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Review of the Industrial Extension Services (IES) System in the FDR of Ethiopia

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Component D

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1. Executive Summary

Executive Summary

Dr Ricardo Pinto was commissioned to undertake a Review of the Industrial Extension Services (IES) System in the FDR of Ethiopia, the result of which was this report. The emphasis of the review of the IES system was on assessing it in terms of the gaps and glitches, and seeking to improve rather than replace a system that has been in place for four years and which the Ethiopian government is committed to, as reflected in various institutions and policies in place. The review is based on two weeks of fieldwork, including discussions with GIZ, STEP project, Federal TVET Agency (FTA), Regional TVET Agencies, TVET colleges/institutions, Micro and Small Enterprises (MSMEs) supported with IES, and several related institutions involved in the IES / MSMEs. The draft conclusions and recommendations were discussed and validated at a Workshop on 20 September 2016, leading to the final version of the report.

Key Findings

The main findings are as follows:

1. The four IES packages are predicated on effective value chain analysis. Although there is a Value Chain Manual, training has delivered and 550+ value chain analyses have been prepared, these are inadequate and not based on a systematised process. In particular, the change agents responsible for the preparation and use of value chains, namely the TVET trainers, are either unsure or confused or both about how to develop and/or apply them. Consequently, the foundation of the IES system is currently inadequate.
2. If the foundation of the IES system is value chain analysis, technology transfer is at its heart and has the potential to catalyse employment, growth, productivity, export, etc. It is the very reason why the IES system was created using the TVET system instead of the Business Development Services (BDS) system that existed previously. However, there is a systemic concern: all the evidence leads to the conclusion that technology transfer appears to only be happening at the margin mainly because the TVET trainers are not adequately equipped to perform technology transfer at present and so do not appear to support it as much as expected.
3. The IES support delivered to the MSEs and its role in terms of generating economic impact and propelling enterprises to graduate to the medium and large categories depend on the knowledge, competence and support being provided by the TVET trainers to the MSEs in the target group. The evidence is that after four years of operation and capacity building, a relatively small sub-set of the 17,300 TVET trainers have received direct training in elements of the four packages, let alone all four packages. The IES system does not seek to deliver direct training on all four packages (and value chains) to all TVET trainers in the 388 colleges/institutes. Rather, the emphasis is on Training of Trainers (ToT) which then pass-on their knowledge to others. However, there are only relatively few people in receipt of ToT in each college/institute, there is a loss of quality along the ToT chain and there is staff turnover within the colleges/institutes. The result is that relatively few of the TVET trainers are adequately equipped with knowledge of part of the IES packages, let alone with all the knowledge across the four IES packages. There is also a need to renew and upgrade IES knowledge over time. The reality is that demand for IES training greatly exceeds supply in terms of FTA, Institutions, RTAs, etc. The result is an inadequate level of knowledge among TVET trainers and as a consequence, the quality of support to SMEs and the impact of IES will inevitably be lower than anticipated.
4. A number of issues give cause for concern in the IES targeting and support to MSEs, namely:
    a. Focus on priority manufacturing sub-sectors: in at least 2 regions, the IES system is now delivering support to all new MSEs. It is not clear if this is planned or not but has strategic implications.

b. Broadening the focus to all MSEs has significant policy implications: resources must be spread more thinly, trainers may not be adequately equipped to support non-manufacturing sectors and, most important of all, it may be leading to market distortion.
c. Eligible MSEs are typically supported for 5+ years or until new premises become available: this approach has positives, such as a long-term emphasis and concentration but it also has negatives, such as the possible entrenchment of a dependence culture among entrepreneurs.
d. A pre-defined package of IES services is, by definition, supply-driven rather than demand-driven even if the TVET trainers take care to offer what the MSEs want from the four packages. International experience systematically stresses the importance of demand-driven business services.
e. There is a tension between delivering generic IES support as opposed to specialist IES support. TVET trainers rapidly reach their limits when dealing with issues beyond their core competence such as metal/wood/textile work. This means that they cannot support MSEs further without recourse to a wider range of support institutions. This requires much better linkage to the wider MSME system.

5. FTA is only in charge of itself; the rest are autonomous institutions with their own policy, institutional and finance systems even if they share a common TVET agenda. It is critical for FTA to clarify the institutional roles and responsibilities so as to be in a position to coordinate, monitor, evaluate and improve the IES system over time. Although the FTA IES Manual sets out the general duties and responsibilities, the review shows that the various layers are not working as well as they could, resulting in gaps and overlaps, such as in relation to monitoring the TVET trainees. A review is needed, including dialogue with all players, resulting in a more streamlined IES institutional structure.
6. The IES system does not operate in a policy and institutional vacuum: there are numerous other players of importance in the wider MSME support system. However, the interface between IES provision and other MSME support is not well established. The critical linkage that needs to be improved is at the level of the TVET trainers (since they are aware of the evolving needs of the MSEs and the limits of the IES support they are able to offer on their own) and the One Stop Shops (since they integrate the main institutional players at the IES and MSME level). After 4 years, FTA should work to improve the interface between the IES system and the wider MSME support structures. This is also necessary in view of the emergence of new relevant institutions that the IES system has to partner and coordinate with, including a possible new Crafts Chamber of Commerce, which might deliver specialist services in support of the TVET trainers.
7. A recurring theme in the review is not only the lack of sufficient (quantity and quality) capacity building for the TVET trainers, but also the fact that they are aware of the need to raise their own knowledge and skill levels, but the demand for training greatly exceeds the capacity of the IES system to supply it. In this context, the TVET trainers themselves point out the importance of complementing training with knowledge management, the process of capturing, developing, sharing and using organisational knowledge effectively. This has not happened in a coordinated manner, although there are examples of regions and colleges/institutes undertaking tentative steps in this direction. This needs to be prioritise, systematised and embedded in the 388 colleges/institutes (and regional TVET structures) since most relevant information and experience will come from the bottom-up.
8. FTA has established a monitoring system which focuses on collecting information on the TVET / IES goals that the organisation is committed to achieving. This is a form of monitoring which could be greatly supplemented in order to deliver policy-relevant information as follows:
    a. The information collection focuses on TVET trainers but not the MSEs and trainees. The focus needs to be changed since the ultimate beneficiary of the IES system is not the trainers themselves (the means to the end) but the enterprises and the trainees going through TVET training (the end).
    b. FTA should review the information currently being collected by FTA / RTAs / Cities/ Sub-Cities / OSSs and Colleges and decide which monitoring variables/regularity make most sense to focus on.

c. FTA should develop templates for systematic monitoring purposes (including quantity and quality of TVET training by individual trainers and quantity and quality of MSE/trainee support by TVET trainers) and ensure consistency of information collection across the IES system.
d. FTA should develop a methodology for assessing the impact of the IES system in terms of the TVET trainers, the TVET trainees as well as the MSEs in receipt of IES support.
e. FTA should collect, analyse and publish reports on the IES system at national, regional, city, sub-city, college and trainer level. This allows benchmarking of performance, effectiveness, gaps etc.

Recommendations for STEP Support

1. Prepare a new Value Chain Manual, which is practical in nature and which emphasises the particular role of the TVET trainers and undertake the related training;
2. Undertake a Technology Transfer Review and implement the recommendations as an action plan;
3. Prepare a new Technology Transfer which is based on the 100% Copy Manual but goes beyond this (100% Copy+) and undertake the related training;
4. Assist FTA´s /Regional TVET Agencies´ HRD Departments to perform more effectively (recruitment methods, recruitment incentives, motivation, job descriptions, job adverts, contracts, staff induction, new staff training, transfer to regions, etc.)
5. Review and strengthen the capacities of the TVET trainers through a Training Needs Analysis and better quality / updated training packages / regular (re)training cycles;
6. Develop and implement a Knowledge Management system comprising electronic and other tools, embedded in the 388 colleges/institutes and regional TVET structures;
7. Assess and improve the interface between IES and wider MSE support, including existing institutions and future ones, such as the new MSME agencies and the possible new Crafts Chamber;
8. Review the “fuzziness” of its IES support (targeting, specific support, co-financing, etc.) and introduce a 5th demand-driven package (involving IES/Others/Private Sector, etc.);
9. Review and implement an effective Monitoring and Evaluation system;
10. Review and streamline the multiple layers of the IES system.

2. Introduction

The Consultant´s Terms of Reference (ToR) for this assignment states that the main objective of the Mission is to critically analyse the existing Industrial Extension Services (IES) System. It highlights the following list of activities and deliverables / outputs of the mission:

List of Activities		Deliverables
	Analysis of the existing industrial extension services framework in line with international best practice and selected sectors value chain analysis conducted by sector institutions, FTA and other actors	Detailed analytical report critically indicating the gaps and strengths of the existing industry extension services framework based on international best practices A brief paper on recommendations for further IEC project implementation
	Analysis of the Industrial extension service delivery mechanism in terms of value chain mapping, Identification of constraints in the value chain	
	Critical Analysis of the impact of the industry extension services on the growth of MSEs so far and identify the gaps and propose remedial solutions	

Preliminary discussions were held with Mr. Thomas Ritter and Mr. Yared Fekade prior to arriving in county. The uniqueness of Ethiopia was stressed - no other country has a system which is similar to the Industrial Extension Services (IES) and that nearest approximation is Business Development Services (BDS). It was agreed for the beginning of the mission that since the Ethiopian IES system is unique, the value benchmarking / international best practice is limited; by definition other systems cannot greatly inform something which is unique. There was agreement that the Consultant would focus on the ToR set out above, rather than fulfilling all the requirements of the STEP Checklist for the component, as this could not be achieved within a relatively short mission.

It was agreed from the beginning of the mission that the emphasis of the review of the IES System would, therefore, be on seeking to assess the IES in itself and determining if and how to improve the existing framework. While specific elements of international good practice could be incorporated into the review report, it was agreed that this would not be emphasis of the report. After four years of operation, the focus would be on reviewing the IES system in its own terms.

A kick-off meeting was held on the first day of the mission with Ms. Isabel Rapp, GIZ, together with Mr. Yared Fekade and Mr. Thomas Ritter, during which it was stressed that relatively new initiatives, such as the IES, take time to bed down. The beneficiary, the Federal TVET Agency (FTA), is primarily focused in improving the TVET/ IES system which was introduced four years ago. Consequently, the principal aim is to identify gaps and glitches in the IES system, including recommendations for improving the IES system, rather than proposing alternative methods and systems for the delivery of IES.

There was also a kick-off meeting with the FTA (Director of IES and 2 Heads of processes) at which it was stressed that the FTA wants to maintain the four integrated services as an IES package and that the emphasis is on understanding and improving the gaps/glitches in the system, rather than international experience per se. Both GIZ and FTA agreed that the IES review report should be seen not as the end point, but the start of the process of reform. The Consultant returned to Ethiopia and held a workshop with FTA/Colleges to validate the findings and recommendations, and agree a set of reform priorities, some of which will be pursued during the implementation of the STEP project.

3. Methodology

The consultant received some project documentation and undertook preparatory work prior to the mission to Ethiopia during the period 24 July to 07 August 2016.

The mission included a series of meetings, as illustrated in Annex A. In undertaking the review mission resulting in this report, emphasis was placed on preliminary meetings with GIZ, STEP project and the Industrial Extension Services and Technology Transfer Directorate within the beneficiary, namely the Federal Technical and Vocational Training Agency (FTA).

The consultant subsequently held a series of discussions with the main institutional counterparts and partners engaged in Industrial Extension Services (IES) framework, including the FTA itself, the Regional TVET Agencies, TVET colleges/institutions and Micro and Small Enterprises (MSEs) benefiting from IES. A number of related institutions were also involved, as illustrated in Annex A.

Although the mission was mostly in Addis Ababa, where most of the federal and other TVET bodies are located, the consultant also undertook a regional trip in order to secure a better understand the situation outside Addis Ababa, where entrepreneurial circumstances differ significantly. A three day regional trip covered the Oromia and Southern regions, and included discussions with relevant stakeholders, including colleges, One-Stop-Shop (OSSs), MSEs, etc. in Hawassa and Shashemene.

The preliminary conclusions from the review were presented to and discussed with the STEP team. A representative of the STEP project (and the IES and Technology Directorate during the first week of the mission) accompanied the consultant during all the discussions which took place during the mission. Consequently, they are also aware of the gaps and glitches in the current IES system and the content of this report should not come as a surprise.

The material resulting from the discussions was incorporated into this report for submission to the STEP team for review and dissemination to the FTA IES and Technology Directorate. It is anticipated that the report will form the basis for further dialogue with FTA and decision-making about the reform agenda, including the possible future support by the STEP project.

As previously discussed, the emphasis of the report is on presenting the current gaps and glitches in the IES situation, highlighting conclusions and presenting recommendations for further improvement of the current IES system. The consultant return to Addis Ababa to hold a one day workshop to discuss and validate the findings of the report with FTA and agree the reform agenda to be pursued with the support of the STEP project. The workshop was held on 20 September 2016.

The consultant would like to express his gratitude to the STEP project staff, the FTA staff that participated in the mission meetings and all the institutions/SMEs that gave their time and views to enable this report to be prepared. All errors, omissions, misunderstandings and mistakes remain the responsibility of the consultant.

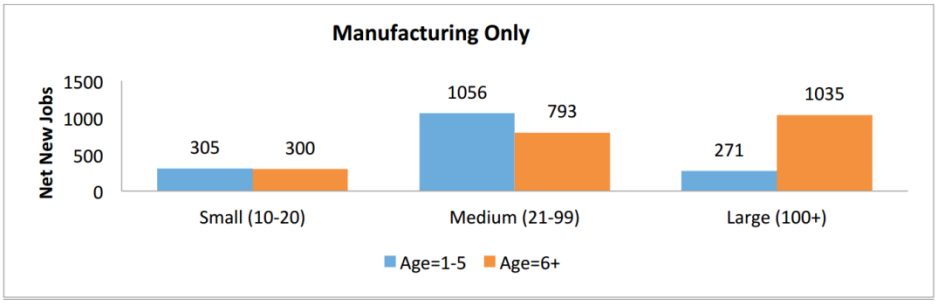
4. Industrial Extension Services (IES) in Ethiopia

Ethiopia is prioritising the development of the Micro and Small Enterprise sector (MSEs)[1]. In doing so, the country recognises the critical important of the state providing support to start-ups and early growth MSEs.

Whereas much of the world seeks to support Business Development Services (BDS), Ethiopia has in the last four years developed its own approach to MSE support. This unique approach is called Industrial Extension Services (IES) for MSEs (there is also an Agricultural Extension Service and a Health Extension Service in Ethiopia). The focus on "industry" is noteworthy and reflects the fact that the country is seeking to replace its agriculture-led economic system with an industry-led one. This approach is embedded in the Growth and Transformation Plan II (GTP-II), the TVET GTP-II, the Industrial Development Strategy and the MSE Development Strategy (2011). All these policy documents, discussed in detail in the next Chapter, stress the importance of MSEs and industrial sector is particular, with an emphasis on the manufacturing sector.

The reality is that the manufacturing sector currently plays a limited role in the overall Ethiopian economy. It accounted for only 4.2% of Gross Domestic Product (GDP) in 2012/13, with the large and medium size manufacturing sector contributing 2.9% of GDP (i.e. the SME sector contributed only 1.3% of GDP). By contrast, the services sector accounted for 45.2% of GDP and agriculture the bulk of the rest (WB, SME Finance in Ethiopia: addressing the missing middle challenge, 2016).

The same WB study (2016) found that the young Ethiopian firms do not contribute to job creation as significantly as in the rest of the world (see below – small firms do not create many jobs compared with medium and large ones), are not competitive and that new start-ups find it difficult to survive.



[1] Micro Enterprise: For activities in the industrial sector (manufacturing, construction and mining), a micro enterprise is one which operates with up to five people including the owner and/or has total assets (excluding building) not exceeding Birr 100,000 (approx. US$ 5,000). For activities in the service sector (retail, transport, hotel, tourism, ICT and maintenance), a micro enterprise is one which operates with up to five people including the owner and/or has total assets not exceeding Birr 50,000 (approx. US$ 2,500).
Small Enterprise: For activities in the industrial sector (manufacturing, construction and mining), a small enterprise is one which operates with between 6 to 30 persons and/or has paid up capital or total assets (excluding building) not exceeding Birr 1.5 million (approx. US $75,000). For activities in the service sector (retail, transport, hotel, tourism, ICT and maintenance), a small enterprise is one that has between 6 and 30 persons and/or has total assets or paid up capital of Birr 500,000 (US$ 25,000).

Not surprisingly, the aim of the IES is to strengthen and expand the industrial sector, especially the manufacturing sector, with particular emphasis on the following:

- Agroprocessing;
- Textiles/Garments;
- Footwear;
- Leather garment and articles;
- Construction (including metal and woodwork).

The Table below illustrates the contribution of some of the prioritised sectors. It is evident that there is significant potential to build-up their contribution to the Ethiopian economy over time.

Table 1. Economic Role of Selected Key Sectors

Sector	Raw Materials Availability	GDP Contribution	Employment	Export Performance
Leather	Cattle (55 mio.), sheep (27 mio.) goats (28 mio.)	6%	15,644	133 mio.
Textile	2,5 mio. ha land for cotton	1,41%	40,000+	111, 352
Metal	22 mio. tons of iron ore	0,4%	236,000	11.2 mio.
Cement	Limestone makes up 10% of sedimentary rocks	N/A	N/A	5.6 mio.

Source: MoFED, 2014; NBE, 2015

The particular Industrial Extension Services (IES) model being pursued by the Ethiopian government aims to support **priority sub-sectors** of the **manufacturing sector** through provision of **free support services** to **MSEs**, thus delivering the necessary assistance to **propel them to become medium and large enterprises**, with a strong emphasis on the use of **value chains** and delivery of **technology transfer** support.

The **objective** of IES includes the following (FTA, IES Implementation Training Manual, 2015, p.8):

"To make MSEs competitive and profitable; bring changes through continuous improvement; create job opportunities to others and improve their income in the market through provision of IES."

The general **principles** that underpin IES are described by FTA as being the following:

- Make TVET Institutes/colleges providers of MSE enterprisers and centres of Technology Transfer;
- Provide market/demand-driven integrated and synchronized IES;
- Deliver transparent, reliable and trusted IES;
- Convince people that enterprise benefit is their own benefit;
- Prioritise IES to existing and model enterprises;
- Build capacity in IES as it is key to economic development.

Delivery of IES to MSEs is based on **four packages of IES services**, namely:

- **Technical** Competence: is provided to MSEs to fill technical competency gaps created as a result of changes in technology and market flexibility;
- **Technology** Support: is provided to enable MSEs to become the main actors in technology transfer/application via adoption of 100% copied technology to start with related to the current situation;
- **Entrepreneurship** Service Support: is provided to MSEs to enable them implement modern business techniques and become competitive bases for industrial development via job creation;
- **Quality** and Production (Kaizen): is provided to MSEs to help avoid waste, reduce cost, create efficient workplaces and introduce continuous product improvement.

The FTA argues, with good reason, that the **IES approach is unique** and distinct from the Business Development Services (BDS) approach. To demonstrate the uniqueness, it is worth pointing out a number of noteworthy **IES features**:

- It operates at various levels: federal, regional, city/sub-city, one stop shop and college/institution, rather than having a regional network / set of private sector providers;
- It is delivered by a network of 288 TVET colleges and institutes (involving 17,300 trainers), rather than business centres of private sector business service providers;
- It is restricted to prioritised manufacturing sub-sectors, rather than being open to all MSEs;
- It is designed to cover all MSEs in the prioritised manufacturing sub-sectors, rather than being targeted to particular enterprises;
- It is theoretically demand-driven yet limited to four packages of IES services;
- It has a strong emphasis on value chains analysis, technology transfer and quality systems, rather than reflecting other potential business priorities;
- Its support is not time limited, rather the emphasis is on delivering continuous IES support until the MSEs graduate to medium-sized enterprises (which could be 5 years or longer), rather than being limited and specific;
- It is free to all MSEs making use of them until they graduate, rather than being paid for or co-financed;
- It is public sector focused, rather than being connected to the private business development service / consultancy market.

The above is the framework for IES in Ethiopia. In a nutshell, it is IES and it is unique.

The Consultant has been commissioned to work within this policy framework; the Ethiopian government has invested a great deal of time, resource and effort in developing the IES system and wishes to improve it after 4 years of operation, rather than replace it with something else.

The aim of the review is thus to critically analyse the existing Industrial Extension Services (IES) system and propose reforms based on the gaps and glitches in the system. This is achieved in the following way:

- Chapter 5 examines the policy framework for economic development, TVET and IES;
- Chapter 6 examines the FTA institution at the core of the IES system;

- Chapter 7 examines parallel IES and MSE systems;
- Chapter 8 examines the experience of MSEs engaging with the IES system;
- Chapter 9 sets out the conclusions and recommendations for the IES system;
- Chapter 10 sets out brief recommendations for further IES project support by the STEP project.

To conclude, the focus is on reviewing the existing IES framework, which has been operating for four years, identifying the key gaps and seeking to improve the IES system, rather than to propose radical changes which requiring major institutional and policy reform.

5. The IES Policy Framework

5.1 Introduction

Before undertaking a review of any system, it is important to understand the policy framework within which it is embedded. In the case of the Industrial Extension Services (IES) system, it is a relatively new departure for the country, having been in existence for four years. Prior to IES, the country had pursued a more traditional Business Service Development (BDS) agenda. In additional to the IES focus, there has been a whole new institutional framework established with IES at its forefront, taking the policy lead in relation to micro and small enterprise (MSE) support. New structures have also been created at federal, regional, sub-city, college/institute and One-Stop-Shop level to deliver the new policy approach.

It has required significant political, policy and financial support to put the IES system in place. After four years of implementation, however, there has been sufficient time for the policy and institutional framework to not only be established, but to have attained full operational and implementation traction. The policy-makers are aware of the fact that this is a convenient point to review the IES system and assess if there is a need for reform, partly with the support of the STEP project.

The IES system is embedded within a comprehensive policy framework comprising the following keys elements, all of which are discussed below:

- Growth and Transformational Plan (GTP-II);
- Industrial Development Strategic Plan (2013-2025);
- TVET Sector GTP (2015-2020/5);
- MSE Development Strategy.

