterate – they are, after all, members of the

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[23] These perceptions are being furthered by agencies' use of the internet to promote what has been termed by Sankore (2005) as 'development pornography'.

wealthy elite who have best access to the internet and its applications (Mwesige 2004) and to education. Rather, these women choose to avoid using websites because they prefer to trade at the personal level that we have seen they excel at, for example, by gaining the upper hand in face-to-face negotiations because they are able to play in English with their knowledge of the value of a product to foreigners. This bargaining process cannot be achieved so easily on a website without a retailer's good knowledge of web management and e-commerce – although it can be done through price negotiations over e-mail or text, which are mediums that the businesswomen do apply for their business dealings. And this contact between the women and their customers is first made at the face-to-face level where the women are able to use their considerable skills as saleswomen in their shops and at expositions to establish warm relationships with their international customers – relationships that are then developed at a distance through texting and e-mails to deal with orders more efficiently and at less cost than when using other methods of communication such as fax, landline and the postal service, and to also keep in touch at a personal level through timely greetings with 'customer-friends'.

5:8. ICT across the vinyago marketing chain

Across the geographical areas covered in this study – Mtwara, the Dar es Salaam townships and surrounding villages, and in Mwenge itself – few carvers or members of carving groups use any form of telephone access. Many carvers are too poor to afford handsets and mobile phone credit, and are often based in areas where there is no electricity to charge the handset. Even where a landline is available, this is rarely used. Not being able to contact the market in Dar es Salaam directly appears to be less of an issue to the carvers who, especially the Mtwara-based carving groups, are more concerned that they sometimes lack collectors who will give them specific orders and who will always collect in full for carvings that are produced on time.

Collectors visit carvers personally without prior communication and have to spend time with them to ensure that their work is ready when agreed and to the exact specifications of the retailers who they supply to. They will inform retailers that they are coming with *vinyago* when they have collected from carvers, with some using *huduma ya simu* because it allows them to better know their call time and cost. Collectors must also spend time with retailers to know specifications to convey to carvers and to ensure payment for their services. Neither carvers nor collectors reported using the internet.

The female retailers in the sample all speak good English that helps them in their face-to-face selling of *vinyago* – a combination of 'performative' and 'retail' bargaining – that allows them to learn from their shop customers about demand. Damaris and Mary have also brought to their business an experience in administrative tasks that they learnt in their previous white-collar employment. Perhaps because of the contacts met through this previous employment and the social / business circles they operate within, these women are in networks where they can better access crucial gatekeepers who have provided them with the opportunities for exposure to foreign markets. Their ability to exploit international market opportunities through travelling abroad sets them apart as an elite minority of entrepreneurs. They can also be set apart from many other Tanzanian entrepreneurs by showing that they are able to build on these opportunities by accumulating capital and being able to be self-sufficient, graduating beyond their previous reliance on donor-funding. This is shown most clearly in their ability to pay for their own (often yearly) international travel to expositions, a source of many of their business contacts.

All sample retailers – both men and women – have adopted ICT for more efficient communication with foreign customers. Because users do not have to own their own ICT to use them, however, all *vinyago* retailers can access ICT, not just the elite, and this gives the opportunity for retailers with less capital to also access foreign buyers. We have seen that Hamisi and Dickson use ICT to access the market without the need for international travel.

Internet is accessed either at home by wealthy retailers or in internet cafés, where e-mail is used as a fast and relatively affordable means of communication with foreign customers about current and future orders. The internet is used much less for accessing websites. Along with texting, e-mail has also been appropriated by some retailers as a customer relations tool for 'keeping up appearances' through brief greetings to remind foreign buyers of their personal (business) relationship where frequent personal face-to-face contact is not possible. E-mail and text therefore allow for information-exchange through communication with those outside the immediate business community of Mwenge. Murphy (2002) has shown that in Tanzania loose connections to a diversity of people and communities are especially important as they enable some entrepreneurs to track market changes, to obtain novel bits of information, and to identify new business opportunities ahead of the competition, and ICT do appear to facilitate relationships with these sources of information outside the country.

5:9. ICT as 'the office'

Retailers choose to adopt for business a combination of fax, mobile phones and e-mail so that their customers can use any of the technologies for contacting them. As useful as these technology are for communicating with customers, it also seems important for retailers to show their customers that they have access to these technologies. To Mochiwa, for example, a website shows his customers 'that I am professional in this business', while using e-mail – which he refers to as 'the way that business is done internationally' – lets his customers know 'that I really want to do business'. Even fax (an older ICT which, at least among Mwenge-based retailers, appears not to be threatened with redundancy by newer technologies) to Justina's customers still 'means you have committed yourself to business' because, Frank believes, it shows customers that the retailer has premises with which to operate from. Sample retailers such as Hamisi and Dickson, however – and who are not in the connected elite where they may gain access to international markets through visiting foreign countries – have shown that while access to these technologies is crucial to their retail trade, an entrepreneur need not actually have a physical shop or office space to run an exporting business. Dar es Salaam's many internet cafés provide access to e-mail and the web and many also provide facilities for sending and receiving fax.[24] Retailers also need not have their own premises with which to register a telephone line that goes directly to them since all have their own mobile phones that, as we discuss in section 8:6, can be acquired through various means that can avoid the high costs of paying for a new handset. The mobile phones can be used for local calls, and *huduma ya simu* for longer-distance calls where necessary, allowing the retailer to closely monitor time spent on the telephone so to keep costs to a minimum. Through more affordable forms of access than actually purchasing a fax, landline telephone and internet connection, the triumvirate of ICT (fax, mobile phones and e-mail) enables many entrepreneurs to operate without premises, thereby saving costs on rent and allowing the enterprise to remain informal, beyond the reach of government registration and taxation.[25]

Physical premises and physical products

Physical premises are still important, however, because it is the very existence of the cluster of shops and carvers in Mwenge that attracts so many customers in the first place, some of whom become buyers that retailers such as Damaris, Mary and Justina establish long-term supply relationships with, while others visit carvers who then approach Hamisi and Dickson to arrange their exports. Buyers – whether tourists attracted to the spectacle of Mwenge and purchasing souvenirs, or foreign wholesalers and international dealers coming to establish ties with retailers – 'experience' Mwenge, have a chance to ask about the background to carvings that they are able to handle and inspect, and to ask about the history and culture of the carvers around them, all the time learning (usually in English) from the retailers. This provides retailers with an opportunity to interact with foreigners, in turn to learn about their tastes and to bargain over the physical products surrounding them. None of this is done so easily using website, the limited success of which among those

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[24] Some internet cafés also provide VoIP.

[25] Research during the first phase of the fieldwork revealed individuals purposefully making use of public ICT because they allow for more anonymity in transactions and make the authorities' tracing of illicit deals more difficult. One individual who was employed for a formal mining company was interviewed in an internet café and later at a *huduma ya simu* brokering a deal with buyers of precious minerals he had managed to smuggle out of the mine he was working at. He was using these forms of access, he explained, because both the prospective buyer would have more difficulty locating the source of the stone and his employer would have more difficulty in tracing the identity of the thief.

Mwenge traders who have had them constructed may explain why others in the cluster – most notably Damaris, Mary and Justina, who excel as saleswomen – have not established their own sites.

5:10. Retailers' web-presence and Northern perceptions: a brief experiment

The absence of websites for these women's exporting ventures calls for a more critical analysis of the ways in which other *vinyago* retailers have presented their businesses (and suppliers) on the web. We have already introduced Mochiwa, Frank, Massimo and Gwalugano's efforts to present their businesses to the international market, and now compare Gwalugano and Mochiwa's Tanzanian-based sites with the web-presence of rival retailers based outside Africa in the hope that it may provide some answers about why Tanzanian-based retailers report low sales through their 'international shop fronts' on the web.

Critical analysis of Tanzanian-based and non-Tanzanian *vinyago* websites

The websites of *vinyago* retailers based outside Tanzania were chosen using www.google.com, the world's most popular search engine and one that a potential buyer on the internet may use to search for *vinyago*.[26] The interest was in finding non-donor driven websites, but the search terms did not exclude these because of the difficulty in determining the ownership of the business when searching. The initial search in English on 11th November 2004 used the terms "Tanzania Makonde *vinyago*", which revealed only seven sites (two of which were repeat sites). The first listed entry was, remarkably, Gwalugano's *Nyumba ya Sanaa* site, while the

[26] It is recognised that using a Web browser search tool can prioritise a general selection towards those who pay the most to have their site appear first. Nevertheless, this method of selection was chosen because it is one a potential buyer could use.

remainder were excluded because they were non-commercial sites.[27] A second search was then carried out on the same date using the terms “Tanzania Makonde carving”, which generated 728 hits. The sites chosen for analysis here are those three different commercial enterprises (two of which are repeated twice) on the first Google page of ten hits and which offer *vinyago* for sale.

‘Art Tribal’, New York, United States

The first listing is for ‘Pilot Guides’, a website ‘for the curious traveller’ who can enter an ‘ethnic shop’ website {www.pilot.co.uk/Shopper_files/Shop_Ethnic1.html} that offers some background on Makonde carvings. The information about the craftsmen is scant and impersonal although, despite the name of the site, it does not sell *vinyago* directly itself. For purchasing *vinyago* links are given to the ‘African Art Collection’ site {www.arttribal.com, now offline, and www.zyama.com} where the ‘authentic African art’ of any of about 150 ethnic groups can be bought. Some crude background on the Makonde is offered here and a virtual visit to their ‘tribal home’ can be made, although this link appears to be dead and is now dominated by symbols advertising their acceptance of Visa, MasterCard and American Express. Curiously, no carvings made of African blackwood are for sale, with pieces instead being the ‘genuine, traditional and old’ that Saetersdal (1998) sees provide most interest to the Northern buyer. The cheapest Makonde article, for example, a ceremonial bowl and lid, is described with some wondrous historical packaging and ‘looks very old and extensively used’.[28]

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[27] The past tense is used here because the Google entries are subject to change, so may not be the same on later dates.

[28] The other link provided in ‘Pilot Guides’, blandly entitled ‘Makonde’, takes the prospective *vinyago* buyer to the private collection of Captain Felix Lorenz where inside his cowry auction site we find a tribute site to the Makonde {www.cowries.info/makonde/main.html} and can view his exceptional collection, listed not by style but by carver. Some of these carvers are the elite master carvers Korn (1974) and Kingdon (2002) discuss, and through another link we are presented with photographs of some of these prestigious carving gurus. None of these splendid carvings are offered for sale, although the fact that Felix does offer his contact details suggests that he might be open to negotiation, especially since he has other auction sites selling his foreign acquisitions.

‘Africa Direct’, Denver, United States

The second Google listing is for ‘Africa Direct’ {www.africadirect.com}, a business run by two Denver-based wholesalers selling to stores, galleries and collectors through their website and eBay, where they auction such African treasures as ivory tusk trumpets and Ethiopian Coptic crosses. The homepage speaks passionately about their love of Africa but we learn nothing about the artists themselves, only repeated three-line ‘full descriptions’ telling the prospective buyer little more than that the Makonde live in Tanzania and Mozambique and that the ‘ebony’ carvings for sale on the site bear no resemblance to other ‘airport art’ pieces. The goods vary in price from $95-995.

‘Zebra Crafts’, Saskatchewan, Canada

The ‘ebony’ carvings listed on the third site listed on Google range from $38-198, and are sent to the buyer from ‘Zebra Crafts’{www.zebracrafts.com} in Canada. The company director, Margorie, sells handicrafts she has obtained herself from collectors all over sub-Saharan Africa, and features a select artist for each of the types of craft she offers under a ‘Faces’ link. These artists themselves also feature under some of the product category pages, with the name of Bernard Pius – the only carver of *vinyago* who Margorie uses – drawing the customer’s eye to the centre of her ‘woodcarvings’ page.

Generalisations about the three sites are difficult because they all seem to present *vinyago* from very different motivations. With the ‘Africa Direct’ and ‘Zebra’ sites the sense is that we are dealing with an individual trader and, especially with Margorie, an individual who has had some connection with traders or carvers in Tanzania. On the other hand, with the owners of the ‘African Art Collection’ site the feeling is that the prospective customer is dealing with a company run by a couple of mass collectors who are plundering the African continent of its heritage and offering this booty for sale. Equally, however, it is difficult to generalise about the motivations of the buyers of *vinyago* – and African art / artefacts more generally – and how they are attracted or repulsed by the origins of the goods on sale. Either way, there does appear to be a market for these products, and one that Mochiwa and Gwalugano also seek to supply as Tanzanian retailers.

‘*Nyumba ya Sanaa*’, Dar es Salaam

From a Northern prospective customer’s perspective these Tanzanian-based *vinyago* retailers fail to provide much online competition for the Northern retailers. Gwalugano’s *Nyumba ya Sanaa* site {www.catgen.com/sanaa/EN/}, while found immediately for this web-based survey was only located easily because the Swahili word ‘*vinyago*’ was used, a term that few prospective customers would enter in a search engine. Similarly, few customers would be able to translate the detailed descriptions of the carvings from the Swahili, nor would many bother to trudge through the poor English, and are unlikely to rise to Gwalugano’s offer to e-mail him for clarifications before they dismiss the site as unprofessional.

‘Africa Authentic Handcraft Carving and Export’, Dar es Salaam

Mochiwa’s site {www.africawoodartist.netfirms.com} also displays some fatal flaws that may detract a prospective Northern buyer in favour of another source of *vinyago* from the internet. One of the first things that is clear upon entering the site is the dubious English which, when taken with some of the poorly lit photographs of Mochiwa’s products, give the website an unprofessional feel. The carvings are not given a description, labelled or even priced, so it is impossible to match them to the abstract numbers on the order form. Although the ordering system appears simple, the lack of any labelling on most products makes ordering online difficult since the buyer has no idea what, for example, a ‘WE012’ listed on the order form is. The prospective customer is therefore left to contact Mochiwa, who on his site is presented in a passport-like photograph as a sombre, lone figure – a poor reflection of the charismatic, intelligent businessman that he is.

Knowing Mochiwa and Gwalugano personally, however, should not be allowed to influence any judgement on which of these five sites I, as a hypothetical prospective customer from a Northern country, would chose to purchase *vinyago* from. Should I be concerned with ethical trading – and no research has been done for this study on whether this is the case for prospective customers – my inclination would be to purchase my *vinyago* from a Tanzanian site, purely because the money appears to be going directly to Africans rather than foreigners. Yet we learn nothing about the carvers from the Tanzanian sites, nor from two of the non-Tanzanian sites where the producers are not only faceless but completely invisible, and only appear in the abstract as 'tribesmen' who produce mythical figures for rituals and ceremonies. Only Margorie concerns herself to present the producers as people, individuals such as Bernard who are profiled with care.

This decision by Margorie to profile the producers may make paying a small fortune for a fine carving that little bit easier. Again, because research has not been conducted for this study on prospective Northern customers' willingness to pay an average of over $300 for a carving, it is not known whether customers are put off by these prices, but the existence of websites asking these sums does suggest that the businesses make at least some profit through such sales. The same judgement cannot be made with the Tanzania-based sites, however, since neither offer prices, leaving the prospective customer to take the time and expense of contacting the retailer personally – an action that, eventually, the customer has to do in order to secure payment with any of the five retailers.[29] This is the point at which the retailer needs to give a fast, clear response.

Critical analysis of *vinyago* retailers' e-mail correspondence

To assess the response time and overall quality of correspondence, a business enquiry from the account of a fictitious Mr.Karl Ving in Stockholm was e-mailed to each of the five retailers using the address given on their websites.[30] A mid-priced carving was selected from each site and an e-mail was sent to the retailer asking how

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[29] All of the businesses in question could benefit from a direct link to a secure payment method such as PayPal. Some of the best e-commerce website have these links on every single page where their products are shown.

[30] A fictitious identity was chosen to ensure that the two Tanzanian retailers who know the author reacted no differently than the other non-Tanzanian retailers.

long it would take to have the piece sent to Sweden, which methods of payment are accepted, and requesting a little information on the origin of the carving. On the basis of this information alone, which business would I, as a prospective *vinyago* buyer with about $330 to spend on a gift, chose to purchase from? The e-mails were all sent out at the same time on 12th November 2004 and, hypothetically, the carving had to arrive in Stockholm by 30th November 2004.

The first reply was a 'bounce-back' automated response within minutes from the mail delivery subsystem announcing that the *Nyumba ya Sanaa* e-mail address I had used had permanent fatal errors. Fortunately, Gwalugano had taken the precaution to list three contact e-mail addresses on his website, all of which I had used. Yuri Raskin of 'African Art Collection' in New York then replied within four hours, offering to deliver within six to ten days the 'Makonde ancestral female figure' which he

> received…directly from the Makonde cultural area in Tanzania. I do not know the name of its author, the exact place where it was produced or used. When it concerns African ceremonial art, these facts are really never known (E-mail from Yuri Raskin, 12/11/04).

The delivery time is subject to complete payment by credit card or international money order, he explains, which includes a $150 shipment and handling fee that he makes no profit from. Despite the complete reconstruction of his website, however, he then acknowledges in an impersonal, businesslike tone, that it is still not possible to pay online and asks – somewhat disconcertingly – for *all* my credit card details to be sent in a message. A couple of hours later Margorie Cline sent a friendly reply, answering that she has never shipped to Europe before but offered all the possible options to get the piece to Stockholm through a credit card transaction over the phone or via email. She mentioned the carver she uses, Bernard, adding that all his carvings come with a photograph and information about him. This personal touch is engaging and acts as a powerful value-added to her retail business. Late on the following day a reply was received from Sara at 'Africa Direct' giving to-the-point answers to the questions, in a message that was fairly similar to Margorie's, although with no mention of the origin of the piece, nor of carvers. Two advertisement e-mails were then received from Yuri two days later, then an e-mail from Gwalugano in which he promised to write later with the price of the piece in question. The English was far from perfect, but the basic message about methods of payment could be interpreted.

Which business to buy from online: a decision based on risk assessment?

It is difficult to simplify the profile of a typical online *vinyago* buyer so it is impossible to know what aspects of the websites and correspondence would influence the decision over who to do business with. My decision would be biased through knowing the two Tanzanian retailers and my personal desire to support a Tanzanian business, but on the basis of the websites alone I would not have been impressed as a prospective buyer by either of the Tanzanian websites, nor by the 'African Art Collection' site's apparent lack of engagement with individual producers and suppliers (who they surely use, as Yuri expressed in his e-mail correspondence). As outlined above, the Tanzanian websites have an unprofessional feel to them, marked by a lack of prices and no clear, immediate means of payment. Alongside the disorganised websites, the tardy responses of the Tanzanian retailers compounded the feeling that they may be informal, less sophisticated businesses, perhaps run by novices with little exposure to doing business with foreigners – although this is clearly not the case with Mochiwa who I later learnt from our personal correspondence has a CitiBank account in America. The prospective customer looking to purchase *vinyago* online would not have the benefit of knowing that both Tanzanian retailers are veteran suppliers with years of experience in supplying carvings around the world. Their websites do not advertise this, while Margorie – whose clear and simple site gives the impression of familiarity with worldwide exporting – admitted in her correspondence to having never supplied to Europe before.

Ultimately, the decision for the prospective Northern customer is one between purchasing from a Tanzanian or a North American supplier. In part this would be influenced by price and – working on the assumption that a foreign retailer would be seeking a larger profit because of greater overheads – the expectation is that the Tanzanian retailer would demand lower prices.[31] Again, this cannot be verified from the Tanzanian sites because neither mention prices, which may influence a prospective buyer to instantly cast them aside in favour of the North American suppliers. Though probably asking higher prices for similar products, by being upfront with their prices the North American suppliers immediately come across as more transparent individuals. Furthermore, as Humphrey et al (2003: ii) remark of the developing country e-commerce ventures that they assess, not only do most of these sites not accept any liability for transactions, they also do very little to build trust between potential trading partners. The situation bears similarities with that of the potential client assessing the character of an unknown *fundi* (section 4:10) and where none of the mechanisms of trust – networks of working relationships; customer friendship; pre-existing networks; and intermediaries (Lyon 2000) – can easily be called upon to assess his trustworthiness. In this situation, access to information about credit history, annual turnover and previous trading associates would be desirable before entering into a financial transaction with a stranger (Humphrey et al 2003: 13). This links with trust and Northern perceptions of Africa and Africans which, for those who have never visited the continent, is fed by the Northern media and is largely negative (Green 2000) and for those buyers not used to dealing with Africans would surely influence the issue of perhaps having to deal with a possible breach of contract with an African they have never met. Given this risk, the Northern buyer may be inclined to take the easier option and to deal with a fellow North American with whom they may perceive there is less likelihood of contractual problems and more comeback through legal channels in the event of a breach of agreement.

[31] It could be argued that anybody seriously interested in importing in bulk or fair trade and the plight of the invisible carvers would visit Tanzania themselves and forge their own ties with carvers and exporters based nearer the source, rather than dealing with a Northern middleman.

