

# Higher Education Institutions' Sustainable Development towards Agenda 2030: A Global Goals in Policy and Curriculum

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## ABSTRACT

A shift in Higher Education (HE) for sustainable development towards achieving Agenda 2030 Global goals is required in Africa for HE to be in alignment with global sustainability agenda. A major transformation in HE needs to occur across all disciplines to ensure addressing Agenda 2030 Global goals. The main objective of the study was to evaluate how Higher Education institutions have gone towards attaining Agenda 2030 on sustainable development. The specific objectives were to: examine the interplay of structure, culture and agency in achieving Agenda 2030; find out why universities are failing to propel themselves towards the agenda; identify mechanisms and strategies that can be taken to enhance the achievement of the goals; examine the level of preparedness of Higher Education management in achieving Education for Sustainable Development (ESD) and the role stakeholder should play in strengthening the achievement of ESD. Data was collected through interviewing deans, lecturers and administrators from the National University of Science and Technology, Midlands State University and the University of Zimbabwe. While efforts have been made to move towards ESD many structural, agential and challenges were found across universities including growing number of students, lack of financial support, absence of ESD strategy in institutions and others. Further, institutional administrative structures are rigid and immune to innovation. Several recommendations are made including funding to enable a reorganisation of HE structures that will propel the achievement of ESD.

**Key words:** Curriculum, education for sustainable development, higher education, policy, quality education, sustainable development goals.

## INTRODUCTION

Education and particularly Higher Education (HE) is a key process that leads to change towards sustainable development. Education for Sustainable Development (ESD) builds the capacity of individuals, communities and society as a whole to make informed judgements and choices in favour of sustainable development. Education for Sustainable Development is not only about teaching the subjects relevant to sustainable development but it is also about participatory transformative learning processes that strengthen agency for change. Education for Sustainable Development is a transformative approach to teaching and learning based on the ideals and principles that underlie sustainability, human rights, poverty reduction, sustainable livelihood, peace, environmental protection, ecological sustainability, democracy, health, biological and landscape diversity, climate change, gender equality, and protection of indigenous cultures (UNESCO, 2004; World Bank, 2002; UN 2000; Gaby 2015; WEF 2000). Global policy statements, principles, conferences and events have emphasised sustainable development approaches to support the transformations needed for sustainable living and sustainable futures. These have shaped the thinking around development policy and practice towards a sustainable future, with benefits for present and future

generations. A number of international conferences and initiatives specify the role of education in contributing to sustainable development.

Education for Sustainable Development dates back to the 1972 Stockholm Conference where the United Nations (UN) declared that it was going to defend and improve the environment for present and future generations and through this declaration environmental education was seen as a critical means to address the world's environmental crisis. This was followed by the Tbilisi (Georgia) conference on environmental education which laid out the role, objectives, and characteristics of environmental education and provided several goals and principles for environmental education. It noted that education plays an important role in the preservation and improvement of the world's environment. The 1987 Brundtland Report defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UNESCO, 2020). The 1992 Rio de Janeiro (Brazil) Earth Summit consolidated international discussions on the critical role of education, training and public awareness in achieving sustainable development. In 2002 the Johannesburg (South Africa) summit on sustainable development designated 2005-2014 as the UN decade of education for sustainable development (DESD) and UNESCO as the lead agency. Education for Sustainable Development seeks to raise awareness in individuals about how to develop a sustainable lifestyle and thus achieve positive transformations in societies in the long term (Burgener & Barth, 2018; United Nations, 2020). In 2005, the UN activated hundreds of thousands of people to reorient education globally towards a central goal: to learn to live and work sustainably (UNESCO, 2020).

In 2009 the UNESCO World Conference on ESD in Bonn (Germany) emphasised ESD as a "life serving measure" for the future that empowers people for change and recommended promoting ESD as an "investment in the future" (UNESCO, 2020). In 2014, the UNESCO World Conference on ESD in Aichi-Nagoya (Japan) launched the Global Action Programme on ESD (2015-2019) aiming "to generate and scale up action in all levels and areas of education and to learn to accelerate progress towards sustainable development". It focuses on five priority areas and considers key target points to advance the ESD agenda (UNESCO, 2020). Further, the UN General Assembly resolution 72/222 notes ESD's role as "an integral element of the Development Goal (DG) on quality education and a key enabler of all other sustainable development goals is explicitly recognised" (UNESCO, 2020). Across all these policy interventions and declarations over this extended period is an on-going call for alignment, at global, regional and national levels of the education, environment, climate, sustainable economy and other relevant development agendas.

The 2030 Agenda for Sustainable Development clearly reflects the agency to embed the principles of Education for Sustainable Development (ESD) into the education curriculum. Education for Sustainable Development seeks to support learners through the development of competencies for sustainability problem solving and enable them to participate in sustainable development while critically reflecting on their own actions (Brundiers et al, 2021). Through the concretion of the 17 Sustainable Development Goals (SDGs), higher education is reaffirmed as a crucial goal to contribute to more sustainable, socially and reputable societies (WEF, 2016; Ozig, 2012; Boeren, 2019). The United Nations Sustainable Development Goals (SDGs) are not the first set of goals designed to help nations work together towards achieving quality in education. The initial Millennium Development Goals (MDGs) were formulated in 2000 at the Darker Framework for Action and included eight goals to be achieved by 2015 (UNESCO, 2004; World Bank, 2002; UN 2000; Gaby 2015; WEF 2000). The second goal specifically focused on universal primary education but remains silent about quality in education yet universal education of poor quality is meaningless, learners need to exit the education system with skills and competences for their survival. Higher Education (HE) plays a key role in promoting sustainable development and developing people's capacity to address environmental and developmental problems. More than ever HE institutions and their stakeholders need to rethink the notion of ESD in alignment with the Sustainable Development Goals (SDGs) which are both an approach to sustainable development and a tool for addressing global problems in

a collaborative manner (UN, 2015). Higher education institutions the world over play a key role in fostering sustainable social and environmental transformations (Filho, 2019). It is the social responsibility of HE to help students and the broader community acquire competences for sustainable development. Hence, the significance of exploring the transition towards actioning Agenda 2030 Global Goals on ESD.

