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Ministry of Science and Higher Education - Ethiopia

MINISTRY OF SCIENCE AND HIGHER EDUCATION

EDUCATION AND TRAINING RESEARCH THEMATIC AREAS

SEPTEMBER 2021

ADDIS ABABA, ETHIOPIA

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1. Background and Rationale

Education has always been visualized as one of the most efficient vehicles for economic and social well-being and mobility and political stability. Ethiopia has made gains in increasing access and equity in the last three decades and yet it has much more to do. The country continues to have questionable quality and relevant education across all education levels. Quality and relevant education and training which ensure efficiency become a must to achieve the desired learning and students/graduates/trainees' outcomes. However, quality, relevance, and efficiency have been identified as key challenges in the Ethiopian education system. The Education Development Roadmap and Ethiopia's 10-year Development Plan¹ indicate that quality and relevance in education and training need to receive due attention to ensure the production of capable graduates who meet the demands of the next level of education and training and the world of work.

To overcome the barriers, Ethiopia has endorsed the education and training development plan of 2018-2030² that would in turn help to realize the quality and equitable education demands of 2016-2030 sustainable development goals. The³ Agenda for Sustainable Development is universal, holistic, and indivisible, with a special imperative to leave no one behind. Achieving the objectives of education and SDG 4, which intend to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, play a central role in building a sustainable and inclusive system and resilient societies.

Education in the 2030 Agenda for Sustainable Development is most explicitly formulated as a stand-alone goal (SDG4)⁴. The SDG 4 aims to raise the bar and make education a catalyst for broader change toward sustainable development and building the knowledge base needed to tackle critical challenges. There are also many education-related targets and/or indicators in other sustainable development goals. These include health and well-being (Target 3.7), gender equality (Target 5.6), decent work (Target 8.6), responsible consumption and growth (Target 12.8), and climate change mitigation (Target 13.3).

¹ *Ethiopian ten-year development plan, 2021-2030*

² *Ethiopian education and training development roadmap 2018-2030*

³ *Agenda for sustainable development goals 2016-2030*

⁴ *SDG4 -quality and relevant education, the implication for national education reform*

The issues of equity, inclusion, education justice, efficiency, quality, relevance, and governance of education are among the major challenges of the education system. Consequently, it is essential to develop education research thematic areas that enable to search for key solutions to realize the national education roadmap initiatives. The thematic areas help to investigate innovative approaches that bring significant positive change to the country's education systems by optimally scaling the process of improving the quality, relevance, equity, and sustainability of the changes in line with the country's development plan. Accordingly, the following thematic areas are identified to respond to the following five strategic aims.

1. Mapping system-level approaches toward aligning teaching, curriculum, and learning outcomes
2. Designing an innovative approach to ensure equity and inclusivity in education
3. Mapping innovative and responsive curricula of tertiary education programs for local and global market demands
4. Mapping and implementing education for sustainable development in practice

5. Thematic Areas

The thematic areas in education and training are developed based on the major critical issues of the country's education and training roadmap 2018 -2030, the sustainable development goals of 2016-2030, and the national transformation plan of 2021-2030. The thematic areas will guide the research institutions, universities, and non-governmental organizations working on education to carry out the educational research and development based on the identified prioritized focus areas to generate knowledge for the economy. To this effect, eight thematic areas are identified.

- Curriculum
- Teaching, learning, and assessment
- Access and equity
- Quality, relevance, and efficiency
- Governance, leadership, and management
- Technology, innovation, adaptation, and transfer
- Education for unity in diversity
- Employability and entrepreneurship

These thematic areas will be applied to all levels of education (pre-primary, primary, secondary, TVET, teachers' education, and higher education).

2.1. Curriculum

Although education and training have various components, curriculum-related issues stand amongst the key aspects for realizing the desired educational/training objectives. The curriculum plays a central role in guiding the teaching-learning/training and assessment, changing learners/trainees' behavior, and enriching learners/trainees' experiences. As a guiding tool, a curriculum should enable to stimulate and enhance learning, build the capacity of school administrators, parents, and teachers to provide stimulating environments and experiences for holistic learning. This implies that curriculum design, implementation, monitoring, and evaluation require careful planning and involvement of relevant stakeholders including the community.

