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Integrated approach for sustainable urban early childhood education and development: The case of urban planning and preschool infrastructure in rapid urbanization context

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This study explores an integrated approach for sustainable urban early childhood education and development within the context of urban planning and preschool infrastructure in rapidly urbanizing areas. It focuses on a case study conducted in both private and public preschools in Addis Ababa. The study adopts a qualitative case study design, utilizing data from secondary sources such as documents related to urban planning and design policies, preschool education policies, standards for early childhood care and education, policy implementation reports, academic literature, and theories on child education. The primary objective is to identify policy, institutional, and practice gaps in the assessment of urban design, planning, preschool education infrastructure, and early childhood care and education policies. The data collection instrument employed is document review, and the data analysis technique is a discourse thematic data analysis approach.

Key words: Early childhood care and education, urban planning and design, preschool infrastructure, rapid urbanization, preschool education.

INTRODUCTION

The urban planning and design of a city play a crucial role in creating favorable environments for citizens to thrive and harness the benefits of urban development (Erdiaw-Kwasie and Basson, 2017). Developed countries showcase how planned and supported urban development can lead to economic, social, and human development (Erdiaw-Kwasie and Basson, 2017). This kind of urbanization occurs when informed policies and approaches guide both planning and design.

However, urbanization in developing countries faces various challenges, including economic, social, environmental, and a lack of basic services (Quigley, 2008). The current trend of rapid urbanization in these countries poses an additional challenge to urban planning, design, and overall problem resolution Capacity (Safier, 1992).

These challenges put extra pressure on existing urban infrastructural policies and service provision (Dociu and Dunarintu, 2012).

Among the residents of present urban areas in developing countries, children are particularly vulnerable to and affected by the cumulative problems of rapid urbanization (Shackel, 2011). Formulating urban policies, planning urban spaces, and designing infrastructure to address problems arising from rapid urbanization, especially in protecting children's rights and providing a safe and conducive environment for their development, has become problematic in developing countries.

Preschool education and childhood development environments, are crucial for child development (MoE, 2010, 2021, 2022, 2023), and significantly impacted by the problems induced by current rapid urbanization in developing countries (Derr et al., 2016). In terms of child schooling and development, education facilities face challenges such as low institutional capacity, lack of synchronized policy (school space and infrastructure), and infrastructural plan and design issues.

Urbanization is a global phenomenon associated with urban land area expansion, population increase, and intense economic activities (Kuddus et al., 2019). According to a World Bank study (2020), the global urban population is estimated to reach 4.9 billion by 2030, with the total urban area expected to triple. This growth will have inevitable local and global social, economic, environmental, political, cultural, and ecological consequences (Derr et al., 2016). The study also predicts that more than 60% of the population in 2030 will reside in urban areas yet to be built, with significant growth expected in sub-Saharan Africa, China, and India. Africa's urban population is anticipated to more than double, from 300 million in 2000 to 750 million in 2030 (World Bank, 2020). Consequently, scholars predict concerns related to environmental, space, and infrastructural capacity that need to be addressed (World Bank, 2020; Seto et al., 2012, Derr et al., 2016).

Children in urban areas are vulnerable to changes induced by urbanization and are primarily affected by resulting crises, impacting their holistic development and learning (Awgichew, 2019; Shackel, 2011). These effects include poor social interaction, inadequate educational facilities, poor schooling environments quality, and cumulative impacts on cognitive, behavioral, and socio-emotional development (Catron and Allen, 2007; Campbell and Fainstein, 1996). Such challenges limit the creation of an enabling learning environment, directly affecting the overall social, cognitive, and behavioral development and well-being of children in cities (Smilansky and Shefatya, 1990). The Ethiopia Urban Review (2015) report highlights the challenges faced by rapidly growing cities like Addis Ababa in meeting the needs of citizens, particularly preschool children.

The learning environment is a crucial part of the support system for the learning and development of infants, toddlers, and preschoolers (Vickerius and Sandberg, 2006; Davis, 1998). A safe, nurturing, and stimulating learning environment helps prevent dysfunctional behaviors in infant development and plays a vital role in interventions for children with identified psychological, social, medical, and physical needs (Pellegrini and Smith, 1998; Pratt, 2014). The early years of children, from birth to eight years old, are critical for their holistic growth and development (MoE, 2010).

A learning environment is defined as the physical surroundings of the learner, including spaces, materials, activities, and routines that schools, families, and living spaces purposefully alter to facilitate the learning process (Pratt, 2014; Zewdie et al., 2016). Specifically, the preschool learning environment contributes to positive childhood development, making these formative years either productive or counterproductive (dysfunctional) (Kib, et al., 2020; Davis, 1998; Pratt, 2014).

In the Ethiopian education curriculum package, child education promotes direct involvement through interaction, observation, and practical engagement in the learning process (MoE, 1994, 2009, 2010, 2015, 2021, 2022, 2023). However, according to a study report by Van Vliet and Karsten (2015), implementing a child-friendly education approach and learning environment requires decent, healthy, functional social and physical infrastructure, as well as a preschooling educational curriculum. These factors ensure that the approaches, processes, and applications are sensitive to child early learning and development (Admasu, 2016; Vargas-Barón, 2015; Awgichew, 2019; Zewdie et al., 2016; John, 2014; Johnson et al., 1999).

Infant education necessitates the promotion of five senses-oriented teaching curriculums, encouraging children to be more interactive with their external environment and engage in outdoor activities (Parten, 1932; Smilansky and Shefatya, 1990; Vickerius and Sandberg, 2006, 2012; MoE, 2010). Preschool education curriculum, based on the five senses, serves as principles and guidelines for every educational methodology, including observation, touching, tasting, smelling, and hearing (Parten, 1933; Vickerius and Sandberg, 2006, 2012; MoE, 2010).

Gaps related to preschool environments (facilities and learning spaces) include whether preschools in Addis Ababa meet the quality and standard learning and teaching physical environment, and if the infrastructure, learning facilities, and educational spaces align with the Early Childhood Care and Education (ECCE) policy for healthy early child learning and childhood development. Additionally, how preschool learning facilities, spaces, and open environments contribute to the infant learning system and determine basic methodologies for infants' learning and teaching is not yet studied, with scarce policy information in this respect for teaching, training, preschool management, and preschool childcare.