### Research Questions

- What is the interplay of structure, culture and agency in achieving Agenda 2030 Global Goals in Higher Education (curriculum and policy) in Zimbabwe?
- Why are universities in Zimbabwe failing to propel the systematic transformation leading to the achievement of Agenda 2030 Global Goals?
- What mechanisms and strategies could be taken to enhance the achievement of Agenda 2030 Global Goals?
- What is the level of preparedness of Higher Education management in achieving ESD?
- What role should stakeholders play in strengthening the achievement of ESD?

### LITERATURE REVIEW

A major transformation in HE needs to occur across all disciplines and levels of HE with the ultimate purpose of academic teaching programmes oriented around sustainability to support the practical attainment of a sustainable future (Shepard, 2015; Leal Filho, 2011). As interconnected issues that undermine socio-environmental stability continue to emerge and evolve, HE will need to respond to a rapidly changing world. United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2017) tell us that, ESD is placed at the centre of the 2030 sustainable development agenda and has been widely acknowledged as a key enabler of all 17 SDGs which includes SDG4 on Quality Education for All. Education for Sustainable Development is an approach to teaching and learning based on the ideals and principles that underlie sustainability, human rights, poverty reduction, sustainable livelihoods, peace, environmental protection, democracy, health, biological and landscape diversity, climate change, and gender equality and protection of indigenous cultures (UNESCO 2017; WEF 2015; Garcia, Magana & Ariza, 2020). The notion of HE for Sustainable Development is becoming a mainstream in scholarship, with an increase in the debate both in literature and at the policy level about the role of HE institutions in addressing the complexities across human and environmental interactions globally (Franco., Saito., Vaughter., Whereat., Kanie & Rakemoto, 2018). There is now a growing international recognition of Education for Sustainable Development as an integral element of (Boeren, 2019) quality education and a key enabler for sustainable development. In 2013, the 37<sup>th</sup> session of the General Conference of UNESCO endorsed the Global Action Programme on ESD as a follow up to the UN Decade of ESD 2005-2014. The need for sustainable development and societal transformation is gaining more and more relevance. Education for Sustainable Development (ESD) competes for curriculum and policy space in higher education and particularly in the global north and in some universities in the Global South. Education plays a key role in promoting sustainable (WEF 2015; Shava, 2020) development and developing people's capacity to address environmental and developmental problems. Quality higher education is the basis for improving lives and for sustainable development (Garcia, Magana & Ariza, 2020). Quality education in general is understood as one of the most powerful and proven drivers for ensuring sustainable development, which can be applied in various educational contexts, formal and non-formal, and which can generate multiple benefits for the general public. Education is a key process that can lead to change towards sustainable development. On the other hand ESD builds the capacity of individuals, communities and society as a whole to make informed decisions and judgements in favour of sustainable development. According to the United Nations Educational, Scientific and cultural organisation (UNESCO) quality higher education is unquestionably an indispensable part of achieving sustainable development. Access to quality higher education allows learners to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. HE institutions are responsible for equipping the next

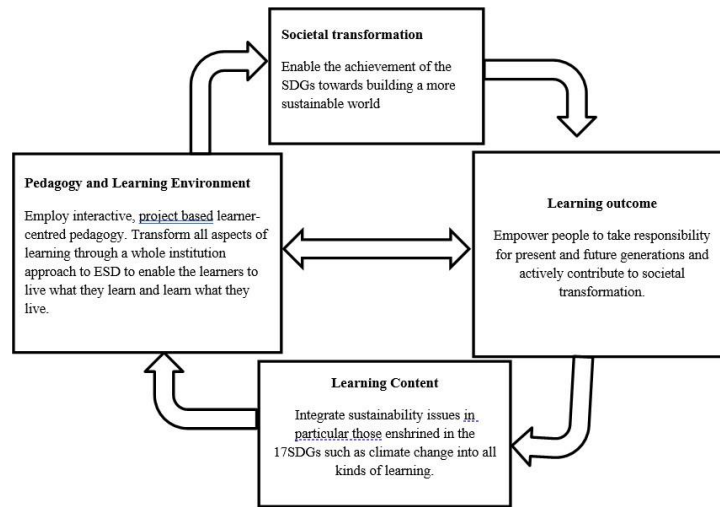
generation of sustainability leaders with knowledge and essential skills, proactively try to action the sustainable development goals (SDGs) in HE policy, curriculum and practice through scattered and isolated initiatives (Franco et al, 2018). The monitoring and evaluation of the Decade on ESD has shown that HE is the key to the successful adoption and implementation of ESD (UNESCO, 2014b). Despite the plethora of policy recommendations, initiatives and studies HE institutions face enormous challenges to translate ESD rhetorics into policy, curriculum and practice. In the global Southern African context HE does not fully understand the true nature of the challenge and that sustainable development is still considered as an innovative idea in most universities, and has not yet permeated all disciplines, and scholars, and university leadership. To advance the impact of ESD while increasing the capacity of education to respond to complex socio-environmental challenges, HE teaching and learning strategies will play a significant role. The need for sustainable development and quality HE for societal transformation is gaining more and more relevance. Social learning according to (UN, 2015) will be needed to contribute to real change which is why the 2030 Agenda (UN, 2015) and Global Action Programme pick up on the importance of quality in HE and ESD which has been established as one of its priorities. Strengthening the competencies of academics is one good way to ensuring inclusive, quality education for all and to empower everyone to support sustainable development. Most of the Global Action Programmes and UN declarations on ESD are supporting further extension and dissemination of the efforts of the Decade, so that everyone has the opportunity to acquire the knowledge, skills values and attitudes that empower them to contribute to sustainable development (UNESCO, 2014). In Zimbabwe and the entire African region, despite all efforts to mainstream ESD, some international monitoring have shown that the goal of a broad implementation of Agenda 2030 Global Goals into all educational levels and all institutions is not yet achieved (UNESCO, 2014; Shava, 2020; UN, 2015).