5:11. ICT in the transition from personal to impersonal exchange

To many Northerners any business with Africa is perceived as a risky venture.[32] For Northerners this barrier to trade is not necessarily one of lacking trust in individuals in Africa who they do not know, but a concern that if contracts do fail – as they can in any transaction – in much of Africa the recourse to the courts is more difficult and, in the case of a few carving exports, probably not worth pursuing, resulting here in a loss of at least $300. In the absence of large corporate and governmental institutions capable of dealing fairly with contract enforcement, ICT counts for little when dealing with unknown businesses in an unpredictable world where contracts are not always likely to be respected. This is perhaps where the two levels of trust identified in the literature now converge. Humphrey and Schmitz (1998) regard ‘minimal’ trust as being concerned with the fulfilment of explicit promises required for basic market transactions, the minimal basis for an effective market economy. By extension, ‘extended’ trust requires that minimal trust operates, but is concerned further with diverse commitments that arise in collaborative arrangements between enterprises seeking to compete in international markets (Humphrey & Schmitz 1998). Since they supply to many customers outside of Tanzania (some of whom are themselves retailers), it is suggested that Tanzania-based *vinyago* retailers are expected to demonstrate this new level of extended trust within the international market – a level of trust that we have not yet encountered in the previous case studies covering domestic enterprise. The relationship does not seem as complex as the interdependencies described by Humphrey and Schmitz (1998: 41), however, where retailers who supply to the international market make commitments in the expectation that the other side is committed to developing the relationship. The most common relationship here seems to be largely demand-led and in this respect a relationship that is based only on minimal trust. It works best where ‘networks of working relationships’ exist (section 3:8), based on a long-standing trusting relationship of continued interaction where each party collects information on the capability of the other to build up confidence, and is facilitated by ICT.

[32] See, for example, Clark (2004).

Online Mwenge trading portal

An opportunity to combine both women's skill at bargaining with the global reach of the internet and to also engender potential customers with a greater feeling of trust towards potential suppliers may be to create a trading portal that visually encompasses all the shops in Mwenge crafts village.[33] The market could be presented on the website in the four rows of shops that exist on the ground, with the business names clearly shown as they appear on the front of the shops and, to personalise the enterprise, a photograph and profile of the owner – much like on Marjorie's website. The shops could be clickable, linking to a visualisation of the carvings as they appear for customers in the shop. The carvings could then be selected individually, with detail providing the e-shopper the background of the carving and the carver or carving group involved in producing the piece. With a uniform set of links for each shop following the same format (i.e., clickable photograph of shop and owner → clickable range of carvings within the shop → background to each carving), the e-shopper anywhere in the world would be able to browse the entire market for carvings while virtually experiencing the market to a far better degree than is currently possible online with the few bland sites that are available at present. Paid for by an equal contribution from each participating shop owner and using a large competitive gateway such as that offered by the Tanzania Development Gateway (Balancing Act 2004c; Mkundai 2004), the portal could be managed full-time by a competent web-designer who is fluent in English (the most common language of the internet) and who ensures that all links are maintained, shop sites are up-dated as new products are introduced, and correspondence from customers is forwarded to shop owner's e-mail account for them to then communicate with the customer using whatever medium the customer desires. This overseer could also ensure that the portal has a high profile on the internet, with a high-ranking on the Google search engine and links to it from other related websites. The value-added of this trading portal is that, like the Mwenge shops on the ground (and unlike the few websites

[33] West & Malugu (2003: 32) suggest internet advertising as an area to be exploited by Mwenge carvings market. The idea presented here draws on a proposal put forward by African Lakes Technologies (2001) where all members of the Association of Makers and Exporters of Gifts and Allied Articles of Kenya are brought together in some form of virtual marketplace and classified according to their area of specialisation.

Mwenge retailers have had constructed), no prices appear on the carvings, thus allowing for negotiation by e-mail, telephone or fax between the shop owner and the prospective customer. The negotiations could be initiated through an invitation for the e-shopper to 'make a reasonable offer', to which a counter-offer can be made, much like on the 'Inside African Art' {insideafricanart.com} website where the canny young American seller tempts the shopper by asking 'what's it worth to you?'.[34] Put crudely, this proposed trading portal presents a wonderful opportunity for Mwenge traders to use their sales skills to profit from the ignorance of some e-shoppers who – engrossed by the beauty of an African product – are likely to wildly over-estimate the real cost of the carving, at the same time as creating a chance to make a steady trade with more seasoned traders. Trust, a key issue in dealing with unknown suppliers, could be better ensured through feedback rating and comments, prominently displayed on each retailers' site, much in the way sellers create reputations on eBay where customer feedback is encouraged because it 'fosters trust between people by acting as both an incentive to do the right thing and as a mark of distinction for those who conduct transactions with respect, honesty, and fairness'.[35]

Since Mochiwa finds his website of most use for customers only wanting to check on new styles to his collection, the same consortium could also produce a catalogue on CD-ROM to act as an effective and cheap (50 cents a piece) advertising tool that customers in Mwenge are able to take back overseas with them, a physical gift from the physical shop. In the event of customers wishing to purchase a new addition, however, Gwalugano finds that some prospective buyers abroad then ask for a sample *vinyago* to be sent by mail for them to then inspect. This need to examine the prospective purchase or sample is perhaps the biggest drawback with the portal and CD-ROM as marketing devices, an argument which is supported by surveys that indicate that people like to touch and feel a product before making the decision whether to buy it or not, so much so, reports Batchelor (2002: 2-3), that some alternative trading organisations have decided not to use ICT to try to sell products

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[34] The best guide to how the trading is meant to work, and where the most information can be found that is applicable to the proposed Mwenge portal, is at the 'Frequently Asked Questions' link: www.insideafricanart.com/FAQ.htm.

[35] http://pages.ebay.com/aboutebay/trustandsafety.html.

because they have found that people who enter a shop (and have a shopping experience) are ten times more likely to buy something than those who just see a photograph on the internet. As we quoted Origines earlier, '*the serious buyers will want to see the vinyago*' (30/07/03), so there is a risk that some customers will not be attracted by this proposed application of ICT to new marketing methods.

Digital images across the digital divide

Conspicuous by their absence in all these plans are the carvers, but the reality is that at present the collectors and certainly the retailers know the market much better than the producers. As Strattoni put it:

> The producers have a poor interpretation of demand. We don't use somebody to stay with the producers because it is expensive and we cannot afford to lose somebody from the Dar es Salaam office, but we do use contact people [i.e., collectors] to ensure that the goods arrive before the export deadline – the middleman is crucial. (Strattoni, 14/09/03)

There are plenty of examples of NGOs and alternative trading organisations supporting artisans with training on markets (e.g., World Resources Institute 2003), but the hard-nosed capitalist view may be that until the point is reached when carvers can show themselves competent at marketing – and plenty of retailers such as Strattoni have argued they have yet done so, despite many opportunities – they should stick to do what they do best, and that is carving fine *vinyago*. Indeed, we have seen that few carvers showed any inclination to trade as it is, with members of the *Makonde Carving Group* even regarding any Makonde who trades *vinyago* (even if he is able to carve) as a 'non-carver'. So long as mobile phone reception eludes the remote villages where many of the carvers work, collectors will still have to visit those carvers who are reluctant or unable to travel to meet collectors or retailers to receive payment and discuss specific styles for future orders. Where new ICT may be of more use in a way that they have apparently not yet been applied is in digital photography to communicate specific styles to carvers, either using digital cameras that store images (thus avoiding the time and cost of producing an actual print) or, cheaper still, cameraphones, sales of which are set to explode in Europe (PriMetrica 2004c) and which are now already available at competitive prices in Dar es Salaam through the Tanzanian informal economy. The image does not need to be sent (which is where the cost lies), only captured on the cameraphone and shown to the carvers when they are visited by a collector. Such technology may soon render obsolete Alex's comment that 'you must *see* the *kinyago* – you can't *hear* it over the telephone!', but in reality the question is back to the digital divide where we began in chapter one. The question is still whether new ICT can really be accessed by the poorest (in this case study, the carvers), or whether those who will benefit the most from ICT will continue to be those who have the best access (the retailers, or the 'connected' elite) to them. This may depend to whether anybody other than donors are interested in how ICT may capture the trickle-down effects from the wealth that these technologies are transferring to and from those part of the world that are more connected.

Summary

The role of ICT and trust in business relationships has been a recurrent theme of this chapter. We have witnessed an intensity in use of ICT with proximity to Dar es Salaam (and beyond) but, as with the previous case studies, ICT does not appear to appreciably improve the trust relationship between people in Tanzania when they conduct business; much travelling within the country is still done in order to ensure that deliveries are made on time, to the correct specifications, and that they arrive at their destination intact. Again, as in the previous case studies, face-to-face interaction is important at points throughout the marketing chain although, as Fafchamps (2004) shows, we do see evidence in the *vinyago* trade that under even the crudest institutional environment contract agreements at a distance can work, so long as they can depend (to a greater degree than in more developed economies) on social networks and personal trust, revolving around personal exchange based on long-term personal relationships. This is precisely what we have seen Damaris, Janet and Mary accomplish through using their local social networks to enter foreign markets where, by exploiting their personal contacts with people whose job it is to help businesses, they have positioned themselves in markets where they have met their buyers and gained their trust by reliably supplying them with carvings over the years. They are now using ICT to maintain that trust by managing to respond quickly to business enquiries from these regular customers and through applying ICT as a tool to frequently update this ‘friendship’ when they feel the communication and relationship may need refreshing. The experience of these women suggests that the trust issue is quite different from business to business than it is between retailer and consumer.

6 Conclusion

Much of the promotional literature on ICT cast them in a very optimistic light, as technologies that hold much transformative potential for poorer areas (e.g., DOI 2001; Gerster & Zimmermann 2003; UNDP 2001). This study was motivated by a more pragmatic view that is aware of the considerable challenges of 'development'; that the digital divide is not a problem in itself, but a symptom of greater development divides. For this reason it has not attempted to look at the 'transformative' effects of ICT. The debate over whether ICT should be chosen over other development imperatives (e.g., Weigel & Waldburger 2004) has fortunately shifted from one of trade-offs to one of complementarity, and few policy makers believe that ICT is a magic bullet to replace sound developmental investments. The study has also made no claims at contributing towards the challenging task of measuring the effects of the technologies on the macro Tanzanian economy. Such an undertaking is the work of multiple scholars inclined to quantative analysis and with unhindered access to a great deal of reliable data from before these new ICTs were introduced.

Instead I have chosen to conduct a more qualitative, enterprise-level analysis of the effects of new ICT on Tanzanian MSEs, adding to the hitherto sparse detailed literature of the adoption and appropriation of these technologies in the majority, non-assisted African-run enterprises. It is felt that these changes are best observed through immersion into the physical locale and, over an extended period, getting to know the individuals whose business pursuits compose three separate subsectors that in turn contribute towards the larger economy. The case studies were chosen with a view to achieving some representation of the national, macro picture, with an upper limit of three case studies so as not to dilute the research. The entrepreneurs cover a wide geographical range and both genders, while their businesses provide different degrees of formality, along with elements of both itinerant and sedentary, urban and rural, 'flyer' and subsistent, niche and market-saturated, and perishable and durable, and with accounts from ICT-users (of various degrees and means of access and appropriation) and those who do not use the technologies at all. Subsector analysis is used because of its focus on the movement of the product or service through its various stages, in particular the attention it pays to vertical linkages between buyers and sellers. Together with the spread that the case studies offer, this approach is seldom the experience of those who inform policy because they rarely have the luxury of time to conduct such an in-depth study. The research programme was therefore designed to ensure that time was devoted to engaging with people on the ground, allowing for the crucial exposure to how people interact and how business operates. It is felt that this more personal approach over time offers an informed view of how ICT has been adopted and applied (or not) to business activities in the 'ordinary economy', the source of livelihood for many Tanzanians. At this level we are able to reveal changes to the way business is done.

Such an approach offers fresh detail to earlier work by Bryceson and Ponte on Tanzania's domestic agricultural trade, by Mlinga and Wells on East Africa's informal construction system, and West and Malugu (and, to a lesser extent, Kingdon) on the retail chain of *vinyago*. How, when and why new ICT is used in these specific subsectors – and, indeed, throughout Tanzania's economy – is a new topic, and the interface between information and communication technology and the country's business culture has hitherto been neglected. This study is the first to treat these issues in parallel with interpersonal networks of knowledge and other traditional forms of communication.

The changes that new ICT has had on business may not seem particularly original to the outside observer who – if imposed by the promotional literature on ICT – may be expecting greater benefits. To the entrepreneur operating today, however, the changes can be very significant when compared with the situation in Tanzania before the introduction of these technologies. This is an important point that can be lost on those whose lifestyles are used to accessing affordable and reliable information and communication technologies such as the landline telephone. True, the effects of new ICT that this study reveals are not groundbreaking. What *is* groundbreaking for the Tanzanian entrepreneur is that he or she can now make calls where before this was not easy, and that it is now possible to access sources of information from anywhere in the world where before it was not. The exchange of information has been domestic for the most part, but it has meant that domestic business is changing. This final chapter assesses these changes by tying together some of issues that have arisen in the three case studies with themes from the first chapter. We began with the fundamental changes to the 'knowledge economy' and outlined worries over the risk that the highly exclusionary networks of the global economy have the potential to further marginalise areas that are seen as non-valuable. We discussed the important contribution of micro and small enterprise to Africa's social and economic development and outlined how, like all enterprises, micro and small enterprises in Africa make use of information, have information-related problems, and – potentially or actually – make use of ICTs. We discussed the digital divide and, following Duncombe and Heeks (2001b), suggest that *access* to information and ICTs and *use* of information and ICTs are two quite different things. We then considered the importance to African MSE economies of direct, personal contact and noted that in the absence of formal mechanisms to sanction contracts, interaction cultivated through extensive face-to-face contact is so highly valued that poorer enterprise owners will only act upon, and trust, information delivered on a personal level. Trust, however, is largely absent from the ICT literature. We now address these issues through the research questions, considering first how ICT is being integrated into the existing business culture, then assess the changes this is bringing to the existing business culture, and lastly suggest how ICT may be better applied for business use in Tanzania's particular setting.

6:1. ICT: integration into the existing business culture

Before doing so, however, it is important to emphasise that it is clear from the study that while the term 'ICT' has been used here (as in much of the literature on developing countries) to refer to the new information and communication technologies of mobile phones and the internet, the difference in the uptake of the two technologies is so great that, in the Tanzanian context at least, it is perhaps no longer useful to refer to them together as 'ICT'. Even in areas where the infrastructure exists to make the use of both technologies possible, for the average

Tanzanian entrepreneur the constraints towards accessing the internet are so much greater than those of accessing mobile phones that from the outset placing the two together for analysis as potential business tools is not reasonable. Of the three case studies, for example, only *vinyago* retailer elite entrepreneurs in Dar es Salaam use the internet (and that is largely for e-mail communication with foreign contacts). Far greater numbers use mobile phones across a wider range of the subsector product / marketing chains. Indeed, mobile phones are now so much more accessible than landlines ever were that in everyday Swahili these new technologies are referred to simply as *simu*, 'phones', and less as *simu ya mkononi*, 'handheld [i.e., *mobile*] phones'. For entrepreneurs the two technologies of the internet and mobile phones are so different – not least in terms of coverage outside urban areas, ease of use, and affordability – that any analysis of ICT should always take the two technologies separately.

This difference can be seen when reviewing the benefits that the two technologies bring to those who use them. It is clear that mobile phones are the preferred tool of domestic business. Irrespective of whether entrepreneurs are inclined to use the phone, this is probably because in many areas it is the only new ICT available. To a minority retailer elite who do use the internet, we have seen that e-mail is mostly used as a fast and relatively affordable means of communication with foreign customers about current and future orders. To far more entrepreneurs, however, it is the mobile phone that acts as the crucial cost-saving tool. Similar information about supply and demand is passed between farmers and the wholesale market, allowing the farmer to know whether to divert his crops elsewhere for minimum profit more locally instead of maximum loss in Dar es Salaam, giving the *dalali* greater coordination of supply, and enabling both to keep better track of consignments as they travel to market. It is here in more reliable exchanges of supply and demand information without having to rely on intermediaries that mobile phones hold the most benefit for both farmer and *dalali* because they allow for the first-hand exchange of timely information while it can still be acted on. In the construction case study we also see mobiles allowing for quicker communication between potential customers and those *mafundi* with a mobile phone whose number can be passed on in a recommendation and who they can straightaway contact for work. Once this contact is made, the other main advantage gang-leaders report of mobile phones is that they save time and, crucially, they save money spent on travelling to communicate with suppliers and employers, all the way from finding work through to completion of the job – although they must still travel to the labour pool pick-up to contact the many gang members without mobile phones. These savings on most journeys that farmers and *mafundi* alike report are one of the most significant benefits they attain from using a mobile phone, and one of the seemingly ‘pedestrian’ benefits of the technology that is underrated by its more promotional literature.

That these gains are possible is thanks largely to investment from the surviving mobile phone operators – Celtel, Mobitel, Vodacom and, recently, Zantel – for whom high competition between them has ensured that the service received by customers is usually of good quality. The race for the market share between Celtel and Vodacom in particular has brought in some useful payment options such as per-second billing, and has led to the rapid expansion of coverage for potential markets in smaller towns and, eventually, many more rural areas. Where other African countries have been slower to open their markets (Coyle 2005) and where calls for liberalisation are still being made across the developing world (Economist 2005b), the Tanzanian government can also take some credit. The Mkapa administration has succeeded in attracting investment by embracing privatisation of the telecommunications market at a very early stage and, under a progressive-minded regulator, has created the necessary enabling environment for the sector to flourish.[1]

In the application of ICT we have seen these technologies being used by entrepreneurs to help portray a certain image about their abilities in business. For the Mwenge-based retailers in particular it seems important to show their foreign customers that they have access to certain technologies with which to communicate. In Mochiwa’s eyes, for example, his website (though largely ineffective) to him gives his customers the impression ‘that I am professional in this business’, while e-

[1] The term ‘progressive-minded’ is used instead of ‘competent’ because of TCRA’s moves towards developing capacity. Personal communication by e-mail with David Sawe, (Director, Management Information Systems and e-Government, President’s Office), 29 April 2005.

mail ('the way that business is done internationally') lets his customers know 'that I really want to do business'. Even fax, which according to Justina means to her customers that 'you have committed yourself to business', is still in Frank's opinion worth having since it shows customers that the retailer has premises to operate from. The same can be said for the landline, which gives the impression of permanency and that the business can easily be found at a certain location. Having a website can also suggest to the customer an up-to-date, sophisticated business – so long as the site is of the highest standard, with good visual images, clear English and working links, but we have seen that this is not always true with the few websites being offered by entrepreneurs covered in the case studies. In fact these entrepreneurs *are* operating some of the more established businesses, are well-known in the areas they do business and have physical premises that make locating them relatively easy. This contrasts with a growing number of MSEs run by individuals such as Hamisi and Dickson who use a triumvirate of ICT – mobile phones (owned, or not owned) fax and e-mail (from internet cafés) – to enable them to operate from a mobile 'office', without premises (thereby saving costs on rent and allowing the enterprise to remain informal, beyond the reach of government registration and taxation, and if necessary, also allowing for the rapid reinvention of a business identity). The notion of 'ICT as the mobile office' heralds a considerable change in the working practices of informal sector operators who have hitherto gone unnoticed, and calls for a reconstruction and redefinition of at least a part of the informal sector. As ICT becomes more available in rural areas, the growth in their use as the tools of the mobile office is set to increase. This is most likely to happen first with mobile phones in those areas currently without service where TCRA creates geographically-defined district licences to spread coverage (Balancing Act 2004d) to supply the substantial unmet demand for telephony in the countryside (McKemey et al 2003: 52).

When ICT is available in new areas the decision over whether to use them is ultimately taken by the individual who, if not always in the best position to judge the potential of a technology (an 'intelligent intermediary' (Heeks 1999: 18), could help with this), is in the best position to judge whether a technology is affordable. Whether it is by using promotions or new services offered by mobile phone operators to make communication more easy for a smaller budget (such as Vodacom's launch in May 2005 of TSh500 airtime vouchers) or through any of the methods we have discussed above, even when they have access to very little money the poor will find ways of using mobile phones if they see a need to use them to their advantage. Realistically the use of mobile phones – particularly for calling – will probably be small when compared with developed countries, but we have found in the case studies that people *are* seeing benefits in using mobile phones. There is little reason to think that when mobile telephony rolls out to rural areas new customers will not also use the services if they judge them to be of use and affordable. Similarly, if the internet becomes available in rural areas and it is shown to be of use to people with very small disposable incomes, then it will be used, although it is clear as we discussed in chapter one that the hurdles are far greater than those with mobile telephony. Technologies are being developed to overcome these challenges, with one application that seems to hold some promise in providing affordable access to the internet in rural areas being VSAT, a two-way satellite communication system with antennas that use a specific (Ku-band) frequency. The total equipment costs no more than $2,000 and service charges are less than $100 per month, so an internet café or other successful small business can get connected to the internet regardless of the distance to the nearest connection to the terrestrial telecom infrastructure. Combined with WiFi (wireless local area network application), the costs could be shared by other local users.

