

REPOA

P.O. Box 33223, Dar es Salaam, Tanzania 157 Mgombani Street, Regent Estate Tel: +255 (0) 22 2700083 / 2772556

Fax: +255 (0) 22 2775738 Email: repoa@repoa.or.tz

Website: www.repoa.or.tz

ISBN: 978-9987-483-20-4

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Understanding the Process of Economic Change:

Technology and Opportunity in Rural Tanzania

By Maia Green



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Design: FGD Tanzania Ltd

Suggested Citation:

Maia Green 'Understanding the Process of Economic Change: Technology and Opportunity in Rural Tanzania'.

Special Paper 13/1, Dar es Salaam, REPOA

Suggested Keywords:

Economic change in rural setting, Agriculture & technology in rural setting, Kilimo Kwanza & technology.

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ISBN: 978-9987-483-20-4

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Acknowledgements

The title of this paper refers to North's (2005) text. This paper is based on research carried out in Ulanga District between February and August 2012 while I was a senior research fellow at REPOA. I am grateful to REPOA for providing the funds to carry out the research and for the opportunity to work with colleagues dealing with related issues of economic and social development in Tanzania. Helpful comments on the paper were provided by Lucas Katera, Blandina Kilama, Emmanuel Maliti, Jane Guyer, Paula Tibandebage, Amandus Muhariwa, and Brian Cooksey.

I am extremely grateful to the residents of Ulanga and the staff of the District Council for their support and assistance, and the Tanzania Commission for Science and Technology for their permission to carry out the research. Thanks also to colleagues at the universities of Sokoine and Dar es Salaam for their thoughts that have informed my analysis.

Amandus Muhariwa took time out from a field trip to help me understand important issues in livestock management. Abdul Mtumwa of Heifer International shared insights from his experience. Joseph Mkude and Gepson Absalom of Ulanga District Council explained some of the constraints affecting livestock projects in the district. Additional insights were provided by retired agricultural officer Peter Kichelele, who had worked at the Council during the Irish Aid district development programme. A long Skype conversation with Hugh Allen of Village Saving and Loan Associates helped me to understand some of the unique and generic attributes of Village Savings and Loans Associations in Tanzania and elsewhere. The views expressed in this paper are those of the author and do not reflect the institutional position of REPOA.

Acronyms

ASCA Accumulating Savings and Credit Associations

NGO Non Governmental Organization

ROSCA Rotating Credit and Savings Associations

TASAF Tanzania Socio Action Fund

TAZARA Tanzania Zambia Railway Authority

URT United Republic of Tanzania

VSLA Village Savings and Loan Associations

1 Introduction

This paper explores processes of economic change in rural Tanzania. It investigates some of the factors that have contributed to the adoption of innovations in economic practice in Ulanga District, Morogoro Region, since the 1990s. Understanding the factors which contribute to innovation is important for understanding how actual change occurs in rural areas. It also highlights important limitations in current policy models of change that are based on specific assumptions about economic behaviour and the impact of agricultural technologies. By focusing only on individual behaviour or the impact of technology, policy models of change fail to capture the multiple factors that generate change in particular settings.

This paper is based on three months of field research carried out between February and August 2012. The research used a combination of ethnographic methods involving observation and informal discussions and semi-structured interviews with small farmers and district staff to gain an understanding of changes in economic practices in the district. The research involved visits to several locations, including the villages of Nawenge, Msogezi, Mbagula, Mdindo, Idunda, Mavimba, Minepa, Mwaya, and Chilombola. Findings from fieldwork were compared with the results of a similar study undertaken by the author in 1996 on economic and social change in the district.

The research revealed significant changes in everyday economic practices and a willingness among small farmers to adopt new technologies. There were also important continuities in ways of managing livelihoods and household economies. Analysis of the factors leading to the adoption of improved dairy cattle, small-scale pig keeping, and participation in the savings and loan groups, which are relatively new to the area, demonstrates that productivity is not an inherent attribute of technologies or investments. It is generated by the economic and social relations in which these are embedded. Successful innovations are those that become integrated into daily practices and livelihood strategies. As these strategies change in relation to emerging economic opportunities, the viability of certain activities is transformed. Smart policy for rural economic growth must focus on increasing the opportunities available for rural populations. This cannot be achieved by promoting an economic monoculture of agrarian uniformity. Instead, it demands the careful nurturing of actual and emerging opportunities.

¹ The research on which the paper is based was conducted in Ulanga between February and August 2012 using a qualitative research methods derived from anthropology. These include semi-structured interviews and group discussions and observations, in addition to the use of historical materials and other sources. The research builds on the author's previous research in Ulanga on a variety of themes at various times since 1989.



Economic Change in Tanzania

Ideologies concerning the necessity of economic change have been central to the constitution of the Tanzanian state since its inception as a territory appropriated by Germany, with a view to profitable exploitation (Koponen 1995). As a League of Nations Protectorate after the First World War, Tanganyika became the object of interventions intended to accelerate economic and social change. These included agricultural modernisation, community development, and large-scale investments in commercial farming (lliffe 1979; Chachage 1988). Idioms of change were central to the policy evolution of the independent government that pursued its strategy of social transformation through what were claimed to be reconstituted forms of local organisation (Maghimbi 1995; Coulson 1982). Economic policy under Nyerere combined socialist theories of economic development with a commitment to the normative self-reliance, not only of the supposedly traditional kin-based communities that provided the rationale for Ujamaa policies, but the nation state itself. Self-reliance, the production of surplus, and the distribution of appropriate technologies would, in theory, drive economic transformation (Fatton 1985; Saul 2012). But this development never unfolded. As a consequence, Tanzania's economic crisis in the 1980s opened the national policy and fiscal space initially to economic liberalisation and ultimately to the ideas linking democratic transition with market freedoms promoted by northern powers at the end of the Cold War.²

Although Tanzania as a non-aligned state had been a longstanding recipient of financial assistance from a range of governments, the move to aid harmonisation in the late 1990s consolidated these policy directions with new types of programming in support of poverty reduction strategies (Wangwe 2010). Since the late 1990s, with the support of bilateral and multilateral donors from the global north, Tanzania has implemented a portfolio of policies designed to foster economic and political liberalisation. Despite the resurgence of relationships with alternative sources of finance and technology, of which the most significant is with China, Tanzania's present package of economic policies remains strongly influenced by the neoliberal paradigms that have been advocated by its development partners since the 1990s. Institutionalised through capacity-building initiatives (Phillips & Ilcan 2004) and substantial financial transfers provided by donor agencies, including the World Bank, these policies are consistent with the orientation of much of the international development programming (Craig & Porter 2006). In addition to the standard neoliberal package of governance reforms, including decentralisation, Tanzania has implemented policies intended to formalise property relations and improve the functionality of market relations through agricultural liberalisation and developing the vertical integration of commodities within transnational value chains (Tripp 1997; Ponte 2002; Lysons & Msoka 2010).

The extent to which these programmes have achieved their objectives is uncertain. Agricultural liberalisation in particular has been viewed as problematic (Skarstein 2010; Bryceson 2010; 2012). State intervention continues to hinder Tanzania's competitiveness in the production of export crops, including cashews and coffee (Kilama 2013; Cooksey 2003). High transport costs and difficulties in accessing markets are among the constraints that make returns for Tanzanian farmers amongst the lowest in sub-Saharan Africa (Binswanger Mkhize & Gautam 2010: 37). Productivity gains have been concentrated in emerging sectors of the economy, such as industrial mining undertaken by foreign mining companies, where a minority of the population are employed (Mkenda et al. 2010). Large numbers of people earn their living in low-productivity sectors such as artisanal mining (Bryceson & Jonsson 2010) and agriculture, the primary source of income for over seventy per cent of Tanzanians. Investments in agriculture are prioritised in the country's new five-year National Development Plan as a means to 'unleash Tanzania's latent growth potential' (URT 2011) and to increase the inclusivity of growth.

² Hence market reform and liberalisation preceded political liberalisation in Tanzania. I am grateful to Emmanuel Maliti for this clarification. For an account of liberalisation in Tanzania from the bottom up, see Tripp (1997).

The plan builds on pre-existing policies in various sectors, including *Kilimo Kwanza*, a national initiative launched in 2009 that aims to bring about a Green Revolution in Tanzania.

Tanzania's agricultural ambition has much in common with earlier incarnations of Green Revolution thinking initiated in the 1960s in much of Asia. Agricultural modernisation through new technologies, notably improved seeds and inputs, is assumed to drive agricultural and wider economic development (Diao et al. 2008; Sanchez et al. 2009). In contrast to the Asian models of Green Revolution, in which improved seeds made available through public action led to increased productivity and hence to market growth, this new African instantiation of the Green Revolution emphasises the role of the private sector in driving agricultural transformation. Inputs to enhance agricultural productivity are to be provided through the market, via a private sector supported through occasional subsidies, as in the voucher programmes for input supply and fertiliser implemented in Malawi and Tanzania.³ Facilitating this role for the private sector rests, in turn, on establishing an infrastructure for the production of seeds and input supply, which will make agribusinesses at different scales the fulcrum of national economic policy and of local social relations (Thompson 2012: 345). The private sector envisaged as lead actor in these policy scenarios is no longer imagined as a set of Tanzanian small-and medium-sized entrepreneurs, but as a diverse coalition of agents ranging from small-scale farmers to multinational corporations.

