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Preface

The primary goal of the ILO is to contribute, with member States, to achieve full and productive employment and decent work for all, including women and young people, a goal embedded in the ILO Declaration 2008 on *Social Justice for a Fair Globalization*,[1] and which has now been widely adopted by the international community.

In order to support member States and the social partners to reach the goal, the ILO pursues a Decent Work Agenda which comprises four interrelated areas: Respect for fundamental worker's rights and international labour standards, employment promotion, social protection and social dialogue. Explanations of this integrated approach and related challenges are contained in a number of key documents: in those explaining and elaborating the concept of decent work,[2] in the Employment Policy Convention, 1964 (No. 122), and in the Global Employment Agenda.

The Global Employment Agenda was developed by the ILO through tripartite consensus of its Governing Body's Employment and Social Policy Committee. Since its adoption in 2003 it has been further articulated and made more operational and today it constitutes the basic framework through which the ILO pursues the objective of placing employment at the centre of economic and social policies.[3]

The Employment Sector is fully engaged in the implementation of the Global Employment Agenda, and is doing so through a large range of technical support and capacity building activities, advisory services and policy research. As part of its research and publications programme, the Employment Sector promotes knowledge-generation around key policy issues and topics conforming to the core elements of the Global Employment Agenda and the Decent Work Agenda. The Sector's publications consist of books, monographs, working papers, employment reports and policy briefs.[4]

The *Employment Working Papers* series is designed to disseminate the main findings of research initiatives undertaken by the various departments and programmes of the Sector. The working papers are intended to encourage exchange of ideas and to stimulate debate. The views expressed are the responsibility of the author(s) and do not necessarily represent those of the ILO.

José Manuel Salazar-Xirinachs
Executive Director
Employment Sector

[1] See http://www.ilo.org/public/english/bureau/dgo/download/dg_announce_en.pdf

[2] See the successive Reports of the Director-General to the International Labour Conference: *Decent work* (1999); *Reducing the decent work deficit: A global challenge* (2001); *Working out of poverty* (2003).

[3] See http://www.ilo.org/gea. And in particular: *Implementing the Global Employment Agenda: Employment strategies in support of decent work, "Vision" document*, ILO, 2006.

[4] See http://www.ilo.org/employment.

Foreword

The ILO has initiated a work programme on informal apprenticeship which recognizes informal apprenticeship as an important training system in the informal economy. In apprenticeship, young people acquire the skills of a trade while working with a master craftsperson in an enterprise for a significant period of time.

The ILO research agenda on informal apprenticeship aims at creating a relevant body of knowledge through conceptual work, empirical studies and pilot projects. In May 2007, the ILO Skills and Employability Department organized a workshop to review existing knowledge and evidence on informal apprenticeship in African countries. The workshop identified informal apprenticeship as the main source of skills development in most African countries and concluded that it provides incentives to many master craftspersons and young people to invest in training. However, practices in apprenticeship also raised concerns mainly about deficits in terms of decent work, the quality and level of skills acquired, and skills recognition of young graduates.

The workshop concluded that further research is needed to explore the functioning of informal apprenticeship, in particular, to gain a better understanding of informal institutions such as traditions, social norms and networks in structuring incentives, and in shaping decent work and employment outcomes. This knowledge is considered key for designing effective policies to improve informal apprenticeship systems.

This paper forms part of ILO activities on informal apprenticeship in Tanzania. As a first step, a workshop was organized in Tanzania in February 2008 jointly with ILO Office Dar es Salaam and the Association of Tanzania Employers to discuss with Government, social partners, and academics the potential of both formal and informal apprenticeship in the country. The workshop confirmed the need for further research as a basis for the design and implementation of a strategy to effectively upgrade the informal apprenticeship system and strengthen its links to the formal training system with the aim to improve employability of young workers and productivity of enterprises.

This paper presents the empirical findings from a field study on informal apprenticeship undertaken in the urban Mtwara and Lindi regions of Tanzania in September 2008. Based on the research findings, a pilot project has been designed to upgrade informal apprenticeship in Mtwara which is currently implemented in Mtwara. The empirical study, as well as the pilot project, have been funded by the Tanzania One UN Joint Programme on Wealth Creation, Employment and Economic Empowerment.

Irmgard Nübler, who is leading the ILO work programme on apprenticeship, has guided and supervised the research, and prepared the working paper. Dr. Clemens Greiner, PLANCO Consulting, conducted the field research and provided the data. Christine Hofmann, Associate Expert, ILO, collaborated in the field research and contributed to the analysis of data.

Many thanks also to Dr. Gunnar Specht, and his team at PLANCO Consulting, as well as to ILO colleagues in Dar es Salaam and in Mtwara for providing valuable support to the empirical research work.

Special thanks to Jürgen Schwettmann and to Alexio Musindo, who, as the previous and the current Director of ILO Office Dar es Salaam, strongly supported the work on informal apprenticeship in Tanzania. Furthermore, the many comments and feedback from colleagues, both in Geneva and in the field, to early drafts of the paper, are much appreciated. Finally, I would like to thank Jane Auvre and Jo-Ann Bakker for editing and preparing this manuscript.

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Contents

Abstract and summary

Apprenticeship in the informal economy is an important source of skills in many African countries. Young people learn the skills of a trade or craft in a small enterprise or workshop by working side-by-side with a master craftsperson (MC) and other skilled workers. So far, training policies in few countries emphasize and acknowledge informal apprenticeship. In the light of a growing number of school leavers seeking skills and training, and the limited capacity of the formal training systems to absorb young people, policy-makers' attention is increasingly directed towards the informal training system. Making effective use of the potentials of informal apprenticeship to provide relevant training to African youth has become an emerging issue in the international policy debate. Knowledge on informal apprenticeship, both at the conceptual and empirical level, however, is still scarce.

This study aims at providing a better understanding of the informal apprenticeship system in Tanzania in order to inform policies for upgrading the system. It proposes a conceptual framework arguing that informal apprenticeship is embedded in an institutional framework which has evolved historically and is comprised of traditional rules such as social norms, conventions, local customs and of mechanisms enforcing these rules within the social network. The institutional framework regulates apprenticeship, thereby providing the incentives and creating the capacity of many MCs and apprentices to participate in apprenticeship. Furthermore, institutions shape the practices of informal apprenticeship which may result in desirable or less desirable outcomes in terms of skills development, decent work, labour market and development objectives.

As a consequence, the study analyzes the practices, institutions and the outcomes of informal apprenticeship in Tanzania. A survey was conducted in 2008 in Mtwara and Lindi (Southern Tanzania), interviewing 114 MCs, 378 apprentices and 140 skilled workers in the following sectors: car mechanics, electrical service, tailoring, carpentry/joinery, plumbing, local arts, and food processing. In addition, qualitative interviews in 20 workshops generated further insights into informal rules and practices.

The findings of this research demonstrate that apprenticeship is widespread and well established in the various craft sectors in Tanzania. Apprenticeship is based on a training agreement between the MC and the apprentice. Practices in the recruitment, training, work and graduation processes result in a number of undesirable outcomes, suggesting areas for improvement of informal apprenticeship. Furthermore, institutions regulating financing of training, compensation of apprentices and duration of apprenticeship provide flexible arrangements, thereby meeting different needs of apprentices and MCs and overcoming financial constraints. Finally, both MCs and apprentices respect the agreement and rules of apprenticeship so that each of them can collect returns from their training investment. Different mechanisms such as social control and family pressure, and threats to lose future benefits from the loss of reputation or reciprocity enforce the rules.

The study concludes that the enabling institutional framework ensures the functioning of the apprenticeship system. Interventions to improve the practices and outcome of informal apprenticeship need to be carefully designed, building on the traditional institutional framework, so that incentives of MCs and apprentices to participate in informal apprenticeship are sustained.

Abbreviations and terminology

ADEA	African Development through Economics and the Arts
BRELA	Business Registration and Licensing Agency
CBET	Community-based education and training
MC	Master craftsperson
N	Sample size
NGO	Non-governmental organization
Q	Question number as in questionnaire
SIDO	Small Industries Development Organization
SW	Skilled worker
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TIN	Tanzanian tax authority
TSh	Tanzanian Shilling
TVET	Technical and Vocational Education and Training
VETA	Vocational Education and Training Authority of Tanzania

Terminology in Kiswahili

Apprentices	Fundi Wanafunzi
Learner	Wanafunzi
Low-skilled workers	Vibaruas
Master craftsperson	Fundi Mkuu
Skilled workers	Fundi Wasaidizi

Notes

Exchange rates (Oct. 2008): TSh 1,000 = US$ 0.85 or € 0.63

The survey questionnaires can be downloaded on the following website: http://www.ilo.org/skills/what/pubs/lang--en/index.htm

1. Motivation and background

In the past, training policies in many developing countries had mainly focused on promoting the formal vocational education and training system. Few countries have training policies that emphasize and acknowledge the indigenous training system of the informal economy. In the light of a growing number of school leavers seeking skills and training, and the limited capacity of the formal training systems to absorb young people, policy-makers' attention is increasingly directed towards the informal apprenticeship training system with the aim to increase youth employability, productivity of enterprises, decent work and foster local and economic development.

The ILO launched a work programme on apprenticeship systems which recognizes informal apprenticeship as the main training system in the informal economy of most developing countries. The work programme was motivated by evidence from empirical studies identifying informal apprenticeship as the main provider of skills to young people in African countries. An important body of research has described and analyzed at enterprise, sector or national levels the phenomenon of apprenticeship training in the informal economy (McLaughlin, 1979; Maldonaldo and Boterf, 1985; Fluitman and Oudin, 1992, Nell and Shapiro, 1999; Ahadzie, 2003; Walther, 2008; Palmer, 2009; for further literature, see ILO, 2008a).

This body of research and the policy debate on informal apprenticeship, however, face two major limitations. First, the research describing and analyzing informal apprenticeship has mainly focused on West African countries and limited evidence is available on informal apprenticeship in East and Southern African countries. Very few studies provide findings on the scope, the economic and social context, the practices and the outcomes of informal apprenticeship in this region. This finding has been confirmed by two workshops on informal apprenticeship organized by the ILO in Geneva in May 2007 and in Dar es Salaam in February, 2008 (see ILO, 2008a; 2008b).

Second, the international debate on informal apprenticeship lacks a conceptual framework explaining how and why informal apprenticeship systems work. Policy decisions and interventions to improve informal apprenticeship need to analyze and understand the practices in apprenticeship, as well as the choices and behavior of MCs, apprentices and other relevant stakeholders. In particular, a model is needed that explains the incentives, motivation and rationale of MCs to offer apprenticeship training, share their knowledge and skills with young people, provide monetary or non-monetary compensation to apprentices, and invest time and resources in training of young people, although there is a risk that apprentices may leave the enterprise before the MC has recovered the training costs. Equally important, we need to understand the incentives and motivation of apprentices and their parents to choose the traditional way of learning a trade, to work long hours in the enterprise, to accept very low compensation and sometimes long apprenticeship periods, and in many cases to pay fees at the beginning of apprenticeship although there is a risk that the MC may not provide the promised training, preventing graduate apprentices to derive future benefits from improved income.

Furthermore, the conceptual framework needs to provide a definition of informality that allows for a meaningful distinction between informal and formal training systems. This is important in particular when designing policy measures and other interventions to link and integrate informal and formal training systems.

This study contributes to filling both of these knowledge gaps by providing a conceptual framework to informal apprenticeship and undertaking an explorative research to collect empirical data in the southern regions of Mtwara and Lindi in Tanzania. The research provides evidence on the relevance of informal apprenticeship in Tanzania. It analyzes practices in recruitment, working and graduation processes, thereby identifying

undesirable outcomes in terms of decent work. It also explores institutions regulating financing, compensation of apprentices and duration of apprenticeship and explores how the institutional framework creates incentives and the capacity of many MCs and young apprentices to invest in apprenticeship training. Furthermore, the study analyzes effectiveness and outcome of apprenticeship training in terms of skills development, employability and income.

The paper is structured as follows. Chapter 2 introduces the conceptual framework, models the institutional approach to apprenticeship and presents the research methodology. Chapter 3 describes the economic context of the different sectors surveyed in this study, and identifies challenges and opportunities. Chapter 4 analyses the social context of apprenticeship training: the composition of staff in enterprises, the socio-educational characteristics of MCs, skilled workers and apprentices, the involvement of firms in social and business networks, and the perception of informal apprenticeship by different social groups. Chapter 5 explores relevant practices in informal apprenticeship and decent work outcomes. Chapter 6 explains the role of informal rules, the institutional framework and social networks in shaping incentives and capacities of master craftspersons and apprentices to invest in apprenticeship training. Chapter 7 provides data on the outcome of informal apprenticeship in terms of quality of training and relevance of skills, employability of graduate apprentices, and economic returns to investment in apprenticeship training in the informal economy. Finally, Chapter 8 presents major conclusions.

2. Concept and methodology

This chapter first provides a conceptual framework for analyzing the practices, institutions and outcomes of informal apprenticeship. The concept models apprenticeship as a trust game (see Dasgupta, 1988; Kreps, 1990) and applies an institutional approach to explain the incentives of MCs, apprentices and other stakeholders to invest in apprenticeship training. The conceptual approach shows that institutions are central for the functioning of an apprenticeship system. It also defines informal apprenticeship and provides the criteria for distinguishing between informal and formal apprenticeship. Second, the chapter describes the research methodology.

2.1 An institutional approach to informal apprenticeship

This paper applies institutional economics to explain the functioning and practices of informal apprenticeship.

First, apprenticeship is considered as an agreement (a written or unwritten contract) between the MC and the apprentices (and their parents). The MC agrees to invest time and resources to train the young apprentice in the MC's enterprise in the relevant skills of the concerned trade. The apprentice agrees to pay for training, by providing labour service to the MC for a significant period of time, and to accept compensation below their productivity level. In addition, the apprentices may agree to pay training fees. This agreement, when respected by both partners, allows the MC and the apprentice to collect returns to the training investment. The MC will collect returns from increasing productivity of the apprentice throughout the apprenticeship period. The apprentice will benefit from higher income as a skilled worker after termination of the apprenticeship.

The fulfilment of this agreement is sequential (a non-simultaneous game), and therefore, both partners face uncertainties on the other's future behaviour. The apprentice may leave before the MC has fully recovered the training costs, while the MC may not provide the relevant training, preventing the apprentice from becoming employable as a skilled worker. Such opportunistic behaviour of one of the partners would result in the loss

of the other's investment in training and human capital. This suggests that the MC and the apprentices will only be willing to invest in training if they have a safeguarding mechanism that ensures the returns to their investment.

Institutional economics argues that it is a major function of institutions to give credible commitment at low transaction costs to contract partners that each one will respect the agreement (North, 2000). Transaction costs are those costs that arise while undertaking the economic activity, for example, from finding a suitable partner or client, negotiating the agreement, to enforcing contracts. Institutions are defined as rules ("the rules of the game") which structure human interactions, and guide or constrain behaviour of the "players of the game". In addition, institutions provide mechanisms that enforce the rules so that the "players" can trust each other to behave as expected ("following the rules") (Dasgupta, 1988; Kreps, 1990). Hence, institutions establish predictable and regular behaviour, procedures, routines and practices.

Applying this institutional approach to apprenticeship suggests that institutions provide confidence to MCs and apprentices (or their parents) that each of them will receive the expected returns from their training investment. In other words, institutions establish a trust relationship between the MC and the apprentice and this provides incentives to invest and participate in training (see Nübler, 2008 for a formal modelling of the trust game in apprenticeship).

In addition, such institutionalized, low-cost safeguarding mechanisms motivate many MCs and young people to participate in apprenticeship, that is, "to play the apprenticeship game". The lack of such an institutional framework requires MCs and apprentices to create their private safeguarding and enforcement arrangements which may involve high transaction costs. This will constrain training activities since only few MCs and young people will invest in apprenticeship training (Nübler, 2003).[5] An enabling institutional framework therefore is considered as the foundation of an apprenticeship system as it motivates many MCs to provide relevant skills, and many young people to provide labour service and pay fees to their MC.[6]

Second, the conceptual framework argues that "institutions matter" not only for investment decisions, but also for decent work and development outcomes. Practices applied in informal apprenticeship reflect underlying informal institutions and they may result in desirable or undesirable outcomes. Hence, the debate on "good" and "bad" institutions (Rodrik, 1999; Jütting et al., 2008). For example, institutions such as those regulating access to apprenticeship, minimum recruitment age, entitlements to social protection or access to new technologies and skills may promote decent work and development, but they sometimes also prove detrimental to development and decent work when they lead to discrimination, social exclusion, child labour, high accident rates and occupational risks, low levels of technologies and low dynamics in development of new technical skills.

[5] As a consequence, firms may mainly invest in firm-specific skills rather than the portable skills of a trade, or they finance training on the job only to those workers who are tied to the firm by institutions such as seniority wage or pension schemes. Alternatively, the worker has to pay immediately for training.

[6] France, after the Revolution, dismantled the institutional framework regulating its traditional apprenticeship system, thereby severely weakening and almost destroying the apprenticeship system.