### **Education for Sustainable for 2030 and Development**

To build a follow-up to the Global Action Programme (2015-2020) that contributes to Agenda 2030 and its 17 goals, the Education for Sustainable Development: Towards achieving the SDGs (ESD for 2030) framework was adopted by UNESCO member states in 2020, with the aim of increasing the contribution of education to build a more just and sustainable world. ESD for 2030 is thus the new global framework for implementation of ESD over the period 2020-2030. It builds on the lessons learned from the UN Decade on Education for Sustainable Development (2005-2014) and on the follow up Global Action Programme on ESD (2015-2019). It supports the increased importance placed on ESD to promote the contribution of learning content to the survival and prosperity of humanity. It sees ESD as integral to the achievement of quality and relevant education. Education for Sustainable Development for 2030 places emphasis on education's contribution to the achievement of all 17 SDGs. It aims to review the purposes and values that underpin education and reorient all levels of education and learning to contribute to sustainable development and strengthening the quality and relevance of education (UNESCO, 2020). Education for Sustainable Development is widely recognised as an integral element of Agenda 2030 in particular Sustainable Development Goal (SDG4), and a key enabler of all the other SDGs. Education for Sustainable Development is included as a target in Goal 4 of the SDGs, which focuses on ensuring **“inclusive and equitable quality education and promote lifelong learning opportunities for all.”** In target 4.7 UNESCO Member States agreed to:

Target 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violent, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development (UNESCO, 2030). The figure below shows the transformational approach to ESD.

Figure 1: The holistic transformational approach to societal transformation of the ESD for the 2030 roadmap.

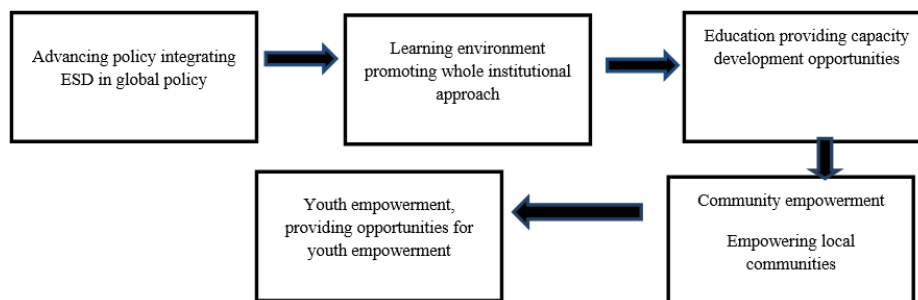


Source: UNESCO, 2020.

As shown on the figure above, the ESD for 2030 roadmap ushers in an “Urgent Call for Action” for curriculum reform and strategy to ensure the implementation of ESD. The Call for Action aims to extend ESD in national, regional and international spheres and adopts a transformative approach in curriculum and pedagogy, which integrates cognitive, social- emotional, and action-oriented or behavioural approaches. The ESD for 2030 roadmap frames 5 priority action areas stressing future ESD’s key roles in the successful achievement of the 17 SDGs and the great individual and societal transformation required to address the urgent sustainability challenges. The five priority action areas are: ESD must be integrated into global, regional, national and local policies related to education and sustainable development; attention is required to promote the whole institution approach to ensure we learn what we live and live what we learn; focus on empowering educators with skills, knowledge, values and attitudes needed for the transition to sustainability; young people must be recognised as key actors in addressing sustainability challenges and associated decision making processes; and action in communities are important, as this is where meaningful, transformative actions is likely to occur (UNESCO, 2020).

Aligned with this ESD strategic framework is a process of support that is developed by UNESCO to support member states to consider their transition towards achieving ESD in the context of the priority outlined above. To achieve these priorities the following actions are needed.

Figure 2: Activities needed for achieving ESD



Adapted from UNESCO, 2020

The ESD 2030 roadmap provides a platform for country initiatives that can help the mainstreaming of ESD

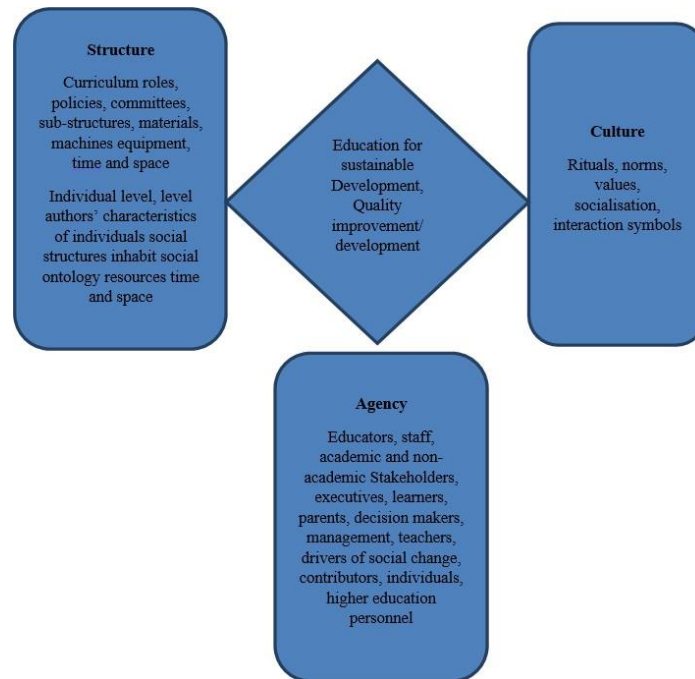
in education and sustainable development within respective countries. Given the complex and contradictory contexts of ESD and also conditions in which transformative policies are shaped, there is still much to be done to strengthen implementation of ESD in HE.

**Theoretical Framework: Culture, Structure and Agency**

The theoretical viewpoint of the study resonates with the thoughts of Archer, (1995, 1996, 1998, 2003: Bhasker, 1979, 1989, 1998, 2010 & 2011) social realist theory of structure, culture and agency to analyse the challenges of actioning Agenda 2030 Global Goals on policy and curriculum in Zimbabwe higher education. Structures are said to be the objective complexities of social institutions within which people live and act. Agents are said to be human deliberators and those who navigate their life plans in an environment of constraints. If structures and agents are considered to be ontologically distinct levels, then there are a series of challenges to respond to. This article draws on structure, culture and agency approaches (see e.g. Giddens, 1984: Bourdieu, 1984) to offer deeper insights into the roles that individuals (agency) and stakeholders play in achieving education for sustainable development. Critical realist theory accepts that there exists a reality independent (Bourdieu, 1984) of people’s representation of it, and acknowledges that, their knowledge of reality is subject to all kinds of historical and other influences.

The social realist theory according to Giddens (1984) comprises three milieus of structure, culture and agency which are superimposed on each other to either constrain or enable the actions of the agent. Structure comprises roles, institutional structures, organisations, committees, substructures, positional levels, systems and policies within an organisation. Archer (2003) tells us that structures also include material conditions which motivate action. Structures are the objective complexes of social institution within which people live and act. Culture mainly focuses on the way of life of people in an organisation do and occupies different institutional structures.