Kilimo Kwanza is not a policy or a programme with detailed sector plans. It is a call to action, a strategic rationale for the prioritisation of agriculture. Its ten pillars build on the foundations established through previous agricultural interventions with the intention of assimilating other programmes, including those beyond the agricultural sector, into supporting the agricultural strategy.4 Such programmes, and the policies which inform them, are based on assumptions about economic and agricultural transformation that centre on the conceptualisation of individual farmers as economic agents who can simply 'choose' to change their practices in order to become more productive. In the case of farmers, this entails managing their agricultural production as an enterprise oriented towards expansion, something made possible through the formalisation of tenure and access to credit on the one hand and, on the other hand, access to 'improved', hence more productive, technologies (Sanchez et al. 2009). According to this kind of logic, articulated in the National Development Plan, those farmers who cannot attain the levels of productivity required by these programmes should enhance their incomes through wage employment, hence the renewed status of employment as a key policy area. These agricultural development policies set out in the National Development Plan, like policy conceptualisations of change more generally, are premised on an understanding of how change occurs that is both strongly normative (Gregory 1997) and premised on behaviourist and institutionalist foundations (Shove 2010). Capacity to effect change is thought to lie with individual actors if they have access to the resources that would enable them to realise their economic potential. These resources may be material, in the form of investments, or cognitive, in the form of knowledge, attitudes, and practices. In this understanding of economic change based largely on normative theory the role of economic policy is to enable individuals to take the kind of action necessary to be configured as economic agents by ensuring that the conditions are in place through which they can access those resources which will be catalysts for development. Moreover, in ensuring that the structural conditions for the effective functioning of markets and incentives are in place, economic policy also plays a role in building the proper institutional environments to enable productive action (North 2005).

³ Public subsidies in such programmes are legitimate so long as they are 'smart', usually a shorthand for short term and targeted.

⁴ Hence TASAF, the Social Action Fund, in its second phase provided finance for agricultural investments, including dairy cattle.



The Limits of Models

These policy interventions in Tanzania, as elsewhere, are not founded on the examination of existing institutional arrangements through which practical economies are enacted. They are derived from a normative institutional architecture that is thought to yield the optimal organisational form for an effective market economy (Guyer 2004; Fairhead & Leach 2005: 88-9; Mitchell 2005). Feeder roads, the construction of market buildings, the provision of credit, and the availability of improved technologies, along with a strengthened private sector, are sectoral priorities which are brought together in the Tanzanian input supply programme that has sought to use the private sector as a vehicle for fertiliser distribution. This component of agricultural programming highlights the practical limitations of the institutional assumptions on which it is based. Neither rural agro supply dealers nor an established private sector of input supply exists in sufficient quantity in rural areas. They have to be generated through the subsidy and incentive schemes comprising programme interventions. The extent to which this results in the establishment of a seasonal private sector that comes into being solely in response to programme subsidies rather than a transformed agricultural economy is open to question. This certainly happened in Malawi, where the experience of implementation of that country's input supply programme clearly demonstrates that changing rural economies is more complicated than either the imposition of certain institutional forms (Chisinga 2011) or the promotion of technologies. Interventions aimed at increasing irrigated rice production or the use of power tillers in a bid to raise productivity have so far met with limited success in Tanzania (Therkilsden 2011).

Similar scenarios have characterised agricultural development interventions internationally, where increases in the productivity of the small farmer are sought as a means of accelerating the mass uptake of 'modern' farming. Such interventions are not new. They are characteristics of modernisation strategies pursued by numerous states, irrespective of political philosophy, which assume that the productivity of traditional agriculture is a barrier to growth (Fairhead & Leach 2005; Richards 1958; Berry 1993). Predicated on the assumption that modernisation, technology, and markets will establish the systems in which productive agriculture can occur, programmes oriented towards the modernisation of 'traditional' farming generally seek to replace existing 'traditional' technologies, introduce new market relations, formalise tenure, and make credit available (Rao 1986; Schultz 1964; Fergsuon 1990). 'Small farmers' in Tanzania, a World Bank report confidently states, 'tend to invest in land improvement, livestock, trees, fertilisers and farm machinery.....leading to a supply response that can be very high in the short term' (Binswanger–Mkhize & Gautam 2010: 8).

As Ellis and Mdoe's work on the investment decisions of small farmers in Morogoro region showed, such assumptions may be unfounded. Small farmers tended to invest in off-farm enterprises to reduce the risks inherent in farming (2003), not only in Tanzania. This finding is echoed by research findings from Ulanga today. In one village, a farmer group that succeeded in raising output through use of a power tiller was choosing to invest in the motorcycle taxi (boda boda) business in preference to farming because returns were more certain and potentially available throughout the year, with more limited seasonal variation than agriculture. In India, most investments in agriculture are made by traders and wage workers who have the cash to invest in larger farms (Gregory 1997: 134). That programmatic efforts to accelerate change in rural economies are often unsuccessful is not due to the inherent conservatism of small farmers, nor to the failure of technologies which were thought to be capable of generating modernisation, but to the theoretical model of change which underpins them. Linear models of change, which assume that small farmers trade up asset levels to become larger farmers or seek to adopt what economic theory may posit as more rational, entrepreneurial forms of organisation, are not supported by the evidence (Platteau 1989: 644). Indeed, rational forms of economic behaviour in fragile economic settings where people depend on diverse income sources, including farming, wage work, and remittances from distant relatives, are likely to differ from the kinds of strategies which would be predicted by economic theory (Bryceson 2002a & b).

Small farmers prioritise keeping costs down and maximising certain over uncertain returns. Non-market forms of economic organisation persist in peasant economies not because they are not yet integrated into market economies but because of the terms of this integration (Bernal 1994; Platteau 1989). This does not imply that small farmers are resistant to change. On the contrary, small farmers seek to grasp emerging opportunities created by economic change to enhance the diversity and hence resilience of their own livelihood strategies. Understanding actual processes of change in rural economies reveals the factors that contribute to the uptake of successful innovation. It also reveals gaps in the theoretical models that are driving the policies aiming to transform rural economies.



Economic Change in Ulanga District

Ulanga District is a rural district in Morogoro Region. It is the largest district in the region in terms of area, 24,000 km2, but its population density is relatively low. District estimates, based on the previous census in 2002, give the population as 234,000. This is likely to be a considerable underestimate, due to extensive in-migration over the past decade, particularly in the valley parts of the district where large-scale rice production is possible. The southern part of the district consists of rocky highlands and narrow valleys where farmers grow a variety of crops, including hill rice, maize, beans, groundnuts, cassava, bananas, sweet potatoes, and increasingly sesame and sunflowers. The northern part of the district is situated in the fertile Kilombero valley, an area subject to agricultural intensification accelerated by the influx of agro-pastoralists and entrepreneurial farmers who are taking advantage of the lucrative future market in valley land. The capital of the district is Mahenge, an expanding administrative centre that is, like other smaller towns adjacent to areas of economic intensification, benefiting from increased private and public spending (Bryceson 2010). Improvements to the main road, better public transport, and the extension of mineral extraction in the south of the district and paddies in the north are transforming the capital from a remote rural centre into a small-scale outpost of the new, rapidly urbanizing Tanzania.

Originally comprising what are now the districts of Mahenge and Kilombero, the present-day Ulanga District was formed in 1974 (Green 2003: 28). Relatively inaccessible due to poor road transport, until recently at least, and bordered by the Selous game reserve to the south, the district has a patchy history of incorporation into national development policies. An economic cul de sac from which natural resources and agricultural products were extracted, the colonial economy under the German administration was based on trade in wild rubber and hippo teeth (lliffe 1979; Larson 1976). As a market-oriented agricultural economy was created in the early twentieth century, accompanied by forced resettlement into permanent villages under successive colonial regimes, rice, then cotton, became the main exports. In the 70s and 80s, while inputs were subsidised and buyers guaranteed, cotton was important for valley farmers. Rice has flourished in the past twenty years in the fertile valleys of the north and west of the district - an intensification fuelled by population movement from other districts, in part encouraged by the TAZARA railway (Monson 2009), by the cultivation strategies of Sukuma farmers who use cattle ploughs to farm large areas, and by buoyant regional demand. Rice land in the valley areas is increasingly contested. Maize, beans, and groundnuts continue to dominate production in the highlands areas. Sesame is undergoing a revival as a crop produced primarily for sale in many parts of the district.

Despite these more recent changes, the organisation of the agricultural economy exhibits fundamental continuities with what existed in the 1990s. The majority of farmers rely on household labour and occasional *kibarua*, use hand hoes to cultivate small plots, and incorporate new crops, such as sesame, into their existing crop cycles. As the anthropologist of technology Francesca Bray has shown with reference to the persistence of simple technology in Asian rice production contexts, reliance on hoe agriculture is not necessarily an indication of a farming system waiting to evolve into something more technologically advanced and hence productive. The relation between technology and productivity is not direct. Low levels of technology, such as hand hoes, may in fact be optimal for certain conditions, including wet rice farming where irrigated plots are small and where transplanting is performed by hand (1978: 15; 1983). Technological change of the sort associated with 'modernisation' is not an inevitable consequence of the availability of technologies. The widespread adoption of 'modern mechanised farming' in northern Europe, Bray argues, depended on the pre-existence of certain social relations, including developed land and labour markets and the concentration of holdings into large, centrally managed units of production (1983:9). Such concentration and the organisation of labour are unsuited for the demands of wet

⁵ Results of the 2012 census were not yet available at the time of writing in March 2013.