5.2 Growth and Transformational Plan (GTP II)

The overarching objective of the Second Growth and Transformation Plan (GTP II) is the realisation of Ethiopia's vision to **become a lower middle-income country by 2025**. Thus, GTP II aims to achieve an annual average real GDP growth rate of 11% within a stable macro-economic environment while, at the same time, pursuing aggressive measures for **rapid industrialisation and structural transformation**.

In order to achieve the GTP-II´s objectives, the following **pillar strategies** are being pursued:

- Sustain rapid, broad based and equitable economic growth and development witnessed during the last decade including GTP I;
- Increase productive capacity and efficiency to reach the economy's productive possibility frontier through rapidly improving quality, productivity and competitiveness of productive sectors (agriculture and *manufacturing industries*);
- Enhance the transformation of the *domestic private secto*r to enable them become capable development force;

- Build the capacity of the domestic construction industry, bridge critical infrastructure gaps with particular focus on ensuring quality provision of infrastructure services;
- Proactively manage the on-going rapid urbanisation to unlock its potential for sustained rapid growth and *structural transformation of the economy*;
- Accelerate *human development and technological capacity building* and ensure its sustainability;
- Continue to build democratic and developmental good governance through enhancing implementation capacity of public institution and actively engaging the citizens;
- Promote women and youth empowerment, ensure their effective participation in the development and democratisation process and enable them equitably benefit from development;
- Building climate resilient green economy.

The GTP-II touches upon important elements of the IES system previously discussed in the preceding Chapter. Furthermore, the GTP-II stresses that:

"Promoting private sector development is key to accelerate inclusive economic growth underpinned by job creation, export promotion and technology transfer……. the other subsector, which has been given emphasis, is the *Micro and Small Enterprises Development*. These enterprises are critical in generating employment, serve as school for *entrepreneurship*, broaden the base for value adding *domestic private sector*. Actions will be taken to enhance their *productivity, technology learning and growth*. Micro, small, and medium enterprises will be supported to transform to the *next level of industry* in accordance with their level of development. To realize the above practical and effective, integrated and organized activities will be undertaken in terms of increasing domestic production, job creation and skill development, governmental support and facilitation, *provision of extension services*, and modern information management system." (p.29-30, emphasis added)

5.3 Industrial Development Strategic Plan (2013-2025)

The vision of the Industrial Development Strategic Plan is to build: "… an *industrial sector* with the highest *manufacturing capability* in Africa which is diversified, globally competitive, environmentally-friendly, and capable of significantly improving the living standards of the Ethiopian people by the year 2025."

Two main goals are set in the strategy, which the MSE sector is critical in achieving:

- Increasing the share of the industry sector as % of GDP from the current 13% to 27% by 2025;
- Increasing the share of **manufacturing sector** as % of GDP from the current **4% to 17% by 2025**.

5.4 GTP of the TVET Sector (2015-2020/5)

The goal of the Growth and Transformation Plan (GTP) of the TVET Sector (GTP-II and GTP-III) is the following: "Producing workforce with occupational competences demanded at the market, with inspirational interest to adapt to work and keen to create jobs, willing to *move the economic growth*

forward and able to transfer appropriate technology to micro and small enterprises and eradicate poverty from the country and contribute towards the social and economic development." (2015, emphasis added)

The strategies highlighted include making TVET institutions centres of technology transfer, providing industrial extension support to MSEs to enable them to become competent in the market, provide TVET trainings based on the demand of the world of work, etc.

Since IES falls within the TVET system, the GTP of the TVET Sector sets out a number of key targets concerning IES by 2020 (GTP-II) and by 2025 (GTP-III). There are 19 such targets and are illustrated in Annex B. These targets form the basis for the activities performed by the Federal TVET Agency (FTA - see next Chapter), the state body tasked with overseeing the implementation of the IES system.

5.5 MSE Development Strategy

While there is no universally agreed definition of MSMEs, the 2011 Ethiopia National MSE Strategy (2011) makes use of the definition set out in the Table below.

Table 2. Ethiopian MSE Definition

	Enterprise Level	Sector	Hired Labour	
1	**Micro**	Industry	≤5	$6,000 or £4,500 / ≤Birr 100,000
		Service	≤5	$3,000 or £2,200 / ≤Birr 50,000
2	**Small**	Industry	6-30	$90,000 or £70,000 / ≤Birr 1,500,000
		Service	6-30	≤Birr 500,000

The vision the MSE Development Strategy is: "to create a *competitive* and convenient base for *industrial development*." The emphasis on industrial development and thus industrial extension services is clear. The MSE Development Strategy highlights a number of **directions for MSE development** which connect up with the issue of IES, namely:

- Rapid development by saving capital and developing a sustainable and fast growth cycle by strengthening technology and capability;
- MSEs play a key role in solving unemployment and special attention to MSE development in the industry / urban sector;
- Provide job opportunities for university graduates and TVET by developing young people´s skill and innovation, etc.;
- Realise human capital and technological development via TVET colleges/institutions delivery of Industrial Extension Services;
- Integrate the MSE sector with agriculture, as well as medium and high level industry;
- Formulate a support framework based on careers.

As such, the MSE Development Strategy also places the **IES and the TVET system**, in particular the colleges and institutes, at the forefront of the challenge of creating a *competitive* base for *industrial development*.

The MSE Strategy (2011) places emphasis on the poor and less skilled people, as well as TVET / university graduates, to form cooperatives and/or other forms of enterprise. It defines government priorities with a strong emphasis on the manufacturing sector (as well as the service, construction, urban agriculture sector and retail sectors), which are expected to generate jobs, engage in technology transfer and stimulate export. It also introduces the concept of support at various states of MSEs´ growth: the start-up stage, the growth stage and the maturity stage.

The MSE Strategy relies heavily on the delivery of Industrial Extension Services to MSEs. This is to be achieved through various state institutions concentrating on TVET (micro and small businesses) and other forms of parallel MSE support do be discussed in the next two Chapters.

5.6 Conclusions

The overarching economic policy framework of the country, the Growth and Transformational Plan (GTP-II), places a great deal of emphasis on industry/manufacturing as being a key component of the country´s future economic development, especially in the context of diversification of the economy away from dependence on the agricultural sector.

The Industrial Development Strategic Plan (2013-2025) reinforces the importance of the manufacturing sector and the necessity to increase its contribution from the current 4% to 17% of GDP by 2025.

In achieving this major change in the economy, the Ethiopian policy framework recognises the critical importance of the MSE sector, reflected in the SME Development Strategy, which in turn places a good deal of emphasis on the TVET system and its role in the delivery of the IES.

The GTP of the TVET Sector (2015-2020/5) in turn embeds this policy emphasis on IES for SMEs and sets out a series of 19 ambitious targets to be achieved during the period 2015 - 2020/25 (see Annex B).

The Federal Technical and Vocational Education and Training Agency (FTA) and the rest of the MSE infrastructure of the country are thus expected to play the critical role in determining whether these ambitious policy objectives are attained.

Consequently, the next three chapters of the review the FTA and the wider set of institutions involved in delivering support to enterprises, followed by an assessment of the IES being received by the MSEs themselves.

6. The Federal Technical and Vocational Education and Training Agency (FTA)

6.1 Introduction

The Ethiopian MSE institutional framework is extremely complex and evolving. Consequently, it is not possible to be completely comprehensive in describing the overall system of support for MSEs. Nevertheless, it is important to set out the key institutions, as they affect the IES review.

A Table presenting the key IES players, actual and potential future players, is illustrated below.

Table 3: Overview of IES Institutional / Policy / Support Institutions

	IES Support	Other MSE Support
1	Federal TVET Agency (responsible for IES and Occupational Standards) Industrial Extension and Technology Transfer Directorate (responsible for IES)	Urban Food Security and Job Creation Agency (responsible for micro enterprises – being established) Small and Medium Manufacturing Industry Development Agency (responsible for industrial SMEs – being established)
2	Regional TVET Agencies (autonomous)	Regional MSE Development Agencies
3	Sub-City TVET Offices which are part of the City TVET Agency	Zonal / City MSE Development Offices
4	1300+ One Stop Shops (linking all key MSME public support)	
5	388 TVET Institutes and Colleges (17,300 IES trainers delivering IES to trainees and MSEs)	
6	Technical institutes: Leather, Metal, Textile, Kaizen, etc. (providing IES ToT and technical support)	
7	Ethiopian Chamber of Commerce and Sectoral Associations / other business associations (not currently part of IES)	
8	Unemployed youth aged 18-23 (eligible for TVET training though colleges/institutes)	
9	Private business development services (not currently part of IES)	
10	Registered MSEs in manufacturing priority sub-sectors (eligible for IES)	
11	Registered MSMEs in other sectors (eligible for non-IES MSME support)	
12	Informal enterprises (ineligible for IES)	

Because of the complexity of the system set out above, it is not possible to be precise about the institutions and eligibility for public services, etc. However, in general terms, the following can be said:

- IES is delivered by the Federal Technical and Vocational Education and Training Agency (FTA);
- The rest of the MSME support is led mainly by two institutions in the making: the Urban Food Security and Job Creation Agency will be responsible for micro enterprises and the Small and Medium Manufacturing Industry Development Agency will be responsible for industrial SMEs;
- The non-IES MSME institutional and other support structure will change as a result of the creation of the above two new institutions, but include the following:
    - Regional MSE Development Agencies.
    - Zonal / City MSE Development Offices.
    - OSS at Woreda/Kebele level

- In terms of the IES system itself, it is led by the Industrial Extension and Technology Transfer Department (this is the key beneficiary and it the main focus of the rest of this chapter);
- The IES system is underpinned by several other layers (the focus of the next chapter, namely):
    - 9 Regional TVET Agencies: autonomous regional structures.
    - 10 sub-city offices: autonomous Addis Ababa city structures.
- At the lowest public institutional, level, there are 1,309 One-Stop-Shops (OSSs) throughout the country. These connect all the MSME support, including the TVET/IES elements;
- The actual IES support is delivered exclusively through the network of 388 state owned colleges and institutions (more of less the same, but the colleges are older and able to deliver Occupations Standards to level 5). The 17,300 TVET trainers deliver IES services in two forms: general training to vocational educational students until they graduate and IES directly to MSEs;
- Several state technical institutes (e.g. Industry, Leather, Metal, Textile, etc.) provide specialist Training of Trainers (ToT) for TVET colleges and institutions, as well as providing direct technical support to MSMEs (though the latter service is more limited);
- The Ethiopian Chamber of Commerce and Sectoral Associations, which is voluntary in nature, and has a comprehensive sectorial and geographical coverage, as well as other business associations. These are currently not part of IES;
- There are private business development services delivering services on a paid for basis (some of which were supported by the previous BDS-oriented system). These are not currently part of IES;
- The ultimate targets are the unemployed youth aged 18-23 (TVET training) and unemployed/start-ups/existing MSEs in the manufacturing priority sub-sectors;
- Registered MSMEs in other sectors are eligible for non-IES MSME support, including access to finance, workshops, equipment, leasing, etc. so the interface between IES and other MSME support system is important;
- Informal (not registered) businesses are not eligible for IES.

The brief description of the key players in the IES system and their role is important in understanding how implementation works. Further information on the key players, including the new MSME institutions currently being established are provided in Annexes C and D.

The remainder of this Chapter reviews the FTA in general and the Industrial Extension and Technology Transfer Directorate in particular. The review is based on the materials presented to the Consultant, discussions with the IES key staff and analysis by the Consultant. The approach is designed to highlight what is being done with an emphasis on determining the nature of the current gaps and glitches in the IES system, rather than performing an exhaustive institutional analysis in the traditional sense, which would have involved a much longer process and an alternative methodology.

The resulting analysis presented in this chapter must be viewed accordingly.

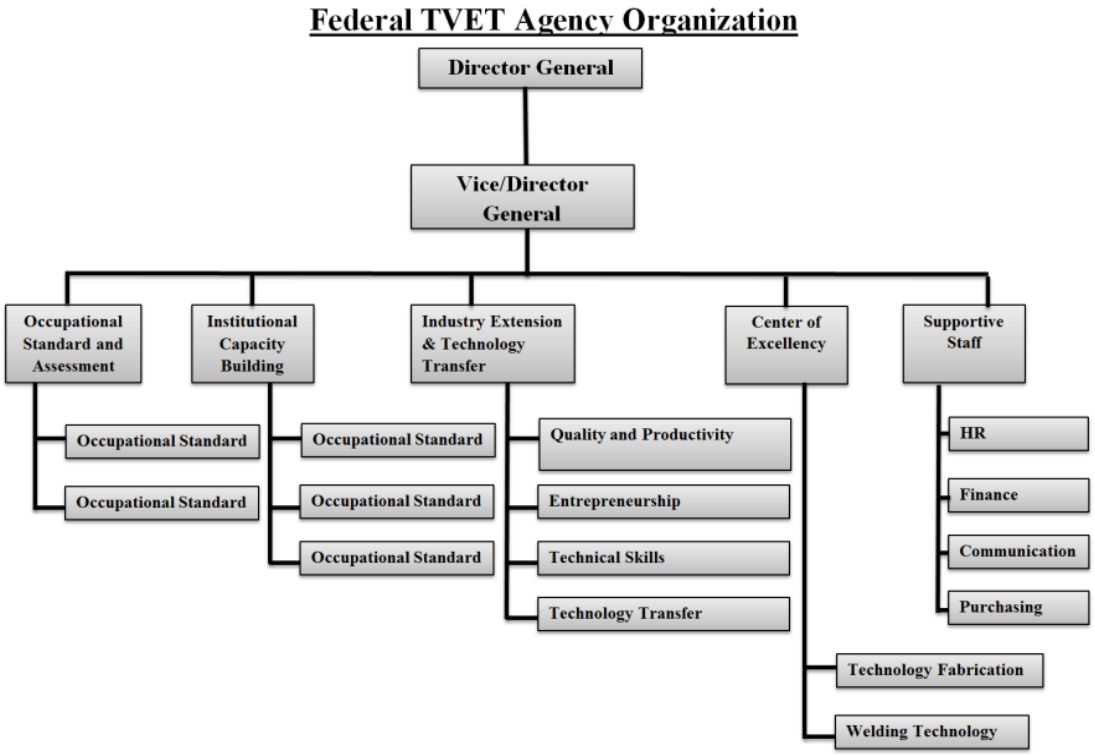
The draft report was circulated to FTA and a whole day workshop was held to validate the findings and agree how to proceed. The final report will form the basis for the programme of support to be delivered with the assistance of the STEP project, which is the focus of the next part of the engagement with the FTA on the IES system.

6.2 Federal Technical and Vocational Education and Training Agency (FTA)

The Federal Technical and Vocational Education and Training Agency (FTA) is an autonomous federal government institution whose TVET objective is to create a competent, motivated, adaptable an innovative workforce, as well as to assist with technology accumulation and transfer in promoting economic growth and development. Its mission is to provide direction, policies, programmes and standards towards quality technical and vocational education and skills development. The FTA serves as:

- A regulator of TVET via supervision of the registration and accreditation of TVET programmes, development and establishment of national systems that guide TVET stakeholders;
- An enabler of TVET by enhancing the capacity of stakeholders and facilitating grants, support and improving the capabilities of TVET implementers, MSEs and other stakeholders;
- A TVET manager by providing direction, preparation and availability of resources to implement the plan and monitoring and evaluating the performance of TVET nationwide.

The Diagram below illustrates the nature of the FTA, which focuses on two main issues: Occupation Standards (OS) and Industrial Extension and Technology Transfer services and Institutional Capacity Building. It also has support staff (including Human Resources) and a Centre of Excellence. Overall, FTA employs about 200 staff covering all areas of the institution´s responsibilities. Its current annual budget is Birr 198 million, of which Birr 148,5 million is dedicated to administrative cost excluding salaries and benefits.



The work of the FTA is regulated by its Operational Plan which focuses on the attainment of the goals set out in the GTP TVET II and III (see Annex B). The Box below sets out its duties and responsibilities.

Box 1: Federal TVET Agency - Duties and Responsibilities

- Prepare Technology Development Frameworks;
- Build the capacity of TVET instructors;
- Coordinate local and international donors to solicit funds in kind/cash to support technology development activities;
- Coordinate preparation of Assessment tools and occupational standard for different occupations;
- Provide and coordinate capacity building training to regional TVET Agencies to accomplish the MSE strategy;
- Identify, record and adopt technologies of high national importance and high sampling expenses;
- Provide ToT to IES agents;
- Organise and assign Industrial extension core process owner and staff (Vice Deans);
- Create conducive environment to leaders and experts to gain national/international IES experience sharing;
- Control and monitor TVET activities about twice per year in cooperation with executive bodies/committee.

Source: FTA IES Implementation Training Manual

FTA´s Operational Plan is reviewed regularly by the FTA and its key stakeholders, which include the following (discussed in the next chapter):

- 9 Regional TVET Agencies and Addis Ababa and Dire Dawa TVET Agencies: autonomous regional structures;
- 10 sub-city offices: part of Addis Ababa TVET agency and other regional zones/cities structures;
- 388 public TVET colleges and institutions: autonomous TVET structures.

It is important to note that FTA is not directly in charge of the above three layers of institutions that it coordinates and cooperates closely with. This influences FTA´s ability to directly shape and implement its IES and OS policy remit and thus its ability to achieve its Operational Plan.

The FTA can coordinate, liaise, encourage, incentivise, monitor, etc. but it cannot fully control the institutions that it is dependent upon in order to achieve its mission. This is reinforced by the fact that the three institutional layers are not directly funded by the FTA itself. The FTA can influence, shape and direct the other institutions that it cooperates with up to a point. This means that the FTA has to be very structured and organised in the way that it leads the IES activities and influences the IES agenda, including guidelines, manuals, templates, knowledge management, collection of data, monitoring and evaluation, etc. since it leads by example, rather than financial and other forms of control. It is critical for the roles and responsibilities to be clear, streamlined and effective.

6.3 IES and Technology Transfer Directorate

Within the FTA, the critical institution for IES is the Industrial Extension and Technology Transfer Directorate (IESTTD). The IESTTD is responsible for achieving the IES remit and, in doing so, its emphasis is on a variety of functions, consistent with the fact that FTA does not directly control the other three layers of the IES system, as previously discussed.

6.3.1 Four Processes at the heart of IES

An important issue to note is that the IESTT Directorate is organised according to the 4 processes set out in the FTA´s Industrial Extension Service Implementation Training Manual (2015), namely:

- Quality and Productivity;
- Entrepreneurship;
- Technical Skills;
- Technology Transfer.

This process structure is applied fairly consistently by the other IES organisational layers, namely the Regional TVET Agencies, the 10 sub-city Offices and the public TVET colleges and institutions (core process owner and staff). This makes sense from an institutional point of view (but see discussion in next Chapter).

6.3.2 Human Resources: the Achilles heel of IES

Another important issue to note is that, compared with its theoretical staff complement, the IESTT Directorate is chronically understaffed, something which appears to be mainly a reflection of difficulties of recruitment combined the high level of turnover of staff, especially in 2015.

Table 4: IES Staff - actual vs complement

	Staff Complement	Actual staff
Quality and Productivity / Kaizen	5	2
Entrepreneurship	6	2
Technical Skills	24	7 (3 doing Master´s Degree)
Technology Transfer	11	6
Total	**46**	**17 (37%)**

The very low occupancy rate (37%, not to mention staff currently on educational leave) in terms of the low number of technical staff positions has negative implications for any institution, particularly one which has very challenging targets in its Operation Plan (see Annex B).

The key issue appears to be the current level of salaries for federal agencies combined with the fact that there is a high level of turnover of staff (also at the regional TVET agency – see next Chapter). This is reportedly because IES staff possesses technical skills that are in demand in other parts of the public sector, as well as the private sector: both are able to offer higher salaries than FTA. The effect is that although the IES has the necessary human resources budget, it is chronically understaffed.

The FTA staff appear to be capable and committed but turnover and lack of replacement has significant implications for its efficiency and its ability to meet the TVET GTP II targets. Quite simply, these appear to be unattainable on the current basis: the staffing situation is the Achilles heel of the FTA.

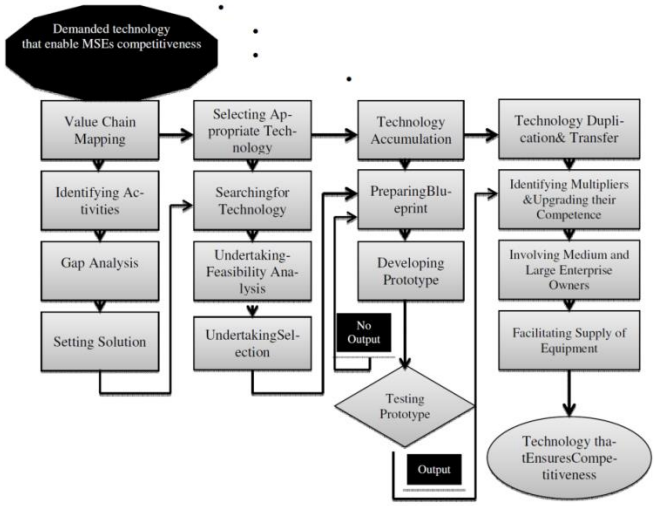
The IESTTD staff discussed their ability to meet their remit with the Consultant. In two cases, the full theoretical staff complement will be required to enable them to have a chance of achieving their commitments. Two others (technology transfer and technical skills) believe that it may be feasible to reach full efficiency of delivery with the current or similar levels of staff. The Consultant does not agree with the latter assessment. Value chains will need to be substantially revised, there will be a need for significant training in the future and FTA will need to lead the process of creating the value chains in future (see this and Chapter 6). Also, Technology Transfer is not happening to the degree anticipated (see this and Chapter 6) and its activities will similarly need to be ramped up in the future. All four IESTT processes will need to reach at least their theoretical staff complement as soon as possible for FTA to effectively deliver its remit in the future. In order to deliver the quantity and quality of training that the EIS system requires (i.e. TVET trainers), it will actually be necessary to increase the staff complement beyond the current theoretical maximum.

There are, therefore, some strategic issues which FTA, especially IESTTD, will need to address:

- Strengthen its Human Resource capability as a matter of urgency to ensure that it does manage to recruit the necessary staff. It is irrelevant whether or not other public sector institutions face similar challenges. FTA must ensure that it does what is necessary to advertise and recruit effectively, including incentive and motivation schemes taking the experience in other sectors and international good practice, so as to attract new and retain experienced staff;
- Develop a Staff Induction capability in the near future to ensure that new recruits are systematically build-up to the necessary human capital levels, including the necessary training/capacity building, manuals and procedures. When an institution faces high levels of turnover, this is an essential part of the process of maintaining operational efficiency;
- Apply to increase IESTTD the staff complement once it is 100% staffed (it is pointless to do so before this point is reached), so as to reduce the current bottleneck in IES training, which is affecting the ability of TVET trainers to perform their role.

6.3.3 IES: processes built on weak value chain foundations

One thing becomes evident upon reading the FTA´s Industrial Extension Service Implementation Training Manual (2015): value chain analysis is the foundation upon which all IES activities connected with the four processes are built. The IES Manual stresses that value chain analysis underlies all components and is particularly important to the technology transfer component, as illustrated in the Diagram below.

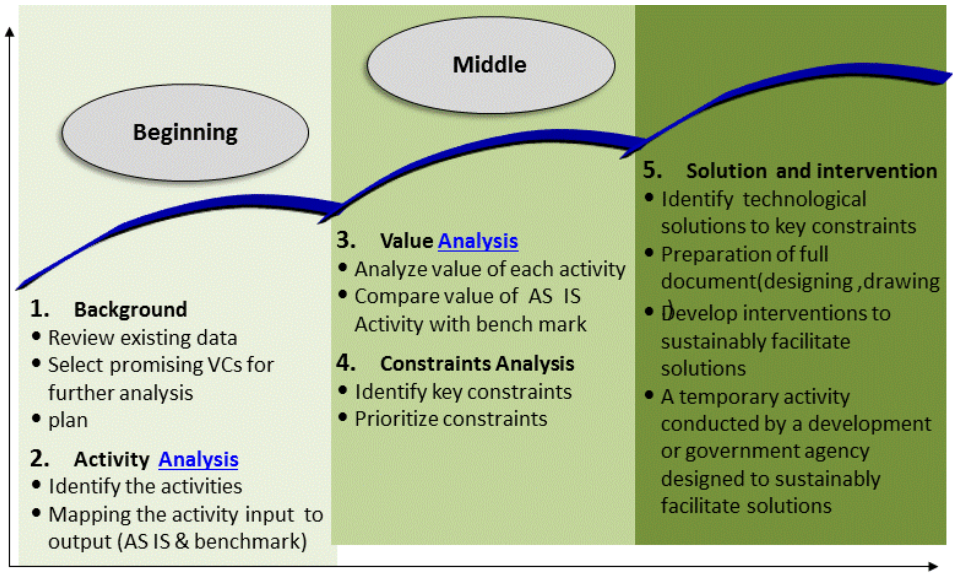


Its critical importance, something which all officials are fully committed to and aware of, is the reason why FTA created the Value Chain Development Manual (2014). Its purpose is specifically to introduce IES stakeholders with up-dated value chain development techniques, strengthen the capacity for value chain development, gap identification and appropriate technology adaptation and guide users in measurement performance and quality of value chains. The Manual stresses the following processes:

- Activity Analysis: identify the activities that contribute to the delivery of the product or service (mapping the interrelated processes from raw material source to product in the customer´s hand);
- Value Analysis: identify what customers value in the way they conduct each activity and assess the changes that are needed;
- Evaluation and Planning: decide the changes to make and plan how they will be delivered by using value chain analysis and by following it through to action, leading to achievement of excellence in the things that really matter to customers.

However, as a “how to” guide for its IES stakeholders, the FTA manual leaves much to be desired. The steps in the processes are not actually set out in the Handbook at all and it gives the impression of not knowing what its purpose is: it does not offer structured guidance for value chain analysis, let alone illustrations of analysis for the 4 processes or priority sub-sectors. It is thus inadequate as a guide.

It is actually in a separate presentation (The Value Chain Development Approach, FTA, undated) that the steps in the value chain analysis processes are to be found, as illustrated in the Diagram below.



The same presentation highlights the importance of developing Multi-stakeholder Platforms (MSPs) to undertake every single value chain analysis, something which the Manual fails to mention:

- Universities, TVET colleges/institutes;
- Farmers/Producers;
- Sectors (e.g. agriculture);
- Private processors, traders, etc.;
- NGOs;
- Donors;
- Financial institutions: MFI, Banks, etc.;
- Cooperatives;
- Associations: sectorial and professional, Chamber of Commerce;
- Input suppliers;
- Agricultural Transformation Agency, etc.

Other than a few illustrative examples, there is very little practical guidance in the Value Chain Development Manual (2014), something which the colleges/institutes that are supposed to apply it complain about (not least because their value chain work, which builds on the current FTA guidance and training, is constantly criticised for being inadequate – see Chapter 6). Consequently it is hard not to be critical of the FTA´s efforts in relation to something which is supposedly fundamental to the IES processes and underlies all of its activities.

The Consultant would point out the following issues which will need to be addressed as a matter of urgency if value chain analysis is to have relevance in the future FTA activities:

- According to FTA data, over the last 4 years, 550 value chain analyses have been prepared. However, the FTA staff responsible for value chains work recognise that these are of poor quality and are not fit-for-purpose as far as IES is concerned;

- The quality of the value chains has not necessarily improved over time despite the Value Chain Development Manual (2014) being circulated (but see below);
- If the value chain work is poor quality, since the four processes are built on value chain analysis, perforce all the work hitherto connected with the four processes must also be questioned;
- The FTA staff recognises that the value chain analysis work is simply not working as intended. The Multi-stakeholder Platforms (MSPs) are not being created and consequently the TVET college/institution trainers are only doing the best that they can with the value chain analysis;
- The TVET college/institution trainers met by the consultant made it clear that the value chain work is either not being done at all or minimum effort is devoted to them. The reason is that the FTA guidance is inadequate; they have not been trained in value chain analysis (if it happened in the past, staff turnover means that they no longer feel able to perform value chains as intended); and are unable to perform value chain analysis on their own. This is a problem since the trainers are the ones who are expected to coordinate the IES value chain analysis;
- The FTA is no longer delivering value chain analysis training, however, since it is the foundation upon which the IES process is built, this cannot continue on this basis. Value chain analysis training is essential, not least because it is a complex process. Without it FTA cannot performed to the necessary standards based on the four IES processes, especially technology transfer;
- The IESTTD staff itself is well aware of the fact that the value chain Manual (2014) and the two presentations are in need of revisions as a matter of urgent priority;

The consultant would highlight the following points about the current value chain manual:

- It does not say why VC is important to the IES four processes;
- It does not integrate the overall process (including MSPs);
- It does not set out a detailed, step-by-step process by which CV is performed;
- It does not set out clear examples of sectors/sub-sectors being prioritised;
- It does not prepare templates to enable TVET trainers to follow;
- It does not set out the Multi-stakeholder Platforms (MSPs);
- It does not set out links / references for other guidance material.

Overall, it fails as a useful, practical, IES-oriented value chain manual. The consultant would highlight the following points about a possible future IES value chain manual:

- Incorporate international best practice on value chain analysis;
- Customise the overall value chain process to the specific needs of IES;
- Customise specific processes for each of the four IES packages;
- Place particular emphasis on the technology transfer value chain process;
- Provide detailed, customised, step-by-step examples of sectors/sub-sectors/product VCs;
- Incorporate the necessary templates, reference materials and FTA contact details.

The consultant would highlight the following points about the future value chain training:

- Start planning extensive value chain training as soon as the Manual is revised;

- Provide follow-up support to all trainees for the preparation of at least 3 value chains analyses;
- Establish a dedicated Helpline for value chain analysis (and technology transfer);
- Initiative a quarterly competition for best value chain analysis (see knowledge management);
- Present best practice examples in the quarterly meetings, FTA website (which is expected to be on-line shortly) and disseminate them.

The above assumes that FTA wishes to maintain value chain analysis as the foundation for IES, namely as the analysis which underlies all four IES processes. If this is not the case, then the obvious response would to be reconceptualise the four IES packages without value chain analysis, except for technology transfer, thus toning down the emphasis on value chain analysis. However, based on the discussions held, this is unlikely to be the preferred option for FTA or other stakeholders, all of which remain committed to a value chain approach.

At the FTA workshop held on the 21 September 2016, FTA presented the revised draft Value Chain Manual. The new version is a vast improvement on the previous version, however, it still has to be upgraded and customised to the needs of IES in order for it to be considered as a practical guide to undertaking value chain analysis. The Consultant pointed out various issues that still need to be improved, as did others, including the TVET college representatives. The key issue to note is that the new Manual requires a very significant amount of effort in the preparation of the value chain analysis, including benchmarking, etc. It is neither practical nor feasible to expect TVET trainers to perform such complex sectoral competitive analysis. It will be the responsibility of the FTA / Regional TVET Agencies / Sectoral Business Associations to lead the process in the future, with some input from Vice Deans. The TVET trainers will only be involved in the application of the broad value chains to the specific needs of the MSEs that they are responsible for. This approach is much clearer, more doable and will be more effective. It will still be necessary for FTA to prepare specific guidance for TVET trainers and to train them in performing the value chain task in respect to MSEs, with a particular focus on the issue of technology transfer.

6.3.4 IES Training Delivery: demand vastly exceeds supply / low knowledge base

The core function of the FTA and the IESTTD comes down to one thing and one thing only: to capacitate its stakeholders to support MSEs effectively, thus enabling enterprises to grow and eventually graduate out of the IES system. The quicker and the more often this happens, the better for the economic development of the country and its prospects of transiting to an industry-led economy.

The FTAs main stakeholders may be the RTAs/Sub-cities/Colleges/Institutions, but the critical players that will make or break the IES system are the 17,300 trainers within the TVET Colleges/Institutions since in principle all of them are supposed to be involved in the delivery of IES: they are the only ones with direct contact with MSEs. It is they who are the critical change agents in terms of being able to understand the four IES packages and then deliver them to the MSEs, thus enabling firms to reach a higher level of development, consistent with the government´s policy intentions.

All the information available to the consultant suggests that this is not happening as anticipated by FTA (see also Chapter 6 for supplementary analysis). The main reason is the sheer numbers involved: 17,300

trainers in 388 organisations. However, the FTA is simply not in a position to reach a sufficient number of the critical change agents and to equip them with the necessary know-how to enable them to support MSEs adequately in relation to the 4 IES packages. It just lacks the staff to be able to capacitate this volume of TVET trainers. This is acknowledged as being at critical problem by the IESTTD staff met by the Consultant.

The TVET college/institute trainers met by the Consultant (see next Chapter) consistently argued that it is not clear how many of the 17,300 have been trained, that many if not most have probably not been trained and that most of those allocated to IES work have not actually been trained by the FTA – they may or may not have received indirect training. Some among them had been trained by the FTA / Institutes / Kaizen / Entrepreneurship Institute, etc. but not enough and the amount of training being received was not necessarily considered to be adequate for the purpose of delivering IES to MSEs.

Furthermore, a proportion of the trainers received Training of Trainers (ToT) and in most, but by no means all cases, they transferred the knowledge to the other IES trainers in their respective TVET college/institute. However, since they are not experts on the IES topic, this results in a loss of information at the second, third, etc. ToT stages. Since the trainers are specialists in their field, they cannot be expected to fully support MSEs in terms of their increasingly specific needs in relation to the IES packages. There is also a degree of turnover at the TVET colleges/institutes which means that some of the key trainers that were trained at federal level, have in the meantime left the TVET system, meaning that the IES knowledge base within the TVET system is being eroded over time. This concern is reinforced by the issue that knowledge (packages) and capacities need to be refreshed and built-up over time. Finally and critically, there were fundamental areas of IES that the trainers systematically do not feel able to support and deliver. This applies to both value chain analysis and to the technology transfer package, both of which are absolutely central to the IES system.

This is the reality of the capacities of the critical change agents in the IEs system: after 4 years of IES system operation there is little indication that a sufficient number (quantity) have been trained in IES and the trainers often do not feel sufficiently capacitated (quality) to operate in critical respect at the interface between the IES support system and the ultimate beneficiaries, the MSEs.

This is a significant problem for the whole IES system and its future success or failure depends on being able to train the change agents within the IES TVET system to the necessary quantity and standard to enable them to work with MSEs and to be able to influence them in a way which results in positive economic impact. In addition, since the current FTA capacity is the key bottleneck in the system, there is a need to consider which other potential players need to be integrated into the IES system (see Table 3 above) to be able to make-up the current capacitation gap in the IES system.

The IESTTD team freely acknowledges the existence of a serious problem with the training being delivered (in addition to the fact that the value chain analysis, which underpins all four IEs packages is not working at present). The fact that they are understaffed (37% - see above) is a serious concern. But in reality, the problem is even worse than implied by that particular statistic because even if the IESTTD

team were already operating at full efficacy, it would still not be able to deliver the necessary volume of training to the colleges/institutes and their IES staff.

To conclude, two critical problems have been identified: since the IESTTD team is chronically understaffed, the volume of training delivered being delivered is not inadequate to meet the needs of the IES system in terms of equipping the TVET colleges/institutes to deliver IES to the necessary standards. The discussions with the IESTTD team show a strong awareness of this and efforts to leverage the training to reach as many trainers as possible, such as through ToT. However, this has not met need so far and, under the current conditions, is will not do so in the future either.

The IESTTD teams across the four packages believe that solution is to raising the quality of the IES training by providing even longer, better quality training. At the most extreme, the Kaizen team would raise the training from 10-12 days per course to several months for both the theoretical and in-company training, as recommended by the Kaizen Institute. The Entrepreneurship team also strongly advocates raising standards through longer, more comprehensive training so as to fully equip the TVET trainers with the tools they required to deliver the IES packages effectively to MSEs.

Although longer training on the 4 IES components would raise quality and knowledge, it will also accentuate the problem of the backlog of IES training needed to equip the trainers in receipt of 2nd or 3rd hand IES training through ToT and to refresh knowledge and raise standards over time. The throughput of IES trainees is simply too limited to meet the backlog in demand at present. Connected with this point, the trainees are trainers / teachers in woodwork, metal work, etc. who generally do not have an economics/business background and skills. There are limits to how much impact there would be from a significant increase in the length of IES training in terms of making them better at supporting MSEs.

Therefore, ensuring that larger numbers of TVET trainers have the necessary skills and knowledge to understand and successfully implement the package of four IES components requires a rethink on the part of FTA. More of the same may help, but will not solve the need to overcome the loss due to turnover, meet the backlog in demand from the TVET trainers and raise standards over time. More of the same with 100% FTA staff complement would help, but even this is insufficient to achieve the necessary capacitation of the TVET trainers.

Unless this happens, the main losers will be the MSEs and the country as a result. Finding a meaningful solution will require thinking outside the box, including the following:

- Achieving full capacity in terms of IESTTD staff complement as soon as possible;
- Increasing the current size of the IESTTD staff beyond the theoretical staff complement;
- Reviewing and concentrating the IES package of training and combining it with more effective knowledge management system (to ensure institutionalization of knowledge and experience and continuous mentoring and coaching – see below), monitoring and evaluation, etc.;
- Using alternative sources for delivery of capacity building in addition to TVET colleges/institutions, such as engaging the specialist instituted beyond what is currently the case;

- Using the private sector to deliver some of the general training components such as entrepreneurship / Kaizen, etc. thus increasing throughput and allowing FTA to concentrate on its overall quality control / coordination / leadership function, etc.

6.3.5 Knowledge Management

It is normal for a learning organisation to develop a framework for documenting national and international good practice, as well as success stories. This helps the stakeholders in the system to understand the requirements and helps to raise the minimum standards over time. Furthermore, since the IES system operates at the federal (FTA), regional (9), city (2), sub-city (10) and TVET level (388), not to mention Ones Stop Shops (1,309 - see Table 3 above), it is important for success stories/good practices, for example, in the creation of various types of value chains, 100% copied technologies, etc. to be accessible and shared / disseminated.

This has long been an intention of the IES system. But discussions with IESTTD staff show that knowledge management is currently not happening, except at the margin. The margin refers to examples that the Consultant has come across such as the Addis Ababa Regional TVET Agency. Accordingly all the 28 colleges/institutions meet twice a month for coordination purposes, including to present examples of good practice. However, these only involve key staff such as Vice Deans, rather than the 4 package coordinators / other IES trainers, meaning that the good practice may not be effectively disseminated to the 28 TVET colleges/institutions. The Ababa Regional TVET Agency and other regional agencies also attempt to transfer knowledge at the FTA Assembly meetings, but this is currently not structured and there is no follow-up.

There seems to be a number of reasons for the current state of affairs, despite the discussions that have been held on this matter, mainly initiated by the TVET colleges/institutions themselves:

- FTA web site is not yet operational;
- FTA is not directly in charge of the whole IES system;
- FTA has not yet considered the issue of knowledge management in a structured manner.

However, when the issue was discussed with the IESTTD staff, its potential was immediately recognised and there was a strong desire for a knowledge management process to be established, using all relevant platforms, including internet, FDA Assembly meetings, regional coordination events; sub-city coordination events, etc. The idea of preparing dissemination tools, such as templates for good practice in the four processes was highlighted. The value of introducing national/regional/sub-city competitions among the 388 colleges, leading to quarterly / annual awards was discussed. These could be effective means of raising the profile of IEs and stimulating engagement, while also raising standards across the IES system.

A suitable IES knowledge management strategy would need to be formulated, which could perhaps be combined with a visibility component to raise the profile of IES activities in the country.

6.3.6 Monitoring and Evaluation

The FTA / IESTTD must monitor its work in connection with the GTP TVET II and III targets. This is achieved on a regular basis when the FTA coordinates the TVET Assembly meetings with all the regional agencies and college/institutions in order to ensure that it is on top of progress, bottlenecks, new developments, etc. and thus in a position to perform its leadership and coordination role.

Monitoring also happens at the FTA/RTAs/City/Sub-City levels in that all the different layers undertake monitoring of the activities of the trainers, as do the colleges/institutions themselves. The IESTTD staff occasionally monitors the trainers and their work on an ad hoc annual basis. Part of the reason for this is the current lack of staff, which makes greater commitment in this respect hard to achieve. The IESTTD staff recognise that more could be done regularly, involving all 4 teams, including spending enough sufficient on site to work more seriously, which should result in raised quality over time.

In addition, the consultant would raise three issues for consideration:

- Is it efficient for the FTA/RTAs/City/Sub-cities and Colleges/Institutes all to be monitoring the IES trainers? The consultant is unconvinced that this degree of overlap is effective, especially in view of the fact that the trainers themselves recognise that the quality of their IES work could be improved and that the lack of sufficient training /guidance is undermining performance;
- Is it sensible to confine the IES monitoring system to the trainers (inputs) rather than the actual purpose of the whole IES structure, namely to monitor the trainees (i.e. satisfaction with training, curriculum, teachers/trainers, theory, practice, interactivity, etc.) as well as MSEs themselves (employment, turnover, export, productivity, innovation, competitiveness, profitability, gender, etc.) and how the key variables are changing over time? The consultant would argue that the outputs/outcomes (trainees and MSEs in particular) are more important to monitor that the inputs (TVET trainers);
- Monitoring is not the same as evaluation: the fact that 550 value chain analyses were produced and whether the target was achieved is not as important as whether the work was any good and what kind of impact IES has actually had on the MSEs´ employment, turnover, export, productivity, innovation, competitiveness and profitability. The important evaluation elements are currently not being collected, analysed and reported but the trainers do produce regular reports, which could form the basis for the evaluation work (including better monitoring). However, this information is currently not collected on a systematic basis and thus cannot be analysed and used to improve IES service delivery over time, including proving that the IES system is worth the current level of public sector funds which it is in receipt of.

Consequently, there is a need to review the current system and to develop a more effective monitoring and evaluation capability within FTA. Such a development would enable FTA to better assess its impact and to reform and improve itself over time. It would also enable it to justify its existence, its resources, as well as a possible increase in budget and/or staff over time.

6.4 Conclusions

The review of the IES system, concentrating on the FTA and the Industrial Extension and Technology Transfer Directorate (IESTTD), leads to the following conclusions:

- The IES system is only one part of the jig-saw puzzle in terms of support to enterprises; there are also other MSME support structures which need to be considered (see next Chapter);
- FTA seeks to coordinate a system of institutions in order to deliver its mandate and attain its targets, but it is neither in direct charge of them nor funds them. This includes the 9 Regional TVET Agencies, 2 Cities, the 10 sub-city offices; the 388 public TVET colleges and institutions with 17,000 trainers; and the 1,309 One-Stop-Shops throughout the country;
- The basis for the IES and the four packages is value chain analysis, however, this is currently a fundamental gap in the system. The manual / presentations are inadequate, almost no training is delivered, very few trainers (and other TVET players) understand them and the quality of value chains, where they are produced at all, is currently acknowledged to be inadequate;
- Without value chains, with good quality underlying analysis, it is impossible to deliver services for arguably the most important package in the IES system, namely technology transfer. Technology transfer is thus not being delivered by probably most IES trainers;
- Fundamental gaps mean that it is hard if not impossible for the IES mandate to be implemented at present, including delivering high quality services to the MSEs, including:
    - The low staffing (37%) and high turnover rate at the IESTTD;
    - The lack of adequate knowledge/implementation of value chains & technology transfer;
    - The low numbers of TVET IES trainers actually trained / trained first hand by FTA, etc.;
    - The inability of IESTTD to deliver a sufficient volume of the required IES training;
    - The lack of systems in relation to knowledge management (largely missing), monitoring (to some extent but missing trainees/MSEs) and evaluation (missing).

The analysis above requires FTA to review and reform the IES system, as well as consider new approaches to the delivery of IES in Ethiopia.

If this does not happen, the IESTTD team will almost certainly continue to be unable to meet the demand for training, the trainers will continue to lack adequate understanding of the four packages of IES services, not to mention the value chain analysis which underlies the packages, and the IES system will thus continue to fail to support the MSEs to achieve their full potential as quickly as possible.

7. Other Key IES and MSE Institutions

7.1 Introduction

The FTA is only one of numerous institutions that operate at the level of the IES / TVET system as well as the wider system in support of MSEs in the country (see also preceding Chapter; Table 3). This Chapter reviews the institutions as well as the interface between IES support and other forms of MSE support.

7.2 Rest of IES / TVET System

As previously discussed, in addition to the FTA, there is a sub-structure comprising the following, which will be discussed below:

- 9 Regional TVET Agencies;
- Addis Ababa/Dire Dawa Cities and Sub-city TVET offices (2);
- 388 public TVET colleges and institutions;
- 1,309 One Stop Shops.

7.2.1 Regional TVET Agencies

There are also 9 Regional and 2 cities TVET Agencies (RTAs) in the country and the consultant visited the Southern and Addis Ababa RTAs for discussions in relation to the IES system. Their roles and responsibilities are set out in the Box below.

Box 2: Regional TVET Agencies - Duties and Responsibilities

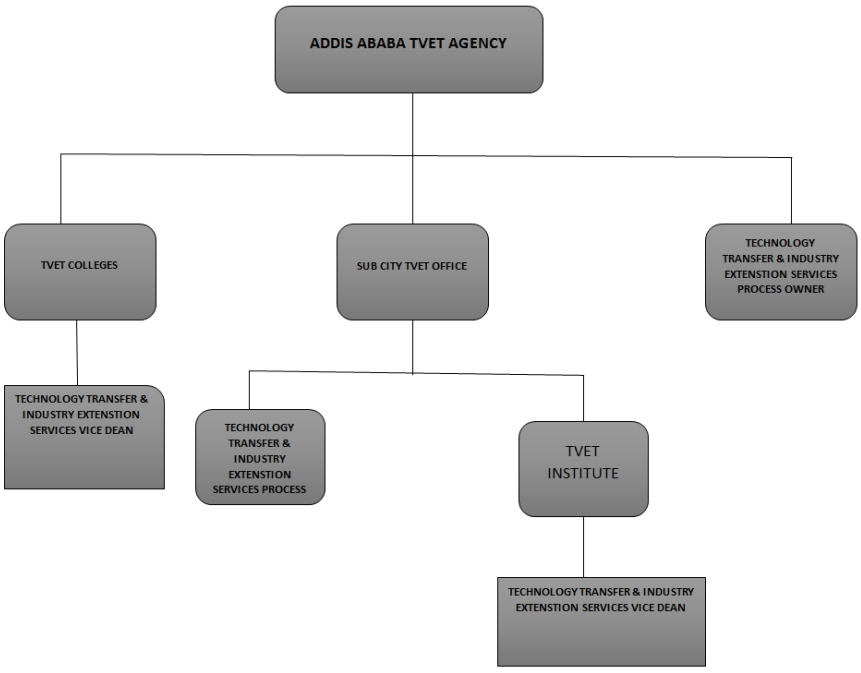
- Provide support and undertake monitoring and evaluation activity to help the TVET Institutions to provide MSEs demanded and feasible technologies and designs;
- Create conducive environment and monitor local and international study tours to relevant leaders and experts;
- Coordinate activities related to assessment of trainees based on occupational Standards;
- Allocate budget and human power to regional activities such as human development, supply of technologies and IES;
- Organize core process owners and assign the staff that provide IES;
- Facilitate preparation of regional human development tasks, technology supply and IES manuals;
- Coordinate local / international donors to solicit funds in kind or cash to support technology development activities;
- Create conducive environment enabling TVET Instructors to get further training based on competency gap studies;
- Coordinate plan, control and monitor TVET Institutions while providing business management and technical training to MSEs through their competent experts.

Source: FTA IES Implementation Training Manual

The RTAs are not officially part of the FTA structure. Rather, they are connected with the regional government structures and, as such, are autonomous. They also receive their funding separately and independently of the FTA via the regional structures, which means that the FTA cannot simply impose its agenda and priorities upon the RTAs. Instead, it has to to work cooperatively with the RTAs in achieving the overall IES mission and goals, as per the TVET GTP.

Although the RTAs are separate and autonomous, they are tasked with achieving the TVET (IES and Occupational Standards) agenda. Consequently the RTAs´ organisational structure mirrors that of the FTA, namely with a dual focus on Occupational Standards and Industrial Extension Services and Technology Transfer. For example, the Addis Ababa RTA employ about 110 people, out of which 7 work are located in the IES Department.

The IES Department structure calls for a total staff complement of 16 but only 7 are currently employed (44%) since the turnover is high. It argues that the technical staff possesses hard skills in manufacturing technology, furniture, processing, etc. for which there is market demand at higher salaries. Recruitment and understaffing are problems, despite the existence of the budget for staff, a situation that mirrors what is also happening at the federal (FTA) level. The Diagram below illustrated the nature of the IES Department at the Addis Ababa RTA.



In the Southern RTA, there are 102 people in all. 10 work on IES, out of which 7 are experts. The IES operation is sectoral in nature and includes expertise in textile and garments, woodwork, metal manufacturing (GMF), entrepreneurship, construction, agro-processing and agriculture. In this particular case, there are actually more staff in IES employment than envisaged (double). However, it still suffers from high turnover (29% in previous year) for similar reasons as at the federal and Addis Ababa level, namely low salary and the availability of alternative opportunities. This makes it harder for the RTAs to raise IES quality and standards over time.

Given their focus on IES, the duties of the RTAs are similar (see Box above). They are first and foremost to oversee and coordinate the TVET organisations in their geographical catchment area. In the case of Addis Ababa, this means 28 TVET bodies comprising 6 TVET colleges (2 will be added in the future) and 22 TVET institutions. There are 45 such bodies in the Southern RTA. They undertake an annual Training Needs Analysis (TNA) and the TVET bodies are invited to present their needs. The feedback is processed

by the RTAs, which determine which ones will get training and how much. The RTAs may either go to FTA for training (ToT), approach the various Institutes (e.g. Metal, Textiles, etc.) or others such as the Kaizen/Entrepreneurship Institutes. The training is normally paid for by the RTAs, with some exceptions such as the Textile Institute at present (though it is considering its position in this respect). For example, the Southern RTA recently paid Birr 113,000 for 20 trainees in ICT. The trainees are selected by the RTAs and the locality for delivery is determined as appropriate.

The RTAs note that demand from the TVET colleges/institutions exceeds supply. The Southern RTA does its trainings during the summer recess, when the IES trainers are less occupied with teaching duties. Those who are trained at the federal level are required to do ToT for the others from the 45 colleges in the region (2-3 people from each TVET body), as well as deliver ToT to their own college/institute. In the case of some colleges visited this was not the case: the information obtained was that the ToT is often neither delivered within the college nor for the benefit of the others in the IES system. Given the supply issues, this issue will need to be standardised in the future.

The monitoring of the TVET colleges/institutes is an important duty for the RTAs. The RTAs collect information from the colleges/institutes. Regular reports are prepared for FTA on the targets, but the focus of the reporting is on numbers with no narrative. There are quarterly regional meetings to discuss progress, performance and challenges, which are coordinated by the RTAs themselves for their region. The monitoring data are forwarded to the FTA. The FTA comes annually to the region for discussion on-going IES services, performance, etc. The federal level in turn coordinates the meetings of the Assembly of FTA/RTAs/colleges.

The Southern RTA also collects the information for its own purposes, which is not shared with others:

- What skill gaps identified;
- Which one has been supported?
- For how many days support given?
- Whether these have been assessed or not (based on Occupational Standards).

In addition, it is known that colleges/institutes sometimes customise these forms further to suit their particular needs and priorities. This means some data are standard for the region, but other data are retained at college level and/or cannot be aggregated for the region or country.

It is important to stress a key gap in the monitoring system: none of the collected data currently concern the performance of the FTA trainers, Regional TVETs, TVET trainers, trainees or indeed the MSEs themselves, such as employment, turnover, profitability, productivity, export, gender, etc. In the context of the discussions, the Southern RTA was quick to recognise the gap as well as the potential value of such information.

Another critical gap in the IES system is that there is currently no impact evaluation, though the Southern RTA is looking into this issue. It has asked each TVET college/institute to undertake impact assessment this year, but failed to provide a common methodology, which means that the results will

not be comparable and thus cannot be aggregated at the regional level. This is something which the FTA should consider and issue guidance on in the future.

There is a strong element of monitoring the TVET trainers to assess whether they are doing what they are supposed to be doing at the level of IES for MSEs. This is done by the FTA, RTAs, Cities/ Sub-cities, as well as by the Colleges/Institutions themselves through the IES Process Owner / team. The FTA carries out ad hoc visits. The Southern RTA selects MSEs randomly for visits. The TVET colleges/institutions Process Owners (Vice Dean´s team) visit all enterprises on their lists at least once a year. There appears to be a lot of institutions performing the same role and it is not clear what happens with the monitoring reports and whether there is any follow-up in terms of improvement of IES service delivery with a focus on the TVET trainers concerned.

At the same time, there does not appear to be regular TVET trainer evaluation by the graduates/trainees. The same applies to the ToT being delivered by FTA / technology institutes. The same applies to the MSEs: they do not appear to evaluate the IES being delivered by the TVET trainers. All are systematic gaps which need to be filled if the IES system is to improve over time.

There are about 1,700 teachers in Addis Ababa but in the view of the RTA, the skill levels of the IES trainers are not on a comparable level and neither is their degree of commitment to IES work. In the RTA´s view, this means that the quality of the IES support is highly variable and the MSEs´ satisfaction with IES support is correlated with the competence of the trainer (see also discussion below on TVET trainers). In the Addis Ababa RTA´s view, MSEs are generally satisfied with the IES being delivered but if the quality of teachers were to improve, so would the delivery of IES services.

A few other constraints were pointed out by the RTAs:

- The TVET trainers are finding it difficult to cope with demands in relation to value chain analysis. The Southern RTA has delivered training on values chains twice and is planning to do so a third time because of these gaps;
- Kaizen is constrained by the nature of the workshop facilities available to MSEs, especially the lack of space. Furthermore, it is a challenge to persuade MSEs to undertake Kaizen and even if they do, it is not unusual for MSEs to revert back to the status quo ante;
- The IES trainers are not equipped to deliver what MSEs actually need, so there is a need to signpost or coordinate with others MSME institutions to deliver the necessary support. This is being attempted by the RTAs but there is acknowledgement that the interface with the rest of the MSME system could be improved.

There is some attempt at knowledge management and sharing with the Addis Ababa RTA. Every two weeks, a college/institution trainer is chosen to present their good practice to all 28 institutions. While useful, those attending are mainly senior officials such as the Vice Deans/process owners, not necessarily the 4 coordinators or indeed the core / IES trainers. There is an attempt share this knowledge at the FTA coordination meetings but there is no follow-up and there is agreement that IES knowledge management could be improved.

Finally and importantly, there are about 3,800 MSEs currently in receipt of IES in Addis Ababa. The equivalent number in the Southern Region is 11,000 MSEs, which is a surprising difference despite the Southern region being the largest in Ethiopia. Discussions in the Oromia and Southern regions led to the unexpected finding that a notable proportion of the firms in receipt of IES are not in the priority manufacturing sector at all but in sectors such as Services and Trade. This is surprising because the IES system is supposed to be exclusively targeting the selected high priority manufacturing and construction sub-sectors.

Therefore the following crucial questions arise:

- Why is this happening if the IES remit is clearly specified?
- How many other regions are also providing IES to non-manufacturing MSEs?
- Are TVET colleges/institutes the right organisation to be supporting non-manufacturing MSEs?
- If the TVET resources are being diverted into non-priority sectors, does this mean that there are fewer resources available for the priority manufacturing sub-sectors?
- If IES support is provided to all new MSEs, is this leading to market distortion especially in areas that are already highly competitive such as retailing (the net effect might be to share the same turnover between more firms and net job destruction may also be occurring)?

These and related issues need to clarified and addressed by FTA as a matter of strategic priority.

7.2.2 10 Sub-city TVET Offices

Addis Ababa city has 10 Sub-city TVET Offices (Hawassa has 8), which mirror the regional and federal IES structures. Specifically in the context of the IES system, the Addis Sub-city TVET Offices have about 4 staff each (about 40 in all) who are responsible for "clusters" or about 2-5 colleges/institutes within their catchment area. The Sub-city TVET Offices´ role, like the colleges/institutes and the RTAs themselves, is to monitor and follow-up colleges´/institutions´ work, such as ensuring the trainers work with the MSEs and checking the work of the trainers.

The question arises as to whether the roles and responsibilities of the FTA, RTAs, Cities and Sub-city Offices are clearly specified in order to ensure efficiency and reduce overlaps, since they are autonomous, receive separate funds and operate to their own annual plans. Certain aspects may need to be reviewed and streamlined, such as planning, training, monitoring, coordination, etc.

7.2.3 TVET Colleges and Institutes

The analysis to follow is based on visits to colleges in Addis Ababa, Hawassa (Southern region) and Shashemene (Oromia region). It is stressed that this is a partial analysis because of the limited number of colleges visited and the fact that none were TVET institutions. A reading of the analysis presented below must therefore take these factors into consideration.

The most critical players in the IES system, other than FTA / IESTTD team itself, are the 388 public sector TVET colleges and institutes throughout the country. The key difference between the two is that institutes tend to be newer and do not train up to OS competence level 5, but otherwise they and the colleges are comparable.

The Box below illustrates their duties and responsibilities in the context of IES.

Box 3: TVET Colleges / Institutions - Duties and Responsibilities

- Provision of all-inclusive and productive IES;
- Analysis and selection of feasible technologies, preparation / checking sample design and distribution to beneficiaries.
- Preparation of training manuals for human resource development; supply of technologies and IES;
- Provision of training based on identified trainees and manuals and deliver for completers;
- Deliver special training and advisory service to those with special needs and model enterprises;
- Organize and provide in company and demanded training that will enable enterprises become competitive;
- Provide support to trainers to prepare themselves for assessment of occupational competency;
- Provide support to MSEs in their locality regarding machine leasing and spare parts;
- Facilitate assignment of IES experts to their Institutes;
- Arrange support and training to enterprises engaged in maintenance service to enable them become competent;
- Deliver advisory and on the job training to MSEs on production process, product quality and productivity product design and technology usage;
- Ensure availability of inputs required for business management and technical training (such as human resource, finance and training equipment) and provide demand driven training;
- Undertake research regarding problems associated with machinery and technologies and their gap;
- Deliver advisory service to MSEs regarding technology and machineries usage, maintenance and handling training.

Source: FTA IES Implementation Training Manual

At the end of the day, whether the IES system works or nor and indeed whether the system works as well as it can in assisting MSEs to the next stage of development/growth on the basis of the package of 4 types of IES support, hinges on the TVET colleges / institutes and the quality and competence of the their 17,300 trainers (all TVET trainers are theoretically expected to deliver IES). After all, the trainers are the ones with direct contact with MSEs, they determine the gaps, they agree the programme of support and they deliver that IES packages to the MSEs. However, based on the discussions held at all levels of the IES system there are grounds for concluding that some of the most glaring weakness of the IES system concern the critical change agents themselves: the IES trainers.

IES is important…

The IES activities represent one the two core activities of the TVET colleges / institutes (the other being Occupational Standards). This is reflected in the fact that the Industry Extension and Technology Transfer Vice Dean is typically responsible for coordination of IES activities. The Vice Dean is normally the Process Owner and is supported by a team of individuals whose job is to coordinate the IES services. At the present time, although the college/institution staff receive training from the FTA/RTA/ technology/ Sector institutes, the Vice Dean and his/her coordinators do not appear to receive any, though they are important players in the system. This is gap in the system, as they may lack the knowledge with which to perform their important quality control role. There is also turnover in the Vice Dean position so consideration may be given to a customised training programme to meet their needs.

… and IES budgeting may be needed

Each college/institute receives an annual budget but it is not disaggregated for IES activities. The Vice Deans do not deal with the financial aspects as this is the responsibility of the Deans; they simply plan and coordinate the delivery and quality of the IES work. In the context of the budget, a couple of issues were raised during discussions with the Consultant:

- There is a need for further investment in the equipment/facilities available in the TVET colleges / institutes. If the equipment/machinery is not up-to-date, then the know-how may also be dated. This situation is not only reflected in the training given to TVET graduates (which is mainly theoretical in nature), but it may also be reflected in the IES advisory support given to MSEs, especially in relation to technology transfer. This issue appears to apply particularly to the institutes;
- There is a need to ensure that the colleges/institutes have sufficient supply / material budgets to ensure that the IES training / ToT is as effective as possible. The ability to deliver effective training on various aspects of IEs support, especially in relation to technology transfer, is constrained by the lack of materials/supplies due to inadequate funding. This issue appears to apply mainly to the institutes, especially in the in rural locations.

Support to all new target MSEs vs support to all new MSEs

The TVET colleges / institutes are presented with a list of all MSEs in their catchment area by the OSSs. This is the basis for policy of targeting support all MSEs that form part of the manufacturing sub-sectors.

The number of eligible MSEs is reported to be small since they only contribute about 1.3% of GDP (data on MSEs in the country and regionals by priority manufacturing sub-sectors are not available to the consultant to confirm one way or the other). The IES policy aim is to support all these MSEs to reach a higher level of development and to progress to being medium or large enterprises. This approach is not normally followed in other countries: rather than focusing on all eligible MSEs, there is often a process of application for support by the eligible MSEs, prioritisation on the basis of predefined criteria, leading to support for a select sub-set with the greatest potential for growth, employment generation, export orientation, innovation, etc. The latter approach reflects the fact that public resources are limited and there is a need to focus support on the enterprises offering the greatest potential for growth and development. In the case of IES in Ethiopia all relevant MSEs are eligible to receive support until such a point as they graduate (i.e. reach medium status) or choose to stop receiving the four IES packages.

However, during the discussions it became evident that the IES target group is actually not restricted to the priority manufacturing sub-sectors, but is actually open to all new enterprises, including those in the services and trade sectors, for example in the Southern region college visited. Such a development (discussed in the Regional TVET Agencies analysis above) raises market distortion and other concerns which call into question the IES system if this is being applied in other colleges and institutes and/or other regions. This is an issue which must be clarified and addressed by the FTA as a matter of urgency.

Mixed demand for IES

Once provided with the list of new MSEs, the TVET colleges / institutes are expected to make contact with the targeted MSEs, perform basic eligibility checks, present the four packages of IES, discuss with

the MSEs whether IES support is needed or not and on what basis, leading to a signed agreement. This is considered to be demand-driven IES provision. The MSEs are not required to accept IES unless they wish to. According to the discussions with a college in the Oromia region, not all eligible MSEs on their list are interested in participating. About 3 out of 10 MSEs in their catchment area opt out of receiving IES support reportedly because they are not interested (i.e. the 4 packages do not conform to their needs or are supply-driven) or do not understand the IES package of support on offer. In the Southern region, a college pointed out that a similar situation arises. However, although the eligible MSEs are often not interested, the IES trainees persist and eventually almost all new MSEs on their list agree to take-up IES service. The necessity to work hard in order to persuade MSEs to take-up the IES packages on offer is a clear indicator that the packages are not sufficiently demand-driven.

5+ years of support to MSEs

The default situation is that the IES trainers will provide the IES package to all MSEs on their list in the priority sectors within manufacturing (or all new MSEs in some cases). The IES services are offered for free to the MSEs for as long as it takes for them to graduate, usually a theoretical timescale of five years is noted though there is no reason why an MSE will ever graduate. Very few enterprises progress from being micro to small, let alone medium or large (the latter typically constitute 0.1% of all enterprises). The assumption that all will eventually become medium is based on a flawed understanding of enterprise dynamics.

Not surprisingly, since very few will ever become medium-sized, many if not most, receive IES for more than 5 years based on the sample of MSEs met. This is partly because it takes MSEs so long to graduate and move to other premises/sheds/workshops. This is an issue in itself, since many do not wish to graduate at all because of the highly subsidised premises provided by the public authorities. MSEs are eligible to receive IES support for as long as they choose to use the services and/or for as long as they do not receive upgraded commercial premises. Since land is publicly owned and industrial facilities are provided by the state, it takes time to receive new premises for expansion. Most MSEs are happy to stay as long as possible, but some do wish to move out as soon as possible in order to expand or diversify their business and these are invariably the most dynamic firms.

Since the numbers of eligible MSEs is considered to be very small (the Consultant does not have the data with which to substantiate this assumption), it is possible to argue that even though the services are offered for free to the eligible MSEs and even though this may go on for 5+ years, there is probably little or no market distortion involved since all MSEs that fall into the manufacturing target groups are eligible to receive IES support on exactly the same basis. However, this argument cannot be justified if, as discussed earlier, all new MSEs are eligible for IES, since this leads to a significant degree of potential market distortion in highly competitive sectors, such as trade, certain services, construction, etc.

Furthermore, receiving support for such a long period (several firms visited were continuing to receive services after 8 years!) may result in varying degrees of dependency culture developing in the very group of firms that the government should be seeking to stimulate a dynamic entrepreneurial culture in. These are the entrepreneurs who have the potential of generating employment, diversifying the economy, generating export and innovating, thus raising the competitiveness of the domestic economy.

Therefore, it may be necessary to move towards an approach based on specific assessments and delivery of specific and time-bound inputs without the expectation of on-going state support for the foreseeable future as this may dull entrepreneurial initiative and could backfire on the intention of the IES policy.

Few IES trainers are properly trained in IES

The IES expectation is that all 17,300 or so TVET trainers in the colleges and institutes will support the delivery of IES services. This is a number of mindboggling proportions and the discussions which took place indicate that this is not a realistic expectation and that the system is currently failing.

In one of the colleges visited, there are 158 trainers but only 43 (27%) are currently delivering IES support because their skills/departments do not fit with the 4 packages of IES training. Nevertheless, the expectation is that all will deliver IES in the future since it is in their job description. In the other colleges, especially the polytechnics, all staff were involved in the IES system.

The colleges have core process coordinators/leaders/performers for each of the IES packages but in no college have all the trainers been trained by FTA/professional trainers. In one case there were only 13 core trainers (30%), so-called because they have received training from FTA/Sector/Technology Institutes. The others (70%) have been trained by the core trainers via ToT; the equivalent figure is not known for the other two colleges or the institutes. A known phenomenon is that the quality of training decreases as it is cascaded down the ToT chain: if 70% of the trainers had only received second or third hand training in IES, this is an issue of concern. Since the quality of training matters to the competence of the business support delivered to MSEs, this is a systemic problem four years into the implementation of the IES system. This links with the previously discussed FTA staff/training problems (see preceding Chapter).

As previously discussed, the Vice Deans and process coordinators/leaders/ performers are currently not eligible to receive IES training, something that should change. Furthermore, the discussion with the colleges leads to three important dimensions for consideration:

- Not all college staff who receive ToT from the federal/regional level actually deliver ToT training to their own college, which means that IES knowledge is not necessarily recycled within the system; some IES training is better than none, even if it involves second or third hand ToT;
- The degree of college/institution trainer turnover means that knowledge is lost over time;
- Some of the ToT training can be several years old yet knowledge needs to be constantly refreshed/upgraded, which requires the introduction of a cycle of training and retraining.

These are important issues for FTA and the RTAs to address. For example, in some regions, they specifically request data from the colleges/institutions about how many trainers/MSEs have been trained after receipt of ToT. Another element of good practice is that the trainees in receipt of IES training are not only required to undertake the ToT of their college/institutions, they are also expected to replicate it for 2-3 representatives of each college in the region, though it can result in high numbers of participants, affecting the quality of the training.

Critical gaps in IES support

In the colleges visited, the trainers were not able to deliver the full IES package of support. There were two systemic gaps, as discussed below.

None of the colleges/institutions felt able to undertake value chain analysis in general, let alone apply it to the 4 packages or to the relevant manufacturing sub-sectors or products/services. This was a recurrent theme in the discussions and represents another major gap in the system. Given the centrality of value chains to the IES package of support, this is a surprising weakness. The FTA concedes that the quality of the 550 value chains undertaken is less than optimal. Some RTAs such as the Southern one have delivered value chain analysis training but to little avail: a college maintains that it does not understand how to apply it to IES. The trainers appear to be almost desperate for clarity and structured guidance since they comprehend how fundamental value chain analysis is to the IES system. Their requests and concerns have not yet been addressed by the IES system (i.e. FTA).

Another surprising gap in the IES system is that the colleges visited were also not in a position to deliver support to one of the most important IES packages, namely technology transfer, despite its centrality in the overall IES support system. The main reason for both gaps appears to be that guidance/training has either not been delivered or is insufficient, for example, focusing on themes such as:

- 100% copying;
- Design:
    - AutoCAD;
    - SOLIDWORKS;
    - CATIA, etc.
- And similar.

After four years of the IES system, these gaps are weaknesses that require the FTA to finesse its approach in order to address the problems and raise standards across the board in the targeted MSEs. This is a notable challenge given its ambitious goals and targets but it is unavoidable. Value chain analysis and technology transfer represent the foundation of the IES system: unless both are urgently tackled, it is hard to see how the IES system can achieve the desired impact. As discussed in Chapter 6, FTA is making strides in improving both the value chain and the 100% copy manuals and these are expected to lead to further training for TVET trainers and others, which should improve the situation.

To Kaizen or nor to Kaizen?

The colleges expressed a degree of reservation about the Kaizen IES package. The trainers indicate that the MSEs often do not think that it is so important to them (micro and small) and that the TVET trainers must work hard to “sell” Kaizen to MSEs, as well as ensure on-going interest and commitment. The issue is that MSEs´ key priorities are to produce faster and sell cheaper. Kaizen focuses on continuous quality improvement which some MSEs fear might affect price, especially in small, competitive local markets. Kaizen is particularly important for MSEs that have reached growth stage, as well as export-oriented firms, but this only applies in a minority of cases, such as in the garments industry. On the other hand, a woodwork/furniture firm that was not initially interested in the IES package of support subsequently

grew to appreciate Kaizen and attributes much of its success and profit to it. Still, the trainers in all three regions report cases where they assist the MSEs to go through the Kaizen process, only to discover that the MSEs revert to the status quo ante shortly afterwards. Other trainers report that 70% of MSEs are not interested in Kaizen, so they compromise by keeping such IES support to the minimum and usually do not support it beyond levels 1-2. There is, therefore, an issue as to whether Kaizen should automatically be applied to all MSEs or whether it is necessary to determine which ones would benefit most from Kaizen and target such support accordingly, rather than applying to all eligible MSEs.

IES training: demand greatly outstrips supply

By far the biggest concern relates to the level and supply of IES training and the extent to which is it actually equipping the critical change agents, the TVET trainers, to support eligible MSEs. This is a theme which was discussed in the preceding Chapter (FTA), as well as earlier in this section (see "Few IES trainers are properly trained in IES") and it is a theme we return to, this time from the perspective of the TVET colleges/institutes.

The FTA runs an annual Training Needs Analysis that it sends to all RTAs, which then coordinate the process with the 388 colleges/institutes. The TVET organisations discuss their IES needs and submit the requests to the RTAs, which process the feedback and forward their selections to FTA for decision on which training topics, how long, how many, which locations, etc. The RTAs themselves also commission training, for example, for the specialist sectoral Institutes and others which they pay for. Colleges and institutes can also commission training directly from the institutes and have to pay for it.

However, the colleges/institutes consistently maintain that the IES training they require is not being adequately met at present. The demand for IES training greatly outstrips the supply that the FTA and others in the IES system can offer to the colleges/institutes. This amounts to a critical bottleneck in the IES system, especially as the FTA is operating at 37% capacity. For example, the Kaizen team comprises 2 staff members and can only train 425 trainees (12 day course) per annum. However, as discussed, in the preceding Chapter, even if the FTA were to operate at 100% capacity, IES training demand greatly outstrips supply. There is also staff turnover and the need to renew and upgrade IES training over time. In this context, the Kaizen Institute has become one of the leading institutions in Kaizen in Africa with the support of JICA, and it in a position to undertake ToT. There would be an incentive for FTA and the Kaizen Institute to intensify cooperation in support of the MSME sector in Ethiopia. The same applies to the other three IES packages, where partners could be found to reduce the bottleneck/increase supply.

The critical change agents in the IES system appear to be underqualified for the job that they are tasked to perform. It can be assumed that the MSEs that they come into contact with will not benefit as much as would otherwise be the case, if they were adequately and fully trained on the IES packages, including value chains and technology transfer. This is an issue which the FTA needs to address urgently.

Knowledge management

The issue of good practice / best practice and information and experience sharing is frequently discussed within and between colleges/institutes and should theoretically already be happening at the regional and national level. The issue is reportedly regularly raised in TVET Assembly meetings, but in

reality it is not yet happening. There are examples of attempts at knowledge management within colleges and within regions (see RTA discussion above), but this is not a structured and coherent approach. Yet, in view of the bottlenecks in training, an effective knowledge management approach would be a very important supplement to the current IES system.

The FTA could aim to establish an effective knowledge management system which puts best practice case studies, designs, value chains, etc. into a searchable database that could be used by the entire IES system from the federal level down to the trainers / students / MSEs themselves. But first, it would have to ensure that its new website is up and running.

Support to MSEs: patchy

The institutes/colleges deliver training and support directly to the MSEs (and also train those enrolled in the TVET system aged 18-23). In the case of one college located in Addis Ababa, it currently has 161 MSEs on its list to deliver IES support, 44 of which were new ones added in 2016 (27%). The rest have been supported for a number of years, sometimes 8 years+. The MSEs typically receive IES support twice a week (in one case it was once a week but two trainers were involved). The support is delivered by the 47 trainers drawn from the most relevant departments such as metalwork, woodwork, construction, etc. These trainers have either been trained by FTA or been trained by a ToT that initially received FTA training. The IES activities are seen as a normal and regular part of their work and they are paid Birr 50 per day for travel and food. There are no other incentives, including for assisting MSEs to implement technology transfer. The trainers are reportedly keen to work with the MSEs and are committed to supporting then, however, there is a perception among the trainers that Birr 50 for the whole day is too little compensation for the costs involved. This may need to be reviewed and possibly revised upwards in line with inflation, including considering supplementary motivation/incentive schemes to help raise commitment, quality and impact) as it has the potential to impact on the quality of IES support and commitment.

The college aims to implement the IES package for 161 MSEs in 2016. Since there are 43 TVET trainers, one of whom is the coordinator for a particular MSE, this means a ratio of 1:4 trainers per MSE, depending on the skills needed. If they are supposed to support each MSE twice per week, this means that they are theoretically working 8 days per week and are not involved in any other college activity (depending on how long they spend with each MSE). One way to reconcile the numbers is if the college increases the numbers of IES trainers. Since there is a bottleneck in training (see FTA discussion above), this is another glitch in the IES system which will need to be addressed.

In the other two polytechnics in Hawassa and Shashemene, all the college staff train in TVET and deliver IES services. In Hawassa, the list of MSEs was much larger: 850 in 2016. The same applies to Shashemene: 1,444 MSEs were supported by 135 trainers (a ratio of 1:11!), however, it is very important to note that these firms were not just in the manufacturing priority sectors. Rather it was all new MSEs (plus the MSEs that have not yet graduated by becoming medium-sized enterprises). This means that they are delivering IES not just to the priority manufacturing sub-sectors, but also to the trade, construction and services sectors, including for example cafes, restaurants, ICT providers, garages, and parking services, health, tourism, culture, etc. In 2015, the latter college´s MSE firms were distributed as

follows: 30% construction, 20% service, 15% agriculture, 5% trade and 30% industry. This means that the whole manufacturing sector, which is not the same as the priority sub-sectors, accounted for less than a third of the MSEs being supported by the college. According to the college/OSS, they are following official instructions which now cover other sectors, not just the priority manufacturing sub-sectors.

Apart from the issues of possible market distortion and suitability of the skill set of TVET trainers to support non-manufacturing sub-sectors, the more non-priority, non-manufacturing MSEs are added to the list of firms that TVET trainers are expected to support, the lower the intensity of IES support that can be delivered over time, thus affecting the ability of the system to support the MSEs to the next stage of growth. It also calls into question whether the service being delivered is Industrial ES or Business ES, which is much more general in nature and which is harder to justify for the TVET system. This is another major issue that will need to be urgently addressed by FTA.

Monitoring and Evaluation

The Vice Dean´s teams monitor the TVET trainers to see if they are spending the allocated time with the MSEs, to assess the work being done, etc. (but without being trained in IES themselves, it is unclear how well they are able to perform this quality control function). They collect information from the supported MSEs at least on an annual basis in the form of firm visits that are spread throughout the year because of the sheer number on their list (e.g. 903 firms in one case).

However, it is evident that the focus of the exercise is very much to monitor the TVET trainer and whether s/he is doing what is expected in terms of the packages of IES services and delivery. However, it is not the MSE (or TVET students) that is at the focus of attention despite the entire IES system being created to support the enterprise, rather than the trainer. From an enterprise / economic development perspective, the real target of the IES system is being missed in the current monitoring process. The monitoring should not focus as much on the inputs (the trainer), though this is important, as on the end product (the MSEs) such as the additional employment, turnover, profit, productivity, export, market share, etc. None of this information is currently being collected on a systematic basis.

Although some statistical data are being collected, it has not been possible to assess if there are systemic data collection/monitoring forms or whether these are different for each region / sub-city. If this is the case, there may not be consistency and comparability. Moreover, the colleges can and do modify the data collection templates and add their own questions for monitoring purposes. This additional information is collected and analysed at the college level but is currently not forwarded to the RTAs / FTA.

The above suggests that there may be a need for FTA to review all data collection forms (including outputs and outcomes) to ensure consistency across the whole system. This would require FTA to consider its overall monitoring needs, which means TVET students and supported MSEs, not just TVET trainers. This could involve asking the TVET students and MSEs to rate the quality of the support being received from their trainers. Lower performing trainers could be prioritised for additional training and consistently poor TVET trainers may need to be moved out of active involvement with MSEs. Not all the 17,300 are suited to delivery of IES services and some may be causing more damage than good.

But it also means FTA considering impact evaluation, not just monitoring. There is already an example of the system developing in this direction. In recognition that evaluation of impact of IES on MSEs is important, the Southern RTA has requested colleges to undertake impact evaluation in the forthcoming Ethiopian year. The problem is that it has not issued the necessary guidance / methodology for this, with the consequence that all 45 colleges/institutes may end up interpreting it in their own way, so the results may not be comparable and/or it may not be possible to aggregate for the region, let alone for the country.

More effective monitoring and evaluation would require a consistent methodology to be developed at federal level, dissemination to the regions, training and support, as well as consistent application in all colleges and institutes. Furthermore, if standard monitoring and evaluation forms are issued by FTA, for use on trainers, trainees and MSEs, it would be possible for an IES database to be developed which would eventually allow analysis by firm, size, sector, gender, year, sub-city, city, region, country, etc. FTA could then produce comprehensive assessments and raise the impact of the IES system over time.

Other Issues of importance

Based with the discussions with TVET trainers, a number of other issues are worth noting:

- Value chains: the trainers acknowledge that these are not being done properly for a number of reasons, including lack of training, inadequate guidance (e.g. flow of value chain starts from production but should begin earlier) and lack of a quality value chain manual which sets out the general process but also customises it for each priority sub-sector / each IES package. Once they have been properly trained, they should be able to apply value chain analysis as expected;
- Growing enterprises: when the MSEs start growing, they quickly reach the point where they require business services which are not part of the IES packages, such as advanced support in business management, HRD, export, market linkage, access to finance, access to land/production facilities, etc. The IES trainers are required to interface with the rest of the MSE support system in order to coordinate such non-standard support, such as with the new Small and Medium Manufacturing Industry Development Agency and the Urban Food Security and Job Creation Agency (see below and Annexes C and D). It is unclear if the TVET trainers are fully aware of the wider options or if they can facilitate / coordinate this process presently;
- Generic vs specialist IES support: although the trainers may be capacitated to some degree in issues such as bookkeeping, cash-flow management, taxes, customer orientation, etc. they will always be generalists in these themes, since their expertise lies in their technical competence (e.g. metalwork, woodwork, textiles, etc.). No matter how much IES training they receive, this will remain the case for three of the four IES packages. The support they can provide may well be useful to MSEs, especially in the start-up and early growth stages, but over time MSEs´ increasing demands for support (e.g. balancing incomes, profit and loss, human resource developments, etc.) will exceed the TVET trainers´ competence levels, long before MSEs are in a position to graduate;
- Demand vs supply driven services: the FTA´s IES manual stresses the importance of delivering demand-driven IES services. Since the four packages are predefined, this is the very essence of a supply-driven, rather than a demand-driven IES service. By definition the trainers can only support

MSEs in the four areas that they have been trained in, not in the wider range of possible business services that an MSE would normally be interested in. Therefore, there are issues about:
    - How to ensure that the IES services do reflect MSE demand.
    - How to evolve the package of IES services over time.
    - How to assist MSEs that want something else which is not on the menu (i.e. a non-predefined 5th package) or something which is customised to the specific needs of the MSEs.
- Paid vs Free IES: it is a known phenomenon that enterprises do not value free business services as much as paid ones, even if the payment is token in nature. When the IES system provides free services on an on-going basis, potentially for 8 years (see also next Chapter), this may become an even more acute issue. In the case of one college, it was stressed that free services are simply not valued by enterprises and that there should be a mixture of free and co-financed IES.

To conclude, the preceding discussion presents a series of important gaps and glitches in the current IES system as far as the TVET colleges/institutes are concerned. It will be important to address them and it will fall upon the FTA to lead this process.

7. 3 Rest of the MSE Support System

As previously discussed, the MSE support available to enterprises is not restricted to the IES system. There is an extensive institutional structure which operates in parallel to the IES structures, as illustrated in Table 3 above (see also Annexes C and D). Therefore, it is important to consider the interface between the IES and the rest of the MSE support system. The key players are briefly discussed below.

7.3.1 Small and Medium Manufacturing Industry Development Agency (SMMIDA)

The former Federal Micro and Small Enterprises Agency (FeMSEDA) was recently divided into two separate agencies: the Urban Food Security and Job Creation Agency, which has a role in the food security strategy / micro sector and the Small and Medium Manufacturing Industry Development Agency. The latter is responsible, as the name suggests, for SMEs, rather than micro enterprises. It reports to the Ministry of Industry and is in the process of being formed. Based on Regulation No. 373/2016, it has the following functions (see Annex D for more information):

- Accelerate the expansion of SME manufacturing industry to large scale status thus helping with the transformation of the agriculture-led economy to an industrial-led one;
- Strengthen, assist and coordinate institutions that provide support to SME manufacturing industry so as to make the sector competitive and sustainable.

The organisation will focus on three sectors:

- Manufacturing development sector;
- Manufacturing facilitation and transformation sector;
- Manufacturing capacity building sector.

Discussions with the General Director of the Small and Medium Manufacturing Industry Development Agency (SMMIDA) demonstrates a strong understanding of the importance of the IES system to the SME sector, as well as a willingness to cooperate with the TVET system in ensuring that the interface between IES and SME support is as effective as possible. The same is likely to the needed in respect to the interface between the IES system and the micro enterprise sector, led by the Urban Food Security and Job Creation Agency (see Annex D for more information).

7.3.2 Regional MSE Development Agencies

There are also Regional MSE Development Agencies (REMSEDA) whose structure will also be adjusted once the SMMIDA / Urban Food Security and Job Creation Agency are fully established. The IES Manual highlights the following interface between IES and the current REMSEDA.

Box 4: Regional MSE Development Agency - Duties and Responsibilities

- Provision of capacity building service for implementers of IES;
- Prepare, secure approval and monitor directives related to cost sharing mechanisms of the IES;
- Work in cooperation with other regional stakeholders engaged in the technology supply;
- Design strategies and cooperate with others to secure profitable technologies and equipment demanded by MSEs;
- Promote technologies and innovations of MSEs;
- Coordinate local / international donors to solicit funds either in kind or cash to support technology development;
- Persuade regional Research Institutes / Higher Educations to include technology development in their programmes;
- Collect information, designs and samples regarding profitable and demanded technologies by MSEs and provide

support for this technologies be produced by others;
- Create situations where technologies can be promoted (e.g. exhibitions) and lay foundation for their legal recognition;
- Help TVET Institutions to geographically monitor MSEs in their region in cooperation with the Regional MSE Agencies.

Source: FTA IES Implementation Training Manual

7.3.3 Zonal/City MSE Development Offices

There are also Zonal/City MSE Offices and the relationship with IES is illustrated below.

Box 5: Zonal/City MSE Development Offices - Duties and Responsibilities

A. Zonal MSE Development Offices

- Undertake awareness creation and publicity works to employees and IES implementers about the IES packages;
- Capacitate TVET experts and create environment where zonal TVET institutes can support MSEs in providing IES;
- Collect and compile IES information and prepare reports and disseminate to relevant organs;
- Monitor and evaluate the business advisory service;
- Organize reports about the Zonal advisory service given to enterprises and disseminate to relevant offices.

B. City MSE Development Offices

- Create conducive environment where they can cooperate with TVET Institutes to provide advisory services to MSEs;
- Provide effective IES in cooperation with TVET Institutes;
- Compile reports and information and disseminate to higher bodies;
- Motivate and award employees who exert best performance.

Source: FTA IES Implementation Training Manual

7.3.4 One Stop Shops (OSSs)

Within the kebeles, the lowest administrative unit, One Stop Shops (OSSs) have been established throughout the country. The OSSs combine the MSE services and each key implementing agency has at least one staff member. Officers from the micro finance institutions, IES from the TVET bureaus and an expert from the micro and small enterprises development bureau combine their expertise to address the challenges faced by MSEs. The OSS theoretically addresses all the needs of the MSEs. Technical, financial and administrative challenges facing MSEs are expected to be tackled with hands-on support to overcome bureaucratic and other hurdles, thus saving time and cost. The services delivered include:

- Registration and identification of unemployed and keeping data on businesses;
- Organising as enterprises/cooperatives, registration, etc.;
- Registration and provision of trade license for MSEs;
- Registration for tax purposes;
- Facilitation of bookkeeping, accounting, auditing, etc.

The FTA´s IES Manual highlights the interface between IES and OSSs, as illustrated in the Box below.

Box 6: One Stop Shop Services at city level - Duties and Responsibilities

- Undertake awareness creation activities regarding how, where and by whom the IES are provided to MSEs;
- Recruit IES beneficiaries based on criteria set;
- Organize inputs or information related IES and disseminate it to beneficiaries;
- Identify MSEs´ problems and disseminate them to TVET for solutions;
- Support, monitor and receive report about the IES provided by TVET Institutes;
- Assign individuals who can work cooperatively with TVET institutes regarding IES.

Source: FTA IES Implementation Training Manual

Since the OSSs are critical to the IES system, they are explored in more detail below. The Consultant visited an OSS in Hawassa which comprised a coordinator and 14 other staff structured as follows:

- Enterprise development: finance for MSEs, collateral, etc.;
- Support services: specifically for MSEs;
- Premises: liaison with city administration to secure land, sheds, etc.

The OSS includes 2 professionals working specifically on IES issues who deal with monitoring, identifying skills gaps, preparing for training, connecting people/MSEs to the TVET system, as well as direct interventions such as helping with machinery maintenance, with savings, with reinvestment, etc.

OSSs help identify people in need for vocational training by posting notices in five different kebeles, assess needs and help people to register with the colleges/institutes. These beneficiaries are young people in the 18-23 age group.

The OSSs also play a key role when people have graduated from the TVET colleges/institutes and want to start a business. The OSSs identify people who want to start a business and help organise them into groups of 1-5 / 1-10, etc. depending on the situation. These groups are then registered as companies, partnerships, cooperatives, etc. The OSS acknowledges that while the grouping approach is government policy, but it is not easy to form groups because of issues such as joint liability / loan / collateral, etc. Reportedly conflicts often arise in groups but it still makes sense to form groups as it is government policy to support them and it is easier for them to gain access to public funds and other forms of MSE support. In principle, the OSSs help both groups and individuals and no distinction is made in terms of eligibility for IES services.

A key issue is that the groups usually want to obtain loans to get their economic activity going but they normally need to collect at least 20% of the cost for their workshop/equipment, etc. and then OSS helps them to register, obtain licenses, as well as develop a business plan in order to apply for 80% credit from the Credit and Savings institutions, some of which the government has a stake in. Almost all applicants obtain a loan whose interest is about 10-15%, depending on the risk assessment.