The gaps related to preschool environment in terms of

urban design and planning are also worth studying. The existing urban planning and design directly influence the physical setting of preschool facilities and contribute to hindering factors in facilitating preschool learning in terms of space, infrastructure and facilities (Shipley, 2007; Chaille and Silvern, 2012). The gap in this respect is, first, it is not clear how the physical environment to enable or affect children education effectiveness and childhood development in the context of rapid urbanization. Second, in addressing the aforementioned gap, how urban planning and design and pre-school education sectors have the integrated policies and institutional coordination in place is not known. Studies show that the effort of creating an enabling child learning environment and facilities for infants placed on both urban planning and pre-school education system (Tafu, 2008; Woldeamanuel, 2020; Awgichew, 2019). That requires adopting measures, conditions and integrated approaches to provide a short-term and long- term practical directions, taking into consideration of sustainable development principles (human and material) and future generation (Moore, 2015; Derr, 2017). Moreover, as the third gap, the impact of urban built environmental conditions on the quality of children' life and education are becoming critical in Addis Ababa (Tassew, 2011; Zewdie et al., 2016) and whether the systems outside the educational facilities and teaching-learning process affect the dysfunction and redress of childhood development and learning is not scientifically studied and documented. Thus, the study will be guided by these research questions: How urban planning and design, pre-schooling infrastructure and childhood development are linked? What are the socio-spatial values of urban planning and design attributed for urban pre-schooling education infrastructure and facilities? What is the role of urban preschool infrastructure and facilities on childhood development and learning?

In the context of Addis Ababa, children under seven years spend their preschool years in stagnant and fixed classrooms. Where teacher-based education style, with less playground facilities, less conducive open space to run, play and explore natural setting. Child education facilities and space are often surrounded by noisy and suffocated with urban economic and construction activities and urban crowds. These are specific features of preschools in Addis Ababa. Children education and development rights are one of the international and national commitments and are highly linked with the sustainable development goal 4 (Quality Education). Despite the available international and national level policy and institutional best practice-driven integrated policy frameworks for the design and implementation of pre-schooling curriculum and infrastructural facilities; Ethiopian pre-schooling system is weak in the context of rapid urbanization. The knowledge and information on pre-schooling education systems, childhood learning and development in the context of rapid urbanization in Ethiopia is lacking. Coordinated institutional framework, application and result-tracking guidelines are lacking in Ethiopia.

The continuous change in urbanization is also shaping social services and families living condition in urban areas. These are infant education services, families' lifestyle and housing conditions that determine childhood development besides schools (Moore et al., 2015; Loughlin and Suina, 1982; Mohamed et al., 2020). Hence, the current research aims at explaining the link between urban planning and design, pre-schooling systems, pre-schooling infrastructural, childhood development and urban built space design. In doing so, the study will fill the knowledge, practice and policy gaps in pre-schooling in rapidly growing Addis Ababa. It also informs such policy in emerging and rapidly growing urban centers in Addis Ababa. In addition, the following section presents the conceptual framework that indicates interlinks of the gaps identified in the study.

CONCEPTUAL FRAMEWORK OF THE STUDY

This conceptual framework provides the conceptual interlinks to indicate the gaps identified for the study (Creswell, 2013). Urban planning in the context of rapid urbanization can lead urban infrastructure to be either responsive or dysfunctional. The urban infrastructure capacity can determine how enabling or ineffective social services can be. Particularly, in addressing the problems and pressures that unassisted urban development practice and rapid urbanization bring on children education infrastructure. This figure shows hierarchical policy structural and administrative influence of urban planning on children education infrastructure. This brings both opportunities and challenges. As opportunity, interlinks help to improve preschools infrastructure and education system to be resilient and conducive. However, as a result of dysfunctional as well as irresponsive policies and institutional capacities, the interconnection is not functional. Thus, preschool infrastructure sustains interlinked challenges that come from negative impacts from urban planning, in the context of urbanization. This also directly affects early childhood care, education and development in urban areas (Figure 1) (Creswell, 2013).

MATERIALS AND METHODS

Approach and design

The study will use a qualitative overall research methodology approach in order to do an in-depth study on the challenges pre-schools infrastructure facilities are facing in the current context of rapid urbanization, in Addis Ababa. This allows studying the response of urban planning policies, ECCE and preschool curriculum policy and children rights contribute in addressing the current problems in urban preschool infrastructure. The theoretical insights and literatures can provide a holistic principles and institutional values. This can enable to see the policy gaps in detail and redress
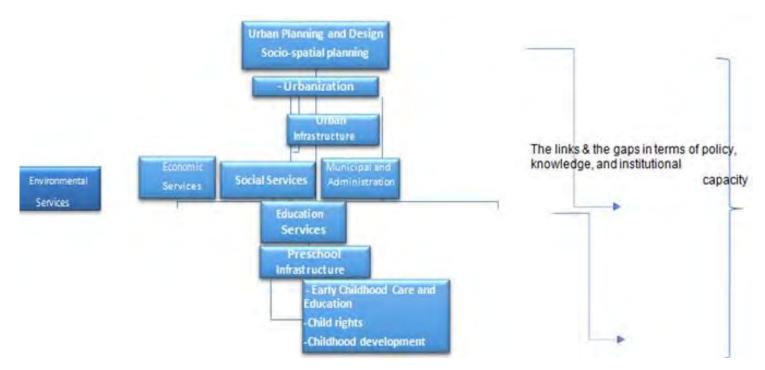
Figure 1. Conceptual framework.
Source: Author's sketch from literature (2023).

the dysfunctional gaps among urban planning and preschool education sectors.

The study is non-experimental and it uses case study design. The rationale is that case study research design best fits to do a thick description taking the case of private and public kindergartens and their schooling practice in Addis Ababa. Based on Creswell (2007) assertion, that qualitative case study helps in selecting a specific population groups and locations; it can include an inquiry of issues studied through one or more cases bounded within specific context or settings (Creswell, 2007). The cases are selected purposively using maximum variation sampling method in order to obtain heterogeneous data. Accordingly, factors like urban planning difficulty and potential contributions on preschools, on child education system and services, as well as on child education and development are the selected concerns that can be illustrated on private and public pre-schools context. This is one of qualitative case study type that Creswell (2007) ascribes on selecting issues, or concerns. This makes it possible to select multiple cases to illustrate the issues; this approach is called collective case study (Creswell, 2007).