⁶ See Lorne E. Larson's (1976) A History of the Mahenge (Ulanga) District, PhD thesis, University of Dar es Salaam.

rice production, which requires careful on-going supervision within small areas. In such situations, the costs of reorganising production exceed the likely profit from adopting mechanised technologies. Consequently, even in Japan and China, which have massively increased the productivity of rice farming, production continues to be organised through family farms using basic implements (1983:9). Technology is only adopted, and can only become productive, when it is enmeshed within the social relations that are amenable to its effective utilisation.

Bray's insight that local economic priorities and relationships determine how technology is used and what new technologies are adopted enhances our understanding of the process of economic change in Ulanga District. In lowland areas, tractors are used where people can afford to hire them, but generally only for preparing the land and for harrowing of the same small shamba areas as they would have farmed using hired labour. The tractor substitutes for labour organised through piecework. It has not prompted a move to large farms nor the consolidation of holdings. Farmers in rice-growing areas make use of weed killer to reduce the labour inputs required, if they can afford it. In both maize- and rice-producing parts of the district, fertiliser is not widely used. Where it is used by individuals as a result of the National Agricultural Input Voucher Scheme, its use is likely to be restricted to a small area. This is partly to do with cost and also because many farmers claim that fertiliser is not only unnecessary in the areas where they are farming, but they fear that its use could damage the land or create an on-going need to use it in subsequent years, thus raising the costs of production and trapping farmers into dependency on the supply of inputs. Because farmers' production strategies prioritise flexibility, fertiliser is something to be avoided despite the potential for higher yields. Small farmers in Ulanga, like their counterparts elsewhere in Africa, aim to grow several varieties of maize or sesame in a small area, prefer crops which can be staggered throughout the growing season, and prioritise not getting locked in to costly or inflexible production systems.⁷

A New Service Economy

The economy of the district today is mixed, comprising agricultural products, notably rice and sesame, mineral extraction, rubies and gold, illegal ivory and meat from the Selous, and an expanding trade and service sector. The production of local maize beer (*tekawima*) remains an important source of income for women. Men's incomes are supplemented by the trade in bamboo alcohol, *ulanzi*, during the wet season (Green 1999). Local economic expansion is accelerated by the increase in funding to districts through projects such as TASAF and the road fund, which use some local contractors and procurement, and an expansion in the number of public sector staff and school students. The number of public servants almost doubled between 2003 and 2012, from 1,256 to 2,162, largely through an increase in the number of teachers and health workers as a result of donor-financed policies. The number of registered villages, and hence of the executive officers who administer them, increased by around one third, to ninety-one.⁸ The number of shops large enough to be registered at the district level, that is excluding most small village shops, increased from 204 to 479⁹ during the same period. This increase reflects two important legacies of liberalisation, the legalisation of private sector pharmacies and the more recent creation of agricultural input supply shops, ¹⁰ as well as its unexpected cultural legacy, the

Perry's point is that preference is for timing of multiple varieties and crops, not a single variety, even where high yielding varieties were made available to farmers.

⁸ Figures supplied by the Planning Office, Ulanga District Council, June 2012.

⁹ Data supplied by the Trade Officer, Ulanga District Council, July 2012.

These two legacies were part of the NAIVI programmes. Because input supply is contracted to the private sector, award-basis private sector suppliers have come into existence around the programme, which provided incentives in the form of capacity building and certifications.

proliferation of male and female hair salons.¹¹ The number of secondary schools and the number of students and teachers has increased hugely, from a single government secondary school and a Catholic seminary in the 1990s to thirty-two in 2012, of which five are private boarding schools.

The presence of teachers and public sector staff contributes to the local demand for goods and services, including the sale of food crops for home use and trade, which a proportion of local government staff are engaged in. This activity has been made possible by another institutional change: the availability of credit for public sector workers through private sector providers such as Faidika and Bayport. Once perceived by public sector workers as an unattractive, largely marginal and inconvenient posting, Ulanga is now seen as a place where those with a combination of capital and initiative can make money. The expansion of secondary schooling has economic effects, creating demand for services such as hair cutting and cooked food in the vicinity of schools, and increasing demand among non-waged people for cash income in order to meet the costs associated with schooling. In villages near Mahenge town, where there are three ward schools and three private secondary schools, "2" the indigenous categorisation of cassava as a food crop of last resort is changing. Nowadays, "mihogo ni biashara" (cassava is business). Because cassava can be harvested flexibly, it can either be sold in bulk or in small quantities once it is matured, providing a useful everyday source of cash for small farmers.

Greater need for cash for schooling along with an expanded range of goods and services in the market, including transport and telecommunications, as well as subtle changes in aspiration and taste, make getting cash more important, and, with the crippling inflation in the country, hard to keep hold of. Although many aspects of quality of life are much improved compared to the early 1990s, popular perceptions among the poor are that life has become more difficult. The contemporary economy in Tanzania is highly unequal, with rural rates for casual labour through piecework averaging between three and five thousand shillings a day; a kilo of sembe costs 1,200 shillings and a kilo of meat 5,000 shillings.¹³ Opportunities for wage labour are limited and poorly paid. Guest-house workers earn around forty thousand shillings a month. Rates of pay for unskilled labour in the district, and indeed in Tanzania generally, even where they exceed minimum wage, do not provide a platform from which rural people can transform their livelihoods. For highlands farmers in particular, who do not have large rice shambas and who lack the capital or labour to open up new areas for cultivation, opportunities to get more cash income from agriculture are limited. Against this background it is not surprising that they are seeking other ways of making money, and responding enthusiastically to the changed structure of opportunity created by wider changes in the district and national economy, as well as those brought about through government and NGO projects aimed at rendering local economic practices more productive. The savings and livestock practices of men and women small farmers are oriented towards relatively short-term cycles of return to meet other demands, such as schooling, rather than invested in scaling up production. The time scale of investment strategies, generally less than one year, is reinforced by the parallel institutional logics of school calendars and savings groups and the growth cycle of domestic pigs.

'Modern' Cattle

Although both dairy cattle and pigs have been kept by a small number of people for some time, having been first introduced by Catholic missionaries from Germany and Switzerland in the early

¹¹ For accounts of the growth of hair salons after liberalisation, see the work of Amy Stambach (1999). In addition to the cultural arguments these authors make about fashion and identity, salon businesses, especially male barbershops, are a low-cost business to establish. Owners of salons usually charge barbers a fee to use their premises.

All are operated by the Catholic Church. These are Kasita Seminary, St Joseph's Boys' Secondary School, and St Agnes' Girls' Secondary School at Kwiro. There is another girls' boarding school, operated by the church at Ruaha, about 10 km from Mahenge town.

¹³ Prices are from June 2012. The meat price quoted is for beef.

twentieth century, the past ten years has witnessed a striking proliferation of households keeping pigs and a steady increase in those keeping one or two dairy cattle. Dairy cattle, popularly referred to as *ng'ombe wa kisasa*, or 'modern cattle', are differentiated from indigenous breeds kept by pastoralist groups and subjected to radically different management regimes. ¹⁴ So-called modern cattle are improved or grade cattle, bred from crossing exotic strains with East African Zebu. They are kept primarily by smallholders for milk production under strict conditions of zero grazing. ¹⁵ Designated as 'improved' breeds, these animals have potential daily milk yields in excess of fifteen litres, far higher than that of indigenous cattle, but are less resilient and have lower resistance to disease.

In 1990 the main source of fresh milk for the highlands part of the district, including Mahenge town, was the farm run by the Catholic seminary, with perhaps three other households keeping two or three cattle. By August 2012 the seminary herd was greatly reduced and milk was supplied from a total herd of around one hundred animals kept by some fifty smallholders in the villages surrounding Mahenge. A further twenty-two dairy cattle were kept by groups and individuals in the village of Mwaya some forty kilometres to the south. Whereas pigs are usually bought by people themselves from stock bred locally by other smallholder farmers, the majority of dairy cattle in the district have been distributed to individuals or groups of farmers through donor-funded and government projects for improving agricultural technology. The first dairy cattle made available through such schemes were allocated to a number of women farmers through an Irish Aid district development programme in the late 1990s. Since then a number of dairy cattle smallholder schemes have been implemented in different parts of the district by organisations, including Caritas, working in partnership with Heifer International, and the district agricultural department through district agriculture development programmes and the second phase of the Tanzania Social Action Fund (TASAF).

The introduction of crossbred dairy cattle in this district is challenging. Long-term residents of Ulanga, living close to an area historically subject to infestation by tsetse, do not have a culture of livestock keeping. Not only do few people have an affinity with domesticated animals, but livestock such as cattle or goats do not play a culturally elaborated role in economy and social life (Akumuluka & Madulu 2006). Among Pogoro people who live in the Mahenge area, marriage exchanges were historically negotiated through the institution of brideservice, in which a son-in-law provides labour to his parents-in-law for an agreed period of time, rather than the transfer of cattle. Marriage transfers today take the form of cash payments, as they have since the 1950s

What are categorised as dairy cattle, as opposed to indigenous cattle, in Tanzania are Friesian, Jersey, and Ayrshire cattle, which may have been crossbred with indigenous East African Zebu. An estimated 70 per cent of milk production is derived from indigenous cattle (Njombe & Msanga n.d.: 7).

