

# Education for Sustainable Development: Encapsulating Government Efforts towards Implementation of Sustainable Development Goals in the Context of Junior Secondary Schools in Kenya

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## Abstract

Education for Sustainable Development (ESD) is the vehicle used by countries to empower learners to take informed decisions and responsible actions, for the realization of Sustainable Development Goals (SDGs). ESD does that through, environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. This literature review research paper aimed at outlining the relationship between ESD and SDGs. It also endeavors to summarize the key practices of sustainable development (SD) which have been incorporated into the curriculum and pedagogy in Junior Secondary Schools (JSS) in Kenya in an attempt to show devotion towards achieving the SDGs. The paper is based on the Ministry of Education's Guidelines for Implementation of JSS (2023), a policy administering JSS in Kenya. The paper is a literature review type from scholarly sources. The study findings established that ESD is vital in the JSS as it is the United Nations principal agency that oversees and supports countries to advance and enlarge educational activities that focus on sustainability. ESD thus would enable learners' to gain awareness of the 17 goals, enhancing their understanding of how these goals relate to self and society, and assist them to contribute to global SD as their responsibility and duty. The paper established that Kenyan government has implemented in the JSS curriculum the Community Service Learning (CSL) where learners are sensitized to acquire 21<sup>st</sup> Century skills and competencies through Education/citizenship (Goal 4) and Partnerships (Goal 17). Further, Citizenship Education (CE) is incorporated in the curriculum to achieve inclusive education (Goal 4) through gender equality and empowerment of all women and girls (Goal 5). CE also advocates for reduction in inequalities based on income, sex, age, disability, sexual orientation, race, class, ethnicity and religion (Goal 10), and peaceful inclusive societies, and justice for all (Goal 16). Equally, JSS curriculum has Environmental Education (EE) which is in line with Goal 4 (environmental curricula); Goal 6 (protection and restoring freshwater ecosystems); Goal 8 (depletion and environmental degradation); Goal 10 (rights of environmental defenders), and Goal 11 (low-emission, resilient and resource-efficient in urban areas). Capacity building of educators is also enshrined in the JSS education in line with Goals 4 and 17 which advocate for support in building capacities in developing countries to assist the teacher gain innovative teaching approaches. This paper thus concludes that, the Kenya Government is committed to the realization of the SDGs through its ESD in JSS Curriculum.

**Keywords:** Education for Sustainable Development, Sustainable Development Goals, Implementation of Junior Secondary Education.

**DOI:** 10.7176/JEP/15-3-08

**Publication date:** March 31<sup>st</sup> 2024

## 1.0 Introduction

The concept of sustainable development was defined by Brundtland (1987) in his foreword to a report entitled: "*Our Common Future*" as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. To achieve that, there is need to safeguard our planet and the natural resources like water and air for future generations to meet their needs. It is thus vital to reduce pollution to protect habitats for plants and animals in our daily lives. The need to guard the planet gave birth to the Sustainable Development Goals (SDGs) of 2012 at The United Nations Conference on Sustainable Development in Rio de Janeiro – Brazil with a target to reach the year 2030.

The SDG goals were adopted by all United Nations Member States in 2015 to succeed the Millennium Development Goals (MDGs) (2000) which ended the same year. Unlike the MDGs whose main effort was to tackle the indignity of poverty globally, SDGs recognize sustainability as a pressing global issue. Although SDGs were set to finish what MDGs started, their main purpose is to meet the urgent environmental, political and economic challenges facing the world today which need an urgent global response to improve the quality of life for the future generation.

The SDGs are 17 in total and are interconnected; meaning accomplishment of one would touch on the others' success or vice versa. During their development, many groups such as governments, NGOs and, importantly,

businesses were consulted worldwide. The open working group that developed SDGs had representations from 70 countries. According to United Nations Development Program (UNDP) (2023), that kind of scope was unmatched in the United Nations' (UN) history. The large scope was an attempt to make the goals work from the local, regional and at the international level. SDGs were an extension of a 1992 Rio Earth Summit which resulted in Agenda 21, Think Globally, Act Locally. This literature review paper thus intends to investigate the features of the SDGs that have been implemented in Junior Secondary Schools (JSS) in Kenya which in this respect serve as local level set up.