Figure 3: The Interplay of structure, culture and agency towards enhancing the achievement of ESD.



Source: Adapted from Shava, 2020.

Giddens’s theory as a whole has not been applied in ESD studies, but this is not to mean that this theory is unknown to ESD scholars, but it would be more accurate to say that elements of this theory have been

applied. It is, therefore important to explore this theory in this entity because the theory may help us to understand and discuss the relationship of structure and agency in relation to ESD and also in corporate culture. The main building blocks of the theory are agency, structures and culture but with a strong focus on structure and agency where the concepts of structure and agency are mainly interested in the structures of social reality and the extent to which agency or individuals are free to act within the structure which has its own culture.

## RESEARCH METHODOLOGY

### Research design

In this study, the researchers took a qualitative research approach with an interpretive epistemological and constructivist ontological perspective (Creswell, 2019). Thus this investigation involved the combination of a number of qualitative methods and techniques, reducing methodological limitations. By taking this standpoint we assumed that social phenomena and the meaning of it are subject to the influence of social actors which are produced and constantly changed by social interaction (Thornburg and Chamazi, 2014; Creswell, 2019). As a research methodology, a qualitative research method infuses an added advantage to the exploratory capacity that researchers need to explore and investigate their research studies. We also considered a qualitative research approach which is embedded in an interpretive paradigm as most suitable for exploring the achievement of ESD in higher education context. The interpretive paradigm enabled the researchers to see, hear and understand the particular meaning making inherent in peoples' lives within the selected higher learning institutions. Qualitative methodology allows researchers to advance and apply their interpersonal and subjectivity skills to their research exploratory processes. Interpretive phenomenological analysis can afford researchers the opportunity to explore in more details the lived experiences of the research participants based on the understanding that human beings are sense making creatures and therefore the accounts which participants provide reflect their attempt to make sense of their experiences. Creswell (2019) states that, "a phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or phenomenon". In this study we as phenomenologists focused on describing what all participants had in common as they experience a phenomenon.

### Research participants

The study used 3 deans, 4 lecturers and 1 administrator from the National University of Science and Technology; 2 Deans, 3 lecturers and 1 administrator from Midlands State University and 2 Deans, 4 lecturers and 1 administrator from the University of Zimbabwe. In this study we tried to involve participants who were involved in ESD implementation and who have an idea about the implementation of ESD in their university. We identified participants who had an idea about the implementation of ESD concepts into core university functions and practices of teaching and researching. Most of these academics are involved in a UNESCO funded program known as Sustainability Starts with Teachers.

### Research Instrument

The study employed an open-ended in-depth interview instrument focused on the five major themes developed from our research questions. The questions asked varied from one theme to another depending on the thrust of the theme. For example, research question1, we verified the participants' understanding of Agenda 2030 Global Goals related to Education for Sustainability moving to probing about how structure in a given institution either supports or hinders the ESD agenda. Then the role of culture in an institution and how it affects the ESD agenda and role the key agents in the institution play in shaping the ESD agenda. The rest of the research questions were handled in a similar manner tapping the key themes of the study.

## Data Collection Methods

The focus of our study lies in three universities in Zimbabwe which are in three different provinces. The desire to collect data that reflected the perspectives of the research participants resulted in the choice of in-depth six unstructured interview questions with participants. The five common questions were used to solicit participants' views on the implementation of ESD across universities. The interview questions were broad and open-ended to capture the breadth of ESD in terms of policy and curriculum in the institutions. Creswell (2019) argues that, in a phenomenological study the process of collecting information involves primary in-depth interviews with participants. The idea is to describe the meaning of the phenomenon from a small number of individuals who have experienced it. Interviews (Creswell, 2019) present the researcher the means to get hold of the experiences, knowledge, thought and feelings of participants. The bulk of our data was collected through telephone conversations and internet. We followed Bernard's (2017) lead, the idea was to get people to open up, and let them express themselves in their own terms, and at their own pace. The five themes correspond with the theoretical view point of Bhasker (2011) of structure, culture and agency in enabling the achievement of SDG 4 in higher education. Data was collected through face-to-face interviews after a thorough discussion of what the five themes demanded from the interviews.

## Data analysis

Since the study employed a qualitative research approach data obtained was qualitative in nature. The analysis followed a thematic approach where views of participants were analysed to pick emerging themes. Key and notable phrases were noted from some of the participants to develop rich answers to our research themes.

## PRESENTATION OF STUDY FINDINGS

According to UNESCO (2014) ESD is education that allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. As Agenda 2030 has gone almost a third towards implementing its goals, this study sought to establish the challenges of achieving SDG4 on quality higher education focusing on three universities in the Zimbabwe. Our argument is structured according to the culture, structure and agency theoretical view point to offer a deeper understanding and insight into the achievement of SDG4 on quality higher education. The presentation of our findings is based on the interview questions with participants who had significantly embedded ESD in their universities and who had participated in ESD change projects initiated by UNESCO.

### The interplay of structure, culture and agency in achieving ESD in higher education

The interview questions on the interplay of culture, structure and agency in achieving ESD pertains to the roles that individuals play in higher education and cultural issues together with structures that constrain the achievement of specific higher education targets on quality education. Our objective was to identify aspects of higher education systems that constrained the university in its attempt to achieve quality teaching. The bottom line of structure, culture and agency is that the individual and society are interdependent, and thus both perspectives should ideally be crucial in establishing how they constrain the achievement of organisational goals.

Participants in this study provided evidence showing that structural, cultural and agential conditions in higher education constrain the achievement of quality teaching and learning. Collective evidence from participants highlighted the structural, cultural and agential factors as significantly constraining the achieving of ESD. Several responses indicated that higher learning institutions in Zimbabwe have faced multiple challenges associated with the transition to achieve ESD. One of the greatest challenges being the



growing numbers of students and deep systematic policy changes relating to deepening and widening access to higher education. In this study, we established that the marriage between expansion in higher education and achieving SDG4 and its ten targets has not been an easy undertaking. Most participants stated that higher education expansion was necessary as it opened opportunities for many who by not their choice were deprived, but the expansion could not address socio economic objectives because of the quality of graduates.