Data sources and types

This study obtains data from secondary sources. Secondary data sources are from document review such as children education policies (ECCE), child right policies, urban planning and design policy and pre-schooling curriculum strategies and guideline documents. The secondary data sources provide the policy details that are guiding preschool education practices, reveal the ECCE policy standards on preschool education, childcare, growth and development and to identify the policy, institutional and practice gaps in assessing the urban design, planning, preschool education and ECCE policies. This data source allows inquiring the best practices, curriculums and policies for local context in shaping the preschool

education. The documents for review were selected based on the study objectives and the research questions. The study focuses on urban planning and design, urban preschool infrastructure and childhood development. It aims to analyze the policy documents of these factors specifically in the context of Addis Ababa. The analysis is based on ECCE policy criteria. These policy documents were determined based on the specific themes and policy contents that the research questions aim to address in the study. Table 1 presents the selected policy documents including the specific policy contents and themes that were used as secondary data sources.

RESULTS AND DISCUSSION

The first part here presents urban planning policies. Within this topic Addis Ababa City planning policies, proclamations, legal obligations and the gaps of urban planning are discussed; in terms of addressing infrastructural problems of preschool education system. The second part presents, Early Childhood Care and Education (ECCE) policy and criteria. Under this topic, the ECCE standard policies for urban planning and preschool infrastructure are discussed. The third part presents preschool and ECCE. The topic discusses the role of ECCE on preschool curriculum, children rights and institutional cooperation on facilitating healthy environment for children. At the final part, theoretical perspectives are discussed. In line with the identified policy gaps the theoretical perspectives explain and forward institutional values and policy transformation that are required by the aforementioned policies.

Table 1. Policy documents, contents/ /themes.

Roll No.	Policy documents	Policy contents/themes
1	Addis Ababa City Structural Plan (2017-2027). Social Services, Education services, pp. 99-100. Legal Framework, pp. 14-16.	It is the current legal urban structural plan, design and strategic development framework that provided an overall framework for the spatial development of the city including urban infrastructural development.
2	FDRE Constitution Articles 89-92.	It commands structural plan to encompass the city needs to attain economic, social, cultural and environmental purposes.
3	FDRE Constitution Art 43(1) and (4)	It instructs the structural plan to address the right of citizens in urban places to basic needs, improved lifestyle and standard of life.
4	Article. 7 of the Urban Planning Proclamation no.574/2008)	It established the basic requirements regarding physical development and the fulfilment of which could that produce a coherent urban development in social, economic and spatial spheres.
5	Article 2(6) of the FDRE Constitution	It provides a legal definition and description of the Federal Proclamation for the preparation, issuing and implementation of the Addis Ababa City Master Plan of the Proclamation No. 17/2004 and issues the operational meaning and general goal of a structural plan.
6	Article. 9(2) of the Federal Proclamation No. 574/2008.	It provides mandatory and optional regulations for permitted and prohibited land uses in the urban areas. These include the magnitude and direction of growth of the urban area, the principal land use classes, housing development, the layout and organization of major physical and social infrastructure, urban redevelopment intervention areas, environmental aspects and industry zone.
7	National Policy Framework for Early Childhood Care and Development (ECCE), 2010.	ECCE is an international standard policy has been bestowed by Ministry of Education and addresses the provision of healthy environment, physical space and healthy, safe, decent and enabling environment for children growth, education and development.
8	Declaration of Human Right adopted by the United Nations on the Rights of the Child, the 1999 Convention on the Rights of the Child (CRC), Article 31, p. 9.	It instructs Children' right to play, right to basic needs and to be recognized as an active member of the families, communities and societies. It commands children' needs for physical nurturance, emotional care and right to have space for social play, exploration and learning. It acknowledges the role the ECCE as criteria for children rights.
9	African Child Right Convention (AFCR), Article 12, p.13.	It declares agreements to protect human rights of children, right to clean and nurturing environments, basic needs, right to play.
10	The World Conference on Education for All (EFA), 1990	Articulated the importance of the early years of childhood development as foundation for the life of an individual.
11	Sustainable Development Goal #4 and # 11 (Quality Education)	Sustainable development goal # 4 aims to ensure quality and inclusive education for all boys. Sustainable development goal # 11 aims to ensure cities to be inclusive, safe, resilient and sustainable.
12	Ministry of Education, 2010	This national education policy bestowed Early Childhood Care and Education (ECCE) as a crucial role in preparing children for holistic healthy childhood care and development, stage of preparing children for primary education. The policy also recognized it as indication to achieve Sustainable Development Goal 4 of quality education. Provides national curriculum Framework for KG and ECCE Implementation.
13	Education and Training Policy, 1994: p. 4.	It provides the national KG Education Structure and Implementation Policy.

Table 1. Cont'd.

14	Ethiopian Education Development Roadmap (2018-30): pp. 7-14.	Identifies pre-primary achievements, ECCE policy Implementation gaps and challenges.
15	Education Sector Development Plan IV (ESDP IV) 2010/2011 – 2014/2015/ 2003 EC -2007 EC: pp.14-16.	Provides situation analysis on Improving quality of Early Childhood Education (ECCE).
16	Education Sector Development Plan V (ESDP V) 2015/2016 – 2019/2020 / 2008 EC -20012 EC: p.12	It presents the issues of access and equity in Early Childhood Care and Education (ECCE).
17	Education Sector Development Plan VI (ESDP VI) 2020/2021 – 2024/2025/ 2013 EC -2017 EC: p. 11.	It presents issues of access, equity and internal efficiency in general education – Pre- primary education challenges.
18	Curriculum Framework from KG- Grade 12, 2009: pp. 10-12.	It provides kindergarten education curriculum approaches.
19	National Early Childhood Development and Education Policy Framework, 2022/23: pp 6-19.	It presents the national framework for ECCE implementation and modalities.

Urban planning policies

The Addis Ababa City Development Plan (2017-2027) had encompassed a legal structural plan, an action oriented strategic development framework and a management reform component. The statutory structure plan had provided an overall framework for the spatial development of the city. It prioritized six key urban issues to be implemented such as housing, urban road network and transport, manufacturing, industries and large storage facilities, environment and inner-city renewal and upgrading (Addis Ababa City Structural Plan, 2017-2027). Following changes in government priorities, strategies and commitments during the past decade, the level of implementation of some aspects of the Plan had been low. Despite the fact that, the Addis Ababa Structure Plan is prepared to guide the development of the city (2017-2027); it encompasses the city needs to attain economic, social, cultural and environmental purposes required by Articles 89-92 of the FDRE Constitution and the right of the residents to "improved living standards and to sustainable development" by indicating major "development activities to improve the capacity of citizens for development and to meet their basic needs" (FDRE constitution Art 43(1) and (4)).