¹⁵ In peri-urban areas where there is lower risk of disease they are often kept under a semi-intensive regimen of grazing and supplementary feeding.

According to figures supplied by the district agricultural officer for Ulanga, in December 2012 there were a total of 102 dairy cattle in the villages of Makanga, Nawenge, and Isongo, close to Mahenge town. In 2002 there were 38. Interestingly, the number of animals in Isongo declined during this period from eight to six.

¹⁷ In May 2012 there were a total of 22 dairy cattle in Mwaya. Fifteen belonged to a TASAF project that had provided two farmer groups with animals in 2008. The remaining seven animals were descended from the original six cows provided by the Irish project in 2002 or 2003. TASAF had originally provided each group with six animals. All the cattle are now looked after by a single herdsman, paid by the cattle owners, who supplied this information.

¹⁸ TASAF is a multi-donor supported social action fund, now entering its third phase. Phase one focused on building local infrastructure, phase two supported infrastructure and investments which would promote economic growth, and phase three is oriented towards supporting vulnerable groups through social cash transfers.

¹⁹ Tsetse was the rationale for resettlement under the British colonial administration.

²⁰ Some material items were provided by the groom's family, including hoes and cloth. For an account of marriage exchanges in the Ulanga valley in the 1930s, see Culwick & Culwick (1934).

(Green 2003). The reproduction of a herd is not foundational to social reproduction as it is among agro-pastoral and pastoral communities. Moreover, although milk is becoming a prestige food among the East African middle class, associated with urban consumption practices (Urassa & Raphael n.d.: 2; Nkya et al. 2007; Tebug et al. 2012), milk products are not a routine part of local diets. Finally, household labour and gender relations are not structured around responding to livestock needs. The needs of stall-fed animals are substantial. 'These animals are looked after as if they were people', one farmer told me. 'We have to bring them food and medicine. They are treated like kings!'

'Modern cattle', or those descended from stock bred for the cold pastures of northern Europe, are not well adapted to tropical conditions. Susceptible to overheating, to skin cancer from harsh sunlight, and to tick borne diseases, they are also vulnerable to ingesting poisonous plants. Given the risks to these animals when grazing, the projects which promote these animals insist that the animals have what an extension officer called 'room service', that is that they are stall-fed. Stall-feeding cattle is labour intensive, especially where farmers rely on grasses cut from common pasture. A single animal requires between fifty and seventy kilos of cut grass each day. Grasses alone do not provide the level of nutrients needed for milk production. Cows' diets must be supplemented with several kilos of maize bran. In addition to regular worming, dairy cattle must be sprayed weekly to prevent tick borne disease. Sprays and worming have associated costs, but these are not significant compared to the labour time involved in the daily task of accumulating sufficient fodder.

Originally directed by the Irish development programme at poorer female household heads, on the assumption that access to milk would impact on child nutrition and on women's incomes, those households managing to maintain animals over the longer term are generally those with enough cash to hire labour to feed them (Akumuluka & Madulu 2006).21 In Ulanga these may be male or female headed. For households without access to labour or the cash to hire it, securing sufficient feed is difficult, as is finding the time to sell milk beyond the villages. Most milk is not sold within villages, where its price puts it beyond the reach of the majority of households. Rather, it is sold to restaurants (mgahawa) and to wage workers in the district centre, many of whom come from communities where consumption of dairy products is an accepted part of local diets. Because livestock have minimal social value except as sources of milk for sale, the distribution of rights in stock is not a means of distributing the labour inputs needed for their upkeep, as it is among pastoral communities. Few farmers manage to increase their stock of animals. In fact, the opposite is not unusual, with farmers often losing animals to disease or seeking to slaughter stock to meet the costs of maintaining their remaining animals. In Mwaya, where cattle belonging to individuals were herded by a paid stockman who also looked after the animals that were the property of two TASAF supported farmer groups, animals had been slaughtered to meet his wage costs which could not be recovered via milk production.

Regular calving is necessary not only for expanding herds but also for maintaining levels of milk production. Although calving is the route to profitable dairying, it is perceived by small farmers as costly. These costs derive from the fees bull owners charge for insemination,²² and the short-term loss of the animal's milk-producing capability, as what is valued is not the potential increase in stock through calving but the daily income from milk sales. Although purebred exotic cattle are claimed to have high milking potential with yields of up to thirty litres a day, and crossbred ones around fifteen litres, the reality of inadequate feeding means that average yields are closer to six to eight litres.²³

For a detailed account of labour issues in smallholder dairy farming in Tanga, see Swai et al. (2005).

²² As of 2012 these fees were between fifteen- and twenty thousand shillings.

²³ These yields are not unusual in Tanzanian smallholder dairying due to the problem of feed. See, for example, Urassa & Raphael (n.d.: 5); Swai et al. (2005), Nkya et al. (2007: 629), and Tebog et al. (2012) for a comparable account of the smallholder dairy sector in Malawi.

This kind of management regime rarely breaks even unless an owner has other income sources to subsidise his or her dairy business to the point of profitability (cf. Nkya et al. 2007: 631). Similar difficulties have been reported for smallholder dairy farmers in other parts of Tanzania (Swai et al. 2005; Urassa & Raphael n.d.).²⁴ Where labour is the limiting factor and indeed is likely to have contributed to household poverty as a criterion of initial beneficiary selection, the viability of stallfed dairying is open to question. Despite these constraints, dairy cattle remain popular on the participatory wish lists generated though national district planning processes as icons of 'modern' farming (cf. Haugerud 1993).²⁵ The district as a whole was home to a total of around 44 dairy cattle in 2002. At the close of 2012 there were 124. This increase in number is not explained by natural reproduction. Rather, it is project driven.²⁶ Extending dairying has political and ideological support in the categorisation of dairy cattle as an improved agricultural technology, in assumed linkages between livestock and higher income, and access to milk products and improved nutrition (URT 2011).²⁷ These correlations between income and nutrition do not exist because farmers make dairying a source of income and either buy better food or use milk to improve the diets of household members. They exist because better off farmers are more likely than their lower income neighbours to be able to sustain dairy farming.28 Livestock keeping, for some households, is an effect rather than a determinant of household socioeconomic status.

Pig Keeping

Domestic pigs, like dairy cattle, were also introduced to the Mahenge highlands by Catholic missionaries, whose involvement in the district continues to exert an influence on patterns of economic development. Current patterns of religious affiliation in Ulanga reflect former missionary control over the delivery of basic education and health services. In the highlands area surrounding Mahenge, close to the centre of missionary influence, the majority of the population are affiliated to the Roman Catholic Church. In the valley areas, on the other hand, the population is more likely to be affiliated to Islam. Religious identity structures the new economy of pig production in the highlands, where producers and consumers of pork meat are Christian. Until the mid-1990s church-related enterprises, such as the seminary farm and piggeries owned by individual priests, supplied the bulk of locally consumed pork meat. The small number of individuals who kept pigs were public sector or mission employees who kept five or six animals for occasional slaughtering. Pork meat was not routinely available for sale. It was sold at Christian festivals and on holidays. Pigs were slaughtered at the owner's home, and buyers came to take away the meat. Pork and beef sold at the same price per kilo, but pork was valued for its fatty content and association with sikukuu. Changed tastes and practices, along with greater numbers of wage workers and boarding students, have created daily demands for pork meat that are no longer reserved for sikukuu but sold as kiti moto, fried pork. Today probably around three guarters of households in villages in the highlands area, where the majority of people are Christian, keep on average one or two pigs, usually in raised wooden enclosures situated adjacent to their homes. Demand for pigs in the form of meat and

²⁴ Nkya et al. state that, for Tanga Region, '[f]amers spent on average...between 39% and 77% of income from milk on feed costs yearly (2007: 627). They continue, 'in some farmsfeed costs were 100% of milk income' (op. cit.: 632).

²⁵ For an overview of participatory planning in Tanzanian rural development, see Green (2009).

²⁶ This would seem to be the case for elsewhere in Tanzania. For example, Swai et al. state that 61.5 per cent of farms surveyed in their Tanga study had fewer than five years of dairy farming experience, and over half of study households had attended some form of training, These figures suggest that entry to dairy farming for this category was facilitated by external projects (2005: 7). A study of the adoption of crossbred dairy cattle in Mbeya and Iringa between 1978 and 2001 found that price was not a significant determinant of farmer's decisions to adopt dairy farming. 'This was due to the fact that the crossbred cows were mainly introduced by foreign development agencies...' (Abdulai & Huffman 2005: 653).

²⁷ The Livestock Policy of 2006 aims to double per capita consumption of milk, from 40 to 80 litres (Njombe & Msanga n.d.: 8).