Analysis of interview data revealed that ESD was difficult to achieve due to the lack of attention paid to participatory and democratic decision- making processes outside academia, which results in an inadequate framework for involving societal processes. For many participants, barriers for achieving ESD were summarised as:

- Lack of institutional ESD policy or strategy on ESD.
- Lack of institutionally coordinated effort that incorporated all faculties in the bid to ensure sustainability.
- Lack of awareness about ESD across disciplines.
- Lack of adequate value for the essence of ESD.
- The lack of financial and material support from top management.
- The absence of ESD related courses in higher learning institutions.
- Lack of commitment to implement policies and strategies to enhance ESD in all universities.
- No common understanding of the concept of quality in education and ESD
- Lack of capacity to implement ESD
- Lack of coordinated institutional activities to address sustainability issues.
- ESD specifically considered being for faculty of education since education appears in the concept of education for sustainable development.
- Misunderstandings or misconceptions of what ESD means among academics.
- ESD constrained by institutional hierarchical approaches to curriculum and course development.
- Lack of professional training within an institutional structure and culture constituted a source of constraint for the agency of others interested in ESD implementation.

One of the academics commented that:

In our university if those proposing changes in our teaching and courses are not professors or senior lecturers, they are largely unsupported by other academics and administrators. At this university very few academics have been trained and they have no capacity to approve new ESD courses. Resistance comes especially on the approval of programmes and in some cases it may take years before a program is approved.

Participants from the Midlands State University remarked that: The challenges brought by the COVID-19 have greatly affected our teaching and learning programmes. Teaching on line has not at all been effective as the majority of our students have no internet connectivity in their rural areas. We failed to invite all students to Google class. Some students did not have Wi-Fi or even laptops.

Evidence from the interviews with academics showed that, the implementation of ESD was faced with resistance from academics. Findings showed that there was lack of consistency in terms of how ESD was implemented in different universities and in different faculties. There are no strategies to provide concrete and measurable goals that are linked towards ESD.

### **Propelling the systematic transformation towards achieving ESD.**

To understand challenges facing universities in Zimbabwe to propel the systematic transformation towards implementing ESD, the historical tradition and culture of higher education needs to be understood and reviewed. Findings from the study pointed to the growing numbers of students in universities and the lack of

financial resources necessary to increase system capacity to transform towards the transformation to achieve ESD. One of the participants from the University of Zimbabwe remarked that:

Because of their intellectual capacity and their role in knowledge generation, our universities are considered to be key actors in achieving all the seventeen Sustainable Development Goals and specifically goal4, but they need radical innovation for them to propel the systematic transformation towards achieving quality teaching and learning and not only faculty of education.

She went on to say:

To develop a holistic and consistent sustainable- oriented higher education, the greening of higher education is needed. There is need for more direct influence and participation by all involved in higher education teaching and learning and ESD should be undertaken over a relatively wide area of university teaching.

Participants also identified the following as key strategies for systematic transformation in higher education:

- Professional development among academics in all academic disciplines.
- Organising workshops for lecturers on ESD, re-orienting higher education curriculum and pedagogy to address quality and sustainability.
- Building partnerships and networks with regional and international organisations like SIDA, SANORD and SWEDESD.
- Provide high quality teacher education training institutions to fulfil the transformation and transition to ESD.
- Outreach and forming partnerships both locally and globally to enhance sustainability.
- Universities to include sustainability visions and strategies in mission statements.
- In teacher education, research into commonly adopted ESD pedagogies is a high priority.
- Universities should play a role and contribute significantly to ESD in the development of appropriate knowledge and competencies.
- Zimbabwe in partnership with UNESCO should strengthen ESD in institution of higher learning.
- Change projects should be adopted which should enhance inter-departmental engagement and communication

Throughout the interviews, participants highlighted that lack of funding was hindering propelling towards the transformation to achieve ESD. Senior management personnel in one of the universities remarked that:

Lack of funding, poor awareness of the concept of ESD concepts among us and potential partners and also institutional inflexibility and political administrative indifference makes it difficult for our institution to transform towards achieving ESD. More so there is total lack of commitment to provide funds necessary to implement ESD in HE.

It emerged from our interviews with academics that, the road to greater acceptance and integration of ESD in Zimbabwe HE has been a rocky and circuitous one, and often strewn within the lack of support from government. In Zimbabwe, it emerged that despite the range of well-intentioned efforts towards implementing ESD and its targets through several initiatives, little success has been achieved. In Zimbabwe there is a handful of highly motivated and patient individuals who are prepared to face the task of breaking down various barriers. Zimbabwe has members of academic staff from universities and teacher training colleges who are involved in the Sustainability Starts with Teachers Project which is an action learning programme centred around a contextually defined ESD Change Project. Each participating institution is working on a particular ESD change Project, relevant to their context.

In all interviews it emerged that the achievement of ESD was constrained by methodological barriers, financial and institutional barriers among others. Effective implementation of ESD in Zimbabwe depends to a large extent on the prevailing political situation and political will, which in the meantime remains comparatively turbulent especially when the policy focus is on increasing the number of students in higher education, where the majority are enrolled for the humanities and arts degree programs at the expense of Sciences, Maths and Technology. In terms of teaching and training, ESD in all the three universities does not greatly figure out well, where they are offering it, it is offered on an optional basis at some pedagogical faculties and by academics who are attending UNESCO's Capacity Building Programme for Teacher Education for Sustainable Development. The Sustainability starts with Teachers programme that is implemented as a partnership between the UNESCO Regional Office for Southern Africa, the Southern Regional Universities Association (SARUA) and the Swedish International Centre of Education for Sustainable Development (SWEDESD). This project is supported by the Swedish International Development Agency and countries in the SADC region through their universities and Teacher education colleges are partners towards achieving the SDGs or ESD for 2030 Global Agenda.