In Ethiopia, following the gaps identified by the Ethiopian Education Development Roadmap, there is a growing need across all levels of education to improve the curricula to ensure the production of competent learners/trainees and attain quality in the anticipated learning/training outcomes. Hence, it is useful to investigate the curriculum of the nation by giving more attention to the assumptions, relevance, development, implementation, and monitoring and evaluation. Accordingly, the following sub-thematic areas are identified.

- Philosophical and psychological assumptions
- Medium/Language of instruction
- Indigenous knowledge
- Flexible curriculum
- Development, implementation, monitoring, and evaluation
- Theory-practice nexus

2.2. Teaching, Learning and Assessment

Teaching, learning, and assessment practices enable to change the planned curriculum into action and create synergy between the curriculum and students/trainees to ensure the attainment of the expected behavioral changes. If teaching, learning, and assessment fail, there is no doubt that all efforts of education and training become wastage. In other words, among the key components that make education and training successfully are teaching, learning and assessment. The role of teaching, learning, and assessment in education and training should be to promote equality and diversity. However, teaching, learning, and assessment in Ethiopia show huge gaps thus poorly qualified students/trainees and graduates are produced. It, therefore, sounds logical to consider teaching,

learning, and assessment amongst the core research thematic areas in education and training. Learning-outcome, competency-based training, teacher/trainer-related capacity, nature of teachers' preparation, and student-related issues can be taken as some of the main areas that need to be researched. Accordingly, the following sub-thematic areas are suggested.

- Learning outcome/Competency
- Teacher/trainer capacity
- Teacher/trainer preparation and professional development
- Student/trainee support system
- Student/trainee engagement and issues

2.3. Access, Equity and Efficiency

The Ethiopian Education Development Roadmap 2018-2030 is one of the major shifts in the educational attainment of the country to mitigate the persistent challenges of access and equity in education and training. The Ethiopian 10-year Development Plan puts that access and equity are critical issues at all levels of education and training and there is a strong desire to change the situation. The 2030 Agenda for Sustainable Development Goals (SDG 4) also states access and equity as the strategic goals in building sustainable, inclusive, and resilient societies.

Ethiopia's Development Plan and the Sustainable Development Goals of agenda 2030 can be attained if, among others, access and equity are realized. Equality, which is one of the main purposes of education and training, can also be achieved when access and equity are ensured. To achieve the Ethiopian national demands and the global target set for access and equity, there should be new knowledge horizons and opportunities for the many barriers to access and equity. These thematic areas help to generate and mobilize evidence on how to adapt and scale approaches that strengthen access and equity at pre-primary, primary, secondary, and tertiary education and training (Universities and TVETs).

The successful completion rate of enrolled students/trainees shall also be improved when efficiency is maintained at all levels of education and training. It is, therefore, important to carry out research and develop strategies that would help improve the existing gaps in the country. The focus areas of the research framework for access and equity will encompass the following sub-thematic areas:

- Access (availing education in different modalities to the public from pre-primary to tertiary)

- Equity (gender, region, disability, urban-rural, central-peripheral, education injustice)
- Inclusiveness (needs and talents)
- Efficiency – internal and external

2.4. Quality and Relevancy

This is the largest thematic area of the education and training system of the country. The success of education and training heavily depends on the quality, relevance, and efficiency of the education and training components. The Higher Education Policy and Strategy expects that Ethiopian education must enable to produce resilient, creative, communicative, thoughtful, all-rounded, socially responsible, responsive, critical thinkers, and visionary individuals with well-developed social values, intellectual curiosity, scientific temper, vocational and professional competence, the spirit of service, and capabilities across a range of disciplines.

One of the quality and relevance in education is the alignment of the programs with industries, relevant stakeholders, and other development sectors in line with indigenous knowledge, and taking an adaptive approach that is responsive to the local context. The educational institution's linkage with relevant industry encourages companies and business enterprises to work with education institutions thereby enabling them to contribute more effectively in training, student placement for apprenticeship and internship as well as the establishment of joint centers of excellence in technical fields. Such a framework helps to ensure academia-industry linkages by creating a tripartite relationship (triple helix) in the real context. To this effect, the following sub-thematic areas are identified.

