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SANITATION)

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1.0 Introduction

60 percent of adult human-biomass is water, and the blood is 90 percent water. There is no daily universally-agreed quantity of water that must be consumed (Jillian Kubala, 2020).Mostly the human body is water, with an average of about 60 percent. The quantity of water in the body varies slightly with age, sex, and hydration levels. The average percentage of water in a human body is around 60 percent, but it can vary from roughly 45 percent to 75 percent.

The right to affordable, clean water and good sanitation is a fundamental human right. Water is essential for health that should be accessed through a standardized sanitary facility and is necessary for numerous bodily functions which include the following:

- Temperature regulation.
- Cellular function.
- Waste removal.

This is scientifically regarded as the internal cleansing, functionalities, and regulation of the body systems of which it is inevitable without water as a very critical component. Now, considering the environment that we are living in and daily interacting with water, is still by no doubt, a critical component for our daily activities.

United Nation's Sustainable Development Goal six (SDG-6) to universally achieve equitable access to safe and affordable drinking water coupled with good sanitation for all by 2030 is important because globally, everybody needs safely managed drinking water which means that:

- There will be improved sanitary facilities around the world that is not communal and where excreta are either safely disposed of in situ or removed and treated off-site or using an

improved source that is accessible on premises, available when needed and free from faecal and contamination by priority chemicals.

- This would in turn radically reduce child mortality rate or problems associated with maternal health. Daily around the world,1500 children under the age of five die of diarrhoea which translates to over 500000 children, dying annually.

- Reduce problems of gender equality because it is mostly the girls and the women who carry the burden in all respect like trekking long distances and hours to fetch water and carry it home which is a daily pain.

- Reduce the rate of girl child dropping out of school because of unmanaged issues of puberty and menstrual periods and therefore increasing the number of girls completing school and better changing the world that we are living in.

- More girls would graduate with varying disciplines due to increased time of concentration in books which will reduce extreme poverty and increase life expectancy.

- It would also reduce teenage pregnancy as these young girls get exposed to sexual exploitation along the way to fetching water.

- This same water is needed to produce hydropower to process drinking water, cool our power plants and for maintaining our ecosystems to help improve and sustain other sectors of the economy.

2.0 Global Statistical Analysis of Clean Water and Sanitation

On the other side of the coin, there is a global and water sanitation crisis which is affecting billions of people in dire situations all over the world which includes women, men, and children but mostly it is affecting women, girls and children in general being hit harder. With the ever-growing

population, we already have the problem of luck of water around the world supported by the following statistical data below (talks, 2017).

- 25 percent of the world doesn't have access to clean water and over 33 percent does not have access to a toilet.

- 15 percent lack access to clean water and that number is 50 percent in sub-Saharan Africa.

- The modern people who live in the developed world prefer meat to vegetable diet which is unhealthy meaning that 15000 litres instead of 2000 litres of water per kilogram of food is needed.

- To feed the 2 billion extra people joining us on this globe, we need to raise 60 percent more water, yet we are already lacking water to the extent that we cannot raise water withdrawal by 50 percent in the developing world and 18 percent in the rest of the world.

- Water is becoming scarcer that 2 billion people is expected to live in dry areas. Extreme water scarcity adds to the pressure of climate change which is going to reduce the amount of rainfall and increase evaporation. Surface water has already been exhausted with evidence of drying up of surface water bodies and now pressure is mounting on underground water.

2.1 Changes to Achieve SDG-6 for Clean Water and Sanitation

To achieve Sustainable Development Goal 6, governments must invest in their communities and close the economic gaps and geographic divisions so that the human rights to safe water, sanitation, and hygiene is delivered and maintained (UNICEF, n.d.).

2.2 Parameters Set to Possibly Achieve SDG-6

Since the problem is adversely affecting children and women, UNICEF has devised four key questions tasking and encouraging governments to walk the talk in the following ways:

- Commitment to improve access to basic water, sanitation, and hygiene services must be reasserted.

- Partnerships with the national statistics offices in collecting, analysing and utilizing the disaggregated data and routinely measure progress towards equitable access to safe water, sanitation, and hygiene must be reinforced.

- Progress on national action must be reported.

- Support the continuity and quality of WASH services during the COVID-19 crisis and sustain affordable access to WASH products and services for the economically disadvantaged and the most vulnerable populaces.