### **Mechanisms and strategies to enhance the achievement of ESD.**

The interview questions on mechanisms, strategies and opportunities to enhance the achievement of ESD pertains to different support mechanisms, strategies and opportunities available in universities to achieve ESD. Study participants provided strategies which are summarised as:

- Expanding higher education coverage in a sustainable and equitable way.
- Capacity building programs intensified by UNESCO, SARUA, SIDA, SWEDED and SADC Education sector for university and college lecturers.
- Increasing enrolments in higher education in areas such as Sciences, Mathematics and Technology (STEM) courses.
- Ensuring that all learners acquire knowledge and skills to promote sustainable development through the use of ICTs.
- Integrating ESD in all degree programs and in Teacher training.
- Policy dialogues to advance ESD in higher education.
- Support capacity building for academics and where possible provide exchange programs for both academics and students.
- Establish holistic and transformational learning which addresses learning content and outcomes, pedagogy and learning environment.
- Re-skilling and updating the curriculum, pedagogy and education resources to address 21<sup>st</sup> century challenges.
- Designing teaching and learning in an interactive, transformative learner-centred approaches which enables critical thinking, problem solving, action oriented and transformational learning.
- Empowering learners to transform themselves to enable transitions to greener economies and societies.
- Reviewing higher education content, curriculum, teacher education and Technical Vocational Education and Training (TVET) policy in the light of recent trends towards emphasis on 21<sup>st</sup> century demands.
- Demand for new type of competencies and new knowledge as well as use of ICTs in teaching and learning.
- Learners creating initiatives for green campuses and initiating green university projects.

All these strategies were identified as crucial for achieving SDG4 in higher education.

Specific quotes from participants.

In our university we realise that there is poor understanding even among academics about the difference between ESD and environmental education. There is institutional confusion about trans- disciplinary education and ESD competencies.

Our university structures remain highly inflexible and resistant to change.

Financial support is lacking and ESD transition is not easy to take place.

In Zimbabwe, ESD exists but there is little if any within institutional levels. In all interviews there was mention of lack of political and financial support on the part of the government and this has made little progress in achieving ESD in higher education institutions.

### **Higher education management commitment to achieving ESD.**

To achieve a quick fix of the Zimbabwe HE system, higher education management commitment is required. Management needs to make quality in higher education a core of the institutional strategic plan. There is need for integrating quality principles and ESD into higher education teaching and learning. Collectively, participants of the study highlighted that the shortage of skilled manpower in Zimbabwe HE institutions has its roots in higher education. The situation is more serious with respect to weak leadership, management and governance which are rampant and further exacerbate challenges to higher education transition towards achieving ESD. One of the study participants from the University of Zimbabwe commented that:

Management inefficiencies are common among universities. They drain resources from key fundamental objectives of increasing quality, access and sustainability. Our management is not focussed and their priorities are not in line with the university goals. They are spreading human and material resources thin.

It emerged from the interviews that the inefficiencies and lack of commitment from top management leads to underutilised facilities, some duplication of positions, resulting in some cases to deterioration of quality teaching and learning. Common among universities is uneconomic procurement procedures and the allocation of a large share of the funds or budget to non-educational expenditures. One participant from NUST remarked that:

Our university management is rarely trained in the management of higher education institutions, they are not skilled in strategic planning, research management, financial management, human resources management, performance management and the skill of partnership building and networking. Our senior management lacks access to the global knowledge pool, the international academic environment and there is total lacks of bench- marking. Our university needs funding and budgeting policies so that allocation of funds is linked to quality continuous improvement.

Findings from the study showed that while universities did not have enough funds to provide for quality teaching and learning, the situation was worsened by lack of management skills to effectively manage institutional funds. While lack of funds constrained research capacities across universities, top management did not prioritise teaching and learning which is core business of the university. Most of the universities in Zimbabwe have dilapidated physical facilities and infrastructure is in a poor state, but management does not make effort to maintain the infrastructure. In some cases, management may place ESD near the top of the institutional agenda, but may fall victim of the political jockeying that results in making changes to senior management positions. The institutional knowledge required to maintain momentum for ESD is lost through the cleansing of staff that accompanies the instalment of new members who come with a complete new vision and new strategy. In one of the universities, ESD topics have been incorporated into relevant subjects and specific subjects devoted to ESD and there was an initiative to adopt a holistic approach to the inclusion

of social and economic dimensions, but the appointment of a new Deputy Vice Chancellor academic, resulted in a different approach and the suspension of ESD efforts.

### **Role of stakeholders in strengthening the achievement of ESD in Zimbabwe.**

The UN Sustainable Development Goal 4.7 proposes the integration of ESD into all levels of education with an emphasis on higher education through building capacities of educators and trainers to facilitate the implementation of ESD into education policy, curricula, theory and practice. Participants identified the following key activities by stake holders for strengthening the achievement of ESD in Zimbabwe:

- Capacity building for academics on ESD.
- Establishing research partnerships and collaborations with UNESCO.
- Providing high quality infrastructure in universities for ICT.
- Governments making quality higher education a core of the institutional plans.
- Government making adequate investment for infrastructure development.
- Providing adequate funding for ICT infrastructure development.
- Academic and student exchange programs with developed countries such as Sweden, Finland and Norway.
- UNESCO mobilising education resources to transform higher education.
- UN Member States launching various policy initiatives or frameworks in response to ESD.
- UNESCO developing tools and instructional materials related to ESD,
- Governments and UNESCO allocating specific budgets to ESD actions and activities.
- Coordinating mechanisms and higher education based networks by governments.
- Scaling up ESD pilot programs in universities.
- SANORD and UNESCO organising conferences in Africa on education ESD.
- Mobilising strong national and international political commitment for the achievement of ESD.
- DESD viewed as part of the New Partnership for Africa's Development (NEPAD).
- Some governments establishing education hubs and ESD experimental centres at universities.

There was considerable evidence from interviews that government, NGOs and UNESCO in particular, although constrained by budgets were playing a significant role that was more likely to strengthen the achievement of ESD in higher education. There is evidence from the interviews that governments play a role in improving quality higher education through ESD policy initiatives. A take away from our interview discussions was that stakeholders especially governments' strong policies and initiatives in higher education strengthened the achievement of ESD along a more holistic pathway. In Zimbabwe there is evidence of widespread introduction of systematic monitoring and assessment of the implementation of ESD.

## **CONCLUSIONS**

This study conducted in Zimbabwe Universities has used the critical realist theory of structure, culture and agency to structure and analyse challenges of achieving ESD in higher education in Zimbabwe higher education context. The overarching aim of SDG4 is to create a world where all students regardless of background and location can benefit from quality education and learn the values, behaviours and lifestyles associated with creating a sustainable future and promoting societal transformation. Sustainable Development Goal 4 of the Sustainable Development Goals; **“ensure inclusive and equitable quality education and promote lifelong learning for all”**. Addresses Target 4.7 of SDG 4 directly, which requires all governments to;

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promoting a culture of peace and nonviolence, global citizenship

and appreciation of cultural diversity and culture's contribution to sustainable development (WEF,2016).