Finally, the institutional approach provides a definition for informal apprenticeship and suggests criteria to distinguish it from formal apprenticeship. Douglas North (2000) distinguishes between formal and informal institutions where formal institutions relate to written laws, regulations, constitutions, and so forth. In contrast, informal institutions relate to traditions, customs, social norms, and conventions. Helmke and Levitsky (2003) defined informal institutions as "socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels".

By following this distinction, we define those apprenticeship systems as informal that are largely regulated by informal rules such as local traditions and customs. These informal rules are widely accepted as legitimate, largely self-enforcing through expectations of reciprocity, internalized norm adherence such as moral, or enforced through social sanctions and threats (Ostrom, 2005). Hence, they are "rule in force" (Buckup, 2008). Formal apprenticeship systems are largely defined by their formal institutions such as written training acts, apprenticeship laws and labour law, which are enforced by the legal system (courts, governments). Overall, both informal and formal apprenticeship systems are regulated by and embedded in institutions, but they follow different sets of rules and these rules are enforced by different mechanisms.

These different sets of institutions interact with each other. Informal institutions play an important role in formal markets. For example, in formal labour markets, informal networks are a major channel for transmitting information on the reputation of employers and workers (Granovetter, 2005). At the same time, formal institutions may affect behaviour of stakeholders in the informal system, in particular when they are complementary to informal institutions. For example, formal testing and certification of skills acquired in informal apprenticeship complements the informal recognition of skills through networks. In other cases, informal institutions may substitute for the lack of effective formal institutions, for example, those traditional rules that create incentives to MCs to invest in general skills training.

The institutional concept of informal apprenticeship as presented above is highly relevant for analysis of policies and measures to upgrade informal apprenticeship. It helps decision makers to define and implement policies which reinforce institutions contributing to the functioning of the training system, decent work and development; and which adjust and change those institutions and practices expressing deficits in decent work and development outcomes. Interventions and policies need to understand formal and informal institutions, how they relate to each other (conflictual or compatible), and acknowledge limits to short-term changes of many institutions. Formal institutions may counter traditions that are harmful to development; however, they need to obtain the necessary legitimacy to compete successfully with existing informal institutions (Sen, 2008).

The focus of this paper is to explore and analyse the existing set of informal institutions regulating informal apprenticeship, and the relevance of informal networks in Southern Tanzania. Substantial further conceptual and empirical research is needed for the design of effective policies to upgrade the informal institutional framework, to establish links with formal institutions and to coordinate informal and formal institutions in a coherent way.

2.2 Research methodology

The methodology of the explorative research in Mtwara and Lindi was guided by the aim to research into the informal institutions regulating apprenticeship within the informal sector. A combination of qualitative and quantitative methods proved to be essential to uncover the wide range of local social norms and conventions which are embedded in a complex set of localized knowledge and practice.

The *quantitative research* surveyed MCs, skilled workers and apprentices. As the individual interviews were conducted in the local language, it was highly important to ensure a common understanding and consensus among the local and international researchers on the terms and concepts applied in the two languages and cultures. The questionnaire which was prepared in English, was translated into Kiswahili by a local translator, re-translated into English by another translator to detect mistakes and misunderstandings and then pretested.[7]

The sample only includes enterprises which currently provide apprenticeship training. Ideally, sampling strategies should be applied that ensure non-biased selection. However, this presented a challenge as neither business registries nor geographical maps were available which could have served as a sampling frame. Hence, a cluster sampling method was applied. Main roads in Mtwara and Lindi were chosen, and the research teams moved in different directions along the main road to select workshops in the different occupations that currently employ apprentices. Enumerators also asked businesses to direct them to other workshops with apprentices (snowball sampling).

The *qualitative research* provided additional information through interviews with selected MCs and key informants, based on an interview guideline. Qualitative, in-depth interviews with 20 MCs collected background and contextual information to complement and support interpretation of data collected in the quantitative study. It proved particularly useful to interview MCs applying advanced technologies, as they usually have a better understanding of the skills and training needs and the technological bottlenecks within the sectors. Interview guidelines provided the framework for these interviews.

Furthermore, interviews were conducted with experts and key informants from Small Industries Development Organization (SIDO), Vocational Education and Training Authority of Tanzania (VETA), the Mtawanya Folk Development Center (Mtwara rural), Tanzanian Youth Coalition, African Development through Economics and the Arts (ADEA) Mtwara, and with a representative from the Basic Needs Office in Mtwara who is dealing with the rights of persons with mental health disabilities. Pilesorts were used as a method to get a better understanding of the perception of informal apprenticeship among decision makers and experts.

In total, the survey covered 632 persons, including 114 MCs (Kiswahili: *Fundi Mkuu*), 378 apprentices (*Fundi Wanafunzi*) and 140 assistant skilled workers (*Fundi Wasaidizi*). The selection of sectors was based on the following two criteria:

- First, the trade or craft sector provides an apprenticeship system, that is, the young worker has the status of a learner in the workshop or firm (*Wanafunzi* = learner), the relationship between the apprentice and the entrepreneur is based on a training agreement; training is integrated into the production process and provided on-the-job; apprentices are trained in the skills of a craft, trade or profession, rather than on-the-job training in some narrow skills.

[7] Local research assistants were instructed in a one to two day workshop, in order to explain the scope and aim of the survey, relevant interview techniques, sampling strategies and the reasoning behind each question. Enumerators approached MCs/business owners who employed apprentices. Once an MC/business owner agreed to participate in the survey, the apprentices and skilled workers of that business were also expected to participate. Each person was interviewed individually.

- Second, the sector has a good potential for growth and development, implying an increasing demand for the occupation and increasing returns to apprenticeship training. In Mtwara and Lindi, growth potentials are mainly seen in relation to recent developments in the energy and transport sector.[8]

In the light of this information, the study selected tailors, carpenters/joiners, car mechanics, electricians, plumbers, local artists and businesses in food processing. With the exception of food processing, all other crafts clearly provide apprenticeship training as defined above. In food processing, training only lasts between one and three months, very limited and simple skills are provided, and learners were 36 years old on average. Skills training in food processing thus proved to be more of a peer learning where women who participated in SIDO courses pass on their knowledge to those women who could not afford the course.

Table 2.1. Number of workshops visited in Mtwara and Lindi[9]

Sector	Lindi	Mtwara	Total (N)
Tailoring	10	20	30
Carpentry/Joinery	6	20	26
Car mechanics	8	13	21
Electrical service	5	7	12
Plumbing	0	10	10
Local arts	1	7	8
Food processing	1	6	7
Total	**31**	**83**	**114**

3. Economic context: Opportunities and challenges of individual trades

The selected trades and occupations face great challenges, however, recent developments in the region also provide opportunities. Both challenges and opportunities are discussed as they determine the context and potential for upgrading informal apprenticeship.

***Tailoring*:** While the trades described above are largely male dominated, workers and apprentices in tailoring are predominantly female. Most female tailors are specialized in the production of female dresses. Male clothes are produced by male tailors only. Customers usually approach tailors with their wishes and they produce the design accordingly. There is a growing market of street vendors selling second-hand clothes of European origin. This

[8] Since 2007, the region has a reliable supply of electricity due to the Mnazi Bay gas electrical project, a power generation plant operated by the Canadian Artumas group. In addition, a new tarmac road between Mtwara and Dar es Salaam will facilitate transport and road access in the rainy season. Finally, the potential for tourism seems to be limited, but hotel managers expect more business people to travel to the region.

[9] The two sample sizes reflect the population size of both districts.

market, however, seems to cater mainly to males and there is still a demand for traditional dresses, especially for marriages and other religious and social events.

Currently, few tailors possess electrical sewing machines because of high costs, but it is expected that electrical machines will increasingly be used, resulting in higher productivity, variety of clothes and designs produced. This will entail specific training needs (especially in machine usage, maintenance and safety, but also regarding new design possibilities). Apart from this, many tailors complained about a lack of quality tools, especially scissors. Just like electricians and car mechanics, VETA trained tailors often approach MCs for informal apprenticeship to acquire practical skills.

A special feature in tailoring is the existence of training workshops. These workshops are operated by experienced tailors who usually take in as many apprentices as they have machines to work on. The difference between centre-based training in tailoring and apprenticeship in special tailoring training workshops becomes therefore blurred.

Carpentry/Joinery: Carpenters mainly produce furniture (beds, tables, and so forth), and window and door frames. Carpenters usually master both joining and roofing; turnery is a distinct occupation. The number of carpenters in the Mtwara and Lindi region is high, and some MCs complain that they face competition from industrially-produced furniture. MCs have easy access to local high quality timber. Cooperation with other trades (for example, with upholsterers for sofa production or welders for door frames) could enhance productivity and product variety. SIDO Mtwara intends to build up a machine park for carpenters/joiners hoping to attract carpenters in the vicinity and form a carpentry cluster.

Carpenters tend to copy and imitate technology, design and products so that they compete mainly on prices. The products often lack quality (for example, in surface refinement), which is particularly deplorable considering the valuable raw materials. Most carpenters apply low technologies and manual tools in sawing, planing and even drilling, while few sawmills and service providers apply electrical tools. The expansion of the electricity grid is expected to increase mechanization and the use of electrical equipment, entailing various challenges, such as adequate training in occupational health and safety, machine use and maintenance, design and financing.

***Car mechanics*:** Standard operations are motor maintenance, repairing and maintenance of brakes and suspension systems, greasing and oiling and changing of oil seals. Some workshops are divided into a mechanic, an electric and a welding section, with apprentices assigned to the different areas. Many workshops exchange tools, skilled workers and information, which provides a potential for further cooperation and creation of business associations, clusters or cooperatives. MCs expect expanding market opportunities due to the new road, however, they also expressed concern over increasing competition from MCs from other regions.

Challenges identified by MCs are the lack of training courses, especially in skills needed to cope with new technologies, and increasing complexity of modern cars. Car mechanics need to acquire skills for electronic or mechatronic maintenance. Many MCs and some of the skilled workers have taken a VETA trade test. The courses and standards offered in the region (especially by VETA), however, are considered to be insufficient. Lack of quality spare parts and tools is a major setback to business performance and training.

***Electrical service*:** Electricians mainly repair fans, ovens, cookers, and so forth. Connecting the water or electricity grid to houses is a service provided by the government. Private electricians install the in-house wiring. The sector is still comparably small. It is expected that the Mnazi Bay gas electrical project will result in reduced connection fees to the electrical grid, which would result in higher demand for electrical installations and devices. Electricians generally have a high social reputation.

Contractors installing in-house wiring need to be certified. Therefore, most MCs take a VETA trade test. However, many were not satisfied with the courses and the competences acquired. In addition, VETA graduates tend to take up informal apprenticeship in order to gain the work experience and practical skills which they need to start their own business. Many electricians also complained about shortage of good quality tools, especially of measuring instruments.

Plumbing: Plumbers in Mtwara mainly deal with in-house installations of taps, showers and toilets. Furthermore, rainwater harvesting is a common task. There is a growing market for plastic pipeworks, and only few plumbers are engaged in welding. The demand for high-quality services seems to be increasing. Small enterprises face competition from Government plumbers working for the water authority who offer their services to private clients in the evenings. In Lindi, no self-employed plumber was identified. Competition also arises from street plumbers, whose quality of work is considered low, and many plumbers lack the knowledge required for installations in two-to-three storey houses and the skills to install hot water systems.

***Local arts (wood carving and painting)*:** Painters mainly produce items such as bracelets from coconut shells, metal coat hangers decorated in Tingatinga style, or oil paintings on canvas.[10] Wood carvers mainly produce chess pieces, animal sculptures and the famous "Ujama" sculptures. They still use traditional and simple technologies, for example, manually-driven wood lathes.

Makonde wood carvings and the Tingatinga style decorations are famous. They are sold in Tanzania and abroad, for example, in South Africa and Zambia. However, artists also face foreign competition. According to the Mtwara-based organization, ADEA, up to 70 per cent of the domestic demand for wood carvings is met by imports from abroad (especially from Kenya). The main challenge of wood carvers is to get access to markets and to improve revenues. Many artists live in villages surrounding Mtwara. They have to rely on middlemen to access markets in tourist regions such as Arusha, in Dar es Salaam, but also in Kenya. The wood predominantly used for carving is ebony, which is considered an endangered species.[11] Some carvers now resort to mahogany and other resources (which - contrary to ebony – have to be dried properly prior to carving).[12]

***Food processing*:** Regional agricultural products such as coconuts, mangos, sesame, cassava and groundnuts are processed into oil, pickles, chutneys, wine, flour, and so forth. Food processing is a seasonal activity, undertaken mainly by women who are organized in cooperatives that also run businesses in activities such as tailoring or agricultural activities.

[10] Tingatinga paintings are named after the Tanzanian artist, Edward Saidi Tingatinga (1932-72). Traditional Tingatinga style features colourful, comic-like animal motifs against a monochrome background.

[11] Ebony is listed on the International Union for the Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species since 1994. The list was created in 1963 and is the world's most comprehensive inventory of the global conservation status of plant and animal species. The aim is to convey the urgency of conservation issues.

[12] Since 2003, ADEA, a for-profit organization, is actively promoting local arts and providing a business-enabling environment for local artists. ADEA cooperates with over 70 local artists (wood carvers, batik, painters) to ensure quality control, improved and creative designs.

The trainer usually trains at the workplace of the learner. The duration varies between one and three months (except for one woman in Lindi, who teaches for 12 months). Learners, most of whom are between 30 and 50 years old, participate in such training in order to acquire the skills needed to start food processing businesses. These findings demonstrate that training in the food processing sector does not qualify as apprenticeship. It does not target youth, and does not provide the skills of a trade during a significant period of time.

It is interesting to note that SIDO offers two to three week training courses to food processing entrepreneurs. SIDO charges fees which poor people cannot afford. Hence, knowledge and skills acquired in these courses are passed on from course participants to those women in "learnership" arrangements who cannot afford the training fees. This represents an interesting non-formal arrangement for the transfer of technology and skills from the formal to the informal economy.

4. Social context of informal apprenticeship

Apprenticeship in Mtwara and Lindi is embedded in a social context which will be characterized by the structure of staff working in workshops which provide apprenticeship training, the socio-economic and educational background of stakeholders, their involvement in social networks, their relationship to formal authorities and the social perception of informal apprenticeship by different social groups.

4.1 Status of staff in enterprises

The sample of this study is focused on small enterprises which employ apprentices and analyzes the status of different workers within each workshop. Findings show that the workshops employ 5.6 workers on average, where the car mechanics sector employs the highest number of staff per workshop. Each workshop employs at least one MC (Kiswahili: *Fundi Mkuu*), commonly the business owner. Some carpenter, car mechanics and wood carver workshops have two or three MCs. In addition, many businesses employ skilled workers (*Fundi Wasaidizi*), two on average in car mechanics and electrician workshops, and one in plumbing, tailoring and arts. Some enterprises, mainly in car mechanics and plumbing also employ low-skilled workers (*vibaruas*) during high workload periods (Q 119).[13]

Apprentices (*Fundi Wanafunzi*) represent the largest group in those micro- and small-enterprises providing apprenticeship training. Depending on the sector, they represent between 50 and 70 per cent of all staff. The largest number of apprentices is trained in car mechanics workshops, and in this sector, they also represent by far the highest share of total staff, namely 70 per cent (see Table 4.1 and Figure 1).

According to MCs, the number of apprentices they take on is mainly determined by the availability of work and equipment in the workshop (Q 309). However, the findings also suggest that the organization of the work determines the number of apprentices who can be trained. Data shows that car mechanics and electricians have the largest number of

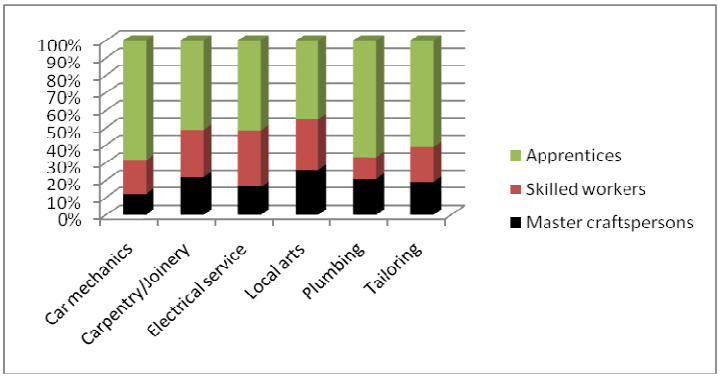
[13] The survey questionnaires can be downloaded on the following website: http://www.ilo.org/skills/what/pubs/lang--en/index.htm

staff, both also employing more skilled workers than the other sectors. However, while car mechanics rely heavily on apprentices, the share of apprentices is comparably low among electricians. This suggests that the way work is organized, a garage can take on a good number of apprentices because a substantial low-skilled labour service is needed. This is different in electricity where it seems that each apprentice is working directly with an MC or skilled worker.