For now, and on the basis of these three case studies, the difference between mobile and internet demand in Tanzania is largely one between domestic and international information and communication. VSAT may therefore be first popular in areas where individuals and businesses have a desire to connect with others outside the country. In the meantime, mobile phones will probably remain Tanzania's most popular ICT. Indeed, argues Støvring (2004: 22), the growth of network operators and subscribers has been so spectacular and mobile telephony is now such a popular form of communication that it is fast becoming the dominant form of network in twenty-first century Africa. A weakness of *SMEDP* in this respect is that it makes little of the continuum of SMEs, and apparently treats the informal sector as an homogeneous mass whose constraints – including access to ICT – it can attempt to tackle comprehensively. While laudable, *SMEDP*'s efforts to create a national website for SMEs and a directory of service providers should bear in mind that when we talk of the majority of small enterprises with access to ICT, we are talking about mobile phones, not the internet. If getting entrepreneurs to use the internet is the goal, then *SMEDP* needs to make moves to ensure that access to the technology *begins* by promoting the national website to first-time users of the internet as a service that offers some of what has made mobile phones appeal to those who use them: simple and relatively affordable, demand-driven information.

It is still important that we do not lose sight of the fact that while this thesis is on the use of ICT in business, in Africa, as elsewhere, mobile telephony is used for far more than enterprise alone. We must not be seduced by those who in the North rarely portray mobile phones in poor countries as anything more than development tools; witness Vodafone's (2005) recent report on the impact of mobile phones in the huge untapped market of Africa which, while rightly considering their economic effects, still underplays the huge use of the technologies as networking tools beyond business. Even in the final section on ownership, *Africa: the Impact of Mobile Phones* never gets beyond social *capital* to discuss the purely *social* use of the technology.[2] This overly developmental perspective of mobile communication ignores the fact that in addition to business communication (where a short piece of information concerning maybe an agreement on a date, place or delivery is transmitted), in Africa as in anywhere else in the world many customers also engage in 'the other antipode of mobile communication' (Roos 1993: 457) that is the highly personal, intimate communication with a lover, friend or relative.

The importance placed on this latter form of communication in Africa is supported by research from Botswana, Ghana and Uganda which shows that in rural areas by far the most common use of mobile phones is for communicating with friends and family, while far less communication relates to business matters (McKemey et al

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[2] Vodacom's (2003) preceding report, by contrast, considers regulating call termination in markets closer to home, not how mobile phones might play a role in Britain's development.

2003: 34). Again, this seems very far from the new post-Fordist demands of the knowledge economy discussed in the opening chapter, and it is tempting here to conclude that the literature is indeed too firmly grounded in the thinking of the advanced capitalist economies. As Simon wrote when debate on the importance of the knowledge economy began to take hold,

> The current wave of writing on post-Fordist flexible accumulation, the hypermobility of capital…is certainly of little relevance to large regions of the Third World, especially Africa, where increasingly poverty, dislocation and scarcity and immobility of capital are the principal features. (Simon 1992: 12)

As we have also discussed, those following the 'Fourth World' account of globalisation would argue that for a region such as Africa this state persists precisely because information and communication technologies, the principal tools of globalisation, are not being utilised by many African businesses to their maximum potential. This may be true where ICT is concerned – we can hardly expect otherwise given the massive obstacles to efficient access that many face – but individuals *are* prepared to be active in accessing these technologies and to develop their own solutions to the opportunities that they offer for their particular needs. We have seen this, for example, in individuals renting out their phone lines, and in beeping being used to convey messages between urban and rural areas. Such communication is then commonly used (McKemey et al 2003: 35) as the starting point for a transfer flow of capital in the form of remittances from the former to the latter. The increments may be miniscule when compared with capital flows conducted in the North and by African businesses with international connections, but they do show that even at the poor and less visible reaches of the global economy, ICT is being used to keep capital mobile.

These transfers are almost exclusively flowing to rural areas from the towns and cities that for many Africans provide the spiritual and material link into the world economy. For most inhabitants of African cities this engagement with the global economy has in recent years largely been minimal, but we have found a number of individuals in the *vinyago* case study who are now able to use the internet to do business with physically-distant participants of the world economy. For many more, however, the flourishing informal economy of ICT – especially mobile phone – acquisition and sale, coupled with ingenious means of ensuring coverage where it is not originally intended, allows a new reliable means of communication for domestic business. We are led to conclude that the challenge now is perhaps less one of getting people connected through wide coverage and accessible handsets, but more one of affordable services.[3] The good news is that analysts do expect prices to drop over the next year or so (Balancing Act 2004a).

6:2. ICT and trust: a changing business culture?

Should interconnection prices fall, it is likely that Tanzania will experience an increase in mobile phone use as people take the opportunity to stay in touch with others – for business or social purposes – who prices currently prevent them from easily communicating with. This is most likely to be those people who customers are separated from by great distances. In fact, although writing before the internet began to spread, Trulsson (1997: 136) believes that the long-distance role of telecommunications is their only significant use in business in Tanzania. Of course, as with the 'Fourth World' pessimists, Trulsson did not anticipate large-scale private investment into the country's ICT infrastructure and the ability for, and inclination of, people to communicate by such hugely popular cost-saving methods as text messaging. Yet even with such facilities, entrepreneurs are unlikely to greatly reduce personal visits to those they are doing business with (or may potentially do business with), particularly when the distance between them allows for them to meet. Even when the distance is greater – between the Southern Highlands and Dar es Salaam, for example – it is likely that although mobile phones will be used for the exchange of supply and demand information, personal links will still be crucially important and we will still see much face-to-face contact. This is a good explanation for the above finding of McKemey et al that many more people stay in touch with friends and

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[3] For those who can still not afford access to the hardware, manufacturers are planning affordable new handsets for the market in developing countries (BBC 14 February 2005).

family by mobile phone, but when it comes to business-related matters mobile phones are used much less frequently.

Put simply, much business in Tanzania is still a personal business and requires face-to-face communication. The remarkable disproportion in the availability of fax and e-mail and their actual usage helps testify to this. While 36% of the enterprises surveyed by Nielinger (2003a: 3) have access to a fax-machine and one-third have access to e-mail, both means account for only 10% or 9% of total business correspondence, leaving an outstanding 81% of business correspondence to traditional, non-electronic means – much of which is face-to-face. We have seen this throughout the working relationship between farmer and *dalali*, from the farmer using local networks to find out who is a recommended *dalali* to supply, in their agreement to do business together and in subsequent meetings to re-new ties, share advice on farming and, crucially, in the farmer asking a *dalali* for credit. All this must be conducted face-to-face and, aside from the exchange of supply and demand information and so long as there is trust between the two, the mobile phone plays a fairly more minor role in their business relationship. Loose connections to a diversity of people and communities are also important as they enable some entrepreneurs to track market changes, to obtain novel bits of information, and to identify new business opportunities ahead of the competition (Granovetter 1985). In the case of the women exporting *vinyago*, ICT appear to facilitate relationships with these sources of information outside the country, but domestically the relationships are often instigated and maintained by meeting people personally in local social or business networks. We have also observed how off-site the gang-leader will spend time in his informal and very open networks of knowledge composed of friends and relatives who may have some ideas on where his gang's services are needed, and this relies on being with and around people, on his 'eyes and ears' in social settings. The process of actually winning the contract also involves negotiation, during which time his mobile phone takes a minor role to face-to-face contact. The same is true for *vinyago* collectors who visit carvers personally and have to spend time with them to ensure that their work is ready when agreed and to the exact specifications of the retailers who they supply to. Retailers further down the supply chain also place much value on face-to-face communication with customers in their shops. As well as helping to sell items, face-to-face interaction provides them with a chance to learn about demand, and in Tanzania this cannot be done effectively by any means other than through personal interaction.

In the case of one *dalali* we have seen that it is still possible to operate successfully without using a telephone at all and to rely exclusively on personal interaction. By adopting the 'outwardly-directed social lifestyle' of the *mfanyabiashara*, Kamwene has managed to build relationships with farmers and buyers so that they only consider supplying to and buying from him. His success is not because they know of no alternative buyer or seller, but because he takes the time to do business with them face-to-face, even when farmers are unable to come to him to do so. Kamwene is perhaps an extreme example because of his complete rejection of the use of a telephone, but on balance his overall preference for personal communication does seem to be closer to the way much business is conducted by the majority of entrepreneurs across the case studies. These case studies tell us that mobile phones are fast becoming a *new* form of network in twenty-first century Africa, but they are still far from being the continent's *dominant* form of network as Støvring (2004: 22) contends. The internet, access to which is growing in Tanzania but at a far slower rate than mobile phones, is even further from this position of dominance over more traditional forms of communication. This may explain why Mercer (2004: 9) has found that the idea of meeting strangers in cyberspace, a popular motif of much of the literature on cyberspace in the North, holds little appeal in Tanzania.

One potential problem of the supremacy of traditional forms of communication in business is that effective use of the internet in domestic business networks relies on the sharing of information between participants who are operating in the same local environment, and for this to flourish the participants benefit from networks wider than those individuals they already know. The risk in Tanzania, however, is that the local information society is hindered by a culture of secrecy where entrepreneurs are reluctant to share business information with strangers (Chango 2004) – presumably because they fear that their ideas can be stolen.

The other dilemma that has cropped up throughout the case studies, concerns the trade-off between these new technologies and the challenge of trust. In the entrepreneurs eyes, this dilemma might seem as a series of constant decisions between the advantage of being mobile with a cellular phone (or with access to e-mail through internet cafés) and so away from aspects of business, and of having to trust and rely on the integrity of others in an environment where being wary of transaction failure is often the most sensible approach. As we suggested in a Northerner's possible reluctance in sending money to an African-based *vinyago* exporter who they do not know personally, this applies as much for the internet as it does for mobile phones. We have seen that to help guard against potential transaction failure it is often beneficial to use others' experiences for screening to save on transaction costs, but that at times this is not practical, such as when a farmer has to rely on a lorry driver's goodwill to use credit on his mobile phone to inform the farmer (as well as the lorry owner) of a breakdown en route to Kariakoo. Yet we also revealed that those who could be considered outsiders in the business relationship and who have little to lose if they do not help can co-operate even if there is no financial benefit for them in doing so, as we saw is for some *huduma ya simu* receptionists and fellow farmers who take messages for a farmer when he cannot be at the phone. However, these acts of generosity seem only to stretch to those individuals who the entrepreneur has an established face-to-face (but not necessarily business) relationship with, and the mobile phone is certainly no way of getting to know potential business associates in Tanzania's very personal society.

On prices in particular, reliable information relies on trust and this usually requires a face-to-face relationship, even when ICT is employed to relay the information. We have suggested that mobile phones can help farmers with supply and demand information, but noted that this is only so long as there is trust between the two – that the *dalali* is truthful in what he tells his farmer. In this respect, mobile phones can be seen as a facilitating technology for existing, trust-based relationships. Yet for many farmers dealing with Kariakoo the reality is that the mobile phone does not alter this trust, for there is nothing conclusive from the perishable foodstuffs case study to suggest that the mobile phone itself can actually facilitate the trust relationship between a farmer and his *dalali*. As we remarked in chapter six, in the absence of large corporate and governmental institutions capable of dealing fairly with contract enforcement, ICT can count for little minimal trust – let alone extended trust.

Personal exchange based on long-term personal relationships can help however, as we have seen where Damaris, Janet and Mary use their local social networks to enter foreign markets where, through their personal contacts, they have gained the trust of buyers by supplying them reliably over time. Another area of future research is a more focussed study looking specifically at the background of how these women have broken into international trading and how these influences can be combined in policy with the potential of the internet café using youth (section 8:14) who are more proficient in their use of the technology and are the country's future e-commerce entrepreneurs. These women now use ICT as a tool to maintain that trust by staying in touch by 'keeping up appearances' at a friendly, social level – albeit it at a distance. With the help of ICT to deal with these relationships, these women are managing to do what Fafchamps (2004: 483) sees institutions are yet to achieve, and that is to move from personal to the impersonal exchange. This transition remains to be made by the institutions, while Damaris, Janet and Mary – in the face of competition from non-traditional, foreign-based *vinyago* retailers such as Margorie – are now faced with the challenge of dealing with a new wave of foreign customers online who they cannot easily meet personally. This is the challenge many other African businesses will also have to come to terms with as the internet becomes an ever more important global trading tool.

6:3. ICT: better application for business use

Perhaps the competitive advantage that these women have is not the products they offer (others sell the same *vinyago* across Dar es Salaam) or their access to ICT (other retailers have websites and use e-mail and texting), but quite simply that they put their customers first. Africa is full of companies whose competitive offer is all too often marked by low quality and low service, and we have suggested in chapter five that business growth is sometimes hampered not only by the familiar constraints of the difficult operating environment, but also by a socio-cultural constraint that fails to always put the needs of the customer first. Basic business training of the type the government promises in its *SMEDP* should go some way to developing a more customer-focussed culture, but this is so important that it should also be added to basic or secondary school curricula. The ICT that the women exporting *vinyago* employ are nothing more than enabling tools, enhancing the importance that communication holds in their attitude to business.

We have suggested that ICT may be further exploited by such women whose skill at bargaining could be used through the global reach of the internet to create a trading portal that visually encompasses all the shops in Mwenge crafts village. There is still some scepticism of the applicability of e-commerce to developing countries (Humphrey et al 2003; Molla 2004), and one area of future study here that can be used to make changes to African-based websites is to learn about and react to potential customers' worries. This study has had to rely on the author's own speculation of what may detract westerners from purchasing online from the African market and has made assumptions about perceptions of trusting unknown foreign suppliers. Future studies should interview potential customers in markets throughout the world to better inform current small businesses in Africa that are beginning to sell their products (and not just *vinyago*) online. Yet while there is no denying that commercial barriers exist, there is no need to offer e-transactions. Once a simple website has raised awareness of a business and connected it with international markets, initial contact with a potential customer can then be made by any means, and other ICT can then be used to facilitate payment. As Russell Southwood has put it, 'there *are* all the attendant obstacles of how you market and deal with international business but that makes it difficult, not impossible to achieve' (Balancing Act 2003b). This would hold for the hitherto unexploited use of the CD-ROM act as an effective and affordable advertising catalogue for foreign customers visiting Mwenge, and in the use of cameraphones by collectors and retailers to show desired carvings to carvers.

These technologies may be too inaccessible for many MSEs, but ICT application for use in business need not be so hi-tech. Entrepreneurs using mobile phones could better advertise their services by simply printing business cards and leaving a space to add their (latest) contact number. *SMEDP* might consider that directories of tradesmen and their services will also facilitate locating these individuals and their businesses by listing mobile phone numbers and e-mail addresses, and even websites where they have them. Again, it is essential that the service that is advertised is delivered to the highest standard and that commitments are met, for instance in price quotations. We have suggested that a way around this problem in the particularly risky operating environment of agricultural trading would be to provide more transparency of prices through an SMS pricing service which is currently unavailable in Tanzania. A pilot using the trading networks this thesis has become familiar with could provide valuable information on the possibility of up-scaling such a scheme countrywide to those towns and villages ICT is yet to reach – areas that, at the current rate of expansion, will soon be covered.

6:4. Main findings and key theoretical claims

This research did not set out to assess social capital, and I am wary of adding to the confusion of the 'sack of analytical potatoes' that combine to form the concept. But we have seen how trust – a variable associated with social capital – is an important issue in the use of ICT in micro and small enterprise. It is for this reason, and also because the empirical analysis of some of the much-quoted studies of social capital have been called into question (e.g., Durlauf 2002 on Narayan and Pritchett, 1997), that as a concept of analysis I would argue that at times it is useful to completely disassociate trust from the murky waters of social capital. This approach is supported by Lyon's study (2000: 677) that found that while there are difficulties in trying to examine or measure the stock of social capital, much can still be gained from trying to understand how trust is produced. Even if it can be extracted from its relationship with other factors, at best trust can be regarded as a product of social capital and not as a component (Field 2003: 137) because, as with reciprocity, it does not exist independently of social relationships (Woolcock 1998: 185). There is no harm, empirically, in dealing with trust as an independent factor and leaving out questions of the cause and effect relationship with social capital. This is especially the case because the social capital is nearly always a term that means little to Tanzanian entrepreneurs (or, for that matter, entrepreneurs in any country), while trust is a more readily understood concept in any economy. However, there are aspects of the social capital literature, such as ‘bridging’, ‘bonding’ and ‘linking’ social capital, that we identify as being helpful for future research into the influence of ICT in business interactions, or what has been termed ‘sociotechnical capital’ – productive resources that inhere in patterns of social relations *that are maintained with the support of information and communication technologies* (ICTs) (Resnick 2004: 401). As yet social capital – let alone trust – is largely missing from the ICT scholarship, but before this can develop there is a pressing need to clarify what exactly it is we understand by social capital. Doing so should make it a more useful analytical tool for those seeking to explore the ways in which these new technologies are being applied for use in developing country micro and small enterprises. Nevertheless, there are some claims that we can make at this early stage:

- The first is that, for all the interest in social *capital* and the potential or actual developmental impacts of ICT, mobile phones in particular seem to be more often put to *social* use than they are explicitly for the generation of *capital*.

- Yet despite the ‘Fourth World’ account of globalisation, the evidence from Tanzania suggests that individuals *are* prepared to be active in accessing ICT and to develop their own solutions to the opportunities that they offer for their particular needs. These increments may be miniscule when compared with capital flows conducted in the North and by African businesses with international connections, but they do show that even at the poor and less visible reaches of the global economy, ICT is being used to keep capital mobile.

- Communication via *huduma ya simu* or the less formal renting of phone lines by individuals is commonly used as the starting point for a transfer flow of capital in the form of remittances from urban to rural areas. ‘Beeping’ is sometimes used by rural dwellers to initiate contact with their friends or relatives in the city.

- In the application of ICT we have seen both technologies are being used by entrepreneurs to help portray a positive image about their abilities in business.

- The notion of ‘ICT as the mobile office’ heralds a considerable change in the working practices of informal sector operators who have hitherto gone unnoticed, and calls for a reconstruction and redefinition of at least a part of the informal sector.

- Yet for many entrepreneurs the two technologies of the internet and mobile phones are so different – not least in terms of coverage outside urban areas, ease of use, and affordability – that any analysis of ICT should always take the two technologies separately.

- It is clear that mobile phones are the preferred tool of domestic business. Irrespective of whether entrepreneurs are inclined to use the phone, this is probably because in many areas it is the only new ICT available. In general, the hurdles in accessing the internet are far greater than those in accessing mobile telephony.

- To a minority retailer elite who do use the internet, we have seen that e-mail is mostly used as a fast and relatively affordable means of communication with foreign customers about current and future orders. To far more entrepreneurs, however, it is the mobile phone that acts as the crucial cost-saving tool.

- If getting entrepreneurs to use the internet is the goal, then the government’s *Small and Medium Enterprise Development Policy* needs to make moves to ensure that access to the technology *begins* by promoting the national website to first-time users of the internet as a service that offers some of what has made mobile phones appeal to those who use them: simple and relatively affordable, demand-driven information.

- Mobile phones are fast becoming a *new* form of network in twenty-first century Africa, but they are still far from being the continent's *dominant* form of network. The internet, access to which is growing in Tanzania but at a far slower rate than mobile phones, is even further from this position of dominance over more traditional forms of communication.

- On prices in particular, reliable information relies on trust, and this usually requires a face-to-face relationship – even when ICT is employed to relay the information. This works best where 'networks of working relationships' exist, based on a long-standing trusting relationship of continued interaction where each party collects information on the capability of the other to build up confidence.

- In the absence of large corporate and governmental institutions capable of dealing fairly with contract enforcement, however, ICT can count for little minimal trust – let alone extended trust.

- Entrepreneurs entering the export market are now faced with the challenge of dealing with a new wave of foreign customers online who they cannot easily meet personally. This is the challenge many other African businesses will also have to come to terms with as the internet becomes an ever more important global trading tool.

7 Appendix I: List of Interviews

7:1. Fieldwork, Phase I (April - August 2002)

The following individuals answered oral questionnaires or took part in semi-structured interviews. The interviews were only partially purposive, with the intention for them to act only as background to the use of ICT in Tanzania. This phase one served to influence the decision over which case studies to research during the second phase of fieldwork. All these meetings took place in Dar es Salaam, in the workplace or on the street when mobile phone users were approached there. No name is given where interviewees decided to remain anonymous. The list of additional interviews that were conducted with others whose activities were not researched during the second phase (e.g., with NGOs, the second-hand motor vehicle industry, etc..) are available on request.