The SDGs and Education for Sustainable Development (ESD) are related to sustainability and sustainable development, as ESD is a vital contributor to all endeavors to realize SDGs (UNESCO, 2017). ESD, as defined by UNESCO (2014), means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It involves collaborative teaching and learning techniques that encourage and permit the learners to modify their behavior and actions for sustainable development. ESD consequently promotes competencies like critical thinking, visualizing future scenarios and making decisions in a collaborative way.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is the United Nations' principal agency overseeing the management of ESD. It supports countries to advance and enlarge educational activities that focus on sustainability issues (UNESCO, 2023). UNESCO (2020) indicates the importance of ESD in sustainability to include: boosting awareness of the 17 goals in education settings and enhancing the understanding of learners and the general public on how these goals relate to self and society. ESD also promotes analytical and interpretation of the SDGs, appraises questions on the interrelatedness and pressures between different SDGs and provides learners with the opportunity to navigate the required balancing acts with its integrated and life-changing approaches. Further, ESD marshals action to attain the SDGs while addressing sustainable development concerns, more so on the SDGs.

In the educational setting, ESD is clearly referred to in SDG4 Target 4.7 which seeks to ensure that all learners acquire the knowledge and skills needed to promote sustainable development (United Nations, 2015). This goal is crucial to achieving all other goals and aims, as education is considered to be a cornerstone of economic development and social transformation for the main targets of SDGs (Bayat, Louv & Rena, 2014). As sustainability becomes ever more important, strategies (both real and achievable) are unfolding to assist schools and educators to motivate students to understand that their learning and community action contribute to progress on the global goals. These approaches make the youth begin to see new ideas, and progress scale up across nations and regions of the world (Elliot, 2021).

ESD in teaching and learning transforms all contexts when the curriculum addresses learning sustainability content, innovative ESD pedagogies and learning by doing to promote the learning of skills, perspectives and values necessary to foster sustainable societies (Laurie, Tarumi, Mkeown & Hopkin, 2016). Kiely, Parajuly, Green & Fitzpatrick (2021) therefore call upon governments, education institutes, schools, teachers and instructors to lead learners to become world citizens and contribute to global sustainable development as that is their responsibility and duty.

Kenya being a member of the United Nations participated in the SDGs processes at national, regional and global levels, including during the adoption of the SDGs agenda. Besides, The Kenya Constitution 2010 prioritized Sustainable Development as a national goal. The SDGs timeframe coincided with Kenya Vision 2030, and Kenya's own development objectives. It was thus necessary to establish the extent to which the SDGs converged with Kenya Vision 2030 and identify which SDGs are relevant to Kenya's development context. Mapping of each of the 17 goals with Vision 2030 was done and it indicated that the Kenya Vision 2030 is well aligned to the global development framework (Ministry of Devolution and Planning, 2017). The Government of Kenya thus devoted itself to developing ESD as a key determinant in promoting SDGs and quality education by actualizing the 2030 Agenda for Sustainable Development (Ministry of Education, 2017).

It is important to understand the Basic Education structure in Kenya which is done by the Basic Education Curriculum Framework (BECF, 2017). Organization of Basic Education in Kenya is provided and conceptualized into three (3) tiers under the 2:6:3:3 structure. Early Years Education (EYE) comprises two years of Pre-primary Education (PP1 and 2) and three years of lower Primary Education (Grades 1-3). This is followed by three (3) years of Upper Primary (Grade 4-6) and three (3) years of Junior Secondary School (Grades 7-9). Senior Secondary School (SSS) comprises three years (Grades 10-12).

Presently, the JSS is domiciled in Primary School and it comprises Grades 7- 9 for 12/13 – 14/15-year-old learners. JSS curriculum is broad-based with both core and optional subjects. That gives the learners a chance to consider their interests and potentials so as to select subjects at Senior Secondary School in line with the different career pathways (BECF, 2017). A pre-vocational level curriculum is provided for learners who are unable to continue with the regular or adapted curricula.

The purpose of this paper is to delve into the extent to which the government of Kenya has been able to implement the SDGs in the areas identified from literature on JSS learners considered to be at the local level. The

areas identified include: curriculum (learning sustainability content), pedagogy (application of innovative ESD pedagogies) and building capacities of educators.

## 2.0 Overview of Curriculum in Junior Secondary Schools (JSS)

According to the Republic of Kenya (2023), the JSS leadership should implement the following programs to support and enhance the implementation of the JSS.