Table 4.1. Staff and apprentices per workshop (Q 119), by sector, in numbers

Sector	Staff per workshop (mean)	Apprentices per workshop (mean)	Total apprentices (N)
Car mechanics	9.2	6.4	135
Carpentry/Joinery	5.0	2.7	69
Electrical service	5.2	2.4	29
Local arts	3.9	1.8	14
Plumbing	4.7	3.1	31
Tailoring	4.6	2.6	79
All	**5.6**	**3.3**	**N=357**

Figure 1. Composition of staff working in enterprises, by sector



4.2 Socio-economic, educational and training background of staff

This section provides data on the socio-economic characteristics, education, trainer and gender of the MC and of the apprentices and skilled workers they have employed in their workshops.

4.2.1 The gender pattern

There is a clear gender divide in all sectors resulting in occupational segregation. Tailoring is largely dominated by women, while all other trades are predominantly male, with only some female apprentices in car mechanics workshops and one female skilled worker in an electrician workshop. Qualitative interviews with MCs in garages revealed a strong gender bias in recruitment, which makes it still very difficult for women to find employment once they have finished their training.

It is interesting to note that in tailoring, where 95 per cent of apprentices are female, the share of men is increasing at the level of skilled workers (36 per cent), and even more at the level of MCs (50 per cent). This may be explained by higher barriers for female tailors to start their own business, preventing trained female tailors to become MCs. In addition,

the diminishing demand for tailor-made men's clothes due to the increasing supply of second-hand clothes may contribute to a lower demand for apprenticeship in tailor workshops by young men. The analysis of the gender pattern of those apprentices who have graduated during the past two years, confirms this trend. The share of female apprentices in tailoring was 85 per cent, as compared to 95 per cent in the current apprenticeship group. This share did not change in the other sectors.

4.2.2 Age structure

Apprenticeship targets young people. In many countries, child labour is a concern as apprentices in some cultures tend to start at a very early age. According to the ILO Minimum Age Convention, 1973 (No. 138), the minimum age for employment is set at 15.

Table 4.2. Entry age and current age of apprentices, by sector (Q 251, 205)

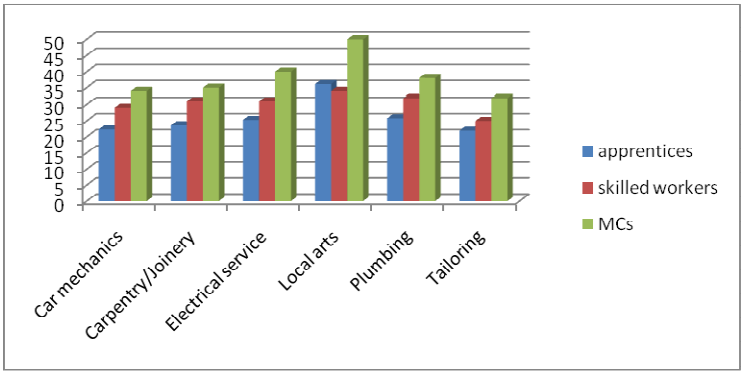
Sector	Entry age (mean)	Current age (mean)	Total apprentices (N)
Car mechanics	20.0	22.3	135
Carpentry/Joinery	21.1	23.6	69
Electrical service	20.6	25.3	29
Local arts	26.6	36.1	14
Plumbing	21.8	25.8	31
Tailoring	20.5	21.9	79
Total	**20.8**	**23.5**	**N=357**

The age of apprentices interviewed in this survey is surprisingly high at 23.5 years on average. Generally, apprentices begin their training at 21. This finding is surprising when comparing it against the low entry age of apprentices in West African countries or in European apprenticeship systems. Most apprentices in Mtwara and Lindi have only completed primary education. Even when taking into account late school enrolment, repetition or temporary drop out (World Bank, 1999:68), the questions arise as to why students enter apprenticeship at that rather late age, what they are doing in the meantime and whether this reflects inefficiencies in the transition from school to apprenticeship.

Nevertheless, there were a few cases of young apprentices. One had started apprenticeship at the age of nine, three at the age of 12, one at the age of 13, and two at the age of 14. All other 371 apprentices started at age 15 or above. These findings suggest that in Tanzania, child labour does not seem to be a major issue in informal apprenticeship.

Figure 2 demonstrates that MCs tend to be 10 to 15 years older than their apprentices. The youngest MCs can be found in tailoring (32 years on average); car mechanics (34 years); and carpentry (35 years). This suggests that MCs have accumulated significant experience when taking on apprentices. In tailoring, female MCs are significantly younger than their male counterparts. While on average master craftswomen are 27 years old, the master craftsmen are 37 years.

Figure 2. Current age of interviewees, by sector (Q 205)



4.2.3 Rural-urban provenance

Bearing in mind the complexities of the phenomenon of rural-urban migration, the assessment of the interviewees' provenance yields instructive results: around half of all MCs, skilled workers and apprentices do not originate from Mtwara or Lindi (urban) (56 per cent/ 55 per cent/ 52 per cent). This implies that a migratory background does not seem to hamper access to informal apprenticeship. Moreover, 35 per cent of all apprentices that moved to Mtwara or Lindi (urban) had arrived less than two years before starting their apprenticeship. This is an interesting finding as it suggests that one of the driving forces for rural-urban migration of young people could indeed be access to skills training and apprenticeship in urban centers.

4.2.4 Education

Most apprentices have completed formal primary education (Standard 7)[14] and around 10 per cent of apprentices have finished lower secondary level (O-Level), in particular plumbers and electricians.[15] This reflects the national average in educational achievement. However, a significantly higher share of skilled workers as opposed to apprentices has finalized O-Levels or has at least begun O-Level studies, in particular in electrical service, carpentry and car mechanics.

On average, MCs tend to have the highest levels of education. Again, as mirrored within the group of skilled workers and apprentices, the percentage of MCs with O-Level

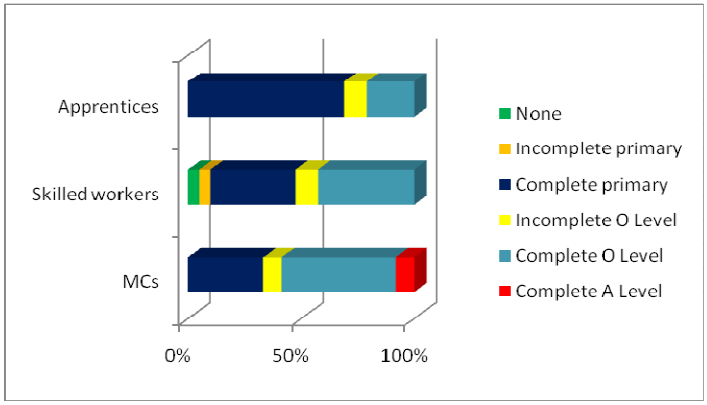
[14] The Tanzanian schooling system is built on a 7-4-2 structure with seven years of primary education, four years of secondary ordinary level ("O-Level") and two years of secondary advanced level ("A-Level").

[15] The sample of apprentices has reached slightly higher levels of education than the national average with 93 per cent compared to 78 per cent (national average) of all students having completed primary education in 2006. Furthermore, while 14 per cent of apprentices in the sample were enroled in secondary education, this was the case for only 13 per cent nationally in 2006.The Mtwara regional enrolment in O-Level is below 10 per cent, but no data could be obtained disaggregated by district (for Mtwara urban).

education is highest among electricians, that is, within a sector that requires a broader understanding of theory (see Table A.2 in Appendix and Figure 3).

At the aggregate level, data suggests that the educational achievement increases from apprentices to skilled workers to MCs. However, analysis by sector shows that this pattern is strongly reflected only in electrical service and car mechanics.

Figure 3. Educational background of apprentices, skilled workers and MCs in the electrical sector, (Q 211)



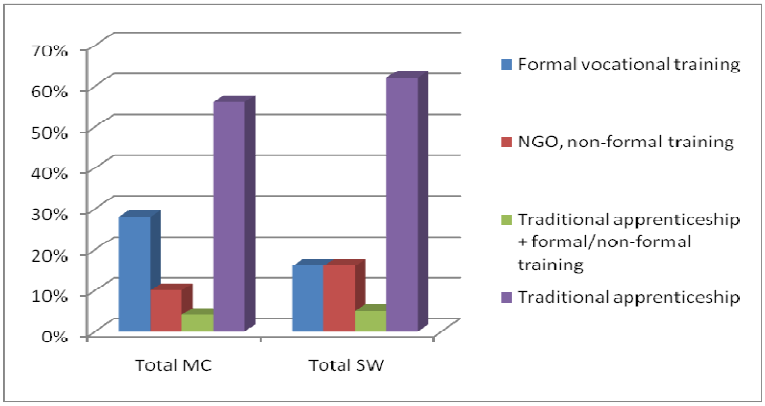
4.2.5 Vocational training

This section investigates the training biography and skills profile of MCs and skilled workers, the two groups providing training to apprentices.

Most skilled workers and MCs have learned the skills of their trade in informal apprenticeship: the numbers are highest in car mechanics, tailoring and carpentry. In electrical service and plumbing, the share of those who have learned only through informal apprenticeship is considerably smaller. Some skilled workers and MCs have combined it with formal or non-formal vocational training (see Figure 4 and Appendix Table A.3).

On average, 28 per cent of all MCs have acquired their skills in formal vocational training, mostly at VETA training centers, while only 16 per cent of skilled workers have received formal training.

Figure 4. Training background of MCs and skilled workers (SW)



4.3 Networks, associations and registration

The social context of apprenticeship also relates to stakeholders' involvement in occupational or professional networks and to the relationship of the workshop to formal authorities. Business associations and occupational networks play an important role in many countries as they foster cooperation between entrepreneurs, both within or across sectors, facilitate collective negotiations, provision of shared services and diffusion of knowledge. In Tanzania, however, businesses are hesitant in organizing themselves and forming associations or cooperatives (Komba, 2007). The survey demonstrates that only 20 per cent of surveyed enterprises are members of associations (Q 113), mainly of SIDO, savings groups/financial service providers, ADEA, and the Tanzanian Chamber of Commerce, Industry and Agriculture (TCCIA).

In contrast to this low level of formal cooperation, informal cooperation among the workshops tends to be much higher. Many MCs, in particular in car mechanics, carpentry/joinery, electrical service and tailoring share knowledge through informal networks, and they cooperate in training (see Table 4.3). Also, a high percentage of enterprises share or borrow equipment, most frequently in trades that rely on specialized tools for certain areas of work, such as in car mechanics, carpenters and electricians. Some trades, especially car mechanics, also borrow workers from other workshops if needed. Hence, the survey shows that the informal networks are important in the business community.

Table 4.3. Cooperation among businesses, by sector (Q 116), in per cent of responses, N=107

Sector	No cooperation	Sharing/ borrowing equipment	Borrowing labour	Sharing knowledge	Cooperation in training	Other
Car mechanics	14	71	43	52	24	5
Carpentry/Joinery	8	81	27	65	4	0
Electrical service	0	83	33	92	33	0
Local arts	25	38	13	63	0	13
Plumbing	20	60	30	30	0	0
Tailoring	13	30	10	83	13	0
Total	**11**	**56**	**24**	**63**	**12**	**2**

Furthermore, registration of enterprises with formal organizations reflects their relationship to the State. About 37 per cent of business owners indicate that their workshop was registered with a formal organization, mainly the local government or tax authority. Two findings are interesting. First, the share of businesses registered formally differs substantially between sectors, being significantly higher among electricians and car mechanics (see Table A.1 in Appendix). Second, there are notable differences in terms of business registration between Mtwara and Lindi. In Mtwara, only 29 per cent of all interviewed businesses are registered, mainly with the tax authority and few with the municipal council. By contrast, in Lindi, 60 per cent of all businesses are registered, about half of them with the tax authority and half with the town council (several are registered

with both). These differences may be explained by different business registration policies in the two districts.[16]

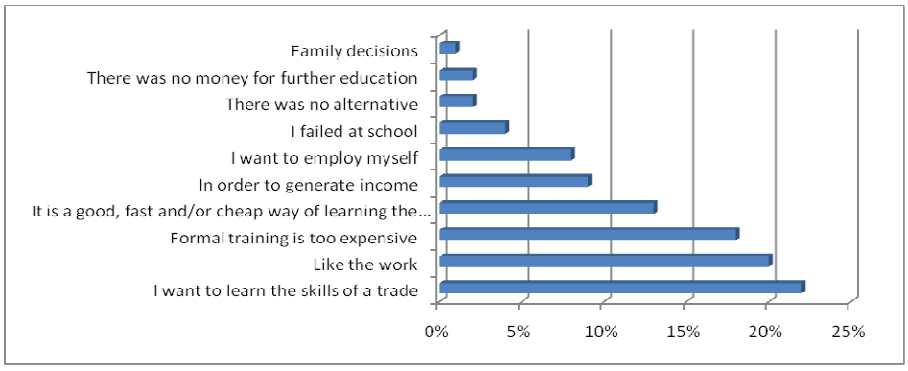
4.4 Perception of informal apprenticeship

Informal apprenticeship is the traditional mode of training and represents the training system of the informal economy. The willingness to support the reform of this training system for better and more effective training depends on the social value given to this form of training, the motivation of young people to become apprentices and of MCs to train young apprentices in their enterprises.

4.4.1 Apprentices

Most apprentices decided to become apprentice in the informal training system for positive reasons (see Appendix Table A.4 and Figure 5): they wanted to learn the skills of the trade (22 per cent); they liked the specific trade (20 per cent); and they considered informal apprenticeship as a cost efficient and/or good way of learning the skills of a trade (13 per cent). Only a quarter of apprentices opted for informal apprenticeship due to lack of alternatives, lack of financial resources to continue formal education or training, or because they failed at school. These findings support the idea that most apprentices value apprenticeship. The findings therefore may provide a reasonable argument against apprenticeship as an exploitative system (further arguments will be discussed in following chapters).

Figure 5. Reasons to become an apprentice (Q 250)

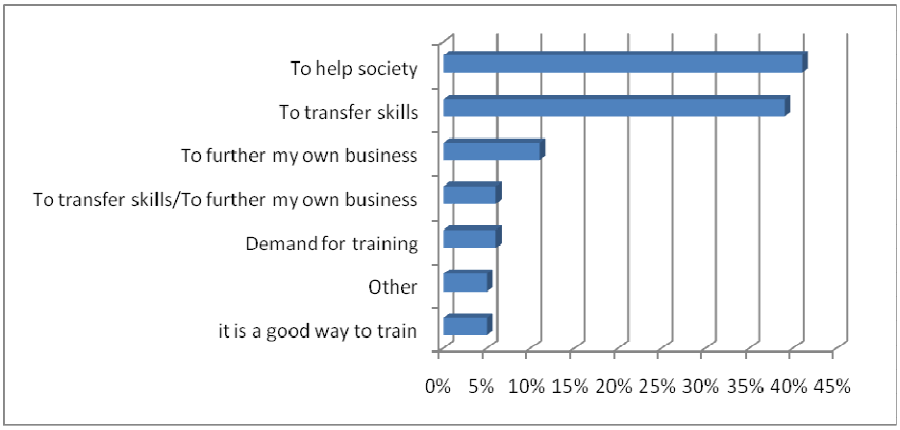


[16] As compared to this study, a survey of informal economy operators confirmed similar levels of registration in Lindi (59.3 per cent), but found much higher registration rates in Mtwara (44.3 per cent). This may partly be due to the fact that the focus of this study was on the crafts sectors, while the informal sector survey covered also sectors such as farming, processing and trading agricultural products, metal fabric, and so forth. See University of Dar es Salaam Consultancy Bureau, 2008.

4.4.2 Master craftspersons

MCs provided social and economic arguments for participating in apprenticeship training. Two main motives were mentioned by about one-third of the MCs: to help society and to transfer skills to the young generation (see Figure 6). These motives clearly reflect the social responsibility of MCs, which is also confirmed by findings of previous studies. In their survey on informal apprenticeship in Dar es Salaam, Nell and Shapiro (1999) find that a great majority of businesses mentioned social responsibility as reason for taking apprentices ("to help young people get a start in life"). Research among enterprises in Germany to identify their motivation to invest in apprenticeship training clearly singles out social responsibility (Nübler, 2000). Nevertheless, it must be recognized that firms may also train for business reasons. About 15 per cent mentioned that they train in order to improve their business. However, as many MCs also charge training fees, we may assume that training of apprentices is a way of receiving income in exchange for skills and knowledge.

Figure 6. Motives for MCs to take on apprentices (Q 308)



The main finding is that MCs value the traditional training system in which they play a key role as the provider of knowledge and skills. The reform and upgrading of informal apprenticeship is largely based on continued willingness and improved capacity of enterprises to provide training in the skills of their crafts.

4.4.3 Higher-educated groups in society

A number of key informants and decision makers were asked to assess the perception of informal apprenticeship within Tanzanian society and to assess the contribution of informal apprenticeship to development. Nineteen informants from NGOs, research teams, community workers, and government institutions were interviewed. Their average age was 31; 12 male and seven female; most had completed A-Levels (higher secondary); and nine had a university degree. They thus had a significantly better educational background than the interviewed MCs, skilled workers and apprentices.