These policy directions aspire to address citizens' standard of living that directly speaks to the availability of appropriate infrastructures, services and amenities. It is ambitious to the sustainable development that gives social development as one of the pillars of sustainable development. Sustainable development gives children right to healthy childhood growth, development and quality education (Sustainable Development Goals 4 and 11). Since urban structural plan deals with the spatial nature of cities development, it also carries along residences equal right to benefit and promotes citizens participation in the issues that address their life during planning, designing and implementing (Konuk et al., 2016). However, these policies remain idol in comparison with what is on the reality of Addis Ababa social infrastructure. Particularly, in children education sector and its facilities, the reality seems to witness the structural plan works against children education facilities. When plans are planned, designed and implemented the safety, special consideration for children and family, the decency of infrastructural alignment of sectors are completely ignorant of the existence of children and infant schools in urban social environment. These urban policies do not have specific preventions, precautions and priorities for children in the structural plans apart from giving a general sound to give due attention for citizens social, economic and environmental safety.

The other limitation of structural plan is that, its general approach in addressing the social services. It merely gives attention for education, health and sport facilities in the city. It sets general goals of expanding the coverage of government schools, health services and sport facilities. From proposed plots for education facilities; preschool is missing from structural plan. However, the manual acknowledges the situation of preschools in urban setting that, the sector is dominated by private schools due to the major challenge of education access and affordability (UNICEF, 1919, 2020). Yet, there is no proposed plan for preschool infrastructure to address preschool facility

problems in the city. The point here is that, there is planning issues at the structural level as well as local plan level. Thus, urban planning lacks to address the needs of urban preschools education infrastructure and services (Addis Ababa City Structural Plan, 2017-2027).

The structural plan for social service of education facilities must provide local or specific policy enforcement for preschool environment plans. It needs to give proper consideration to the sensitivity of infants and toddlers age requirements. Children education facilities need suitable environment that capacitate preschools to provide quality child education services. This can facilitate healthy childhood growth and development of children in urban areas (Addis Ababa City Structural Plan, 2017-2027). Nowadays, preschools suffer lack of healthy, decent and efficient space for education facility. The schooling environments are often featured by various commercial centers, construction activities, traffic noises and environmental sanitation problems. The distant locational distribution of preschools around urban areas sustained transportation challenges for families.

Article 2 (6) and Article 7 of the Urban Planning Proclamation No. 574/2008 stipulate coherence of urban plan with social, economic and other special spheres. However, in the current situation Addis Ababa economic movement seems to overwhelm the city harmony compared to the social dimension of urban structural plan. The concept of coherence of these factors in the proclamation also is too general and requires integrated approach to address every piece of urban social infrastructure needs. Giving priority to children right has been the international and national commitment of Ethiopia including sustainable development goals and ECCE standard policy.

The Addis Ababa City Government Plan Revision Project Office that was founded in accordance with regulation No. 43/2011 also places active role on the Project Office to prepare and submit for adoption of an urban plan that guides and set up the overall development of the city and ensures the participation and the common benefit of all citizens. The Project Office is mandated to revise the existing plans of the city with a view of contextualizing and making the plans responsive to the current international, national and city level social, political and economic changes by applying the best methods, guidelines and principles of modern urban planning within the framework of the provisions of the Federal Urban Planning Proclamation No. 574/2008 (Addis Ababa City Structural Plan, 2017-2027).

The reason for structural plan involvement in this matter is because, structural plan prescribes the land uses for major economic, social, cultural and environmental activities and services in its entire operational span of life. This plan predicts mandatory and optional regulations for permitted and prohibited land uses in the urban areas (Art. 9(2) of the Federal Proclamation No. 574/2008). These include the layout and organization of major physical and social infrastructure. Thus, when urban planning fails to give necessary attention to children education facility from structural level coherently down to local level, it directly induces spatial problems that preschools facilities are facing in Addis Ababa (Addis Ababa City Structural Plan, 2017-2027). Hence, the intervention of urban planning policy is significant to address preschool infrastructural challenges.

Early childhood care and education (ECCE) policies

ECCE was introduced for the first time in Ethiopia by Emperor Menelik with the European standard (Zewdie, et al.,2016; Parten, 1933). The benefit of ECCE is highly emphasized by the current National Education Framework, particularly for early years of children education and as a criterion for child education approach in kindergartens (MoE, 2009,2010;). The framework has a holistic dimension for children development and wellbeing in terms of social, cognitive and behavioral development for children (Smilansky and Shefatya, 1990; Carol and Allen, 2008).

ECCE has been bestowed by Ministry of Education, Ministry of Health, Ministry of Women Affairs and other sectors to promote healthy childhood care, growth and development including preschool education system (MoE, 2022, 2023). The crucial part of ECCE policy standard requires urban sector policy, particularly the provision of healthy environment, physical space and enabling environment for children growth, education and development (MoE, 2010; Tefera and Hagos, 2016). Urban sectors deal with urban land, housing and infrastructural facilities. These sectors' integration brings working policies and effective strategy in addressing children education facilities problem in Addis Ababa (Addis Ababa City Structural Plan, 2017-2027). This approach adds up with the core value, principles and guidelines of kindergarten education system to provide conducive environment for infants. The major reason is because the first six years of children are crucial years of child growth and development. Children experience fastest growth and show rapid change in their development stages: physically, mentally, emotionally and socially. This provides a positive contribution for children short- and long-term learning and development process through facilitating enabling and stimulating environment (MoE, 2010).

Along with ECCE, Ethiopia is part of the agreement of the Declaration of Human Right adopted by the United Nations on the Rights of the Child, the 1999 Convention on the Rights of the Child (CRC) including African Child Right Convention (AFCR) to insure the healthy development, education and wellbeing of every child. This includes children rights to have decent and healthy development environment. Preschool is one of children care and development setting. Thus, ECCE serve as criteria for preschool facility, service and education

approach. Urban children education infrastructure plan and design need to be guided by ECCE standards (Zewdie et al., 2016; Nabavi, 2012; Vargas-Barón, 2015; Teferra et al., 2018).