ESD empowers learners to take informed decision and responsible action through designing teaching and learning in an interactive, learner centred way that enables exploratory, critical thinking, action-oriented and transformative learning. Learning outcomes are stimulating, promoting competencies, such as critical and systematic thinking, collaborative decision making and taking responsibility for present and future generations. The following conclusions can be made:

- That culture, structure and agency have not worked well to achieve ESD. There are still a lot of structural challenges that inhibit the development of a positive culture towards ESD. The institutional players in HE have not been adequately trained to move their institutions towards ESD.
- The growing numbers of students in universities and lack of financial resources necessary to increase system capacity have negatively affected attempts by HE institutions to propel the systematic transformation towards achieving ESD.
- Several mechanisms and strategies to enhance the achievement of ESD were suggested by participants. These include the training of management as well as academics to understand the essence of ESD as the core implementers of the suggestions made.
- Higher education management is not well prepared to steer their institutions towards achieving ESD. Most of the managers are rarely trained in running higher education institutions and this is shown by limited skills in strategic planning, research management, financial management, human resource management, performance and other skills necessary to drive ESD agenda effectively.
- The role of stakeholders in strengthening the achievement of ESD is acknowledged, particularly that of government, NGOs and UNESCO. However, it was noted these are constrained by funding but are playing a significant role in its achievement.

## RECOMMENDATIONS.

Having analysed the challenges of achieving ESD in higher education, it is recommended that:

- Funding, specifically the lack of funding has been an overriding issue, all the more so in this era of economic downswings and budgetary cut backs. A multi-pronged search for new funding sources is needed and more likely to work for Zimbabwe HE institutions.
- If higher education is to engender a more systematic up-take of ESD in institutions of higher learning, then policies should be put in place and contextualised and nuanced. Advocates must continue to find ways to encourage multiple stakeholder participation to advance different models of ESD implementation in higher education.
- If the Zimbabwe HE is to achieve ESD, there is need to improve the basic unit of the higher education institutions that encompass the human (agency) and material (structures) equipment which collectively improve student's learning and institutional culture.
- There is need to motivate and enrich existing forms of agency in ways that expand people's learning, participation and contribute to creating a good life through quality teaching considering investing in infrastructure development.
- There is need for policy framework and strategy on ESD that addresses ESD issues relating to educational content, learning processes and incorporating into higher education principles relating to quality teaching and learning.
- Initiatives in higher education should simultaneously acknowledge broad ESD themes and holistic conceptions, while keeping focused on particularities of each institutional context and communities.
- Globalization for resource related partnership for higher education is both an opportunity and a challenge but it should be sharpened and managed so as to ensure the achievement of ESD and sustainability in higher education.

- International agencies, private foundations and national governments should cooperate in the compilation and evaluation of ESD in education in Zimbabwe. They should develop appropriate quantitative and qualitative indicators, measures and data to assist in developing strategies for enhancing the achievement of ESD.
- ESD achievement requires capacities among policy makers, curriculum developers, education institutional leadership, assessment experts and most specifically academics to take a leading role.
- Many countries not only in Africa but the entire world, point to limited funding and resources as major barriers to achieve ESD and for capacity building that being the case, support from international donors, NGOs and the private sector is needed to successfully achieve ESD.
- There is need to enhance and empower higher education institutions in Zimbabwe to contribute more effectively to the achievement of ESD and for the achievement of development and transformation.
- Higher education the world over is the major contributor to development and long term holistic partnership with the developed countries will bring about positive results with quality and sustainability, this will have a reasonable impact on the transformation agenda of the 21<sup>st</sup>

Finally, given the many ESD models and approaches existing on the ground in higher education, new mechanisms and networks need to be developed to establish knowledge banks that empower local academics in ESD facilitators and trainers. The scaling up of ESD in higher education given its particular diversity and lack of standardisation requires sharing experiences on new dissemination platforms. Important in this regard, are instances where ESD is not simply an add-on activity, but rather part of a whole institutional or whole system approach to ESD.

## REFERENCES

1. Bernard, H.R. (2002). *Research methods in anthropology: Qualitative and quantitative approaches*. (3rd ed) Wanucreek, CA. Altamira Press. [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkozje\)\)/reference/referencespapers.aspx?referenceid=1017834](https://www.scirp.org/(S(351jmbntvnsjt1aadkozje))/reference/referencespapers.aspx?referenceid=1017834)
2. Boeren, E. (2019). Understanding Sustainable Development Goal (SDG)4 on quality education from micro, meso and macro perspectives. *International Review of Education*(2019)65:277-294 <https://doi.org/10.1007/11159-019-9772-7>
3. Bourdieu, P. (1984). *Distinction, A Social Critique of the judgement of taste*, London. Routledge. [https://www.scirp.org/\(S\(i43dyn45teexjx455qlt3d2q\)\)/reference/referencespapers.aspx?referenceid=1724949](https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/referencespapers.aspx?referenceid=1724949)
4. Brundiers, K., Barth, M., Cebrian,G., Cohen, M., Diaz, L., Doucette-Remington, S., Dripps, W., Habron, G., Harre, N., Jarchow, M., Losch, K., Michel, J., Mochizuki, Y., Rieckmann, M., Parnell, R., Walker, P., and Zint, M.(2021). Key competencies in sustainability in higher education- Towards an agreed- upon reference framework. *Sustainability Science*, 16(1) 13-29. [https://scholar.google.com/scholar?q=Brundiers,+K.,+Barth,+M.,+Cebrian,G.,+Cohen,+M.,+Diaz,+L.,+Do&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar](https://scholar.google.com/scholar?q=Brundiers,+K.,+Barth,+M.,+Cebrian,G.,+Cohen,+M.,+Diaz,+L.,+Do&hl=en&as_sdt=0&as_vis=1&oi=scholar)
5. Burgener, L., Barth, M. (2018). Sustainability competencies in teacher education: Making teacher education count in everyday school practice. *Journal of Clearance Production*, Volume 174, pp 821- 826. [https://scholar.google.com/scholar?q=Burgener,+L.,+Barth,+M.\(2018\).+Sustainability+competencies+in+tea](https://scholar.google.com/scholar?q=Burgener,+L.,+Barth,+M.(2018).+Sustainability+competencies+in+tea)
6. Creswell, J.W. (2019). 4th ed. *Research design: Qualitative, Quantitative, and mixed methods approaches*. London. Sage Publications. [https://scholar.google.com/scholar?q=Creswell,+J.W.\(2019\).+4th+ed.+Research+design&hl=en&as\\_sdt=0&](https://scholar.google.com/scholar?q=Creswell,+J.W.(2019).+4th+ed.+Research+design&hl=en&as_sdt=0&)
7. Filho, W.L.; Vargas, V.R.; Salvia, A. M. and others (2019) The role of higher education institutions in sustainability initiatives at the local level, **Journal of Cleaner Production**, Volume 233, Issue 1, October 2019, pp.1004-1015. [https://www.researchgate.net/publication/333942189\\_The\\_role\\_of\\_higher\\_education\\_in\\_sustainability](https://www.researchgate.net/publication/333942189_The_role_of_higher_education_in_sustainability)