The key informants were asked two questions:

First, *"According to your opinion, how well respected in society are skilled workers who learnt their trade through one of the following training paths?"* [17]

1. Technical college	79
2. VETA	69
3. Religious Training Center	63
4. Private Training Center	41
5. Informal apprenticeship	33

Second, *"According to your opinion, which training path contributes most to national development?"* The results are similar to the above displayed findings:

1. VETA	76
2. Technical college	66
3. Religious Training Center	52
4. Private Training Center	49
5. Informal apprenticeship	42

The assessment and ranking by third parties draws a clear picture on their perception of the social value attributed to informal apprenticeship training. It is assumed to have a low reputation in Tanzania as well as a low contribution to national development. We can assume that this assessment reflects, at least to some degree, the attitude of the higher educated government employees or decision makers in formal organizations. They confer lower societal value to informal apprenticeship which has important implications for policy-making and upgrading informal apprenticeship.

4.5 Conclusions

Apprenticeship in Mtwara and Lindi is characterized by a strong occupational segregation along gender lines, and apprentices tend to be comparably old when starting apprenticeship, which stands in contrast to experience in West Africa. It is also interesting to note that about half of all apprentices had moved from rural areas to urban Mtwara and Lindi less than two years before starting apprenticeship. These issues need further research in order to overcome occupational segregation, to smooth the transition from school to apprenticeship training, and to understand the role of getting access to training in decisions of youth for migration to urban areas.

Comparing socio-economic and educational characteristics, the study finds that most MCs are older than skilled workers, and they tend to have higher general educational levels and more formal or non-formal training when compared to their employed skilled workers and apprentices. This suggests that a higher educational level, formal or non-formal training and experience increases the chance of apprentices and skilled workers succeeding in becoming business owners, MCs, and ultimately trainers of apprentices.

Most enterprises are not engaged in formal arrangements, while informal cooperation within social networks seems to be widespread. There is a role for promoting associations,

[17] Respondents were asked to sort the possible answers accordingly. The top answer received five points, down to one point for the lowest rank.

cooperatives or clusters in order to strengthen business networks which can play an important role in upgrading apprenticeship.

Furthermore, the major players in informal apprenticeship - apprentices and MCs – tend to take a favourable view towards apprenticeship and consider it as a valuable training system. Many MCs consider the informal training system to provide higher quality training than the formal training system (VETA), and quite a number of apprentices pay higher fees for informal apprenticeship than they would pay for formal courses in VETA. This positive perception of informal apprenticeship by the main stakeholders stands in contrast to the assessment of social perception by educated third parties. As a consequence, considerable awareness creation and information on the potentials, and the benefits and value of upgrading informal apprenticeship, is needed.

Finally, while not all enterprises in a trade take on apprentices, those MCs who decide to participate in apprenticeship train more than one apprentice. This may be for various reasons and may be related to economies of scale in training, or to the fact that MCs can attract apprentices only when their reputation is good enough. Further research is needed to explain this phenomenon, as well as the reasons of MCs for not participating in apprenticeship.

5. Practices in informal apprenticeship and decent work outcomes

One major objective of this research is to identify and analyze some current practices in informal apprenticeship in the areas of recruitment and access to apprenticeship, working conditions and recognition of skills of graduated apprentices in labour markets and by formal TVET systems. These practices are an important dimension of decent work and the analysis helps to identify “good” and “bad” institutions with regard to decent work outcomes.

5.1 Recruitment

This section analyzes the selection criteria applied by MCs and apprentices in choosing their apprenticeship partner. In particular, we need to understand the extent to which family or kinship and performance-related criteria play a role. This relates to a debate on traditional vs. informal apprenticeship. It is argued that in traditional apprenticeship, apprentices would mainly be accepted within kinship or family relationships, excluding many young people from access to apprenticeship. In informal apprenticeship, we would expect recruitment to be more open and selection to be more based on talent and performance.

5.1.1 Social networks

Both MCs and apprentices confirmed that social networks play an important role in the recruitment process (see Figures 7 and 9). When asked how they have chosen their MC, about one-fifth of responses by apprentices highlighted the role of social networks (kinship ties, membership of the same tribal group or neighbourhood). About one-third of MCs referred to the role of kinship, friends and neighbourhood in identifying their apprentices. In qualitative interviews, MCs stated that it is common that apprentices are introduced and recommended to the MC, either through the apprentices’ family members, friends or neighbours. However, some apprentices also apply directly.

5.1.2 Selection criteria

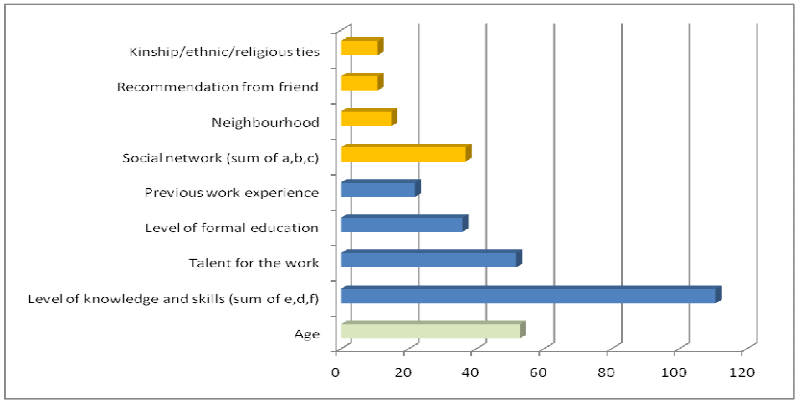
Research shows that both apprentices and MCs apply performance-oriented criteria when selecting their MC.

Applied by MCs

Analyzing the multiple responses of MCs concerning the selection criteria, two findings are in particular interesting (see Figure 7). First, 104 (out of 107) enterprises mentioned the level of education, experience and/or talent of the applicant as an important selection criterion. This is highly interesting as it indicates that MCs are concerned about trainability of apprentices and their capacity to improve performance and productivity through training. The downside of these criteria, however, is that students with low levels of educational achievement and talents may find it difficult to enter both formal and informal training systems. This issue needs to be addressed by policies to ensure equal access to training.

Second, the predominant single selection criterion is the apprentice's age. In fact, most apprentices begin apprenticeship at an age well beyond 18 or 19 years. "Age" is applied by about half of all MCs, and it ranks first in car mechanics, carpentry and tailoring (see Appendix Table A.5 and Figure 7). Although the research did not enquire about the implicit meaning of "age", we assume that MCs prefer to recruit more mature and responsible persons. In qualitative interviews, some MCs in carpentry and car mechanics indicated that they prefer unmarried apprentices without children.

Figure 7. Selection criteria of MCs choosing apprentices (Q 311), in total numbers

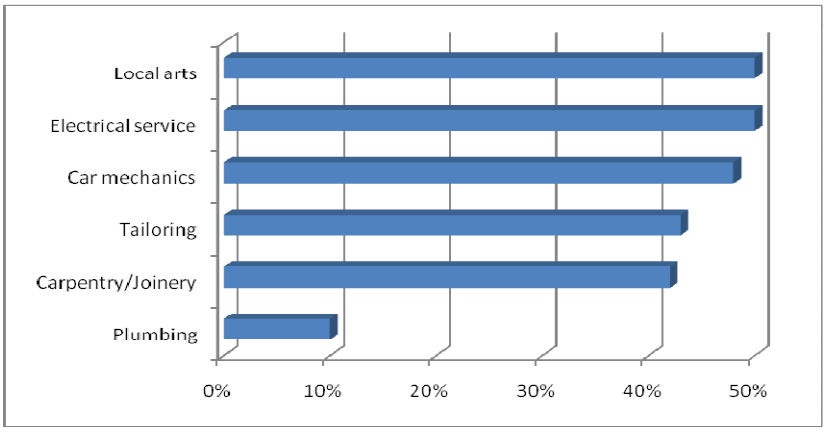


These findings demonstrate that kinship, community and social networks are important in getting access to apprenticeship and spreading the information on a young person's talent and reputation. However, personal traits, in particular age, education, experience and talent are the major criteria applied by MCs in selecting the apprentice.[18]

[18] The findings of this survey are supported by the findings of a study on informal apprenticeship in Dar es Salaam where trustworthiness, age, level of education and aptitude for the work are the most important selection criteria. (Nell and Shapiro, 1999:36).

Probation or trial periods are an important practice to assess an apprentice's capability for the work, and certain traits such as trustworthiness or punctuality. Forty-two per cent of all businesses require a trial period at the beginning of apprenticeship, except for plumbers, where it seems to be uncommon (see Figure 8). This trial period is longest among car mechanics and electricians, with an average of nine weeks, while it only takes one month in the other trades. In qualitative interviews, some MCs explained that they dismissed applicants after the trial period for being unpunctual or for showing little motivation for the work.

Figure 8. Businesses that demand apprentices to take a trial period, by sector (Q 315)



Furthermore, women and persons with disabilities have very limited access to apprenticeship. Most MCs argued that female apprentices had never applied as apprentices. The same holds true for apprentices with disabilities, as disabled persons and their families still face severe difficulties in participating in Tanzanian society. They are treated with superstition and are often accused of being "bewitched". Ninety-nine per cent of the interviewed MCs pointed out that no disabled persons had ever applied for apprenticeship in their workshop. Nevertheless, seven apprentices with disabilities (2 per cent of all apprentices) were identified. They work in electrician workshops (3), tailoring workshops (2), in a carpentry workshop (1), and in a car mechanics workshop (1). Further research is needed to improve access of people with disabilities to apprenticeship in Mtwara and Lindi.

Applied by apprentices

Almost 60 per cent of all apprentices indicated the good reputation of their current MC as the most important selection criteria. The MCs' reputation is highly relevant across all sectors (see Appendix Table A.6). Personal contacts and social networks spread the MCs' reputation by word of mouth through the community.

However, one-fifth of apprentices mentioned "no alternative" as their major motive to choose the current MC. This suggests that for those young people, informal apprenticeship may have been the "trainer of last resort".

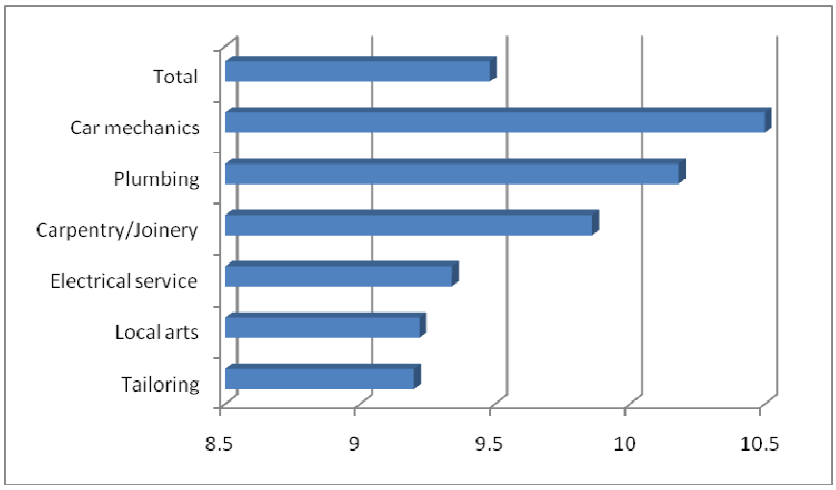
5.2 Decent work

Apprentices are young learners, but they are also workers. The ILO promotes decent work for all men and women. Working hours, social protection and liability are considered important dimensions of decent work.

5.2.1 Working hours of apprentices

Working hours in informal apprenticeship are very long (on average 60 hours per week).[19] Apprentices indicate that they work five to seven days per week (see Table A.8 in Appendix and Figure 9) (Q 276, 277) and between nine and 11 hours per day.

Figure 9. Mean working time of apprentices (Q 276, 277, 119), in hours per day



Working hours are longest in car mechanics and plumbing, and shortest in tailoring and local arts work. Comparing working time between apprentices and MCs (according to the data provided by the MCs, evidence shows that in all trades, apprentices work slightly less than the MCs).

These findings suggest further research in order to identify the reasons for these long working hours, and to determine to what extent this time is spent on work, for training or idleness. This analysis could help to identify space and free time for training, including in formal training centers. At the same time, research needs to explore the contribution of the apprentice's labour service to financing skills training and the extent to which working hours can be reduced without jeopardizing MCs incentives to take on apprentices.

5.2.2 Social security

Research shows that many MCs in the informal economy provide some kind of social security to their young apprentices. Almost half of those 52 businesses that provide some monetary compensation (pocket money or wages) to their apprentices, continue to pay when the apprentice is sick or on occupational accident (see Table 5.1). Providing social protection is particularly common among electricians and tailors. This practice was confirmed in interviews with apprentices.

[19] The ILO Weekly Rest (Industry) Convention, 1921 (No. 14), 1921, stipulates that working time in industrial undertakings should be limited to eight hours per day and 48 hours per week.

Table 5.1. Wage payment in case of sickness or accidents, by sector (Q 330), in per cent, N=52

Sector	Wage not paid	Wage paid	Other[20]	Total workshops paying wage (N)
Car mechanics	33	11	22	12
Carpentry/Joinery	29	33	33	16
Electrical service	8	22	11	7
Food processing	0	6	11	2
Local arts	17	0	0	4
Plumbing	4	0	22	4
Tailoring	8	28	0	7
Total	**24**	**18**	**9**	**N=52**

Furthermore, 39 per cent of all MCs cover treatment expenses when an apprentice is ill or has an occupational accident (see Table 5.2). Again, this is confirmed by the apprentices' response (38 per cent, N=378). Registered businesses are more likely to take over treatment costs of their apprentices than non-registered ones. While 58 per cent of registered enterprises would cover costs (58 per cent, N=40), this is the case for only 30 per cent of the non-registered businesses (30 per cent, N=67). In all other cases, the apprentice's parents or the apprentices themselves must incur the cost.

Table 5.2. Treatment costs covered in case of sickness or accident, by sector (Q 331), in per cent, N=104

	Who pays treatment expenses in case of sickness or accident?		
Sector	Apprentice	Parents	MC
Car mechanics	38	13	23
Carpentry/Joinery	13	32	16
Electrical service	13	6	19
Local arts	0	8	7
Plumbing	13	11	7
Tailoring	25	30	28
Total	**8**	**53**	**43**

5.2.3 Liability

One important practice in apprenticeship is that skilled workers will take on the responsibility for training of apprentices if the MC is ill. Hence, this rule applies in 86 per cent of all businesses. Furthermore, a widely-applied rule relates to the non-liability of apprentices in case they damage or break tools or materials belonging to the enterprise. Almost all MCs (90 per cent) confirmed that they would make up for the damage or loss. Some technologically-advanced workshops in carpentry and car mechanics, however, ask the apprentices to specify a sponsor or warrantor who is able to replace a financial loss in

[20] Four out of the nine MCs that chose answer option "Other", claimed to help out with treatment expenses.

case they break or steal expensive machines. This might be a serious entry barrier for many potential apprentices.

5.3 Skills recognition

Recognition of skills means that apprentices' skills and competences are known and acknowledged by employers, clients and formal VET systems. Skills can be recognized informally, that is, through social networks, and formally, through assessment, and certification of skills. Credible formal certification of skills is important as it enhances the portability of workers' skills in informal and formal labour markets, and it gives access to graduate apprentices to further education and training in the formal TVET system.

5.3.1 Informal recognition in social networks

The survey shows that skills of most graduated apprentices are only recognized informally. In Lindi and Mtwara, there are virtually no certificates handed out to the apprentices upon graduation. Only one garage and one tailor provide informal certificates. Furthermore, there is usually no special graduation event which would publicly mark an apprentice's graduation from informal apprenticeship and thus be another form of skills recognition in the community (this practice is widespread in several West African countries).

Rather, it is the MC's good reputation within the community which creates trust in potential employers and customers that the graduate apprentice has acquired relevant and quality skills. This explains young people's desire to undertake apprenticeship with a master of high reputation. The informal network is essential in spreading the information. In many cases, potential employers would approach MCs with a good reputation when searching for a good skilled worker.

5.3.2 Formal recognition by VETA

In order to improve recognition of skills beyond the informal network, it is essential to assess and certify apprentices' skills by a credible body. In Tanzania, VETA offers skills tests and formal certification, also to "external candidates". Research shows that few apprentices in the sample have participated in these tests. Seven workshops, mainly in tailoring, car mechanics and electrical service have indicated that their apprentices follow formal assessment and certification schemes offered by VETA or other VETA registered centres. In these cases, apprentices have also followed evening classes. Some apprentices pay the additional fees themselves.

The National Trade Tests Grades 1 to 3 contain a theoretical and a practical component. Examination fees are 6,000 TSh to 10,000 TSh with an additional 1,000 TSh as an application fee.[21] Part-time VETA courses (evening courses) in preparation for the skills tests cost 45,000 TSh per year. These comparatively high fees which have to be paid in addition to the informal apprenticeship costs explain the rather low numbers of apprentices participating in the formal training and recognition schemes.

[21] VETA's National Trade Test Application instructions on http://www.veta.go.tz/Tradetetsting.htm [accessed 27.10.2008].

Another barrier is language: VETA trade tests 1 and 2 are available in Kiswahili; for trade test 3, English is an important prerequisite. This linguistic barrier poses a problem to many apprentices, skilled workers and MCs to access further training by VETA.