### 2.1 Community Service Learning (CSL)

Community Service Learning (CSL) is an educational activity that provides experiential learning-learning through experiences - for the purpose of integrating theory and practice. CSL is being stressed in JSS as it boosts holistic development of learners (BECF, 2017). Additionally, CSL promotes change within the society so as to accept desirable values, including the spirit of providing service to the community (Taskforce Report, 2020). In the JSS institutions, it is achieved through initiating a variety of CSL activities to allow learners adequate participation through: engaging all learners in CSL activities, partnering with parents and community in implementing the CSL activities, initiating and maintaining partnerships with relevant organizations and/or stakeholders for CSL activities; and ensuring learners are sensitized on the ethos and skills required for effective participation in CSL activities (Republic of Kenya, 2023).

CSL is important as it would link the learners' education to the labor market as advocated in the Kenya Vision 2030 while providing the learners with opportunities to be empowered with the necessary knowledge, 21<sup>st</sup> Century skills and competencies to realize the achievement of SDG Goal4 (Education/citizenship) and SDG Goal 17 (Partnership). Besides serving others in one's community, CSL also models the learner's to be better citizens (Afzal & Hussain, 2020).

### 2.2 Citizenship Education (CE)

Secondly, JSS students are taught Citizenship Education (CE) in their curriculum. The purpose of CE is to empower learners to further the development of positive knowledge and experiences required to understand their rights and responsibilities. The outcome is expected to enable learners of all ages to take active roles locally, regionally and internationally in building more peaceful, tolerant, and inclusive and secure societies. In the JSS, CE should be achieved through establishing and maintaining citizenship clubs and other co-curricular activities in accordance with the guidelines for non-formal activities. Further, CE should be integrated in all learning areas as guided in the curriculum designs. Its purpose is to enable the learners recognize the consequences of their actions, and those of the citizens around them (Republic of Kenya, 2023).

The idea and goal of citizenship is set up in SDG Goal 4: Ensuring the inclusive and quality education for all and promoting life-long learning. That learning needs to incorporate concepts of the local and the greater world and today's pressing issues, including social justice, human rights and the advancement of peace (Perraud, 2021). It is also in line with the learners' rights and responsibilities envisioned in SDG Goal 10 that is designed to reduce inequalities. SDG Goal 10 states that the inequalities in the world could be based on income, sex, age, disability, sexual orientation, race, class, ethnicity, religion and opportunity.

Besides, children need to be taught CE - their rights and responsibilities - so as to know how to get help when they feel at risk. Gracia (2020) opines that majority of the children have an inborn sense of equality, fairness and justice and know how these concepts relate to their daily lives. Many of them should be confident to speak their mind when they confront injustice. However, that does not happen as their personal rights are violated and they face abuse, often behind closed doors due to insufficient information on their rights and responsibilities. They thus, need to understand how rights apply to them and their lives. The CE is also partly applicable to SDG Goal 5 whose desire is to achieve gender equality and empower all women and girls. The empowerment cannot happen until the women and girls have known their rights first. That does not mean that the boys should be left out. Every child has to be taught their rights and responsibilities.

Further, CE being taught in JSS complements SDG Goal 16 whose target is to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. Jerome, Emerson, Lundy & Orr (2015) point out that enhancing appreciation of human rights and essential freedoms, would strengthen understanding, endurance and friendship among all countries, racial or religious groups, and shall further the activities of the UN for the maintenance of peace to create a brighter future for all.

It can also be argued that the introduction of CE in JSS in Kenya is an effort to grow the learners into global citizens as they continue growing through secondary school to university level. A global citizen is defined as that person *who attempts to engage with and has great respect for others who come from societies that are very different from their own, whether international communities or even communities within their own space or country* (Lee, 2017). *The important elements in global citizenship are respect and a willingness and the desire to actually interact with their differences and learn from them.*

### 2.3 Environmental Education (EE)

Environmental Education (EE) is another area which has been emphasized by JSS curriculum in Kenya. Its aim is to create **consciousness** of the environment and empower learners to gain knowledge, skills, values, experiences and attitudes to solve present and future environmental challenges as well as take control to achieve environmental sustainability and development (Republic of Kenya, 2023). In this context, EE should thus be integrated in all learning areas as guided in the curriculum designs. Environmental clubs should be established in accordance with the guidelines for non-formal activities and other relevant provisions. Inclusion of all learners with special needs and disabilities in environmental conservation activities has been given a lot of weight as well as joint efforts with the neighborhood in environmental conservation activities. During such activities, the leadership of JSS should ensure that the learners are safe and secure.