²⁸ Hence, it was not the primary source of income for farmers in the studies cited on Tanzanian dairying.

piglets for rearing is consistent. Piglets are often sold long before they are weaned, after which their new owners take them from their mothers to rear at home. The price of weaned piglets rose from thirty-five to forty thousand shillings between February and June 2012. While some people continue to slaughter and sell meat from their homes after putting up notices advertising when and where meat will be available, it is now more usual for *kiti moto* entrepreneurs to seek out pig keepers and take the live pig away for slaughter or to buy all the meat, except for the head and intestines. Pork meat is sold at four thousand shillings a kilo. Fried pork sells for five thousand. Pork meat is slightly cheaper than beef and much cheaper than goat meat. Butcheries in the town sell only beef. Wild meat, including elephant, is widely traded in villages. Pig meat is sold either from people's houses or from *kiti moto* outlets.

The daily sale of pork meat and the evolution of a *kiti moto* meat sector is a very recent phenomenon, originating in the urban fashion for fried pork sold in larger cities, but made possible by a combination of technology and changes in the disposable income of a proportion of consumers in what is less a rural centre than a new 'urban' periphery. The availability of electricity and refrigerators for sale in the district centre, along with access to credit with which to purchase them, makes innovations like the *kiti moto* trade viable. This combination of credit, Christianity, paid workers, electricity, and technology means that a *kiti moto* seller can sell daily and deal with unsold volumes of pork. Changes in the wider economy that create a daily market for pork meat have undoubtedly contributed to the increased uptake of pig keeping in Ulanga since the 1990s.

This kind of increase is paralleled in other parts of Tanzania. A study on smallholder pig production in Iringa found that 97 per cent of households kept an average of 2.9 animals. The majority of survey respondents, some 58 per cent, had acquired their first animal 'recently', that is, between 2001 and 2006 (Karimuribo et al. 2011). Other factors are also relevant. Unlike 'modern' cattle, mixed breed pigs of the kind which are locally available are relatively cheap both to procure and to rear (Lekule & Kyvsgaard 2003). Although they gain more weight with higher quality inputs, including nutrition and quality of housing, they can be kept adequately in basic wooden enclosures. Pigs do not require costly sprays and injections. With regular worming, vitamin A supplements, and occasional washing, they can be expected to thrive until they are ready for slaughter. As with cattle, feeding pigs is the big constraint for highlands farmers, who do not actively integrate pigs' food needs into their shamba management strategies. Average household waste in such production systems usually provides most, but not all, of the food needs of a single animal (Lekule & Kyvsgaard 2003). Fed on scraps, bananas, cassava, and greens, pigs also require a daily portion of bran, preferably from maize. For the majority of households that depend on the market for access to maize for much of the year, this has to be bought. Local farmers said that a pig requires at least one kilo of maize bran daily. One debe, actually a twenty-litre bucket, nominally equivalent to twenty kilos, sells for two thousand shillings.29

The perceived costs of feeding pigs impact the ways that pig production is managed by smallholders who keep costs to a minimum by having only one or two animals and prioritising maturing for slaughter over breeding. Farmers may slaughter sows rather than breed from them, using the money from the sale of meat to buy a weaned pig to raise. Similar strategies of pig management can be discerned from a study of smallholder pig production in Iringa, where the majority of households

Weights and measures are an issue of contestation in Tanzania, as the government attempts to promote and enforce the use standard measures by weight. Rural conventions are less exact, with volume preferred over weight and standard conventions about weight equivalents involved for each measure by volume from small kilo equivalent measures of pusu/ kimbo (1 litre) to debe/ndoo and gunia (sacks). Traders prefer volume measures because these can be adjusted upwards or downwards depending on how the measure is filled. For a good description of volume measures used by market traders in Kilimanjaro, see Pietila (2007).

kept 'growers', or maturing pigs, in preference to either piglets or adult animals (Karimburo et al. 2011). Such approaches are characteristic of what Lekule & Kyvsgaard have called the paradox of 'traditional' pig keeping, in which this mode of husbandry, despite its high losses and low offtake, is nevertheless more sustainable than intensive pig keeping. 'Traditional' pig keeping, they maintain, cannot be understood simply in the profit and loss calculation of the small agricultural enterprise envisaged in development policy: 'The pig has functions that are not reflected in a simple economic balance. The pig is a source of capital income, which can be realized at times of the year when major expenses are foreseen, and it can also be used as a way to put aside small amounts of money which alternatively might evaporate' (2003: 114).

Savings Groups

The preference for predictable returns rather than maximising potential profit drives the extension of pig keeping in Ulanga. It also influences the rapid uptake of another socio-economic innovation, a form of accumulating savings and loan group popularised in Ulanga and in other parts of Tanzania by the NGO Care International. These are a globally dispersed form of financial organising in which a limited number of members commit to saving regularly for a fixed period of time, usually one year. Group members are able to borrow a fixed proportion from group savings for a set period of time, usually three months, depending on the amount they have contributed to the fund. Loan charges are returned to savers in proportion to their contribution at the end of the group's cycle, giving a return on investments that can be as high as thirty per cent. As part of its Access Africa Programme, Care established a project in Ulanga District in 2009 with the aim of fostering the uptake of its Village Savings and Loan 'methodology' and promoting the formation of local groups (Hendricks & Chidiac 2011: 135).

The Village Savings and Loan Associations (VSLAs) promoted by Care are a variation on what are referred to in the literature on credit groups as Accumulating Savings and Credit Associations, or ASCAs (Bouman 1995: 371). ASCA groups have been interpreted by some analysts as an adaptation of the Rotating Credit and Savings Associations (ROSCA), which are common in low-income settings internationally. ASCAs are differentiated from ROSCAs by members' control over the timing of borrowing and the accumulation of the fund, which can then be divided proportionally among group members. The fact that members can deposit variable amounts means that memberships of ASCA groups are likely to be less homogenous than those of ROSCAs, where contributions and loans are fixed (Bouman 1995). ROSCA groups have a long history in sub-Saharan Africa, certainly from the early twentieth century, where their rapid expansion is linked to emerging commercial sectors and wage employment (Delancey 1977; Bouman 1995). In West Africa the evolution of rotating savings groups is associated with migrant labour and with forms of commercial credit among ethnic trader associations, including those of the Nigerian Hausa (Yusuf 1975; Miracle et al. 1980). Rotating savings groups are reported for East and Central Africa from the 1950s, when waged workers in Tanzania were members (Ardener 1963: 207).

While some analysts regard the ASCA as a kind of evolved version of the ROSCA, which is thus likely to have emerged in contexts where the ROSCA form and its variants were already established (Bouman 1995: 377), it seems to be the case that the ASCA was introduced to East Africa through NGO programming. The institutional designs of the savings groups distributed through these programmes are the product of hybrid combinations of indigenous modalities for the rotation of capital and labour (Delancey 1977; 319) with the mechanisms of bureaucratic audit. ASCAs were introduced to Kenya via a US NGO programme in the 1970s. There they have evolved into a semi-commercial form of small-scale savings clubs that are externally managed by private sector agents

(Johnson et al. 2002). The VSLA model promoted by Care is inspired by a form of small-scale savings group originating in Niger³⁰ (Anyango et al. 2007: 11). Modified through the requirements of programming replicability and the need to manage performance, the VSLA methodology combines the elements of group contributions and audit with the material form of the lockable cash box, an artefact that, together with personalised savings books, enables the public performance of transparency. This institutional form is replicated by some other organisations in Tanzania, including SEDIT through its *vicoba* system.

The VSLA methodology promoted by Care is a variation on the standard ASCA architecture. VSLA groups consist of a maximum of thirty members. Each member buys between one and five weekly shares and can borrow up to a maximum amount based on a multiplier of what they have saved for a maximum three-month period. Borrowers pay a fixed fee based on the amount loaned. At the end of the cycle, usually one year, members receive what they have saved plus interest proportional to their share (Mkoma 2011; Maliti 2012). Care's innovation in disseminating this form of ASCA has been to formalise and standardise the methodology for group management, to introduce documentation such as a constitution that structures the ways in which groups are managed, and to ensure that all transactions take place in public through the performance of transparency. This is symbolised by the savings box which has three locks, the keys for which are held by ordinary members of the savings group rather than by elected officials, namely the treasurer, chairperson, and secretary (Anyango et al. 2007: 13). Care has also encouraged the ritualisation of group savings practices through standardised chants and actions around running the group meetings, including counting and depositing money. Members of VSLA groups meet weekly, sit in a circle facing the officials and the savings box in strict order of their membership number (one to thirty), and participate in the sequence of saving and lending according to strict formulaic routine.

Members buy weekly shares, up to a maximum of five, and loans are made for a maximum of three months on the basis of money deposited by savers at a rate of interest usually around five per cent. At the end of the cycle, income from interest on loans is distributed in proportion to the value of members shares, generating returns which depend on the number of shares an individual has purchased and on the amount of loans made (and hence interest charged) by the group. Saving is a requirement of VSLA membership. Members have to save every week, but they do not have to purchase the maximum number of shares. The end of cycle calculation and allocation is called an 'action audit' in the Care terminology (Anyango et al. 2007: 11), an apt description of the performative practice of public auditing through which these groups make saving safe.