COSTECH staff
Emmanuel Kaale. Scientific Officer II, COSTECH. 9 May and 12 July 2002

Enock Mpenzwa. Senior Systems Analyst II, COSTECH. 24 July 2002

Matthias Masawe. Senior Scientific Officer II, COSTECH. 9 May 2002

Theophilus Mlaki. Director of Information and Documentation, COSTECH. 9 May 2002

ISP, telecommunications, and computer software and hardware retail staff
Ajali Juma. newafrica.com, Mikocheni Light Industry Area. 15 July 2002

Bill Sangiwa. then Managing Director and I.T. Manager, CyberTwiga, Lugoda Street. 16 July 2002 (now I.T. consultant, AfriConnect (Tz) Ltd.)

Emmanuel Nnko. TTCL (Simnet), Extelecoms House, Samora Avenue. 17 July 2002

Eugene Chimpondah. Sales and Marketing Manager, Africa Online, NIC House, Mirambo Street. 15 July 2002

Mussa Kissaka. Head, Department of Telecommunications and Engineering, University of Dar es Salaam. 12 August 2002

Nisha Sanghvi. Acex Systems Limited, Morogoro Road. 17 July 2002

Nivatus Zimamoto. Technical Staff, University Computing Centre, UDSM. 16 July 2002

Vijay. internet Africa, CRDB Headquarters, opposite *Posta Mpya*. 15 July 2002

Peter Ulanga. Principal Telecommunications Engineer, Tanzania Telecommunications Commission. 24 July 2002

Internet café staff

Alphonce. Manager, TRT internet café, Kijitonyama. 19 July 2002

Atirio. Technician, Moa internet Café, Bagamoyo Road, Mwenge, close to Bus Terminal on Kijitonyama side. 29 July 2002

Dorine Luta. Manager, Alpha internet café, Garden Avenue. 30 July 2002

Technician. H. Abdullah internet café, Bibi Titi Mohamed Road / Morogoro Road, H. Abdullah. 30 July 2002

Jacob Suila. Manager, Izungo internet Café, Mwenge Bus Terminal. 29 July 2002

Joseph Kifunta. Manager, Interwebbers internet café, Jamhuri Street. 27 July 2002

Lloyd. Technician, Moa internet Café, Bagamoyo Road, Mwenge, close to Bus Terminal on Kijitonyama side. 29 July 2002

Majid Aboud. Technician, Mkwepu Telecommunications Centre, Mkwepu Street, 27 July 2002

Manager. Moonlight internet café, Liganga Street / Chang'ombe Road. 31 July 2002

Manager. Sab Cyber Café, Bagamoyo / Shekilango Road, Mwenge. 29 July 2002

Mariah. Manager, Salva internet Café, Africa Sanaa Road, Mwenge. 29 July 2002

Pamella. Manager, Tibet internet café, Bibi Titi Mohamed Road. 30 July 2002

Rose. Manager, Prestige internet café, Jasmina Street, Kijitonyama. 27 July 2002

Samuel. Manager, Mkwepu Telecommunications Centre, Mkwepu Street, 27 July 2002

Internet café customers

Agnes Kabigi. Mkwepu Telecommunications Centre, Mkwepu Street. 31 July 2002

Hamisi Geddy & Dickson Wiva. Customers, Salva internet café, Africa Sana, Mwenge, Makonde and art dealers. 1 August 2002

Customers (3). H. Abdullah internet café, Bibi Titi Mohamed Road / Morogoro Road, H. Abdullah. 30 July 2002

Jesse Rutahigwa. Mkwepu Telecommunications Centre. 1 August 2002

Mwita Winani. Mkwepu Telecommunications Centre. 31 July 2002.

Saidi. Moa internet Café, Bagamoyo Road, Mwenge, close to Bus Terminal on Kijitonyama side. 29 July 2002

***Huduma ya simu* staff**

Eleanor Secretarial Services, Mwenge Bus Stand. 29 July 2002

G.G. Express, Dar es Salaam Development Co-operation, Chang'ombe Road, Chang'ombe. 1 August 2002

International Electronics Centre Limited, SIDO Complex Building, Bibi Titi Mohamed Road, Upanga. 30 July 2002

Louis Communications, Mwenge Bus Stand. 29 July 2002

Media Communications Centre, Chang'ombe Road, Chang'ombe. 31 July 2002

Moka Call Shop, Afrika Sana, Sam Nujoma Road. 29 July 2002

Mustafa's Secretarial Bureau and Telecommunications, Mafunganyo Street. 30 July 2002

Sab Cyber Café, Bagamoyo Road / Shekilango Road. 29 July 2002

Shazia Telecommunication Centre, Nyamwezi Street, Kariakoo. 7 August 2002

Topaz Trading Company, Jamhuri Street. 30 July 2002

Worker's Development Co-operative. Mkwepu Street. 30 July 2002

***Huduma ya simu* customers**

Customers (2). Dar Phone Centre, Mkwepu / Jamhuri Street. 31 July 2002

Customer (4). International Electronics Centre Limited, Bibi Titi Mohamed Road. 30 July 2002

Mustafa's Secretarial Bureau and Telecommunications, Mkwepu Street. 30 July 2002

WDC. Mkwepu Street. 30 July 2002

Edward Michael. Dar Phone Centre. 31 July 2002

Emmanuel Masabo. Dar Phone Centre. 31 July 2002

Mustafa Shabaan. Dar Phone Centre. 31 July 2002

Rocky. Dar Phone Centre. 27 July 2002.

Mobile phone users

Amani Ally. Perishable foodstuffs *mfanyabiashara*, Nyamwezi Street. 7 August 2002

Damas Nilalu. Dealer in gemstones, Tanzania-American Mining Agency, interview on Asia Street. 6 August 2002

Max. Restaurant and bakery, Mkwepu Street. 6 August 2002

Mayur Mandaria. Selling phones, cars, houses, No office. 6 August 2002

Michael Mpupua. Agrochemicals and Veterinary Drugs Salesman, India Street. 6 August 2002

Modestus Fabian. Basement overseer, Kariakoo Market Corporation. Kariakoo market basement. 7 August 2002

Mobile phone and computer technicians (other computer technicians listed as internet café staff above)

Mobile phone technician. Cabinet shop outside Food World. Azikiwe Street. 7 August 2002

Deo Saleh. Computer technician. Kofa Traders, Motomoto Offices, Mansfield Street (off Mkwepu Street). 6 August 2002

Krus Line Camp. Mobile phone technician, Garden Avenue. 2 August 2002

Master S.. Mobile phone technician, Kijitonyama. 27 July 2002

Mshauri. Mobile phone technician, Sham Electronics, Jamhuri Street. 2 August 2002

Nangumbi Mapua. Mobile phone technician, Fast Communication Centre, Jamhuri Street. 2 August 2002

Pius Howle. Mobile phone technician, desk shop near Askari Monument, Samora Avenue. 6 August 2002

Savio. Apple Mac technician. Mekon Arch Consult, Kijitonyama. 1 August 2002

Mobile phone acquisitions
G.E.. Jangwani, Ilala. 6 August 2002

M.B.. Grey Street on corner of Msimbazi Street. 7 August 2002

S.A.. Msimbazi Road, Ilala. 6 August 2002

7:2. Fieldwork, Phase Two (October 2002 – September 2003)

The following semi-structured interviews or discussions are referenced in the text of the case study chapters. Depending on the informant's wishes, these were usually conducted at the individual's or group's place of work, in a bar or at their home. A small number of the discussions were conducted in English, the rest in Swahili, usually with the help of a research assistant.[1]

- **Chapter Four, Perishable Foodstuffs**

Farmers 25 interviews with 15 different farmers:

Angelo 'Manigula' Kilave. Angelo's place, Mtitu village, Iringa Region. 18 March, 7 May and 5 September 2003

Bahati Mahenge. Roderick Mahenge's farm, Mawambala village, Iringa Region. 8 March 2003
Berod Mhanga. Berod's place, Ilula Mazomba village, Iringa Region. 28 March and 4 September 2003

Berod Pilla. Tomato packing station, Ilula Isele village, Iringa Region. 28 March 2003

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[1] See section 2:15 for discussion on the use of a research assistant and section 2:12 on how I later conducted interviews without assistance.

Dominicus. Roadside, Kidamali village, Iringa Region. 6 September 2003

Edward Sanga. Makosa Bar, Iringa and Edward's place, Kidamali village, Iringa Region. 20 March and 6 May 2003

Exoni & Mama Manitu. Exoni's place, Mangalali village, Iringa Region. 19 March, 15 May and 6 September 2003

Francis Mbegalo. Francis' place, Ukumbi village, Iringa Region. 18 March, 6 May and 5 September 2003

Jimson Sanga. Jimson's place, Ntokela village, Mbeya Region. 23 March 2003

Jose Mwakatage. Potato storage depot, Uyole, Mbeya Region. 25 March 2003

Lukelo Mahenge. Lukelo's *shamba* and Lukelo's place, Mangalali village, Iringa Region. 20 March and 16 May 2003

Mrisho. Mrisho's place, Ntokela village, Mbeya Region. 23 March 2003

Nyambala. Cats Restaurant, Iringa. 20 March 2003

Petro Lyelu. Roadside, Tosamaganga junction, Iringa. 6 September 2003

Samwel Kiando. Kiti Moto Bar and Samwel's shop, Uyole. 22 March and 24 May 2003

Wafanyabiashara *6* interviews with 4 different *wafanyabiashara*:

Emmanuel Wilson. Potato storage depot, Uyole, Mbeya Region. 22 May and 8 September 2003

Galuce & Msemwa. Container Bar, Njombe, Iringa Region. 26 March 2003

Geoffrey Sanga. Kariakoo market basement, Dar es Salaam and Geoffrey's place, Ntokela village, Mbeya Region. 15 January, 23 March and 23 May 2003

Madalali 11 interviews with 5 different *dalali*:

Festo Mkilama. Kariakoo market basement, Dar es Salaam. 15 January, 12 March and 17 September 2003

Kamwene Benedict Mlelwa Sanga. Kariakoo market basement, Dar es Salaam. 15 January and 17 April 2003

Kazi Kardisela. Kariakoo market basement, Dar es Salaam. 15 January 2003

Bartholomeo Sanga. Kariakoo market basement, Dar es Salaam. 11 January, 16 April and 17 September 2003

Shaibu Mlilapi. Kariakoo market basement, Dar es Salaam. 12 March and 14 April 2003

Other informants include 21 interviews with 17 different individuals or groups:

Alex Mzagila, transport worker. Rose Staki's car, Iringa. 14 March 2003

Arafa Ismaeli, *huduma ya simu* operator. Upper Mnasi Attended Call Centre, Uyole, Mbeya Region. 8 September 2003

Austak Mushi, agro-inputs retailer. Masaleni Liner shop, Uyole, Mbeya Region. 25 March 2003

Charles Mboya, agro-inputs retailer. Mboya Agrochemicals shop, Uyole, Mbeya Region. 25 March 2003

Davis Mahenge, agro-inputs retailer. Davis' car, Uyole, Mbeya Region. 25 March 2003

Eliab Chijoriga, foodstuffs marketing expert and Director of Administration and Finance, Commission for Science and Technology (COSTECH). Eliab's office, COSTECH. 3 and 6 January and 11 and 15 April 2003

Gama Jordan, Organisation officer, ADP-Mbozi Trust Fund. ADP offices, Mbozi, Mbeya Region. 26 May 2002

Gerald Mgaya, Liaison Officer, VECO. VECO offices, Mbeya. 21 May 2003.

Joachim Kessy, Regional Supervisor of Agricultural Statistics, Mbeya Region. Kiti Moto Bar, Uyole, Mbeya Region. 22 and 24 March 2003

Lorry drivers (11). Kidongochekundu lay-by for Southern Highland-bound lorries, Dar es Salaam. 14 April 2003

Kuboja Ng'ungu, General Manager, KMC. Kuboja's office, Kariakoo, Dar es Salaam. 27 August 2003
Moses Makori, Senior accountant, KMC. Makori's office, Kariakoo, Dar es Salaam. 27 August 2003

Nicanor Omolo, Senior statistician, KMC. Omolo's office, Kariakoo, Dar es Salaam. 27 August 2003

Shem, *huduma ya simu* operator. Kidamali village, Iringa Region. 6 September 2003

Swiga Wilson, *huduma ya simu* operator. Lower Mnasi Attended Call Centre, Uyole, Mbeya Region. 8 September 2003

Taissamo, legal officer, KMC. KMC. 27 August 2003

Tandy Boy, transport worker. Back of Chachu's lorry, road between Mtitu and Kibaoni, Iringa. 18 March 2003

- **Chapter Five, Informal Construction Sector**

Gang-leaders 19 interviews (and a number of very informal discussions, principally at the 'Inception "Leading Beneficiaries" workshop', UNDP, Dar es Salaam, 24 and 28 February 2003):

Africanus Pius, *Mnazi Mmoja Group*/*Umoja wa Wajenzi* (concreting). Masai [sic] Café, Kariakoo. 26 June 2003

Alex Gerson, *Kitunda Construction* (carpentry). Kitchen King Café, Yombo Vituka, Lumu. 10 July 2003

Charles Matiku, *Tujikomboe Group* (engineering). Mealz, Mkwepu Street. 8 July 2003

Hamisi Yusuf, *Kibaoni Plumbers* (plumbing). KKM Bar, Tegeta. 27 June 2003

Hassan Ndahili, *Kasole Ubwele Group* (carpentry). Mtoni Mtongani. 10 July 2003

Iddi Mnyongea, *Mbagala Group* (welding). Transit Bar, Mwenge. 14 August 2003

Imani Sunga, *Limpopo* [formerly *Jua kali*] *Group* (general building). Vetenary. 6 August 2003

James Cuthbert, *Mkwajuni Group* (materials supply, scrap metal). Viwanda Street, Gerezani. 10 July 2003

Juma Simba, *Chama cha Mafundi* (general building). Dr. Tamba café, Mikumi Stand, Magomeni. 12 July 2003

Karanje Suleman, *Umoja wa Mafundi Kirumba* (general building). Vasco da Gama Inn, Pugu Kajungeni. 11 July 2003

Metod Bernard, *Nguvu Moja Group* (labour pool, *kijiwe*). Corner Camp Bar, Temeke. 9 July 2003

Mohammed Ali, *Umoja wa Mafundi Almunium* [sic] (glass). Congo Street and Kipata Street, Kariakoo. 28 June 2003

Nordin Chopa, *Kidimuni Group* (materials supply, aggregate). Msomi Shop, Kipepeo, Mjimwema. 8 July 2003

Obed Samwel, *Kigamboni Group* (painting). La Patisserie, Mkwepu Street. 8 July 2003

Peter Makoye, *Sanet Group* (general building). Peter's house, Mjimwema. 8 July 2003

Salutare Minja, *Mtu Kwao Group* (carpentry). Landmark Hotel, Mandela Road, External. 27 June 2003

Sulemani Vulale, *Studio Electric* (electrical). Sulemani's shop, Studio. 30 June 2003

Vitus Sangade, *Umoja Workshop* (general building). Marungura Bar, Kinyelezi. 11 July 2003

Zahoro Maganga, *Bondeni Youth Group* (general building). Vetenary. 6 August 2003

Other informants include

Abdi M. Hoza, former lower category formal sector contractor. Abdi's car, Mombo, Tanga Region. 14 September 2003

Arthur Jason, Tanzania National Construction Council (NCC). NCC, Dar es Salaam. 22 March 2005

Job Mbele, *JKM MultiConsult*: architecture and general contracting. Maili Moja, Kibaha, Dar es Salaam. 5 March 2003

'Jaffer', formal sector category 1 contractor of Asian origin. Jaffer's residence, Dar es Salaam. November 2002

Jill Wells, formerly Bureau for Industrial Cooperation (BICO), University of Dar es Salaam and construction specialist, ILO. Sea Cliff Hotel, Dar es Salaam, 29 October 2002 and Kentish Town, London, 13 August 2004

Ninatubu Lema, BICO, University of Dar es Salaam. BICO, Dar es Salaam. 8 January 2003

Ramadan Mlinga, BICO, University of Dar es Salaam. BICO, Dar es Salaam. 8 January 2003

Said Dogore, labourer, *Walindila Kijiwe* (labour pool, *kijiwe*). India Street; 12 July 2003

- **Chapter Six, African blackwood carvings**

Carvers and carving groups 14 interviews with 11 different individuals or groups:

Andrea Ukoti, *Baymwone Carvings Co-operative*. Group workshop, Masasi, Mtwara Region. 18 February and 22 July 2003

Ally Mwalim, *Bondeni Shop*. Carving with group in back of shop, Mwenge crafts village, Dar es Salaam. 17 January 2003

Augustino Mwimbe & Charles Mamba, *Mwimbe Handicrafts Workshop Group*. Sunset Bar, Dodoma. 5 February 2003

Bakari. Bakari's place, Zinga Kwa Mtoro, Bagamoyo. 29 January 2003

Idanankalima Carving Group. Group workshop, Ndanda, Mtwara Region. 17 February 2003

Kostodi Ilikaume. Kostodi's place, Kibaha, Pwani Region. 23 January 2003

Makonde Carving Group. Group workshop, Chikundi, Mtwara Region. 17 February and 21 July 2003

Mtongani Carving Group. Group workshop beside mosque, Mtongani, Dar es Salaam. 24 January 2003

Ras Tindimo. Rented carving space outside shop, Mwenge crafts village, Dar es Salaam. 17 January 2003

Saidi Lilama. Yarabi Salama Carving Centre, Kinyangu Market, Mtwara. 13 February 2003

Umoja wa Vijana Wachongaji wa Masasi (UVWIMA) *Carving Group*. Group workshop, Masasi, Mtwara Region. 18 February and 22 July 2003

Collectors 10 interviews with 9 different individuals:

Alex Milanzi. Alex's place, Mbawala Juu, Mtwara Region. 18 July 2003

Anna Mishiri. *Baymwone Carvings Co-operative* workshop, Masasi, Mtwara Region. 18 February 2003

Audax. Railway Line Bar, Vingunguti, Dar es Salaam. 14 January 2003

Bahati Mohamedi. Bahati's place, Majengo, Mtwara town. 19 July 2003

Gaudance. *Idanankalima Carving Group* workshop, Ndanda, Mtwara Region. 17 February and 21 July 2003

Imakulata. Bar TBC, Mwenge. 17 January 2003

Joka. Joka's place, Zinga Kwa Awazi, Bagamoyo. 29 January 2003

Maiko Bakari. *UVWIMA Carving Group* workshop, Masasi, Mtwara Region. 22 July 2003

Mangwana Sazari. Mangwana's place, Chanika, Pwani Region. 21 January 2003

Retailers / Exporters 15 interviews with 17 different individuals:

Damaris Dandi, owner, shop 17, Mwenge crafts village, Dar es Salaam. Damaris's place, Masaki, Dar es Salaam. 15 August 2003

Frida, owner-manager of 'La Botiki di Mami Dirado', Kiwengwa, Zanzibar. Railway Line Bar, Vingunguti, Dar es Salaam. 14 January 2003

Frank Morenje, owner-manager of 'African Experience' shop, building 70, Mwenge crafts village, Dar es Salaam. Frank's shop. 1 August 2003)

Gwalugano Ayubu & Kassanda Abdallah, Public Relations Manager & Marketing Manager, *Nyumba ya Sanaa* Arts House. *Nyumba ya Sanaa*, Ohio Street, Dar es Salaam. 31 July 2003

Hamisi Geddy & Dickson Wiva, owner-managers, 'Banana Fibre' & 'Tumaini' shops, buildings 31D & 31A, Mwenge crafts village, Dar es Salaam. Various locations in Mwenge. 1 August 2002, 10 January and 1 October 2003

Ismaeli Mungi, shop assistant, Kiwengwa beach shop, Kiwengwa, Zanzibar. Ismaeli's shop. 30 January 2003

Janet Mbene, occasional exporter. NDC Building, Dar es Salaam. 31 July 2003

Justina Matondane, owner-manager of 'Kiwawe' shop, building 77, Mwenge crafts village, Dar es Salaam. Justina's shop, and questions asked by research assistant; 1 March 2003 and 14 October 2004, respectively

'Strattoni', general manager of major handicrafts exporting company, Dar es Salaam. Stratonni's shop. 14 August 2003. (Asked not to be identified).