The EE activities advocated for in JSS are in line with SDG Goal 4 which advocates for developing environmental curricula. The activities are also in line with SDG Goal 6 which champions the protection and restoration of fresh water ecosystems; and SDG Goal 8 which talks about decoupling economic growth from resource depletion and environmental degradation. Besides, it also concurs well with SDG Goal 10 on protecting human rights, including those of environmental defenders, and ensuring the participatory, fair and sustainable management of the world's natural resources. Further, it is in line with SDG Goal 11 which endorses supporting development of low emission, resilient, resource efficient urban areas.

Some of the roles of the environmental clubs advocated for JSS include providing learners with an opportunity to experience physical environment and developing a sense of resilience and coherence in the face of problems and risks that adolescents face as they prepare for adulthood (so that they feel their lives are manageable and meaningful). It is through environmental clubs that learners are introduced to the practical bit through exposure to actual ecological environment. Environmental clubs involve community activities and thus, the goals of environmental education would be to instill in learners knowledge for the environment, positive attitudes toward the environment, competency in citizen action skills, and a sense of empowerment (Republic of Kenya, 2023).

Due to exposure gained from the interaction with nature in environmental club activities, the learners' environmental knowledge and competences in environment are improved; and positive outcomes in attitudes towards the environment are observed compared to those of the learners who do not participate (Gakuo, 2016). Gakuo's study also found pupils in environmental clubs were more likely to continue engaging in environmental activities geared towards environmental protection later on in their lives. The study recommended that engaging in voluntary environmental groups comprising of learners and teachers (club patrons) in a school can promote participation of pupils in learning and working towards the conservation and sustainability of the environment.

### 3.0 Pedagogical Approaches in ESD and JSS Teaching Approaches

ESD upholds innovative pedagogies in order to achieve sustainability. Although University of Plymouth (2014) indicated that there is no 'correct' pedagogy for sustainability education, active, participative, and experiential learning methods that engage the learner and make a real difference to their understanding, thinking and ability to act are recommended. The recommended approaches include: critical reflection, which encompasses the more traditional lecture, but also newer approaches such as reflective accounts, learning journals, and discussion groups. This may be done through the use of stimulus materials like films, video clips, and DVDs in order to develop and stimulate learners' knowledge. Linked with the innovative strategies, is thinking creatively for future scenarios which can be attained by use of role play, real-world inquiry, future visioning, problem-based learning, and providing space for emergence. In addition, systemic thinking and analysis where learners use of real-world case studies and critical incidents, project-based learning, stimulus activities, and the use of the campus as a learning resource form part of the systematic thinking. Learners should be made to take responsibility in research in order to discover knowledge on their own. The research findings should be presented to the rest of the class or to a different audience.

Collaborative learning – including contributions from guest speakers - work-based learning, interdisciplinary/multidisciplinary working, and co-inquiry should be used as pedagogic elements that might be used by staff in the learning environment. Learners need to be exposed to learning tasks that demand that they work in groups to foster the aspect of collaboration. Participatory learning is another innovative pedagogy which emphasis on group or peer learning, developing dialogue, experiential learning, action research/learning to act, and developing case studies with local community groups and business people. These approaches have been recommended for use in JSS Competence Based Curriculum (CBC). Digital literacy is a vital competence area being recommended in the JSS as part of the CBC curriculum in line with SDG Goal 4.4.2 which prescribes for proficiency in digital literacy skills.

The Kenya government, through the Ministry of Education, has endeavored to train teachers on the said approaches through workshops and seminars although that has been criticized since it is has done hurriedly and not all teachers have been involved. Moreover, through the Teachers Service Commission (TSC), the government is in the process of introducing Teachers Professional Development (TPD) training that requires involvement of

teachers individually and collectively, including those teaching in the JSS. TPD trainings are either formal or informal activities that registered teachers undertake in order to continuously improve their pedagogical skills, management skills and learner outcomes. As earlier indicated, capacity building and skills acquisition are in line with SDG Goal 4 and Goal 17.