'Care' Groups in Ulanga

ASCA groups, also known as *hisa* groups in connection to the shares that members pay in, have proliferated in Tanzania over the past decade (Mkoma 2011; Maliti 2012). Some of this expansion is attributable to the efforts of donor organisations that have enthusiastically invested in microcredit as an intervention combining the ideal of entrepreneurship with aspirations of community development (Roy 2010). External funding alone cannot account for the mass expansion of savings groups in many areas. What is truly remarkable about the ASCA groups as a social technology is their rapid spread and uptake in Africa even where there are no external interventions (Hendricks & Chidiac 2011). This was the case for VSLA groups established by Care in Zanzibar, which have continued to increase by 37 per cent annually several years after the programme ended (Anyango et al. 2007: 14). A similar process is underway in Ulanga, where what are popularly called 'care' groups continue to be formed even after Care's two-year intervention formally ended in 2011. According to the data

³⁰ Hugh Allen, personal communication.

gathered by the umbrella organisation for savings groups initiated as part of the Care programme, in mid-2012 there were a total of 344 groups in the district.

In Ulanga, as in Zanzibar, there are various problems with the sustainability of the institutional architecture envisaged by Care for the establishment of VSLAs in the district's financial landscape (Anyango et al. 2007). The umbrella organisation struggles to cover costs, to bring members together, and to provide the cash boxes and savings books demanded by newly formed groups. This is not surprising. One of the striking features of both ASCAs and ROSCAs as an organisational form is that autonomy is designed into the system (Bouman 1995: 381). Because groups use their own resources to save and to provide loans, a group can be fully functional solely through its own membership. Therefore, while the ASCA can potentially be integrated into wider systems, as in the Kenya example where groups are managed by external agents, or be incorporated into apex structures, as in the Care programme design, incentives for groups to seek integration depend on whether members perceive value added from it. In Kenya, where ASCAs have many members and where co-presence ceases to be a practical means of enacting accountability, compliance, and audit functions are contracted out to an external agent (Johnson et al. 2002). For the Tanzanian groups that were formerly part of the Care programme, ritualised internal management and a performative audit at weekly meetings enact trust and make integration into wider systems less attractive. Furthermore, the autonomy of groups that are not part of wider structures provides them with the flexibility to adapt to members' interests.

The original design of the Care programme anticipates the engagement of members in setting group rules of operation, including share prices, responsibilities of elected officials, and fine amounts and other contributions that are annually reviewed at the start of a new cycle. Share prices vary, depending on the membership of the group. Although Bouman's insight that ASCAs were likely to attract a more differentiated membership than ROSCAs, because members can vary the amount of weekly purchased shares up to the maximum amount, is borne out to some extent in Ulanga, where income differentials between members would seem to be the norm, there was significant differentiation between urban groups, which had higher share values, and more rural ones, where share prices were as low as 500 shillings. One urban group, with a membership comprising a high proportion of traders, had share prices of 2,500 shillings. At the start of its second cycle of operation this group insisted that each member should pay in a lump sum of fifty thousand shillings so that loans could begin earlier and returns would be potentially higher based on the size of loans. This group also gave short-term loans at higher rates of interest in the final quarter, when groups tend to have ceased lending in order to recoup assets prior to the payment of dividends and shares.

Ulanga 'care' groups had not, as yet, differentiated themselves to a significant extent in order to restrict membership to those with similar investment capabilities. People with more money to invest did not make larger investments by starting new groups that would sell more shares or more expensive shares. As in some other countries where small savings groups are numerous, people prefer to join several groups concurrently rather than increasing their shares in a single group (Geertz 1962: 245; Yusuf 1975: 171). Joining multiple groups remains a better option than membership in a single group with higher share prices, because returns on savings are only generated through the interest paid by borrowers. Having more invested in a single group will only yield a return if borrowing is also proportionately higher. For the few individuals who are members of five or six groups, returns on shares are likely to be substantial, as the number of potential borrowers, and hence fee income, is large.



Accounting for the ASCA's Appeal

Despite the strong policy narratives in Tanzania and elsewhere concerning the importance of access to microcredit as the missing link in transforming the livelihoods of the poor, borrowing was not the primary motivation for joining Care groups in Ulanga. What people valued, as research on the motivations of ROSCA members in many countries has shown, was the regularity of saving, especially as this was compulsory (Ardener 1963: 218), the fact that money put away in a savings group was off limits to the demands of others (Ambec & Triech 2007; Bouman 1995: 375), and the option of crisis insurance through the group's social (jamii) fund to which members contribute weekly (Geertz 1962: 247; Ardener 1963: 218). As for the ASCAs, such as the 'care' groups, their growing popularity in Ulanga is based on member hopes of not only saving but also making a return on their investment. People with cash to invest by joining multiple groups can make good returns, as long as other people keep borrowing. Because saving is preferred over borrowing, and saving with added return most valued of all, some Ulanga groups have made borrowing compulsory. Groups also undertake additional activities in order to increase the value of their shares. The most usual of these is the purchase and resale of soap powder to members at prices that are the same as or higher than market rates. As with borrowing, this is often compulsory.

The move towards selling soap and other goods to members can be interpreted in various ways. A former project officer working with the Care programme in the district regards this activity as an outcome of the original training that group members received, which aimed to promote financial literacy and entrepreneurial skills. The intention was, he said, to give people experience of income generating activities that could then be expanded into group projects. Group members themselves were more likely to regard the compulsory sale of goods as another way of saving and borrowing. Members in effect receive goods on credit and repay in instalments. Another interpretation is to view compulsory borrowing and purchasing as an entrepreneurial practice that consolidates the group as the enterprise that generates income for the individuals in the group. The compulsory nature of the purchase by all members means that returns, as with saving, are proportional to cash invested. Some members cannot simply make profit out of the cash needs of others. Investing in care groups, as long as they are successful, guarantees a return to members in addition to the amount they have saved. Where returns can be as high or higher than the thirty per cent average for Tanzania (Hendricks & Chidiac 2011: 140), 'care' groups are attractive as an income-generating option for men and women, and one that works well for those, especially women, who have limited start-up capital.³² Ulanga's 'care' groups demonstrate some of the core characteristics that account for the institutional durability and rapid proliferation of the ASCA/ROSCA form in many countries. The fact that integration into the apex is either partial or non-functional allows groups to experiment with different ways of organising according to member interests. Importantly, despite the promotion of groups as an organising principle of community development interventions, a large part of the appeal of the savings groups is that both investments and returns are individualised. The group provides the structure through which capital is amassed in order for loans to be disbursed, but the group is never an end in itself. It is the means through which individual members realise their objectives.

³¹ Compulsory borrowing is common in other countries as well. See Bouman (1995) for a discussion.

Returns on pig raising are potentially higher, but the start-up costs are also much higher, as are the labour inputs required. Beer brewing continues to be a viable income-generating option for women. However, start-up costs are quite high, and producing beer is high risk. In 2012 in Mahenge, brewing sixty litres of maize beer from twenty kilos of maize could cost 14,500 shillings (excluding firewood), and if sold at five hundred shillings a litre, brewing would generate a profit of 15,500 shillings. Such returns are not guaranteed. Beer can spoil or may not sell, and rotas in villages limit the amount a woman can brew even if she has access to the necessary capital and equipment (oil drum). For an account of the economics of brewing in the 1990s, see Green (1999).

The Process of Economic Change

Current policy interventions in Tanzania are based on specific theories of economic change and human behaviour. Interventions, particularly in the agricultural sector, have been designed on the assumption that improved technologies will increase productivity and that farmers will engage with the market in particular ways that prioritise returns on investments. As one would expect, given the findings from numerous studies of economic change in Africa, such assumptions are unlikely to be realised in practice (Richards 2010). Analysis of the process of economic change in Ulanga supports the claims of Richards and others that the factors impacting on changes in economic practices are complex. Economic practices in Ulanga exhibit a remarkable dynamism, as farmers adapt their livelihoods to changing circumstances and to new technologies and ways of life. This responsiveness is not new. The twentieth century was characterised by economic opportunism, as livelihood strategies in the district evolved to accommodate the move to settled villages, cash crop production, and different regimes of incorporation into the global economy.

This process is on-going. Ulanga's residents today must adapt to their place in a transitioning periphery whose terms of integration into the world and regional economic orders are uncertain. Part of this adaptation involves the kinds of investments people seek to make and the ways in which men and women struggle to get cash income where returns from agriculture remain low and where households with their shifting composition continue to be the unit through which agricultural production is organised. These factors influence the kinds of innovations that have been adopted in the highlands part of Ulanga District since the 1990s. Successful innovations depend on the social context in which their uptake becomes viable in relation to values, attitudes and the organisation of labour, and on the wider economic context in which they are embedded. This context is continually changing. The viability of particular economic activities is not fixed. It is constituted through transformations in economic relations at different scales. These transformations are variable and contingent. The pig economy in the highlands becomes viable in its current form as a result of changed tastes and preferences and availability of money that sustains the daily market in kiti moto enabled by new technologies of electricity and refrigeration. Small-scale pig keeping has low barriers to entry and can be managed by households with a single adult. Mahenge's peri-urban status, large Christian population, and growing proportion of wage workers all contribute to the growth of a pork market that depends on the local sale of pig meat. Small-scale dairying, in contrast, flounders because low-income farmers cannot manage the investment necessary to make it productive in a situation where demand for dairy and other cattle products is limited.

'Modern' cattle, symbolic of desired agricultural transformation in East Africa, have failed to transform livelihoods or agricultural cultures. Dairy cattle, as improved breeds, are not simply an agricultural 'technology'. The productivity of dairy cattle depends on the state of the market for dairy products and on the quality of the relations between people and the cattle. Productivity is not an inherent quality of an asset but an effect of the relations in which it is embedded. As in other East African countries, the expansion of the mini-dairy sector in Tanzania is largely politically driven (Haugerud 1993). What one official referred to as 'ng'ombe wa siasa' (political cattle) have a tenuous place in Ulanga's economy. Although more cattle are being brought into the district by well-intentioned development programmes, it is far from certain that more than a minority of Ulanga farmers can adapt their farm and household management strategies to make dairying productive. Where cattle have value only for a single product, namely milk, and where markets for milk are limited and difficult to access, low milk yields become a problem that exacerbates and is exacerbated by poor feeding practices. Finally, 'care groups' become popular for several reasons, including their transparency and formalisation, but also for what they enable: getting a return on money invested through the fees levied on lending to other members of the group.

The most successful innovations are those which not only fit with the demands of household labour and capital constraints but which can be adapted to changing circumstances. Pig keeping is flexible to a degree not found in dairying. Pigs can be made to fit with the ways that people organise their households as units of production. Animals can be kept without the need for complex interventions. Pig keeping can be scaled up or down depending on resources. Farmers keep pig numbers to a minimum, slaughter early, and let the market bear the costs of reproducing the next generation of piglets for fattening and sale. The market for piglets and growers, as well as adult animals for meat, means that they can be sold at any time. Replacement stock can be obtained without the expense of raising a litter. A large proportion of a pig's feed requirements can be met from domestic resources.

Likewise, 'care' groups also offer a degree of flexibility. Although members join for a year-long cycle, they can leave the group at any time, taking their loan as a return on shares. They can contribute different amounts by adjusting the number of shares. Should circumstances demand, they can miss a couple of weeks' saving. Moreover, people with more to save or seeking larger loans can invest in several groups at the same time.

The adaptability of 'care' groups and pig keeping extends beyond the level of individual practice. The structure of care groups and their weak integration into the apex organisation means that they can evolve flexibly, experimenting with new practices such as compulsory loans. Pig keeping has evolved from something carried out by a minority of people producing meat for occasional sale into a micro-economy that ensures the frequent availability of pork meat for local sale and the daily availability of *kiti moto* in the town. Dairy cattle, especially if they are stall-fed, are less amenable to flexible management or to producer autonomy. Crossbred dairy cattle require costly spraying and inoculations to protect them against disease. Becoming a dairy farmer involves integration into a wider system of extension services and agricultural inputs, as well as daily engagement with the search for a market for milk. Attitudes towards upfront costs and risk taking have an effect on the ways in which people manage small-scale dairying. The preference for low risk, flexible income strategies is not confined to livestock. It informs attitudes to fertiliser use as well as to the current popularity of cassava. The viability of cassava as a crop for sale is determined by its flexibility within a changed context of demand that creates a locally accessible market.



Conclusion: Smart Policy for Supporting Change

Cultures of economic practice are not static. They are constantly being remade. Practices become viable in relation to the contexts in which they are embedded. As demonstrated by the sociologist Elizabeth Shove in relation to changes in everyday domestic practices internationally, studying change by focusing on practices as clusters of behaviours and the institutional contexts which make them possible, as opposed to focusing on either individual behaviour or technologies, reveals more about the drivers of and constraints to change (2004; 2010). Contextual changes are the outcome of multiple influences that are not simply economic. Changed values create the context in which certain changes are sought; changed relations may make them possible. Policy directed at changing economic behaviour must therefore pay attention to supporting the emergence of the contexts that enable its occurrence.

For farmers in Tanzania, who manage production as a household enterprise and who are subject to uncertainty in external and internal environments and to the vagaries of terms of trade, flexibility and adaptability are foundational to economic innovation and the sustainability of rural livelihoods (Berry 1993). This emphasis on practical adaptability through dispersed risk and the option to exit from economic endeavours may not fit well with the imaginaries of the 'new' farmer enmeshed in agribusiness value chains and high technology. It has, however, contributed to the resilience of rural livelihoods for actual small farmers in Tanzania and elsewhere. As Jane Guyer's long-term study of changing rural economies in Nigeria shows, adaptation takes place primarily through the adoption of new crops and specialisations rather than intensification or increasing farm size. Rural economies are never stagnant. They are continually evolving, albeit in ways that diverge from conventional models of growth derived from radically different conditions (1998).

Examining the actual process of economic change and the relations through which this is structured, rather than through normative theory based on 'deductive generalisation', permits an alternative evaluation that renders economic institutions in rural Africa not as failures but as 'adaptively efficient' (North 2005: 163) for the environments in which they work. Failure is not then an attribute of farmers' lack of capacity to adopt improved agricultural technologies and economic practices, but a product of inappropriate development interventions - i.e. ones not designed to work with established preferences for flexibility and keeping upfront risk to a minimum. Nor are they sufficiently sensitive to the changing contexts in which implementation occurs. Smart policy for rural economic growth must focus on growing opportunities for rural populations. This cannot be achieved by promoting an economic monoculture of agrarian uniformity. Rather, it has to be built on the careful nurturing of actual and emerging opportunity. Achieving this goal demands a new set of theoretical tools for understanding economic change in rural Africa. Empirical studies by sociologists, historians, and anthropologists suggest the directions in which change occurs. This research has shown how context, flexibility, and risk are the three factors that contribute most to the success of small farmers in adopting economic innovations. Interdisciplinary efforts should prioritise building better models for underwriting more effective policy and interventions. Smart policies aimed at promoting inclusive growth in rural areas must begin from an analysis of the contextual factors that impact on the potential productivity of particular activities and investments. Those policies must result in interventions designed to work with farmers' own preferences for flexibility and risk reduction.

References Cited

Abdulai, A. & Huffman, W. (2005). The diffusion of new agricultural technologies: The case of crossbred cow technology in Tanzania. *American Journal of Agricultural Economics* 87(3), 645–659.

Akulumuka, V. & Madulu, R. (2006). Assessment of income and socio cultural factors affecting technology adoption in Ulanga District. Ulanga District Council.

Ambec, S. & Treich, N. (2007). Roscas as financial agreements to cope with self-control problems. *Journal of Development Economics* 82, 120–137.

Anyango, E., Esipisu, E., Opoku, L., Johnson, S., Markuu, M. & Musoke, C. (2007). Village savings and loan associations: Experience from Zanzibar. *Small Enterprise Development* 18(1), 11–24.

Ardener, S. (1963). The comparative study of rotating credit associations. *Journal of the Royal Anthropological Institute* 94(2), 201–229.

Bernal, B. (1994). Peasants, capitalism and (ir) rationality. *American Ethnologist* 21(4), 792–810.

Berry, S. (1993). No condition is permanent. The social dynamics of agrarian change in sub-Saharan Africa. Madison: University of Wisconsin Press.

Binswanger-Mkhize, H. & Gautam, M. (2010). *Towards an internationally competitive Tanzanian agriculture*. World Bank Draft Report, paper presented at the 15thAnnual Research Conference of REPOA, Dar es Salaam.

Bouman, F. (1995a). Rotating and accumulating savings and credit associations: A development perspective. *World Development* 23(3), 371–384.

Bouman, F (1995b). ROSCA: On the origin of the species. Savings and Development, 29(2), 117–148.

Bray, F. (1983). Patterns of evolution in rice growing societies. *Journal of Peasant Studies*, 11(1), 3–33. Bray, F. (1998). Technics and civilization in late imperial China: An essay in the cultural history of technology. *Osiris* 2(13), 11–33.

Bryceson, D. (2002a). Multiplex livelihoods in rural Africa: Recasting the terms and conditions of gainful employment. *Journal of Modern African Studies* 40(1), 1–28.

-----. (2002b). The scramble in Africa: Reorienting rural livelihoods. *World Development* 30(5), 725–739.

-----. (2010a). Agrarian fundamentalism or foresight? Revisiting Nyerere's vision for rural Tanzania. In Havnevik, K. & Isinika, A. (eds). *Tanzania in Transition: From Nyerere to Mkapa*. Dar es Salaam: Mkuki na Nyota Press, 71–91.

-----. (2010b). The birth of a market town in Tanzania: Towards narrative studies of urban Africa. *Journal of Eastern African Studies* 5(2), 274–293.

Bryceson, D. & Jønsson, J. (2010). Gold digging careers in rural East Africa: Small-scale miners' livelihood choices. *World Development* 38(3), 379–392.

Chachage, C. L. S. (1988). British rule and African civilisation in Tanganyika. *Journal of Historical Sociology* 1(2), 199–223.

Chisinga, B. (2011). The Farm Input Subsidy Programme (FISP) and the seed industry in Malawi: The making and unmaking of an effective developmental state? Paper presented at African Studies Association Annual Meeting, Washington, DC.

Cooksey, B. (2003). Marketing reforms? The rise and fall of agricultural liberalisation in Tanzania. *Development Policy Review* 21(1), 67–91.

----- (2012). Politics, patronage and projects: The political economy of agricultural policy in Tanzania. Working paper 040, Political Economy of Agricultural Policy in Africa (PEAPA), Future Agricultures Consortium.

Coulson, A. (1982). *Tanzania. A political economy*. Oxford: Clarendon Press.