Mary Shirima, owner-manager of 'Star Art and Craft Company', shop 8. Mary's shop, Mwenge crafts village, Dar es Salaam; Mary's shop and car on way to Bagamoyo and a telephone interview. 13 and 29 January 2003 and 12 October 2004, respectively

Massimo, owner-manager ‘African Art’, New Bagamoyo Road, Mwenge. Massimo’s shop. 14 August 2003

‘Mochiwa’ (Ahmadi Mnungwana), owner-manager of ‘Africa Authentic Handcraft Carving and Export’ shop and Secretary-General of Mwenge crafts village, building 39, Mwenge crafts village, Dar es Salaam. Mochiwa’s shop, 13 August 2003

Origenes Uiso, former carver and owner of ‘Karibu Art and Crafts’ shop, Samora Avenue, and ‘Karibu Art Gallery’, Bagamoyo Road, Dar es Salaam. Origenes’ shop. 30 July 2003

Paul Hokororo, occasional exporter. Paul’s place, Shangani West, Mtwara. 19 July 2003

Philipo Luvale, former carver and joint-director with Douglas McFalls of ADEA (Centre for African Development through Economics and the Arts), Magomeni, Mtwara. ADEA building, 14 and 16 February 2003

Other informants include

Davina Matemu, *huduma ya simu* operator, Mwenge crafts village, Dar es Salaam. Davina’s *huduma ya simu* stand. 1 August 2003

Gavin Young, Business Development Manager for Sub-Saharan Africa, Visa International. E-mail communication. 28 October 2004

Miscellaneous

Anonymous. *Informal Sector Roadmap Study* co-author. Strathclyde Graduate Business School, Glasgow, 29 July 2005

Bill Sangiwa, Tembo World Ltd./AfriConnect (Tz) Ltd.. Jackie’s Bar, Msasani, 13 March 2005

David Sawe, Director, Management Information Systems and e-Government, President’s Office, Public Service Management. Jackie’s Bar, Msasani, 13 March 2005

Simbo Ntiro, Head of ICT, KPMG Tanzania. Jackie’s Bar, Msasani, 13 March 2005

Theophilus Mlaki. Director of Information and Documentation, COSTECH. Mlaki’s office, COSTECH. 22 February 2005

Vincent Msofe, Site acquisitions, Vodacom Tanzania Limited. Videx Video Shop, Kijitonyama, Dar es Salaam. 27 July 2004

8 Appendix II: Telecommunications Systems Market Commentaries: *mshindi* soap and 'mobitel' women

8:1. Basic telephone operators

On the mainland the *National Telecommunications Policy* paved the way for the privatisation in June 2000 of the state-owned Tanzania Telecommunication Company Limited (TTCL), which was granted a four-year monopoly of the fixed line sector until February 2005.[1] The government quickly sold 35% of its enlarged share capital for $120m to a consortium comprising MSI Cellular of the Netherlands and Deutsche Telepost Consulting GmbH (Detecon), a subsidiary of Deutsche Telekom, although a dispute over uncollected debts between incumbent telco TTCL and its strategic investor went to court in London (Balancing Act 2003d), and later reverted to government management after failure by TTCL to fulfil its obligations (Balancing Act 2005).[2] It is rumoured that the government intends to sell another 29% tranche of TTCL to international financial institutions (15%); national financial institutions (10%) and TTCL employees (5%). On Zanzibar, Zantel Telecom Limited ('Zantel') began offering services in 1999, with the smallest share (18%) owned by the Zanzibari government, and larger shares going to Etisalat (34%); Meeco International (24%) and Kintbury Investment (24%). In February 2005 the TCRA handed the company a licence to operate on the mainland when TTCL's monopoly over the fixed line sector ended. Their operations in the mainland mobile phone market is now expected to lead to affordable tariffs to customers (Sultan 2005), especially since the company entered into an agreement of co-operation with

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[1] The Deputy Minister for Communications and Transport, Maua Daftari, is on record saying in May 2004 that the TTCL exclusivity will not be extended (Cairo 2004).

[2] The move to replace the CEO with a Tanzanian (George Mbowe, a seasoned local CEO who is the immediate former chairman of the Presidential Parastatal Reform Commission (PSRC)) is seen by some as a move by the government to recover management control of TTCL, which had been surrendered to the strategic investor (PriMetrica 2003a: 200).

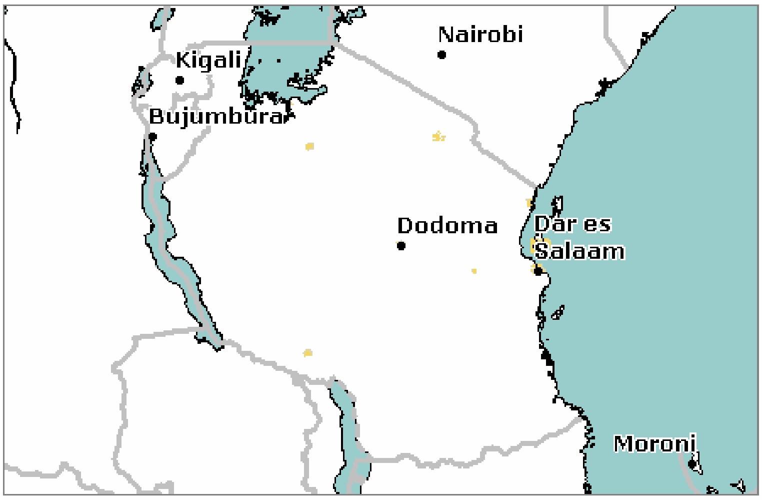
Vodacom Tanzania Limited in July 2005 whereby the former utilise Vodacom's infrastructure on the mainland (Andrew 2005).

8:2. Mobile cellular operators

In addition to Zantel are three larger mobile operators, Celtel Tanzania Limited ('Celtel'), MIC Tanzania Limited ('Mobitel') and Vodacom Tanzania Limited ('Vodacom'), which all cover areas of the mainland and Zanzibar.[3] The first operator was Milicom International Cellular (MIC of Luxembourg) who started providing cellular services as Mobitel in 1994, charging a $1,000 network connection fee, a daily service fee of $1 and between $1.25 and $1.50 for three minutes of airtime (Mbogora 2002) (

Figure 2). Tri Telecommunication Limited ('Tritel') then entered the market in 1996 and by scrapping fees for receiving calls forced Mobitel to re-evaluate its charges.

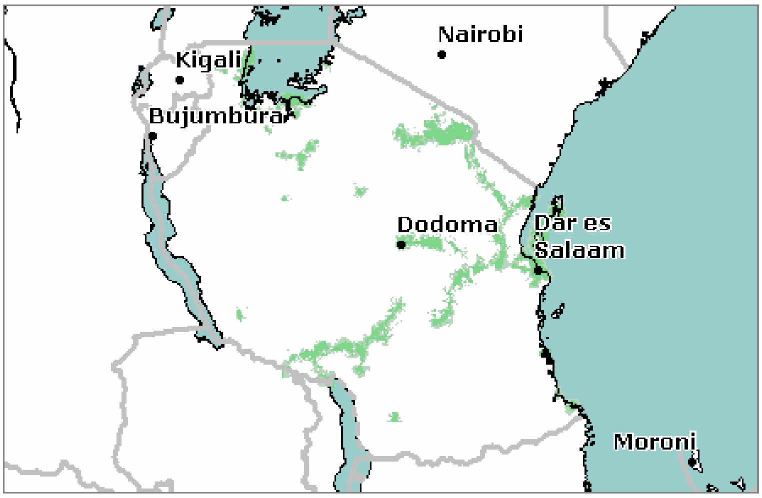
Figure 2: MIC Tanzania (Mobitel) coverage map, May 2005



[3] I am grateful to Tania Harvey of PriMetrica, CIT Publications, for providing the Tanzania chapter of the *Yearbook of African Telecommunications 2003* (PriMetrica 2003b) which some of this section draws from. For a brief history of the jostling between mobile phone companies in the early liberalisation period see also (Mbogora 2002). The official list of all licensed ICT operators and contractors is supplied at: http://www.tcra.go.tz/Market%20info/mobile.htm.

Significant changes only came to the market with the entrance in August 2000 of South African operator Vodacom (a subsidiary of Vodafone, the British market leader and world's biggest mobile operator, in Tanzania as a joint venture with two local shareholders) who injected impetus into what had been a flagging mobile market (Figure 3).

Figure 3: Vodacom Tanzania coverage map, May 2005



In the two years to the end of 2002 the subscriber base more than tripled to 618,000, and Vodacom quickly became the clear market leader with a 48% market share at the end of 2002 that grew to 49% by 2004 (Table 1).[4]

Table 1: Mobile cellular market share by percentage of active subscribers

31 August 2004

Operator	Number of subscribers	As percentage of population (34m)	Market share (%)
TTCL	141,835	0.4	8.5
Zantel Telecom Ltd.	70,847	0.2	4.3
MIC (Tz) Ltd.	276,755	0.8	16.6
Vodacom (Tz) Ltd.	816,169	2.4	49
Celtel (Tz) Ltd.	360,977	1.0	21.6
Total	**1,666,583**	**4.8**	**100**

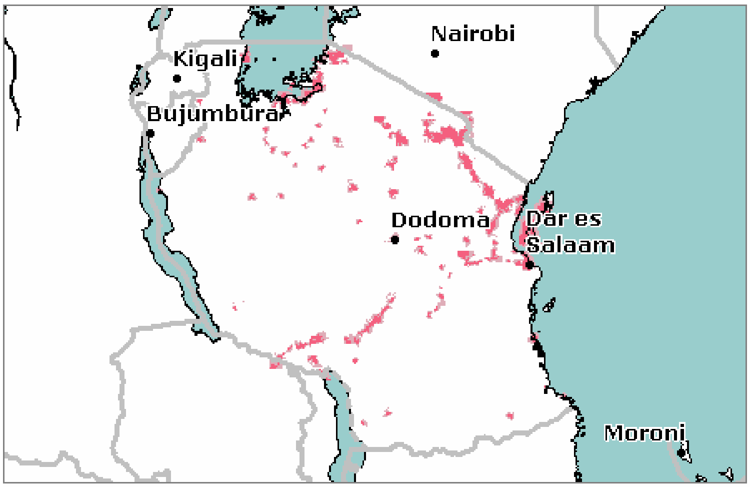
*An active subscriber is a customer who has made or received a call within the past 60 days.

[4] The common names in Swahili for the three main operators in Tanzania are 'Voda', 'Celtel' and 'Mobi' (also known as '*Buzz*').

Source: Adapted from URT (2004b: 9), which is based on submission from operators.

Celtel, the Dutch MSI Cellular's brand name throughout Africa, has used the financial muscle of its parent company TTCL to launch an aggressive expansion programme that has seen it to rollout services to almost all the regions (Figure 4), aided by the signing in May 2005 of an agreement with Ericsson for the expansion and upgrade of its Global System for Mobile communications (GSM) network (TeleGeography 2005a).[5] Both these operators benefited from Mobitel's organisational hiccups attributable to the reorganisation of its parent company MIC. Tritel, which had been lagging behind, eventually ceased operations in February 2003 after its licence was revoked by the then TCC.

Figure 4: Celtel Tanzania coverage map, May 2005[6]



[5] The government is now aiming to ensure Celtel operates as an independent entity so that it can compete with other service providers on an equal footing (The East African 2005). Under the terms of a new possible $53 million investment deal, the roles of Celtel and the government's TTCL will be redefined, with Celtel focussing on driving mobile operations and TTCL focussing on providing modern backbone infrastructure and broadband solutions (TeleGeography 2005c).

[6] Coverage maps downloaded from the website of the GSM Association at: http://www.gsmworld.com/roaming/gsminfo/index.shtml. The original maps at this address are clickable, allowing for zooming into the areas marked by coverage. I have altered the colour in these maps to correspond with the brand logo colours of the mobile phone operators (Celtel, red; Mobitel, yellow; Vodacom, green and blue) and to allow for better comparison in the merged map (

Figure 1, page 120).

8:3. Mobile cellular tariffs

While Tanzania has no shortage of mobile phone operators when compared with other African countries, in the main, competition has not brought lower prices. Compared with mobile phone users in both Kenya and Uganda their counterparts in Tanzania pay the highest tariffs in the East Africa Community (EAC), with an average call costing almost 40 cents per minute.[7] This is judged by analysts to have acted as a brake to individuals' network subscription and has apparently restricted mobiles to the reserve of those living in the urban centres and with reasonable disposable income (PriMetrica 2003a: 201).

One explanation for the high prices that is frequently voiced by 'concerned mobile phone users' and editors in the print media (e.g., Daily News 10 June 2003; e.g., Magubira 20 June 2002) is that, quite simply, both the government and the service providers are greedy. The retort of operators, particularly Vodacom (Kasumuni & Nyanje 2004), is their high operational costs, which are fuelled by high taxation and unnecessarily high interconnection charges levied by the TTCL. These charges came under scrutiny recently at a Public Hearing on Interconnection Rates (Karimjee Hall, Dar es Salaam, 22-23 September 2004), after which the TCRA has set interconnection charges to fall from $10 in October 2004 to $8.90 in March 2005, $7.90 in January 2006 and $6.90 January 2007 (URT 2004b) – a decision that has angered Vodacom who make no secret that they have felt strain of aggressive price cuts from its competitors (Vodacom 2005) and who have called for a lighter touch from the regulator in the long-term interests of the industry (Kasumuni & Nyanje 2004). In tune with the government's desire to lessen the digital divide by making ICT more accessible to a greater proportion of the population than at present (URT 2003b), the TCRA's rationale for reducing the interconnection charges is that it will lead to a decrease in retail prices, expand the market and subscriber base, increase data traffic volumes and so better utilise capacity and lead to lower costs and prices in the future (URT 2004b: 6). The mobile phone operators, it was argued, depend too

[7] Calculated using TCRA's telephone tariff list (URT 2004d), taking the mean average charges (exclusive of 20% VAT) made by Celtel, Mobitel and Vodacom operators for calls to own mobile and to other mobile networks. Curiously, despite mobile phone operators all now setting tariffs in Tanzanian shillings, TCRA still operates in United States dollars.

much on high interconnection rates and should instead focus on revenue from the services they provide to their subscribers.[8]

Calls have also been made (Nyanje 2003b) for the mobile phone operators to adopt a uniform and more transparent tariff system. The first reason is because high prices are masked by billing in foreign currencies, the second because some would-be mobile phone users are discouraged by tariff differences that cannot easily be compared between operators who charge in United States dollars and those who charge in Tanzanian shillings (TSh).[9] This has recently been settled by the mainland mobile phone operators, however, all of whom have responded to public criticism (Celtel was first) and now state tariffs in shillings (Muchumu 2003; Mwambande 2004; The African 2003). Yet despite this move by the mobile phone operators and the government's own move to reduce interconnection rates, a 5% excise duty on airtime has been in place since 2002, in addition to the chargeable VAT at 20% (PriMetrica 2003a: 201).

The upshot of this situation is that many consumers are now looking for cheaper ways to communicate. As with mobile phone operators' decision to state tariffs in shillings, all mainland mobile phone operators have also taken on board public pressure expressed in the media (e.g., (Guardian (Dar es Salaam) 2003b) and now offer subscribers the option – this time pioneered by Vodacom – to be billed per second (Cellular Online 2003; Guardian (Dar es Salaam) 2003c; Nyanje 2003a). Customers have also turned increasingly to short messaging service (SMS) in order to avoid the high call tariffs, offered by all operators as a value-added service. Mobitel (with mybuzz.co.tz) and Vodacom (*Vodataarifa*) have taken the further step of creative SMS products offering information services, although it is not known how popular these costly extras have been with the vast majority of their customers with low disposable incomes.

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[8] Claes Rosvall, TCRA Resident Advisor, at Public Hearing on Interconnection Rates, Karimjee Hall, Dar es Salaam, 22-23 September 2004, reported in (Guardian (Dar es Salaam) 2004b).
[9] All currency conversion from Tanzania shillings (TSh) to United States dollars ($) gives current prices using www.oanda.com/convert/classic for the date concerned.

8:4. Mobile cellular uptake and penetration

Even with such relatively high prices, the mobile cellular operators have still managed to achieve impressive customer growth rates. From a base of 37,900 in 1998, the subscriber rate rose to 180,000 in 2002 (ITU 2002) and then surged to 800,900 by 2003, a compound annual growth rate of 88% over the five year period (ITU 2004b). And although that is still only 2.52% of Tanzanians, a recent study reveals that 97% of 223 respondents interviewed could access a mobile phone if they wished to, whereas only 28% could access a landline somewhere in the community (Samuel et al 2005: 45),[10] while those regularly using the services of mobile cellular operators now stands at 85.7% of total phone subscribers (ITU 2004a). These figures alone would suggest that a deficit in a traditional infrastructure sector can in fact be 'leapfrogged' by the development of new wireless information technologies (section 1:23). Similar stories for other countries on the continent also add weight to the claim (Støvring 2004: 12) that the telecommunications sector in sub-Saharan Africa is indeed one of the most dynamic sectors of development, and is likely to attract more investment from foreign investors.[11]

What sets the mobile cellular subsector apart from the once docile monopoly arena is liberalisation, which was absolutely necessary because in almost every sub-Saharan African country the national main operators could never reach acceptable penetration levels for the general population (Støvring 2004: 22). With liberalisation and the new technologies that fresh competitors brought to the market – technologies that incur bring only marginal costs when adding new subscribers – incumbent suppliers were provided with hitherto non-existent incentives to improve their quality of service, spurring longer-established mobile operators to upgrade their analogue networks to digital ones. Again, Tanzania is a point in case here when in July 2004 the Minister

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[10] This statistic seems unusually high, and the authors later qualify their results when adding that they make no claims for the sample being fully representative of the rural population in the communities they cover.

[11] Unknown. 2005. 'Africa becomes acquisition target as subscriber growth continues'. *Middle East and Africa Wireless Analyst*. London, Informa Telecoms & Media. The article was obtained by e-mail as a GSM Africa mail circular authored from Corrie Thompson, 5 July 2005. The author of the article was not included in the e-mail and the journal (and website with journal listing) is only available at corporate rates to subscribers.

for Communications and Transport, Mark Mwandosya, issued a directive for TTCL to immediately change all their operating systems from analogue to digital (Marenga 2004) – evidence of the theory (Støvring 2004: 23) that in this country at least multiple market entrants would serve to strengthen those charged with regulating the industry.

Of equal importance to a credible regulator are the new operators who have acted as the main drivers of the boom and set the market dynamics. As the ITU (2001: 3) acknowledges, the lesson of the growth of the sector – and yet again Tanzania is an excellent example of this – is that it is not state-owned incumbents, multilateral donors and large multinational who are building Africa's telecommunications networks. Instead, it is a new breed of pan-African mobile companies working with external investors, stringing together regional networks and shattering the conventional wisdom that the problem with Africa is a lack of investment.[12] These niche operators 'have dared to tread where larger companies will not' (Economist 2002), a message that the Sudanese-born Mohamed Ibrahim, founder and CEO of Celtel – who recently sold out an 85% share to the Kuwaiti cellco MTC-Vodafone for $2.84billion (TeleGeography 2005d) – has been keen to convey to the international media (e.g., Clark 2004; Cronin 2004b; Gikandi 2004).

In Tanzania, Celtel, along with their rival entrants Mobitel and Vodacom, have all proved capable of erecting mobile cellular networks rapidly and have quickly proved claims (e.g., Ferguson & Ballantyne 2002: 15) that they would provide incumbent suppliers with a new inducement to expand infrastructure to previously neglected market segments. Much of the advertising of Celtel and Vodacom in particular seeks to emphasise these gains as their networks reach new areas of the country. True to the public's interest in all three companies' dealings (as we have pointed out in successful efforts to bring in per second billing in shillings), the companies have shown no qualms in approaching print media journalists to advertise 'exclusive'

[12] External investors are willing to suddenly pull out, however, as was evidenced in June 2005 when Ericsson reversed its decision to invest in the regional connectivity programme of the Common Market for Southern and Eastern Africa (COMESA). COMESA is attempting to establish an 18,000km fibre-optic and microwave network – Comtel – linking the networks of national telecommunications companies in 21 African countries (Southwood 2005).

articles about local coverage gains in new areas.[13] As may be expected, this coverage is mainly concentrated in the largest towns and cities, and coverage reduces with distance from these centres. The pressure to grow and provide greater national coverage has now seen the companies begin to invest in networks not only along the country's main artery roads but also linking smaller regional towns and villages where most Tanzanians live. In what is now almost a two-horse race to win over as many potential customers in new towns as possible, Celtel and Vodacom are gradually erecting thin lines of transmitting towers – known as base stations – that are increasingly criss-crossing Tanzania's vast and varied landscape.[14] Both companies have recently been commended for their efforts to roll out to rural areas, while Mobitel and TTCL have been criticised for being only urban-based.[15]

8:5. Pre-paid services

Clearly the mobile phone operators are investing for profit and not altruism, and so would not be investing if they did not see a prospective market for their services. In Tanzania this market is not because of a sudden realisation among many of the non-elite of the potentialities of telecommunications. Rather, as the continent-wide commentary on telecommunications development by Henten et al (2004: 4) observes, under the monopoly system many people did not bother to even attempt to subscribe to services because they knew that the waiting lists were long and the services were poor. In Tanzania TTCL was privileging the elites, and even this monopoly service was poor at best. So when a more reliable service became available ordinary people jumped to the opportunity of being able to communicate without having to deal with corrupt staff who would often only offer services for a bribe. The figures reveal that

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[13] See Guardian (Dar es Salaam) (2003a; 2003d) for example, although the operators' websites provide the most up-to-date information on coverage. In addition to buying media space to advertise their services, the mobile phone operators also manage to influence editors to print their apparently newsworthy stories about their latest promotions, competition draws and the like. One example is Guardian (Dar es Salaam) 2004c.