- Relevance (demand-driven programs, curriculum for local and global market for tertiary education)
- Academia-industry linkage and community engagement
- Accreditation system
- Occupational Competency assessment

2.5. Governance, Leadership and Management

There has been a clear link between the pivotal role that education plays in the prosperity of a nation and the consequent action by the public to ensure the quality of the education system. By the same token, the education system's success or failure is highly determined by the availability and effective

and efficient utilization of resources, such as human, material, financial, and information. To ensure this, successful governance, leadership and management are paramount. These allow ensuring overall allocation, fair distribution, accountability, autonomy, fairness, justice, and regulatory aspects of the resources including infrastructure. Because of the dynamics of the institutional environment of the education system, the focus on governance, leadership, and management has intensified from an interest to a need.

Assessing institutional capacities, qualities, and functions required for implementing different policy options is needed to determine the extent of the capacity gaps. Hence, thematic-based research is imperative to improve the level of understanding of the system of governance, leadership, and management and then improving the performance of the institutions. In this regard, the following are priority sub-thematic research areas in governance, leadership, and management.

- Regulatory framework and issues
- Effectiveness & efficient use of resources (Human, material, infrastructure, finance, etc)
- Crisis and risk management
- Monitoring and evaluation in education

2.6. Technology: Innovation, Adaptation and Transfer

Technology is a key to achieve economic, social, political, and cultural advancement. Technology has the power to improve efficiency and quality of life. This necessitates using technology in education and training. Cognizant of these important roles of technology, Ethiopia's National Science Policy, and Strategy aspires to build a knowledge-based, technology-driven economy and society through the creation of infrastructural and technological capability, science education, basic and applied research. Ethiopia's 10-year plan, too, states that Ethiopia should consider developing and expanding technology, using the digital economy as a source of growth, implementing technology for productivity and competitiveness, and supplying need-based technology. These aspirations can be realized through education which promotes technology adaptation and innovation. This requires rigorous research and strategic move to use technology for making the education system proactive and responsive to the national, regional, and global dynamism. In this regard, the following research priorities become relevant.

- ICT and its roles
- Digitalization, E-learning
- Incubation, Innovation

- Technology adaptation, integration, and transfer

2.7. Education for Unity in Diversity

Among the objectives of Ethiopian education and training are appreciating diversity (which includes race, ethnicity, social class, gender, age, political and religious beliefs, cultural heritage, national value, and sovereignty, etc) and strengthening unity. Given addressing this challenge, the document recommends including activities that promote national identity and unity within diversity with a special focus on ethics, mutual respect, cooperation, inclusiveness, values of patriotism and ensure the creation of secure, safe, accessible, and equitable academic, social and physical inclusive education environment. The education system from pre-primary through tertiary education should enable students/trainees, teachers/trainees, support staff, and the community at large to work toward addressing issues of diversity and living in harmony.

Being a multi-cultural country, Ethiopia should ensure the development and transfer of knowledge, skills, and attitude which foster strong and positive intercultural and interracial relations, national values, tolerance and accommodation, volunteerism, cultural and linguistic pluralism, etc. It is, therefore, essential that studies are carried out in the aforementioned areas to enable the education system relevant and responsive to Ethiopia's socio-economic, political, and cultural needs and demands. Accordingly, the following sub-thematic research priorities are suggested:

- Tolerance National values and integrity
- and accommodation
- Voluntarism
- Cultural and linguistic Pluralism

2.8. Employability and Entrepreneurship

The very essence of education is preparing citizens a minimum of having self-sufficient jobs either as an employee or entrepreneur. Otherwise, the ultimate goal of education becomes sick. Though this is the reality, unemployment and underemployment seem the two most serious development problems that are observed in many countries including Ethiopia. Graduates should also be encouraged to practice entrepreneurial life by unleashing opportunities in the country's current situation. Therefore, researching about the labor market and its data on employability and entrepreneurship will be useful since the labor market information system (LMIS) provides an

opportunity to local and regional planners of education, training, and industries. This will help not only to target locations, seek ways of attracting and retaining skilled workers or assess the scope and size of potential markets but it will also inform the curriculum, teaching, learning, and assessment. . This thematic area contains the following five sub-thematic areas. This thematic area contains the following sub-thematic areas.

- Skill development
- Labor market
- Certification and qualification
- Graduates' outcome
- Work culture

In general, eight thematic areas with key priority sub-components are identified to improve the landscape of educational research and development in the Ethiopian education system. The summary of the thematic areas and their components is illustrated in the thematic area matrix below.

3. Thematic Area Matrix

s/n	Major Thematic Areas	Sub -Thematic Area	Focus by level of education	Thematic Targets
1	Curriculum	Philosophical, sociological, and assumptions	pre-primary and primary education	<ul style="list-style-type: none"> Aligning the curriculum framework with local, contexts Desing innovative curriculum for the system for pre-primary school teachers qualifications
		Medium of instruction / Language of instruction	Pre-primary, primary, secondary and TVET	<ul style="list-style-type: none"> Mapping compatibility of intended and taught curriculum including subjects and learning areas, and textbooks in Ethiopian languages at primary education and English as a medium of instruction for secondary and tertiary education
		Indigenous knowledge	Pre-primary, primary and tertiary	<ul style="list-style-type: none"> Aligning relevant indigenous knowledge within the existing curriculum
		Flexible curriculum	Pre-primary, Primary, secondary	<ul style="list-style-type: none"> Mapping and developing flexible curricula for adults and pastoral areas and lifelong learning
		Theory-practice nexus	Secondary and TVET, Universities	<ul style="list-style-type: none"> Designing the balanced (theoretical and practical) testing systems for admission decisions to secondary and tertiary education Mapping market-driven curricula for TVETs and Universities
2	Teaching, learning, and assessment	Learning outcome /competency	Primary-secondary, TVETs Universities	<ul style="list-style-type: none"> System-level approaches to aligning teaching, curriculum, and learning outcomes Mapping the diverse factors related to student learning and experiences, and forms of summative and formative assessment at the classroom, school, national and international level Designing an adequate qualifications system for teachers at all levels
		Teacher/trainer preparation and professional development ,		
3	Access, equity, and efficiency	Access	Pre-primary - secondary	<ul style="list-style-type: none"> Mapping an innovative approach to ensure quality and equitable education to early childhood care education, students from low-income households, students living with disabilities students from minority groups
		Equity / inclusivess	Pre-primary - tertiary	<ul style="list-style-type: none"> Adoption of a multi-sectoral approach to ensure gender equality in education and generating evidence-informed, decision and policy improvement
		Efficiency	Primary - secondary ¹¹	<ul style="list-style-type: none"> Mapping completion rates for students enrolled especially at primary and secondary education

4	Quality and Relevancy	Relevance	Universities, TVETs	<ul style="list-style-type: none"> ▪ Designing innovative learning outcome measurement system for secondary level education
		Academia-industry linkage and community engagement	Universities, TVETs	<ul style="list-style-type: none"> ▪ Mapping innovative and responsive curricula of tertiary education programs (TVET, University) for local and global market demand
		Occupational competency assessment	Universities, TVETs	<ul style="list-style-type: none"> ▪ Designing model for an apprenticeship, internship, externship, and science culture and enhancement ▪ Developing system level accreditation policy for tertiary education
5	Governance, leadership, and management	Regulatory frameworks	Pre-primary - tertiary	<ul style="list-style-type: none"> ▪ System-level governance alignment with contextual factors at the national level that affects planning and implementation: general aspects of the national policy context ▪ Specific issues of policy concern (e.g. school fees, student financial support, public-private partnerships)
		Effectiveness & efficient use of resources	Pre-primary - tertiary	
		Crisis and risk management	Pre-primary - tertiary	
6	Technology, innovation, adaptation and transfer	ICT and its roles	Universities and TVETs	<ul style="list-style-type: none"> ▪ Mapping and developing a strong ICT infrastructure for accessing tertiary education via digitalization and E-learning
		Incubation, Innovation	Universities, TVETs	<ul style="list-style-type: none"> ▪ Mapping tertiary education for Technology adaptation, integration and transfer, and knowledge commercialization
7	Education for unity in diversity	National values and integrity , Cultural and linguistic Pluralism	primary - tertiary	<ul style="list-style-type: none"> ▪ Mapping and implementing education for peace, universality, integrity, and transformative for sustainable development in practice
8	Employability and entrepreneurship	Labor market , Graduates' outcome,	TVETs, Universities	<ul style="list-style-type: none"> ▪ Mapping the graduate employment and industry partnerships, internships, and apprenticeship for students' skill development and their transition to work