Craig, D. & Porter, D. (2006). *Development beyond neoliberalism?*: Governance, poverty reduction and political economy. London: Routledge.

Culwick, A. T. & Culwick, G. M. (1934). The functions of bridewealth in Ubena of the Rivers, Africa. *Journal of the Royal African Institute* 7(2), 140–159.

Delancey, M. (1977). Credit for the common man in Cameroon. *Journal of Modern African Studies* 15(2), 316–322.

Diao, X., Headey, D. & Johnson, M. (2008). Toward a green revolution in Africa: What would it achieve, and what would it require? *Agricultural Economics* 39(s1), 539–550.

Ellis, F. & Mdoe, N. (2003). Livelihoods and rural poverty reduction in Tanzania. *World Development* 31(8), 1367–1384.

Fairhead, J. & Leach, M. (2005). The centrality of the social in African farming. *IDS Bulletin* 36(2), 86–90.

Fatton, R. (1985). The political ideology of Julius Nyerere: The structural limitations of 'African Socialism'. *Studies in Comparative International Development* 20(2), 3–24.

Geertz, C. (1962). The rotating credit association: A 'middle rung' in development. *Economic Development and Cultural Change* 10(3), 241–263.

Green, M. (1999). Trading on inequality: Gender and the drinks trade in southern Tanzania. *Africa* 69(3), 83–114.

-----. (2003). Priests, witches and power: Popular Christianity after mission in southern Tanzania. Cambridge: Cambridge University Press.

Gregory. C. (1997). Savage money: The anthropology and politics of commodity exchange. London: Routledge.

Guyer, J. (2004). *Marginal gains: Monetary transactions in Atlantic Africa*. Chicago: University of Chicago Press.

Guyer, J. (1998). *An African niche economy: Farming to Feed Ibadan 1968–88*. Edinburgh: International African Institute.

Hendricks, L. & Chidiac, S. (2011). Village savings and loans: A pathway to financial inclusion for Africa's poorest households. *Economic Development and Microfinance* 22(2), 134–146.

Iliffe, J. (1979). A modern history of Tanganyika. Cambridge: Cambridge University Press.

Johnson, S., Mule, N., Hickson, R. & Mwangi, W. (2002). The managed ASCA model: Innovation in Kenya's microfinance industry. *Small Enterprise Development* 13(2), 56–67.

Karimuribo, E., Chenyambuga, S., Makene, V. & Mathias, S. (2011). Characteristics and production constraints of rural-based small-scale pig farming in Iringa Region, Tanzania. *Livestock Research for Rural Development* 23(8), a172.

Kilama, B. (2013). *The diverging South: Comparing the cashew sectors of Tanzania and Vietnam*. PhD thesis, University of Leiden.

Koponen, J. (1988). *People and production in late precolonial Tanzania*. Monographs of the Finnish Society for Development Studies 2. Helsinki: Finnish Society for Development Studies.

-----. (1995). Development for exploitation: German colonial policies in Mainland Tanzania, 1884–1914. Helsinki: University of Helsinki.

Larson, L. (1976). A history of the Mahenge (Ulanga) District. PhD thesis, University of Dar es Salaam. Lekule, F. & Kyvsgaard, N. (2003). Improving pig husbandry in tropical resource-poor communities and its potential to reduce the risk of porcine cysticercosis. Acta Tropica 87, 111–117.

Lysons, M. & Msoka, T. (2010). The World Bank and the street: (How) do 'doing business' reforms affect Tanzania's micro-traders? *Urban Studies* 47(5), 1079–1097.

Maghimbi, S. (1995). The rise and fall of Nyerere's populism (ujamaa). In Maghimbi, S. & Forster, P. (eds). *The Tanzanian peasantry: Further studies*. Aldershot: Avebury, 23–37.

Maliti, E. (2012). Enforcement in informal groups: The role of indirect punishments on repayment behavior within the financial self-help groups in Tanzania. Paper presented at the 17th Annual Research Workshop of REPOA, Dar es Salaam.

Miracle, M. P., Miracle, D. S., & Cohen, L. (1980). Informal savings mobilization in Africa. *Economic Development and Cultural Change* 28(4), 701–724.

Mitchell, T. (2005). The work of economics: How a discipline makes its world. *Archives européennes de sociologie* 46(2), 297.

Mkenda, A., Luvanda, E. & Ruhinduka, R. (2010). Growth and distribution in Tanzania. Recent experience and lessons. Report for REPOA, Dar es Salaam. Mkoma, G. (2011). The contribution of village savings and loan associations' governance to improving access to financial services in Kisarawe and Ilala. PhD thesis, Mzumbe University.

Monson, J. (2009). Africa's freedom railway: How a Chinese development project changed lives and livelihoods in Tanzania. Bloomington: Indiana University Press.

Moyo, M., Simson, R., Jacob, A. & de Mevius, F. (2010). Attaining middle income status – Tanzania: Growth and structural transformation required to reach middle income status by 2025. London: International Growth Centre.

Njombe, A. & Msanga, N. (n.d.). Livestock and dairy industry development in Tanzania. Unpublished paper, Ministry of Livestock Development.

Nkya, R., Kessy, B., Lyimo, Z., Msangi, B., Turuka, F. & Mtenga, K. (2007). Constraints on smallholder market oriented dairy systems in the north eastern coastal region of Tanzania. *Tropical Animal Health Production*. 39, 627–636.

North, D. (2005). *Understanding the process of economic change*. Princeton: Princeton University Press.

Phillips, L. & Ilcan, S. (2004). Capacity building: The Neoliberal governance of development. *Canadian Journal of Development Studies* 25(3), 393–409.

Pietila, T. (2006). Gossip, markets and gender: How dialogue constructs moral value in post-socialist Kilimanjaro. Madison: University of Wisconsin Press.

Platteau, J. (1989). Penetration of capitalism and persistence of small-scale organisational forms in third world fisheries. *Development and Change* 20, 621–651.

Rao, J. (1986). Agriculture in recent development theory. *Journal of Development Economics* 22, 41–86.

Richards, A. (1958). A changing pattern of agriculture in East Africa: The Bemba of Northern Rhodesia (the Mrs. Will Gordon lecture). *The Geographical Journal* 124(3), 302–313.

Richards, P. (2010). A green revolution from below: Science and technology for global food security and poverty alleviation. Wageningen, Farewell Address, Wangeningen University.

Roy, A. (2010). *Poverty capital: Microfinance and the making of development*. London Taylor & Francis.

Samoff, J. (1981). Crises and socialism in Tanzania. Journal of Modern African Studies 19(2), 279–306.

Sanchez, P., Denning, G. & Nziguheba, G. (2009). The African green revolution moves forward. *Food Security* 1, 37–44.

Saul, J. (2012). Tanzania fifty years on (1964–2011): Rethinking Ujamaa, Nyerere and socialism in Africa. *Review of African Political Economy* 39(131), 117–125.

Schultz, T. (1964). *Transforming traditional agriculture*. New Haven. Yale University Press.

Shove, E. (2010). Beyond the ABC: Climate change policy and theories of social change. *Environment and Planning A* 42(6), 1273–1285.

Shove, E. (2004). Comfort, cleanliness and convenience: The social construction of normality. London: Berg.

Stambach, A. (1999). Curl up and dye: Civil society and the fashion minded citizen. In Comaroff, J. & Comaroff, J. L. (eds). *Civil society and the political imagination in Africa*. Chicago: Chicago University Press, 251–66.

Skarstein, R. (2010). Smallholder agriculture in Tanzania: Can economic liberalisation keep its promises? In Havnevik, K. & Isinka, A. (eds). *Tanzania in transition: From Nyerere to Mkapa*. Dar es Salaam: Mkuki na Nyota Press, 99–130.

Swai, E., Karimuribo, E., Schoonman, L., French, N., Fitzpatrick, J., Kambarage, D. & Bryant, M. (2005). Description, socioeconomic characteristics, disease managements and mortality dynamics in smallholder's dairy production system in coastal humid region of Tanga, Tanzania. *Livestock Research for Rural Development* 17(4), a41.

Tebug, S., Kasulo, V., Chiwanga-Malunga, S., Wiedemann. S., Roberts, D. & Chagunda, M. (2012). Smallholder dairy production in northern Malawi: Production practices and constraints. *Tropical Animal Health Production* 44, 55–62.

Thompson, C. (2012). Alliance for a green revolution in Africa (AGRA): Advancing the theft of African genetic wealth. *Review of African Political Economy* 39(132), 345–350.

Tripp, A. (1997). Changing the rules: The politics of liberalisation and the urban informal economy in Tanzania. Berkeley: University of California Press.

United Republic of Tanzania. (2011). The Tanzania Five Year Development Plan 2011/2012–2015/2016: Unleashing Tanzania's latent growth potentials. Dar es Salaam.

Urassa, J. & Raphael, E. (n.d.). The contribution

of small-scale dairy farming to community welfare: A case study of Morogoro Municipality. Sokoine University of Agriculture Electronic Publication.

Wangwe, S. (2010). Changing Aid Modalities in Tanzanian Development Partnerships. In Havnevik, K. & Isinika, A. (eds). *Tanzania in transition: From Nyerere to Mkapa*. Dar es Salaam: Mkuki na Nyota Press, 207–222.

World Bank. (2008). *Agriculture for development*. World Development Report, Washington, DC.

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