[14] See Cronin (2004a) on the local economic effects of the new base stations.

[15] Jansi Sinkamba (Marketing Executive, ATMA Electronic and Software Ltd., Dar es Salaam) at Public Hearing on Interconnection Rates, Karimjee Hall, Dar es Salaam, 22-23 September 2004 (Guardian (Dar es Salaam) 2004b).

over 85% of total telephone subscribers are now cellular subscribers (ITU 2004b).[16] Yet mobile services are still generally more expensive for Tanzanian subscribers than fixed network services. A one minute fixed line local call in Dar es Salaam, for example, costs 4 cents, against the same call from a mobile phone which costs 40 cents (URT 2004d). As Henten et al (2004: 4) note of other African countries, this suggests that segments of the population can indeed afford mobile services if they get the possibility to be quickly and fairly judged to be able to subscribe to a new service. The ITU (2001: 1) puts this rise in demand for services since the mid-nineties down to a general growth of the African economies of 4% per year.

Africa's mobile phone operators reacted to the mistakes of the fixed line operators and quickly learnt that in order to make profit from the vast numbers of new but – relative to Northerners – poorer subscribers, they would have to cater to their customers' lifestyles. Where fixed-line operators spent much of their energies chasing up post-paid subscribers on their bill payments (i.e., where the customer pays after using the service), the mobile phone operators quickly concentrated their marketing efforts on prospective pre-paid ('scratch') card customers who pay before using the service. By 2001 alone in Africa four out of every five subscribers were using pre-paid (almost twice the global average) (ITU 2001). Post-paid customers do account for a significant slice of Tanzanian mobile phone operators income (because they are less inclined to closely watch their phone use (Vincent Msofe, 27/07/04)), but the majority of new potential customers now lie among those who would not normally qualify for a post-paid service (i.e., do not have a street address, fixed identities, bank accounts and a regular income over a certain level). This does come at a cost to the pre-paid customer, however, since per-use costs tend to be less competitive than the fixed cost of post-paid subscription services. Yet in an economy

[16] Tanzania's figure is well above even the African average of 67% (ITU 2004b), and it is worth noting that of the total landlines operated by TTCL only 60% of these are active (PriMetrica 2004d). In 2003 Africa became the first continent to have more mobile users than fixed line customers, by which time there were more than 52m mobile subscribers in the continent, 13m of which were added during that year, compared with around 24m landline customers (PriMetrica 2004a). Presumably, therefore, the comment made by the Minister for Communication and Transport, Mark Mwandosya, that Tanzania can achieve by 2008 its target outlined in the 1997 telecommunications policy of providing telecommunications access at the ratio of one telephone to six people by 2020 (as reported in Marenga 2004) could be made thanks to the success of the mobile phone operators and not TTCL. On poor telecommunications services under TTCL before liberalisation, see Trulsson (1997: 125-126).

where cash upfront is generally the preferred means of payment, pre-payment does allow these individuals to have a mobile service where normally they would not have any easy access to a telephone, at the same time as it reduces the operators' risk of bad credit.[17] And as the price of making a call drops (as is laid out in the government's 'Determination on Interconnection Rates Among the Fixed and Mobile Telecommunications Networks' (URT 2004b: 10)) so, in theory, more Tanzanians will be able to afford pre-paid services. The prize of most customers will probably go to the company that manages to attract customers in new rural areas by making their services available first and, countrywide, the company that manages to run their services efficiently and consistently offers low prices to its customers. As Mwijarubi (14 January 2003) has noted and Nielinger (2003a: 9) suggests from research in Tanzania, amid all the promotions these companies are offering in the battle to attract new subscribers, in low-income countries it is lower interconnection prices that wins customers.

8:6. Style and the personal transactional economy

Mobile phones are also popular in Tanzania because they are cool. The handset itself can be a mark of status for the owner and confer a certain sophistication, particularly in the rural areas where they are less common and suggest connection with the city. The city is the location to where material remittances in the form of handsets and other fashion items are sent from the North. In the Ghanaian capital Accra, the recipients are frequently those who have been termed digital *flâneurs* (Alhassan 2004: 208-209), avant-garde, intelligent consumers seeking participation in modernity whose access to digital goods is not determined by the economics of their own labour but through gifts.[18] Their Dar es Salaam counterparts are often the cosmopolitan children of the Tanzanian elite who themselves have had the opportunity to travel abroad and have returned home with the latest clothes and electrical goods. Digital *flâneurs* in Dar es Salaam can also be those who have strong

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[17] Most likely as a reaction to this, TTCL has recently launched a pre-paid system for fixed lines in Dar es Salaam (PriMetrica 2004d).
[18] Alhassan (2004: 208) provides an introduction to descriptions of Baudelaire's 19th century Parisian *flâneur*, a transitory figure located in the city arcades, at the heart of modernity.

links to other social networks in the North and these friends or relatives bring these items as gifts on their visits home.[19]

Following Ferguson's (1999) description of 'cosmopolitans' and 'locals' on the Zambian copperbelt, Mercer (2004: 14) suggests that the consumption of the internet in Tanzania can be interpreted as a cosmopolitan act in much the same way because it enables consumers to 'reach out to and signify affinity with an outside world beyond the local' (Ferguson 1999: 212). It is argued below that only a small elite are able to access the internet, so her assertion that this affects many young Tanzanians is not entirely accurate, but that the internet 'highlights the excitement and kudos associated with forging connections to 'other' peoples and places' (Mercer 2004: 15) does hold for the mobile phone too. In contrast to the internet which at its most public access point can only be visible to others in a cyber café, the mobile phone is a more desirable ICT for these cosmopolitans – if not to *use*, then to *own*. For them the mobile phone is a more displayable and (by its very definition) is a more mobile gadget that can be shown off to a greater number of people (or targeted individuals) in still more public of arenas such as the bar or on the street.[20] To the *flâneur* the mobile phone is an embodiment of the experience with modernity, so much so that some people will walk with a dysfunctional handset on display in an attempt to participate, if only by simulation, in the increasing practice of digital consumption.[21] Whether functioning or not, a visible handset is status on display, although as in Britain the smaller (and therefore less visible phones) are the most sought after since they can imply the owner is wealthy, sophisticated and with-the-times. Again as in Britain, in Dar es Salaam a bulky handset is called a brick (*tofari*), or is given the

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[19] Gift-giving on trips back home for economic migrants or students who have worked part-time is an opportunity for the giver to perpetuate their reputation as a wealthy breadwinner. The reality hidden from their relatives is often that while their money goes far back in Africa, when abroad the giver works in some of the most demeaning of jobs where they have little chance to apply the skills they study at college and where their place in the new global division of labour is still very low.

[20] Wireless local area network application (WiFi) is now becoming available in some of the city's fast food outlets and hotels, but there are few public places where owners would feel comfortable of openly using laptops without fear of being mugged.

[21] In Accra these 'dummy' phones are often sourced from North America where, in a bid to create a market, service providers have offered handsets for free or almost free. These are sent to relatives demanding mobile phones back home, but are not GSM compatible so cannot be used in Ghana (Alhassan 2004: 206).

local name of ‘*mshindi*’ after a popular brand of household soap sold in 12 inch blocks. In Accra the owner of the bulky handset is known as a ‘battle commander’, while in Lagos the person is called ‘super glue’ because their old phone cannot be prized out of their hand to purchase a more up-to-date version.

It is difficult to tell whether concern over having the latest handset is generated by the fashion-conscious in Dar es Salaam who themselves judge what is cool and what is not, or whether demand is influenced within Tanzania by the mobile phone operators (whose marketing staff are often expatriate) or by foreign handset manufacturers. Most likely it is a combination of the two, although handset marketing outside Tanzania must also play a part in generating demand for what are often perceived as newer and ‘better’ European products. As with BMW and Mercedes cars, handsets produced by European-owned companies such as Ericsson and Nokia are more desirable to many Tanzanians because they are seen to be better made – even where the reality is that the components are sourced from the Far East and only some part of some models are manufactured in Europe. The marketing, which is far more visible and doubtless influences a greater number of customers into using mobile telephony than the handset manufacturers and fashion-setters, is carried out by the mobile phone operators themselves in conjunction with advertising agencies. As with handsets, mobile phone services in Tanzania are frequently marketed as something cool, in a similar style as cigarette advertising with visual images in newspapers, on television and billboards are of beautiful, successful urbanites – entrepreneurs and non-entrepreneurs alike.[22] The themes on the advertising hoardings and front-page banners promote an operator’s new area of coverage, advertise new services or simply explain how calling (which yields the

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[22] See Stewart (2004) on how in the North the parallels between mobile phones and cigarettes stretch much further, and http://www.vodafone.com/mc_search_results/0,3227,FNC%253D2%2526MT_ID%253Dim%2526CATEGORY_ID%253D211%2526LANGUAGE_ID%253D0%2526CONTENT_ID%253D-205,00.html for evidence that Vodafone UK might rightly be called ‘the new Marlboro’. (Vodafone UK owns 35% of Telkom, a 50% owner of Vodacom, and which is likely to be rebranded in future into ‘Vodafone Africa’ (Masango 2005)).

companies more revenue than texting) can keep users in touch with friends and family.[23]

The mix of what influences potential customers to use a particular brand is complex and space does not allow for such an analysis here but, taken with the perceived and real uses of mobile telephony, there is little doubt that image is all important to many urbanites. As the owner of a small restaurant in Dar es Salaam explained in a comment that could equally have been said by a British parent, he thinks that image is especially important for the youth:

> …for the youth these days it's important for them to show that they have money, so they buy these expensive things like mobile phones, wasting their money, so their friends and girls will think they've got a lot of money. Not like us [of his generation], who save the money we earn. They're wasting their money on mobile phones and these expensive things like the [Timberland] boots my son wears. (Owner, Farmer's View restaurant, Kijitonyama, 24/08/03)

It is not only to the urban youth that mobile phones have become weapons in what Appadurai (1986: 21) and later MacGaffey and Bazenguissa-Ganga (2000: 137) describe as 'tournaments of value' in the construction of reputation and status. One successful Chagga architect in his mid-forties who owned a mobile phone that was so expensive its theft featured in a newspaper article (Keregero 2002), always makes a point of upgrading to the latest handset on his trips abroad, '*…so that I can organise myself well and I don't look like a peasant [mshamba] when I'm doing my business*' (Moses Mkony, 27/07/02). Moses purchased his first mobile phone in 1999 but, relative to the early pioneer customers such as Abdi Hoza and Jaffer (chapter five) for whom the costs of running a mobile phone in Dar es Salaam were tremendous

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[23] One of the most original adverts which ran for a number of years was a huge Vodacom billboard on the main road heading to Dar es Salaam's most affluent areas of housing depicting a lion with the slogan, 'The Lion Rules the Serengeti. Vodacom Rules the Rest'. Shortly after this advert was posted Celtel posted their own with a young Maasai warrior on a mobile phone with the slogan, 'Lion's Nightmare' (and a rather patronising, 'We've got him talking' in smaller text at the foot). Another advert that ran for a shorter period at the exit to Dar es Salaam International Airport advertised Siemens with two panels, the left panel with a handicrafts producer in a rural area, the right panel of a buyer in an urban setting and a mobile phone connecting the two.

and the status of owning one was equally high, it is increasingly felt (e.g., Mbogora 2002) that in Dar es Salaam mobile phones are no longer a sign of such wealth because these days they are so easy to get hold of and more affordable to run. But this has deterred neither Moses nor Abdi, who both attempt to better their opponents by regularly purchasing the most expensive phones in a tournament resembling the consumer habits of Zimbabwean elites during the post-war economic expansion who sought status in expenditures on automobiles and the consumption of 'European' lager beers (Burke 1996: 183). Both Abdi and Moses would fit into this top income quintile being members of the wealthy, Mercedes-Benz -owning elite known as the '*wabenzi*' (Shivji 2005) who each own more than one top of the range cars and who insist on the most expensive products money can buy.[24] Moses, for example, only drinks Heineken, by far the most expensive beer on the Tanzanian market.

It is this market where it is rumoured that the mobile phone operators have begun to make inroads into reaching people's disposable income that for many has hitherto been spent on beverages (both alcoholic and non-alcoholic). The drinks companies have apparently been concerned for some time, however, that they are making less profit because Tanzanians are spending their money on airtime instead.[25] The challenge to Coca-Cola and South African Breweries has come in successful bids for the sponsorship of popular events imitating European versions, such as the Vodacom football league and beauty contests. Throughout the county Vodacom has now taken the place of Coca-Cola in providing branded road signs, and both Celtel and Vodacom are replacing beer companies in providing bus shelters. Vodacom has even managed to convince COSTECH – the government's main research body into ICT – to allow them to paint the COSTECH building with Vodacom's distinctive brand colour scheme, minus only their operating name, and thus giving the perception that the government favours the mobile phone operator over its rivals. Yet where in other

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[24] The *wabenzi* phenomenon has recently been discussed in the British press in relation to what Bob Geldof has referred to as 'the corruption thing'. See, for example, Hartley, A. 25 June 2005. 'How African Leaders Spend their Money'. *The Spectator*. London.

[25] Hard evidence is obviously difficult to obtain from the drink companies themselves. One well-placed source informs me that the board papers of an organisation potentially investing in mobile phones in Nigeria reveal that sales of Coca-Cola dropped significantly when mobile phone airtime vouchers entered the market. Personal communication by telephone with senior British academic and international development adviser, 9 May 2005.

parts of Africa product branding has been such that in Zimbabwe toothpaste has threatened to become 'Colgate' (Burke 1996: 213) in the same way as in Britain the vacuum cleaner has become 'Hoover', no mobile phone operator has yet managed to achieve such intense brand identification that their name is used as the generic name. The closest example of another good or service in Tanzania is the petrol station, which is always '*Sheli*' even if it is owned by Caltex or Oilcom, but the mobile phone has only been used in less flattering parlance. In Dar es Salaam slang, a physically small and attractive women who can be readily 'displayed' in public is known as 'portable', 'mobile' or, after the first GSM operator, 'mobitel'.

The sexuality of these 'mobitel' women – or, for that matter, any other women – is often their best and only resource to bargain with (Wight 2005). In Tanzania, as across much of Africa, transactional sex is common and by no means comparable to or associated with prostitution (Silberschmidt & Rasch 2001: 1821-1822), so sex is often given by girlfriends to boyfriends or 'sugar daddies' in return for gifts (Dinan 1983) which can be listed as 'the C's': use of a car, chicken, and the latest popular item to be exchanged for sex – a cell phone (Dale 2003).[26] Cash, of course, is also on this list, although credit for mobile phone airtime is an increasingly acceptable form of payment as more cell phones enter circulation.[27]

The handsets given as gifts need not necessarily be new, for recipients are often grateful for any means of communicating – possibly in networking with others who may act as future sources of gifts. Indeed that Tanzanians living in rural areas are willing to pay on average 50,000 shillings (approximately $50) for a handset (Scanagri 2005: 7) when a new mobile cannot easily be purchased for this price

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[26] Dale (2003) documents how in Zambia young girls are willing to have unprotected sex with much older men in exchange for the latest mobile phone and a steady flow of top-up airtime cards. She quotes Chileshe Banda, a young girl who says, "Many of the girls at my school want those small cell phones, not the big ones, and the only way to get them is to have sex, often without a condom, with these older men." That poverty is not always the motivation, however, can be seen in a very similar case from Japan where girls from middle-class backgrounds involved in *enjo kosai* ('compensated dates', prostitution involving high-school students and middle-aged men) usually spend their discretionary income on expensive designer clothes and use it to pay their *keitai* (cellular phone) bills (Kingston 2004: 26-27).

[27] HIV/AIDS prevention projects have tried to add condoms to the list of 'C' items that their research reveals many young African women have a particular interest in (Kesby 2004).

suggests that second-hand phones must be acceptable to many users.[28] As users upgrade to new models, old mobile phones are also commonly recycled through friends and relatives, but purchased handsets are frequently acquired from the flourishing 'not-new' (i.e., reconditioned and/or stolen, in Tanzania or abroad) and 'not-original' (i.e., counterfeit) mobile phone market that operates in Dar es Salaam and which can supply almost any mobile phone to order.[29] As with much of the informal economy it is impossible to know the scale of this trade since it is difficult to know the legitimacy of a handset that is not purchased from an accredited dealer.[30]

It is widely known across Dar es Salaam, however, that many 'not-new' handsets that are sold in the city are stolen. Some are stolen in Britain and exported by gangs to Africa (BBC 2003), a trade that one mobile phone *fundi* alluded to when he explained that 'second-hand' mobiles he obtains from a Zanzibari refugee in the southern English town of Reading (where a large Tanzanian population resides) are shipped to Dar es Salaam via Zanzibar and concealed inside refrigerators stored in containers (Nangumbi, Mchafukoge, 02/08/02). To meet a huge demand for the mobile phones that police believe fuel crime in Dar es Salaam (Hangi 2002) other handsets are stolen in armed raids that specifically target shops selling mobile phones (Guardian (Dar es Salaam) 2004a), by pickpockets who target customers at *daladala* (commuter bus) stops (Kamwaga 2002) and recently in a spate of druggings in Oyster Bay where the owner was found to be colluding with thieves waiting outside her bar.[31]

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[28] Prices vary between sellers, with one interviewed pickpocket willing to part with a Siemens C25 (in UK worth almost $80 new in 2002) for as low as TSh20,000 (then $21.50), while his colleague would not sell the same model for less than TSh50,000 (then $53.80) (Jamhuri Street, 31/07/02 and Congo Street, 07/08/02).

[29] In July 2005 the Kenyan government announced plans to ban GSM handset manufacturers from 'dumping' refurbished handsets in the Kenyan market (TeleGeography 2005b). The reasons for this are not clear as of 7 July 2005.

[30] Motorola, the world's second-largest handset-maker, has in July 2005 agreed to supply up to 6m handsets, with a standby time of two weeks, for less than $40 each. A month earlier, Philips, the Dutch electronics firm, announced a new range of chips designed to take handset costs below $20. Nevertheless, as Kai Oistamo of Nokia (the world's largest handset-maker) notes, people in poor countries still have to spend a far larger proportion of their income than those in the rich world to buy even the cheapest brand (Economist 2005a).

[31] Moves are being made to block stolen phones (Balancing Act 2003c), but Dar es Salaam's informal economy is such that people can always be found who have the necessary software to deal with the 'problem'.

Thanks to this thriving informal economy of mobile phone acquisition and sale, the challenge with mobile phones is now perhaps no longer one of persuading people to use the technology and acquiring the necessary hardware, but one of making interconnection affordable for more users and potential users. Another challenge is how investments in wireless networks can be leveraged to provide affordable access to the internet, which we now turn to.

8:7. The emergence of the internet in Africa

Although the internet is now not as widespread in terms of access to the population as cellular telephony, in Tanzania, as across much of Africa, the internet preceded the mobile phone explosion, having had greatest impact at the top end of business and in wealthy families, primarily in the larger urban areas. Ironically, however, in Africa it was academic institutions and NGOs of the non-profit sector that pioneered the use of the internet in the early 1990s, fuelled by their need for low cost international communications, and only later was the internet taken up by private ISPs and national telecom operators (Jensen 2003: 66).

8:8. Data service operators and ISPs

Data services in Tanzania used to be the preserve of Datel, a former subsidiary of TTCL, but the TCRA has issued five further public data communication services licences to Wilken Afsat, Equant Tanzania, Simba Net Tanzania, Soft Tech Tanzania, and Fastcom Africa, and these companies are now allowed to install infrastructure for data communication purposes. International VSAT[32] services are permitted and at least three operators have been granted licences. ISP licences lasting for a period of five years have been granted to 21 companies, of whom the main actors (with subscriber estimates by Balancing Act (2003d)) are: Raha.com (which has sold a 50% share to Computacentre, one of Tanzania's largest PC dealers, 3000);

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[32] Very Small Aperture Terminal, a two-way satellite communication system with very small dishes (antennas) about one metre across that use a specific frequency (Ku-band).

Catsnet (2500); Internet Africa (2200); Africa Online (2000); Tele2 (formerly Cyber Twiga and bought by Mobitel, 1000); University of Dar es Salaam (500); Habari.net (Arusha, 450) and Zanzinet (250). These companies, among other smaller ISPs, supply to 5,534 internet hosts (that is, the number of computers directly connected to the worldwide internet network), of whom it is thought only around 1,500 of these subscribers are outside Dar es Salaam (Balancing Act 2003d). Together they account for 250,000 internet users nationwide, covering around 200,000 PCs (ITU 2004c).