8. Franco, I., Saito, O., Vaughter, P., Whereat, J., Kanie, N., and Takemoto, K (2018). Higher Education for Sustainable Development: Actioning the Global Goals in Policy, Curriculum and Practice. *Sustainability Science*. <https://doi.org/10.1007/s11625-018-0628-4>
9. Gabay, C. (2015). Special forum on the millennium development goals: Introduction. *Globalizations*. 12(4) 576-580 <https://www.tandfonline.com/doi/full/10.1080/14747731.2015.1033173>
10. Garcia EG., Magana EC and Aiza AC, (2020) Quality Education as a Sustainable Development Goal in the Context of 2030 Agenda: Bibliometric Approach. *Sustainability* 2020,12,3344 pp2-18 <https://www.mdpi.com/2071-1050/12/15/5884>
11. Giddens, A. (1984). *The Contribution of Society. Outline of the theory of construction*. Cambridge: Black Well. Polity Press. London [https://books.google.co.zw/books/about/The\\_Constitution\\_of\\_Society.html?id=x2bf4g9Z6ZwC&redir\\_esc=y](https://books.google.co.zw/books/about/The_Constitution_of_Society.html?id=x2bf4g9Z6ZwC&redir_esc=y)
12. Leal Filho, W. (2011). About the role of universities and their contribution to sustainable development. *High Education Policy* 24(4): 427-438 <https://www.semanticscholar.org/paper/About-the-Role-of-Universities-and-Their-to-Filho/c10f424ca8602f764d852e8c193ddb76d5256ef4>
13. Ozga, I. (2012). Governing knowledge: Data, inspection and education policy in Europe. *Globalization, Societies and Education* 10(4), 439-455 [https://www.researchgate.net/publication/263150295\\_Governing\\_knowledge\\_Data\\_inspection\\_and\\_education](https://www.researchgate.net/publication/263150295_Governing_knowledge_Data_inspection_and_education)
14. Shava, GN. (2020). Quality Education for Sustainable Development in Zimbabwe Higher Education, Towards UNDP 2030 SDGs: The Education Systems of Africa, *Global Systems Book Chapter p1-26*. Springer Publication [https://www.researchgate.net/publication/349507858\\_Quality\\_Education\\_for\\_Sustainable\\_Development\\_in\\_](https://www.researchgate.net/publication/349507858_Quality_Education_for_Sustainable_Development_in_)
15. Shepard, K. (2015). Higher Education for sustainable development. Palgrave Macmillan, UK <https://www.semanticscholar.org/paper/Higher-Education's-Role-in-%22Education-for-Shephard/47ecab392deecfad9fe7f05544783c376684c61a>
16. Thornberg, R and Charmaz, K. (2014). *Grounded Theory and Theoretical Coding. The Sage Handbook of Qualitative Data Analysis*. 153-170 [https://scholar.google.com/scholar?q=Thornberg,+R+and+Charmaz,+K.+\(2014\).+Grounded+Theory+and+Th](https://scholar.google.com/scholar?q=Thornberg,+R+and+Charmaz,+K.+(2014).+Grounded+Theory+and+Th)
17. UN (United Nations). (2000). United Nations millennium declaration. A/RES/55/2. New York: United Nations. Retrieved May 2019. From <http://www.un.documents.net/a55r2.htm>.
18. UNESCO (2015). United Nations Educational, Scientific and Cultural Organisation, Jakarta <https://unesdoc.unesco.org/ark:/48223/pf0000253009>
19. UNESCO (2017). Education for Sustainable Development Goals: Learning objectives. Paris: UNESCO from <http://www.unesco.de/sites/default/files/2018-08/unesco-education-for-sustainable-development-goals.pdf>
20. UNESCO (2020). Education for Sustainable Development for 2030. A roadmap. Paris: UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374802>
21. UNESCO, (2014) Roadmap for Implementing the Global Action Programme on Education for Sustainable Development. Paris <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=1674&menu=1515>
22. UNESCO. (2004) Education for All: The Quality Imperative, EFA Global Monitoring Report, UNESCO Paris. <https://www.unesco.org/gem-report/en/efa-quality>
23. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development-Resolution adopted by the General Assembly on 25 September 2015 (A/R/RES/70/1). UN Publishing. <https://undocs.org/en/A/RES/70/1>
24. WEF (World Education Forum) (2000). The Dakar framework for action. Education for all: Meeting our collective commitment: Paris: UNESCO. Retrieved February 2019 from <https://unesdoc.unesco.org/ark48223/p0000121147>



25. WEF (World Education Forum). (2015). Incheon declaration and Framework for action for the implementation of Sustainable Development Goal 4. Towards inclusive and equitable quality education and lifelong learning opportunities for all. Education 2030. Paris <https://iite.unesco.org/publications/education-2030-incheon-declaration-framework-action-towards-inclusive-equitable-quality-education-lifelong-learning/>
26. WEF (World Education Forum). (2016). Incheon declaration and Framework for action for the implementation of Sustainable Development Goal 4. Towards inclusive and equitable quality education and lifelong learning opportunities for all. Education 2030. Paris [https://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en\\_2.pdf](https://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf)