Ethiopian Education Development Roadmap

(2017-30)

An integrated Executive Summary

Ministry of Education
Education Strategy Center (ESC)

By

Tirussew Teferra, Amare Asgedom, Jeilu Oumer, Tassew W/hanna, Aklilu Dalelo &

Berhannu Assefa,

Addis Ababa

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1. Introduction

In January 2016 the Ministry of Education (Education Strategy Centre) developed a concept note to reform the education sector in accordance with the national vision and development goals. Following this, work immediately started with a series of activities that included development of inception report, desk review, field study, international benchmarking visit, and consultations. This report is therefore is the result of a variety of research activities and consultations that led to development of fundamental recommendations to transform the educational system to accord with the requirements of 21st century educational systems that play roles of transforming the socio-economic systems, particularly the industrialization process.

Ethiopia is a country that is on a journey to its renaissance targeting at achieving peace, unity- with-diversity, broad and rapid socio-economic growth, establishment of democratic systems and good governance. The Government has been engaged in a major effort to transform Ethiopian society and place the country on a trajectory to become a lower middle-income economy by the year, 2030. Over the last several years, the economy grew by nearly 10 per cent per annum, one of the fastest growth rates registered in the world. During this time, significant attention has been given to upgrading economic and social infrastructure and promoting pro-poor spending on education, health, and other services to benefit the poor and the marginalized.

Understanding this crucial role, the education sector has passed through a series of successive, rolling Education Sector Development Programs (ESDP I-V). Since the formulation of the 1st Growth and Transformation Plan (GTP I), education was given a special attention in the transformation of the economy from agriculture-led to industry-led activity and thereby supporting the manufacturing sector by providing the required professionals and problem solving technological innovations.

To achieve its vision of becoming a lower middle income by 2030, Ethiopia has also developed the 2nd Growth and Transformation Plan (GTP II) built on sector policies, strategies and programs and the UN sustainable development goals. GTP II aims to achieve an annual average real GDP growth rate of 11 per cent pursing aggressive measures towards rapid industrialization and structural transformation such as increasing the productive capacity and efficiency of the economy by rapidly improving quality, productivity, and competitiveness of agriculture and manufacturing industries, and accelerate Human capital development and technological capacity building and ensure its sustainability. Education is instrumental to attaining these development goals through application of science, technology

and innovations. The latter are major instruments to create wealth and bring about development.

According to GTP II, greater shares of economic production will come from industry and manufacturing with the consequent demands for middle- and higher-level skilled manpower to be supplied by the educational system. Achieving these visions require further expansion of access to high-quality basic, general and tertiary education, and special efforts to improve the overall literacy and numeracy level of the population and producing capable university graduates that serve the industry.

This report integrates three research findings; (1) the desk review report; (2) the field report and; (3) the benchmarking visit report; (4) consultation inputs. The international benchmark visit took place between October 7 and October 22, 2017 to two Asian countries, Vietnam and Malaysia. The two countries are known for having a high performing educational system as gauged by PISA results (e.g. Vietnam ranked 12th compared to USA which stood 28th in the 2016 PISA results of children who are 15 years old).

In the desk review, national and international relevant documents were assessed. The field work employed both quantitative and qualitative approaches, and covered all relevant state actors and non-state actors including the federal government, nine regional states, the two city administrations, civil societies and the general public. In this exercise, opinions and views were captured from top political leaders such ministers, parliamentarians, regional presidents, and bureau heads. On the other hand, professionals (university presidents, deans, directors and experts), professional association leaders, school principals, teachers, students as well as parents have participated in the study. During, this extensive data gathering field work, in addition to the 36 education road-map development research team, over 100 research associates from different universities, and 11 focal persons from the regional and city administration education bureaus were mobilized and deployed across the project sites in the country.

While the focus of need assessment (desk review and field study) was to understand the performance and challenges of the Ethiopian educational system, the focus of the benchmarking visit was to learn from well-functioning educational systems in Asia. The main question here was to explore how the educational systems of the two countries succeeded and why they succeeded in attaining internationally competitive learning outcomes. The Ethiopian delegation to these two countries observed firsthand, sensed and understood how the entire system of accountability-coherence in governance operates; how they structured their curriculum; and why the learning outcomes of the two countries are high.

This integrated summary document contains several findings and proposed reforms (shifts). At the present stage of the roadmap development process, the areas (pillars) of fundamental change (paradigm shifts) in each area (thematic area) are identified and presented to a concurrent validation workshop with experts of each thematic area and achieved useful inputs.

The findings and proposed reforms are briefly discussed theme-by theme in the ensuing sections of the report which has six thematic areas: (1) pre-primary and primary education, (2) secondary and preparatory education (3) teacher education and development, (4) TVET, (5) higher education, and (6) policy, governance and leadership.

2. Pre-primary and Primary Education

By Tirussew Teferra, Abdulaziz Hussien, Balew Demissie, Belay Hagos, Dame Abera & Girma Lemma

2.1. Introduction

In this section, an attempt is made to assess the status preprimary, primary, and adult and non- formal education in the country, and reflect on the way forward. The main focus of the field study was to generate field data on the achievements, gaps and challenges, future perspectives of preprimary and primary education in the years ahead. All sources of data for preprimary and primary education were same except the later involved students as additional source of data. The participants of the field study include representatives from Federal Policy Study and Research Institute, State Minister of Education, Experts from the Ministry of Education, General Education, Regional Education Bureau Heads, Experts of all Regional State Education Bureaus, Zonal and Woreda education leaders, School principals of sample schools found in central, midway and remote locations in all regional states of the Country, School principals of sample schools found in central, midway and remote locations in all regional states of the country, parents of children enrolled sample schools found in central, midway and remote locations in all regional states of the country, and students only for Primary Education. The concurrent validation workshop was carried on with experts in the education panel focusing on the intervention areas envisioned to happen in the coming 15 years. The participants were experts from the Federal Ministry of Education, Addis Ababa University, Addis Ababa Science and Technology University, Oromia Education Bureau, Non-governmental organizations (including DfiD, and GIZ).

2.2. Pre-primary Education

2.2.1. Achievements

The major themes that emerged from our findings as achievements are highlighted under policy, new initiatives, accessibility, mother tongue, parents' participation, and teacher education.

Policy

The emergence of the comprehensive National Early Care and Education Policy Framework (NECCEPF) (MoE, 2010) which was endorsed and signed by the Ministry of Education, Ministry of Health and the then Ministry of Women, Children and Youth Affairs was considered phenomenal in the history of preprimary education in the country.

New Initiatives

Following the NECCEPF and its Strategic Implementation Strategic Plan (MoE,2010), new initiatives such as O-class (School Readiness Program), Child to Child and Accelerated Learning Readiness have been initiated by the Ministry of Education in collaboration with UNICEF in the country. These undertakings have not only drastically increased the preprimary school enrollment rate from 5.3% in 2011/12 to 39% in 2015/16 (MoE, EMIS, 2016) but also raised the awareness the public interest in the program.

Mother tongue

The use of mother tongue in preschool education is one of the pertinent achievements of the ongoing initiatives. In the field study, it was found that about 85% of the respondents said they use the children's mother tongue in O-class. The remaining 15% were teachers from SNNPR (n=13), Afar (n=2), Gambella (n=2) and Benshangul-Gumuz (n=1) where Amharic is used as medium of instruction.

Parents' Awareness and Participation

The awareness of parents on the importance of early childhood education has increased which created a huge demand for access and quality pre-school education. Due to the pressure from parents, schools are forced to admit even children age 4-5 years in the O-classes. Although the O-class was meant to children of six years of age, many schools are admitting under six years due to the existing parental demands. Indeed, in some places the active engagement of the community in mobilizing resources like for example, contributing for the monthly salary of the school teacher is worth mentioning. In some cases, the daily stay in the O-class program was found very short by parents. There were also instances, where parents' complaints were filed on the variation of the duration of the program.

Early Childhood Teacher Education

There is an emerging trend of launching Early Childhood Teacher Education programs at various colleges of teacher education and some universities at certificate, diploma, bachelors and master's degree levels. This is an encouraging undertaking which will have ramifications in the profile of pre-primary education teachers which in turn will have a direct bearing in the quality of pre-primary education on the ground.

2.2.2. Gaps and Challenges

Despite some promising opportunities, the Early Childhood Education is still fettered by challenges and problems that span from problems related to governance, curriculum, teachers' qualification, location and facilities and budget.

Governance

The participants mentioned that lack of separate structure for O-class program is one of the major challenges. Structurally, the vertical links of the program are not clearly delineated at policy level. This has entailed governance and accountability problems. Although the government somehow has acknowledged the importance of expanding this program, its importance is not equally recognized by educational bureau heads working at regional, zonal and woreda levels. As they claimed, the program is perceived as an add-on to the regular program. As one of the woreda education heads described, "*educational leaders consider the program as an extra task and reports about the program are not incorporated and presented for discussion during meetings of zonal and woreda officials".* One area of problem regarding preprimary education is absence of clear guideline, structure and budget.

Curriculum and Standardization

The problem of standardization is observed in terms of absence of developmentally appropriate curriculum and its implementation across different age groups. Because of shortage of classrooms and trained teachers/ facilitators, four, five and six year old children are grouped together in a single classroom as if they are similar in their developmental needs. This merging of all children in one classroom obviously resulted in using inappropriate learning and stimulating materials for children that are not developmentally ready. The problem of standardization is not only in terms curriculum but also facilities, classrooms, teachers' profile and other indoor and outdoor play materials. Furthermore, lack of coordination among other preschool programs is one of the issues that need to be addressed.

Teachers' Qualification and Benefits

Preschool teachers' recruitment, preparation, professional development programs and teachers' salary and benefits are important components of preschool education quality. Although the structural components of quality are linked to children's developmental milestones, children's interaction with care givers takes major share in preschool children's cognitive and social development. This component of preschool education was given no

attention. Interview with zonal and woreda education office heads and school principals, focus group discussions with parents and bureau experts in general stated that lack of trained teachers seriously jeopardized the preschool program. Many of the preschool teachers are either untrained or very minimally trained to carry over their facilitation role. Preschool teachers' responses with regard to their training status showed that the majority had minimal or short term training and furthermore their qualification level is at certificate level. The respondents did not pass through any form of training and nearly 50% have certificate and short term trainings. However, it is at the same time important to note that turnover of teachers is another challenge mentioned by participants; and school principals woreda education office heads attributed the cause for the high turnover is the low salary they are being paid. Last but not least, preschool teacher education program should be trained on the local language as mother tongue is the language used in the preschool.

Issue of unity within diversity

It is encouraging to note about 85% of the respondents indicated that children in ECE centers are taught with their mother tongue. At the same time, participants of the study expressed the need to introduce additional language so that children may fit to the local and global contexts. The following is quotation is extracted from the FGD transcript,

> *Appreciating the use of the mother tongue…, the problem that I would like to raise in this line is that it has been overly emphasized and as people living in one country we are facing problems. There is a problem to understand each other as one goes out of his place of birth or moves to other regions of the country. There is a problem as we travel from one region to the other. It is good if there is common language that all regions use to communicate with one another.*

The national aspect of the preschool system is to be seen in the implementation of national language and the creation of a common curriculum that would foster a common national identity. The good lesson that we can take from the international benchmarking report is that Vietnam uses Vietnamese national language as a compulsory national language throughout the school years although they had 54 mother tongues . A fundamental part of this common background in the curriculum is the training of teachers in colleges throughout the country takes place in a common syllabus.

Facilities' and space

The participants of the study stated that the pre-primary school is clinging on the primary school which makes it dependent on many aspects. The FGD discussants said that children face serious problems to go to school in the rainy seasons as the roads become muddy and make walking to and from school very difficult. Moreover, the existing centres are not able to

accommodate all children under six in their respective localities and primary schools. At times very young children walk one or two kilometres every morning to reach to the nearby centres.

The preschool centres functioning in the primary schools do not have ideal classrooms that support children's cognitive and social development. Although the ideal classroom size has been spelled out by Ministry of Education, many centres are extremely congested by large classroom sizes. Many of the preschool centres have been made to build outdoor play facilities such as merry go round and swinging. However, the safety of the children while using these outdoor materials is not well considered while installing these facilities.

Budget

Finally, shortage of budget is a common problem faced by the O-class program which in deed requires the immediate attention of the Government.

2.2.3. Future Perspectives

Several studies have confirmed that early child development is the prime developmental stage for the cognitive, social-emotional and physical development of the child. It is the time when the brain is sensitive to the external influence, fundamental attitudes and values are formed, pre-literacy, pre-numeracy skills and socio-emotional skills are developed which are crucial for the well-being and success of the child in the subsequent years of development. According to the UN Sustainable Development Goal 4, ensuring inclusive and equitable quality education is the foundation to improving people's lives and sustainable development (SDG, 2015-2030). The Ethiopian Government has also shown its commitments to expand and improve the quality of early childhood education program in its ESDP-V (2015-2020) and GTP-II (2015-2020). Following the international and national growing interest in the area, and assessing the state and art of early care and education in the country, the following intervention areas mainly focused on the O-class (School Readiness Program) as its prospect for scaling-up in the Ethiopian context is believed to be high, as suggested.

Policy and Governance

a) Ensure that school readiness program is free, compulsory and part of the general education;
b) Develop separate organizational structure starting from 'Woreda' level for ECE, assign ECE head teacher who would be in charge of the school readiness program, and accountable for the 'Woreda' Education Office;

c) Link health and nutrition component with preschool programs so as to realize the holistic development of children;
d) Diversify the sources of financing, by engaging parents and the community, and the government should seriously consider funding strategies and initiatives as pre-primary education is an investment with long-term returns;
e) Allocate the necessary annual budget for the program; and
f) Encourage and support the private sector to invest in preschool and run quality services.

Curriculum

a) Design comprehensive curriculum to facilitate the holistic development of the child, which may include cognitive, socio-emotional and physical development;
b) Consider two years O-class program(4+ and 5+) as midterm strategy, that is, by stretching the preschool program a bit from one year to two years accommodating four and five years cohort groups, and the alternative brief programs (child to child and accelerated learning readiness) as short term strategy for marginalized and disadvantaged children;
c) Extend the duration of the school readiness program step by step from 3 years of age as a long term strategy so that children of age 3,4 and 5 will enjoy age appropriate developmental programs;
d) Contextualize the content of the curriculum through using local learning and play materials such as games, stories, songs and puzzles, and organize technology supported learning and reading corners ;
e) Include activities that promote national identity and unity within diversity with special focus on mutual respect, cooperation, inclusiveness, values of patriotism, through children's literature games , stories, music and experience sharing programs and moral education;
f) Create secure, safe, accessible and equitable academic, social and physical inclusive education environment for all children, and ensure that children with special needs have the same opportunity to succeed as their peers; and

Teachers

a) Develop attractive, competitive ECE teacher recruitment and preparation program, and make teaching profession of choice;
b) Undertake ECCE teacher education at a certificate level as a short term strategy, after the completion of grade ten at diploma level as intermediate strategy, and after completion of grade twelve at degree level as a long term strategy ;

c) Ensure that teacher training institutions are training ECE teachers in the relevant mother tongue;
d) Merit based assignment of preschool leaders among the experienced preschool teachers with the necessary leadership skill training;
e) Make ECCE teacher training program rich and comprehensive in such a way that it includes music, art, sport, as well as inclusive and unity in diversity issues;

f) Building the capacity of colleges of teacher education programs to produce quality ECCE teachers and attaching preschool centers with training institutions in which the two can reciprocate through practicum and experience sharing modalities; and

g) As part of the child's right convention, ensuring mother tongue as the medium of instruction in all ECCE programs and customize the training of teachers in CTE along this direction;

School feeding program

a) Introduce school feeding programs as most children come from low income families without meals, and it is instrumental to curb the issue of absenteeism.

Parents, community and private sector engagement

a) Ensure the involvement of parents in the care and follow-up of the children's learning and progress in school and out of school;
b) Engage the community in mobilizing human and material resources by for example inviting elderly persons to come and tell stories or volunteers to assist in child care,
c) Establish community based parent group to advocate about child's right and protect children from any form of abuse;
d) Empowering and engaging parents and the community in education of young children;
e) Explore possibilities to scale up community's contributions and devise long term strategies to finance ECCE programs through employing different mechanisms such as Education tax and opening National education account;
a) Expand ECCE in residential areas where children are living; and
b) Encourage and support private preschools.

Coordinating with sector miniseries and other stakeholders

a) Engage in inter-sectoral collaboration among the Ministry of Education, Ministry of Health and Ministry of Women and Children Affairs; and
b) Involve relevant local and international stakeholders to promote early care, and education in the country.

Quality assurance

a) Standardize the curriculum of the school readiness program, and
b) Develop built-in continuous monitoring and evaluation.

Location, space, facilities and services

a) Consider appropriate location and compound within the primary school premise
b) Allocate adequate space for indoor, outdoor play and learning activities; and
c) Provide safe and child friendly facilities such as water pipes and toilets.

Linking ECCE programs, Developing Models and Establishing Centers

a) Establish strong linkage with universities and Colleges of Teacher Education to conduct research, training and improve the quality of the program in the respective regions;
b) Creating horizontal experience sharing forums across governmental, community and private ECE programs;
c) Designing model preschools at district level so that others can emulate and promote exchange within and among regions; and
d) Establish centres at district level which can produce preschool learning, teaching and play materials.

2.3. Primary Education

2.3.1. Achievements

Owing to the implementation of education and training policy and the country's commitment to realize universalization of primary education, the number of primary schools has increased from 12,089 in 2001/2 to 33, 373 in 2014/15 while the students' enrolment has shown drastic increment over the same period. Net enrollment rate was raised from 54% in 2002/03 to 94.3% in 2014/15. Regarding efficiency of primary education, previous huge regional, urban-rural and gender gaps were improved over the years. For instance, GPI was raised from about 0.7 in 1999/00 to 0.93 in 214/15 while dropout rate was improved from 18% in 2008/09 to 9% in 2013/14. Furthermore, policy provision for the implementation of mother tongue language as a medium of instruction at the primary level is an encouraging attainment.

Finally, the attempt to apply the learner centered method such as problem solving approach, practicing cooperative learning and continuous assessment, and the continuous professional development programs for teachers are among the encouraging undertakings in the primary education sub-sector.

2.3.2. Gaps and Challenges

In spite of a lot of policy provisions, many gaps and challenges are still observed at this level.

Participation

Reports depict that access as measured in net enrolment is still a concern in regions like Afar (59.2%), Somali (81.1%), Benshangul-Gumuz (89.3%) and Dire Dewa (56.9%) and the second cycle primary education has been lagging behind the target both in the GER and NER. According to MoE annual abstract of 2014/15, about 1.03 million children of official school age were not in primary education and even when adjusted net enrolment is considered nearly one million children were excluded from the education system and are considered as out-of-school children (MoE, 2016).

Equity

Regardless of immense improvements in narrowing the gender gaps over the last two decades, GPI still remains in favor of boys than girls (national GPI was 0.93 in 2014/15) and the index is 0.84 and 0.86 in the same years for Afar and Beni-Shangul Gumuz regional sates respectively (MoE 2016). Though male and female enrolments are almost equal in urban areas, girls enrolment was less than that of their counterparts in rural Ethiopia during the same years, entailing that more actions are needed to close the gap between rural male and female children's enrolment than in urban Ethiopia. Furthermore, it was observed that there is inadequate inclusion of children with special needs as well as absence of any provision for gifted and talented children.

Efficiency

Though primary dropout rate is brought below 10% at the national level, dropout is still a concern in some grades. For instance, 19% of pupils enrolled in grade 1 in 2013/14, have left school before reaching grade 2 in 2014/15 (MoE, 2016).

Quality

Regardless of the efforts made, increased participation in primary education was not accompanied by quality learning outcomes. Graduates of primary education lack competence which requires integration of knowledge, skills and the necessary values. The focus seems on factual knowledge, and good proportion children fail to master basic skills of leaning at the completion of first cycle.

Curriculum

The findings indicate that soft/life skills subjects (such as aesthetics - art, music, sport and vocational skills) are not either adequately incorporated or not included, and the curriculum is highly saturated with academic subjects and contents. Civics and ethical education contributed little to the socialization of students' behavior and do not strongly advocate about unity with diversity in the primary schools. Besides, problem solving skills which promote critical and livelihood skills are not given due attention. Co-curricular activities which are instrumental to promote social competence and moral development are not part of the curriculum. The study participants have also expressed the poor practice of continuous assessment in the learning-teaching process.

Educational facilities

The current study revealed that educational facilities and materials are inadequate in most of the observed primary schools which in turn affected quality of education. Some of the challenges identified include lack of clean and separate sanitation facilities for girls and boys, inadequate teaching materials, laboratories and lab chemicals and library, poor physical conditions and unsafe school environment (including gender based violence), and poor provision and utilization of ICT facilities in almost all primary schools.

Teachers' selection, preparation, development and retention

Among others the most serious challenges in the teaching profession identified include; recruiting low achievers and less committed candidates, poor quality of the teaching force (poor subject matter knowledge and know-how of the teaching force), low teachers' motivation and high teachers' turnover (see also the section on Teacher Preparation and Development). Furthermore, it is important to note that research participants have reported about the prevalence of poor school leadership in several schools.

Education development army

Research suggested that cooperative learning strategy enhances students learning. However, results of the current study revealed that the implementation of the education development army or 1 to 5 grouping among teachers and students is poor.

Language issues (Mother tongue, English & Amharic)

Studies consistently revealed that primary school children have serious language problems and lack basic skills of reading and writing in all languages that are mother tongue which is medium of instruction, Amharic which is the federal working language and English which is the language of science and technology (EGRA, 2010; NLA, MOE, 2013). It was pointed out that English language is a serious challenge for many subject teachers as well as for those teachers teaching English as a subject.

Student related issues

According to most of the study participants, majority of the primary school students have little motivation, interest and commitment in their education. It was reported that students did not possess adequate literacy, numeracy and skills required to continue their secondary education. The study further revealed that absenteeism, inadequate student support system and heavy household chores/child labor are still common problems that affect quality of the education.

Financing

The findings of the current study depicted over reliance on development partners for funding; lack of transparency in the allocation of budget; lack of accountable system in the utilization of the budget; inadequacy of the budget allocated to schools; highly centralized system of government financing; and limited participation of the community in funding schools are the major challenges of financing primary education.

Adult and Non-formal Education (ANFE)

Literature suggests that well designed and properly implemented adult and non-formal education program provides access to those who are over-aged for formal schooling and brings back to the track those who dropped out from formal schools for various reasons. It, particularly, helps adults to manage their daily life and fit to the present life that requires integration of knowledge and skills from different fields.

However, the present study indicated that *lack of integrating functional adult literacy* with agriculture, health, livelihood skills; lack of clear structure of ANFE and strong coordination system at all levels; lack of proper documentation of the data about the program; focus of the program solely on literacy and numeracy by giving little attention to other functional skills (agriculture, health, business) and lack of tailoring the program to the local needs of adults are the major challenges faced by ANFE.

2.3.3 The Way Forward

Policy issues

a) Primary education should be compulsory (all age appropriate target groups should be enrolled) so as to develop sense of ownership and accountability among parents and other stakeholders responsible for children's education.
b) The starting or entry age of primary education should be (6+) and its duration should be six years (grades 1-6).The change of age and structure is suggested based on the international benchmarking experience, and with the assumption that children will have the necessary preprimary education before they enter primary education. Furthermore, studies confirm that early stimulation has a lot of impact on brain development and early learning.
c) The school feeding program should be introduced within the primary education system.).
d) Appropriate education strategy should be designed for the pastoralist community.
e) There is a need to increase educational efficiency at primary education.
f) Designing and applying transparent, accountable, decentralized and data-based financing system in the primary education.

Curriculum

a) Competence –based curriculum should be given due attention. There has to be from what to how (a comprehensive approach). Practical, life skills and aesthetics contents the enhance the development of problem solving and creative minds need to be incorporated into the curriculum. It should also enhance language education (mother tongue, English and Amharic-federal working language. In later phase of the primary education, the curriculum should introduce higher order thinking skills through teaching science, technology, engineering and mathematics (STEM) subjects appropriate for the level.
b) Primary school curriculum should be aligned to preprimary education and revisited in relation to the entry age (6+) and its duration (i.e, 1-6).
c) Self-contained class should be revisited to overcome teachers' poor mastery of subject matter, poor language skills, poor pedagogy and poor preparation to handle all subject.
d) The learning-teaching process should be supported by ICT.
e) School curriculum should enhance unity within diversity, and extra-or co-curricular activities that promote value education /moral education, patriotism, multiculturalism, and local children's literature, games, and experience sharing should be designed and included within the primary education system so as to strengthen unity in diversity.

f) Enabling school social, academic and physical environment for all learners (boys, girls, disadvantaged children and children with special needs) to achieve equitable learning outcome.
g) The gifted and talented children should be identified as early as possible, and their needs should be enhanced within the general school system, and attempt should be made to accommodate their needs through employing strategies such as developing enrichment programs, employing differentiated curriculum or introducing accelerated promotion.
h) Ethical and civics education be reconsidered , and focus need to be given for ethics /moral education. This should lead to the learning civics at upper grades, as experience from other countries like Vietnam and Malaysia show. It is also observed that the necessary competencies are not acquired only through classroom activities but also through extra-curricular activities. Hence, incorporating co-curricular activities that enhance social responsibility and accountability is crucial.
i) There should be a clear direction on the assessment of grades 1-6, assessment strategies should be aligned with learning activities (contents) and learning outcomes, minimum learning competencies should be checked at every grade level, assessment should encompass practical skills and attitudes in addition to knowledge, and diagnostic assessment tools should be introduced to identify the strengths and weaknesses (recurring learning deficiencies) of the pupils and the schools.
j) Regional examinations /assessment should be designed and given at grade 6 as a completion of primary education.
k) National examination should be designed and given at grade 8 as a completion of lower secondary education at national level.
l) The primary education promotion policy needs to be prepared by regional education bureaus.

Teaching force

a) Teachers' selection should be done on competitive basis. As quality of the teaching force is one of the key factors in promotion of quality education, only those who possess the required qualities and best performing candidates in national and entrance examinations should be considered for admission to the profession.
b) Teachers' preparation should be relevant and aligned to the school curriculum. The link between primary schools and training colleges should be strengthened during training so as to help would-be teachers to get sufficient knowledge about the

conditions of the teaching-learning process, contents primary school curriculum and the learners.

c) The assignment of school leaders (principals and supervisors) should be competence or merit based. Experienced teachers with the necessary training should be considered in the assignment of school leaders. Furthermore, instructional leadership should be promoted at all levels of the primary education system.
d) Incentive mechanisms for retaining teachers should be in place. As the experience from the benchmarking reports show different benefits attract teachers and improve their retention in the profession. For example, health insurance, long term loans and sufficient salary that take into account living expenses can reduce teachers' turnover. Hence, it seems imperative to have teachers' retention policy that envisages benefits for teachers and attracts best mind to the profession.
e) Experience sharing practices among teachers, school leaders and students with in their respective region and among regions should be initiated. Public and private schools should also be encouraged to share their experiences.
f) There should be a specialized teacher training program for teaching vocational education within the primary teacher education system.

Language

a) In the primary education system (grades 1-6);
    - Mother tongue as a medium of instruction should start from grade 1;
    - English as a subject should start from grade 1 (where, in fact, the focus should be on oral/spoken/listening aspects– until grade 3); and
    - Federal working language /second language as a subject should start from grade 3.
b) Bilingual education (mother tongue + one more language based on the preference of the child/ parent) so as to strengthen unity in diversity.
c) Language (mother tongue as a medium of instruction in primary school , Amharic as federal working language and English as a medium of instruction as of grade 7) teaching at teacher education colleges should be revisited and strengthened.
d) Children's reading, speaking and writing skills and abilities in the three languages need to be given due attention and strengthened.
e) Proficiency strategy (developing resource materials, language labs etc.) to promote language education should be initiated starting primary education.
f) The primary school teachers need to be trained in teacher education colleges for the medium of instruction for the level.

Parent, community and private sector participation

a) School parent relationship should be strengthened. Parents should be encouraged to make the necessary follow ups of the academic achievements of children and the overall wellbeing of children through their representatives as practiced in Vietnam. Their role should not be limited to supporting primary schools in terms of financial and material contributions and visits during school closing days. Rather, they should own their children's school and take part in different school activities like learning-teaching process and the overall ecosystem of the primary school.
b) Organizing Parental and Community Involvement Trainers in every Woreda Education Office seems essential so as to increase the volume of parental and community engagement in the school ecosystem as practiced in Malaysia.
c) Supporting the private sector in establishing more schools and in enhancing the quality of their service is essential in overcoming access and addressing quality related issues in the country.

Financing

a) Transparent, accountable, decentralized and data-based financing system should be designed and applied in the primary education system.
b) Primary education should be free like the situation in other countries. However, creation of fundraising schemes for parents and the community for financing education should be enhanced, and there is a need to explore community contributions, the possibility of the education tax, and the national education account so as to support the primary education system.
c) Creation of a decentralized system in the utilization of budget should be institutionalized so as to enable schools to overcome challenges of centralized financing and its long bureaucracy.

Adult and non-formal education (ANFE)

a) Adult and non-formal education needs to have its own independent education policy framework.
b) ANFE program needs to have clear, responsible, accountable, and independent organizational structure with budget across at all levels, that is from Federal to Woreda.
c) There should be strong collaboration and coordination among sector ministries to effectively implement the full package of the program.
d) The existing ABE centers and rural schools should be strengthened to effectively implement ANFE program, and the link between the two (ABE training center and primary schools) should be strengthened.
e) The program needs to be adapted and tailored to the practical needs and life situation of adults.

f) ANFE needs to have continuity, and transition from level 2 to formal education should be strengthened.
g) The existing FTC (Farmers Training Center) and community learning center need to be used as the center for adult and non-formal education.
h) The facilitators of ANFE should be paid workers instead of considering them as volunteers, if ANFE has to be fully operationalized and functional.

3. Secondary and Preparatory Education

By Amare Asgedom, Ambissa Kenea, Dawit Asrat, Dereje Andargie, Tesfaye Semela & Yekoyealem Desie

3.1. Introduction

This report integrates four research findings; the desk review report; the field report, the benchmark report of the international benchmark visit and the various consultative and validation workshop results. The international benchmark visit took place between October 7 and October 22, 2017 in the two Asian countries, Vietnam and Malaysia. The two countries are known for having a high performing educational systems as gauged by PISA results (Vietnam ranked 12th compared to USA which stood 28th in the 2016 PISA results of children who are 15 years old).

The increasing need for secondary education in today's world is justified by the fact that (i) primary education alone does not provide the skills necessary for the adoption of new production methods and technologies necessary to compete in a global economy; (ii) when the opportunities for secondary education are limited, it is likely to reduce demand for primary education; and (iii) successful expansion of primary education will inevitably increase demand for secondary education.

While the focus of need assessment (desk review and field study) was to understand the performances of the Ethiopian educational system, the focus of the benchmarking visit was to observe educational systems in Asia that have success stories in education performance particularly in student learning outcomes. The Ethiopian delegation to these two countries observed first hand and understood how the entire system of accountability-coherence in governance operates; how they structure their curriculum; and why the learning outcomes (as gauged by PISA results) of the two countries are high. The benchmarking visit data is therefore integrated into the desk review and field study reports to produce this document.

3.2. Achievements

Since the change of government in 1991, a number of efforts have been made to reform the inherited education system which was characterized by irrelevance, poor quality and

unemployable graduates. Moreover, in addition to absence of clearly articulated policy, the pre-1991 education system suffered from problems of access, equity, and quality.

Beyond redressing the inherited education problems, the 1994 Education and Training Policy were necessitated by the new political order which had radically structured the country into autonomous regional states. The new policy authors viewed education as a tool for development and for solving social, political and economic problems; "education enables individuals and groups to make all rounded development by acquiring knowledge, abilities, skills and attitudes", they argued. The metaphors, problem-solving and integration of R&D featured frequently in the policy document suggesting a pragmatic philosophy of education. Contrary to traditional views of education as an end itself, the policy authors viewed education as a critical factor for social change and wealth creation.

To implement the 1994 education and training policy a series of rolling five-year strategic plans called Education Sector Development Plans (ESDP I-ESDPV) were designed and implemented. At present, Ethiopia is implementing the 5th plan, ESDP V which is aligned with GTP 2 and covering the period 2015/16-2019/20.

Government financing of education has been generous as significant as transport and other infrastructures. Public spending on education in Ethiopia has increased by 70% in real terms between 2003/04 and 2011/12. In this period education accounted for roughly 20% of total government spending, yet the secondary and preparatory education share was only 10% compared to the higher education share which was 42% and pre-primary and primary education share 32%. Some regions such as Tigray had allocated more budgets to education than the national average. The present state of financing secondary and preparatory education suggests the need to diversify sources of funding including significant participation of the private sector; and introducing Public Private Partnerships (PPP).

To enhance quality of education the government had taken a series of reforms such as the multimillion dollar program supported by the World Bank (GEQIP) and USAID (IQPEP). The latter intervenes in primary education and the former both in primary and secondary education. GEQIP was originally a two-phase 10 year program (2009-2018) when it started in 2009. There are now however some preparations to start Phase 3 of GEQIP after completion of Phase 2.

GEQIP (Phase 1) was primarily intended to improve quality of general education. GEQIP as a whole is a federal program implemented through decentralization modality involving 11 regions over 900 woredas, 21 universities, 36 colleges of teacher education (CTEs), and about 40000 schools and Alternative Basic Education (ABEs) centres.

GEQIP supports (1) implementation of revised curriculum; procurement of learning materials and strengthening of assessments; (2) in-service and pre-service training of teachers; (3) school improvement planning and school grants; (4) capacity building for planning and management and strengthening of EMIS (ibid). The primary objective of GEQIP 2 is improving learning conditions in primary and secondary schools and strengthening of institutions at different levels of educational administration (World Bank, 2013, p. 6).

Through these GIQIP interventions over the last nine years, teacher qualifications have improved; supply and distribution of books have reached optimum levels; new methods of curriculum delivery including student centred methods and Normative Continuous Assessments (NCA) have been introduced. Moreover, curriculum has shifted to emphasis on science and technology with the introduction of the policy of 70/30 graduate mix as learning science and technology are associated with economic and social transformations (Ministry of Science and Technology, 2015). A program of intervention called STEM (Science, Engineering and Mathematics) has been introduced to secondary and preparatory schools for reinforcing education of Science and Technology.

An Instructional Satellite TV (Plasma) has been beamed to most secondary and preparatory schools with an aim of standardized delivery of school subjects (the effectiveness of this innovation still remains controversial) and for alleviating shortage of qualified teachers.

Educational Army a very recent educational innovation in which students are organized into groups of five (commonly called one-to-five; one leader and four members) intended for studying and learning together was introduced and scaled up to include all schools.

One however wonders why learning outcomes of secondary/preparatory school students are low in spite of all efforts to improve quality. Part of the answerer could be found in the type of interventions, which could be input-focussed. Most interventions focused on inputs of education with less attention to learning outcomes, the extent to which effect sizes of schooling are achieved. Education inputs are a necessary condition but not sufficient condition. Abundant of inputs is a waste of resource in a system that stands for schooling but not for learning. If the system accountability is not coherent for learning, interventions in salary increment, class-size, teaching learning, etc., does not work. The ensuing sections of the report shall present the challenges of secondary and preparatory education and the way forward.

3.3. Challenges

The challenges observed in the secondary and preparatory education are the results of three factors; (1) new needs that demand new policy frameworks; (2) the policy itself; and (3) the result of policy implementation. The blend between policy-making and policy-implementation however is clearly noticed as both policy maker and policy implementer is the government. The policy-maker should make sure the policy is implemented by requiring the implementer to *account for* quality of education not only for quantity of education which worked perfectly well.

3.3.1. Learning outcomes

We remember from the Desk Review results of the Education Roadmap that student learning outcomes are very low, in fact, in a deteriorating trend. In this empirical study, most of the research participants (stakeholders of education) believe that the majority of secondary and preparatory students do not have the expected knowledge, attitudes and skills. The students are viewed as lacking the necessary competence and skills to join the world of work upon completion of grade 10 and 12. Interview and FGD results indicated that the stakeholders do not accept that secondary school graduates are sufficiently prepared for the level. Most are job seekers and not job creators. It is puzzling however why learning outcomes are so low in Ethiopia in spite of the fact that many new initiatives such as book supply, teacher qualification, plasma education, new curriculum, school improvement packages, etc. are introduced. One possible explanation could be that the system was 'accountability incoherent' (vertically and horizontally) for learning outcomes. It might have been sufficiently accountability coherent for inputs, processes and access. Contrary to the Ethiopian context, Vietnam and Malaysia are high achievers in learning outcomes as gauged by PISA. Viet Nam ranked 12th in 2016 PISA results while USA ranked 28th in the same year. In 2009, Malaysia ranked 55 scoring better than its regional peers. The two countries are also classified as fast growing economies.

3.3.2. Curriculum content and delivery

A critical point of curriculum in Vietnam and Malaysia is the commitment to shift it from rote learning to competence-based education. They have designed curriculum that focuses on pupil's gaining "deep understanding of core concepts and mastery of core skills, the kind of curriculum one finds in much of Europe and North America, said one Vietnam official. The curriculum of Vietnam these days is highly focused and teaching higher order skills in order to survive in 21st century distinct from the old curriculum which was "*a mile-wide and an inch deep*". Now the students are expected to leave schools not just able to recite what they

have learned in class but to apply these concepts and practices in unfamiliar contexts. One official said, "in the past, we emphasized content, what to learn, but now we emphasized how to do something".

Language learning is highly emphasized in the two visited countries. The national languages, Bahasa Malaysia and Vietnamese, are used as media of instruction of secondary education in their respective countries. However, English is a compulsory subject in both countries.

In Ethiopia, the important stakeholders, secondary and preparatory school teachers and students, were asked questions related to relevance and quality of the curriculum. Their responses have affirmed the Desk Review results; that the curriculum lacks quality and relevance. It is too theoretical and that it fails to prepare students to the world of work. According to student responses, the curriculum is too difficult, not horizontally and vertically sequenced; the content is also too bulky not leaving enough space to reflect and allow deep learning. The curriculum inspires neither the teachers nor the students. It is uninteresting to both groups.

Educational experts also noted that the curricular structure according to the 1994 education and training policy was 8+4 with 8 years of primary education and 4 years of secondary education. It is not clear how secondary education was reduced to 2 years; and why First Year University curriculum was brought to secondary education in the form of preparatory education. They expressed to the need for allocating more time in the curriculum of secondary education, a minimum of 4 years but also that extends to 5 or 6 years if possible. As proposed in the Desk Review, there is a need for restructuring the curriculum of education by shifting preparatory education to college level and by allocating more time to secondary education.

3.3.3. Teaching and learning

Teachers are the principal actors in the teaching learning process. Malaysian educators believe that *teachers and school leaders are the most important school-based drivers of student learning outcomes.* Education is a high stake commodity both in Viet Nam and Malaysia. The whole country pays much attention to education. There is a belief in Buddhist culture that "nothing is good in this world but education". Teachers enjoy high respect by their students and by the community at large. Teachers, students and parents all cooperate to make education successful in both countries.

*In the Ethiopian context, i*nterviews and FGDs were conducted with key education stakeholders in order to explore their perspective on secondary and preparatory school

teachers' competence, motivation and job satisfaction. The participants in the interviews and FGDs have consistently expressed their grave concern on the overall poor quality and low motivation of secondary school teachers. Teachers lack the energy to motivate students to learn. The qualitative data also clearly showed that teachers' turnover greatly exacerbates the poor quality of teaching learning in secondary schools of the country. Participants at all levels clearly recognized this serious situation.

A majority of the students (i.e., 55.1 %) perceived the teaching learning process in their school as either partly uninteresting (34.3%) or as completely boring (20.8%). It is also possible to learn from the data that the majority of the respondents perceived teaching learning as not practice oriented. This has been one of the serious concerns raised during the interview and focus group discussions with other pertinent education stakeholders. Secondary and preparatory school students have also been asked about their perception on plasma instruction in their schools. The data clearly demonstrates that 45.9% of the students believed that plasma is not important to them. In summary, the teaching and learning process does not motivate learning.

3.3.4. Students Engagement

In Vietnam and Malaysia students take education very seriously and carefully engage in their studies with interest. They are hardworking, disciplined and greatly value seniority. Teachers reciprocate by loving their profession and try to challenge their students to work hard. In contrast, Ethiopian student engagement as gauged by motivation to learn, interest in academic activities, reading and attendance, was observed to be very low. Most interviewed stakeholders confirmed student engagement and energy to be very low. Stakeholders observe absence of perseverance of students in attending classes, carrying their books to the schools; absence of enthusiasm in attending classes and absence of interest and energy in doing their homework.

3.3.5. Educational Army

There is no such thing as education army in Malaysia or Vietnam. In Ethiopia, the majority of secondary and preparatory students believed that the '1:5' learning arrangement is very useful to them. In addition, very large proportions (52.3 %) of the respondents do not agree that the '1-5' learning arrangement is boring. Furthermore, the majority of the students do not believe that the '1:5' learning approach impede the learning of fast learners. About 61 % of the students still believed that the approach helped them to learn from their peers and similarly another 60.5 % of the respondents indicated that the '1:5' arrangement provides

them with opportunities to help their peers in the learning process. In addition, 52.1 % of the students reported that the '1:5' approaches initiated them to study hard.

3.3.6. Assessment systems

Vietnam and Malaysia heavily rely on examinations and assessments for selection and feedback. Vietnam relies heavily on assessments including the use of Normative Continuous Assessments (NCA). Malaysia depends heavily on summative evaluations. In fact, a student has to sit for six national examinations before he/she completes general education. Both countries have a strong belief in international competitiveness by achieving high ranks in PISA. Vietnam ranked 12th in 2016 in PISA results at a time when USA ranked 28th the same year. In 2009, Malaysia ranked 55 scoring better than its regional peers. Contrary to the Ethiopian context, where knowledge is what is tested in most examinations, examinations in Vietnam and Malaysia test competence, in fact, the use the language papers and projects instead of tests and examinations.

An interview with the CEO of the Ethiopian National Examinations and Assessments Agency (ENEAA) demonstrated that the Agency still uses the traditional paper-and-pencil methods which seem to overwhelm the assessment and examinations mandate. In addition to NLA and Grade 12 examinations administered in more than 10 subjects, the agency prepares examinations for 9 subjects in 18 local languages (nation and nationalities) in the Grade 10 assessments. The CEO believes that assessments be diagnostic and that the number of tests be reduced to a reasonable size. In fact, he was implying that we need to assess competence instead of the present practice of assessing knowledge of content on each subject.

Relevance--secondary and preparatory education

Today, in Vietnam, there is an impressive level of rigor with teachers challenging students with demanding questions. The teachers focus on teaching a few things well and with great sense of coherence that helps students to progress. The officials said that they use **standards-based curriculum** in which student exit outcomes are aligned with district, state or national standards.

Vocationalization in lower and upper secondary education is embedded in the curriculum and in each subject area. Each subject is designed to make it skills-based. Life skills are taught through a field of study called technology. Moreover, there is generally a shift from traditional courses to STEM education both in the lower and upper secondary schools. In

Vietnam, Technology in the lower and upper secondary subjects aims to show the link between theory and practice. In lower secondary (grades, 6-9), it includes three parts; Home Economics (Grade 6) Agriculture and Aquaculture (Grade 7), Industry (Grade 8) and optional modules (Grade 9). In high schools (grades 10-12), Technology consists of Agriculture, Horticulture, Mechanics, Electronics, Design, etc. On the other hand Civics consists of Economics, Philosophy (Marxism-Leninism), Politics, Law and Ethics.

In Malaysia co-curricular activities are compulsory at the secondary level, where all students must participate in at least 2 activities for most states, and 3 activities for the Sarawak region. There are many co-curricular activities offered at the secondary level, varying at each school and each student is judged based on these areas. Competitions and performances are regularly organized. Co-curricular activities are often categorized under the following: Uniformed Groups, Performing Arts, Clubs & Societies, and Sports & Games. Student may also participate in more than 2 co-curricular activities. Vietnam and Malaysia have organized their learning areas into five; Social Science, Natural Science, Methods (Maths and Languages), Technology and Citizenship Education.

In Ethiopia, the present educational system as a whole can be classified as a liberal art system (academic) with a discipline or academic orientation which focuses on two learning areas, Natural Science and Social Sciences. Its tacit purpose is knowledge transmission and passing examinations to join higher education. This system does not prepare students to be critical thinkers and critical actors. It simply offers education in the form of mastering content and preaching it (as borrowed from religious institutions). What is learned does not help students to be creative and innovative. Vocational courses could be integrated into academic subjects to make learners engaged and skilled. For instance, Life Skills Education, Gardening, Agriculture, Technology and Enterprise, and woodwork, etc., could be added to primary and secondary education by subtracting the contents of the academic courses. This shift could make students interested in their education, because such courses will necessarily make them active. It appears today that students are tired of hearing or reading abstractions and have started to develop resistance for learning. The new courses will help to inspire and provoke new energy by making them physically and imaginatively involved and by moving from the ‘world’ to the ‘word’ and vice versa. Separation of the word from the world is counterproductive. One way of doing away with this culture of knowledge disintegration is to underpin the learning areas on learning outcomes.

The new policy of emphasis to Science and Technology is legitimate according to the research participants. As highly aspiring for poverty alleviation and economic revolution, it is appropriate if educational programs are inclined more to the sciences and technology than the humanities and the arts. But the purpose can be defeated if they are offered mainly in

theoretical terms as is the case in now. Another critical question of relevance in the context of the Ethiopian education system is the extent to which curriculum, teaching-learning and assessment are aligned with student learning outcomes as stipulated in the roadmap objectives. How can we design and implement a curriculum that contributes to attainment of learning outcomes? The existing learning areas of secondary and preparatory education are not developed from the point of view of competence-based learning—which focuses on analytical thinking, critical thinking, reflective thinking, logical thinking, etc. It also lacks development of skills such as computer skills, practical and occupational skills. Moreover, the curriculum lacks, self-motivation content, enterprising spirit and quality orientation.

The deacademization of education in Ethiopia demands that vocational and occupational education be integrated starting from primary level and proceeding to higher education. It is unclear why general education in Ethiopia has been too academic to the detriment of life skills which help the child to get employed and to be job creator and successful in life.

According to students, skills and values are not taught at all in the academic courses of the general education system. The academization of general education in Ethiopia starts with its tacit mission of preparation for higher education (with the exception of TVET). It is a liberal education system without having a track for vocational education system. There is no country in the world whose educational system is exclusively liberal. Liberal education is offered in tandem with vocational education in many countries. Logically you cannot have liberal education system without a vocational track. It is also possible to have both of them in one school without the need for specialized schools. The TVET system is a specialized and very expensive system that cannot be extended to all general education students. Student frustration when assigned in TVET colleges arises from the feeling of a failure to perform according to social expectations, joining the universities which is a misguided belief transferred from the curriculum itself in a tacit way.

Access to Secondary and Preparatory Education—the need for universalization of secondary education

When the performance in access to secondary education or enrolment of general secondary (39.3%) and preparatory (10%) in Ethiopia is compared with the expected minimum standard for lower-middle-income country, Ethiopia has a lot to do more in this field. Enrolment rates have to increase drastically (80-90 % for lower secondary and above 50% for upper secondary education); it is now very low and far behind the target set for 2030 in GTP 2. Therefore, to achieve its target, Ethiopia will require rapid improvement in primary graduation rates, and sustained expansion of enrolments in lower (general) secondary

education, and gradual increases in the proportion of students admitted into upper (preparatory) secondary education.

Equity of access for secondary education

The data from MOE also shows that the disparity between urban and rural enrolment is very wide at both the general secondary and preparatory cycles. For example, in the year 2010/11 urban enrolment rates for lower and upper secondary cycles respectively constituted 85.79% and 94.92% of secondary students. After three years, in 2013/14, the figure showed little reduction of gap with 78.85% urban enrolment for lower secondary cycle and 91.24% urban enrolment for upper secondary cycles.

In sum, there has been a big disparity for secondary school access between urban-rural and poor-rich school age children. Long school to home distance, economic affordability problem to pay for quality education or to pursue in better quality urban secondary schools, attending in below standard operating schools are among the major barriers of equitable access for secondary education.

Financing Secondary and Preparatory Education

The government of Vietnam spends about 24 per cent its expenditure to education. About 83 per cent of this budget is allocated to K-12 while 17 per cent is spent for higher education. In Vietnam education is not free. Only primary education students and the poor get free education. The rest pay tuition which varies from school to school. Schools are allowed to use about 30 per cent of what they have collected from students in addition to the government budget. Students get government loans as much as USD 50 per month is allowed for every student.

In contrast with Vietnam, education is free in Malaysia in all levels of schooling. Food supplement is provided for the poor, rural areas and indigenous people. Students do not pay for textbooks and other instructional materials. Free boarding is provided for those who excel in education. Consequent to the Blue Print of 2013-2025 Malaysia has started outcome-based budgeting and strong monitoring systems using dashboard systems.

Public financing of the education sector has been high in Ethiopia. According to ESDP V (MoE, 2015) from 1996–2004, education accounted for roughly 20% of total government spending (MoE, 2015). However, the required budget to the sector needed additional financial and in-kind contributions from international partners, NGOs and community contributions. The analyses of relevant documents suggest visible achievements in financing the education sector. Yet, a high quality education demands more resources than that.

Efficiency of the secondary and preparatory education system

Bulky curriculum and inefficient deployment of teachers require a lot of effort and money. Teachers and students waste much instructional time both in school and out of school for a variety of bad reasons (off task). We need to study the extent to which the academic calendar is strictly followed by teachers, students and the administration in Ethiopia as there is no conclusive study today. Research participants have however reported that teacher and student off-task state is rampant in secondary and preparatory schools. Teachers spend much time in meetings, school administrative tasks and absenteeism. Student class attendance as a whole is very poor mainly owing to disinterest and delinquency. These all are a waste of money for the taxpayer.

The most critical efficiency factor in secondary and preparatory education in Ethiopia is external efficiency, the extent to which products of secondary education are employable. Self-employment and job creation competence of secondary education students is very low. For that matter, the unemployment rate of educated Ethiopians is rising.

It is unrealistic for Ethiopia to continue offering TVET to 80 per cent of General Secondary Education leavers in the future. TVET is a very expensive project and that the country cannot sustainably supply the necessary resources for that. It is also unrealistic and wrong policy to compel the 20 percent to join higher education immediately. There must be a system in place where some preparatory or upper secondary education leavers can be encouraged to go to the world of work immediately after school leaving for some time and join higher education later. The present system de-motivates pausing school life and going for work or even for rest after having been in school for more than 12 uninterrupted school years.

The effect of the present restless system of education is fast reproduction of jobless surplus graduates who constantly demand the government to give them jobs instead of creating jobs themselves. As a result of this contradiction, we have witnessed destruction of infrastructures and investments by the unemployed during crisis periods. There is therefore a need to match demand and supply of labour through a well-crafted educational system by decelerating the highly accelerated production of schooled personnel.

Unity in Diversity in Ethiopian Education

There are varied views of unity in diversity. The multicultural perspective is more applicable in the Ethiopian context. The place of multicultural perspective in secondary education indicated that there is a weak link among the constitution, the education and training policy, the cultural policy, and the secondary teacher education policies in terms of addressing the

diverse nature of the country. There is therefore a strong need to inculcate patriotism in the context of unity in diversity.

3.4. Recommendations

3.4.1. Expand upper and lower secondary

Universalize secondary education to support LMIC economy and to meet the global target for 2030. Therefore, Ethiopia needs to universalize quality secondary education by 2030.

3.4.2. Sharpen the mission of upper and lower secondary education

The mission of lower and upper secondary education is not well articulated. It appears that the mission of general education as a whole is to get into universities as demonstrated in student aspirations. Preparation for the world of work, lifelong learning and preparation for further education need to be well articulated and strategies and action plans developed.

3.4.3. Change the structure of education

Upper and lower secondary education should be a four-year duration consisting of two years of lower secondary and two years of upper secondary if 8 years the duration of primary education. But if primary education is 6-year duration as per the benchmark experience in Malaysia and Vietnam, then, we can have a four year upper secondary education with diverse pathways. Preparatory education should move up to higher education**.** In addition to giving more time for achieving the needed competencies, secondary students will have more time to digest the sciences, technologies and vocations in four years. A structure should also be created, either in the form of new track or special class in the same, for gifted students to give them the opportunity for a better curriculum and better treatment.

3.4.4. Vocationalize upper and lower secondary curriculum

Upper and lower secondary curriculum should be **competence-based** by making by creating a balanced curriculum. Restructure the traditional learning areas by introducing new learning areas such as Technology and Citizenship Education to shift from the traditional **knowledge-focussed** curriculum to **competence-focused** curriculum. The old practice of allotting instructional time to merely social science and natural science would now shift to technology (vocational) and citizenship education (ethics, economics, politics, philosophy, history).

3.4.5. Introduce strong teacher management system

There must be a system of managing teachers' performance and development in which performing teachers are rewarded and poorly performing teachers are identified and measures

taken. A teaching and learning accounting system must be put in place for managing and motivating better performing teachers. Moreover, effective student and resource management systems need to put in place:

3.4.6. Introduce scholastic tests as national or regional examinations

Examinations must test competence not accumulation of knowledge. School leaving examinations should predict future performance of the student. Examinations should focus on two or three subjects to test generic skills or vocational skills. There is no need to prepare examinations in seven subjects or more. The purpose of examining students in all subjects is testing content knowledge which often resulted in memorization and cheating in examinations. Producing graduates with the attributes of good work ethics, capability to work in teams, the competence to perform with proficiency in one's job, a commitment for integrity and democracy, demands that curriculum, teaching-learning and assessment methods function in tandem with the purpose of achieving educational objectives (student learning outcomes). Introduce international tests for international competitiveness--any country needs international tests for comprehensive assessment together with the three other types of assessments (public tests, national learning assessment and classroom assessments). Ethiopia has the latter three types of assessments but has not yet introduced the fourth one, international tests which the CEO believes are critical for international competitiveness.

3.4.7. Increase the amount of education funding by diversifying sources

The government needs to enter into Private Public Partnership (PPP). If the government supports the private sector by providing inputs (textbooks, land free from lease etc), the fees they demand from the students can be lower and the government will have the leverage to control fee raises. Encourage private investments in secondary education by introducing incentives systems such as tax exemption, land provision and government subsidy for encouraging participation of the private sector to invest in secondary education. We need to motivate schools must generate their own revenue and to use it.

3.4.8. Create National Policy Frameworks that addresses unity in diversity

The Education and Training Policy needs to be revisited to make sure that it clearly articulates the balance between diversity and national unity vis-à-vis the new conception, to be a patriot and nationalist at the same time. Adopt New Conception of Curriculum to address unity in diversity----There has to be a new conception of curriculum that educates on unity in diversity. Accordingly, we recommend two approaches to be followed: (i) Citizenship education [or Civic and Ethical Education for that matter] as a cross-curricular issue and (ii) Citizenship education as a separate school subject. This calls for multiple approaches in terms of teacher development, school organization and relationship with parents. It is strongly

advisable to have co-curricular activities that promote school-wide and across-school system interactions [e.g. *intercultural events*]. On such intercultural events students come together crossing local boundaries, language limitations and learn to interact. It is true that students who have experiences of cross-cultural interaction with 'out-groups' early in their lives are more likely to develop positive attitude toward 'others' later in life. A related issue is introducing 'inconclusive' curriculum or a curriculum with alternative perspectives on issues. A good example for this is shaping the history curriculum in such a way that there can be multiple [or interpretations] readings by people from diverse backgrounds. Then to help students that 'it is not how much we know about the past that matters - it is rather how we think and learn from it for the future of our common country that is more important.' The same can be done in shaping all school subjects.

4. Teacher Preparation and Development

By Aklilu Dalelo, Abraha Asfaw, Darge Wole, Dawit Mekonnen, Derebssa Duferra, Fekede Tuli

4.1. Introduction

"The quality of the education subsystem cannot exceed the quality of its teachers" McKinsey & Company, 2007, p. 16

"… transform[ing] teaching into a profession of choice." MOE, 2015, p.56

The executive summary presented here integrates the key finding of the desk review and field survey (the complete reports of which presented to ESC earlier) with the results an international benchmarking visit recently conducted in two countries of Asia, namely, Vietnam and Malaysia.

The desk review was meant to gather information from secondary sources on a range of issues related to teacher preparation and development. The field study, conducted in Ethiopia, was aimed at gathering firsthand information on the views of a range of stakeholders on key issues (e.g. equity, access, quality and relevance) facing teacher preparation and development in Ethiopia; and use the feedback as an input for the roadmap development. The major aim of the international benchmarking visit was to learn from the experiences of the two countries mentioned above; and draw lessons for the Ethiopian Education Roadmap being prepared for a period that extends from 2018-2030.

As indicated above, both the desk study and the field survey helped to identify the key issues facing teacher preparation and development in Ethiopia. The executive summary tries to present the findings of the two studies under key areas that constitute a teacher preparation and development program, ranging from TPD policies to cross-cutting issues. It is also interesting to note here that the Ministry of Education undertook two studies on the status of teacher education; one dealing with primary teacher education and another with secondary teacher education. The findings of the two studies by the MOE are very much similar with those of the field research conducted by Roadmap Team. We therefore tried to integrate the findings of the former in this summary, wherever deemed appropriate.

The lessons learnt from the international benchmarking visit have been used more extensively in the last part of the executive summary which deals with policy recommendations. As it is often the case, the executive summary provides only a highlight of the achievements of the education system over the past two decades or so and the major limitations both at policy level and its implementation. This would then be followed by policy recommendations based on the suggestions forwarded by the participants of the field study; and lessons drawn from the international benchmarking visit.

4.2. Major Achievements

Official reports by the Ethiopian Ministry of Education indicate that a significant progress has been made in all areas of the education sector following the promulgation of the new education and training policy. Participants of the field research were invited to share their views about the achievements and shortcoming of the Ethiopian Education and Training Policy (ETP) as related to teacher preparation and development. Accordingly, a number of areas have been pointed out as positive contributions made by ETP and associated regulations/guidelines. These include the following, among others.

- Decentralization in the Teacher Development Program (TDP) which enabled regional governments to run teacher training colleges that produce teachers for primary schools; and to recruit, hire, promote and transfer teachers.
- Issues related to diversity and inclusion being entertained at policy level; courses have been designed and offered to this effect.
- Setting a higher level of training for teachers by raising the required qualification.
- Introduction and implementation of such initiatives as career structure; improved salary scale[1] and other incentives; and a system of licensing and re-licensing.
- Introduction of a Post Graduate Diploma in Teaching (PGDT) which, despite all odds, is believed to have helped address shortage of teachers for secondary schools.
- Taking teachers' Continuous Professional Development (CPD) as one of the priorities of teacher development efforts across the various levels of the education system.

[1]The recent increase in the salary of teachers is found to have resulted in a more positive attitude towards the teaching profession (more applicants for a teaching job among graduates than hitherto!)

Overall, both the desk review and the field study indicate that the 1994 ETP has managed to introduce several new initiatives and opened up reasonable room for teacher preparation and development. The study also indicated that there is still a need to add some provisions to the Policy; ensure proper implementation of the existing provisions; and develop new strategies. What follows is a summary of issues facing the pre-primary, primary and secondary school teacher preparation and development program of Ethiopia, as a whole.

4.3. Major Shortcomings

4.3.1. Gaps in policy and strategy

- Lack of mandatory national or regional standard to open CTEs which resulted in having Colleges without some of the most essential facilities like dormitories in place.
- ETP failed to address issues related to teacher preparation and development for pre-primary education.
- No clear and comprehensive policy of teacher education; and the system is suffering from unnecessary interference from both the MoE and REBs. What is more, the duties, responsibilities and prerogatives of regional education offices at the various levels are ill-defined.
- The teacher education system suffered from frequent and sudden policy changes.
- Some of the key cross-cutting issues have been overlooked (e.g. no courses related to ICT and environmental education for secondary school teacher trainees).

4.3.2. Discrepancies/irregularities in policy implementation

- Inadequate consultation the MOE conducts with stakeholders in the course of development of programs and guidelines.
- Lack of uniform admission of candidates by CTEs (e.g. no common standard regarding the content of the entrance examinations or cut-off points).
- A widespread violation of the selection guidelines, partly due to lack of potential candidates in some subjects like IT, business education, and economics; and shortage of qualified applicants in some regional states. In some regions, such as Addis Ababa, 'all the applicants who failed to join the primary teacher training program were placed into the preprimary program'.
- At primary level, the pool of teacher education candidates is not only limited to low achievers but also to those from low socio-economic status thereby leading to a vicious cycle of poor quality leading to further deterioration in quality.

- In relation to the PGDT, mostly those first degree graduates who are unable to get jobs decide to become secondary/preparatory teachers as a temporary solution. It is therefore not surprising that a widespread lack of interest and motivation prevails among trainees of secondary education. An extreme case in point is a situation where trainees "... enter into class by force or warning letters".
- 'Diversity' is used as a criterion for admission to CTEs, but academically unqualified applicants are often admitted to CTEs merely to satisfy quota requirements.
- In some CTEs, forged credentials have been presented by applicants.
- Financial matters have not been decentralized to the department level as they should be.
- The courses related to inclusive and multicultural education are stand alone and very general. As a result, there is still a widespread culture of intolerance, negative attitude toward differences, and lack of interest in accommodating those with special needs.
- ICT is not well utilized mainly due to inaccessibility of ICT facilities and poor infrastructure; and inadequate preparation of teacher candidates to use ICT.

4.3.3. Difficulties with teacher training modalities

- Frequent changes in teacher training modalities for primary schools have been identified as serious handicap in teacher training. As a result of such changes, graduates who passed through a given modality are not sure about their future. A recent study by the MOE also shows that the existing modality is neither aligned to the country's primary school education structure (4+4) nor produces effective graduates for the specified level.
- Most of the trainees enrolled in the primary program, once they took the bridging courses for a year, were not placed in departments of their choice with Mathematics, Natural Science and English streams not attracting the required number of trainees. On the other hand, streams such as social science and aesthetics and HPE were able to attract more trainees than the required. This could be considered as a double blow to the system in the sense that students have been forced first to join the profession which is not their first choice; and a department which is not their first choice either!
- At the secondary level, graduates who undergo the consecutive (add-on) modality do not get enough time and opportunity to assimilate their pedagogical training and to develop a sense of professionalism. What is more, there is no formal connection between the subject area degree providers (such as department of geography, mathematics, physics, etc.) and pedagogical institutions.

- Due to the fact that different university faculties share (in a scattered manner) the task of preparing secondary/preparatory school teachers, training at that level lacks ownership.
- The secondary school teacher education program (PGDT) also suffers from insufficient facilities/infrastructure like classrooms; laboratories, vehicles for practicum, etc.
- Practicum related challenges include poor coordination and evaluation; and inadequate mentoring of internees.

4.3.4. Medium of instruction

- The medium of instruction in CTE's as well as university teacher training faculties is English. In the case of CTE's, graduates are deployed to teach in the mother tongue of the primary school students. Some respondents indicated that the graduates (who become teachers in primary schools) can find it difficult to deliver a subject matter they studied in CTE in English into the mother tongue of the students. The situation could even be more complicated because, presumably, some teacher trainees in CTEs are not sufficiently proficient in the mother tongue of the students.

4.3.5. Problems in the qualification, deployment and performance of teachers

- Discrepancies in the way teacher evaluation and transfer are handled from place to place.
- Teacher trainers for the pre-primary level are not specialists in the area.
- At primary level too, teachers are sometimes assigned to teach subjects for which they lack the necessary academic training. In some cases, diploma holders do not want to teach in grades 7 and 8, they do not feel competent to do so. What is more, there is the practice of assigning incompetent teachers in "O" classes. The graduates of English, mathematics and natural science are found to be least competent to teach their subjects (MOE, 2016a).
- At secondary/preparatory school level, in some cases bachelor degree holders who have not even gone through PGDT are given a teaching assignment.

4.3.6. Issues concerning incentive and support for teachers

- The failure of TE institutions to provide dormitory and cafeteria services is contributing to the low status of the profession in general and to the quality of education in particular.
- The inadequacy of teacher' salary in view of the cost of living and the pay that individuals with similar qualifications get in other sectors.
- PGDT does not feature in the career structure of teachers, i.e., teachers who have completed PGDT and those who haven't get the same salary.
- Teachers who have served for many years at a given rank are paid the same salary as those that are newly promoted or hired.
- The hardship allowance, when available, does not sufficiently consider the cost of living or the peculiar difficulties that teachers face depending on place of their work.

4.3.7. Teacher licensing and re-licensing

- Exit exams have been carried out in most of the regions but the results were not released in time thereby creating a confusion (e.g. teachers develop the view that: "it makes no difference whether you take the exam or not, whether you pass or fail...").
- Prospective teachers are hired irrespective of their results in the exit exam (sometimes called 'licensing exam'). At present, test results are simply records and have limited connection with recruitment or deployment processes.
- Some of the standards are too ambitious to be met by Ethiopian teachers as they are copied without much regard to the reality in the country.
- The exit exams currently administered are similar for teachers of different career levels.
- A reservation is expressed regarding the capacity of the Ethiopian educational system to effectively carry out the licensing process. It was feared that the system of licensing and relicensing could be very cumbersome, expensive and time consuming. There were also fears about the potential danger of the process being exposed to systemic corruption.

4.3.8. Provisions for advancement, transfer and retention

- Opportunities for career advancement, particularly chances for advanced study (for a degree) locally and abroad, are limited.
- Difficulties related to getting transfer specially from hardship areas, shortage of school facilities, and budget limitation for short-term training.

- The root causes of teacher attrition are found to be lack of interest in the profession which in turn rests not only on equitable pay but also social recognition, conducive working conditions, opportunity for advancement and other benefits.

4.3.9. Challenges related to CPD and teacher upgrading

- Problems in CPD's relevance and content; and poor coherence and standardization of CPD activities.
- Leadership and ownership problems; and poor internal support and absence of external support for teachers.
- Lack of integration with career development and licensing and relicensing requirements.
- Duration of summer and extension in-service programs is too short to adequately cover the curriculum. What is more, there is a bias in favor of degrees acquired in regular programs.
- Currently, all teachers pass through similar kind of content and CPD plan although teachers have the discretion to identify and plan their own CPD need.
- The Higher Diploma Program is the only institutionalized form of professional development program for teacher educators. However, there is no framework or direction as to what should follow after the completion of the HDP.

4.3.10. Inadequacy in the qualification of administrative staff and partners

- There are education bureau heads that have no background in the field of education. In many cases, the academic level of school and bureau heads is lower than that of teachers.
- As to the management of CTEs, it has been complained that leadership positions are often occupied by political appointees some of whom are less qualified professionally than other potential candidates for the positions.

4.4. Policy Recommendations

As indicated earlier, the participants of this research suggested a number of ways that could help improve the limitations they identified in policies and practices pertaining to teacher preparation and development. The policy recommendations outlined on the basis of the desk

review, field study and international benchmarking visits have then been presented in a validation workshop attended by experts in the area. The later provided important feedback and suggested more recommendations to improve the current status of teacher preparation and development in Ethiopia. What is presented here is a summary of the recommendations.

4.4.1. On policies pertaining to teacher preparation

Curriculum

1. Align teacher education curricula to school curricula in general and the level for which candidates are trained in particular.
2. Reform the teacher education curriculum to make it context sensitive in general and; meet the requirements of a county as diverse and multicultural as Ethiopia.
3. Revise all existing course modules to improve quality and relevance. Give more emphasis to pedagogical content knowledge; and make sure that adequate practical experiences have been included.
4. Shift the focus of pre-primary, primary and secondary TE curriculum from content to competency.

Recruitment

5. Elevate the teaching profession by making it one of the Areas "Bands" students choose during their university entrance. This could require rethinking the 70/30 scheme.
6. Make efforts to recruit candidates for the teaching profession from among the high or medium achievers, on successful completion of grade 12 (for pre-primary, candidates could be drawn from grade ten high achievers, for the time being). In both countries benchmarked, the education system is able to attract high achievers (top 40% in Vietnam and top 20% in Malaysia). What is more, candidates in both courtiers are required to complete secondary education (grade 12 in Vietnam, and grade 11 and a foundation year in Malaysia).
7. Diversify the criteria used to recruit candidates into teacher preparation programs (include content knowledge, pedagogical knowledge, pedagogical skills, and attitudes towards teaching, etc. in the criteria).
8. Empower CTE so that they play a role of gatekeepers thereby preventing access to candidates who are not capable of being quality teachers. During its visit to Malaysia, the Ethiopian delegation learnt that a one-to-one interview has been applied (which is now changed to a group interview because of high number of applicants). Interestingly, the Ministry is planning to ask candidates to write an essays part of the screening process.

9. Set a minimum and harmonized entry behavior to be used during teacher recruitment across the country (avoid quota system).
10. Recruit, prepare and produce more teachers than demanded (should not be demand driven only).

Duration

11. Make sure that all prospective teachers are trained in in public colleges and universities for *at least three years*: Pre-primary (10+3); Primary grades 1-4 (12+3); Primary grades 5-8 (12+4); Secondary grades 9-10 (12+4); and secondary grades 11-12 (Masters degree holders). The international experience supports this proposal. In Vietnam, for instance, primary school teachers are prepared in colleges of education for three years whereas secondary school teachers are prepared for four years. In Malaysia all teachers are prepared for three to four years before they start giving services.

Modality

12. Introduce planned changes in teacher education program so as to avoid haphazard and drastic changes that characterized the system over the years.
13. Employ diverse modalities of teacher preparation: Integrated/concurrent; Add-on/consecutive, etc. Concurrent model of teacher education should be reinstated and run along with the existing model of pre-service teacher preparation. One should, however, note here that change of modality should not be taken as a magic solution. A recent study by the MOE is worth quoting in this regard: "...TE program has a deep-rooted problem which neither the concurrent nor the sequential model can address… the major problem … is related with low financial benefits and low societal status of teachers and the solution is related with increasing teachers' financial benefits including salary and other incentive packages as well as uplifting societal status of teachers".

Deployment

14. Harmonize teacher deployment and transfer (e.g. there are teachers who have a degree but deployed at levels that require a diploma).
15. Develop a secondary school teacher deployment policy that promotes diversity in the placement of teachers.
16. Introduce a teacher transfer system to be coordinated centrally by the MOE.
17. Introduce a special staffing policy for remote schools (including special housing allowance, differentiated salary, etc.). In Malaysia, there is a career pathway that offers extra credit to teachers who successfully complete short, three-to-five-year

deployments in rural and/or under-performing schools. This accelerated movement is intended to reward outstanding performance and to incentivize the best teachers to work in such schools.

Governance and accountability

18. Launch clear and integrated accountability system for teacher education institutions without challenging autonomy and professionalism (keeping the balance between autonomy and accountability).
19. Reform and strengthen the governance and management of teacher education at federal, regional and local levels. Strengthen the linkage between CTEs, REBs and MOE, particularly for primary teacher program.
20. Launch a system of administration that can better address teachers' complaints at all levels.
21. Ensure participation of teachers in all key issues concerning the teaching learning process either directly or through their association.
22. Introduce a strategy that could promote effective use of the teaching time.
23. Revisit the current administrative structure of 1st and 2nd cycle secondary education so that governance issues of teachers could be resolved.
24. Establish a separate State Minister at Federal MOE to strengthen the governance of teachers and teacher education. Replicate the same structure (Directorate responsible for teachers and teacher education) at Regional Level.

A comprehensive teacher preparation and development policy

25. Prepare and launch a comprehensive teacher preparation and development policy which covers, among others, key issues related to recruitment, selection, in-service training, certification, continuous professional development, scholarship, deployment, relicensing, and transfer, termination of service, etc.

Teacher educators

26. Develop a framework for the selection, preparation and development of teacher educators.

4.4.2. On teachers' continuous professional development (CPD)

1. Institutionalize CPD both in schools and CTEs.

2. Reconceptualize CPD to address deficiencies both in the subject matter knowledge and the pedagogical skills required for teaching the specific contents. In Malaysia, a highly systematic model of CPD called Growth Oriented Teacher Development (GOTD) has been implemented. The GOTD model includes five distinct types of professional development activities: Basic professional development (i.e. induction); competency development (subject matter competency, language competency, ICT, etc.); policy specific competency (e.g. education policy, development policy, population policy, etc.); electives (suggested by the teachers); and complementary (for teachers teaching in high performing schools, etc.).
3. Develop relevant and quality materials/modules to support teachers' learning.
4. Integrate CPD with teachers' career structure and relicensing.
5. Limit training of teachers to only regular program; abandon all other alternatives to train teachers. Use the existing summer program for CPD.
6. Change (reverse) the current system whereby teachers are moved upwards after getting higher qualifications through upgrading.

4.4.3. On teacher motivation, career advancement, promotion and support

1. Establish and/or strengthen external and internal teacher support system for school teachers.
2. Provide adequate support to teachers including housing, transport, free medical treatment and full salary during retirement. The benchmarked countries have ample experience to share in this regard. In Vietnam, for instance, teachers in public schools get salaries and benefits which are comparable to those of other professions. In fact, as teachers get more and more experienced, their salary and benefits would increase accordingly to encourage them to stay in the profession. In Malaysia too, teachers are said to be paid quite high. During their training, candidates are not required to pay anything. In fact, they are given allowances. There is also an attractive health insurance for teachers and their families. Teachers also get low interest loans to buy a house and car. There are additional incentives for teachers teaching students with special needs.
3. Provide a hardship allowance which adequately considers the cost of living and working conditions. In Vietnam, teachers who are assigned to remote areas get 70% of their salary as a top-up or hardship allowance.
4. Provide better training opportunities to improve career advancement (short-term trainings more frequently, both locally and abroad).
5. Make the teaching-learning environment conducive and free of any interference.

6. Empower the Ethiopian Teachers' Association to make it more professional and autonomous.

4.4.4. On quality assurance, licensing and relicensing

1. Establish a comprehensive quality assurance system for teacher education institutes and teacher education graduates.
2. Introduce nationwide quality indicators for placement and exit tests administered in TE.
3. Promote an authentic assessment scheme during teacher preparation; and introduce a pass mark policy to be used across the nation.
4. Improve quality of assessment tools or strategies (test item quality, test item analysis, alignment with outcome, etc.).
5. Engage CTEs and Universities in the process of teacher licensing (relicensing). Licensing examinations must be prepared by professionals in the area (in collaboration with experts in educational testing and measurement).
6. Introduce different grades of license (level A, B, C, etc.).
7. Improve teachers' performance evaluation practices; and use performance in licensing examinations as inputs for career development of teachers.
8. Strengthen institutional capacity of licensing and relicensing directorate at Federal MOE.

4.4.5. On provision of resources and financing

1. Make sure that the existing teacher education institutions have the necessary infrastructure *and* services for running proper training.
2. Overhaul the current student teachers accommodations so that it encourages interest towards teaching and help them get a better learning environment.
3. Allocate enough resources by applying various strategies including raising funds from non- governmental organizations, private firms, etc.
4. Introduce quality based resource allocation; and decentralize financial administration.
5. Encourage alternative income generating strategies.

4.4.6. On medium of instruction

1. Align language of instruction of teacher training to the level for which candidates are trained; but for short term use, introduce different packages to help them understand the curriculum for which they are placed in the statutory medium of instruction.
2. Create an opportunity for prospective teachers to learn various Ethiopian languages.

4.4.7. On cross-cutting issues

1. Incorporate issues related to multiculturalism into the curriculum of teacher education at all levels.
2. Integrate environmental education/education for sustainable development across the curricula for teacher education institutions.
3. Provide a strong practical or field-based experience in environmental education; and appropriate guidance and practical experiences in multicultural and inclusive education.
4. Enable pre-service teachers not only understand how to use a computer but also how to design high quality technology-enhanced lessons.
5. Provide adequate access to ICT infrastructure; and facilitate field-based learning experiences both for student teachers and teacher educators.
6. Recruit and select diverse staff and trainees; and create a diversity friendly environment.

4.4.8. On centres of excellence in Teacher Education

1. Create centers of excellences (at least five) for secondary teacher education in well-established universities; and at least one center of excellence of primary teacher education at each of the regional states.
2. Conduct training of preschool teachers at least in one of the CTEs in each region.
3. Establish a specialized University of Education with focus on teacher education, with adequate resources (this kind of structure allows teacher education to receive greater integration and focus; and could also enhance ownership of teacher preparation). There is an amazing international experience in this regard. In Vietnam, there are 33 colleges and universities that have colleges that prepare teachers. More interestingly, 14 of the universities are exclusively education universities! In Malaysia, students intending to teach at primary or secondary levels may enroll for the three-year Certificate of Teaching program offered by 27 Institutes of Teacher Education (ITE). Degree programs are also offered by 13 public universities as part of a bachelor's program

with some offering a Post Graduate Diploma in Teaching program. One public university is fully dedicated to teacher education to support and stimulate teaching, research and publication.

4. Establish a national Teacher Educational Research and Strategy Institute (TERSI).

5. Higher Education

By Tassew Woldehanna, Tesfaye Shiferaw, Gebregziabher Debeb, Bekele Workie, Gemechis File, and Tefera Tadesse

5.1. Introduction

A desk review and field work exercises has been made on higher education on seven broader thematic areas including access, equity, unity with diversity, quality, relevance, efficiency, and financing of higher education. The team also conducted a benchmarking exercise in Vietnam and Malaysia for two weeks in October 2017 and validation workshop with experts, from university officials, professional societies, and ministry of education, and employers in November 2017. This report provides short summary of the main results of the desk review, field work, benchmarking studies and validation workshop.

5.1. Access in higher education

Achievement and challenges

There is a rapid expansion in the development of the higher education infrastructure (institutions and facilities), qualified human resource, the enrolment rate (10.2% in 2015/17) and the graduation rate in the higher education of the country for the last 15 years. However, there is huge gender gap in enrolment among male and female and most universities are confronted with insufficient supplies of text and reference books, laboratory and workshops equipment; and access to ICT facilities. To reach a middle-income category in 2015, Ethiopia needs to achieve at least 22% gross enrollment, but the available resources and modalities of financing do not allow to reach 22% gross enrollment by 2025.

Way forward

To bring the access to Higher Education Institutes of Ethiopia to the level of the lower middle income countries by 2025 and more in 2030, the following reforms have been proposed.

a. To assure 22% GER by 2025, it is recommended to strengthen universities established during GTP I and GTP II; opening new campuses and satellite campus on the existing universities; exploring other non-dormitory delivery mechanisms to expand higher education including opening Ethiopian Open University, expanding continuing and distance education and start providing online education. It is important to develop strong quality assurance and enactment mechanism to deal with quality of education for non-dormitory delivery of education like open, continuing, distance and online education. It is also important to encourage private provision of higher education with appropriate quality control in place. The contribution of the private higher education in both Malaysia and Vietnam is immense. The private higher education has opened opportunity for those who want to pursue their study at higher education level. The private higher education institutions enrol about 20 % in Vietnam and about similar size in Malaysia. The experience of Malaysia could be good example how the private higher education are promoted, supported and regulated to provide quality higher education for at least 22% of the higher education students.
b. It is important to strengthen the teacher training and capacity building activities to achieve the qualification mix of the academic staff (Bachelor: masters: PhD Degrees) MoE aspired to reach (0:70:30) respectively by 2020.
c. Though there is an increment in the female students' enrolment and the share of female academic staffs, there is still significant gender gap. To narrow the gender gap, it is important to further strengthen the affirmative action already in place.

5.2. Equity in higher education

Achievement and challenges

The FDRE constitution strongly supports the idea of equity to ensure fairness and bring social justice and harmony. However, the Ethiopian higher education proclamation does not adequately address the issue of equity. The World Bank fiscal incidence study indicates that only 2.6% of the bottom 10% of the income group obtained the budget of higher education. The field data work data shows that the current practice of supporting disadvantaged students is weak. Disadvantaged students are filled with stigmatization and do not have the courage to ask for support.

The way forward

To address equity in higher education, the following reforms are required.

a. Disadvantaged students (students from rural areas, poor families, and emerging and pastoral regions) need special and separate support package backed by special dedicated budget.
b. Introduce training for instructors on gender and disability support mechanisms.
c. Establish a strong database of students with category of economic background of parents, parents level of education, residence rural/ urban.
d. Disability centres and other service canters that provide service to disabled students must be led by professionals who face the challenge. Hence it is better to assign leaders and experts who themselves have the same challenges so that they can understand the problem.
e. To make resources available to support students from poorer and disadvantaged group, it is recommended to stop providing higher education subsidy in the form of cost-sharing (student loan) to only students for disadvantaged students only, not for all students. For example, student loan is not open to all students who join higher education, but only to those students who comes low socio-economic groups.

5.3. Unity in diversity in Higher Education

Achievement and challenges

Ethiopia, after the adoption of the constitution in 1995, has endorsed federal system, which recognizes unity in diversity. Nations, Nationalities and Peoples were exercising their political, cultural and languages rights. However, while universities have exercised to promote diversity, none of the Ethiopian universities have activities to promote unity.

Way forward

Hence promote unity while managing in universities, we need to conduct one or more of the following reforms.

a. Introduce new courses to make students get exposure to the diverse culture/peoples of Ethiopia. Introducing multicultural course including Geography and Anthropology courses that focus on Ethiopia may help students to focus on unity within diversity.
b. Use the community associations to expand the system of connecting students with families in the vicinity of the university. Allow voluntary families invite few

university students to spend in their home at weekends. This will helps the students to learn about the community and help them to reduce the psychological problems they face because of separation from family.

c. The education policy should encourage universities to promote co-curricular and extra-curricular activities that help students to be involved in different clubs that fit their inclination so that they can interact with people different from them. The government needs to allocation earmarked budget for these activities and designate office that would coordinate such activities.
d. The universities need to have senate standing committee that oversees the implementation of the policy on unity in diversity and advise the senate on the matter.
e. To promote unity in diversity, the current student placement system has to be revisited and replaced with a system that avoids the dominance of campuses by students from certain regions only.
f. Reintroduce university student internship service before the final year of their undergraduate study and assign students to sectors related to their field, but to locations/regions different from their parents' location/region. This service has to be part of the university education where the one-year service will be an internship program. Both the host institution and the university may have to cover the costs of the program.

5.4. Quality in Higher Education

Achievement and challenges

During the past one and half decade, we have seen significant expansion of the Ethiopian HE system, harmonization of undergraduate curricula, introduction of modular teaching, continuous assessment, and peer learning, and the establishment and operation of quality assurance mechanisms to enhance and assure quality of higher education. However, these activities have little positive impact on the quality HEIs' core processes, for example, teaching and learning. There is widespread cheating among students during exams and instructors, fearing aggressive evaluation from students, are not stiff enough to properly assess students' performance resulting into inflated grades. A reduced quality of education is apparent across the HE system in Ethiopia. The identified quality problems exist in the regular, continuing and distance education (DE) programs as well as in public and private HEIs. The decline in quality of education is greater among the private, continuing and distance education programs than the regular and public education programs.

The curricula of HEI are not geared toward the development of employability and other lifelong learning skills among graduates. Universities did not seem having strategies and tactics to prepare programs requiring intensive use of IT for learning purposes. The existing university-industry linkage was found inadequate hence students did not have ample exposure to real-world of work as well as the teaching of practitioners from industry.

Quality of university education is also linked with quality of secondary and preparatory schools. The students must come prepared for university education. Most students join higher education without having sufficient knowledge of the subject to join university. There is wide spread cheating in primary and secondary education including in national examination as well as a university entrance exam. Research shows that students who managed to pass the General Secondary School Leaving Examination could not read and write properly in English language – which is a medium of instruction in higher learning institution in Ethiopia. There are large number of science students in high school and hence create serious shortage physics and chemistry teachers. Most of the preparatory teachers do not have proper training in teachers' professional development. While the contents text books of preparatory education are very relevant for higher education and constitute sufficient subject matter knowledge when evaluated in terms of satisfying minimum competency level, the Preparatory Education is highly constrained by shortages of textbook, teachers with high caliber, supplementary reading materials, laboratory equipment and other teaching aids.

The way forward

In a nutshell reform must be conducted on the following issues to increase the quality of HE in Ethiopia.

a. There is a need to produce university graduates with balanced skills of cognitive and non-cognitive skills and having higher-order thinking skills such as critical, creative and problem-solving thinking, and a high degree of computer literacy. The experience of Malaysia is helpful in this regard. The Malaysian higher education system has clear purpose of education what it wants to achieve. not only rhetoric, but in practice. The education system aspires to create citizens that are holistic, balanced (between cognitive and non-cognitive skills includes value) and entrepreneurial. In the design and development of programs/curricula, archiving this aspiration is the core. In order to achieve this co-curricular activities are given due attention. Students learn not only in classrooms. They are made to learn from their peers, the work place through placement and projects. Similarly, assessment is not restricted to classroom paper based. Authentic assessment, which includes interview, observation, and report, is widely used.

b. Improving HEI campus environment: Universities (more severe inthe recently established universities-3rd generation universities) are encountered with poor connectivity and a lack of technical expertise to properly develop and use ICT for academic and research purposes.
c. Provision of greater autonomy for HEIs and increase the regulatory power of the HE: For this, we propose the government (Ministry of Education), in consultation with HEIs and other stakeholders, to focus on empowering institutions and strengthening the governance of institutions in the Ethiopian HE system by adequately staffing the HE state minister. Vietnam and Malaysia have the same system of education structure, but quality of education and higher education environment is more conducive in Malaysia than in Vietnam because in Vietnam universities are not given greater autonomy to manage their universities, raise funding and introduce new innovations in teaching and research. While Malaysia has better regulatory capability, Vietnamese MoE regulatory capacity has been diminished because of too many responsibilities given they have more than 400 higher education institutions.
d. Expansion of HEI must be matched with resource required to keep quality. The expansion of public HE must obtained greater amount of budget to keep their quality and the government has to mobilize universities to search for other sources of fund including increased contribution of parents for teaching and learning in HEIs.
e. Improve the quality of education in primary, secondary and preparatory education. To increase the quality of education in higher education, there is a need to higher school and preparatory education to have developed experience of working with laboratory materials. A more comprehensive effort must be exerted to improve the competency of students across the various levels of schooling beginning from early grades so that students enrolled in universities will have the required readiness for university education. One of the strengths of the Vietnamese higher education system is mathematics is highly valued. It is given special attention at all levels staring from primary education to the higher education level. At the higher education levels, students have strong foundations in math, chemistry and chemistry. Besides, the general education shapes students to be hardworking, disciplined and complaining less.
f. Introduce quality enhancement program in universities. Continually improving on current practice through quality enhancement (QE), in which staff development should play an important role; and making quality feasible (QF), by removing impediments to good teaching for example, academic dishonesty, are important targets.

g. Introducing new guideline for quality assurance of distance education and online learning**.** The quality assurance offices have not yet clearly put a distinction between traditional programs and the distance education (DE) and online learning programs. In Ethiopia, new guidelines for the quality assurance of DE and online learning in HE should be developed by HERQA. Moreover, since the private higher education are expected to produce higher education graduates in larger quantity, the quality their teaching should be thoroughly audited. Though public universities are better in providing quality education compared to private HEIs, Public universities should be equally audited for the provision of quality education. Private higher education compared to public higher education is perceived as inferior quality in Vietnam. The opposite is true in Malaysia. The system of quality assurance of the private higher education is strong in Malaysia, which is witnessed by the fact that rich parents in Malaysia send their children to private higher education institutions.

h. Provide more autonomy to HERQA and separation of quality assurance from quality enhancement**:** It is important to have compulsory and effective external and internal QA mechanisms in HE in Ethiopia. It is important to review the traditional QA structures and to create new systems of external QA. First, it is important to make Higher Education Relevance and Quality Agency (HERQA) independent from the MOE so that it can monitor both the private and public universities. We propose HERQA be accountable to the prime Minister or parliament and led by qualified professionals in the field of accreditation and quality assurance of education. Second, it is important to change the internal QA frameworks within public universities. At university level, quality assurance exercise must be separated from quality enhancement activities. Organizationally, Quality Assurance office of universities must be accountable for the President of the University so that the quality assurance office has the power to conduct quality audit, control and approval. The quality enhancement office working under the Academic Vice president can focus on quality enhancement activities.

i. Promote Internationalization of HEI to increase the quality of higher education. Connecting Ethiopian HEIs to world class universities and research Institutions is key to increase the quality of education. The major components of the new strategies for internationalizations include(1) building capacity of HEI in attracting students and staff from overseas, and research grants; (2) internationalization of teaching and research activities without compromising the country's developmental need, and (3) encourage staff and student mobility programs (Africa wide and/or worldwide). Both Malaysia and Vietnam have taken various measure to make universities connected to foreign universities to

encourage student and staff mobility. For example, the Malaysian MoE has an office called Education Malaysia Global Services, which is a semi-autonomous agency dealing with connecting local universities with international universities.

j. To assure quality standards in universities, the MoE shall introduce university ranking system based on key performance outcome indicators such as publication in reputable journals, patented technologies, number of students enrolled and graduates passed exit exam, employability of graduates, and number of international students attracted. Moreover, it is advisable to use these performance indicators for funding universities by the federal government.

5.5. Relevance of higher education

Achievements and challenges

Universities have taken various measures to increase the relevance of higher education to the labor market and country's development. Student centre modular teaching, competence based curriculum development, development of thematic research programs, provision of greater emphasis on science and technology (70-30 discipline mix) education and research, participation of stakeholders in program development and thematic research development, criterion referenced assessment and continuous assessments has been introduced over the last 10 years in the Ethiopian higher education systems.

The 70:30 discipline mix is appropriate for the developmental needs of the country. However, the policy of 70-30 has produced relatively more graduates than the current labor market can absorb. The quality of science and technology teaching is also compromised by the serious shortage of qualified academic staffs and lack of sufficient and well-established laboratories and workshops in the area in the current states of HEIs in the country.

Modular approach demands changing the old structure of curriculum (knowledge-based) to give way to a new one, *competency-based* type of curriculum--which stresses identification of professional/vocational skills, job-specific skills and transferable skills a graduate may have after completing the curriculum. The findings of the desk review and the field study revealed the competences are not well identified, organization of modules are found weak, teaching methods that were employed were highly dominated by the traditional lecture method with less emphasis to others and the world of work is not yet aware of movement of HEIs towards competence based curricula. The computer skills, research skills; and oral and written communication in English are identified as major deficiencies of the graduates of HEIs.

The achievement in research is by far below the level of the country's aspiration. There is poor oversight of research applicability, scarcity of knowledge frontiers, and limited number of personnel available to conduct high quality and relevant research in the country's HEIs.

The current programs at the Ethiopian universities are not providing entrepreneurial skills. Relatively the HEIs are proving good cognitive knowledge, but not non-cognitive knowledge or employability skills such as computer skills, research skills, communication skills, lifelong skills and entrepreneur skills.

The way forward

To bring the Ethiopian higher education to the level of the lower middle income countries in light of relevance of higher education by 2030, the following reforms have been proposed.

a. Developing entrepreneurial skills and initiatives should become major concerns of higher education.
b. Develop guideline that allows universities to appoint industry leaders as part time professors so that they can periodically provide lectures for students. Universities in Malaysia appoints industry leaders to provide lectures for students so that students acquires relevant skills and create connection with industries before completing their study.
c. The application of the 70:30 enrolment policy requires flexibility and revision at least every five years based on continuous assessment of the needs of the industry and in alignment with the economic development of the country.
d. Differentiation promotes institutional quality and system competitiveness, accountability, and sustainability. Various ways of "differentiation" of universities must be explored.
    I. *Differentiation on the basis of structure* such as size (large or small) or funding (private or public) or legislated mandate (undergraduate only or mixed undergraduate and graduate student bodies).
    II. *Differentiation on the basis of the type of program offered* such as research intensive or teaching intensive, technical/design school or comprehensive university.
    III. *Differentiation on the basis of how research, teaching or services* are provided by the institution (on-line university or a residential university; co-op or traditional)
    IV. *Differentiation on the basis of institutional status, prestige or rankings*.

V. *Differentiation on the basis of differences in the composition of the student populations served*(Bilingual or Francophone or Anglophone; First Nations and other indigenous students; denominational colleges; mature students or direct from high school).

Therefore, universities must be allowed to choose their areas of specialization and excellent based on their strength and opportunities with local, national and international context. Vietnam and Malaysia have both horizontal and vertical differentiation in their higher education systems. The higher education institutions in Vietnam can be categorized in to three big categories; the research universities, the application universities such as the science and technology universities and the professional universities such as the education university. The Malaysian university system has both the research university and the application universities but professional universities are not common. What is common in for both Malaysia and Vietnam is, each has four universities, which are designated as research universities, which focus on certain study areas as niches.

e. Introduce senior exit exam (The ETS Proficiency Profile) for all subjects. It is known that graduate exist exam has already been introduced in HEIs of Ethiopia for health and medical sciences; and law graduates. Following such excellent practice, it is important to institutionalize exit exam for all first-degree graduates and put as a requirement accreditation of graduate programs in five years' time after establishment by an independent body.
f. In order to implement modular approach properly, university staffs need to be trained continuously on how to identify the required competences, how to prepare modules and how to apply the teaching methodologies that emphasize learning than teaching.
g. The LMIS (Labor Market Information System) is an active labor market policy instrument that collects, evaluates and provides labor market information to both the labor supply side and the labor demand side.

5.6. Efficiency of higher education

Challenges

Under the current pace of the manufacturing sector development, it is less likely to employ all current graduates of engineering fields. As a result, unemployment becomes higher among the engineering graduates than the other fields. There is inefficiency in the administration and finance sections of the HEIs. The ratio administrative staff vis-à-vis

academics is close 3:1, which is highly inefficient. Most academic staff of HEI in Ethiopia are not engaged in research and community services, while they are supposed to allocate 75% of their time on teaching and 25% on research and community services.

The way forward

The education structure, therefore, should allow university students to get more time and spaces so as to successfully meet the requirement of any degree program. This calls the need to change the current three-year degree programs into a four-year degree programs to enable universities to provide basic and general courses in the freshman program. The introduction of freshman program will help students to take good quality basic courses, geography and anthropology that can contribute to unity. We also proposed to introduce university student internship service program mentioned under Unity with Diversity section, which required students to spend additional one year after the end of their 3rd year undergraduate study. If we introduce this proposed student internship services program at the end of 3rd year, the undergraduate program will take five years. In Vietnam, universities which provides training and education at bachelor, masters and doctoral levels, the duration of the programs varies across the different fields of studies. Programs in arts, sciences, education, economics, and foreign languages usually require four years of study. Programs which involving a major foreign language component in addition to the other major area require one additional year. Engineering, agriculture and pharmacy degrees take five years. Medical and dental programs take six years to complete. In Malaysia, university bachelor degree programs last three to four years depending on the field of the study. In some cases, fields like medicine and dentistry take five years.

The current high ratio of administrative staff vis-à-vis academics on the other hand, should be revisited to increase the efficiency of the higher education intuitions. To this end, it is good to follow the international practices. Thus, the ratio of non-academic staff to academic staff should fall between 1:2 and 1:3.

The time of academics should be fairly distributed in line with the very mission of higher education institutions - teaching, research and community services, setting accountability mechanisms for academics who are not accomplishing these proportions of time allocation. Currently, less attention is given to research and community service.

5.7. Research, technology transfer and community services

Achievements and challenges

Government research and development fund has been given to universities and it is growing overtime. Following the allocation of public fund to universities, universities has introduced thematic research scheme to align university research with country's development. While the universities in Ethiopia have numerous senior and young academic staff employees who could do research, contribute to technology transfer and provide community services immensely, the available young staff are equipped with very low level of scientific skills to do research. Poor research infrastructure, poor integration of teaching and research, poor linkage of research findings to the community, and low potential of universities to solve problems of industries and poor university-industry linkage. Majority of universities in Ethiopia have concentrated on teaching, and are not participating actively in research, community services and development endeavors of the country as expected. Universities have side-lined research and more importantly community services as secondary tasks, focusing on teaching, and neglecting the realm of research and scholarly interactions among scientists, technology/knowledge generation and transfer, university-industry linkages and community service.

Research topics are driven by interests of researchers and donors, with little or no serious relationships with prevailing policy concerns. Universities have weak or no ties whatsoever, with technology users. Consequently, research results tend to be refuted by policy makers, dismissing them as being too academic or not suited to solve the country's socio-economic problems.

There is delink between universities and the private sector and universities have limited interaction with public industries. These have impacted negatively on the quality of education in such a way that most teaching at the universities have remained mainly textbook-based, with little infusion of little local practical knowledge and experiences.

Most faculties are engaged on teaching only. Only few faculties, especially in first generations universities involve in research. The involvement of academic staff in community services is negligibly small. Professors have huge pressure of teaching load and needs revision to have practically sufficient time for research and community service engagements. Even though universities are instructed to focus on research and community services, we do not see active engagement of faculty in research because of limited research time and incentives, inefficient and corrupt financial and procurement services at university level. As a result most research conducted by higher education are short of addressing community problems and are found less relevant for the Ethiopian development.

Many of the universities are focused more on providing facilities to teaching learning than for research and community services especially in universities. More courtesy is conveyed to teaching laboratory by overlooking research laboratory. Hence if universities have to excel in

research, enough attentions are necessary to strengthen research laboratory to support the quality of applied research.

The way forward

The following changes are proposed to improve the research, technology transfer, university-industry linkage and the provision of community services to society by the Ethiopian HEIs.

a. First, measure must be taken to improve research infrastructure (laboratory, publishing, transport etc.).
b. Second, we need to promote local journals that meets international standards so as researchers can gain experience of publishing their research finding in peer review national and international journals.
c. Third, increase the budget for research, technology transfer and community service activities to at least 5% of the total budget so as to engage more academic staff in research and community service activities.
d. Fourth, measures have to be taken to improve the university support system to increase the efficiency of finance, purchasing and other services provided to research and community services which requires more attention than those of other sections.
e. Fifth, a new improved system of procurement must be developed that suits for purchase research and laboratory inputs.
f. Sixth, allow academic staff to allocate more time for research and community services. We propose that community services be given at least 15% of staff time. For example, in both Vietnam and Malaysia, the distribution of workload of university staff on teaching, research and community services 50%, 30%, and 16%, respectively.
g. Promote universities to have more university-industry linkages by encouraging hire industry leaders to teach part of the course so that students can get real work experience from the guest lectures. In Malaysia there are varieties of cooperation between universities and stakeholders. One example is that leaders of industries are made to cover certain part of a course which will help them to share their practical knowledge and also help them know the preparedness of the students which they will employ them in the future.

5.8. Financing of higher education

Challenges

Funding sources are very limited for the Ethiopian HEIs. For many universities, government funding is the only source. HE users (students) paid (shared) only subsidized direct cost of food, dormitory and 15% of education services.

The current allocation formula for higher education funding in the country takes many parameters such as student population, staff population, discipline aggregation, the context of institutions, and its last year budget allocation into account. More attention is given to capital budget which is rated as 60:40 to the recurrent budget share. The budget allocation is hardly related to performance related to learning achievements and problem-solving research outputs.

Budget allocation is mainly for teaching and learning, little for research and technology transfer/community services. The direct research budget is below 1% of the total budget allocated to universities. Research and development is one of the driving force for a country to joining the middle-income counties by 2025. However, the research budget allocated to HEIs is very meager and is a challenge to engage staff in research and technology development that can solve the country's development problem.

The government research grant is not competitive and hence research fund goes to those who have little capacity of doing research. Flexible budget allocation based on block grant is not yet exercised while Proclamation 650/2009 allows to do so. The current line of budget is so tight and is not encouraging research activities. Universities do not have the autonomy to transferring from one budget line to another as need arises. Universities have to get permission to transfer budget from line to another and this takes substantial amount of time. Moreover, it takes at least five months to release budget after it is approved. There are problems in the utilization of the finance as it is restricted only in one physical year.

Procurement is a big challenge again for their budget utilization as providers are not delivering on time with required quality based on their agreement. The procurement rules and regulation are not suitable to procure research inputs like chemicals. As a result the purchasing system is also bottle neck for research, community service and technology transfer projects.

Universities are not able to use their internal revenue generated autonomously and flexibly. The university leadership cannot decide on financial outlays freely, as it has wait for permission from other bodies. The current financial system is highly tight and does not allow universities to use the budget they generated.

Therefore, the university must bring the following reforms into effect.

a. Implementation of block grant allocation formula as it is flexible mode based on the Higher education proclamation 650/2009 and may be a solution for the current problem higher education faced in financing (performance based allocation than back history of expenditure based funding).

b. Currently only 15% of the cost is covered by students through the cost sharing scheme. Therefore, to reduce the burden of government, it is advisable to increase gradually the cost sharing of students from the current 15% to 30% over the next 15 years.

c. Promote use of diversified financing modalities of higher education funding sources other than the government financing. Like Vietnam and Malaysia, Ethiopia need to push universities to diversify their incomes sources instead of relying on government funding only. In Vietnam and Malaysia, higher education is manly financed by the government. However, recently the Vietnam government is pushing higher education institutions to generate income and partially cover their expenses. The research universities are expected to generate 25 % of their expenditure by themselves by 2020. The other universities are expected to cover 15 % of their expenditure in the same period. In Malaysia universities are moving towards diversification of their income with the research universities are generating income through research, consultancy and tuition fee by attracting quite significant number international students.

d. Developing guidelines for the generation and execution of internal revenue of universities that provides greater autonomy for HEIs.

e. Revise the rigid rule of purchasing and using budget on time with quality education inputs (clear and short means of procurement and financial utilization, the limited budget is wasted on low quality education inputs because of the bureaucratic procurement route existed).

f. There should be a national HEI input procurement framework to have a continuous/smooth and sustainable flow of HEI inputs (teaching, research, Technology Transfer and Community Service inputs) to use their budget effectively and efficiently.

g. Universities should strengthen their University-Industry Linkages, local and international partnerships and use this collaborative work as a means of their institutional funding sources

h. Based on the differentiation of universities proposed, there should be a competitive research and technology transfer budget award for the execution of mega projects which can solve clearly stated/prioritized national problems.

6. Policy, Governance and Leadership

By Jeilu Oumer, Kenenissa Dabi, Getinet Demissew, Matebe Tafere, Mengistu Hailu and Mitiku Bekele

6.1. Introduction

The drivers for Ethiopian Education and Training Policy (ETP) were the national, local and the global contexts. The policy design is in general along the three-fold dimension; access (participation, including gender and equity issues), quality (relevance, internal efficiency and external effectiveness), and management (leadership, governance, decentralization, resource management). The ETP has been under implementation since 1994. Policy implementation involves interaction of macro and micro level actors, governance & leadership.

The success of policy implementation requires a wide variety of actions and basically depends on policy design (adequacy of design and presence of provisions), policy instruments/implementation strategy, commitment and capacity of the system and environmental factors. It is obvious that educational development is extraordinarily complicated because it involves and affects a large number of beneficiaries and providers, as well as political figures, all of whom have a stake in the process and the outcome. Added to this is the long gestation period for any policy to realize its objectives. For these reasons, policy change and adjustment should not be introduced lightly nor should it be abandoned without careful examination.

6.2. Achievements

The four macro-economic, national development policies and strategies implemented over the past years that have apparent implication for education sector were PRSP/SDPRP to PASDEP, GTP I and GTP II. Their central objectives were to address the human development needs of the country, achieve the MDGs, sustainable development goals and transform the country to middle income country by 2025.

The education sector has developed multi-year Educational Sector Development Program (ESDP) since 1997/98, whose main thrusts are to expand access, improve quality, relevance, efficiency, and equity. For educational sector development plan to result the desired outcomes, various policy tools, strategies and guidelines were developed and issued to

enhance access, equity, efficiency and quality of education and training that include; GEQIP, ABE, Pastoralist and Non-Formal Education Strategy, Special Needs/Inclusive Education Strategy, Early Childhood Education and Care Strategy, TVET Strategy, National School Health and Nutrition Strategy, Education Sector Policy and Strategy on HIV&AIDS. Regional and international agreements, such as Education for All, the Sustainable Development Goals and the Convention on the Rights of the Child were also important supportive polices implemented. Moreover, the policy implementation was facilitated by leadership, management and governance system at all levels, and there were strategies and mechanisms in place for leadership recruitment, selection, assignments, training and development.

The policy implementation has resulted significant achievements in access, equity and diversity, quality and relevance, and efficiency. Educational access and equity at all levels of education were dramatically improved. GER for pre-primary education has reached 49% in 2015/16. The NER for primary education and secondary education were raised to 94.30% and 23.8% respectively in 2015/16. Similarly, the TVETs have reached to enroll 45 % of the expected 80% of students who have completed grade 10 in 2015/16. The higher education enrolments have risen to 778,766 (9%) and to 51,521 for undergraduate and post graduate programs respectively in 2015/16. The trend and the budgets allocated for the implementation of the ESDPs has drastically increased; from 12.2 billion birr in ESDP I to 452 billion birr in ESDP V. Of the total ESDP I program cost, the share of primary, secondary and tertiary education was 47 %, 8.4 %, and 26.2 % respectively, while in ESDP V the share of the budget for general education is 43%, for TVET 17% and for higher education it stands at 34%, and the share of other sub-sectors were so minimal. Overall, the Government has demonstrated its commitment by spending significant share of education budget in the total government budget up to 25%.

The Malaysian education sector aims at becoming a regional center/hub of education. The education is meant to fulfill the needs of plural society and governed by national education philosophy (united, progressive, disciplined, knowledgeable and talented). There are blueprints developed (2013-2025) for both general and higher education sub sectors. The blue prints were developed through rigorous process that include comprehensive review of the existing system, FGDs, surveys, seminars workshops, discussions and dialogues, local and international review panels (leaders and experts). It is under implementation with high commitment of the government by establishing a monitoring and delivery unit within the MoE.

The leadership recruitment and appointment were through open and transparent process

where positions are announced. Leaders are appointed among those trained as leaders with experiences in teaching. Seniority and competencies are major criteria in addition to leadership and management training for selection and appointment of education leaders. There are system of incentives or motivational schemes in the form of bonus pays and loans system for leaders.

The governance is a four tier system in educational administration; organization, management and development of education: Federal Ministry of Education, State Education Department, District Education Office, and School. The sector is managed by Two Ministries; Ministry of of Education (General Education) and Ministry of Higher Education.

The curriculum design and organization is competency based. The structure of formal education system consists of five levels (pre-school; where government is focusing one year education although it is for 4-6 years children, primary education (6 years), lower secondary education (3 years), upper secondary education (2 years), and post-secondary education.

The language policy used is Bahasa Malay and other local languages for primary education. Bahasa Malaysia is used as medium of instruction in the secondary education. English language is compulsory and used as medium of instruction in Tertiary education with Bahasa Malaysia.

The country uses free tuition system for primary schools and poor. The preschool and higher education students are required to pay. The TVETs are funded by public and industry. The financing system is a top down. Through special packages students of rural area are supported by food, life jackets, provided hostels especially for indigenous community and those at peripheral areas fully residential schools are used. The education sector receives about 20% of the national budget. There is a tendency to implement a new funding formula in universities that involve input based funding, performance based funding, endowment, and tuition fees. By 2020 the universities receive only 70% of their budget from government.

Likewise, Vietnam has introduced series of reforms into its system to improve quality of educational system, and still working on quality issues. The curriculum design and organization were competency based where up to 20% are left for localities to address their interest. Practice oriented education and training are given as of preschool, which seems vocationalized system of education.

In Vietnam, Ministry of Education and Training (MoET) is the government ministry responsible for the governance of general/academic education and higher education

(training). The Vocational Education is controlled by the Ministry of Labor, Invalids, and Social Affairs (MoLISA). MoET is responsible for the 'professional' performance and regulation of educational institutions under it, but not for ownership or finance. MoET maintain provincial level departments, DoET, under departments' district level offices (BoET).

The formal education structure is of 5-4-3 type. The preschool and kindergarten: ages 3 - 6. Primary school: five years (6 - 11), and it is compulsory. Secondary school: lower secondary (grade 6-9) and higher secondary (grade 10-12) education. The former lasts four years (11 - 15), and the latter three years (15 - 18) until completion in the twelfth grade. Students have to choose either natural or social sciences as a focus, there are various tracks. After grade 9, students interested may go for TVET, there are 5 levels. Higher education: higher education can be universities, senior colleges or research institutes. Furthermore, there are junior colleges, professional secondary schools or vocational schools. The entrance examination is very hard, and according to recent figures, less than one out of three students manage to pass.

There are standards for each position, the leadership positions are open for applicants of the institution, applicants are appointed through voting system. Candidates for their position should submit the project for the position aspired, the candidates are selected by votes, and those selected appointees serve for 5 years and a maximum of two terms.

6.3. Challenges and Gaps

Policy gaps

The policy content analysis indicates in certain areas: lack of policy provisions and policy-practice gaps were apparent, while in other cases policy was set on some issues but strategy and plans that make it possible to realize the policy were not in place or not designed for it.

The policy-practice gaps observed, the policy intention was that children should be able to join the world of work after completing each cycle (grades 8, 10 and 12, and university). However, the school system didn't lead school leavers/graduates to the expected standard to join world of work. The general education curriculum does not adequately include the life skills and practical skills, and similarly university education is inadequate in skill and practical orientation. Although, the informal education sector is known for skills gained in out of the formal and non-formal context of education, particularly for TVET, however this was not so far being recognized in the Ethiopian education policy arenas.

Despite the fact that the national education strategy for Functional Adult Literacy Program requires the collaboration of at least three sectors (Education, Health, and Agriculture), there was no means for coordination and the responsibility seems left for education sector. Policy directives regarding coordination and enforcement of implementation as well as structure were lacking. In the policy, TVET programs were assumed to be provided after the completion of primary education, however, there was no strategy and plan in place. The provision of TVET was also limited to school leavers and dropouts and those who fail to join higher education institutions.

Regarding language in education, the policy envisages trilingual where students may choose one more local language other than the mother tongue and English language. There were no strategies and plans put in place to materialize the provision. Generally, students' language competency was poor.

The policy coherence across different subsectors (structural and vertical) program coherence across the levels of education from early childhood education to tertiary education was not stipulated. Further, limited educational programs were designed and implemented to support the policy and the strategies for national development. The effectiveness of the policy design and the degree of policy dialogue and communication made were not to the expected level, as well as the policy implementation was not supported with comprehensive monitoring and evaluation/systemic policy review for the past 25 years.

Education structure gap

Children's development and the level of education need to be systematically linked and structured in such a way that it smoothly leads students to their career choice in the higher levels of education. Years of schooling for undergraduate university education are shorter with the assumption that first year university programs have been pushed down to the second cycle secondary education and given as preparatory programs. Similarly, the push down of curriculum to lower educational levels doesn't go with children maturity. Early exit, after completion of grade 10 to join TVET and TTC was not sufficient to prepare students for world of work.

Access, equity, quality and efficiency challenges

Students enrolment among the appropriate age for the level; the enrolments rates in the first cycle primary education seems achieved. While for the second cycle primary education about 50% and for the secondary education about 77% of the school age population was out of the school system. The higher education enrolment is the lowest compared to other sub-Saharan African countries. In addition, low completion rates (about 50%) at primary education (drop

out and repetition) poor internal efficiency, which is wastage of resources, due to socio-economic and school related factors) and low participation rates at ECCE, secondary and tertiary education are challenges. Poor time on task (form of corruption) by some teachers and school leaders added to educational wastage. The problem is further aggravated by population living under difficult circumstances such as street children, groups with special needs and pastoralist environment. GPI for primary education and secondary education has not increased beyond 0.9. In TVET and higher education the gap is even high. Poor learning achievements such as low competencies in reading and mathematics are challenges. Improvement of quality and outcome of schooling are the main criterion against which school performance is measured. One of the factors for poor student learning achievements is poor education support inputs. Inputs are not often provided and educational institutions have been operating under resource constraints.

Education financing challenges

The public budgetary allocation and financial management should take into account the equity and inclusiveness issues. Although, significant number of children from various localities and poor households has got access to education, the public expenditure review report and the Welfare Monitoring Survey indicate that the students from the poorest households were underrepresented in the second cycle primary and secondary schools, TVET, and higher education. More than 80% of students in HEIs and TVETs came from households with better wealth. Furthermore, the public recurrent expenditure per student at the primary, secondary and higher education were 557 birr, 1,398 birr, and 14,493 birr respectively. The implication is that pubic subsidization of education benefits the wealthiest households much more than the poorest households.

The public expenditure review indicates the share of Government spending to GDP for Ethiopia is around 4%, which seems reasonable for the level of budgetary resources available. The education share of GDP for Ethiopia is less than Sub Saharan Africa average of 4.7%. However, the full projected cost of the education programs is about 4.5% of GDP in 2015 and onwards, indicating education finance gaps. The share of recurrent spending out of the total spending on education; primary education accounts 45%, higher education 25 %, secondary education12%, and TVET 5%. Overall, the recurrent expenditure accounts on average 65% of education expenditure, where salary consumed on average 85%. This signal the budget composition is dominated by recurrent budget little is remained to address those factors affecting quality and to invest in educational developments. The public expenditure review report of World Bank (2016) for the sub-sectors within education shows; higher education has been the biggest sub-sector by spending (42 % of education spending) from 1999 -2004 E.C., which is the same as the sum of the primary and secondary (42% share of

the education spending), while the share of spending on TVET has decreased over the period from 11% to 6 %. The public expenditure share for other sub-sectors was very small.

Leadership and management challenges

The capacity to plan, manage and monitor the education system demands knowledge and skill in collecting, processing, analyzing and managing educational information at all levels of the system. Weak capacities in strategic planning and management, policy making, implementation, monitoring and evaluation hamper the education system. The leadership capacity is generally weak, limited managerial capacities of educational authorities at the regional, woreda and school levels. Similarly, the HE system has also leadership challenges. The higher education leadership and management overwhelmed by routine tasks rather than focusing on strategizing universities core mission, and the selection and appointment process is not transparent, competitive and merit base.

Leaders and mangers of educational institutions are nominated or appointed without any competitive process. Lack of objective criteria, absence of transparency in selection and appointment based on competitive and merit erode professionalism and democratization. The fast shifts in policy in the assignment of school principals based on election, giving due regard to short term trainings, considering certificates and post graduate diploma as adequate level of qualification for leading schools are challenges. Inconsistent, incoherent, lack of practice and research based educational leadership development is major challenge.

Work teams and cooperative learning development challenges

Work teams, peer/cooperative learning didn't perform well as expected in improving productivity and quality in the system. Lack of the necessary professional capacity building on the what, why, and how of peers/cooperative learning been led in our system. Resistance in the implementation phases has been prevalent elsewhere. Lack of commitments on the part of teachers and students were observed.

Governance challenges

The roles and responsibilities among actors of the education system MoE, REB, ZED, WEO, Schools were lacking clarity in line with development trends. Though official documents talk about accountability across all levels of governance, there is a perceived gap that accountability is missed at all levels of the education governance. Accountability along the lines of decentralized units of decision makers is not clear or not practiced: who is accountable to whom, how they are held accountable and for what. The absence of education law, predominant assumptions in the Ethiopian education system are there are no legal or statuary provisions for parents and local community to hold the schools accountable, and

when they have, no financial or other leverage to hold the schools into account. Autonomy matched with accountability is necessary for higher education institutions. Autonomy should not so much be an issue of control, but of contracting and measuring performance based on mutually agreed outputs and outcomes.

There is a perceived lack of participatory planning due to the exclusion of the communities/stakeholders from the design stage of planning up to implementation which otherwise could have inculcated ownership of educational programs and projects. It should also be noted that the participation of women and children are lower or non-existent. Lack of transparency and accountability is making the public and the community uncertain. The extent of decentralization to school is not to the expected level, the most important educational tier where decentralization can make difference seems left behind. Further, the move towards more autonomy with accountability, shifting the locus of control to schools was not materialized.

6.4. Policy Implications and Reforms Suggested

Educational policy objectives/philosophy

The education policy objectives should be revisited and formulated to reflect the *creation of holistic development* in all citizens, confident and competent citizens, critical thinkers, competent professionals who satisfy the *requirements of the global market*; entrepreneurs and innovative, strong ethical and moral values, stand for justice; peace, and unity in diversity. The benchmarking visit witnesses moral, ethical and citizenship education are part of the curriculum of the educational system to address diversity and national unity. The education system should promote these realities and be able to produce adequate and capable graduates to satisfy both the domestic and global markets.

The public values in educational policy/planning are competing values (difficult to find trade-offs or compromises in the pursuit) expressed by interest groups and solved through the political process. The four values prominent in shaping educational plans or policies are: liberty (the right to act in the manner of one's own choosing, not subject to undue restriction or control), efficiency (expressed in terms of accountability, standards, and other measures of quality and productivity), equity (fairness in sharing the resources available for schooling), and excellence (high quality, not only high achievement-test scores but also the intellectual abilities to reason, interpret information and solve problems). These values are competing for priority with each other and none of them seems to be a single winner, but value pairs.

Improving access, equity, quality and efficiency

Access to good quality primary education for all children must be kept and making primary education compulsory. This will require in placing law governing the system, that is education law, reaching those children that are currently out-of-school, many of them from disadvantaged areas, groups with special needs, physically disabled, and pastoralist areas by considering and strengthening alternative modes of education delivery in the context of pastoralist community such as alternative basic education (ABE), satellite schools, boarding schools, mobile schools, IT supported/distance and online systems, and many others. Flexible modalities should be designed in a way that fits well with student groups. Moreover, special supports like financing, educational materials, food, clothing and others will have a potential to improve efficiency of the system.

Ensure school readiness program is free, compulsory and part of the general education. Further, warranting that children in school complete their education (poor efficiency addressed) and are learning (poor achievements of NLA and Early Grade Reading Assessment (EGRA) addressed), and students in the first cycle primary will develop the basic skills required. Some of the reasons for poor basic skills acquisition in the early grades which prevents children from learning effectively in all subsequent levels of education are the curriculum and teachers factors. Thus, revisiting the curriculum, its content and organization (the self-contained approach), teachers' preparation and motivation, leadership and management, etc. The curriculum has to be relevant, practice oriented, teachers preparation should be in line with the subjects offered instead of self-contained. For quality, the school environment and the facilities, minimum standards should be maintained.

Investments in preschool education easily pay over time by generating very high rates of return for participants, the community/public, and government. From economic and social returns point of view three years of pre-school education as of age 4 is recommendable. Since age 6 has been already introduced in the system of primary schools, it should be further strengthened. Moreover, strategies should be envisaged to maintain quality, access and cost that include; well-trained and well-paid teachers; age-appropriate curriculum which focuses on the academic, social, emotional, and physical development of children; small class sizes; low child/teacher ratios; adequate hours of instruction; and parental involvement.

It is important to revisit the relationship between the trends of public spending in education and improvement on the quality of education. What is the degree of influence of public spending on quality? The evidence comes from the percentage of students who complete each grade level and student achievement on national and regional examinations show that on average, in the last 20 years, 45% of children left schools before grade 5; 60% before grade 8; 75% disappeared before grade 10; and 93% failed to register in grade 12 (MoE/ESAA,

1999/2000-2013/14). This has profound negative effect on country's potential to compete with other countries of the world because the knowledge, skills, and attitude of the people become a wealth that opens all get ways to development. This issue can be viewed as wastage as well as lack of quality of education. From other perspective, student achievement on grade 10 national examinations was unsatisfactory. About 40% of students who sat for EGSECE score GPA less than 2 and the average result for the recent report was 1.88 (MoE /ESAA, 2013/14).

Revisiting the higher education intake strategy of 70: 30 (40 percent engineering, 30 percent science and 30 percent social sciences). In order to improve the intake, one strategy is to strengthen the base of science and mathematics so that well prepared and capable student will join the science and engineering programs. The second strategy is some social and business fields are becoming scarce thus, adequate ratio should be allocated to fill the gaps, one possibility is to raise the social sciences programs intake up to 40 percent. The third strategy is universities should focus where they are capable and be center of excellence. The fourth strategy is refocusing general education programs so that the graduates will have better outlook (humanistic, history, geography, communicative skills, service programs, diversity and unity) and not only job seekers but they will be job creators and minimize unemployment and mobility challenges.

Improving educational leadership

Professionalizing leadership and management is necessary for efficiency and effectiveness. Continuous training and leadership development is needed. The leadership and management recruitment, selection and appointment has to be based on transparent and objective criteria/key performance indicators/KPI. Regarding preparation, focus on experiential learning (problem-based leaning, school based project work, internships, shadowing, coaching and mentoring) and application oriented method as key pedagogy to inform leadership preparation. As a major popular approach, Problem-based Learning (PBL) utilizes concrete and complex problems candidates face in their schools as a starting point to stimulate and shape the content of leadership preparation programs. Internships are another common approach used by about 90% of leadership preparation programs; its strength lies in the balance they create between knowledge, and skill, between learning about and learning how, rooted in a solid foundation of learning why. Alternative accreditation pathways linking leadership preparation, research, teaching and policy to challenge universities to refine their curriculum, thereby making it mirror the world of work, but also create a grater alignment among the various functions of academia including research, teaching, and service. Research based independent higher learning institutions for teacher education and leadership development may help to address the current and future challenges. Moreover, democratic

and professionalizing the leadership through merit, knowledge and skill, competency based assignment. Continuous professional development and incentive schemes need to be in place for leadership at all levels. The benchmarking experiences suggest specialized institutes for leadership and teacher education.

Improving the governance and organization

Redefine the governance structure and roles for MoE, REB, ZED, WEO, School and the relationships at all levels in light of decentralization. Moreover, have a structure for ECCE within the existing structure, i.e general education starting from 'Woreda' level and upwards, while at school level a head teacher accountable to primary school principal will be in charge of the school readiness program.

Strengthening decentralization at institutional level by empowering schools and implementing such as school based management with accountability. Bottom up approaches than top down in the management, promoting local governance and autonomy, and academic freedom through accountability system is required. Further, the school structure needs to be revised in terms of staffing the administrative wing and providing adequate guidance and counseling services to the school community.

Institute the adult and non-formal education program that have clear, independent, responsible and accountable structure. It is suggested to have a separate national and regional agency or appropriate structure to organize adult and non-formal education, and the non-formal TVET in the country. The adult education strategy has to be revised in a way that mandatorily involves the partnering sectors.

In place the governance arrangement for TVET that coordinates and facilitate partnership between government authorities with employers including sector ministries. This will avoid fragmentation of decisions concerning curriculum and training and facilitate the coordination of training institutions and stakeholders so that ease the implementation of reforms. The COC office should have an arrangement that gives required autonomy to independently work, and should be staffed and capacitated to ensure accountability and transparency. Similar experience from benchmarking indicates to have Qualification Frameworks and Qualification Agencies.

The post-secondary education prepares graduates for world of work and highly interlinked with the labor market. The purpose of the general education is to prepare children for future. The three sub-sectors are so big and complex, growing from time to time and can't be governed and coordinated under one Ministry. University education and TVET are

expensive, they have several stakeholders, putting them with general education erode the focus in budgetary allocation. The TVET sub-sector need developing appropriate governance and empowerment so that it would be able to respond effectively and swiftly to all its stakeholders. Therefore, a separate ministry for post-secondary education is suggested, or independent authority established for skilled human resource development is needed. One of the benchmarking result is that education and training shared by two or more ministries such as Ministry of Education/MoET, Ministry of Higher Education/MoHE, Ministry of Labour and Invalid Affairs/MoLISA, Ministry of Human Resource/MoHR.

Structure of education

Put in place the structure of Integrated Functional Adult Education considering lifelong learning. Revisit the structure of education system (4-4-2-2) to allow the secondary education to stretch from grade 9-12. That is to in place the 8-4 system (maintain 8 years of primary (4 years of lower primary, 4 years of upper primary) and 4 years of secondary education), so that such structure will give children an opportunity to get mentally, socially and emotionally matured to benefit from the curriculum and lessons designed for the level. There will be certification examination for completion of primary education and secondary education. Reinstate the undergraduate programs, for a minimum of 4 years, longer than the present one. The post-secondary education (university education, TVET and Teachers Training) all will recruit students who have completed secondary education (grade 12 leaving national examination).

Include the TVET for primary school leavers in the structure of the education system, and introduce the vocational education in the curriculum so that practical gaps could be addressed. Vocationalized or competency based curriculum should be introduced. In addition, the practical and skill domains should be balanced with the knowledge and attitude components of the curriculum. In place a track system for graduates of TVET who want to join HEIs. Have Technical Universities that can provide up to Masters Level and practice oriented research in industry. Other HEIs or traditional universities with academic and research, offering postgraduate studies and PhD focused.

Education finance

Financial gaps need to be addressed to cover the education costs. One way of improving the education finance and the structure of financing is by truly making decentralization of the financing system. Strengthening autonomy and accountability system so that educational institutions will fully authorized to plan, allocate and utilize finance as per their demands and plans. Reform the expenditure allocation; choose to restructure the expenditures to reallocate spending from higher education to lower levels of education, institute differential block

grants, reforms aimed at increasing the supply of pre-schooling focusing on targeted spending, financing reform choose to reform the financing of education by introducing education tax, user fees for those who are capable to pay, continue free fees at lower levels and strengthening of community financing and demand side financing, and public-private partnership. In addition, alternative sources of financing education, revisiting cost sharing schemes. Loan and voucher system that allows all students to choose the school they want to attend regardless of their income and the government may sponsor the poor to get the chance to join better schools. Public funding should be based on competitiveness of educational institutions for students and performance.

Language of education

There is a need to revisit the issues on medium of instruction and English language teaching approach. The medium of instruction issue is not an academic issue alone; there must be broader discussion and consensus on language policy. Have policy, flexible medium of instruction for general and technical education benefits students and trainees to capture knowledge and skills during education and training. Implementing trilingual as strategized in the policy for inter-regional mobility and unity, and promotion of some local languages for communication, education and research. The experiences from benchmarking visit shows that primary and secondary education are taught by local/national language and English was given much focus as of lower primary education for internationalization.

To ensure effectiveness of skill trainings, the international experience shows many successful countries in technology transfer and economic development have commonly used language in daily life by citizens as training and education language. For international communication and mobility English is used.

Specific policies

Develop separate policy for each sub sector and coherent at system level. A policy that stipulates TVET encompasses from semi-skilled worker training to higher level technicians and applied (technical) engineers, even professional training in higher education. The policy should set direction and legal basis for mobilization of resources for different level of skill development at secondary school level and post-secondary school like TVET colleges, polytechnics and university of applied sciences.

Develop a policy that appreciates the variation of learning pace and learning methods among children so that comparable multi-track education system will be introduced to address the current educational system that assume equally fits for all participants. This provision will also allow technical and vocational inclined children to follow their inclination in early age.

Develop a policy that separate the governance system in HEIs, since senior management is over stretched by routine and non-academic activities and little time and emphasis devoted for academic and research functions. One policy option will be outsourcing some of the administrative functions to a separate autonomous public entity.

Develop policy that governs teachers and educational leaders and managers management (recruitment, selection appointment, compensation, promotion, development, etc.).

Policy implementation should be supported with policy evaluation/review. It is important to question the effectiveness of the education policy in certain interval of time. The review results can be used to make early corrections through policy adjustments.

7. Technical and Vocational Education and Training (TVET)

By Berhanu Assefa, Daniel Tilahun,Getachew Biru,Melaku Duguma, Melaku Mengistu and Wanna Leka

7.1. Introduction

Since the imperial period, different policies were enacted to introduce TVET in Ethiopia. As in many other African countries, it was considered as second class education. When vocational education and training was introduced, its objective was to improve the attitudes toward skilled, manual work, and thus diverts at least some young people from seeking the white-collar jobs that was increasingly in short supply, rather to encourage young people to remain in the rural areas where they could contribute to the economy by participating in agriculture. In 1970s, selected high schools were converted comprehensive high schools where students could have both academic and vocational education. Since 1994, TVET has become an integral part of the whole education ecosystem.

Nowadays, the perception that TVET is inferior to the general academic education provided by traditional four-year universities is widespread. In most countries, students, parents, and career advisors still hold a strong bias in favor of degrees from traditional universities. This is very much truer in our country. However, studies show that premature investment in higher education at expenses of TVET has created many leaders but few doers, leading to high unemployment. Some East Asian countries navigated this trap wise, in particular Singapore and South Korea.

Absence of productive and effective TVET ecosystem is missing linking for sustainable industrial and economic development in most developing counties. TVET has the potential to address both challenges: closing skills shortage in the economic and production system and reducing unemployment. A good TVET system would trigger a ripple effect in the national economy. First, it would improve the perception of TVET; and increase the employability of and demand for TVET graduates. This would increase the enrollment in TVET schools. Next, the availability of high-quality, skilled workers would increase investment in the economy by both industry and government. Finally, the increased skill levels would enhance productivity,

competitiveness, and efficiency, resulting in positive returns for employers and increased salaries for employees.

In recognition of the critical role it played in emerging economies, the Ethiopian government has been pronouncing the importance of TVET to implement growth and transformation plan and invested significant financial and human resource to improve access, quality and relevance of the TVET programs.

According to 1994 Education and Training Policy (ETP), formal TVET is set to be offer at second cycle Secondary Level (Upper Secondary Level). In addition, the policy outlined that non-formal TVET would be given for unemployed people, including youth who failed to complete the education up to 10th grade. The government has invested significant financial and human resource to increase access and improve the quality and relevance of formal and non-formal TVET programs. The government has made big commitment for the expansion of TVET for increased access. The plan is to make TVET accessible in every woreda in the country.

TVET strategy plan launched in 2008 set as its objective to train competence, motivated, adaptable and innovative lower and middle level professionals which can contribute to poverty reduction and social and economic development through facilitating demand driven, quality TVET and transfer of demanded technology (TVET, 2008). The desk review and field survey research result shows that TVET made admirable progress in laying down implementation framework of the strategy plan and undertaken several capacity building initiatives by using Ethiopian government resource and international support.

Ethiopian government has launched Growth and Transformation Plans as of 2011 to bring the country out of poverty and make lower middle income country in the following three GTPs. It has planned to embark on different level of manufacturing industry (labor intensive, technology-intensive and knowledge intensive) in a short period of time. TVET is mandated to produce skilled work force required to realize this national plan. Thus, the mission of Ethiopian TVET sector is overwhelming and requires investigating the present strength and weakness and develop new policy, governance and organizational arrangement for its mission and it would produce "Golden Hand" skilled personnel and technicians needed for envisaged Ethiopian economic and social development.

7.2. Major Research findings on TVET sector

Extensive reviews were made on ETP (1994) and TVET strategic plan (2008). TVET sectors performance report obtained from Federal TVET Agency and some regional TVET bureaus

were also reviewed. Research papers written on some TVET institutions in different of the countries were studied. The practices and experiences of countries with good TVET system and making good progress in TVET were also studied. These countries are Germany, Switzerland, Singapore, Australia, South Korea, China and Philippines. In the field survey conducted in Ethiopia, it was observed that of the leadership of Federal and Regional officers, TVET agencies/bureau, TVET institutions and CoC officers tied their best to give relevant information for quality improvement. At last, international benchmarking visit was made two selected countries, and validation workshop was conducted to discuss with stakeholders and experts on the findings: achievements, challenges and international best practices and reform issues. In following sections, the research findings are presented.

7.2.1. Achievement of TVET sector

Access and Equity

Policy and TVET Strategy

The Education and Training Policy (1994) is a big milestone in recognizing TVET as one of Ethiopian human resource development sectors and track by itself which is parallel to academic. The policy served as basis to create better access for TVET for majority of the citizens. The policy advocates skill training relevant to local economic development to be given at primary school levels and school dropouts. The policy does also encourage about 70 to 80 % General Education (1st cycle secondary education) Leavers to go through TVET so that they would be productive workforce. This seems to be modeled after the experience of Germany, Switzerland and Singapore. In these countries, 60 to 80 % of the students completing general education join TVET or apprenticeship before joining the life of work or continue for their further educations. Their guide principle is that TVET graduates are doers should occupy the base and wider part of labor force pyramid while the degree holders occupy the top and narrower parts of the Pyramid. That created better employment and productivity in these countries.

The policy has put basic guideline for skill training (TVET) to be inclusive for urban and rural community, academically successful and dropouts in their general education, gender parity, and for people with special needs so that better equitable access to TVET would be achieved.

TVET strategy plan (2008) has taken access as one of its main objectives to achieve its goals. The strategy envisaged to make TVET accessible, irrespective of the level of educational attainment, gender, ethnic and religious affiliation. To this effect, different measures were

taken to make TVET accessible at least in every Ethiopian woreda. In this regards, significant progress have been made though there is long way to achieve the target.

TVET delivery

Large numbers of TVET institutions have been built across the country to increase **access**. The number of public TVET institutions have increased from 16 to 334 and enrolment from about 3,400 to around 273,600 over fifteen years from 2000 to 2015. By private sector, TVET institutions of comparable number as public were established though they do dominantly train workforce ICT, commerce and health sectors. Thus, the access has increased close to one thousand fold. This is dramatic achievement. In all the regional states and city administrations, there are TVET institutions that are able to offer trainings in all Levels I to V.

Equity seems to be well addressed in gender participation. The female participation, on average, is about 51 %, but, female students are enrolled in vocational programs traditionally considered for women, such as hospitality, health and commerce while male students' participation is higher in traditional technical programs. Equity in access between rural and urban population and among different ethnic groups has been very much improved when compared with the Derge Regime. In term of access to quality & relevant TVET, there is serious disparity.

There are also some initiatives by TVET institutions to make sure TVET accessible to disadvantaged group.

7.2.2. Relevance

Policy and TVET Strategy

The TVET strategy introduced occupational standards and outcome based curriculum to ensure relevance of the TVET for the economy and social development. According to the strategy, several TVET capacity building initiatives (curricula, infrastructures, trainers and leaders) have been undertaken. TVET strategy introduced industrial Cooperative training (apprenticeship) to ensure TVET is relevant to industry. The office of Center of Competency (COC) has been established to make an independent assessment to ensure the TVET graduates have required competence (knowledge, skill, and values) relevant to industrial occupation they are trained in.

TVET delivery

In order to ensure relevance of the TVET programs, TVET colleges have been developing their curriculum based on the occupation standards developed by TVET agency with participation industry practitioners**.** More than 600 occupation standards (OSs) have been developed. In addition, the colleges are working to ensure students get apprenticeship in the industry through the cooperative training arrangement. The recognition the role of on job-training is significant achievement in ensuring relevance of TVET.

7.2.3. Quality

Policy and TVET strategy

TVET strategy plan (2008) introduced outcome based and Occupational standard curriculum, Occupational of Competency assessment of TVET graduates through independent of body, the office of Center of Competency (COC). In addition, the strategy introduced several TVET capacity building initiatives that would improve quality of TVET delivery such model curricula development, upgrading infrastructures, and upgrading trainers and leaders using Ethiopian government own finance and international support. The office of Center of Competency (COC) has been established. Occupational assessment tools have been developed for different level of qualifications. Trainings have five different levels: Level 1, Level 2, Level 3, Level 4 and Level 5. The strategy demands students should complete first level and pass CoC before join the next level to ensure quality of TVET training. The arrangement can be registered as a good achievement to achieve quality though there are some limitations to the arrangement.

TVET Delivery

The TVET leadership and providers recognize that there is serious quality problems and taking different initiatives to improve inputs including curriculum, quality of students, trainers, infrastructures, and encourage participation of employers in TVET. TVET institutions develop curriculum based Occupational Standards. They tried to promote TVET among the public to attract trainable students. In order to upgrade trainers competence, Federal TVET Institute is established. The Institute trains trainers and provide upgrading training for trainers. In some TVET institutions, in-house trainers training has been organized. TVET institutions are organized to different levels: centers, colleges and polytechnics to give different levels of training. TVET Centers train from Level 1 to Level 2; TVET Colleges from Level 1 to Level 4; and Polytechnics from Level 1 to Level 5. Different initiatives were taken to improve the training infrastructures of TVET institutions. Different level TVET graduates have been given CoC assessment. The CoC assessment and other

measures have brought positive change on competence of graduates from TVET institutions though it is very small compared to the target.

7.2.4. TVET Governance

The TVET is led by state minster of Ministry of Education who accountable to Minister of Ministry of Education. The Ministry has also established Federal TVET Agency (FTA) which is responsible for the implementation of TVET strategy and oversees the activities of the sector. In all the regions, TVET bureaus (members of regional state government council). It seems the regional bureaus are politically empowered as other bureaus such as education, health, etc. TVET bureaus are mandated to undertake all the duties and responsibilities of TVET in their respective regions.

7.2.5. TVET Financing

The government is the major financer of TVET. The federal government finance is largely used for governance of TVET sector at federal to develop strategy, capacity building programs and monitoring of the implementation of strategy. The regional state governments is largely responsible for investment to build TVET institutions, purchase facilities and recruit trainers. Private sectors and NGOs have been also making significant investment in establishing TVET institutions. International donors have made some financing in provision of technical support, facilities and establishing model TVET institutions or centers. TVET capacity building program under Ethio-German bilateral Engineering Capacity Building Program project financing could be one of international financing models in upgrading TVET.

7.3. Weakness and Challenges of Ethiopian TVET Sector

In light of the size and diversity of deliverables expected by the government and economy sector, TVET sector achievement is insignificant. This weakness emanated from limitation due to absence of the right and dynamic policy, lack of preparedness and/or proper resourcing to implement the policy, unavailability to inefficient utilization of resource, lack of contextualization of TVET strategy plan to national & regional economic structure to underdeveloped business/industry culture, inefficient and poor empowered governance, poor

TVET institution structure, equitable access to target group, quality of provision and relevance to local economic development plan, etc.

The major weakness/limitations and challenges facing TVET sector due to policy over the last 23 years life Education and Training Policy (1994), the present governance, i.e. organization arrangement and decision making process in TVET sub-sector, and TVET Strategy Plan (2008) and provision or delivery of TVET are presented against the clusters or thematic: access, equity, relevance, quality, unity in diversity, governance and financing in sub-sections below.

7.3.1. Access and Equity

Policy and TVET Strategy

Lack of strategy for Equitable TVET Access at Woreda Level

One of the government strategies to make TVET accessible is opening TVET colleges or centers at woreda level. However, very large numbers of TVET institutions are reported that they lack committed and motivated leadership, skilled and experienced trainers and the right training facility. Thus, merely bringing access to TVET institutions to woreda level will not create equitable quality access for students who complete grade 10 and want to join quality programs to get the train in occupation of their choice and better job opportunity. Ensuring equitable access for TVET programs calls for introduction of different organization of TVET institutions that enables students to be enrolled to the TVET programs that conform to their interest and their ability with equitable costs to themselves with their compatriot. This may require building TVET colleges and polytechnics with multiple programs with dormitory and cafeteria services at strategic location. This arrangement would be much cheaper than building colleges with all relevant programs in every woreda. This aligns with the experience of South Korea and Singapore. Still, TVET centers for basic skill trainings can be built at community level.

TVET Delivery

Lack of equitable quality TVET institutions

Most TVET institutions in rural areas and emerging regions are poorly equipped with relevant facilities as compared to TVET institutions in big towns and cities and central regions. The trainers in the rural areas and emerging regions have very much less competence. Thus, access to quality TVET institutions and relevant TVET programs are very poor. That means, these programs given in different TVET institutions in rural areas are not equally creating job opportunities for trainees with comparable academic talent trained in

well-furnished TVET institutions with facilities and human resources in the cities and relatively developed regions. Thus, the access is not equitable access when citizens in different regions get training that do not give them equal job opportunities.

7.3.2. Relevance

Policy and Strategy

Lack of contextualized strategy for cooperative training or apprenticeship

In order to ensure relevance, one of the measures taken was introduction of cooperative training (apprenticeship) to impart relevant industrial skill needed by the industry in students. In cooperative training (apprenticeship), the practical training constitutes 70 % of the training and is designed to be given in the industry or at the work place. The cooperative training is benchmarked the German Dual TVET System experience. However, in Ethiopia, there are very small numbers of small to medium industries. The diversity of the industries is also very limited. Moreover, the industries are largely concentrated around big city like Addis Ababa; yet, in most industries lack interest to make meaningful participation in TVET training. In emerging regions, industries are total absent. This led to weak implementation of cooperative training in big cities and no implementation in rural areas and emerging regions.

In Germany, the companies are very much involved in dual TVET system (which is equivalent to cooperative training). The companies are responsible for 70 %, which is apprenticeship training, while TVET schools are responsible for 30 %, which is knowledge & conceptual education. Austria and Switzerland have similar system. These countries have industry based economy, strong industry culture, established coordinated market economies and are renowned for their extensive systems of collective vocational skill formation. This is deep rooted in the historical development of TVET and socio - political culture of the countries. Literature shows that a few east countries managed to emulate mass Dual TVET (apprenticeship) system. Thus, in largely agrarian country like Ethiopia, the TVET sector should develop appropriate alternative model to provide training in work environment for the students.

Splitting occupations into micro occupations Components

Systems of occupational classifications are designed to cover all occupations in the national economy in which work is performed to pay or profit, reflecting the occupational structure of the economy. Occupational standards must be defined by employers with cooperation of other stakeholders, as OS is an essential link between workplace employment requirements and human capital development or training programs.

In Ethiopia around 670 occupational standards have been developed the last couple of years. Now, some report shows that it reached about 800. This number is very large compared to even the total number of occupational standards set by ILO. The employers participated in the survey reported that this micro-splitting of OS does not reflect the need of the industry in the country. This lack of compatibility OSs and the need of the industry will lead an inefficient utilization of resources, but also fueling unemployment problem of the TVET graduates.

TVET delivery

Poor participation of ownership of industry in preparation of occupation standards: There was little inputs by the industry in occupational standard preparation. Most occupational standards have been copied from abroad without enough contextualization to the local need of the industry.

Poor participation of ownership of industry in CoC assessment: In most regions, there are no industry to be considered to participate in the training and CoC assessment. In regions where are industry, very few industry showed interest to participate in training and CoC assessment. In absence of meaningful industry participation, it is impossible for TVET delivery to relevant training.

Weak alignment of skills development programs in TVET institutions with the local & national economy workforce needs: TVET institutions are largely established in different cities, woredas or localities for the sake of access without considering their potential contribution for local economic development and job creation. The government has developed or is developing industrial for develop industry for selected manufacturing economic sectors. However, there is lack of planned skilled force development capacity and plan by TVET institutions for immediate need of local economy and industry park needs.

7.3.4. Quality

Policy and strategy

The limitation of formal TVET to second cycle secondary education (upper secondary) ***level:*** The Ethiopian education and training policy limited formal TVET to second cycle secondary level. That is, TVET seems to be certificate level training. The policy explicitly says Diploma, Bachelor Degree, Master degree and PhD degree are given in higher education institutions as post-secondary education.

According to international experience, TVET encompasses from semi-skilled worker training to higher level technicians and applied (technical) engineers or technologists at bachelor

degree level. Different levels of skill training require different level academic and technical preparedness. But, Ethiopian education and training sector leadership and planners developed TVET training system through single entry point and little academic content against known best international experience. Some of the weakness of TVET and unattractive to its target groups is attributed to this shortcoming of Education and Training Policy (ETP).

Lack of flexible policy on medium of instruction: The ETP fixed English as medium of instruction for formal TVET at second cycle secondary level. Significant number of trainers (in particular Level B & C) has weakness in English. However, most trainees have serious English language deficiency (in reading, written and spoken). However, the training facility manuals are available in English, occupational standards, model curricula are prepared in English. Individual TVET institutions are expected to prepare its curricula and learning materials in house in English by its trainers. As a result, most trainees fail to capture adequate knowledge and skills required for their occupation in training due to poor communication. That leads to poor training and incompetent graduates in occupations.

However, from international perspective, most successful countries in technology transfer and economic development use as medium of instruction language commonly used in bureaucratic system and in every day communication in ordinary life. Thus, bringing meaningful progress in TVET and skill development program requires flexible instruction language policy that takes into account target groups and level of advancement of trainings.

Lack of well-articulated policy for progression and permeation of competent TVET graduates into higher training and education: One of the reason for TVET to have poor image is due to TVET system failure to attract well prepared and motivated students. This is due to absence of clear and well-articulated progression and permeation strategy for TVET graduates to higher training and education to motivate trainees for high level technical and occupational skill development. On policy level and in practices, Ethiopian TVET track and higher academic track are independent to each other. There is also no obvious comparability between Ethiopian TVET graduates and academic higher education graduates. Some years back, Ministry of Education issued guideline for enrollment of TVET level 4 and 5 into higher education if the public universities have available seats. The guideline did not look at standardized qualification of TVET graduates and identifying the gaps for enrollment in higher education and did not prepare a standard bridging academic courses the TVET students for higher education. Rather, it seems that the guideline itself reinforced that TVET graduates are the second level choice (less priority) for government when compared university preparatory students for higher education programs. Despite absence of empowering policy, the Ethiopian TVET system is struggling to train at diploma and bachelor equivalent certificate holder graduates, contributing its share for the bad image of TVET.

Thus, in order to address this challenge, it is necessary to formulate the right policy and develop National Qualification Framework that reflects Ethiopian human resource development programs as one whole system.

Lack of strategy that appreciates the same age group students' difference in maturity, learning pace and learning methods: The Ethiopian education system follows a principle one tool fits for all. The General Education system is design for students with average learning pace and academic inclination. This principle created significant wastage and inefficiency in general education and skill development programs. The system retards fast learners and fail to give slow learners required time to acquire knowledge and skills to their education level. The system does not also pay attention to technical inclined students from their childhood. As result, large number of students drops out of the school with little academic knowledge and skills failed to be productive citizens. Significant numbers of students who have technical inclination are forced into academic high road. As result, large potential for innovation and creativity in the children has been wasted.

Lack of effective and attractive strategy to train different academic levels target groups into skilled workforce: All 80 % of the cohort leaving grade 10 are expected to join TVET at Level 1 despite their difference in their academic capability. Even, preparatory school (grade 12) completers, who do not get scores required to join university, are initially enrolled in Level 1 training though they register for level 4 or 5 certification. Such approach is de-motivating for the students and makes TVET system inefficient.

However, according to international experience, different levels of level skilled workers and middle level professional are trained in different levels of TVET institutions that enroll trainees with different levels of academic talent and education. For example, Singaporean Institute of Technical Educations (ITEs) train skilled workers and craftsmen while Polytechnics train technicians and technologists. China has TVET from center level with certificate level to university with PhD. In most countries, in order to trained to certain of skill levels, it is even necessary to satisfy prescribed age requirement, let alone academic qualification, training and experience. So, the TVET sector should have a new paradigm in organize TVET institutions and in admitting students with different talent to different levels of TVET programs.

Lack of strategy for appropriate preparation in general education for upper secondary TVET: Even though the 80 % of the cohort leaving grade 10 are known to be assigned to TVET institutions at upper secondary level, the general education is fully design to prepare the pupils for academic education, including at first cycle secondary education. This re-enforce the impression that TVET is designed for students who failed to join university preparatory programs, which would mire the image of TVET and damage the moral of the students.

The experience other countries with good economic performance and excellent TVET system such as Switzerland and Singapore, life and basic hand-on skills are taught at pre-school and primary schools and technology education are given in junior and senior secondary education. These help students to develop technical talent in their early parallel to academic talent. Thus, in the future education strategy, it is necessary to make the curriculum from pre-school to secondary have incorporated life and basic hand-on skills and technology education relevant to the local context.

TVET delivery

Shortage of effective TVET institutions that provide quality and relevant trainings for citizens:

The budget allocated for TVET sector is too small to build and operate enough effective TVET institutions across the country and regions for equitable access. TVET institutions are effective if equipped with minimum facility required and competent, motivated trainers and committed leaders to give quality and relevant training and ensure employability of TVET graduates.

Variation of quality curricula and learning materials for a given occupation among TVET institutions due to difference in competence of trainers: Individual trainers and/or institutions are mandated to develop curricula and learning materials for occupation skills they train in TVET Strategy Plan. Significant different in competence of trainers would create significant different in quality of curriculum and learning materials they prepare for the respective TVET institutions. Thus, in absence of standardized curriculum and learning materials, it is difficult to deliver comparable TVET programs across the country and to train envisaged competent, motivated and committed skilled workforce.

Serious difference in the quality of competence assessment from region to region: According to TVET Agency, competence assessment is the responsibility of regional CoC office. Regions have different level of quality and relevant inputs for different occupational assessment. In some regions, large number assessment tools has been used in the assessment while, in some regions, few tools are used repeatedly to the extent candidates can predict what assessment tools would be used in the next assessment. This would undermine the effectiveness of assessment to produce equally competent workforce across the country.

Lack of appropriate academic preparedness and inputs for different levels of TVET: Little different in academic preparedness is expected to register for Level 1 and above as long as trainees completed grade 10. There is no different in academic inputs in the training skilled worker or craftsman (Level 1 - level 3) and technician (Level 4 and Level 5) trainings except the later have management and leadership courses in their Level 4 and 5 trainings.

Shortage of competent and motivated Trainers and Instructors: The trainers are largely recruited from graduates of TVET institutions and universities. These trainers does not have

industrial experiences. Most trainers do not have adequate preparation of in occupational knowledge and skills and pedagogical skill and attitude. This is largely attributed to inability of TVET sector to introduce attractive reward and incentives for trainers. Highly skilled trainers are needed by industry and TVET institutions have difficult to retain its existing practically skilled trainers. The present salary, incentive and reward system is not still good enough to recruit and retain skilled and experienced trainers from industry in spite of recent salary increase.

Poor image of TVET system among the students, parents and employers due to stigmatization of the TVET system as system for academic losers and dropouts: TVET is considered as destination for the losers or academically poor students and lower level training. This is because the general school system and society promote academic achievement over craftsmanship. In addition, TVET institutions do not have mostly dormitory. That implies among the target group that the TVET institutions are local while universities are national educational institutions.

7.3.5. Unity and Diversity

There are several TVET centers and colleges at woreda level. The curriculum is occupation based. There is little in the curriculum of TVET that encourage students to learn culture, history and economic activities in different regions and localities in their own regions. The trainees have weak communication skills in language other than their local language. This undermines unity and the vision of creating one economy and political community.

7.3.6. TVET system governance

Lack of compatible empowerment Federal TVET governance and leadership with the size and diversity of the mission of TVET sector: TVET sector has large and diverse target groups which should be reached through its formal and non-formal programs. It operates at the interface of different sectors: the education sector, the labor market, industry, MSE sectors, agriculture, health and rural development, and public administration. More than 70 % training is supposed to be given in industrial or enterprise floor, in business environment. Non-formal and informal trainings are largely given by enterprises and companies. Thus, the present TVET governance arrangement does not give adequate empowerment for TVET sector to develop policy that make TVET to responsive to demand its stakeholders and labor market, and attractive for the participation of its major stakeholders. In short, the sub-sector leadership does not have political power that give them more freedom to promote the

interests of the TVET sector and its stakeholders; it waits and follows the lead of its mother ministry.

According to international experience, there have been uphill struggle for TVET to legitimatize its role in education sector where the elite leadership and experts of the education sector are biased toward academic higher education in developing economies. This calls for radical change in mindset of leadership that enable to see TVET indispensible role and precedence over higher education in short and medium term.

Lack of governance that integrate skill development with different agencies that oversees employment, job creations and social security

In Ethiopia, there are different agencies responsible in creating job, employment, food security, and skill development under different ministries. For example, Federal Job creation and Food security is under Ministry of Urban Development, Small and Medium Enterprise Development Agency under Ministry of Industry. Ministry of Labor and Social Affairs oversees occupation safety and social security of citizens in industry. Yet, Federal TVET Agency under Ministry of Education is given responsibility for overseeing skill training standardization, occupational standard preparation, TVET institution licensing, graduate competence assessment, technology transfer, etc. These arrangements of skill development, job creation, employment, enterprise development lacks synergy.

Weakness Regional State TVET governance and leadership to ensure TVET institutions under its jurisdictions to support local and regional economy development plan: The Regional TVET Bureaus seem to have big responsibilities on surface. In practices, until recently, they relies largely on Federal TVET for direction on what kind TVET programs they build. In name of increasing access, they build TVET institutions that provide conventional workshop programs without contextualizing to the skills needed of the local economy. Several economic corridors are defined and industrial zones have built by the government in different regions. No meaningful preparation has been TVET bureaus or institutions in hosting regional states is visible. However, TVET is responsible to create job opportunities for the people and make profitable investment in the regions, with exceptions of some recent targeted investment by Somali Regional State TVET and Addis Ababa City Administration. Perhaps, poor governance and incompetence of TVET leadership have its share of contribution for rampant unemployment in different regional states.

Lack of innovative TVET Institution Organization

Most public TVET institutions are organized on the basis of economic sectors such as industry, agriculture, health and business. For example, College of Agriculture, College of Health Sciences and Polytechnic College are organized as independent and separate campus under different leadership. There is little interaction among the colleges. Such arrangement

limited highly the productivity, technology transfer capability and innovativeness TVET institutions.

Absence of standardized quality curriculum and learning materials in TVET institutions
National TVET Agency has control on occupational standards. In TVET strategy plan, curriculum and training materials preparation is decentralized and is the responsibility of TVET institutions using occupational standards as basis. However, there are difference in competence, experience and pedagogical skills among trainers in different TVRT institutions across the country. This could create significant difference in quality and relevance of curriculum and learning materials among TVET institutions. This would lead to difference in effectiveness of trainees graduated from different TVET institutions and in their performance in COC assessment.

7.3.7. TVET Financing

Lack of policy for effective TVET financing: The existing education and training policy is silent how to finance of TVET. No new TVET policy is introduced that recognizes the expensiveness of TVET and how to finance TVET to implement effectively ETP (1994) the last 23 years. In existing financing scheme, TVET is the least financed education sub-sector. It receives less 10 % of the budget allocated for education and training sector. On the other hand, the required investment is very large to equip all TVET institutions with appropriate infrastructure and skilled human resource to undertake effective and relevant skill trainings for local, regional and national economic development.

Lack of policy the encourage industry to contribute in TVET financing: In Ethiopia, the major financer is the government. The industry has little contribution. However, the government alone cannot budget for finance required by TVET sector to develop quality TVET institutions that provide quality and relevant training without compromising the budget of other sectors. Thus, there should be a policy that incentivizes and encourages private sectors, enterprises and companies to invest on skill training and/or make financial contribution for national skills development programs in Ethiopia as per international experience.
Weak mobilization NGOs and bilateral cooperation: There have been already some support by NGOs and foreign government such as German, Japanese, South Korean, and Canadian governments; Catholic Relief organization, People-for-People, etc. However, the support mobilized by NGOs for TVET is minimal as compared other sectors, even within the education sectors. Yet, TVET is enabler and grantor for sustainable development of the other economic and social development sectors. Thus, there should NGOs and bilateral cooperation

mobilization to build effective TVET system so that it will produce skilled human resources required by other sectors.

Lack of empowerment for Public TVET institutions to work as company like institutions: Ethiopian TVET institutions are mainly engaged in training. However, there are also expected to be technology transfer centers and play positive role in industry productivity. But, it is not that much visible however when the institutions are motivated and seriously engaged. On the other hand, the apprenticeship component of the TVET is weak. Thus, there should be policy or strategy to encourage qualified TVET institutions and empower to generate revenues through producing high quality model products by involving trainers and the trainees.

7.4. Lesson Learned from International Best Practices

According to the desk review, there are eight factors majorly that contributed to the success of countries which have built effective TVET system. These are presence coordinated TVET ecosystem; performance based government funding; equivalence and mobility between academic; sustained industry support; and effective training language. Below, how this factors contributed in building the TVET these countries are presented.

Creating Coordinated TVET Ecosystem: The TVET ecosystem involves stakeholders that have contribution in TVET value chain and are beneficiaries. The government is main the steering agent. The other major stakeholders are industry and employers, TVET institutions and students. In countries with effective TVET, including Vietnam and Malaysia, their governments coordinate TVET ecosystem in a way all the stakeholders get what they want from TVET system so that there is health mutual growth. The governments *delegate one ministry* such as Singaporean Ministry of Manpower and Korean Labor and Employment to serve as government agent to coordinate TVET and skill workforce development relevant to the industry and labor markets. The industry and professional associations (engineers, technologists, and technicians) are encouraged by appropriate policy and law to participate in the development short and long-term strategy direction of TVET sector and establishment a means of accrediting or improving quality of TVET programs to increase the attractiveness of TVET for both the students and potential employers.

Existence of Unambiguous Government Commitment to Promote and Support TVET: In Singapore and South Korea and the benchmarked countries, the governments have continuously engaged with TVET sector to ensure supply skilled timely for the economy. Appropriate, timely and dynamic policy and strategy have been introduced year after year to

ensure required quality and level of TVET given for the youth and employees so that industry get appropriate and relevant skilled workforce, depending their economic and social development level. The focal Ministry for skill development provides guidelines for any skill development, harmonizes occupation standards and assessment tools, and gives competence certificate for different levels of TVET and skill trainings, in close collaboration with industry chambers and professional associations.

Introduction of Performance based government funding and support: The governments of developed and bench marked countries are the major stakeholder and financer of TVET and skill development. The major financing is made based on key performance indicator such as graduate employable, addressing skill shortage in the labor markets, etc. The funding and incentives are given for public and private TVET institutions with better performance to increase their capacity. For example, Vietnamese government allocates special budget to TVET institutions that students get industrial training/apprenticeship. It does also provide land for free, profit tax exemption for five years and duty free to private sector to build TVET institutions that give training in areas where there is skill shortage. In Malaysia, the government provide loan and distribute human resource development fund based quality of their performance. The government covers expenses of industries to host apprentices are covered their expenses and insurance for apprentices during their apprenticeship. Similar performance based existing desk reviewed countries such in South Korea and Singapore.

Creating Equivalence and Mobility between academic education and TVET: countries with best TVET system and the benchmarked countries have national qualification framework which indicates the requirements of knowledge and skills the learners need to acquire (learning outcomes) for a specific qualification level and reflects the permeability between qualifications acquired through academic and TVET institutions. The countries tried to establish through their relevant authority transferable credits for certain level TVET graduates to join equivalent or upper academic program vice versa. They have also introduced continuing learning or lifelong learning system so that TVET graduates can prepare themselves for higher skill training and academic programs. This system is well established in South Korea and Singapore. This helped the countries to attract academically and technically intelligent students.

Ensuring Sustained Industry Support: The two countries visited for benchmarking recognized that industry needs highly skilled graduates and that industry can appropriately provide inputs on the requirements for TVET graduates for short terms and long terms. Thus, the countries are trying to ensure sustainable industry participation in TVET and support.

Already, the industry started to collaborate with TVET providers to develop curricula and one-on-one relationships and offering funding for specific training (it is true in particular for big companies). In addition, the industry contributes finance through Human Resource Development Fund which is distributed to both private and public TVET providers based on their performance. The industry giving apprenticeship is growing from time to ensure students have real world experience so that students have better employable skills upon their graduations.

Ensuring Quality of TVET Teachers or Trainers: These countries has stipulated clearly that the quality of TVET as its teachers or trainers. They have identified that good TVET teachers should have good knowledge, technical skills, pedagogical skills and industrial experience. in each country, several universities and institutes are provide technical education - giving knowledge and technology education, hand-on workshop training, facilitating apprenticeship, and pedagogy. In both countries, teachers are also sent abroad for advanced technical and leadership training. Thus, it is necessary to diversity teachers trainers institutions based specializations, mobilize international support to give higher level training; and work closely with sector industry or arrange alternative arrangement for enterprise based training component.

Usage of Effective Training Language: All countries, including benchmarked countries, that have well established and effective TVET system conduct training in commonly spoken and communicated language in public square and in bureaucracy system of the countries. They encourage their students to develop English skills for international mobility and working in local advanced companies. The experience of Malaysia is worth to look into. Malaysians had very good communication skills in English inherited from colonial period. The medium of instruction is Bahasa Malaysia to ensure all citizens have better education and training. Citizens who used their mother tongue as language of instruction their primary education are required to study one year Bahasa Malaysia Language if they have weakness in it so that their secondary education and upper learning will be easier among. Thus, the Ethiopian education system in general and TVET sub-sector in particular should seriously look into effective training language policy to ensure effective skilling training.

Creating Sustainable TVET financing scheme: The countries introduced human resource development fund to which employers contribute through employee salary levies. They also use international bilateral and multilateral organizations support and loan as source financing to build strategic TVET institutions and upgrade the existing TVET institutions. They solicited international support to establish model centers of excellence in TVET institutions to train and transfer technology in different parts of the country.

7.5. Recommended Reform Issues for TVET System

In order to make TVET sector effective and responsive to its stakeholders, the above discussed challenges should be addressed. TVET should have governance system that gives freedom and authority to the sector to organize itself in a way it can mobilize stakeholders and resources to develop policy and strategy and create institutional arrangement to train millions of battalions of army of diversified skilled workforce required for the economy. To this effect, to frame appropriate governance system for the sector, it is worthwhile to look at international experiences. In addition, the following several reform agenda are proposed.

7.5.1. Policy reform agenda

i. Developing skills development policy that encompasses from semi-skilled worker to technician (technical) engineers training and educations in TVET systems;
ii. Introducing policy that empower occupation based craftsmen and professional chambers to develop occupational standards;
iii. Developing policy that promotes citizens learning at their own pace and learning methods suit them best.
iv. Developing flexible skills training language policy to ensure effectiveness of TVET and skill trainings.
v. Developing skills training financing policy that encourages companies and private sectors investment in skills training and/or financial contribution.

7.5.2. TVET strategy reform agenda

i. Developing strategy to implement appropriate cooperative training (apprenticeship) model;
ii. Developing strategy to enhance the image of TVET among its target group and employers;
iii. Developing strategy for equitable access for effective (quality and relevant) training programs in TVET institutions;
iv. Revising occupational standards with participation of sector industry and sector skilled worker/craftsman, technician and technologist associations;
v. Introducing guideline to identify appropriate academic preparedness and depth of academic content for different levels of TVET training programs;

vi. Identifying and introducing different alterative best practical and industrial skill development models in TVET delivery;
vii. Developing blending (workshop and ICT based) training strategy to overcome shortage of experience trainers and infrastructure in TVET institutions across the country.

7.5.3. TVET system governance reform agenda

i. Creating compatible and efficient TVET and skills development governance arrangement and leadership in the formal and non-formal sector: suggestion - separate ministry which oversees skills development and job creations.
ii. Developing strong TVET governance system with checks and balances at the national, state, municipal, and company levels.
iii. Establishing effective CoC governance system looking into international best practices to ensure mobility of certified skilled workers in different regions.
iv. Establishing national curriculum and training materials development center for TVET semi-skilled and skilled personnel and middle level professional trainings.

7.5.4. TVET delivery reform agenda

i. Creating facilities to enhance TVET graduates' employment opportunities or incubate enterprises.
ii. Building capacity in TVET institutions need to offer the practical training in their own campus where the regional industry capacity is limited.
iii. Promoting teaching factory model as alternatives to industrial training to effect practical component of TVET training.
iv. Developing strategy to attract, recruit and retain and develop skilled and experienced trainers.

7.5.5. Building the image of TVET among students, parents and employers

i. Building brand residential separate TVET institutions that train skilled workers and operators, technicians and technologists;
ii. Revision of TVET admission criteria to match the trainees' capacity with the requirements of the curriculum;

iii. Introducing vocational content in the general education to create awareness of vocational education in the schools.

7.5.6. TVET Financing reform agenda

i. Creating federal government and regional government TVET financing formula and Identifying financing focus;
ii. Mobilizing NGOS and international cooperation to build effective and vibrant support model TVET institutions;
iii. Introducing training funding to which industry and business will contribute their share;
iv. Capacitating TVET institutions to have internal revenue generating mechanism; and
v. Introducing performance based TVET institutions and skill development programs financing mechanisms.