Pre-school and ECCE

Pre-school is an education and garden place for children from 4-6 years. In early days it was considered as a gardening place for children. Preschool childcare and education have established setting for high quality childcare that is an important aspect in achieving the national goal to make all children ready for school. Children who attended higher quality preschools can perform both cognitive and social skills throughout the transition into different stages of school (Prabowo, 2007). In preschool process quality refers to the child's daily experiences in the ECCE setting. That includes social emotional and physical activities with teachers, peers and materials. Such activity conditions promote children's healthy development in physical, emotional, social and cognitive aspects. The preschool structural quality provides a setting for process quality and indirectly impact the quality of care and education that children receive, because the quality of early childhood education has a significant long-term effect upon children's later development. The quality standards are provided both as a strategic operational guideline and as a specification for issuance of license for the preschools (Orkin et al., 2012; Frost et al., 2005; Van Vliet and Karsten, 2015; Belay and Hagos, 2015).

In the current condition of preschool services, the mandate to provide quality school environment is bestowed on the service providers to fulfill the criteria. The criteria is also used actively only for licensing procedure rather than a continuous regulation. As a result, the practical implementation of ECCE for kindergarten education in Addis Ababa is almost practiced in the contrary to ECCE (Mulugeta, 2015; Zewdie et al., 2016; UNICEF, 2020). For instances, private preschools are concentrated in certain parts of urban areas looking for wide and cheaper compounds to rent looking for higher concertation of infant kids and young families locations. These schools also prefer to rent facilities nearby the main roads for transportation needs. So, creating enabling, decent, safe, clean and nurturing environment cannot be the main focus of preschool service providers. On the other hand, the regulation criteria have been pushed towards preschools to deal by themselves (Kumsa and Wudu, 2019; Chawla, 2020; Kassahun and Tiwari, 2012; Loughlin and Suina, 1982).

Thus, ECCE is the right policy for preschool facilities and services guide. It recognizes the collaboration and partnership of institutions under their key roles to provide child-based services and provide physical setting. This requires institutional and policy integration among urban design and planning and urban child education ministries. Thus, preschool facilities alone cannot answer or fulfil the quality of education and childhood development policy placed by ECCE. The major reason is that, preschool might not have the policy power or institutional autonomy to command the right physical settings and environment to be placed in urban design and planning programs (Tafere, 2012; Mulugeta, 2015; MoE, 2010).

The United Nations Convention of the Rights of the Child (UNCRC) adopted by Ethiopian government in December 1999 and African Child Right Convention (AFCR) instruct the child right into education in order to give emphasis for healthy childhood development. These policies also acknowledge ECCE standards for children rights as achievement of children rights (UNICEF, 2019; Kermman and Gatenio-Gabel, 2007). The World Conference on Education for All (EFA) movement of 1990 also articulated the importance of the early years of childhood as foundation for the life of an individual. It is also a universal commitment and obligation of the member states, who signed for the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights and ECCE policies. It is to make education available and accessible to all children and ensuring the quality of ECCE framework implementation (MoE, 2010).

Urban planning, preschool infrastructure and ECCE interlinking policies opportunity and challenges

The nature of infrastructure today in Ethiopia had been and still experiencing a continuous change and inconsistent with its service provision. The regular change and adjustment made in the country's infrastructure make the system to sustain deep rooted planning, designing and management problems (UNICEF, 2019). Following the regime change, institutions are instantly adjusted to serve the ruling power. The international development agenda and frameworks are also other influencing factors on national commitment, detecting priorities and policies of institutions services. Such background of the broader context of the country's infrastructural orientation, make specific infrastructure to find excessive attention and the other to suffer or suppressed by the other. For example, economic growth and investment orientation of the government is one agenda which influenced the national, regional and local institutional cooperation with its specific goals that promoted industrial parks, foreign investment, urban economic development, urban renewal projects and businesses for economic growth as a poverty eradication strategy (Ministry of Finance and Economic Development, 2010).

The emerging smart city is also bringing a new approach for cities to develop smart play for children and family artificial grounds including preschool platform. These approaches promote digital plays, games and toys

including raising kids' awareness, participating children in designing, planning and implementing smart cities digital play culture. However, this raises a whole new issue to the basic concept of play and cultural differences of people; it has impact on child' psychological, behavioral and healthy growth and development. It also detaches children from real world and natural setting. This approach is promoted in order to address merely the urban space issues and accommodate modern way of solving planning problems (Marsh et al., 2016; Weininger and Daniel, 1992). It is narrow and ineffective approach, because childhood play has dimension that needs holistic perspective. Rather ECCE enforces any programs or intervention on children life to take the broad approach; it encompasses a child's holistic surrounding not only addressing the space needs like in smart city approach. It also guides institutions and agencies to be responsible for children services include prenatal, birth, growth and development. It has a comprehensive approach in policies, programs and requires the cooperation of all parties around children: parents, communities, institutions and administrative agencies (MoE, 2010). Implementation of ECCE in preschool education system requires integrated policies that bring cooperation and partnership among stakeholders and institutions, to strengthen and collaborates service giving agencies (Kim et al., 2022; Kermman and Gatenio-Gabel, 2007).

Urban areas basic services are insufficient due to the overcrowding, or inaccessible to all children for a variety of reasons. Children can be unintentionally excluded due to over- pricing of the available services, or their social status including physical constraints such as disabilities (Van Vliet and Karsten, 2015; Derr, 2017, UNICEF, 2019; UNICEF Every Child, 202019, UNICEF, 2020). In rapidly urbanizing context like Addis Ababa, the available schooling conditions and learning environments are becoming less comfortable for children due to constructions, bad infrastructures, increased number of motor vehicles, air pollution and sound pollution, environmental sanitation and safety issues (Tassew, 2011; Zewdie et al., 2016). The transport accessibility is also determined by the development level of their living areas and due to the low level of development of the public transport services and lack of social protection and the pre-schooling systems are weak (UNICEF Every Child, 2019; Woldehanna and Araya, 2017; Tassew, 2011; Zewdie et al., 2016). This indicates, urban education, urban planning and development policy strategies are unsynchronized and unintegrated (Derr et al., 2016; Kassahun and Tiwari, 2012). In this respect, integration, coordination and context-specific policy approach, implementation monitoring and tracking outcomes (positive change) are critical gaps (Sewagegn and Diale, 2021; Admasu, 2016).