The Kenya government has increased financial support for capacity development activities and strengthened the Kenya Education Management Institute (KEMI), the agency for building the capacity of educational managers. The Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA) has been offering pedagogical leadership training to support teachers in implementing effective and innovative classroom practices. CEMASTEAs has also been sensitizing education and quality assurance officers and Education Directors on effective management of sustainable and institutionalized in-service education and training of teachers (INSET). Development partners have continued to complement government efforts towards capacity enhancement of education managers (Ministry of Education, 2017). Capacity building represents a fundamental approach in the implementation and achievement of the SDGs. SDGs **Goal 17** specifically mentions capacity building directly by advocating for strengthening of global partnerships to support sustainable development. Specifically, target 17.9 of this goal emphasizes the need for international support in building capacities in developing countries.

#### 4.0 Conclusion

This paper has established that ESD is vital in the provision of JSS education as it is the contributor to all endeavors geared towards the realize SDGs. This is because ESD is charged by UN to include key sustainable development issues into teaching and learning like climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It has also been entrusted with critical thinking, visualizing future scenarios and making decisions in a collaborative way in the teaching and learning techniques meant to permit the learners to modify their actions for sustainable development (which is needed in the JSS in order to attain SD). More significantly, ESD boosts students' awareness of the 17 goals in education settings and enhances the understanding of learners on how these goals relate to self and the society. ESD will assist the JSS learners to become world citizens and thus contribute to global sustainable development as their responsibility and duty.

As to whether the government of Kenya has been able to implement the SDGs in the curriculum, this paper has established that it has been done through Community Service Learning (CSL) where learners are supposed to learn through experiential learning. Experiential learning is recommended to be done through student's participation in CSL activities, collaboration with parents and stakeholders and by teachers ensuring that learners are sensitized on the spirit and skills required for effective participation in CSL activities. Through CSL, the learners would acquire the 21st Century skills and competencies thus realize the achievement of SDG Goal 4 (Education) and SDG Goal 17 (Partnership).

Citizenship Education (CE) is also part of the JSS curriculum aimed at enabling learners of all ages to take active roles locally, regionally and internationally in building more peaceful, tolerant, and inclusive and secure societies. CE should be achieved through citizenship clubs and other co-curricular. CE is recommended in SDG Goal 4: (Right to inclusive quality education for all and right to life-long learning. CE is also partly applicable to SDG Goal 5 (gender equality and empowerment to all women and girls. It is also in line with SDG Goal 10 which speaks about reduction of inequalities based on income, sex, age, disability, sexual orientation, race, class, ethnicity, religion and opportunity continue to persist across the world. Further, CE is aligned to SDG Goal 16 whose target is to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Environmental Education (EE) is another area which has been emphasized by JSS curriculum in Kenya. The EE activities advocated for in JSS are in line with SDG Goal 4 which advocates for developing environmental curricula. Also in SDG Goal 6 which champions the protection and restoring freshwater ecosystems and SDG Goal 8 decoupling economic growth from resource depletion and environmental degradation. Besides, SDG Goal 10 on protecting human rights, including those of environmental defenders, and ensuring the participatory, fair and sustainable management of the world's natural resources and SDG Goal 11 which endorses supporting the development of low-emission, resilient, resource-efficient urban areas.

As far as innovative pedagogical approaches in ESD are concerned, which coincides with SDG Goal 4 and Goal 17, a lot of capacity building is being undertaken through government institutions such as MOE (through seminar and workshops), TSC on teacher professional development (TPD), KEMI and CEMASTEAs. Development partners have also continued to complement government efforts towards capacity enhancement of education managers. However, a lot of challenges have been observed in the area of teacher capacity building, not only in JSS but also on CBC in general.

#### 5.0 Recommendations

It is important to do research to establish the extent of students' awareness on the sustainable development goals in order to assess the achievement of ESD in JSS.

There is need to do an empirical research (record of direct observations or experiences) from the students, teachers and the stakeholders involved in JSS to assess the extent to which these Community Service Learning (CSL), Citizenship Education (CE) and Environmental Education (EE) are being implemented, the rate of achievements and the outcomes.

Likewise an empirical study is necessary to evaluate the extent to which the recommended innovative pedagogical approaches are being applied by the teachers in JSS.

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