These figures are very different from the estimates of internet subscribers for Tanzania (which vary widely from between 15,000 and 20,000 (Balancing Act 2003d)), and this disparity owes much to the fact that a comprehensive study of the diffusion of the internet in Tanzania is yet to have been conducted. As with many other African countries, the task of measuring the total number of internet users in Tanzania is compounded by the large number of shared accounts, along with the relatively high and rapidly growing use of public access services. And as Jensen (2002) notes, while for many African countries the number of dialup subscriber accounts is readily available, these figures are only a partial gauge of the size of the internet sector and should be looked at along with other factors such as the quantity of international traffic each country generates.[33]

8:9. The internet market: private customers, pricing and connections

At present the three main customers within the internet post-paid market are the mining, banking and NGO sectors, and hopes are high that government will be the next new big customer. The corporate market, however, estimated at 250 companies, is currently the area of greatest competition as more companies are being attracted into Tanzania by the liberalised economy growing at a GDP growth rate of 5.6% (World Bank 2004b). Within the pre-paid market, Raha.com now offers a pre-paid scratch card system which nearly all its individual subscribers use, although growth in internet users has been hit hard by the doubling of TTCL's rates to TSh40 (4 cents) a minute (Balancing Act 2003d). Nevertheless, overall Tanzania's internet and

[33] Detailed guidelines for such an enterprise are provided by Wolcott et al (2001).

data markets have shown continuous, if unspectacular, growth since the mid-1990s – and this is only now showing signs of slowing down (Balancing Act 2003d).

Internet access rates in Tanzania vary between $30-50 per month plus the charge for phone access time, while wireless charges are slightly higher (because of additional equipment costs) and achieve an average bandwidth speed of 64 kbps outgoing and 256 kbps incoming. In 2003 the international internet bandwidth connected to African countries rose by 67%, but despite this growth Africa's share of global internet capacity remained virtually unchanged at 0.2% (PriMetrica 2004b) – while the rest of the world has continued to expand at a much faster rate (McKemey et al 2003). Karl Socikwa, CEO of South Africa's parastatal Transtel, argued at the *Africa Telecom 2004* conference that because of this growth outside Africa, broadband must be the African continent's aim: 'Just as the growth of mobile is closing the gap between developing and developed countries in basic telephony, so the lack of broadband access is widening a new digital divide.' (Berger 2004)[34]

Tanzania has recently made great improvements in its connection speeds with the launch of the Tanzania internet eXchange (TiX) which acts as a shortcut to the internet by using the fastest route possible to connect peering ISPs to each other, and effectively resembles a 'Tanzanian' internet.[35] By July 2004 the exchange had attracted nine peering ISPs: Raha, Africa Online, SimbaNet, Cats-Net, Bank of Tanzania, SatCONet, COSTECH, BOL, and AfSat (Habicht 2005). TiX holds the potential savings in the order of $3,000 per month, has greatly improved the potential for local content development and hosting (over half of which for Africa is still connected to Europe (PriMetrica 2004b)) and has already made access to local content up to 60-times faster. The price for internet users is unlikely to drop until local content rises, however; which creates something of a chicken and egg situation

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[34] I thank Sara Rich-Dorman, Department of Politics, University of Edinburgh for bringing this article to my attention.

[35] This section benefits from a lengthy discussion with senior members of the eThinkTankTz: Simbo Ntiro (Head of ICT, KPMG Tanzania), David Sawe (Director, Management Information Systems and e-Government, President's Office, Public Service Management) and Bill Sangiwa (Tembo World Ltd./AfriConnect (Tz) Ltd., and regarded as the founder of the internet in Tanzania). Jackie's Bar, Msasani, 13 March 2005.

given that in order for local content to develop in Swahili (which is where demand lies) a fast connection is required. The service should improve if SimuNet, TTCL's data company, joins the exchange because the company has the infrastructure to extend services beyond Dar es Salaam, although they have continued to show reluctance (Hare 2004). Their lack of enthusiasm may well be because, as Socikwa notes of incumbents across the continent, these operators 'are often the fiercest critics of disruptive technologies and will often choose not to deploy appropriate technologies for fear of eroding their existing revenue and infrastructure base.' (Berger 2004)[36]

8:10. Points of public access to the internet

If TiX does lower prices, for all but a tiny majority of Tanzanians the cost of using the internet will still be such that it is simply not possible to gain access at home – even if electricity and other infrastructural necessities were abundant. For many Tanzanians the insurmountable costs of private access places them at the far end of a much larger domestic digital divide for the internet than for the mobile phone. Personal ownership of handsets is attainable for a larger section of the population than personal ownership of all the equipment required to be online at home. Unsurprisingly, therefore, Tanzania is witnessing the emergence of what Alhassan (2004: 196) sees in Accra as a 'digerati', a new elite of digitally literate individuals who can afford frequent access to the internet.

In theory (e.g., Gómez et al 1999), points of public access to telecommunication and information services serve to bridge this domestic digital divide by offering access without transferring to the user the costs of purchasing the required equipment. These points of public access to the internet and other services including telephony, known as 'telecentres', were first were established in Scandinavia in the mid 1980s (Oestmann & Dymond 2001) and have subsequently been copied elsewhere. In developing countries this has been most notable since the mid-1990s after a call from

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[36] This view is shared by one of Tanzania's foremost telecommunications analysts who is involved in negotiations with TCRA. Interview with senior Tanzanian telecommunications analyst, COSTECH, 10 March 2005.

the ITU that led to the Buenos Aires Action Plan (1994-1998) to 'develop best-practice, sustainable and replicable models of ways to provide access to modern telecom facilities and information services, particularly to people in rural and remote areas' (Ernberg 1998). Two main types of telecentre now exist in Tanzania in the form of donor-funded telecentres and micro-enterprise telecentres.[37]

8:11. Donor-funded telecentres

Large donor-funded telecentre initiatives in Tanzania include internet access points at refugee camps in Kasulu (Kigoma Region) (see Nielinger 2003b) and Ngara (Kagera Region), and village ICT projects in Dakawa (Morogoro Region) and Lugoba (Bagamoyo Region). All these projects are overseen by COSTECH, which also receives support from the International Development Research Centre (IDRC), the International Telecommunications Union and UNESCO for its Multipurpose Community Telecentre (MCT) in Sengerema (Mwanza Region) in an initiative that offers public access to internet-connected computers, photocopying, secretarial services and telephones as one of six MCT pilot projects located in small and medium-sized towns across Africa.[38] Opened in December 2001 and planned to run on financial assistance from donors for three years, by 2003 Sengerema's internet café offered six internet-connected PCs, a printer, and secretarial services, and housed two training rooms where a further 15 computers were located, and offices (Mercer 2004: 5). Yet as at the beginning of the decade when it was reported that no donor-funded telecentres have proved to be sustainable and capable at best of covering operating costs (Benjamin 2000a), Sengerema has not been able to buck the trend. As the three-year project funding draws to an end, there are plans for financial contributions beyond those initially made by local business, community and government leaders to be stretched now to a district-wide household levy to keep the

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[37] Further to this basic distinction made by Benjamin (2000a), the IDRC has developed a brief typology of telecentres that depicts six main categories: Basic telecentre, Telecentre franchise, Civic telecentre, Cybercafé, Multipurpose community telecentre, and the Phone shop. Colle (2000: 424-426), suggests that to this list two additional models can be added: the Communication Technology Centre and the Community Communication Shop.

[38] Assistance is also provided by UN's Special Initiative on Africa and the African Information Society Initiative. The other pilots are Malanville, Benin; Timbuktu, Mali; Manhiça and Namaacha, Mozambique; Nakaseke, Uganda.

project alive, despite the development project being too expensive for the majority population to use it (Mercer 2004: 13).[39]

8:12. Entertainment centres for the cyber elite?

By contrast to funded telecentres, micro-enterprise telecentres – more popularly known in Tanzania, as in the north, as 'internet cafés' – have no explicit commitment to wider developmental goals. In Dar es Salaam these are all private and are often family-run ventures of just one café, based in rented premises. The businesses started by offering basic telephone services and then moved rapidly into fax and internet services as the market developed. No figures exist on the number of internet cafés in Tanzania, however, with the government stating that they 'are reputed to be over 1,000, more than any sub-Saharan African country' (URT 2003b: 7). According to Miller Esselaar (2001: 17), estimates by industry insiders for the number of internet cafés in Dar es Salaam range from 100 to 1000, and their assessment that the most realistic estimate is probably something in the region of 300-400 seems about right for the time their survey was conducted in 2000.[40] This figure may have at least doubled by now, although many cafés find it hard to survive with the high costs for electricity and I.P. addresses and either close down or are forced to increase their prices. This was the case for *Interwebbers* internet café in Dar es Salaam, which changed hands three times in two years and was only able to survive a little longer by illegally sub-renting their I.P. address to two neighbouring cafés.[41] And where income only through internet sales is almost equivalent to the ISP fees, others have survived through exploiting the demand for cheap international telephony by quietly offering VoIP to known customers – a service that until recently was illegal.[42] Where

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[39] For work on the Sengerema MCT, see also Nielinger (2003b) and Nnafie (2002).

[40] A similar estimate was given by the owners of two internet cafés interviewed for Tanzania's Channel Ten *Facets* television programme, broadcast on 20 July 2002. Nnafie (2002: 41) puts the figure at around 250 nationwide, with over half of these in Dar es Salaam, and Balancing Act (2003d) gives similar estimates.

[41] Interview with Joseph Kifunta, manager of Interwebbers internet café, Jamhuri Street, Dar es Salaam, 27 July 2002. The café had shut down altogether when I revisited it in 2005.

[42] Voice Over Internet Protocol (i.e., internet telephony) was prohibited by the regulator until February 2005; again, it is thought by some analysts, because the government feared the challenge to its existing revenue base. (Simbo Ntiro, Jackie's Bar, Msasani, 13 March 2005). Operators still need to work with licensed international gateways to stay within the regulations (Balancing Act 2004d).

these services are not offered, business failure in both urban and rural areas has been fairly high ever since internet cafés first started to become popular in the late 1990s. A nationwide study by COSTECH (URT 2002c: 10), for example, shows how three internet cafés in a rural location operating from 1999 all closed by October 2001 because of exorbitant dial-up connection costs, while in Dar es Salaam a number of the internet cafés visited while conducting initial research in Dar es Salaam during 2002 had closed by the time they were revisited in 2003. Nevertheless, by 2005 new internet cafés under different management have again cropped up in the same and different premises across the city. As expected, the greatest density of internet cafés is in the middle of Dar es Salaam, to then thin out with distance from the centre. The most appropriate way of describing from casual observation the spread of the many internet cafés across the city is to say that they tend to be located along or nearby the most popular larger roads covered by the local *daladala* bus network, and since this means of transport is often used by commuters, the cafés can also be found in middle-income residential areas such as Chang'ombe, Kijitonyama, Magomeni and Sinza. From casual observation it seems that, perhaps unsurprisingly, the poorer residential areas such as Manzese, Mbagala, Mwananyamala and Tandika appear to be less well connected.

The features of the internet cafés are fairly standard, with several computers that are connected to the internet and which are often divided by boards between the terminals, situated in an air-conditioned room with chairs for waiting in. Photocopying and printing and usually provided, as are rudimentary secretarial services, often offered by a (young and usually female) secondary school or college-educated assistant who may hold a certificate covering the range of basic Microsoft applications. In some internet cafés drinks and snacks are served by the assistant. As well as acting as a typist and waitress, the assistant can often usually offer help to beginners and give instructions to customers who face problems when browsing. It is the assistant to whom customers turn to seek help, and not customers or other 'local experts' known to them for, apart from students who frequently come with friends, other customers tend to come alone so do not have a companion to ask for help. When the internet café staff themselves need help with problems that they are unable to fix they turn either to the ISP if it is a network problem, or a local *fundi* if it is a problem with a virus or with hardware. These technicians, who usually have at least I.T. certificates in computer maintenance and are almost exclusively male, tend to have been initially located by the owners of the business. The technicians do not usually stay in a single café, instead providing an on-call service only when there is a problem. The source of problems is frequently caused by viruses that are transmitted through customers accessing games and pornography websites. The other frequent problem in internet cafés is power failures and poor network connections, both of which cause much inconvenience for customers in terms of time wastage and when data is lost.[43]

Despite the existence of internet cafés in most areas of Dar es Salaam, they are still out of reach to the majority of the population since an hour's surfing in one of the city's cafés at the typical price of around TSh1,000 is roughly equivalent to an average Tanzanian's daily income.[44] This suggests that even those who can afford to access Dar es Salaam's *public* internet facilities are a minority, members of a group who have been referred to elsewhere in East Africa (Mwesige 2004) as the 'cyber elite'.

Mwesige's study sees the typical Ugandan internet café user as a young educated male who not only has the disposable income but also the wherewithal to be online (2004: 99).[45] This closely resembles his counterpart in Dar es Salaam who is often a male student in his teens or early twenties, is capable of reading and writing some English, and who can afford to access the internet in a café at least weekly.[46] That he

[43] After a number of frustrating months spent having to negotiate with intermittent connections in many of my local internet cafés I established friendships with staff at COSTECH who kindly allowed me as a researcher, friend and neighbour to use their offices and connect my computer directly to their much more reliable electricity and internet connections.

[44] Based on a per capita GDP of $290 (World Bank 2004b), or 80 cents per day. Half hour prices are also available, varying from 20-70 cents. Some internet cafés are more competitively priced by the hour, offering prices as low as 50 cents. Hotels frequented by Northerners, on the other hand, charge anything up to $8 an hour.

[45] On the use of internet cafés in Uganda, see also Gitta & Ikoja-Odongo (April 2003).

[46] This and the following observations are based on the mid-2002 survey (section 2:4 and Appendix I) and are supported by similar studies of telecentres in Tanzania conducted by Mungunasi (2000), Nnafie (2002), Nielinger (2003b), Balancing Act (2003d) and Mercer (2004). They also closely match

is fairly well educated and has access to disposable income would therefore set him apart from the average Tanzanian as one of the cosmopolitan African, Arab or Asian Tanzanian elite. Indeed, he may resemble more closely a member of the Senegalese internet café clientele – 'individuals of some means, and young people from financially well-off families, for whom surfing the net at a cybercafé is a "must"' (Sagna 2000: 44) – than one of his own country folk who cannot afford to access the internet. As in this example from Senegal, and in Uganda where Mwesige (2004: 99) argues that these individuals are not the country's average 'ordinary' citizens, so too in Tanzania internet cafés may actually be *increasing* the domestic digital divide (as predicted by Benjamin 2001) by effectively excluding a large section of those who are not the elite or upper-middle income earners from gaining regular access to the internet. Although there is no hard evidence to support the notion that this is because prices are too high for those below the upper-middle income bracket to partake, Mercer's (2004: 12) survey of Sengerema town shows that those who are excluded from using the internet café tend to be engaged in informal, low paid economic activity. This is surely true also for informal sector operators in Dar es Salaam who, as we discover in chapter four's exploration of the use of ICT by workers in the city's construction industry, use only mobile phones as an electronic source of information and means of communication – and this relatively cheaper ICT itself is only used minimally because of the high cost of doing so. Furthermore, Nielinger (2003b: 16) notes in his study of Tanzanian internet cafés that while each income group is apparently fairly represented, the high quantity of students who are using the internet cafés have *relatively* lower disposable incomes and so reduce the average income distribution from the upper middle-income segment towards the lower income groups. Presumably members of this group acquire the funds from their parents as 'pocket money' and as such those with parents who are able to make such donations again suggest that they are among a limited group of privileged Tanzanians.

Mwesige's (2004) findings from Kampala, and some of the details Alhassan (2004) provides of the users of Accra's internet cafés.

Given that many of those who frequent Tanzania's internet cafés are the young, particularly students, it is surprising that there is not among this group a greater interest in using the worldwide web as a rich research resource for studying. This observation was also made by the TCRA Public Relations Manager, Isaac Mruma, who recently cited a study carried among some 400 secondary school students in Dar es Salaam which showed that, in the absence of internet access arrangements at most schools, students only spent an average of 11 minutes per hour in internet cafés on school-related web searches, and the remaining time engaged in games, pornography, chatting, desk-top shopping and music (Cairo 2004).[47] Such websites, which Mruma termed 'online poisoning', are common among many online sources of information from and about the outside world.[48] The small and partially purposive survey of internet café staff, customers and terminals conducted for this study in mid-2002 as background to the use of ICT in Tanzania (section 2:4 and Appendix I) revealed remarkable similarities to other studies of internet use in Tanzania (Balancing Act 2003d; Mercer 2004; Nielinger 2003b; Nnafie 2002) which appear to reflect the interests of young people in global (usually Northern) popular contents. Websites that are commonly accessed in internet cafés cover sports and entertainment, and especially 'official' sites or news sites covering the English football premier league, and 'celebrity' and download sites dealing with African-American hip-hop and rap music.[49] Pornography is also common, as are international (but less local) news sites, while websites dealing with opportunities to study abroad, usually in America or Britain, often encourage prospective students to apply and send their CV's

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[47] Oyelaran-Oyeyinka & Nyaki-Adeya (2004) show that the user environment in Kenyan and Nigerian universities is arid, with initial investment costs of end-user equipment limiting the ownership of PCs and high costs limiting full internet access, thus compelling many university teaching staff to use internet cafés alongside their students.

[48] As in Kenya (Werner & Hook 2003), the local media in Tanzania like to run 'panic' stories about how youths are using internet cafés to view pornography.

[49] The mobile phone operators have realised customer interest in this culture, as is evident in a document I obtained that was written by a Dar es Salaam-based advertising agency to its client, the Celtel mobile phone operator, in which a 'Surf and Talk with Celtel' promotion was being discussed before it was to be aired on the radio. 'Stings' to be mentioned include: 'Time for you to get to college, go surf with Celtel', 'Visit your favourite *Bongo* [Dar es Salaam / Tanzanian] website and learn your artist with Celtel', 'Awards are taking place in the United States, find out with Celtel' and, 'Hear your artist's new song over and over again with Celtel'.

electronically.[50] For this and other reasons, most notably keeping in touch with friends (often students who have successfully gained a place in a Northern higher education institute) and relatives outside the country, web-based e-mail is also a common use of the internet.

Mercer (2004) argues that in post-socialist and liberalised Tanzania such ‘undevelopmental’ use of the internet enables those individuals with the resources to frequent cafés to develop and demonstrate their modern selves and helps produce what Weiss (2002: 100) calls contradictory ‘fantastic geographies’ – exhilarating possibilities for personal betterment that are unrealised by the vast majority of Tanzanians as anything *but* possibilities. Yet while it is true that this does contrast sharply with the dominant discourse on internet technology and development discussed in chapter one, we must be careful of assuming that attempts by youths to express themselves as ‘modern’ or ‘Western’ is little more than physical or mental escapism because we do not know how these efforts are being transferred – for better or for worse, culturally – into a local context.[51] The youth who downloads the latest American hip-hop from the internet and then sells it on pirated compact discs or cassettes that then get played in hair salons and nightclubs to attract customers, for example, or the young entrepreneur who downloads images of Chelsea Football Club’s insignia from their website that he then uses to make car stickers for sale in the city’s market are both, after all, using their privileged access to this global medium to eventually make a financial contribution to the local economy.[52]

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[50] According to a teacher providing I.T. skills training at COSTECH, dealing with sponsorship and application procedures is a big motivator for individuals to take his class. Interview with Enock Mpenzwa, COSTECH, 24 July 2002.

[51] Miller and Slater explore various dimensions of the internet in the Trinidadian context, including the dynamic of objectification between the internet and identity. They argue that this can be thought of in two interrelated ways, the first being in terms of *expansive realization* where the internet is viewed as a means through one can enact a version of oneself or culture that is old but can finally be realised. In the *expansive potential* encounter, on the other hand, the encounter with the expansive connections of the internet allows one to transcend mundane identities and envisage a novel vision of what one could be (Miller & Slater 2000: 10-11), much like Weiss’ ‘fantastic geographies’ (2002: 100). Though a valuable area of study, my fieldwork concentrated on entrepreneurship and time did not permit an investigation of these dimensions in the Tanzanian context.

[52] Interview with Jesse Rutahigwa, Mkwepu Telecommunications Centre, Mkwepu Street, Mchafukoge, 1 August 2002; interview with ‘City Boy’, COSTECH internet café, Dar es Salaam, 24 February 2005.

8:13. Internet cafés for income-generating activities

Unfortunately these examples of the use of internet cafés for a business purpose are more often the exception than the rule, for while one would also imagine considerable interest in using the worldwide web as a rich research resource for business, other studies suggest that this is not the case. Nielinger (2003a) provides evidence of this from his study of ICT diffusion among Tanzanian SMEs in the food processing, textile and tourist sectors of Dar es Salaam, Arusha, Mwanza, Zanzibar, and Mara regions where while 38% of respondents recognised the cell phone as ‘very significant’ or ‘significant’ and where computer-based applications are led by e-mail (28%), the worldwide web as a market research tool is cast in last place with only 12%. This has not matured, he concludes, either because of a lack of knowledge or simply because of the non-existence of such information (Nielinger 2003a: 7) – a conclusion that Werner & Hook’s (2003) study of Nairobi internet café users also reaches, noting the unmet demand in the fact that while 29% of customers claim that business are one of their interests in using internet cafés, only 4% of this kind of browsing was actually logged. The small survey of African and Asian-run internet cafés conducted for this study in mid-2002 suggests a similar trend, with the evidence of internet café assistants and an examination of recently viewed websites at various terminals revealing that only a small number of patrons were using the internet for any type of business (and this was mostly through web-based e-mail with individuals outside Tanzania and often outside Africa, not websites). This is similar to the results of studies conducted in internet cafés in other African countries (Oyelaran-Oyeyinka & Nyaki-Adeya 2004; Werner & Hook 2003) and in Britain (Lee 1999), however, which show that users tend also not to use the cafés for research, but for e-mail and keeping in touch with friends.