Urban planning and design neglected the vulnerability of infants' education and childhood right. Despite the existence of national and international child rights and ECCE policies that enforce children priority in planning

urban built spaces, ignorance of policy-makers on the issue and stubbornness of the system towards fitting to changing demands of rapid urbanization are another policy gaps (Vargas-Barón, 2015). Pre-schools lack space for growing demand of schooling, such as well-designed classrooms and in school play and engaging environments (Brewer, 2004; Davis, 1998). In contradiction of the Early childhood care and development child education policy, pre-schools run only class-based pre-school teaching and learning approach, which is only based on whiteboard and exercise books as well as textbooks-centered education methods (Smilansky and Shefatya, 1990; Davis, 1998; Van Vliet and Karsten, 2015; Tigabu and Semu, 2008).

The National Policy Framework for Early Childhood Care and Education (NPFECCE), also lacks the details on pre-schooling systemic and infrastructural facility challenges and the coordination aspects with urban planning policies. In principle, the policies strongly promote education systems and physical environment that prevents and affects infants' right to have a clean, safe, decent, nurturing and responsive environment for their healthy childhood development (MoE, 2010; Shackel, 2011; Catron and Allen, 2007). For these circumstances, it is crucial to take the Commonwealth Association of Planning (CAP) as a model (CAP, 2017). CAP advocates for mainstreaming children's rights in urban design and development planning policies by promoting the involvement of children's rights advocates and experts in the system to mainstream children's priorities as agenda: in school design and services, in child education policies and curriculum (Un-Habitat, 2007; Malaza et al., 2009; Lian and Anlei, 2014; Hartman, 1998).

Conclusion

In line with the identified policies interlink among urban planning, preschool infrastructure and EEC policies. There are theoretical insights that explain the nature of the aforementioned policies' gaps and challenges. Here indicates the kind of policy transformation and institutional values that the sectors require to have in order to provide an environment for healthy childhood growth, care, and education.

Bronfenbrenner's bioecological system theory is one of the key family theories that this study uses to explain the surrounding systems influence on children and their families. It provides the holistic analytical lens to explain and assess how urban planning and design challenges pre-schooling system and how urbanization induced problems weakness preschool' quality and efficiency in facilitating a healthy infants growth and development. It is a basic principle of this theory that child and youth development are influenced by many different contexts, settings and ecologies, such as family, peers, schools, communities, sociocultural belief systems, policy regimes and the economy (Bronfenbrenner, 1974). The other theory is functionalism, which gives much emphasis on

the role of families in society, that family is an important social institution and plays a key role in child growth and development; and for the stability of the society. Every member of the family has role and status; each member performs certain roles that facilitate the accomplishment and development of society. The family plays a vital role in training children for adult life. As the primary agent of socialization and enculturation, the family teaches children the ways of thinking and behavior according to social and cultural norms, values, beliefs and attitudes. Parents teach their children good manners (Bronfenbrenner, 1974; Lemma, 2019; Erikson, 1993). However, when family' physical environment is disrupted and affected by the system, externally induced instability, it impacts family' proper function and child rearing culture as well as their role in the society (Bronfenbrenner, 1974; Henderson, 1991). Thus, instability of family and child in urban environment disrupts the healthy development of a child.

As a result, the concept of family, social capital, culture and education system have become susceptible to changes in urbanization (Evans, 2021; Ayfer et al., 2013). Such change in the past had and still has a significant impact on the life people are living and the way people raise their kids; especially in poor countries like Ethiopia where facilities that shape these are missing (Tafere, 2012; Boylua et al., 2013). This includes the priorities that are given on how children are raised as well as the measures used to judge and track children's wellbeing to plan interventions. The consistent change of people's urban lifestyle brings shifts on attitude, recreational and everyday activities and the demand for fixing what is relevant in terms of child rearing (Wellhousen, 2002; Dociu and Dunarintu, 2012; Boylua et al., 2013). It is in such circumstances that children' right to play is given less attention and adequate priority by communities, schools, governments and other social institutions (UNICEF, 2020; Erikson, 1963; Simon and Smith, 1985; Vygotsky, 1978). This also underestimate the value of children's play life and their relaxation in urban social and schooling infrastructural facilities; and this gap is evident currently in Addis Ababa. The first indication of the underestimation is lack of urban schools' free space, provision of children recreation services and places for pre-school infants in schools (Piaget, 1952; Catron and Allen, 2007; Kritchevsky and Prescott, 1969; Loughlin and Suina, 1982). Thus, urban planning directly and indirectly affect children' development and education in urban settings.

ABBREVIATIONS

ACCR, African Charter for Children's Rights; **AFCR,** African Child Right Convention; CRC, Convention on the Rights of the Child; **CAP,** Commonwealth Association of Planning; **ECCD,** Early Childhood Care and Development; **ECCE,** Early Childhood Care and Education; **EFA,** Education for All; **MOE,** Ministry of Education; **NPFECCE,** National Policy Framework for Early Childhood Care and Education; **UNCRC,** United Nations Convention of the Rights of the Child.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

Addis Ababa City Structural Plan (2017-2027). Retrieved from https://www.business.gov.et/assets/files/construction-permit/Addis-Ababa-City-Structure-Plan-Summary-Report-(2017-2027).pdf

Admasu F (2016). Early Childhood Education in Ethiopia: Present Practices and Future Directions. The Ethiopian Journal of Education 36(2):43-46.

Ayfer AB, Zeynep Ç, Hülya Ö (2013). Investigation of the Factors Influencing Family Functions Style. International Journal of Research in Business and Social Science 2(3):2147-447.

Awgichew S (2019). The Practices and Challenges of Kindergarten Education in Addis Ababa City Administration: Ethiopia. Multidisciplinary Journal of School Education 1(9):136-138.

Vargas-Barón E (2015). Policies on Early Childhood Care and Education: Their Evolution and Some Impacts. Education for All Global Monitoring Report 2000-2015: Achievements and Challenges 1(31):2-26.

Belay H, Belay T (2015). School readiness Programs in Ethiopia: Practices, Challenges and the Way Forward. The Ethiopian Journal of Education 35(1):99-154.

Boylua AA, Zeynep Ç, Hülya Ö (2013). Investigation of theFactors Influencing Family Functions Style. International Journal of Research in Business and Social Science 2(3):2147-4478.

Brewer JA (2004). Introduction to Early Childhood Education: Preschool through Primary Grades. Boston, MA: Pearson Allyn and Bacon.

Bronfenbrenner U (1974). Developmental Research, Public Policy and the Ecology of Childhood. Child Development 45(1):1-5.

Campbell S, Susan SF (1996). Readings in planning theory. Cambridge, Mass., USA: Blackwell Publishers.

Carol EC, Jan A (2008). Allen Early Childhood Curriculum: A Creative Play Model, 3rd Edition. Columbia University Pearson.

Catron CE, Allen J (2007). Allen Early Childhood Curriculum: A Creative Play Model, 3rd Edition. Columbia University, Pearson.

Chaillé C, Steven BS (2012). Understanding through Play. Childhood Education 2(75):274-277.

Chawla L (2020). Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss. People and Nature. Journal of British Ecological Society 1:619-642.

Creswell JW (2007). Qualitative inquiry and research design: Choosing among five approaches, 2nd edition. Thousand Oaks, CA: Sage.

Creswell JW (2013). Qualitative inquiry and research design: Choosing among five approaches (3rd ed.). Thousand Oaks, CA: Sage.

Davis JM (1998). Young Children, Environmental Education and the Future. Early Childhood Education Journal 26:145-156.

Derr V (2017). Urban green spaces as participatory learning laboratories. Proceedings of the Institution of Civil Engineers - Urban Design and Planning 171(1):1-9.

Derr V, Illène P, Louise C (2016). Early Childhood (in Essays in Urban Environmental Education). Washington DC, Cornell University Press.

Derr V, Louise C, Illène P (2016). Early Childhood Urban Environmental Education. Cornell University Press.

Dociu M, Dunarintu A (2012). The Socio-Economic Impact of Urbanization. International Journal of Academic Research in Accounting, Finance and Management Sciences 2:47-52.

Erdiaw-Kwasie MO, Basson M (2017). Reimaging socio-spatial planning: Towards a synthesis between sense of place and social sustainability approaches. Journal of SAGE Planning Theory pp. 1-19.

Erikson EH (1963). Childhood and society (2nd Ed.). New York: Norton.

Evans GW (2021). The Physical Context of Child Development. Association Psychology Science. Department of Design and

Environmental Analysis. Cornell University and Department of Human Development Cornell University SAGE 30(1):41-48.

Frost J, Wortham S, Reifel S (2005). Play and Child Development (2nd ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Hartman CW (1998). The City Planning Process: A Political Analysis by Alan Altshuler. Published By: The Yale Law Journal Company Inc 76(1):243-248.

Henderson JV (1991). Urban Development: Theory, Fact and Illusion. OUP Catalogue, Oxford University Press.

John AP (2014). Education Psychology. Minnesota State University: Special Education Department.

Johnson JE, James C, Thomas DY (1999). Play and Early Childhood Development, 2nd Edition. Pennsylvania State University Pearson.

Kassahun S, Alok T (2012). Urban Development in Ethiopia: Challenges and Policy Responses. IUP Journal of Governance and Public Policy 7(1):60-75.

Kamerman SB, Gatenio-Gabel S (2007). Early Childhood Education and Care in the United States: An Overview of the Current Policy Picture. International Journal of Child Care and Education Policy, Korea Institute of Child Care and Education 1(1):23-34.

Kib M, Muhamad R, Cipta P, Andino M (2020). Preschool Education: Knowledge or Social Skills, The Mattingley Publishing Co, Inc. 86:5226-5236.

Kim J, Araya M, Ejigu C, Hagos B, Hoddinott J, Rose P, Teferra T, Woldehanna T (2022). Early Learning in Ethiopia: Effects of pre-primary education on school readiness. Early Learning Partnership Ethiopia Phase 2 report. REAL Centre University of Cambridge UK.

Konuk NN, Gamze T, Yuksel A (2016). Importance of Urbanization in Education. The Eurasia Proceedings of Educational and Social Sciences 5:232-236.

Kritchevsky S, Prescott E (1969). Planning Environments for Young Children: Physical Space. Washington DC: NAEYC.

Kuddus MA, Tynan E, McBryde E (2019). Urbanization: a problem for the rich and the poor? Public Health Reviews Australia.

Addisu KM, Wudu MT (2019). Preschool curriculum implementation in Ethiopia: The case of selected woredas preschools. Cypriot Journal of Educational Sciences 14(2):178-189.

Lemma G (2019). Developmental appropriateness and cultural relevance of early childhood care and education program in Ethiopia: Reflection on current practice. Ethiopian Journal of Behavioral Studies 2(1):52-71.

Lian Q, Anlei J (2014). Urban Community Development and Private Education Dilemma: Based on a Field Study of a City in East China. Horizon Research Publishing. Universal Journal of Educational Research 2(6):437-445.

Loughlin CE, Suina JH (1982). The learning environment: An instructional strategy. New York: Teachers College Press Columbia University.

Malaza N, Alison T, Amanda W (2009). Gender in Planning and Urban Development. Commonwealth Secretariat Discussion Paper Number 7. The Commonwealth Secretariat London.

Marsh J, Lydia P, Dylan Y, Julia B, Fiona S (2016). Digital play: a new classification. Routledge, Taylor and Francis Group. Early Years an International Journal 36(3):242-253.

Ministry of Education (MoE) (1994). Education and Training Policy. The Federal Democratic Republic of Ethiopia.

Ministry of Education (MoE) (2010). National Policy Framework for Early Childhood Care and Education (ECCE) in Ethiopia. Government of Ethiopia, Addis Ababa.

Ministry of Finance and Economic Development (2010). Federal Democratic Republic of Ethiopia Growth and Transformation Plan. Addis Ababa, Ethiopia.

Ministry of Education (MoE) (2010). Education Sector Development Program IV (ESDP IV) 2010/2011-2014/2015 2003 EC-2007 EC. The Federal Democratic Republic of Ethiopia.

Ministry of Education (MoE) (2009). Curriculum Framework for Ethiopian Education (KG-Grade 12). The Federal Democratic Republic of Ethiopia.

Ministry of Education (MoE) (2015). Education Sector Development Program V (ESDP V) 2008-2012. E.C. 2015/16 - 2019/20 GC. The Federal Democratic Republic of Ethiopia.