Tanzania is currently shifting its formal, center-based training system towards a competence-based education and training (CBET) scheme. This implies that training will be based largely on modules, and that the systems will become more open in the sense that access from the lowest to the next qualification level is facilitated. This is a very timely innovation as it allows to integrate informal apprenticeship into the formal training system. The newly-introduced CBET is invited to accommodate informal apprenticeship by complementing enterprise-based training with theoretical course modules, and providing easier access of apprentices to skills assessment and certification.

5.4 Conclusions

Both MCs and apprentices rely on social networks in identifying possible apprenticeship partners. MCs select from the pool of candidates mainly those who demonstrate talent, experience and desirable personal traits.

Apprentices mainly select MCs by their reputation. A significant number of apprentices, however, indicated that they had chosen their MC because they had no alternative. Policies need to improve the quality of MCs as trainers in order to increase the supply of good quality apprenticeships. Probation periods are an important practice allowing MCs to assess the apprentice's core skills and attitudes.

Working hours of apprentices are long, and there is a serious need to investigate ways to increase effectiveness and efficiency of training, and to reduce working hours while maintaining incentives of MCs to provide apprenticeship training.

Many MCs provide social protection to their apprentices in the case of illness or accident, and they insure their apprentices against loss or damage of tools and equipment. These informal rules are applied in a large number of workshops which suggests further research to identify policy approaches and institutions which can help to increase willingness and capacity of enterprises to provide social protection and insurance to their apprentices.

Skills in informal apprenticeship are mainly recognized through informal networks, and few apprentices participate in formal testing and certification. This might be due to the cost of assessment, the cost of courses to acquire the theoretical knowledge required for the exam, and maybe also to the low reputation of VETA training among craftspeople. The newly-introduced CBET qualification and recognition system provides the timely opportunity to link informal apprenticeship to the formal training, certification and skills recognition systems.

6. Incentives and capacity to invest in apprenticeship: An enabling institutional framework

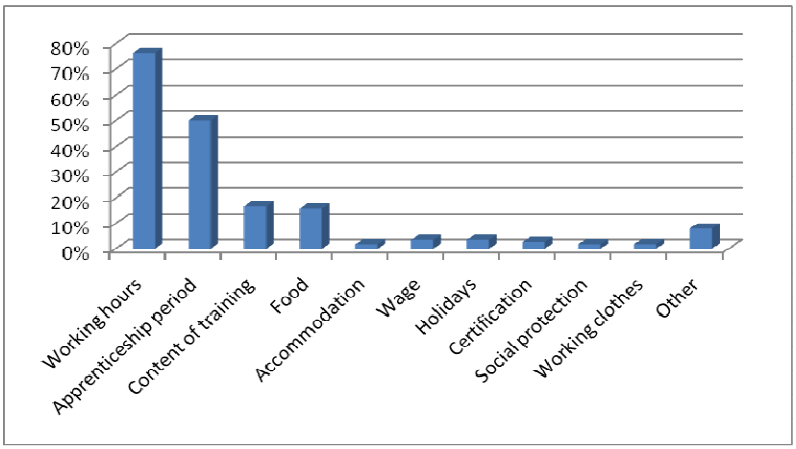
The conceptual framework argues that the core of apprenticeship is a training agreement between the MC and the apprentice (or their parents). This agreement is embedded in an institutional framework which provides incentives and capacities to MCs, apprentices and their parents to participate in apprenticeship and to invest in training. Informal institutions provide rules through traditions, customs, and social norms and they provide a mechanism that enforces these rules. This ensures that each partner can trust that the others will respect the agreements and will follow the rules. The institutional framework provides a safeguarding mechanism and motivation to many MCs and young people to participate in apprenticeship. This Chapter will analyze the apprenticeship agreement, the institutional framework, and the enforcement mechanisms thereby explaining how they establish incentives and capacities to participate in apprenticeship.

6.1 The training contract

The study shows that all MCs have concluded an agreement with the apprentices, and most contracts are concluded verbally. Figure 10 shows that most agreements include working hours, about half of them the length of the apprenticeship period, one-fifth the content of training, and only a few contracts regulate payment of wages and other items such as providing food, social protection or holidays. Differences between sectors are negligible.

A previous study on informal apprenticeships in Dar es Salaam found that a significantly higher percentage of agreements were written and provided the apprentices with food. At the same time, agreements on working hours and duration of training were less common (Nell and Shapiro, 1999).

Figure 10. Content of apprenticeship contract according to MCs (Q 318)



6.2 Sharing direct costs and benefits

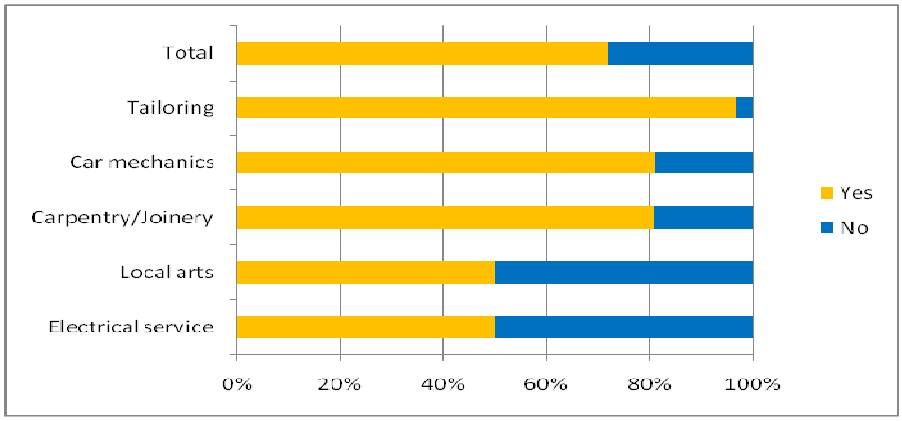
Apprenticeship in the informal economy in Tanzania is a self-financing system. As a common rule, the training costs, as well as the benefits from training, are shared between MCs, the apprentices and their parents. There is, however, substantial variation in the way costs and benefits are shared. Apprentices may pay for training with fees, with their labour

service or they may bring their own tools and equipment. MCs can provide monetary as well as in-kind compensation to the apprentice or may not provide any compensation at all. This allows for very different arrangements for sharing costs and benefits. This section argues that the arrangements accommodate for the particular needs of apprentices and of MCs, which enables both partners to enter apprenticeship.

6.2.1 Direct costs borne by apprentices: Apprenticeship fees and tools

Findings show that 72 per cent of enterprises in Mtwara and Lindi demand apprenticeship fees from apprentices or their parents. Fees are common in tailoring, carpentry and car mechanics (see Figure 11). In the other trades, fees are charged in 40 to 50 per cent of all workshops. In food processing, the payment of a training fee seems to be rather unusual.

Figure 11. Training fees, by sector (Q 324)



The level of training fees differs significantly across sectors and even within sectors (which is indicated by the high standard deviation). They are highest in plumbing workshops, followed by similar levels of fees in car mechanics, tailors, local artists and carpenters (see Table 6.1). For electricians, the training fees are slightly lower.

The various sectors show different arrangements and rules for paying the fees, both between and within the sectors. While in most electrician businesses, fees are paid at the beginning and end of the apprenticeship, about half of the enterprises in carpentry, local arts and plumbers demand the fees only at the beginning of apprenticeship (see Table 6.2). Qualitative interviews confirmed the rule following behaviour of MCs. For example, two MCs in carpentry confirmed that they charge around 100,000 TSh at the beginning of apprenticeship and an equal amount at the end in order to “free” and graduate the apprentice. Both MCs indicated that they apply this payment structure as these were the rules during their own apprenticeship.

Table 6.1. Training fees for total apprenticeship period, by sector (Q 325), TSh

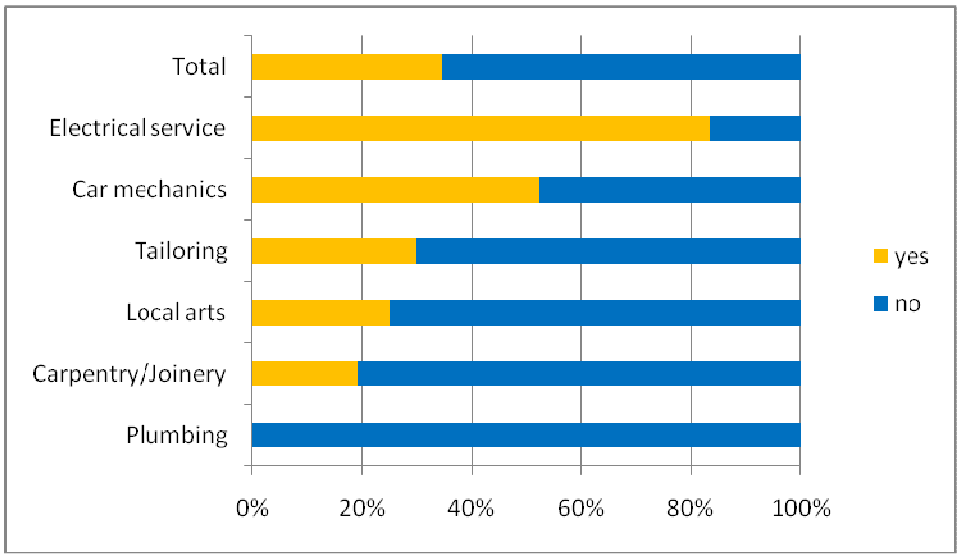
Sector	Average training fees	Standard deviation
Electrical service	67 500	36 714
Tailoring	82 586	66 132
Carpentry/Joinery	83 095	66 538
Local arts	84 300	125 026
Car mechanics	85 588	75 223
Plumbing	111 250	85 028
Total (TSh)	**83 731**	**72 029**

Table 6.2. Mode of training fee payment, by sector (Q 327), in per cent of workshops, N=81

Sector	Beginning	Consecutive	End	Beginning and end	Total workshop (N)
Car mechanics	30	0	35	35	17
Carpentry/Joinery	43	14	24	19	21
Electrical service	0	17	0	83	6
Local arts	50	0	0	50	4
Plumbing	50	50	0	0	4
Tailoring	38	24	7	31	29
Total	**35**	**16**	**16**	**33**	**N=81**

In some trades, apprentices are asked to bring their own tools (35 per cent of all workshops) (see Figure 12). This practice is most widespread among electricians and car mechanics. Car mechanics have to bring their own spanners and often overalls and boots. In car mechanics, apprentices have to invest around 70,000 TSh in equipment, while electricians have to invest approximately 50,000 TSh. Some mastercraft tailors, especially those of the smaller- and medium-sized workshops, ask their apprentices (or the apprentices' parents) to bring their own sewing machine. A new mechanical sewing machine costs about 150,000 TSh, which equals about ten times the average weekly income of a skilled tailor.

Figure 12. Apprentices providing own tools, by sector (Q 333)



The important question related to the issue of fees and tools is whether these entry requirements prevent poor people from access to informal apprenticeship. Data shows that the average amount of training fees is close to 84,000 TSh. This equals a five-week income of a skilled worker (see Chapter 7.3), an expense that seems low at first glance. However, if tools have to be provided by the apprentice in addition to the fees, there is a risk that the financial entry barriers may become considerably high.

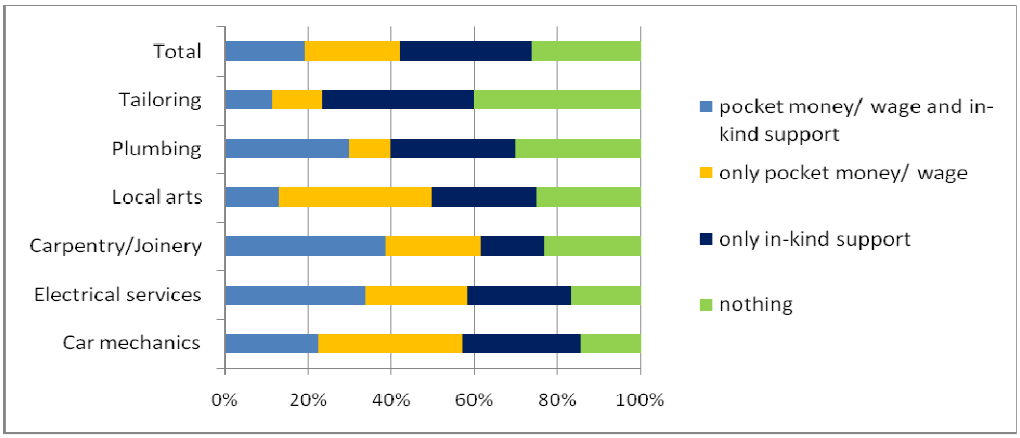
6.2.2 Sharing increasing productivity with apprentices

Training increases skills and productivity of apprentices. Many MCs share these benefits with apprentices. Again, there seems to be some flexibility in the amount paid and the form of compensation. Almost half of enterprises indicated that they pay some salary or pocket money to their apprentices, on average around 4,000 TSh per week (see Figure 13). This represents about half the weekly income an unskilled worker would earn (see Section 7.3). In carpentry/joinery, 62 per cent pay allowances, and they pay the highest average weekly salary. It is least common among tailors, with only 23 per cent of businesses providing remuneration.

In addition, half of all businesses provide in-kind support to their apprentices (see Appendix Table A.7); mainly food and accommodation.

These findings are supported by data collected from apprentices. Almost 40 per cent of all apprentices (N=378) claimed to receive wage or pocket money. It is, however, interesting to note that according to their interviews, they receive about 1,000 TSh less than the amount stated by the MC. This disagreement might be due to a systematic response bias common to survey based research (Greiner, 2009); MCs will most probably over-report what they pay to their apprentices, because it is socially desirable to pay a fair wage.

Figure 13. Compensation of apprentices, by sector (N=107)



Furthermore, data shows that those businesses paying wage or pocket money to their apprentices (47 per cent, N=52, Q 328) commonly increase this remuneration with increasing skills levels of their apprentices. This rule is prominent in carpentry/joinery, where 15 out of 16 MCs claimed to do so. As a consequence, the MC can increasingly recover the training investment and the apprentice is "earning while learning".

6.2.3 Compensation and fees: An inverse relationship

The research shows an inverse relationship between the compensation an MC pays to the apprentices and the training fee the apprentices have to pay to the MC. Table 6.3 shows

that in two sectors, a lower share of MCs not paying compensation to the apprentices charge training fees, compared to the overall figure per sector. In carpentry/joinery and tailoring, however, all non-compensating MCs charge fees.

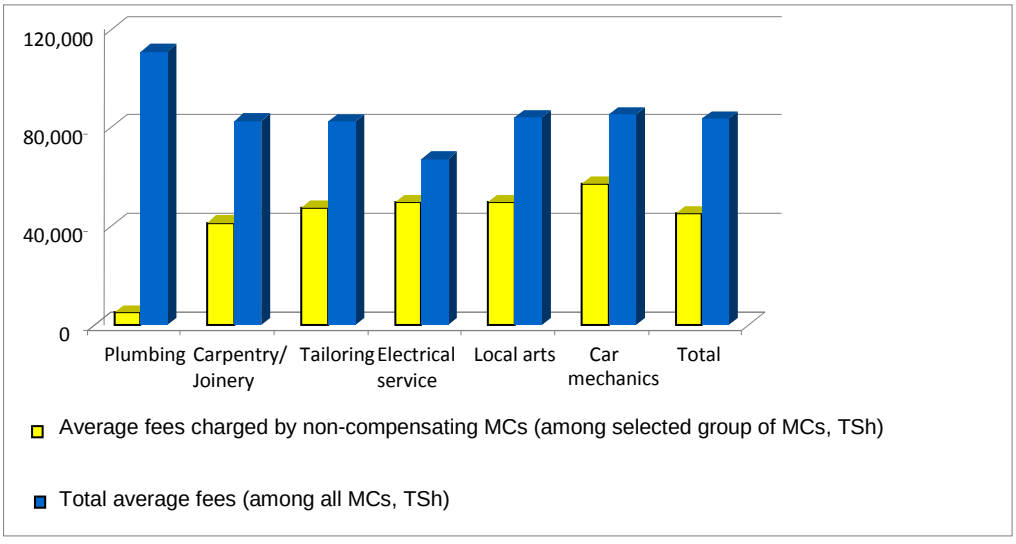
Table 6.3. Paying compensation and charging fees, by sector, in per cent, N=107

Sector	MCs not compensating apprentices	Non-compensating MCs charging fees	MCs charging fees (Fig. 11)
Car mechanics	14	67	81
Electrical service	17	50	50
Carpentry/Joinery	23	100	81
Local arts	25	50	50
Plumbing	30	33	40
Tailoring	40	100	97
Total	**26**	**82**	**72**

Furthermore, within this line of argument, data shows that non-compensating firms also charge significantly lower fees. This is also the case in carpentry/joinery and tailoring, that is, although non-compensating MCs in these two sectors charge fees, they are much lower than those charged by compensating MCs (see Figure 14).

This shows that apprenticeship allows for flexibility in cost- and benefit-sharing arrangements, enabling access of apprentices from poorer families who might not be able to afford high up-front fees.

Figure 14. Comparing total average training fees with those charged by non-compensating MCs, by sector, in TSh



6.3 Duration and termination of apprenticeship

The length of the apprenticeship period is a critical variable in the training arrangement. Evidently, apprenticeship requires a sufficient training period in order to be effective in imparting the skills of a trade and to develop the desired level of competence. At the same time, however, the training period represents an important variable in ensuring that MCs can recover their training costs. Enterprises need to be able to benefit from the apprentice's labour service for a sufficient period of time. Cost recovery is highest at the end of apprenticeship since productivity levels of apprentices increase with rising skills levels. This paper has argued that functioning apprenticeship systems require institutions (rules and an enforcement mechanism) that give credible commitment to the MCs so that they can fully recover costs.

6.3.1 Length of apprenticeship period

Data on the length of apprenticeship period is available from interviews conducted with the apprentices (Q 270) as well as with MCs (Q320). The findings show that long apprenticeship periods are rather an exception: only three out of the 299 apprentices, for whom data was available, indicated that their apprenticeship would last longer than five years. Only 8 per cent have agreed on one year or less. Sixty per cent of apprentices and 70 per cent of MCs indicate training durations of one to two years. One-third of apprentices stay in apprenticeship for two and five years. On average, the apprenticeship period lasts for 21 months (Q 320).

However, there are high variations across and within trades (standard deviation: 12 months). While car mechanics and carpenters have the longest duration, tailors and electricians have the shortest period.

Table 6.4. Duration of apprenticeship, according to MC, by selected sector, in months (Q 320)

Sector	Mean	Standard deviation	Total workshops (N)
Tailoring	14	6	28
Electrical service	16	9	11
Plumbing	21	8	9
Local arts	23	19	7
Carpentry/Joinery	26	12	23
Car mechanics	27	12	19
Total	**21**	**12**	**N=97**

6.3.2 Termination of apprenticeship

A critical question in this context is what rules informal apprenticeship provide in terms of termination of apprenticeship. This is particularly important as the MC cannot know in advance the apprentice's ability to learn and how rapidly the apprentice will increase productivity and therefore allow for cost-recovery. The study shows that the

duration of apprenticeship is not fixed in advance in many apprenticeship agreements. It is the MC who decides when the apprentice has finished the apprenticeship period.[22]

About one-third of MCs assess the apprentice's competence through an informal skills test or the production of a master piece. In tailoring, it is the case in half of the workshops. Another third of MCs graduate their apprentices if the apprentice can work independently with clients and is able to attract own clients. This practice is particularly widespread among electricians (66 per cent). This criteria for termination of apprenticeship indicates to the MC that clients recognize the apprentice's competences and skills.

At the same time, however, there are some indications that MCs extend apprenticeship periods for some weeks or months in order to benefit longer from the difference between high productivity and low compensation of apprentices. A total of 42 per cent of MCs state that their apprentices are proficient some time before they terminate their apprenticeship (see Table 6.5). While apprentices undertake simple tasks during the first few months, and perform tasks requiring little skills during the following months, they are able to work independently with clients in the third stage of skills acquisition. At the third stage, apprentices demonstrate the productivity of a skilled worker, allowing the MC to recover training costs.

Table 6.5. Increasing levels of competence and productivity in apprenticeship, by selected sector, in mean months (Q 320, 344)

Sector	Simple tasks (helper level)	Complete production /service at low level	Independently work with clients	Duration of training (total)
Car mechanics	5.2	11.6	27.1	27.5
Carpentry/Joinery	4.1	9.7	20.2	26.3
Electrical service	3.4	6.2	14.0	16.1
Local arts	3.4	7.3	16.5	22.9
Plumbing	2.8	7.2	16.6	21.3
Tailoring	2.1	5.0	11.4	13.8
Total (months)	**4**	**8**	**17**	**21**

The rules regulating duration and termination of apprentices allow flexible arrangements so that the MC can both adjust the training period to the apprentice's ability to learn, and the period for full cost recovery.

6.3.3 Length of apprenticeship and training fees: An inverse relation

The data indicates that MCs and apprentices find arrangements to accommodate the needs of both parties. A closer look at the few apprenticeships that last for more than two years reveals that these apprentices also receive higher apprenticeship wages throughout the training period. This suggests that apprentices who may face financial restrictions pay for training with a longer labour service.

[22] This stands in contrast to many apprenticeship systems in West African countries, Austria, Germany, Switzerland, and so forth, where termination of the apprenticeship period is fixed in advance.

This finding at the micro level can be confirmed by analysis of training fees and duration at the aggregate level. Table 6.6 illustrates that there is a tendency that average training fees are higher in sectors with shorter apprenticeship period. Training fees are lowest among car mechanics and carpenters, who have the longest average durations. With increasing length, the business will be able to recover the training costs by deploying apprentice's labour service. This permits the reverse conclusion that – *ceteris paribus* - with decreasing duration an MC has to raise fees in order to recover the costs.

Table 6.6. Length of apprenticeship period and training fees, by sector (Q 320, 325)

Sector	Average training duration (months)	Average training fee per month (TSh)	Total workshop (N)
Car mechanics	27.5	3 115	19
Carpentry/Joinery	26.4	3 154	23
Local arts	22.9	3 688	7
Plumbing	21.3	5 215	9
Electrical service	16.0	4 195	11
Tailoring	14.3	5 767	28
Total	**21.2**	**3 946**	**N=97**

6.4 Mechanisms enforcing the informal rules

It has been argued that informal rules and institutions differ from formal institutions such as laws, training acts, or formal regulations in that the latter are enforced by authorities such as the court and the legal system. In contrast, informal rules (traditions, norms) cannot be enforced by legal instruments. Rather, they need to be enforced by non-legal mechanisms and forces. The literature identifies and discusses important mechanisms such as reciprocity, threats, social sanctions, economic hostages, or punishment (Schelling, 1960; 1978).

Reciprocity seems to play an important role in enforcing training agreements and informal rules. Evidence suggests that in all sectors very few apprentices leave the workshop before finalizing their apprenticeship. They respect the agreement and follow the rules. The major motivation seems to be the expectation of benefits from maintaining a reciprocal trust relationship. MCs underlined in qualitative interviews that their former apprentices continue to ask them for advice. In addition, by respecting the rules, apprentices build up a good reputation. This helps them to find employment after graduation either in the same enterprise or in other firms. MCs indicated that other business owners would approach them in order to identify a good apprentice who would soon graduate. In addition, a good relationship with the MC helps former apprentices to enter the informal network of business people, and attract good clients when they set up their own business. Hence, apprentices can expect future benefits when the trust relation between them and their MC is maintained. A reciprocal trust relationship and expected future benefits can therefore be regarded as a major mechanism to enforce the training agreement and the rules of apprenticeship.

Furthermore, data demonstrate that MCs would sanction and punish the apprentices when their conduct was not acceptable or they act against the apprenticeship agreement. In most cases, the MC would warn them first, discuss with the parents, and in repeated cases suspend them from the training. This highlights the influential role of parents and social control in enforcing the apprenticeship agreement and the informal rules – even when apprentices are more than 20 years old. However, 25 per cent of all MCs indicated that they would terminate training immediately in the case of bad conduct. This threat also serves as a strong enforcement mechanism to ensure that apprentices stick to the training contract.

Social sanctions are another way of enforcing the apprenticeship agreement and its rules. In Togo, for example, informal trade associations ensure that former apprentices can set up new businesses only if they have successfully completed apprenticeship in a local workshop. The members of the association will prevent incorrect apprentices from becoming self-employed in their local area (Fluitman and Oudin, 1992). This mechanism, however, could not be observed in Mtwara and Lindi.

At the same time, MCs also have to respect the agreement, follow the rules and provide the promised training. Probably the most vital (self-) enforcement mechanism in place is the threat to destroy the MC's reputation. The study has shown that the reputation of MCs is the main criterion for apprentices to select their trainer. The reputation of an MC is rapidly disseminated through informal networks by word of mouth. Losing a good reputation will be costly to MCs as they will lose future benefits. A high reputation as a business person and trainer helps attract clients as well as good apprentices who learn and increase productivity quickly and might be willing to pay higher training fees. In order to continuously strengthen their reputation, MCs thus have incentives to accomplish their training responsibilities and to ensure that each of their apprentices acquires the relevant skills.

6.5 Conclusions

Evidence shows that all MCs and apprentices conclude a training agreement which gives the apprentices a specific status apart from unskilled or skilled workers.

As a common rule, both apprentices and MCs invest in apprenticeship training. While the MCs invest time and resources, mainly during the earlier stages of apprenticeship, the apprentices contribute to the costs by paying fees, bringing own tools or other working equipment. In addition, as a common rule, the apprentices repay the MC throughout the apprenticeship period by providing their labour service and by accepting a level of compensation which is below productivity level. These returns provide strong incentives to MCs to invest in apprenticeship training.

At the same time, MCs support apprentices through in-kind allowances, and they share with apprentices the benefits arising from increased productivity as a result of training. Many MCs pay pocket money, which will often increase with experience, but would remain below the wage of skilled workers. These earnings provide motivation to apprentices to enter apprenticeship.

The findings suggest that the apprentices' arrangements allow for substantial flexibility which can accommodate people from different economic backgrounds and ability to pay. In particular, the flexible apprenticeship arrangements, both at the cost-sharing and benefit-sharing side, provide opportunities for poorer families to access and finance apprenticeship. Apprentices and MCs can negotiate lower fees and some MCs do not charge fees at all. In fact, MCs confirmed that they determine the fee according to the apprentice's (or the parents') ability to pay. Arrangements, such as monthly payment schemes, allow poorer families to avoid a high upfront payment. In addition, apprentices can agree on lower pocket money or accept longer apprenticeship periods so that the MCs can recoup their training investment.

MCs have the authority to determine the end of apprenticeship, thereby taking into account the ability and talent of apprentices. The advantage of this flexible arrangement is that MCs can adjust the period of cost recovery and ensure that apprentices achieve the desired standards of competence.

The downside of flexibility, however, is the risk of MCs taking advantage of this situation in order to gain additional returns. Some interviews with apprentices indicated that

apprentices did not always agree with the MC's decision on graduating the apprentice. This suggests that policies need to establish clear and transparent rules and criteria for termination of apprenticeship.

Finally, apprentices and MCs enter a mutual trust relationship, and make credible commitment to cooperate. Major mechanisms to enforce the agreements and rules are expected benefits from reciprocity, social sanctions and the threat and costs of losing a good reputation, social pressure by parents and the community and the threat of punishment. Social and professional networks play a key role in this enforcement process as they rapidly spread the information on the behavior of apprentices and MCs to the social community, clients and other craftspeople.

7. Effectiveness of informal apprenticeship: Quality of training, employability and economic returns

Major issues in training systems are the quality and relevance of skills provided and the efficiency of the training process. The quality of skills development contributes to improved productivity in enterprises, diversification of production, technological catching up and development. The quality of skills development also determines the employability and income-earning potential of graduate apprentices. It has been argued that relevant skills, employability and higher expected income in future periods are main incentives for young people to invest in apprenticeship training. It is therefore critical for continuous investment of young people in apprenticeship (and the functioning of apprenticeship systems) that MCs (and the skilled workers) provide relevant skills that allow graduate apprentices to derive future returns.

This Chapter analyzes the outcome of apprenticeship in terms of skills development, including the analysis of weaknesses and areas for further improvements, of employment and of income.

7.1 Quality of training and relevance of skills

This section throws light on the training process within the enterprise and outcome in terms of skills development. It analyzes the various types of skills imparted in apprenticeship, the role of informal networks in acquiring new skills and technologies, and the skills and knowledge gaps identified by MCs, skilled workers and apprentices.

7.1.1 The training process

In most businesses, apprentices are trained through "cognitive apprenticeship" where the MC or the skilled workers demonstrate and explain a task, the apprentice observes, imitates and practices, and the trainers provide feedback and give corrections. This is an effective mode of imparting skills and competences as it develops in the trainee the tacit and implicit knowledge required for the competent performance of tasks in the work process. This approach, however, also has limitations as apprentices can only learn what their MCs know.

The timing of training differs between the sectors. In car mechanics, carpentry/joinery and local arts, MCs mainly train during the production process. While they are performing a task, they explain and teach the apprentice. With the exception of local arts, in all trades, the MCs also devote specific time for training. Many electricians, plumbers and tailors give instruction "in idle hours", and in the evenings; few during weekends. Finally, almost half of all electricians and plumbers indicate that they provide training "according to a fixed

schedule", which tends to imply that training in these trades is more structured and organized. This may be explained by the higher need to teach additional theoretical knowledge. Also, many tailors provide training according to a fixed schedule which might be related to the fact that many apprentices bring their own sewing machine, allowing the MC to provide a "classroom" type of training.

Table 7.1. Timing of instruction by MC, by sector (Q 345), in per cent of total responses provided by apprentices, N=357

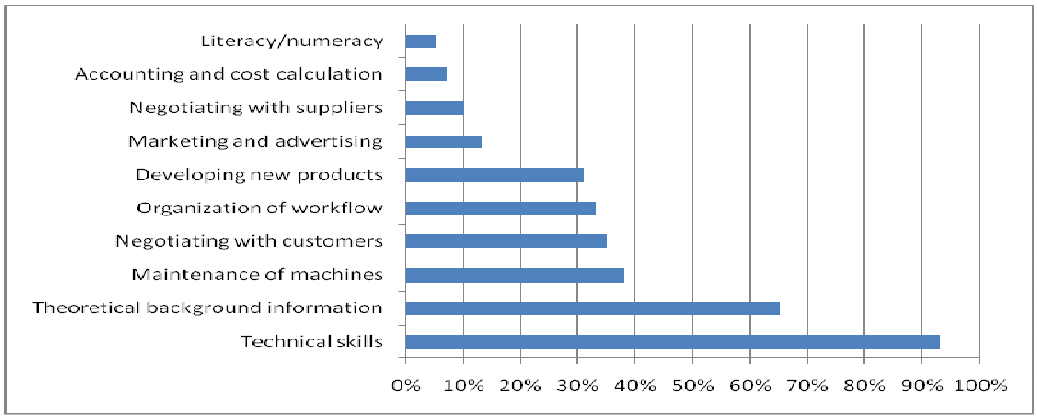
Sector	When MC is working	In MC's idle hours	In the evenings	On weekends	According to a fixed schedule	Other
Car mechanics	79	33	18	2	14	4
Carpentry/Joinery	71	35	16	9	17	0
Electrical service	31	55	17	7	45	0
Local arts	100	7	0	0	0	14
Plumbing	39	26	32	3	42	3
Tailoring	66	32	15	4	25	3
Total	**66**	**32**	**15**	**4**	**25**	**3**

7.2.2 The content of training

Training in technical skills prevails in informal apprenticeship (see Appendix Table A.9 and Figure 15), however, many MCs, in particular plumbers, tailors, car mechanics and electricians, also teach theoretical skills and skills required to maintain equipment and machines.

A significant number of MCs in car mechanics, carpentry/joinery and plumbing indicated that they teach their apprentices how to develop new products or services. In addition, MCs also teach business skills, mainly how to negotiate with customers, while only few teach marketing or accounting and cost calculation.

Figure 15. Type of skills provided, by sector (Q 343), of total responses by MCs



Box 1. The training process: Case studies from car mechanics and carpentry

Two case studies demonstrate that MCs have a training plan, though not formally written. They ensure that apprentices receive the skills of the trade and that cognitive apprenticeship is the dominant mode of training.

A garage in Mtwara

Permanent staff: one MC, two skilled workers and eight apprentices. An MC since ten years, 36 years old and owner of the place, has VETA certificates I and II.[23] Apart from motor mechanics, the garage also provides panel beating, welding and car electronics. Duration of apprenticeship in motor mechanics is two years where the apprentices have to be at the garage every day of the week for 12 hours. In the beginning, the MC explains the different tools and the size of the spanners. During the following six months, the apprentices learn by observation, then start opening engine parts with spanners. They will continue to learn how to close the bolts again and to perform other simple tasks. When acquiring more advanced skills, the apprentices will either work together with a skilled worker or – if it is work that can only be performed by one person – the apprentices will do it themselves while being instructed, observed and if necessary corrected by the MC or a skilled worker.

A carpentry workshop in Mtwara

Permanent staff: one MC, one skilled worker and three apprentices. The MC and the skilled worker are in their twenties; both learned through informal apprenticeship. Training of apprentices takes about two years. The apprentices have to work six days a week. The training process is as follows: during a two-week trial period, the MC observes punctuality, cleanliness, and motivation of the apprentices. The first three weeks, the apprentices observe. During the following week, the apprentices will learn how to cut wood with a saw. After one month, they will be taught how to use a plane, to bond planks to boards and finally how to do correct measurement. The duration of this phase of training depends on the previous schooling of the apprentices. After three months, the apprentices will produce a stool with refined surface as a first work piece. Later they will learn how to produce a bed, a couch and a table, which will take up to another six months.

7.1.3 Skills and knowledge transfer

A critical question in apprenticeship is how MCs and skilled workers acquire new skills for adopting new technologies and innovation such as higher-quality products. In addition, some may lack particular skills required to solve some technical problems. The survey provides some very interesting findings. First, it highlights the role of informal networks in transfering skills and knowledge. Most MCs and skilled workers talk to or observe other craftspeople. If easy advice is not available, they will identify a specialist through their networks. For example, in the case of car mechanics, the specialist identified will repair the car in the competitor's workshop and receive the client's payment. At the same time, the specialist passes on their knowledge and skills to the one that requested help. This informal network seems to work well and provides mutual support.

[23] VETA offers trade tests at different leves (Grade I to III) and awards certificates.

Table 7.2. Means of skills and knowledge acquisition, by sector (Q 239), in per cent of total responses provided by MCs and skilled workers, N=243

	Means of skills and knowledge acquisition			
	Talk with other craftspersons	Observe other businesses	Own ideas	Participation in skills upgrading courses
Sector				
Car mechanics	90	31	25	29
Carpentry/Joinery	75	50	25	12
Electrical service	88	45	18	27
Local arts	76	24	47	12
Plumbing	75	44	44	0
Tailoring	83	24	29	19
Total	**82**	**36**	**28**	**19**

Second, the study shows that almost one-fifth of MCs and skilled workers participated in formal or non-formal training as an important means of accessing new knowledge and skills. This demonstrates that in particular in car mechanics, electrical service and tailoring, there is already quite a high awareness and access to skills upgrading courses. Third, not surprisingly, many MCs and skilled workers indicated that they rely on their own creativity in designing new products, and their own ingenuity and problem-solving capacity when encountering difficulties.

In qualitative interviews, MCs also mentioned that clients often bring up new ideas for products and designs. The MCs will produce the requested items, as they usually have the technical skills to do so.

7.1.4 Improving training process and content

While informal apprenticeship provides skills to many young people, the training process itself is often considered inefficient, and substantial improvements in terms of quantity, relevance and quality of skills could be achieved. Both the MC and the apprentice provided information on shortcomings, training needs and areas for improvements.

First, almost 90 per cent of apprentices indicated that apprenticeship would gain most by more and better tools and equipment as well as the provision of more training (Table 7.3). Evidently, without proper tools, the quality of training remains low. The highest interest in formal training was expressed by apprentices in car mechanics and plumbing. In contrast, few apprentices see (additional) financial support for formal training as a means of improving apprenticeship.

Table 7.3. Suggestions to improve the current training process, by sector (Q 280), in per cent of total responses by apprentices, N=352

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Suggestions for improvement							
More and better tools / machines	46	28	45	50	25	42	**40**
More training	16	41	28	29	18	33	**26**
More and better tools/ machines + more training	12	20	21	7	39	13	**16**
Financial support for formal training	13	0	3	0	11	6	**8**
More and better tools/ machines + formal training	6	7	0	0	0	1	**4**
MC should train more	1	3	3	7	4	1	**2**
More and better tools/ machines + more work	3	0	0	7	4	0	**2**
Other	2	1	0	0	0	3	**2**

Second, MCs were asked to identify those skills and knowledge that should be provided in supplementary courses to their apprentices (see Table 7.4). Technical skills and theoretical knowledge are in high demand in all sectors. MCs also consider skills to develop new products highly relevant for their apprentices. Production skills such as the organization of workflow or the maintenance of machines are also mentioned frequently. By contrast, business skills such as accounting and cost calculation, negotiation with suppliers, and marketing and advertizing skills are mentioned less often, except for the skills to negotiate with customers, which seem to be in demand. This implies that apprentices are expected to deal with clients while being trained.

Qualitative interviews with MCs confirmed that the quality of practical skills training could be improved largely by providing more, better and modern tools and machines (for example, electrical tools for carpenters, quality spanners for car mechanics, and measuring instruments for electricians). Furthermore, raw materials (for example, copper winding wire for electricians) are too expensive to allow their use for training purposes.

Third, MCs and skilled workers expressed very similar skills and training needs: improved technical skills was mentioned by four out of five interviewees; theoretical knowledge was mentioned second most. When comparing training needs of apprentices and skilled workers, as identified by MCs, analysis of the different occupations reveals that in car mechanics, need for training in negotiating with customers is assessed as twice as high for apprentices than for skilled workers. Electricians identify skills to develop new products as a particular training need of apprentices. In tailoring, apprentices need to acquire skills to maintain sewing machines. Surprisingly, MCs (and skilled workers) in electrical service and car mechanics indicate a training need in accounting and cost calculation for themselves, but less for apprentices.

Table 7.4. Training needs of apprentices, by sector (Q 356), in per cent of total responses by MCs, N=107

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Training needs							
Technical skills	81	85	92	75	90	77	**82**
Theoretical knowledge	67	81	75	38	90	60	**69**
Developing new products	48	69	50	50	60	57	**57**
Negotiating with customers	62	65	50	50	20	40	**50**
Organization of workflow	52	42	50	38	0	47	**42**
Maintenance of machines	43	23	50	25	50	57	**42**
Marketing and advertizing	24	38	33	63	10	43	**36**
Negotiating with suppliers	19	27	33	25	0	20	**21**
Accounting, cost calculation	10	35	8	13	10	17	**18**
Literacy / numeracy	10	8	0	13	20	7	**8**
Other	0	0	0	0	0	3	**1**

Table 7.5. Training needs of MCs and skilled workers, by sector (Q 236), in per cent of total responses provided by MCs and skilled workers, N=243

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Training needs							
Technical skills	75	70	79	76	100	79	**77**
Theoretical knowledge	64	58	67	53	88	45	**59**
Developing new products	46	55	18	71	75	38	**46**
Maintenance of machines	64	20	48	18	44	34	**40**
Organization of workflow	44	40	48	47	13	28	**38**
Marketing and advertizing	36	35	30	65	25	34	**36**
Negotiating with customers	32	45	36	47	13	26	**34**
Accounting, cost calculation	27	32	18	18	0	17	**22**
Negotiating with suppliers	17	27	9	24	6	16	**18**
Literacy / numeracy	0	3	0	6	13	3	**3**

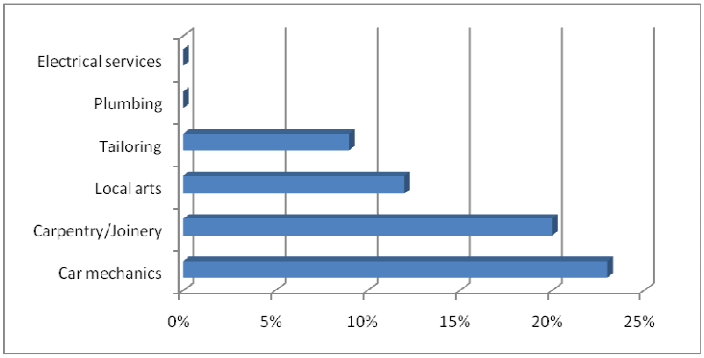
In qualitative interviews, MCs were also asked to mention training needs that are specific to their trade. These training needs are listed below for selected trades:

- Car mechanics: Technological knowledge of new brands, computer aided diagnosis.
- Carpentry/Joinery: New design, surface refinement.
- Electrical service: A/C and refrigeration technique, motor installation and rewinding.
- Plumbing: Coping with installation in two to three storey houses and with hot water systems.
- Tailoring: New designs, storage and organization of client's measurements.

Some MCs expressed training needs in the English language in order to communicate with customers from abroad (this was particularly mentioned by local artists) or to read manuals and instructions (especially car mechanics).

In total, 93 per cent of all MCs and assistant skilled workers indicated an interest to participate in skills upgrading courses (N=253, Q 235). However, only 13 per cent of all interviewees would be able to pay for a course (Q 237). The ability to pay is highest among car mechanics and carpenters (see Figure 16).

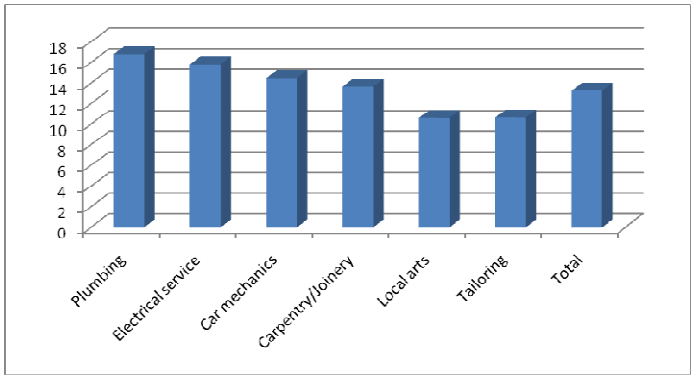
Figure 16. Ability of MCs and skilled workers to pay for skills upgrading courses, by sector (Q 237)



7.1.5 Formal training in the VETA system

There is a clear demand for more formal training. MCs, skilled workers and apprentices need to upgrade their theoretical, business and accountancy skills. Most MCs are willing to release apprentices for additional training between 10 and 16 hours on average per week (Figure 17). However, many MCs from all selected trades expressed concern about the quality of training offered at VETA training centers and about the competence of VETA trainers. In car mechanics, for example, MCs complained about the low technological and outdated standards offered by VETA training centers. Also, almost all VETA trainers lack practical experience in the trade they are teaching. In fact, MCs in tailoring indicated that they are often approached by VETA graduates to top up the formal training with practical training in the workshop. Even among electricians, the trade representing the highest percentage of MCs with a formal vocational training background, it is common for VETA graduates to join informal apprenticeship in order to get practical work experience. Because of legal restrictions regarding the provision of wiring to houses, electricians usually need a VETA certificate. This is why MCs encourage their apprentices to take the VETA trade test.

Figure 17. Willingness of MCs to release apprentices for additional training, by sector, in mean hours per week (Q 346)



7.2 Employability of former apprentices

MCs were asked to indicate the current employment situation of all their former apprentices who have finalized their training during the last two years. All MCs were well informed about the employment situation of their former apprentices as they often continue to maintain their relationship. Data on 415 former apprentices was created.

The findings (see Table 7.6) show that with the exception of two, all former apprentices were either employed, self-employed or engaged in further training. Informal apprenticeship mainly prepares for self-employment in the trained craft occupation. More than 80 per cent of former graduates are self-employed. Only 8 per cent were recruited as skilled workers by their MCs, mainly in car mechanics and plumbing. A number of electricians and car mechanics found work in a larger (formal) enterprise. Some car mechanics teach their apprentices driving, and therefore ten graduates are presently working as taxi or bus drivers in formal employment. A few graduates in car mechanics and tailoring went to formal training (VETA) after graduating from apprenticeship.

The data shows that young people who are trained in informal apprenticeship are employable and many start their own business. There is, however, a debate whether graduate apprentices choose to become self-employed or whether they have no alternatives and start their own business out of necessity. When asked for their motivation to participate in apprenticeship (see Section 4.4.1) about 8 per cent of apprentices indicated that they would like to become self-employed. However, another 23 per cent indicated that they want to learn the skills of a trade. This motive may also be linked to the desire to become self-employed.

Table 7.6. Employment outcome of graduated apprentices over the past two years, by sector, in per cent (Q 302), N=402

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Employment outcome							
Set up own business	64	92	83	50	78	80	**80**
Are employed in this business	14	8	6	4	17	63	**7**
Went to formal training	9	0	0	0	0	6	**4**
Other	11	0	0	0	0	3	**4**
Found job in other small business	0	0	0	0	0	7	**3**
Found job in larger enterprises	0	0	8	0	4	0	**1**
Are unemployed	1	0	3	0	0	0	**0**
Don't know	0	0	0	0	0	0	**0**
Total apprentices (N)	**90**	**73**	**36**	**24**	**23**	**156**	**N=402**

7.3 Financial returns to apprenticeship training

To generate proxy data on financial returns to apprenticeship training, data was collected on the weekly wage of skilled workers.[24] The average income across all occupations is 18,745 TSh. It is interesting to note that with the exception of local artists, all other occupations have very similar average income levels - although individual income levels vary significantly (standard deviation 15,930 TSh). Another survey undertaken in Mtwara and Lindi in early 2008, indicates that the income of a daily wage labourer in urban areas would at the most be "slightly higher" than 1,000 TSh per day (NIRAS Finland OY, 2008, p. 211). Assuming a rate of 1,200 TSh per day, the estimated weekly wage of an unskilled worker would be around 8,000 TSh. This represents less than half the average wage of a skilled worker who has been trained in apprenticeship (18,534 TSh).

Furthermore, the skilled workers have acquired their skills in different training modes which allows identification of income differences by the type of training. Most skilled workers had acquired their skills in apprenticeship training, while some had acquired skills through formal training, and others through non-formal training. However, there was a small group of skilled workers who had informal apprenticeship in addition to formal or non-formal training. Although these three different samples are very small, data nevertheless allows some tentative conclusions.

First, income is highest for those skilled workers that had their informal apprenticeship combined with formal or non-formal training, as compared to workers with

[24] Data on the MCs' income did not produce robust and reliable data; a common methodological problem encountered by research in the informal economy where many business people do not apply accounting or bookkeeping.

only informal apprenticeship - 8 per cent higher in car mechanics and 34 per cent higher in electricity.

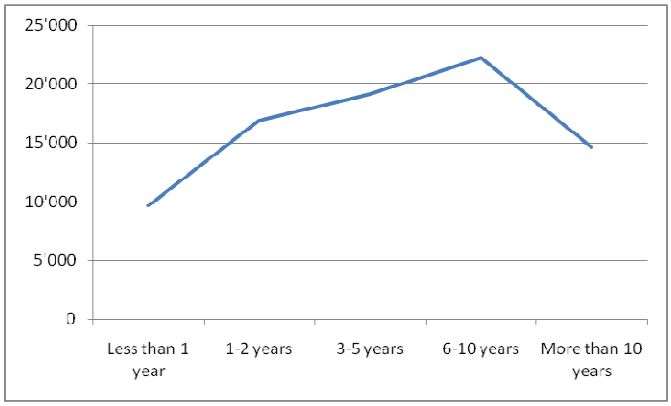
Table 7.7. Weekly income of skilled workers, by sector (Q 240), TSh

Sector	Average total	Skilled worker (N)	Informal apprenticeship	Formal training	Non-formal training	Informal apprenticeship + formal/non-formal training
Car mechanics	20 120	29	20 891	14 500	-	22 500
Carpentry/Joinery	18 242	33	19 900	21 400	12 125	-
Electrical service	19 157	19	21 166	11 167	21 250	28 333
Local arts	15 056	9	12 583	-	20 000	-
Plumbing	22 000	5	15 000	21 666	-	30 000
Tailoring	18 130	23	15 117	23 333	25 000	-
Total	**18 745**	**N=118**	**18 534**	**17 476**	**17 176**	**26 667**

Second, the income premium of combined training over only formal or non-formal training is even higher (between 33 and 154 per cent). This suggests that workers who acquire a set of practical and theoretical skills and occupational competence increase their earnings significantly.

Third, income levels of skilled workers are positively correlated with increasing years of experience (see Figure 18). However, it is interesting to note that this is no longer valid for workers with more than ten years of work experience. In fact, average income drops significantly for those skilled workers who indicated more than ten years work experience. This finding needs further research. Finally, the income levels of female workers (mainly in tailoring) are only slightly lower than average wages of their male counterparts. However, when neglecting local arts, weekly income of tailors (74 percent female workers), is about 10 percent below the income of workers in male dominated trades.

Figure 18. Average weekly income of skilled workers by experience, TSh



7.4 Conclusions

Research shows that apprentices acquire substantial skills during apprenticeship. The focus of training is on technical skills of the trade; however, theoretical skills and business skills such as negotiation or marketing are also included, although less frequently. Only very few teach accounting and cost calculation. MCs train apprentices mainly while

working on the job; some train according to predetermined schedules, often following an unwritten training plan.

Training at the workplace needs improvement by providing access to better equipment and more tools for training, improving the skills of MCs and devoting more time to training. In addition, the need to complement enterprise-based training by formal training courses, in particular in theoretical skills, new technologies and core skills such as English language, is driven by the increasing complexity of competences to be acquired by apprentices.

Social and professional networks are important in solving problems, exchanging knowledge and skills, sharing working equipment and tools, and borrowing labour. Policies may strengthen these networks by promoting the establishment of business associations, cooperatives or clusters.

Both MCs and skilled workers are interested in skills upgrading courses, however, according to the interviews, their ability to pay is limited. Most MCs allow their apprentices to leave the workshop to take complementary training courses. Hence, financial arrangements for stable funding of complementary formal courses are crucial.

Training in informal apprenticeship results in the employability of graduates, with most graduates starting their own enterprise. The high share of graduate apprentices starting their own business underscores that training imparts the skills of a trade and mainly prepares apprentices for entrepreneurship and self-employment.

Apprenticeship yields good returns in terms of income. In particular, it is interesting to note that skilled workers, who participated in both informal apprenticeship and formal or non-formal training, earn the highest income. It is the theoretical and tacit knowledge combined with practical skills and working experience that seem to equip workers best with the skills and competences required for the increasing complexity of technologies, work processes and business environment.

8. Final conclusions

The study undertaken in Mtwara and Lindi aimed at achieving two main objectives. One, providing insights into the set of informal institutions regulating informal apprenticeship, and two, exploring policy and research areas for improving the informal training system in terms of skills development, employability, productivity and economic development. Research provides several important findings:

- First, apprenticeship in Mtwara and Lindi is regulated by a variety of traditions, customs and norms. These informal or socially-provided rules guide and constrain the behavior of MCs, apprentices, their parents, skilled workers and other stakeholders, and they structure interactions of these various stakeholders. The informal regulatory framework in Mtwara and Lindi provides a set of “good” institutions and rules in the sense that they establish an incentive structure for MCs and young people to participate in apprenticeship.

  a. The MC provides training in the skills of a trade or occupation. Training is provided in the enterprise, mainly through a process of demonstration, observation, practice and feedback by the MC or skilled workers. MCs follow an unwritten training plan and they define the level of competences to be acquired by the apprentice. MCs regard apprenticeship as a cost-effective mode of training.

  b. The apprentice respects the agreed working time, and contributes to the financing of training. Apprentices pay for training in different ways. As a general rule, they provide labour service to the enterprise throughout the apprenticeship period. In

addition, they may share the costs by paying a fee or bringing their own tools. MCs and apprentices conclude different cost-sharing arrangements depending on the occupation's traditional rules, the apprentices' financial resources, and the enterprise's financial capacity. Apprentices who are not able to bear high up-front costs, tend to negotiate monthly payment schemes and accept longer apprenticeship periods, repaying the MC through an extended skilled labour service. Fees are generally lower for apprentices who are not compensated for their labour service, either through pocket money or in-kind contributions. Such arrangements enable and motivate poor youth to conclude an apprenticeship agreement and to access training.

c. Furthermore, it is a common rule that MCs support the apprentices to ensure their livelihood and share the benefits of training. Again, individual arrangements differ between and within occupations, depending on traditions, capacities of enterprises and needs of apprentices. MCs may provide food, accommodation, working cloth and pocket money. As the apprentice's competences enhances, many MCs increase the amount of pocket money. However, as the pocket money remains below the wage level of unskilled workers, this financial arrangement provides incentives to both partners to conclude apprenticeship agreements. The apprentice is "earning while learning" and the MC is recovering the investment in training.

- Second, the research shows that the informal rules of apprenticeship are enforced by social mechanisms. Social networks are key as they easily spread information within the local community on the performance and behaviour of the MC and apprentices.

  a. MCs build up a good reputation which allows them to attract apprentices. With increasing reputation, they will be able to attract a positive selection of apprentices with higher levels of talent, motivation, and commitment. A high reputation therefore is an asset as it results in higher returns to investment in training during a given apprenticeship period. Bad conduct and non-compliance to rules will rapidly destroy the MC's reputation through the informal network resulting in the loss of future benefits.

  b. The social network also spreads information on the graduated apprentices' level of competence and whether or not they comply with the rules. The reputation of apprentices determines access to employment, to clients in case of self-employment and thereby, future returns to investment in training. In addition, MCs in Mtwara and Lindi use their professional networks to identify and share knowledge and skills on new technologies, share specific equipment and tools and help out with workers in case of heavy workload. Apprentices enter the professional network through their MC and therefore are highly motivated to cooperate during apprenticeship.

  c. Reciprocity, the expectation of future benefits, and the threat of losing benefits as a result of social sanctions are major drivers of cooperative behaviour providing strong motivation to MCs and apprentices to comply with rules and to behave as expected.

- Third, research shows that some traditional rules and norms result in undesirable practices and outcomes in terms of training, decent work and development. They represent constraints to the development of the sectors studied in this research. However, analysis also shows significant potentials for changing rules, aligning informal with formal rules and building institutions to bridge the informal and formal TVET system.

  d. Some traditions regulating apprenticeship training raise equity concerns. Apprenticeship in Mtwara and Lindi is characterized by almost complete occupational segregation along gender lines. While occupations in the crafts sector have traditionally been performed by men, including tailoring for men's wear, women predominate in traditional female activities such as tailoring women's traditional dresses. Access and motivation of girls to enter the more technical crafts and trades is

very limited. In the long term, traditional views of MCs and social norms preventing girls to enter male-dominated occupations need to be changed. In the short- and medium-term, however, policies to break the gender divide should take advantage of emerging occupations related to increasing electrification of the region. New apprenticeship in repairing electronic devices or computer maintenance is not associated with a traditional gender pattern and therefore can provide equal access of girls to apprenticeship.

Furthermore, the duration of apprenticeship in tailoring is significantly lower than in the male dominated trades. This may be partially due to less complex skills, however, there are also some indications that training in tailoring is more structured, for example, when training is provided in a kind of classroom setting.

Finally, data shows that women are far less successful in moving up the occupational hierarchy than their male colleagues. While men account for only 5 per cent of apprentices in tailoring, the share of males is increasing at the level of skilled workers (36 percent) and even more at the level of MCs (50 per cent). Furthermore, weekly income of skilled tailors is about 10 per cent below the weekly income of skilled workers in the male dominated trades. This could partly be explained by the fact that a significant smaller share of skilled workers in tailoring had received formal training in addition to informal apprenticeship training. Further research is required to better understand why women are losing out in moving up the career ladder in tailoring, and what prevents them from acquiring formal training and becoming a MC.

e. High entry ages of apprentices and frictions in the transition from formal education to informal apprenticeship raise concerns about efficiency of the transition process. Policies need to be better informed about this process. More research is required to better understand why so many young people enter apprenticeship some years after graduation from primary school. For example, young people may need to earn and accumulate savings in order to finance tools and apprenticeship fees.

f. Apprenticeship is sometimes described as a system which uses young people as cheap labour. This research has explained that young people pay for training by providing their labour service and accepting low apprenticeship allowances. Hence, within this model, the cheap labour argument will only apply if apprentices do not receive the training and skills in exchange for their labour service. This research has provided evidence that MCs impart substantial skills and training to their apprentices, and these findings do not support the argument of apprenticeship as cheap labour. Nevertheless, a number of apprentices questioned their MC's decision to prolong the apprenticeship period. And there is evidence that MCs tend to extend training by several weeks or months even though apprentices have demonstrated the capacity to work independently with clients, or to master all relevant skills. Hence, institutions are needed to reconcile these diverging interests of MCs and apprentices. In particular, transparent rules and standards are needed for monitoring and assuring the quality of training provided by the MC; and clear criteria needs to be established for length and termination of apprenticeship. Governments, workers' and employers' organizations can play an important role in improving the outcomes of apprenticeship in this respect.

g. Skills of apprentices are only recognized informally within the scope of the social and professional network. However, portability of skills and access to formal labour markets require formal recognition. Policies need to build bridges to the formal testing and certification system and ensure that training meets the formal standards. The CBET approach currently implemented in the Tanzanian TVET provides an opportunity to link the informal training system to formal institutions in testing and certification of skills.

h. Reforming informal apprenticeship systems requires stable long-term funding to develop those institutions which are required to identify skills needs in the labour market, develop and provide relevant training courses and material, develop and monitor standards, and test and certify skills on an on-going basis. Research shows that MCs and apprentices would not be able to finance such current investments. At the local level, associations, cooperatives or clusters may collectively fund part of these innovations. At the national level, policies need to explore effective ways for extending the formal TVET financing system to the informal training system and to allocate stable funds. The current debate in Tanzania on reforming the training levy and training fund system for improved quality and relevance of training, and equity, provides a formidable opportunity to align informal with formal financing institutions.

i. The competences of MCs are paramount in any apprenticeship system and often, strict rules define the process and standards for qualifying as an MC or master trainer. The research in Mtwara and Lindi did not reveal explicit rules guiding the qualification process of masters. However, it demonstrated that MCs represent a positive selection of skilled workers, in particular in the more technically-advanced occupations. They tend to have acquired more formal education and training than other skilled craftspeople. Furthermore, relevant work experience and building up a good reputation is central for attracting apprentices. In this context, further research needs to investigate the potential role of professional networks in setting standards and rules, and in monitoring the qualification of MCs. In addition, as occupational knowledge and skills become more complex, MCs often lack the theoretical knowledge or the core skills such as English to read manuals. This suggests the need to complement training of MCs and of apprentices with courses provided by the formal TVET system.

Finally, this study has identified a range of research areas that need to be explored at the conceptual, empirical and pilot project level in order to design effective and feasible policies of upgrading informal apprenticeship. In particular, research is needed to overcome occupational segregation, to explore the reasons for high entry ages of apprentices and effective ways to smooth the transition from formal education to informal apprenticeship, and to understand the role of getting access to training in decisions of youth for migration to urban areas. Studies should also investigate effective institutions in setting standards and rules for assuring the quality of training in enterprises, for termination of apprenticeship, in recognizing the skills of graduate apprentices, and in monitoring the qualification of MCs. In addition, policies need to be identified which can help enterprises to provide more social protection and decent work to their apprentices.

In conclusion, more knowledge needs to be created on how to adjust the informal institutional framework, to establish links with formal institutions and to coordinate informal and formal institutions in order to improve the outcome of apprenticeship in terms of decent work and development objectives while strengthening incentives of MCs and apprentices to participate in apprenticeship.

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Appendix I: Tables

Table A.1. Registration of workshops in Mtwara and Lindi, by selected sector (multiple selections possible, Q 115), in per cent of total responses

	Registration of workshops							
	With municipal / town council	With BRELA	With tax authority (TIN)	With SIDO	With VETA	Not registered	Other	Total workshops (N)
Sector								
In Mtwara:								
Car mechanics	0	0	54	0	0	46	0	13
Carpentry/Joinery	15	0	5	5	0	75	0	20
Electrical service	14	0	29	0	0	43	29	7
Local arts	0	0	14	0	0	86	0	7
Plumbing	0	0	10	0	0	90	0	10
Tailoring	5	5	15	0	0	80	0	20
Total Mtwara	**6**	**1**	**19**	**1**	**0**	**71**	**3**	**N=77**
In Lindi:								
Car mechanics	50	0	75	0	0	25	0	8
Carpentry/Joinery	0	0	17	0	0	83	0	6
Electrical service	80	20	60	0	0	20	0	5
Local arts	0	0	0	0	0	100	0	1
Plumbing	0	0	0	0	0	0	0	0
Tailoring	40	0	50	10	0	30	0	10
Total Lindi	**40**	**3**	**50**	**3**	**0**	**40**	**0**	**N=30**

Table A.2. Level of formal education of apprentices, skilled workers and MCs, by sector (Q 211), in per cent, N=600

Sector		Level of formal education					
		None	Incomplete primary	Complete primary	Incomplete O-Level	Complete O-Level	Complete, incomplete A-Level, technical college
Car mechanics	Apprentice	0	3	88	4	5	0
	Skilled worker	0	8	71	11	11	0
	MC	0	10	62	10	19	0
Carpentry/ Joinery	Apprentice	6	12	74	4	4	0
	Skilled worker	0	6	88	3	3	0
	MC	0	8	81	0	12	0
Electrical service	Apprentice	0	0	69	10	21	0
	Skilled worker	5	5	38	10	43	0
	MC	0	0	33	8	50	8
Local arts	Apprentice	7	0	79	0	14	0
	Skilled worker	0	0	89	0	11	0
	MC	0	13	88	0	0	0
Plumbing	Apprentice	3	0	71	3	23	0
	Skilled worker	0	0	50	0	50	0
	MC	10	0	60	0	30	0
Tailoring	Apprentice	0	3	80	6	11	0
	Skilled worker	4	0	79	11	4	4
	MC	0	7	80	3	10	0
Total	**Apprentice**	**2**	**4**	**79**	**4**	**10**	**0**
	Skilled worker	**1**	**4**	**72**	**8**	**14**	**1**
	MC	**1**	**6**	**69**	**4**	**18**	**2**

Table A.3. Type of vocational training of skilled workers and MCs, by selected sector (Q 223), in per cent

Sector		Type of vocational training					
		Informal apprentice-ship	Formal vocational training	NGO, non-formal training	Other	Traditional apprentice-ship + formal / non-formal training	Total MC (N)
Car mechanics	MC	43	33	10	0	14	21
	Skilled worker	76	11	8	0	5	38
Carpentry/ Joinery	MC	54	31	12	4	0	26
	Skilled worker	62	15	24	0	0	34
Electrical service	MC	25	58	0	8	8	12
	Skilled worker	35	30	20	0	15	20
Local arts	MC	75	0	25	0	0	8
	Skilled worker	67	0	33	0	0	9
Plumbing	MC	60	40	0	0	0	10
	Skilled worker	17	67	0	0	17	6
Tailoring	MC	73	13	13	0	0	30
	Skilled worker	71	11	11	4	4	28
Total	**MC**	**56**	**28**	**10**	**2**	**4**	**N=107**
	Skilled worker	**62**	**16**	**16**	**1**	**5**	**N=135**

Table A.4. Apprentices' reasons to participate in informal apprenticeship, by selected sector (Q 250), in per cent, N=356

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Reasons							
Want to learn skills of a trade	24	28	21	43	39	13	**22**
Like the work	21	15	28	29	10	24	**20**
Formal training too expensive	22	18	28	7	3	15	**18**
Good, fast and/or cheap way of learning the trade	16	7	7	14	0	20	**13**
Generate income	6	10	7	0	13	13	**9**
I want to employ myself	3	12	7	0	32	5	**8**
Failed at school	3	9	3	7	0	4	**4**
No alternative	2	6	0	0	0	1	**2**
No money for further education	2	1	0	0	0	3	**2**
Family decisions	0	4	0	0	0	1	**1**
Other reasons	1	0	0	0	3	1	**1**

Table A.5. Selection criteria of MCs to choose apprentices, by sector (Q 311), in per cent of total responses, N=107

	Selection criteria						
	Age	Talent for the work	Level of formal education	Previous work experience	Neigh-bourhood	Recom-menda-tion from friend	Kinship/ ethnic/ religious ties
Sector							
Car mechanics	67	43	38	24	19	10	14
Carpentry/Joinery	58	46	35	19	19	4	12
Electrical service	50	42	58	58	17	17	8
Local arts	25	63	13	13	13	0	13
Plumbing	20	60	20	0	10	30	20
Tailoring	50	50	30	17	7	10	3
Total	**50**	**49**	**34**	**21**	**14**	**10**	**10**

Table A.6. Selection criteria applied by apprentices to choose their MC, by selected sector (Q 255), in per cent of apprentices, N=322

	Selection criteria			
	Good reputation	**No alternative**	**Close to home**	**Kinship ties**
Sector				
Car mechanics	57	28	12	3
Carpentry/Joinery	54	23	17	6
Electrical service	85	4	4	7
Local arts	57	21	0	21
Plumbing	45	35	13	6
Tailoring	54	9	18	19
Total	**57**	**22**	**13**	**8**

Table A.7. In-kind benefits to apprentices, by sector (Q 332), in per cent of total MCs, N=94

	In-kind benefits			
	Accommodation	**Food**	**Working clothes**	**None**
Sector				
Car mechanics	13	38	0	50
Carpentry/Joinery	8	46	0	46
Electrical service	17	25	17	42
Local arts	25	13	0	63
Plumbing	0	60	0	40
Tailoring	0	42	4	54
Total	**9**	**39**	**3**	**49**

Table A.8. Mean working time of apprentices (Q 276, 277, 119)

				Working hours per day		
		Working hours per week (according to apprentices)	Days worked per week (according to MC)	According to MC	According to apprentices	
Sector						
Car mechanics	Apprentice	68.6	6.53	10.50	10.47	
	Skilled Worker		6.76			
	MC		6.66			
Carpentry/ Joinery	Apprentice	64.1	6.50	9.86	10	
	Skilled Worker		6.58			
	MC		6.58			
Electrical service	Apprentice	62.0	6.64	9.34	9.17	
	Skilled Worker		6.75			
	MC		6.81			
Local arts	Apprentice	55.3	6.00	9.22	9.29	
	Skilled Worker		5.60			
	MC		6.00			
Plumbing	Apprentice	66.9	6.57	10.18	10.71	
	Skilled Worker		6.67			
	MC		6.70			
Tailoring	Apprentice	54.9	5.97	9.20	9.20	
	Skilled Worker		6.08			
	MC		6.07			
Total	Apprentice	**60.3**	**6.36**	**9.48**	**9.96**	**N=350**
	Skilled Worker		**6.43**			**N=83**
	MC		**6.45**			**N=105**

Table A.9. Type of skills provided, by selected sector (Q 343), in per cent of total responses by MCs, N=107

	Sector						
	Car mechanics	Carpentry / Joinery	Electrical service	Local arts	Plumbing	Tailoring	Total responses
Type of skills provided							
Technical skills	95	100	83	75	100	90	**93**
Theoretical knowledge	67	58	67	50	80	70	**65**
Maintenance of machines	67	19	42	25	40	37	**38**
Negotiating with customers	33	50	17	38	0	40	**35**
Organization of workflow	52	31	50	25	0	27	**33**
Developing new products	43	42	8	25	40	20	**31**
Marketing and advertizing	14	8	8	13	10	20	**13**
Negotiating with suppliers	14	15	8	0	0	10	**10**
Accounting, cost calculation	0	15	0	0	0	10	**7**
Literacy / numeracy	0	8	0	13	10	3	**5**

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