Once a business starts, it is eligible for IES services. The IES system is supposed to be restricted to the manufacturing priority sub-sectors, but in reality the OSS sends the list of all new MSEs to the TVET colleges/institutes for delivery of business support. There is a question mark over support to, for example, new trade and service MSEs, especially if there are other firms already operating in the same local market.

Based on discussions with the OSS / college representatives, market distortion is already evident. The colleges stress that they would prefer to focus on the priority manufacturing sub-sectors, but have no choice but to support all the firms on their list. They estimate that some 40% of the MSEs on their current list are not in the priority manufacturing sub-sectors. They acknowledge that they do not have

the relevant skills and knowledge to support some and that covering so many MSEs inevitably dilutes the impact of IES.

The OSS does seem to encourage group formation in the manufacturing sector but their experience is that new enterprises resist going into manufacturing for the simple but important reason that it requires significantly more start-up capital for premises and equipment (they estimate a minimum of Birr 500,000), which makes it much more difficult to generate such start-ups. A possible solution would be for the financial institutes to offer subsidised manufacturing loans/interest but according to the OSS, the financial institutions do not distinguish between trade, services, manufacturing, etc.

Obtaining business premises is a problem because of scarcity of land. Priority is given to manufacturing enterprises to enter sheds/workshops (3-4 enterprises for a period of 5 years) but MSEs typically stay as long as they can since the costs are very low (about Birr 200 per month). The difficulty in ensuring graduation from the sheds affects new business formation: if established businesses do not vacate their subsidised premises, new ones cannot start/enter the limited premises unless they rent significantly more expensive privately rented premises. This problem is not dissimilar from the business incubator mechanism: it requires clear tenancy rules and leases, including increasing rents over time and compulsory graduation after a certain period of time, combined with consistent enforcement rules.

The OSS argues that the demand from MSEs for non-IES services relates mainly to land/sheds and market linkage support, which colleges/institutes currently cannot help with. Neither the OSS nor the TVET college/institutes currently link-up with the Chambers of Commerce and Sectoral Association or private consultancy provision. A college acknowledges that this is a missed opportunity: it would be possible for the gaps in IES provision to be filled by private BDS providers (which reportedly exists) and thus be demand-driven. The OSS staff and the college trainers note that MSEs often neither appreciate nor continue with the IES services because they are either not what they need and/or are given for free. They maintain that if the MSEs were required to pay something, the mentality and commitment of the MSE entrepreneurs might change.

7.4 Business Associations and Sectoral Institutes

In addition to the IES system and rest of the MSME system, an important role is played by the business associations in Ethiopia. These are briefly discussed below since the STEP project and the FTA link-up with this network of institutions in delivering support to the ultimate beneficiaries, namely the MSEs.

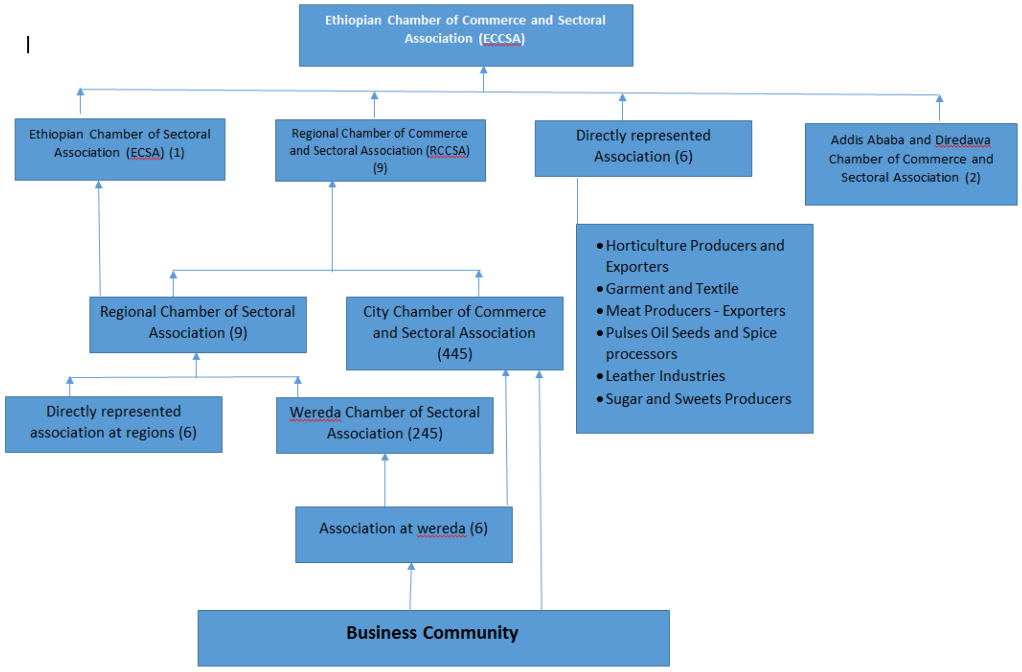
7.4.1 Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA)

The Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA) is a large and complex system of support to member enterprises which is voluntary in nature. Proclamation No. 341/2003 reorganised the Chambers in line with the free market economic policy and the Industrial Development Strategy and resulting in the Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA) in 2007. ECCSA provides important support to its members, such as:

- Providing different services to the business community;

- Safeguarding the overall rights and benefits of its members;
- Promoting and publicising the products and services of the country;
- Serving as a bridge between the business community and the Government.

ECCSA is an apex organisation of Chambers and Sectoral Associations in Ethiopia with 18 members, including nine Regional Chambers of Commerce and Sectoral Associations, two City Chambers of Commerce and Sectoral Associations, one National Chamber of Sectoral Associations and six Sectoral Associations organized at national level. The Diagram below illustrates the nature of the ECCSA.



The main services provided by ECCSA boil down to the following:

- Trade and investment promotion;
- Capacity building;
- Research and advocacy.

Consequently the business association system is relevant to MSME support. However, discussions with the colleges/institutes reveal that there is little or no engagement between the TVET / IES system and the chambers system at present. This may need to be reconsidered in future, including possible engagement with academia (e.g. the Technology Transfer Offices) and existing private business service providers.

7.4.2 Industry Development Institutes

Ethiopia possesses a number of industry development institutions that provide special skill development support to enterprises, with an emphasis on technical know-how and capacity building for MSEs (see also Annex C). These include the following: Textile Industry Development Institute, Leather Industry Development Institute and the Metal Industries Development Institutes, two which are analysed below.

Textile Industry Development Institute

The policy focus on industry and manufacturing led to the establishment of the Textile Industry Development Institute (TIDI). TIDI seeks to enable the textile industry to compete in the global market by providing investment promotion, consultancy, training study and research, laboratory and marketing support and services. Its objective is to facilitate the development and transfer of textile and apparel industries' technologies and enable the industries to become competitive and achieve rapid development. TIDI has various Departments such as Engineering, Weaving and Knitting, Ginning and Spinning, etc. but the most relevant one to the project is the Garment Technology Directorate, whose services include:

- Providing in-house and in-company short term training for filling specific gaps;
- Conducting research and development activities to improve quality and productivity of garment industries throughout the value chains;
- Identifying technologies that can be developed and undertake product development activities which are suitable for garment industries;
- Undertaking benchmarking studies and implementation that facilitate the development and competitiveness of the garment industries in the international market;
- Providing problem solving technical and consultancy services for the garment industries;
- Collecting, analysing and disseminating information for the development of the garment industries;
- Obtaining feedback on the impact of policies on the growth of the garment industries.

The discussion with TIDI demonstrated that because the textile sector is a priority, it plays a leading role in terms of consulting with the enterprises in the sector, giving training (to TVET organisations) and supporting MSEs. TIDI also works with universities and others in terms of curriculum development, understanding textile industry needs, policy formulation, etc. However, TIDI representatives stressed several problems, one of which is that the supply of human capital to the enterprises is not as good as expected, not least because the TVET institutions are only imparting theoretical knowledge. This represents only 30% of industry´s needs, which means that enterprises must equip the graduates with the rest. However, the textile industry wants skilled people but is not willing to invest in them.

TIDI has about 350 staff, however, the Garments Technology Directorate has 24. The Directorate also has knowledge and skills gaps. Its recruits are graduates who tend to have broadly relevant skills and knowledge, but require additional capacity and need to be sent abroad to gain the necessary knowledge (e.g. Masters and PhDs) before they are ready to support the sector.

The main role of TIDI is Training of Trainers (ToT) for the garments sector on topics such as:

- Computer Aided Design (CAD): 50 people / 50 workstations x 2 weeks (in reality this takes 4 weeks as trainers lack basic computer knowledge and need 2 weeks of support before they are ready);
- Embroidery: 12 people / 6 work stations (2 per work station) x 2 weeks;
- Sewing: 100 people x 1 month;
- Basic maintenance: 12 – 15 people x 2 weeks.

This shows that the volume of potential training that TIDI can deliver is not great, though clearly not all the 388 TVET colleges/institutions specialise in garments.

The problems highlighted by the TIDI include the fact that:

- None of the 388 TVET colleges/institutions have adequate facilities/equipment;
- The 6 TVET colleges are relatively more advanced but still not optimal;
- There are human capital issues since many of the textile/garments trainers have moved from other specialisations, resulting in the need for them to be retrained by TIDI;
- The TVET system lacks resources to even provide materials/supplies for the training;
- As a result, TIDI has had to train the TVET students in the past (but has decided to stick to ToT);
- The system equips graduates with theory but not practice and industry is not willing to do the rest;
- Industry does not absorb the supply of graduates, considering them „spoiled" by the TVET system.

TIDI´s IES support is based on applications which are received for ToT from FTA/RTA/Colleges/Institutes. FTA and RTAs coordinate regionally to select the people to be trained by TIDI. TIDI organises the rest, including delivery either in situ or elsewhere. In the case of the Colleges/Institutes´ applications, they are typically made by particular trainers and the colleges/institutes pay their expenses.

TIDI´s support to enterprises is not nearly as important as the ToT. Some of the ToT training may involve enterprises if not all vacancies are filled by the TVET trainers but the Garments Technology Directorate rarely provides support directly to MSEs, though other Departments such as Weaving and Dyeing do. Where it is involved in such support, the Directorate mainly works with medium and large enterprises, rather than micro and small ones. None of the enterprises pay for such technical expertise and services, and neither do the colleges/institutes at present though this may change in the future.

Ethiopian Metal Industries Development Institute

The Metal Industry Development Institute (MIDI) was established in 2010 to facilitate the development and transfer of metals and engineering industries technologies, and to enable industries to develop rapidly and gain competitiveness. Its main duties are to:

- Formulate and implement policies, strategies and programmes that assist in the facilitation of the development of metals and engineering industries;
- Collect, analyse, organise and transfer to sector's data centre and disseminate the data necessary for the development of the metals and engineering industries;
- Prepare and disseminate project profiles that may be helpful in expanding investment in the metals and engineering industries; conduct feasibility studies for investors; follow up project implementation and provide remedies to problems encountered;
- Advise investors on the selection of technology, negotiation, constitution, erection and commissioning;
- Prepare and conduct practical trainings on technology technical matters, marketing and manufacturing and other tailor-made trainings, and issue certificates to trainees;
- Conduct research to promote the development of metals and engineering industries.

- Provide support and consultancy services on production process, planning and quality control;
- Cooperate with government and private institutions with similar objectives, locally and abroad;
- Undertake benchmarking studies that help the development and competitiveness of metals and engineering industries;
- Deliver testing services to metals and engineering industries products;
- Extend support for the creation of input and output linkages;
- Undertake studies on scrap metals transactions and follow up the implementation;
- Identify technologies that can be developed and undertake product development activities;
- Cooperate with universities on product development and human resource development, conduct joint research and assist in strengthening local research capacity in the sector;
- Conduct market study for metals and engineering industries products;
- Deliver its services in one stop shop;
- Collect fees for services as appropriate, etc.

Other Institutes

There are other institutes of relevance to IES, including the Leather and Leather Products Industry Development Institute and the Food, Beverage and Pharmaceuticals Industry Development Institute, Chemicals and Construction Materials Development Institute, Ethiopian Kaizen Institute, etc. These were not visited by the Consultant but the issues discussed above are likely to broadly apply to the institutes relevant to IES (see also Annex C).

7.5 Conclusions

Regional TVET Agencies

- The RTAs are autonomous and receive funding separately from FTA, which means that it has to work cooperatively with the RTAs/Sub-cities/OSSs/colleges/institutes in achieving the IES mission;
- Like FTA, the RTAs are experiencing understaffing and/or high turnover of staff;
- The monitoring of the TVET colleges/institute trainers is an important duty for the RTAs but it is also the case for various others, including FTA, OSSs, colleges/institutes, so streamlining is needed;
- The RTAs recognised that there are skills gap despite the annual Training Needs Analysis;
- The monitoring is of trainers but a key gap concerns the performance of the MSEs themselves, such as employment, turnover, profitability, productivity, export, gender, etc.;
- Another critical gap in the IES system is that there is no impact evaluation;
- In addition, both the TVET trainees and the MSEs should have the opportunity to assess the trainers.

OSSs

- OSSs play an important role in the IES system, not least in identifying trainees and MSEs;

- However, some may be sending all new MSEs to the colleges/institutes, rather than the ones that fall into the manufacturing priority sub-sectors;
- The OSS notes that the IES service could be better integrated with other MSE services and that there could be a link to business associations/private BDS providers, thus becoming more demand-driven;
- It also notes that MSEs often either do not appreciate or discontinue with the IES services because they are either not what they need and/or are given for free;
- If MSEs were required to pay something, the mentality and commitment of the MSE entrepreneurs might change and it might be useful to combine/supplement free IES with private provision.

TVET Colleges/Institutes

- There are critical gaps in the knowledge and experience of trainers, not least in value chain analysis, technology transfer yet they are at the core of what the IES system is supposed to achieve;
- It is unclear is Kaizen makes sense for all MSEs and could be targeted at a sub-set of relevant MSEs, especially those on a rapid growth trajectory, those that are export-oriented, etc.;
- Too few of the 17,300 IES trainers are adequately trained and have received 2nd of 3rd hand training/ToT on IES; this affects the impact of the IES system directly;
- There is significant latent demand for more IEs training but this is just not being met;
- There is only so much that trainers can do in relation to IES as generalists;
- There is a lack of a knowledge management system, despite strong demand from colleges/institutes and recognition of its importance in supplementing know-how and spreading good practice;
- A monitoring and evaluation system needs to be developed and applied to the whole IES system;
- IES support for 5-8 years or longer may not be compatible with stimulating independence, entrepreneurship and innovation among business owners;
- TVET trainers are not well suited to support non-manufacturing sub-sectors (e.g. trade, services, etc.) and supporting all new MSEs stretches existing resources, rather than concentrating support;
- There is also the possibility that blanket support will lead to market distortion, for example in already highly competitive local markets in the retail and services sectors;
- There is a need for more demand-driven IES services; free IES services could be supplemented by other services, some of which could be on a paid for basis (as is the case of ToT by Institutions).

Business Associations

- Business associations, such as Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA) have relevant IES capacities, know-how and resources at national, regional and local levels;
- However, they are largely not used and there is little linkage from IES to them;
- Private business consultants are known to exist and to be supporting mainly medium and large enterprises, but are also not currently engaged in the IES system for delivery of specialist support;
- They possess skills and knowledge that could be used to supplement that of the TVET trainers.

Technical Institutes

- These are providing mainly ToT, mostly on a paid for basis to the IES system;

- There are limits to the volume of training that can be delivered through these institutes;
- These are not providing much support to the MSEs themselves, though it is free of charge;
- There would appear to be scope to increase the engagement of the institutes in the IES system.

8. The Micro and Small Enterprise (MSE) Perspective

8.1 Introduction

The final part of the review concerned meetings with MSEs in receipt of IES in Addis Ababa and Hawassa. No MSEs were met in Shashemene as the TVET trainers indicated that the entrepreneurs were not available because of the timing of the visit. The consultant would stress that there no attempt to select a representative sample of enterprises. The emphasis was on meeting MSEs, discussing their experiences and making a general assessment of the nature and usefulness of the IES package of services. The brief qualitative analysis below reflects this context.

8.2 MSEs in Receipt IES

The two MSEs visited in Addis Ababa, a furniture maker and a garments and textile enterprise, had both been supported for over 8 years by the BDS/IES system. Two enterprises were also met in Hawassa, but the discussions were restricted to mostly a site visit, rather than detailed discussions. Therefore, most of the analysis to follow is based on the discussions with the furniture shop which acts as a case study with which to highlight some preliminary issues of policy relevant to the future reform of the IES system. The reader should be fully cognisant of the limitations of this part of the exercise. The information is designed to correlate with the analysis in the preceding chapters of this report.

The furniture maker was established in 2008. It employed 10 people making wooden stamps and had a turnover of Birr 120,000 per annum. Until 2011/2 it received ad hoc state support and grew to 13 staff and turnover of Birr 150,000. Growth was modest in the first 4 years but then the firm started receiving the IES package which continues to today.

The firm was offered the 4 IES packages by the college but was initially sceptical - it did not feel what was on offer was what it needed. However, eventually it decided to proceed with Kaizen, signed the agreement and has been supported with IES for 4 years. The whole factory has been reorganised, the electrical system changed, reuse of the by-product (waste), etc. Two TVET trainers continue to come to the firm once a week and further Kaizen training is planned.

The result is that the firm has increased from 13 to 45 staff (5 managers) and from Birr 150,000 it now has turnover of Birr 15 million – reuse of the former waste alone generates Birr 380,000. It now produces furniture for sale in Addis Ababa and elsewhere in the country. It considers itself to be the no.1 in its niche, mainly because of its quality.

It is growing so has applied for a 2,500 m^2 space; it expects to graduate and move to new premises in the next 6-12 months. The firm attributes the majority of its growth to the Kaizen support received from IES which continues. Two trainers come once per week and the firm is about to received training for all staff for 6 days. This is an investment in the staff, which it considers to be valuable and thus worthwhile closing down production for the period of the planned training.

The firm appears to be a good example of what the IES packages can achieve and its success is evident.

However, there are a number of issues that are worth highlighting:

- The SME was initially not interested in the 4 IES packages and was sceptical because it was not what it felt it needed. This is the classic characteristic of supply-driven business services. The international evidence is that business services must be designed around the needs of the firms, not the knowledge of the TVET trainers/providers of a predefined package of four services;
- However, the firm was not a start-up; it was 4 years old and already well established even if it was initially small and not profitable. It was on the cusp of the growth stage and once it understood Kaizen and recognised its potential to spur growth, it made good use of the service;
- It is questionable whether a start-up would benefit from Kaizen to the same extent. The evidence from the fieldtrip is that such enterprises are interested in producing faster and cheaper, with quality being relegated to a lower level of priority. This applies doubly if IES is now extending beyond the manufacturing priority sub-sectors to non-manufacturing MSEs.
- The MSE indicated that it did not like the inflexibility of the current IES packages. Over time, however, as they grew, they have asked for various other forms of support, all of which have been refused such as technology transfer, HRD, business management, etc. They have been denied support because the trainers are not trained in these areas. This means that even the supply-driven services that are at the core of the IES package of support were not delivered to this enterprise (and probably others up and down the country);
- The firm is very different from what it was like four years earlier. This means that the trainers should regularly review what they can offer as the firm grows, but this is not currently being done;
- The firm has requested other services but has been denied because this is not part of the IES package. However, it does not appear to have been referred to others in the MSME support system;
- The debate covered the issue of how long MSEs need IES services since it has been supported for 8 years (4 before the IES system was created). It acknowledged that it does not needs IES anymore, yet continues to receive them for free;
- It acknowledges that that it has the experience of using business services and it sufficiently profitable to commission exactly what it needs privately. If this is the case, then the additionality of continuing to deliver IES support to the firm is zero. It is actually negative as the IES services could be offered to another MSE in greater need of them;
- The preceding point is confirmed by the fact that MSE in question has already started commissioning specific, customised business services separately from the IES system. It has commissioned a feasibility study from private consultants and is supplementing its management capacities through private sector provision that is pays for. The firm has experience, knowledge and resources to obtain its own, customised business services. There is no longer a legitimate public policy role to support it with further IES;
- The firm stressed (unprompted by the consultant) that: *"it is critically important not to create a culture of dependence among entrepreneurs"* and that: *"firms must stand on their own two feet."*

- The firm maintains that IES support should be targeted on the early days (start-up phase) when survival is important and where the IES packages are most helpful. It agrees that IES support should not go on for too long: *"over 5 years of IES support is too long!"*
- Finally the firm maintains that: *"There is a need to encourage a culture of entrepreneurship in this country"* and that there is a need to: "*make better use of local products through more effective use of local procurement opportunities, rather than relying on imported products."*

The experience of the textile and garments firm was similar. It is also in receipt of long lasting IES support (8 years and continuing). It had few staff and limited turnover, which increased after IES support. It now employs 80 people full time and Kaizen has reportedly resulted in more efficient workspace, less time used, less waste, more efficiency, fewer accidents at work, people who know what they are doing, reduced pressure and a happier workforce. However, three points are worth noting:

- The firm is relatively large and is involved in export, part of the reason why Kaizen is appreciated;
- Two trainers continue to assist the MSE on a weekly basis, but there are now incremental improvements and they are mostly involved in smaller scale activities such as as developing patterns. The biggest changes had been made in the first 6 months and diminishing returns since;
- If the IES package is offered on an open-ended basis, there is a risk than the trainers may come to be seen as part of the SME and end up being used accordingly. They may effectively become unpaid / subsidised labour. This is counterproductive to achievement of high impact and distorts markets, especially in the case of non-priority, non-manufacturing MSEs.

8.3 Conclusions

Very few firms were met as part of the review so it is not possible to draw firm conclusions from the preceding analysis though tentative general points can be highlighted:

- It is not only for 5 years that IES support is provided; it can go on for much longer (8+) but this can lead to a dependency culture and/or lack of appreciation and commitment to free IES services;
- Some MSEs were persuaded by the trainers to accept IES services: the package is not necessarily that they would have chosen if they had been demand-, rather than supply-driven;
- Nevertheless, two long-established (8 years) and stable MSEs with growth potential, one with an export orientation, have made good use of Kaizen;
- However, it is far from clear that micro / start-up and early growth MSEs would be equally interested in Kaizen for example;
- Requests for additional business services, including technology transfer which is at the core of "Industrial Extension Services" were not supported, as the trainers lacked the knowledge/ skill/ competence. This is a serious weakness in the IES system;
- MSEs quickly progress beyond the limits of the current IES packages and will be able to buy their own specially commissioned and customised services. They should be encouraged to do so as soon as possible, allowing limited state support to be focused on the other targeted MSEs.

9. IES System: Conclusions and Recommendations

The analysis presented in this review report is consistent with the emphasis of this assignment, namely that the focus is on identifying the gaps and glitches in the IES system and seeking to improve rather than replace a system of Industrial Extension Services (IES) that has been in place for four years and which the Ethiopian government is currently fully committed to, as reflected in various institutions and policies that are in place.

A reading of this review reports leads to numerous issues which merit consideration for reform in relation to the Ethiopian Industrial Extension Services (IES) system. This Chapter presents the eight most important policy-relevant conclusions and recommendations arising from the review of the IES system. These conclusions and recommendations were presented, discussed and validated at a specially convened workshop involving FTA, college and other representatives on the 20 September 2016.

1. Inadequate Value Chain Analysis

The IES system is underpinned by effective value chain analysis. In particular, the four IES packages are predicated on effective value chain analysis. Although there is a Value Chain Manual, some training has delivered and 550 value chain analyses have previously been prepared, all are inadequate and cannot be considered to be based on a systematised process. In particular, the change agents responsible for the preparation and use of value chains, namely the TVET trainers, as either unsure or confused or both about how to develop and apply them, consequently, the foundation of the IES system is inadequate.

If FTA wishes to maintain value chain analysis as the foundation for IES package, 2 things are needed:

- Develop a useful, practical, IES-oriented Value Chain Manual on the following basis:
    - Incorporate international best practice on value chain analysis.
    - Customised overall value chain process to the specific needs of IES.
    - Customise specific value chain processes for each of the four IES packages.
    - Place particular emphasis on the technology transfer in the value chain process.
    - Provide detailed, customised, step-by-step examples of sectors/sub-sectors/product VCs.
    - Incorporate specific templates, reference materials and FTA contact details.
- Follow-up the Value Chain Manual with extensive, country-wide value chain training / support:
    - Start planning extensive value chain training as soon as the Manual is revised.
    - Undertake root and branch training on value chain analysis at all 388 colleges/institutions, as well as federal, regional, etc. level.
    - Provide follow-up support to trainees on the preparation of at least 3 value chains analyses.
    - Establish a Helpline for value chain analysis (and technology transfer – see below).
    - Initiative a regular competition for best value chain analysis (see knowledge management).
    - Present best practice examples in the TVET meetings, FTA website (which is expected to be on-line shortly), etc. and disseminate them.

- Undertake regular retraining and revision of Value Chain Manual.

The FTA presented a draft new Value Chain Manual on the 21 September 2016 which is a major improvement on the current manual. It received significant feedback on what is still needed to be done in order to improve it and convert it into a practical guide. Therefore, the following recommendations arise:

- FTA needs to take into consideration the workshop feedback and the recommendations above in finalising the new Value Chain Manual;
- FTA needs to take the lead, together with RTAs, sectoral business associations and TVET Vice Deans in the preparation of sector-wide value chain analyses in relation to the manufacturing priority sectors and sub-sectors targeted by the IES system;
- FTA needs to prepare specific guidance for TVET trainers on the application of the value chain analysis to their IES activities with MSEs, with a particular focus on technology transfer;
- FTA needs to undertake the necessary capacity building for the IES system.

2. Inadequate Technology Transfer

If the foundation of the IES system is value chain analysis, technology transfer is at its heart and has the potential to generate employment, growth, productivity, export, etc. It is the very reason why the IES system was created using the TVET system instead of the BDS system that was existed 4 years ago. However, there is a systemic problem: all the evidence available based on the meetings held with the entire IES system leads to the conclusion that technology transfer is either not happening or only happening at the margin. The main reason appears to because the TVET trainers are simply not adequately equipped to perform this function at present and so do not appear to support it as part of their IES duties, despite the centrality of technology transfer to the whole system.

If FTA wishes to ensure that technology transfer becomes the core of the IES system, then it needs to emphasise this area at all levels of its activities, including better coordination and integration with the wider MSME support systems beyond the TVET policy sphere, including the technology institutes, the universities/research centres (Technology Transfer Offices), the medium and large enterprises, the new Urban Food Security and Job Creation Agency, the Small and Medium Manufacturing Industry Development Agency, etc.

It is recommended that a technology transfer expert be appointed by STEP to specifically assess the weakness and develop a customised action plan for the integration of technology transfer in FTA activities, linked to the wider stakeholders in the system. This should lead to a detailed action plan for implementation of effective technology transfer through the IES system.

It is also recommended that the 100% Copy Manual be revised and made more practical and customised to the needs of the TVET trainers. This process has already started and a revised draft 100% Copy Manual was presented by FTA representatives on 21 September 2016. The feedback obtained needs to

be incorporated into the revised manual. Furthermore, it needs to be revised to reflect the fact that not all targeted MSEs will require 100% copy. A sub-set will be more advanced and require more than just 100%, adding value to the product, customising to the market needs and/or innovating for the national and potentially international market. Therefore, it is necessary for the revised manual to take the needs of these MSEs into consideration. Accordingly a 100% Copy "Plus" Manual should be developed.

3. Insufficient Knowledge among IES Trainers

The IES support delivered to the MSEs and its impact in terms of generating economic progress and propelling enterprises to graduate to the medium and large categories depend on the knowledge, competence and support being provided by the TVET trainers to the targeted MSEs.

Unfortunately, the evidence is that after 4 years of operation and capacity building, a relatively small number of the 17,300 TVET trainers have received direct training in elements of the four packages, let alone adequate training in all four packages. The IES system does not seek to deliver direct training on all four packages (and value chains) to all TVET trainers in the 388 colleges/institutes. Rather, the emphasis is on Training of Trainers (ToT) which then pass-on their knowledge to others.

However, there are only relatively few people in receipt of ToT in each college/institute (core trainers), there is a loss of quality in the ToT chain and there is staff turnover within the colleges/institutes. The result is that relatively few of the TVET trainers are adequately equipped with knowledge of part of the IES packages, let alone all the knowledge across all four IES packages. There is also a need to renew and upgrade IES knowledge over time. The reality is that demand for IES training greatly exceeds supply in terms of FTA, Institutions, RTAs, etc. The result is that there is an inadequate level of knowledge among TVET trainers and as a consequence, the quality of support to SMEs and the impact of IES will inevitably be lower than anticipated.

If FTA wishes to significantly raise the standards of the TVET trainers and thus the impact of IES support on the MSEs, it must reconsider and reorient its approach to IES capacity building. The following elements are likely to be required:

- FTA:
    - Work with HRD Department to rapidly ramp-up IES and Technology Transfer Directorate to full staff capability (currently 17 out of 46 or 37%), including developing recruitment incentives (which may or may not be monetary in nature); develop a staff induction programme (due to high turnover); and develop and deliver an FTA staff training programme.
    - Once full staff capacity is attained, review the need to increase the staffing levels in order to further reduce the main bottleneck in terms of delivery of training to the IES system. Determine the realistic staff numbers needed to deliver effective training programme for the IES system and raise numbers to ensure that demand for training and retraining can be met.

    - Review all the packages of IES to ensure that they are up-to-date and that they meet the needs of MSEs to the fullest extent possible (i.e. ensure that they are as demand driven as possible and regularly recalibrate the nature of the IES packages on offer such as Kaizen).
    - Determine if it makes sense to equip all 17,300 TVET trainers with IES skills or whether to target support more precisely in the future based on the skills and characteristics of trainers.
    - Review the current annual Training Needs Assessment system by assessing who has been trained in what and when across all 388 colleges/institutes and where the gaps are. Develop a plan for overcoming the significant training backlog and perform retraining with a focus on ensuring that the greatest gaps are prioritised.
    - Develop an incentive mechanism based on local and international experience.
- RTAs/TVET Colleges/Institutes:
    - Ensure a sufficient annual budget for training, including materials/supplies.
    - Require all staff to perform ToT as often as required to raise skills levels of trainers at the college/institute level as well as at the regional level.
    - Develop a cycle of annual training / retraining.
    - Review the daily per diem to ensure that the travel and subsistence costs are covered.
    - Develop an incentive / motivation system that stimulates engagement with MSEs, especially in relation to technology transfer.
    - Maximise the use of the Knowledge Management system (see below).
- Technical Institutes:
    - FTA to engage with all technical institutes to determine the extent to which they are able to meet the IES package ToT training gaps.
    - FTA to perform quality assurance of ToT training programmes to ensure that they meet the needs of TVET trainers.
    - FTA to negotiate standard ToT fees per participant on behalf of the IES system.
    - FTA to assess the services that the technical colleges can offer to MSMEs and ensure that the trainers are aware of these and using them for the benefit of MSE clients.
    - FTA to raise awareness among TVET trainers and MSEs in receipt of IES of the services / support which is possible to receive (for free/ payment) from the technical institutes.
- Private sector / Other:
    - FTA to assess if other institutions (e.g. Universities – TT Offices, Business Associations, private sector business service providers, etc.) have the skills, knowledge and capacity to enhance the IES system´s support, with a focus on i) ToT for TVET trainers and ii) supplementing IES to MSEs by overcoming the supply bottlenecks in the IES/MSE support system.
    - FTA to develop a package of additional training / MSE IES support which is demand-driven. This 5th package of IES support will not be pre-defined and may be supported by the non-TVET colleges/institutions if the necessary skills and knowledge do not exist.
    - Allocate a budget for the 5th package and select from the eligible MSEs on a competitive basis.

Box 7: Criteria for SME Support: a Turkish example

The growth-orientated programme focuses on assistance to apply for a loan, assistance to apply for premises, extension services, training, technical support and marketing support. The SMEs supported by the Turkish Small and Medium Industry Development Organisation (KOSGEB) must undergo a screening and selection process to allocate support based on the capacity and competitiveness of the SME to ensure efficient use of resources. The support mechanism is based on 4 phases:

- Screening: the SME completes a Beneficiary Statement Form containing a basic profile, support requirements, and future oriented plans of itself. Once registered the SMEs are classified into four groups according to their characteristics and capabilities;
- Strategic Road Map: according to the group, SMEs prepare Strategic Road Map, showing their condition, plans, objectives and the type of supports they need, for a period of 3 years. To be considered for support the SME must demonstrate a strong plan for where it wants to go, how it can reach there, how it can monitor and evaluate the achievements;
- Support Implementation: after the Strategic Road Map is approved by the Evaluation Commission, the application for support is completed and the support process starts including a package of supports ranging from finance, marketing, technical and business management support;
- Monitoring: a Beneficiary Objective Evaluation Report is prepared at the end of 3 years or at any time when the SME declares the achievement of its objectives in areas such as organizational management, human resources, production, marketing and sales. Following evaluation, KOSGEB decides whether to carry on support or to terminate it.

Recommendation: international best practice shows that all government sponsored support packages for enterprises have some sort of eligibility and selection criteria. The current eligibility and selection criteria for support in Ethiopia for Industrial Extension Service is based on size and sector. The eligibility and selection criteria could be changed to reflect growth-orientate attributes and capacities of the MSEs

4. Fuzzy IES support

There are a number of issues that have been picked-up in the preceding analysis which give cause for concern in the targeting and effects of the support to MSEs, namely:

- Focus on the priority manufacturing sub-sectors: although the IES are supposed to be targeted specifically at the MSEs which fall into specific sub-sectors (i.e. wood, metal, garments, etc.), the review showed that in at least two regions , the IES system is now delivering support to all new MSEs. It is not clear whether this is happening by accident or by design (as claimed by one of the colleges), or how widespread this practice has become. FTA must assess the situation and decide whether this is an appropriate development and if not, ensure that this is communicated to all institutions in the IES system;
- Broadening the focus to all MSEs has significant policy implications: the same resources must be spread more thinly across many more MSEs, the trainers may not be adequately equipped to support non-manufacturing sectors. The point of using TVET for the delivery of IES may be lost - the very notion of "Industrial" Extension Services would be in question since it would simply become "Business" Extension Services". The IES vs Business Development Services debate would reopen.
- Most importantly, there is the likelihood of IES actually leading to market distortion, since new enterprises in areas such as trade, services and construction would operate in highly competitive local market conditions and the question would arise as to why new MSEs should be supported when there are already many others active in the market place. FTA must review and reform the situation since it is against the fundamental principles of supporting new and existing businesses in a balanced manner which does not result in net destruction of economic activities;
- The current support is "open-ended" in that it presumes that the IES system will deliver the IES packages of support to MSEs in the priority manufacturing sub-sectors (but see preceding point) for

free until they no longer want them and/or "graduate" and become medium enterprises, whichever comes first. The assumption that, given sufficient support, all MSEs will eventually become medium-sized is flawed. This typically means that eligible MSEs are supported for 5 years or until new premises become available (in cases reported in the preceding Chapter, IES support was delivered for 8+ years). This approach has positives, such as a long-term emphasis and concentration, but it also has negatives, such as the entrenchment of a dependence culture among the very enterprises that the Ethiopian government is looking to provide growth, innovation, entrepreneurial acumen, etc. thus driving the transition from agriculture-led to industrial-led growth.

- Furthermore, there is the possibility of diminishing returns after the first few IES interventions, the risk of on-going IES support substituting new employment in the supported enterprises and of the commitment to the IES package diminishing over time, since the services are free of charge. FTA must review the situation and decide whether this is an appropriate approach and what to do about it, but it is evident that there is a cost involved (especially 17,300 TVET trainers), so interventions should not be open-ended but specific, timed and costed. A co-financing element can be introduced after the first year of support, starting with a token cost but rising over time. Once completed, the focus should be on another specific, timed and costed intervention. The underlying assumption should be that when the MSE has sufficient experience of IES, has exceeded the level where IES is valuable and can afford to pay for it from its own profits, the IES interventions should cease, allowing the market to take over;
- Whatever the FTA IES Manual may claim, it is inevitable that a pre-defined package of four IES services must, by definition, be supply-driven rather than demand-driven. Henry Ford is reported to have quipped that: *"A customer can have a car painted any colour that he wants, so long as it is black.*" In the IES context, an MSE customer can have any IES that s/he wants, so long as it is the four packages. The international evidence is unequivocal: business services must be demand-driven in order to be valuable to MSEs. In some case 3/10 MSEs fail to take-up the IES offer and in all trainers report having to *"work hard to persuade MSEs"* about the merits of the IES packages. These are clear indications that the IES package may not be sufficiently demand-oriented. FTA should review the situation and recalibrate the IES package as follows:
    - Undertake a survey of MSE business service needs and recalibrate the 4 packages.
    - Undertake a survey of MSEs that received IES support and recalibrate the 4 packages.
    - Review how to improve technology transfer and recalibrate the relevant package (see recommendation 2 above).
    - Review which types of enterprise (size, sub-sector, etc.) benefit most from Kaizen and recalibrate the relevant package rather than assume it is equally relevant to all MSEs.
    - Review the possibility of introducing a 5th, unspecified IES package which covers support which is not in the standard menu of the 4 packages. This would make the IES system demand-driven but requires engaging with other organisations (public, private, NGOs, etc.) that might deliver the 5th package and determining how this will be paid for (which leads to the next 2 points).
- There is a tension between delivering generic IES support as opposed to specialist IES support. The TVET trainers are specialists in their technologies/technical competences (e.g. metalwork,

woodwork, textiles, etc.). They can be capacitated on some of the IES packages such as entrepreneurship, submitting tax returns, customer orientation, etc. but their expertise lies elsewhere and they will remain generalists able to support MSEs up to a certain relatively basic level. The moment MSEs exceed this threshold and require more sophisticated support (e.g. bookkeeping, profit and loss, human resource development, leadership, etc.) the limits of the TVET trainers is reached and the MSEs do not received further support, potentially stunting development and growth, while also undermining confidence in the IES system / TVET trainers. FTA should review the situation and decide whether additional training is the solution (not in the Consultant´s view) or whether to recalibrate the IES support in the following ways:
    - Supplement TVET trainer support with clear mechanisms for interfacing with other SME public sector service providers.
    - Supplement TVET trainer support with specialist support (which may need to be paid for, perhaps through co-financing from MSEs).
- There is a tension between delivering free IES services compared with paid for IES. A well-known phenomenon also evident in Ethiopia is that enterprises may not value free business services as much as paid ones, even if the payment required is a token amount. When the IES system provides free services on an on-going basis (8+ years), this may become an ever more important issue. FTA should review the situation and decide how to recalibrate the IES support to reduce this problem, for example, by offering services for free in the first year and gradually increasing the amounts of co-financing expected over time and as the MSEs become more profitable. This would be the same principle as is applied to business incubation, where the rent levels increase over time (e.g. 3 years) to near market levels, which means that the enterprise has no longer have a strong incentive to remain in the business incubator. The same principle could be applied to IES, including assessment of the MSEs´ ability to co-finance from generated profits.

The Consultant recognises that the above would be a demanding set of reforms in the Ethiopian IES context but maintains that the above recommendations would represent important reforms in raising the quality of the IES system. IES will remain a unique Ethiopian system, but it will also be a more effective system than at present in that it will work more effectively in assisting MSEs to grow and become profitable / independent as soon as possible.

5. Multi-layered IES system

The IES system involves many institutional puzzle pieces, including:

- Federal TVET Agency / IES and Technology Transfer Directorate;
- Regional TVET Agencies;
- City Offices;
- Sub-City Offices;
- One Stop Shops (1,400+);
- 388 Colleges / Vice Deans / trainers;

- Relevant Technical Institutes;
- Trainees enrolled in TVET;
- MSEs on the list for IES support.

But the fact is that the FTA at the federal level is only in charge of itself; the rest are autonomous institutions with their own policy, institutional and financing systems, even if they share a common TVET agenda.

In this context, it is critical for FTA to clarify institutional roles and responsibilities so as to be in a position to coordinate, monitor, evaluate and improve the IES system over time. Although the FTA IES Manual sets out the general duties and responsibilities, this review shows that the various layers are not working as well as they could, resulting in gaps and overlaps, such as in relation to monitoring the TVET trainees. Too many cooks can spoil the IES broth.

After four years of operation, FTA should review the various layers, the duties and responsibilities, propose a streamlined, improved system, engage in a dialogue with all players and move towards a more efficient and effective institutional structure.

6. Inadequate IES/MSME support interface

The IES system (see preceding point) does not operate in a policy and institutional vacuum. There are numerous other players of importance in the wider MSME support system including the following:

- Urban Food Security and Job Creation Agency (micro – being established);
- Small and Medium Manufacturing Industry Development Agency (industrial SMEs – being established);
- Regional MSE Development Agencies;
- Zonal / City MSE Development Offices;
- 1,309 One Stop Shops (linking all key MSE public support);
- Sector Institutes;
- Universities / research institutes;
- Ethiopian Chamber of Commerce and Sectoral Associations / other business associations;
- Private business development services / NGOs.

The above is a subset of the institutions available: others include savings and loans institutions, Agricultural Transformation Agency, ministries, donors, IFIs, etc. However, the fact is that the interface between IES provision and other MSME support is not well-established.

The critical interface that needs to be improved is at the level of the TVET trainers (since they are aware of the needs of the MSEs and the limits of IES support) and the OSSs (since they integrate the main institutional players at the IES and MSME level).

After four years of operation, FTA should review the interface between the IES system and the wider MSME support structures by undertaking the following:

- Engage in a dialogue with all stakeholders to agree basis for cooperation/support to MSEs;
- Map all the relevant institutions in the IES and MSME support system (some of which are in the process of being created – see Annex D);
- Develop profiles of all institutions, including support (financial and non-financial) available, procedures and contact details;
- Disseminate IES/MSME support brochure widely to all the stakeholders;
- Train all TVET trainers on how to interface with wider MSME system;
- Train all RTAs/Sub-Cities/OSSs on how to coordinate support for both the IES and wider MSMEs.

7. Insufficient knowledge accumulation

A recurring theme in the review is not only the lack of sufficient capacity building for the TVET trainers but the demand for training greatly exceeds the capacity of the IES system to supply it. In this context, the TVET trainers / colleges/ institutes themselves repeatedly point out the importance of complementing training with knowledge management, the process of capturing, developing, sharing and using organisational knowledge effectively. However, this has not happened in a coordinated manner, although there are examples of regions and colleges/institutes undertaking some steps in this direction.

FTA should undertake the following:

- Assess the kinds of knowledge management already being done within the IES / FTA system;
- Examine international best practice and select appropriate ICT and other tools such as:
    - Knowledge sharing (fostering a culture that encourages the sharing of information/experience across the IES institutional system, including 388 colleges).
    - Best practice transfer (e.g. value chains, technology transfer, 100% copy plus, etc.).
    - Communities of practice (e.g. Kaizen, entrepreneurship, etc.).
    - Expert directories (to enable TVET trainers and others to reach FTA experts).
    - Knowledge portal (containing knowledge networks and communities, discussion forums and good practice examples that can be searched/downloaded/used by the IES system), etc.
    - Competitions and awards (e.g. among TVET trainers to help raise profile and status).
- Agree the IES knowledge management tools and techniques to be deployed in the IES system;
- Implement a structured approach, including staff, work plan and budget, for knowledge management in the IES system.

8. Insufficient monitoring and evaluation

FTA has established a monitoring system which focuses on collecting information on the TVET / IES goals that the organisation is committed to achieving (see Annex B below). This is a limited form of monitoring which could be greatly supplemented in order to deliver policy-relevant information as follows:

- The information collection focuses on TVET trainers, but ignores the MSEs and trainees. The focus needs to be changed since the ultimate beneficiary of the IES system is not the trainers (the means to the end) but the enterprises and the trainees going through TVET training (the end);
- The FTA/Institutes/RTA/TVET trainers should all be evaluated by the trainees and MSEs;
- The FTA should review the information currently being collected by FTA / RTAs / Cities/Sub-Cities / OSSs and Colleges and decide which monitoring variables/regularity make most sense to assess;
- FTA should develop systematic templates for monitoring purposes (including quantity and quality of TVET training by individual trainers and quantity and quality of MSE/trainee support by TVET trainers) and ensure consistency of information collection across the IES system;
- FTA should collect, analyse and publish reports on the IES system at national, regional, city, sub-city, college and trainer level. This will allow benchmarking of performance, effectiveness, gaps, etc.

FTA has not established an evaluation system, which means that it is not in a position to say anything about whether the IES system is having the intended impact. For example, although it can say that 550 value chains analyses have been performed, it cannot say whether or not they have been useful to the MSEs. It can say that x thousand MSEs have been supported by TVET trainers, but not what the impact on the MSEs has been in terms of additionality (e.g. employment, turnover, profitability, export, markets, productivity, etc.). The Southern region is moving in this direction, but provides no guidance and leaves the methodology up to each college/institution, which means that the results will not be consistent and cannot be aggregated.

FTA should introduce a coherent IES evaluation capacity as follows:

- Develop a suitable methodology to assess impact at three levels:
    - The TVET trainers.
    - The TVET trainees.
    - The MSEs.
- Test the methodology, refine it and provide guidance on IES evaluation;
- Require all RTAs and colleges to undertake evaluation work (and monitoring - see above) annually;
- FTA should collect, analyse and publish reports on the IES system at national, regional, city, sub-city, college and trainer level. This will allow benchmarking of performance, effectiveness, gaps, etc.;
- FTA should develop part of its own annual programme of activities on the basis of the results of the future monitoring and evaluation system.

10. Recommendations for Further IES Project Implementation

The Consultant has been asked to prepare a short note to Sequa specifically making recommendations for further IES project implementation support.

The Consultant refers to the preceding Chapter, which set out the detailed conclusions and recommendations. The recommendations were also discussed at the workshop and with the STEP programme team.

From set of eight main of conclusions and recommendations, the Consultant would propose the following, which fit best the STEP project´s approach, which is to work with 5 colleges/locations. The support would be delivered to the pilots, however, most of the proposed support can then be mainstreamed to the wider IES system of 388 colleges and institutions.

The priorities for project support to FTA are the following:

1. Prepare a new Value Chain Manual, which is practical in nature and which emphasises the particular role of the TVET trainers and undertake the related training;
2. Undertake a Technology Transfer Review and implement the recommendations as an action plan;
3. Prepare a new Technology Transfer which is based on the 100% Copy Manual but goes beyond this (100% Copy "Plus") and undertake the related training;
4. Assist FTA´s /Regional TVET Agencies´ HRD Departments to perform more effectively (recruitment methods, recruitment incentives, motivation, job descriptions, job adverts, contracts, staff induction, new staff training, transfer to regions, etc.)
5. Review and strengthen the capacities of the TVET trainers through a Training Needs Analysis and better quality / updated training packages / regular (re)training cycles;
6. Develop and implement a Knowledge Management system comprising electronic and other tools, embedded in the 388 colleges/institutes and regional TVET structures;
7. Assess and improve the interface between IES and wider MSE support, including existing institutiond and future ones, such as the new MSME agencies and the possible new Crafts Chamber;
8. Review the "fuzziness" of its IES support (targeting, specific support, co-financing, etc.) and introduce a 5th demand-driven package (involving IES/Others/Private Sector, etc.);
9. Review and implement an effective Monitoring and Evaluation system;
10. Review and streamline the multiple layers of the IES system.

The details are discussed in the Conclusions and Recommendations chapter.

Annexes:

A. Mission Itinerary

#	Date	Time	Purpose	Place	Person to meet	Remark
1	**Monday** **25 July 2016**		Preparation			
2	**Tuesday** **26 July 2016**	09:00 – 12:00	Meeting with GIZ-STEP to discuss mission plan	Hisham Building	Rapp Isabel	
		14:00 – 15:30	Discussion on the IES framework implementation	Tegbarid College	IES Vice Dean – Dagmawit Girma	
		15:30 – 16:30	Enterprise Visit	Lideta	Wood Furniture and Garment Enterprise	
		16:30 – 17:30	Discussion with Addis Ababa TVET Agency	Addis Ababa TVET Agency	Deputy Bureau Head and IES Core Process Head	
3	**Wednesday** **27 July 2016**	09:00-12:00	Internal discussion of checklist and IES framework	Hisham Building	Sequa team and the International Expert	
		14:00-16:00				
4	**Thursday** **28 July 2016**	09:00 – 12:00	Discussion on the IES framework implementation	FTA	IES directorate process coordinators, experts and Sequa team	

	2014	14:00-16:00				
5	**Friday** **29 July 2016**	09:00 – 12:00	Discussion at Office	Hisham Building	Yared and Dr Ricardo (International Expert)	
		14:00-16:00	Visit to FTA's Centre of Excellence and Assessment and Discussion with the four experts (Kaizen, Entrepreneurship, Technical skill and Technology transfer) on IES.	CEA	Sequa team and the International Expert and representative of the four components at FTA	
6	**Monday** **01 August 2016**	09:00-10:30	Meeting with Textile Industry Development Institute	ETIDI	ETIDI relevant Director expert and FTA expert and Sequa team	
		14:00-16:00				
7	**Tuesday** **02 August 2016**	07:00-12:00	Field visit and Travel to Shashemene	Shashemene	Sequa team and the International Expert (IE)	
		14:00-15:30	Detailed discussion on the IES framework implementation with Shashemene TVET College	Shashemene TVET college	Shashemene TVET college dean representative or facilitators, Sequa Team and IE	
		17:00	Travel to Hawassa and Visit to Hawassa Poly Technic College, discussion with IES providers on how the service is given and challenges facing.	Hawassa TVET college	Sequa team and the International Expert	

8	**Wednesday 03 August 2016**	09:00-10:30	Visit to Hawassa OSS	Discussion with Coordinator of the OSS centre on the services;	OSS Coordinator and Sequa team	
		10:00-12:00	Enterprise visit to metal fabrication workshop and another wood workshop	Around the city, Hawassa	Sequa team and the International Expert	
		15:00-16:30	Hawassa Regional TVET Agency	SNNPR TVET Agency Office, Hawassa	Representative of the IES coordinator Mr Wudneh, Sequa team and the International Expert	
9	**Thursday** **04 August 2016**	07:00-14:00	Travel back to Addis Ababa		Dr Ricardo and Etbarek	
		15:30-17:00	Meeting with SME Manufacturing Development Agency	FeSMEDA	Director General	
10	**Friday 05 August 2016**	09:00-10:30	Meeting at Women Entrepreneurs Development Project (WEDEP) Office on the provision of loan and training to MSEs.	WEDEP Office	Project Manager	
		10:30 – 12:00	Enterprise Visit	Addis Ababa	Company Owner	

B. Targets/Goals of the Industrial Extension and Technology Transfer Service

Indicators			Targets							
			Year	2015	2016	2017	2018	2019	2020	2025
1	Reviewed and documented product/service value chain analysis		Number	50	100	150	200	250	300	550
2	Newly prepared value-chain analysis of product/service in cooperation with focal sectors		Number	260	520	780	1040	1300	1,560	2860
			In kind	50	150	300	450	600	750	1295
3	Technologies imitated based on prepared documents		Number	0	140	922	1976	3029	3476	12326
4	MSEs capacitated to imitate technology (factories)		Number	0	1400	9220	19760	30290	34760	123259
5	Technologies imitated and prepared by lead-trainers		In kind	-	140	922	1976	3029	3476	123259
6	Technologies imitated and transferred at all levels (by trainers, trainees and enterprises)		In kind	4105	1698	1100	248	583	785	-
					1838	2022	2224	2446	2691	
7	Existing enterprises competent in imitating technologies at all levels		Number	7448	5502	6066	6672	7338	15435	-
8	Asset produced		Million	372.8	146.5	176	229	321	481	
9	MSEs enterprises incorporated within chambers which are organized by focal sectors		Percent	0	10	15	25	35	50	100
10	Inhabitant M/S/ enterprises which got comprehensive support		Number	404,778	105,288	169,678	253,957	337,798	421152	662,908
11	Veteran operators of MSEs up to Level 4 who became occupationally competent through comprehensive support		Number	1,140,650	315,864	509,034	761,871	1013394	1,263,456	1,988,724
12.1		Competence units	Number	650170	157,932	203614	213,324	141,875	25,269	-
		Level 1 and 2	Number	490480	142,139	244336	380,936	526,965	682,266	662908
		Level 3 and 4	Number	0	15793	144,513	263,722	405,573	522,130	1325816
13	Operators found competent up to level 4 through occupational assessment		Number	91507	157,932	189518	243,799	405,358	631728	1988724

13.		Competence units	Percent	-	50	35	20	15	-	
		Level 1 and 2	Percent	-	45	50	55	40	50	
		Level 3 and 4	Percent	-	5	15	25	35	50	
14	New M/S/ enterprises which got comprehensive support	From regular training enterprises	Number	21,260	30,101	63,950	108,068	167,702	249,715	155,125
		Operators	Number	106,298	120,403	191,850	324,204	503,106	749,145	775,620
		Level 1 and 2	Number	75,034	88,994	141,802	239,629	371,861	553,716	573,284
		Level 3 and 4	Number	31,264	31,409	50,048	84,575	131,245	195,429	202,336
15	Existing MSEs enterprises led by Level 4 professionals (master craftsmen)		Percent	0	5	12	22	32	44	100
16	M/S/ enterprises connected to medium and higher industries through subcontracting/outsourcing		Percent	0	2	4	6	8	10	35
17	M/S/ enterprises supplying standard products and engaged in the export sector		Percent	0	1	2	3	4	6	30
18	Trainers capacitated in kaizen at a higher level		Number	1,626	3,252	6,505	9,757	13,009	16,262	32,522
19	Competent trainers in entrepreneurship at higher levels		Number	1,626	3,252	6,505	9,757	13,009	16,262	32,522

C. Micro, Small and Medium Manufacturing Enterprises Institutional Support Framework

There are a number of government and private institutes which are providing support for the development of the manufacturing sector in Ethiopia. However, these institutions are faced with capabilities constraints and shortage of qualified human resources to strategically and proactively support the sector's development. Many government institutions appear to be at crossroads between the supporting and facilitating role and the regulating role. Supporting institutions need to be efficient, capable and contributing for the industrial growth. Recently, the government is upgrading the capacity of these support institutions through twinning arrangements with renowned international institutions specializing and accredited in their respective sectors.

The following major support institutions were established in Ethiopia to assist MSME and large manufacturing sector development.

No	Organisation	Main Tasks
1	Ministry of Industry	The Ministry of Industry is the nodal ministry responsible to promote and expand the development of industry by creating conducive enabling environment for the development of investment and technological capacity of the industry sector by rendering efficient support and services to small, medium and large manufacturing industries.
2.	Ministry of Urban Development and Housing	The main mission of the ministry is capacitating cities and urban centres to play their role as development centre by providing standardized services for their residents and creating competitive construction industry in collaboration with all stakeholders and development partners. The ministry is also responsible in promoting the expansion of micro and small enterprises.
3.	Federal Small and Medium Manufacturing Industry Development Agency	The Federal Small and Medium Manufacturing Industry Development Agency is established by council of Ministers regulation in February 2016. The two main objectives of the agency are: Accelerating the expansion of small and medium manufacturing industry in order to lay a broad base for the development of large scale industry, maintain equitable distribution of wealth and accelerate the transformation of agricultural-led economy to industry-led economy ; and Strengthening, assisting and coordinating institutions that provide support to small and medium manufacturing industry sector with a view to making the sector competitive and sustainable and thereby create a strong base for industrial development. The agency is directly accountable to Ministry of Industry.
4.	Federal Urban Job Creation and Food Security Agency	The Federal Urban Job Creation and Food Security Agency is established by council of Ministers regulation in February 2016. The three main objectives of the agency are: • Improve the livelihood of citizens who are unable to work or able to work but unemployed due to different conditions and live under poverty line based on the principles of urban job creation and food security, by providing developmental safety net support to citizens sustainability

No	Organisation	Main Tasks
		and ensure their food security; • Support and coordinate institutions assisting the micro enterprises and small enterprises do not fall under the manufacturing sector to make them competitive, sustainable and strong foundation for industrial development • Promote and develop micro enterprises and small enterprises which do not fall under the manufacturing engaged in urban agriculture, construction, trade and services sectors with a view to make these sectors competitive, sustainable and thereby create employment opportunities in urban centres, improve their income and create fair resource distribution The agency is directly accountable to the Ministry of Urban Development and Housing.
5.	Textile Industry Development Institute(TIDI)	TIDI established in June 2010, is working to upgrade the technology and human resource of the textile sector. TIDI extends support in the creation of input and output linkage, conduct market study for textile and apparel industries products, conduct studies and researches to promote the development of textile and apparel industries. TIDI is directly accountable to the Ministry of Industry. TIDI is currently closely working with an Indian Textile Institute in a twinning arrangement.
6.	Leather Industry Development Institute (LIDI)	LIDI is the leading Institute in Ethiopia for Technology Infrastructure and Human Resource Development for the tannery, footwear leather garment & articles industry. It is established in, and is directly accountable to Ministry of Industry. The vision is to make it recognized as a centre of excellence. The institute conducts wide range short term training programs and long term trainings in collaboration with universities in the area of Fashion, Footwear Design, Technology, Management, Creative Designing & CAD/CAM, and Leather Goods & Accessories Design etc. It is also served as testing, calibrating and common facility centres for leather and footwear industry. LIDI is currently closely working with an Indian Footwear Institute (FDDI) in a twinning arrangement.
7.	Metal Industries Development Institute(MIDI)	MIDI is established to provide sector specific and coordinated technology support to metal and engineering manufacturing industries by making use of capable professionals with a view to enhancing the capacity and competitiveness of the metal and engineering industry. MIDI is directly accountable to the Ministry of Industry.
8.	Ethiopian Food, Beverage and Pharmaceutical Industry Development Institute	The institute is established to provide sector specific and coordinated technology support to food, beverage and pharmaceutical manufacturing industries. It is directly accountable to the Ministry of Industry.
9.	Meat and Dairy Development Institute	The institute is established to provide sector specific and coordinated technology support to meat and dairy processing industries. It is directly accountable to the Ministry of Industry.
10.	Chemicals & Construction Materials Development Institute	The institute is established to provide sector specific and coordinated technology support to chemicals & construction materials manufacturing industries. It is directly accountable to the Ministry of Industry.
11.	Ethiopia Kaizen Institute	The institute is established to improve productivity and quality by implementing Kaizen Management Principles into manufacturing industries, institutions and service providers.
12.	Ethiopia Standard Agency	Ethiopian Standard Agency (ESA) is a governmental non-profitable organization and the sole National Standards Body (NSB) which represents Ethiopian interest in economic, social and environmental aspects with regard to standard benefits across International and regional Arena. Besides working with international and Regional standard bodies, ESA also work closely with different national standard bodies. The agency is directly accountable to Ministry of Science and Technology.

D. Duties and responsibilities of newly established MSME support agencies (as stipulated in regulations 373/2016 and 374/2016)

A. Federal Small and Medium Manufacturing Industry Development Agency

Definition

"Manufacturing": means a mechanical, physical, or chemical conversion of a new material, substance, or component by using machine, equipment or labour into products that worth better value;

"Small manufacturing industry": means an industry having a total capital, excluding building, from Birr 100,001 to Birr 1,500,000 in the manufacturing sector and engages from 6-30 workers including the owner, his family members and other employees;

"Medium manufacturing industry": means an industry having a total capital, excluding building from Birr 1,500,001 to Birr 20,000,000 in the manufacturing sector and engages from 31 to 100 workers including the owner, his family members and other employees,

Objectives

The Agency shall have the objectives to:

1. Accelerate the expansion of small and medium manufacturing industry in order to lay a broad base for the development of large scale industry, maintain equitable distribution of wealth and accelerate the transformation of agricultural-led economy to industry-led economy ; and
2. Strengthen, assist and coordinate institutions that provide support to small and medium manufacturing industry sector with a view to making the sector competitive and sustainable and thereby create a strong base for industrial development.

Powers and duties

1. Formulate policies, strategies, plans, programs and projects that assist in the acceleration of small and medium manufacturing industry development, and implement same upon approval by the government.
2. Prepare a framework for support that assists in the acceleration of small and medium manufacturing industry development , and implement same upon approval;
3. Undertake activities that create conducive environment for the development of small and medium manufacturing industry, identify constraints that affect their competitiveness through studies, and provide remedy for same;
4. Undertake investment promotion activities to attract the local investors so as to engage in small and medium manufacturing industry;

5. Build the implementation capacity of regional bodies engaged in the support and coordination of the development of small and medium manufacturing industry;

6. Ensure that support institutions, provide trainings, financial and technological inputs based on the manufacturing value chain, having regards to the needs and stage of development of small and medium manufacturing industry;

7. Conduct local as well as international benchmarking studies, and identify, formulate, and disseminate best practices that facilitate the development and competitiveness of small and medium manufacturing industry;

8. Provide necessary support for the establishment of sectoral associations of small and medium scale manufacturing industry;

9. Cause undertaking of feasibility studies important for the development of small and medium manufacturing industries sector, prepare project profiles, collect, analyse, organize and disseminate information for the beneficiaries,

10. Design and implement entrepreneurship programs in order to strengthen and create new industrialists; ensure the coordinated implementation of kaizen quality and productivity systems, facilitate and implement industrial extension services, establishment model incubation centres and assist their establishment in regions;

11. Provide, by way of organizing clusters of small and medium manufacturing industry necessary, support and provide capacity building assistance to regions in order to develop industry zones and commercial centres that have all the requisite infrastructure;

12. Support the transformation of small manufacturing industry to medium manufacturing industries and from medium manufacturing industry to large scale manufacturing industry; create development linkage for small and medium manufacturing industries with that of large scale industry in terms of inputs, supply, production and technology support to make the industry beneficiaries of local and foreign market linkages;

13. Establish mechanisms for the transformation of micro manufacturing industry to small manufacturing industry, and implement same in co-ordination with appropriate bodies;

14. Work in collaboration with universities, research institutions, sectoral development institutes, technical and vocational education and training institutes, capital goods leasing companies and other stakeholders in the areas of human resource development, research and studies, technology transfer, and infrastructure development to improve the productivity, standards and quality of products as well as competitiveness of small and medium manufacturing industry; and strengthen and coordinate the linkage with these stakeholders;

15. Establish a system based on appropriate study for provision of incentives, recognition and award to small and medium manufacturing industry to assure competitiveness, and ensure implementation of same;

16. In cooperation with other concerned bodies, support and facilitates the promotion of products and technologies of small and medium manufacturing industry as well as sharing among the members of the industry by arranging and coordinating domestic and international exhibitions, symposia, seminars and other similar forums;

17. Establish one-stop-shop service for small and medium manufacturing industry, and provide support for establishment of the same;

18. Support the certification of quality and standards and also of competence for small and medium manufacturing industry;

19. Cooperate with domestic and foreign private and public institutions with similar objectives to support small and medium manufacturing industry in order to provide services that meet international standards;

20. Mobilize resources or assistance from local and foreign private and government organizations having similar objectives.

B. Federal Urban Job Creation and Food Security Agency

Definition

" Food security": means making citizens healthy and productive by ensuring balanced nutritional security and raising individuals' daily per capita consumption of to 2200 calories through consistently obtaining adequate and quality food;

"Job creation": means engaging citizens who are capable to work but are not working for different reasons, in a permanent or temporary job opportunities;

"Micro enterprises": means an enterprise having a total capital, excluding building, not exceeding Birr 50.000 in the service sector or not exceeding Birr 100,000 in the industrial sector and engages 5 workers, including the owner, his family member and other employees;

' Small enterprises": means an enterprise having a total capital, excluding building, from Birr 50,001 to Birr 500,000 in the service sector or Birr 100,001 to Birr 1,500,000 in the case of urban agriculture, artisanal mining and construction sector engages from 6 to 30 workers including the owner, his family members and other employees.

Objectives

1. Improve the livelihood of citizens who are unable to work or able to work but unemployed due to different conditions and live under poverty line based on the principles of urban job creation and food security, by providing developmental safety net support to citizens sustainability and ensure their food security;

2. Support and coordinate institutions assisting the micro enterprises and small enterprises do not fall under the manufacturing sector to make them competitive, sustainable and strong foundation for industrial development

3. Promote and develop micro enterprises and small enterprises which do not fall under the manufacturing engaged in urban agriculture, construction, trade and services sectors with a view to make these sectors competitive, sustainable and thereby create employment opportunities in urban centres, improve their income and create fair resource distribution

Power and duties

The Agency shall have the powers and duties to:

1. Design strategies and prepare program to enhance activities of urban food security and job creation and upon approval coordinate implementation of same

2. Formulate urban development support packages of safety net, livelihood and micro enterprises and small enterprises do not fall under the manufacturing sector and ; coordinate and follow up implementation of same;

3. Conduct studies to identify bottlenecks restraining the urban food security, job creation and the development and competitiveness of micro and small enterprises and thereby provide solutions;

4. Build the capacity of regional institutions supporting and coordinating the urban food security and job creation in implementing the support packages;

5. Prepare the national development plan of the sector on the bases of the urban food security and job opportunity creation strategy and follow up implementation of same;

6. Based on the value chains and the demand of micro enterprises and small enterprises that do not fall under the manufacturing sector, coordinate institutions providing support to the micro enterprises and small enterprises that do not fall under the manufacturing sector in soliciting training, finance and technological consultancy service;

7. Support the creation of urban public mobilization that enhances extensive provision of education and training to develop awareness among the public to shape the distorted work ethics of the society;

8. Coordinate appropriate organs in conducting prevention and rehabilitation of urban citizens vulnerable to social problems and illegal human trafficking;

9. Follow up the enclosure of urban food security issues in the criteria set for the competition of urban centres in their respective sectoral development and evaluation of their good governance so as to promote the urban centres;

10. Assist micro enterprises and small enterprises which do not fall under the manufacturing sector in organizing and establishing association in their respective areas of activities and thereby benefit from domestic market linkages;

11. Collect, analyse, compile and disseminate information on unemployed able to work and not able to work and those vulnerable to social problems which are relevant and essential to ensure urban food security and job creation;

12. Formulate a special package for the beneficiaries who are under poverty line and assist them to be engaged in different jobs and graduate in specific time frame;

13. Conduct survey on best practices in relation with urban food security and job creation activities and design and implement the scaling up strategy;

14. Coordinate assistance obtained from domestic and foreign partners, private sectors and other stakeholders.