Ministry of Education (MoE) (2021). Education Sector Development Program VI (ESDP VI) 2013-2017. E.C. 2020/21-2024/25 G.C. The Federal Democratic Republic of Ethiopia.

Ministry of Education (MoE) (2022/23). National Early Childhood Development and Education Policy Framework (2022/23). The Federal Democratic Republic of Ethiopia.

Mohamed A, Hailu W, Tebarek L (2020). Urban and regional planning approaches for sustainable governance: The case of Addis Ababa and the surrounding area changing landscape. City and Environmental Interactions (2020), Published by ELSEVIER Ltd pp. 5-8.

Moore TG, McDonald M, Carlon L, O'Rourke K (2015). Early childhood development and the social determinants of health inequities. Health Promotion International (2):102-115.

Mulugeta T (2015). Early child care and education attainment in Ethiopia: Current status and challenges. African Educational Research Journal 3(2):136-142.

Nabavi RT (2012). Bandura's Social Learning Theory and Social Cognitive Learning Theory.

Orkin K, Abebe W, Yadete A, Woodhead M (2012). Delivering quality early learning in low-resource settings: Progress and challenges in Ethiopia Working paper 59:5-81.

Parten MB (1932). Social Participation among Pre-School Children. The Journal of Abnormal and Social Psychology 27:243-269.

Parten MB (1933). Social play among preschool children. The Journal of Abnormal and Social Psychology 28(2):136-147.

Pellegrini AD, Smith PK (1998). Physical Activity Play: The Nature and Function of a Neglected Aspect of Play. Published by Wiley. Child Development 69(3):577-598.

Piaget J (1952). The Origins of Intelligence in Children. New York, NY: WW. Norton and Co.

Prabowo J (2007). Project Approach: A Way How to Trigger Children Expose and Explore Their Skills In Learning A Language. INSANIA Jurnal Pemikiran Alternatif Kependidikan 23(1):66-79.

Pratt M (2014). Environments that Speak to Children. Child Care Exchange 219:25-32.

Quigley JM (2008). Urbanization, Agglomeration and Economic Development. The International Bank for Reconstruction and Development / The World Bank. On behalf of the Commission on Growth and Development, Washington, DC.

Safier M (1992). Urban development: Policy planning and management: Practitioners' perspectives on public learning over three decades. Habitat International 16(2):5-12.

Seto KC, Guneralp B, Hutyra LR (2012). Global Forecasts of Urban Expansion to 2030 and Direct Impacts on Biodiversity and Carbon Pools. Proceedings of the National Academy of Sciences of the United States of America 109:16083-16088.

Sewagegn A, Diale BM (2021). Early childhood care and education in Ethiopia: A quest for quality. Journal of Early Childhood Research 29:1-14.

Shackel R (2011). The Impact of Urbanization on the Child's Right to Play. Sydney University Law School P 11.

Shipley D (2007). Empowering children: play-based curriculum for lifelong learning. Toronto: Thomson Nelson.

Simon T, Smith PK (1985). Play and Problem Solving: A Paradigm Questioned. Published By: Wayne State University Press. Merrill-Palmer Quarterly 31(3): 265-277.

Smilansky S, Shefatya L (1990). Facilitating play: A medium for promoting cognitive, socio- emotional and academic development in young children. Gaithersburg, MD: Psychosocial and Educational Publications.

Tefera B, Hagos B (2016). Indigenization of early childhood education (ECCE) in Ethiopia: A goiter on mumps in ECCE provisions. The Ethiopian Journal of Education 36(2):73-117.

Teferra T, Amare A, Jeilu O, Tassew W, Berhannu A (2018). Ethiopian Education Roadmap (2018-30). Ministry of Education Strategy Center (ESC) July Addis Ababa.

Tafere Y (2012). Children' Experiences and Perceptions of Poverty in Ethiopia. Young Lives, An International Study of Childhood Poverty October (2012); London UK.

Tafu D (2008). Historical Development of Addis Ababa: plans and realities. Journal of Ethiopian Studies 41 (1/2) Special Thematic Issue on Contemporary Urban Dynamics pp. 27-59.

Tassew W (2011) The Effects of Early Childhood Education Attendance on Cognitive Development: Evidence from Urban Ethiopia. The CSAE

Conference on Economic Development in Africa St Catherine's College Oxford.

Tigabu T, Semu G (2008). Addis Ababa Profile: Ethiopia UN Habitat Regional and Technical Division. United Nations Settlements Program (UN Habitat), Nairobi Kenya.

Un-Habitat (2007). An Introduction to Urban Strategic Planning. Inclusive and Sustainable Urban Planning: A Guide for Municipalities. Human Settlement Crisis 1, Nairobi Kenya.

Unicef (2019). Ethiopia Children's Voice and Views on Urban Children Poverty. Policy Studies Institution July (2019).

Unicef Every Child (2019). Situation Analysis of Women and Children, Addis Ababa. Addis Ababa Region.

Unicef (2020). Informing Early Childhood Education in Ethiopia: Insights from Young Lives Research on the O-Class Programme. Young Lives Ethiopia Research Brief 3 January (2020).

Van Vliet W, Karsten L (2015). Child-Friendly Cities in a Globalizing World. University of Cincinnati. Children, Youth and Environment 25(2):1-15.

Vickerius M, Sandberg A (2006). The significance of play and the environment around play. Early Child Development and Carel 176(2):207-217.

Vygotsky LS (1978). Mind in society: The development of higher psychological processes. Massachusetts: Harvard University Press.

Weininger O, Daniel S (1992). Playing to learn: The young child, the teacher and the classroom. Springfield IL: Charles C Thomas.

Wellhousen K (2002). Outdoor Play, Every Day: Innovative Play Concepts for Early Childhood. Delmar/Thomson Learning.

Woldeamanuel M (2020). Urban Issues in Rapidly Growing Cities: Planning for Development in Addis Ababa. Published by Routledge Taylor and Francis Group, London, UK.

Woldehanna T, Araya MW (2017). Early Investment in Preschool and Completion of Secondary Education in Ethiopia. Published by Young Lives, London, UK.

Zewdie T, Daniel D, Daniel T, Girma L, Yekoyealem D (2016). Quality of Early Childhood Care and Education in Ethiopia, June, Institute of Educational Research Addis Ababa University.