Nevertheless, some cases of customers using internet cafés for income-generating activities were revealed during the mid-2002 research, and can be categorised into ‘import’ and ‘export’, and also ‘other businesses’. An example is of a journalist working for a large Tanzanian news corporation who regards ‘conference-going’ as her side business. This lady searches the internet to find out about national and international conferences and seminars she wishes to attend concerning development issues, applies to a foreign or international donor organisation to pay both her attendance fee and expenses and, once accepted, does research to substantiate the little knowledge available to her in Tanzania on the subjects to be discussed. She also uses the internet to search for background on stories she covers in one of the media corporations' daily Swahili newspapers, and to keep abreast of general issues concerning journalism and mass communication.[53]

Those identified as using internet cafés to import goods are all middlemen – no middlewomen were found – who locate and purchase items for customers in Dar es Salaam who, presumably, do not have the ability to do so themselves. The goods range from single items to bulk purchases, including household electrical appliances from Dubai, solar products from America, second-hand cars from specific custom-made Japanese and Dubai-based websites, and mobile phones from the Far East.[54] In the export of goods from Tanzania search engines were found to be used to great effect by an entrepreneur who breeds insects for clients in the UK. The man e-mails his customers to ascertain future demand so that he can collect a male and female of the required species, and since the reply always comes with the English and Latin name of the species he then runs searches on what they are called in Swahili and, failing this, searches for pictures of the creatures so that he can recognise which ones he should look out for.[55] Similar use of the internet in cafés is also reported of dealers in minerals, semi-precious and precious stones and, as we investigate in more depth in chapter six, the trade of African blackwood carvings.[56]

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[53] Interview at Mkwepu Telecommunications Centre, Mkwepu Street, Mchafukoge, Dar es Salaam, 31 July 2002.

[54] www.japanesevehicles.com is a popular website, although see http://news.bbc.co.UK/1/hi/UK/1456337.stm for the fraudulent sale of stolen Japanese cars through Dubai. The latter example is of Mwita Winani (Mkwepu Telecommunications Centre Mkwepu Street, Mchafukoge, Dar es Salaam, 31 July 2002), who turned out to be a useful lead into the 'not-new' and 'not-original' mobile phone business in Dar es Salaam.

[55] www.allafrica.com (2005) reports that a bid to have African languages join English and French in the internet is being blocked by information experts from the North as lacking in commercial value. Microsoft sees a market, however, and has announced plans for a Swahili version of its Windows operating software to cater for a growing number of users in Africa (BBC 2004). In December 2004 the Open Swahili Localization Project, also known as Kilinux, announced the first ever release of a free office suite software in Swahili, called 'Jambo OpenOffice' (Balancing Act 2004b).

[56] Interview with Joseph Kifunta, manager, Interwebbers internet Café, Jamhuri Street, 27 July 2002. Hamisi and Dickson, two dealers in African blackwood carvings, were interviewed in Mwenge on 1

8:14. ‘Cosmopolitan’ agents of change

The fact that for most café users in Tanzania it is costly to access the internet (whether for business or academic research, or for entertainment) may account for the limited use of these places for browsing. E-mail, on the other hand, is a cheaper alternative since the user can prepare in advance exactly what is required. A message can be drafted by hand before. Or as Philipo Luvale does on his Sony Vaio laptop before e-mailing customers concerning his African blackwood carving business (chapter six), an e-mail can be written on a computer and saved on a disk that is then used in the café to transfer the text to an e-mail.

Philipo is a former carver from Mwanza who is now based in Mtwara where he is establishing with an American expatriate the Centre for African Development through Economics and the Arts (ADEA) for the domestic and international African blackwood carving market. Through working at different levels in the business and in different locations for a long time, Philipo has had much more exposure than most carvers or traders to people who he can learn from about how the business works:

> From doing business with people I meet here [in Tanzania] I see that using these technologies is important, so I started to use the internet…. In those days there were not many internet cafés and they were expensive, but I can see from communicating with businessmen and foreigners – Douglas [his American business associate] is one of these people – that using e-mail is important for business. (Philipo Luvale, 17/02/03)

In the Tanzanian context, and especially when compared with many of his colleagues in the carving (‘*vinyago*’) business working in remote areas such as Mtwara, Philipo, is an individual who networks outside his social system. He travels much and is well aware of events outside his close social network (Rogers 1995: 200), and as such should be seen as another of the cosmopolitans who pioneers the diffusion of innovations such as laptops and the internet. A further cosmopolitan is the computer *fundi* (technician) who frequents cybercafés and acts as an opinion broker through

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August 2002 thanks to Mariah, the manager of Salva internet café, Mwenge, who was interviewed on 29 July 2002.

his strong links to other social networks or other external information sources. Computer *fundi*s such as Savio (a Goan Indian who comes to his customers in Dar es Salaam personally to fix their Apple Mackintosh computers) and Majid (a Zanzibari trained in Ireland who moonlights from his TTCL job as a switch engineer to fix computers in internet cafés with skills he taught himself when studying in Britain) seek advice from other technicians and computer enthusiasts who they may not always know personally and whose help is sometimes obtained through chat rooms on the internet.[57] They are also similar to the 'local expert' identified in the Northern literature who provides personalised knowledge based on a flexible, convenient and trusted relationship with their friend-client (Stewart 2001: chapter 8), and it seems that for some customers the computer *fundi* does also provide an on-going role in the support of other technology users. Where the computer *fundi* differs from Stewart's local expert, however, is that he does not usually end up doing this 'expert' work for free or in exchange for another service. [58] In Majid's case he works for friends at a (apparent) discount, but most of the other technicians tend to make most of their money from contacts – not usually friends – whose computers they fix in the evening, after they have finished their more formal job. As with Stewart's observations, the *fundi* is not necessarily a formally trained professional (I.T. or engineer), but has come to be *and is seen to be*, an innovator and expert on the use and applications of ICT *relative to those around him*, having in some cases developed his expertise through a combination of hands-on learning-by-doing and formal training.

The title of 'agent of change' could equally apply to some owners of internet cafés and some internet café managers who use their experience of travel outside Tanzania to enhance their knowledge of ICT, which eventually filters down to their customers. Jimmy (the owner of *Ronnie's* internet café in Kinondoni) or Isaac Masalla (owner of *Interwebbers* internet café in the City Centre), for example, brought back money and

[57] Interview with Savio, Mekon Arch Consult, Kijitonyama, 1 August 2002; Interview with Majid Aboud, Mkwepu Communications Centre, Mkwepu Street, 31 July 2003.

[58] I use 'he' intentionally because of the domination of men in all the high positions in the Tanzanian ICT economy, a result of the gender imbalance on ICT courses in higher education. It would be interesting, however, to see whether females tend to seek advice from other females experts when they are available, while males stick to consulting men.

ideas for the setting up of their cafés from spending time living and working in Denmark and Sweden respectively, while internet café managers such as Alphonse Nzeyi (manager, *TRT* internet café, Kijitonyama) and Pamella (manager, *Tibet* internet café, Bibi Titi Mohamed Road), gained a thorough knowledge of internet applications from I.T. courses taken when studying in France and America.[59] What has not been explored is how these individuals' exposure to more diverse forms of ICT-related knowledge from a number of different groups may be better used in the effective application of information and communication technologies throughout the country. An example of where their experience could benefit the sector may be in the area of e-commerce which research shows is currently underdeveloped in Tanzania (Balancing Act 2003d) and other African countries (Nyaki-Adeya 2003). They can also be helped by the younger elite who are spending their time at present browsing websites and sending and receiving e-mails for less 'developmental' motives but who are, nonetheless, proficient at using the internet and who tend pick up new ICT applications far faster than the elderly.[60] By the time this generation enter the world of work they will be more familiar with the underdeveloped yet crucial application of e-commerce. This new generation should also be able to develop it more effectively than some of the business operators we meet in chapter six whose underutilisation of the facility is making them lose out to retailers in other parts of the world.

Summary

In this chapter we have discussed Tanzania's ICT policy, which is one example of the present government's attempt to remove itself from previous hostility to private business and to provide a more favourable operating environment. Given the constraints to much of the economy, the *National Information and Communications Technologies Policy* is realistic and, with an effective regulator, has helped to create a vibrant market for mobile communications and data and internet service providers. Competition has not brought significantly lower prices to consumers, however,

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[59] Interview dates, 2 August 2002, 27 July 2002, 19 July 2002 and 30 July 2002 respectively.
[60] This observation was made in Bridges (2003) by Goretti Zavuga, Director of the Uganda chapter of the Council for the Economic Empowerment for Women of Africa (CEEWA), when commenting on her experience of their Women's Information Resource Electronic Service (WIRES) initiative.

although in the mobile market there are some signs that this will change. Nevertheless, mobile cellular operators have still managed to achieve impressive customer growth rates, and we have suggested that this is because mobile phones are more easily accessible to consumers than any previous means of using a telephone – in part thanks to the informal economy of ‘not-new’ and ‘not-original’ handsets – and because mobile phones are perceived by many Tanzanians as being much sought after, sophisticated and stylish technologies. We have also considered the internet and data markets which, while achieving continuous (if unspectacular) growth over the last decade, can be contrasted with more ‘democratic’ mobile phones as elitist information and communication technologies. Where there is evidence of the internet being used in income generating activities, this is largely for import (see chapter six).

9 APPENDIX III: FIGURES 5 – 18

Figure 5: Francis Mbegalo Francis contacting his *dalali*, Festo, on a hill around 6,000 feet above sea level and some three kilometres from his *shamba* in Ukumbi, Iringa Region. On this 'opportunistic physical' network reception spot, coverage from base stations along the TANZAM highway some 18 kilometres away can be obtained in an area of only a few square metres.

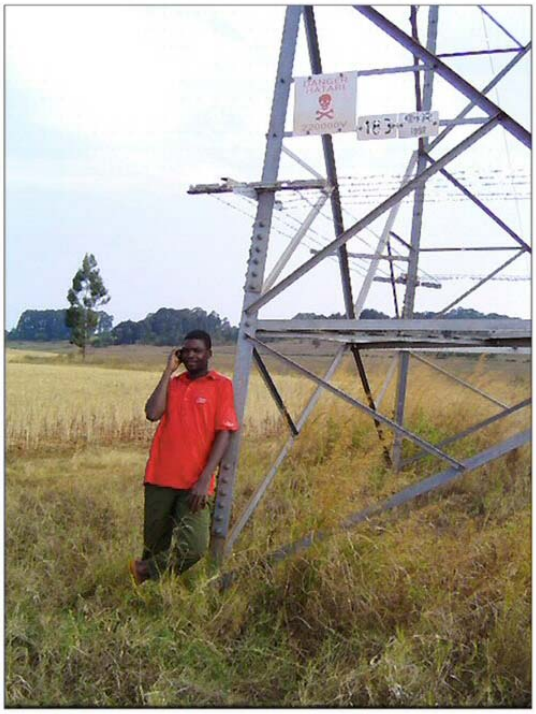

Figure 6: Angelo Kilave
Angelo travels by bicycle from his house in Mtitu, Iringa Region, to a swamp four kilometres away where conditions are such that coverage can be obtained. Reception is best in the immediate vicinity of the electricity pylons, which read 'Danger *Hatari* 220,000v'.

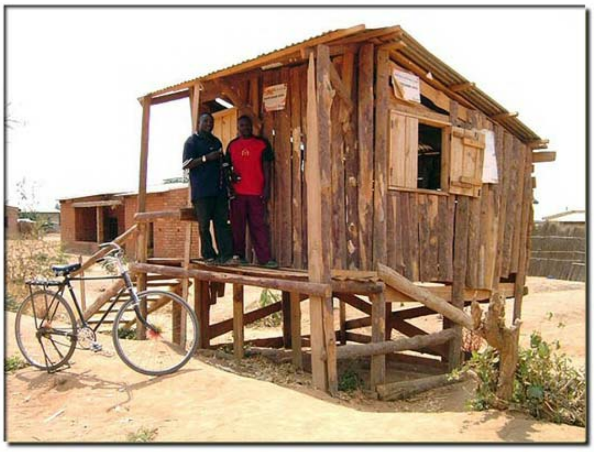

Figure 7: Huduma ya simu on stilts, Kidamali, Iringa Region
Dominicus (left), is one of many tomato farmers in Kidamali, who use *huduma ya simu* on stilts to elevate himself to a point where Celtel reception can be reached. Four of these 'manufactured' network reception spots are located along the main road running through the village and all bear the Celtel logo.

Figure 8: Attended call huduma ya simu, Uyole, Mbeya Region
Uyole, on the junction between Malawi and Zambia, Uyole is one of the country's main potato trading towns. Note that Coca-Cola advertises alongside '*Buzz*' (Mobitel), Celtel and Vodacom.

Figure 9: Packing area in Ilula Mtua, Iringa Region
The tomatoes are packed and sent by lorry to Kariakoo. The photograph, taken with permission of nearby tomato farmers, sparked the espionage incident recalled in section 3:10.

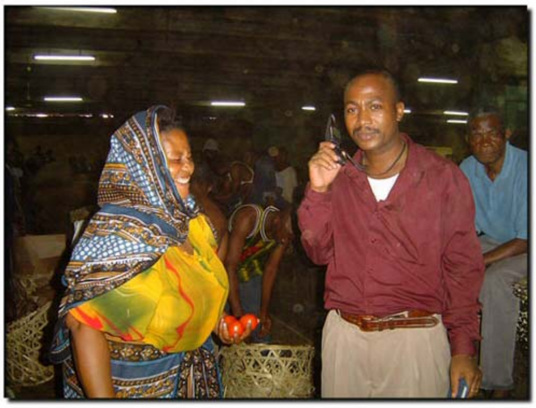

Figure 10: Festo Mkilama
The *dalali* speaks on his mobile phone to a farmer in Iringa Region to organise a bulk order of tomatoes for a customer in the Kariakoo trading basement.

Figure 11: Carpenters in Kijitonyama, Dar es Salaam
The carpenters also advertise masonry, tiling, painting and welding services. Note that all three networks are available, thus reducing the costs for the potential customer who does not have to pay a higher price by calling cross-network.

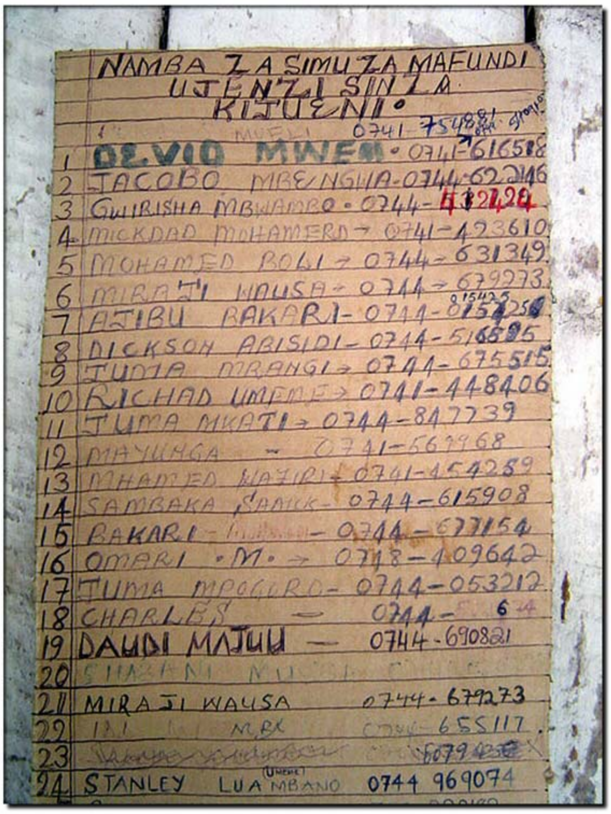

Figure 12: List of Umoja wa Mafundi members' mobile phone numbers
The list was pinned on the wall of their *kijiwe* in Sinza, Dar es Salaam. Many of these numbers were not recognised by the mobile phone operators 18 months later.

Figure 13: Michael of Makonde Carving Group, Chikundi
Michael carves an *ujamaa* figure for a collector who delivers to Mwenge, Dar es Salaam. Mobile phone reception is limited to very few areas of Mtwara Region, so the peripatetic collectors are at an advantage over the more stationary carvers.

Figure 14: Maiko Bakari
Maiko (right, standing) and another collector (right, sitting on *mpingo* log) awaiting carvings from multiple groups in the area They spend most of their time in Masasi because it is one of the few towns in Mtwara Region where they can stay in touch with retailers in Dar es Salaam. Here they are with UVWIMA Carving Group, making their presence felt as 'serious' customers.

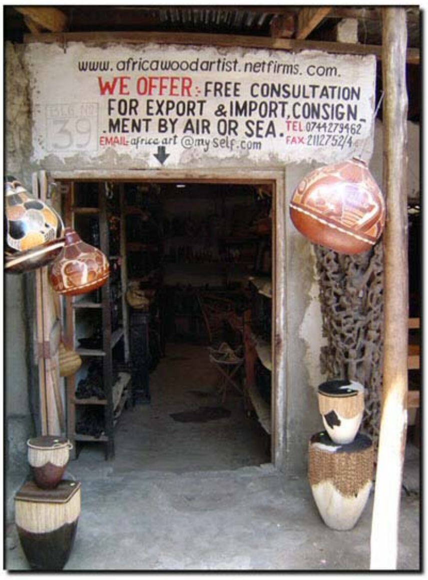

Figure 15: Mochiwa's shop, Mwenge crafts village, Dar es Salaam
Mochiwa regards his website as 'showing that I am professional in this business. Customers will know that Mochiwa is dealing crafts in Tanzania and he is serious!'. Note the very large *ujamaa* figure to the right

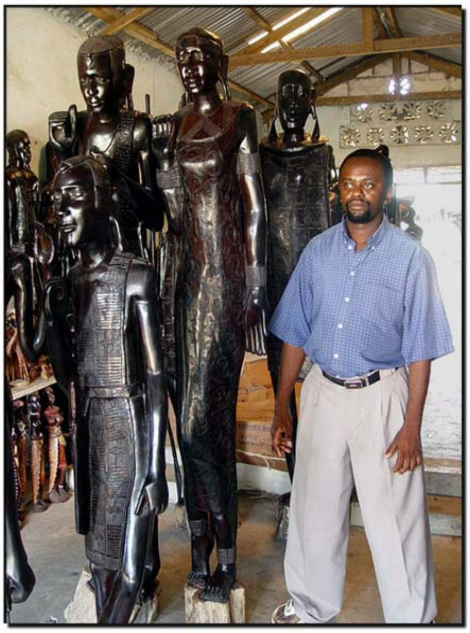

Figure 16: Frank Morenje
Frank (right), beside 8ft Maasai figures that he sells to tourists for around $3,000 each if shipped, $9,000 if air freight. In Arusha the same figure can be sold for up to $26,000. The carver receives a fraction of the price

Figure 17: Justina Matondane
The 'export office' advertised on the sign at the bottom right is the landline number to her house, the two cellular numbers are to both her mobile phones, and the e-mail (just visible in red at the bottom left) is her own Hotmail account. She uses ICT as a tool for 'keeping up appearances' internationally where frequent personal face-to-face contact is not possible.

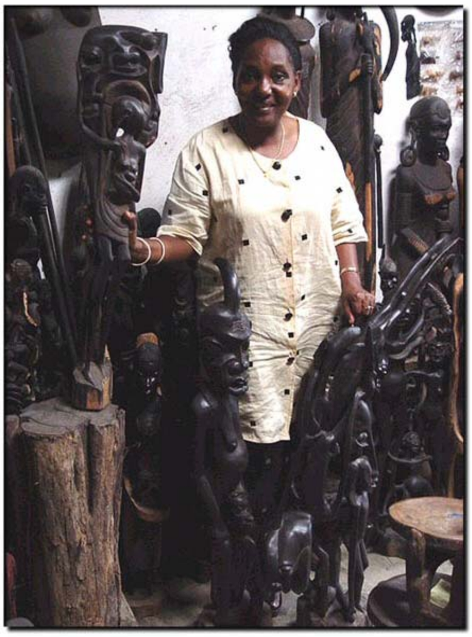

Figure 18: Mary Shirima
Mary excels at talking to her customers in good English about *vinyago* and other crafts. She reinvests profits from her business into paying for international travel to expositions where she is able to keep abreast of an object's worth in the Northern market. Mary uses e-mail to keep in touch with international contacts she meets at these trade fairs, and uses her mobile phone to keep in communicate with her suppliers in Tanzania.

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