3.0 Employing Educational Strategies to Achieve Clean Water and Sanitation

The education sector stands the test of time in providing global and regional leadership in education, reasserts national education systems, and provides response to contemporary global challenges via education, specifically focusing on gender equality which is one of the key issues in SDG-6 and the developing regions of the world (UNESCO, 2017).

The education goals 2030 agenda, is in part a global movement to eradicate poverty through the 17 Sustainable Development Goals. Education, a prerequisite to achieving all these goals, including SDG 6, aims to ensure clean water and good sanitation for all. The education 2030 model for action brings forth the guidance for the execution of this serious goal and commitments.

3.1 Achieving SDG-6 through Educational Objectives

To achieve Sustainable Development Goal 6 through educational objectives, cross cutting key competencies and specific learning objectives are applied. Key competencies represent competencies that cut across and are a prerequisite for all learners of all ages globally and has been developed at different age-appropriate levels. It is mentally-visualized as transversal, multifunctional and independent of context. They do not substitute specific competencies required to achieve action in certain situations and contexts but constitute the following and are more broadly focused.

3.2 Key Competencies for Achieving SDG-6

The following key competencies for sustainability are outlined below:

- **System thinking competency.** This is when one can recognize and understand relationships.

- **Anticipatory competency.** Where one can understand and evaluate multiple futures.

- **Normative competency.** Where one can comprehend and review on the norms and values that are fundamental to one's undertakings.

- **Strategic competency.** Where one can collectively develop and implement innovative actions to continue wheeling sustainability at the local level and beyond.

- **Collaboration competency.** Where one can learn from their surroundings(others).

- **Critical thinking competency.** Where one can question norms, practices, and opinions.

- **Self-awareness competency.** Where one can reflect on their own role in both their local community and globally.

- **Integrated problem-solving competency.** Comprehensive ability to apply different solving structures to complicated sustainability problems and develop a working, inclusive and equitable solution possibilities that encourage sustainable development ultimately integrating all the above competencies.

3.3 Specific Learning Objectives to Achieve SDG-6 for Clean Water and Sanitation

Specific learning objectives to achieve the United Nations Sustainable Development Goal six (SDG-6), encompasses SDG-6 learning objectives being described in the cognitive, socio-emotional, and behavioral groupings.

3.4 Cognitive Group Specific Learning Objectives for SDG-6

- The learner comprehends water as a basic condition of life itself, the benefit of water quality and quantity, and the causes, effects and the effects of polluting water and scarcity of water.

- The learner comprehends that water is an ingredient of many different compounded global interrelationships and systems.

- The learner conceptualizes and understands the global unequal distribution of access to drinking safe water and sanitary facilities.

- The learner comprehends the mental vision of "virtual water".

- The learner comprehends and mentally visualize Integrated Water Resources Management (IWRM) and other master plans for establishing the availability and sustainable management of water and sanitation, including flood and risk management of drought

3.5 Socio-Emotional Group Specific Learning Objectives for SDG-6

- The learner can involve themselves in activities of improving water and management of sanitation in their local communities.

- The learner can communicate issues regarding water pollution, access of water and measures of saving water and to create visibility about success stories.

- The learner can take responsibility for their utilization of water.

- The learner views the value in good sanitation and hygiene standard practices.

- The learner can raise questions about socio-economic differences as well as gender disparities in accessing safe drinking water and sanitary facilities.

3.6 Behavioral Group Specific Learning Objectives for SDG-6

- The learner can work together with the local authorities in the improving of local capacity for self-sufficiency. The learner can contribute to the management of water resources at the local level.

- The learner can reduce their individual water footprint and to save water practicing their daily habits.

- The learner can scheme, execute, assess, and replicate activities that give support to increasing quality of water and safety.

- The learner can assess, involve themselves and influence decision-making on management strategies of local, national, and international enterprises related to the pollution of water.

3.7 Educational Principles and Techniques used to Achieve SDG-6

The rules and techniques used to achieve SGD-6 for clean water and sanitation around the world through education are briefly outlined in the following context through possible modules of a teacher education curriculum with education for sustainable development (ESD) as key element:

- Fundamental view-points of sustainable development from a local, national, and international levels.

- Education for Sustainable Development (ESD) concepts from a local, national, and international viewpoint.

- Disciplinary, interdisciplinary, and transdisciplinary views of key examples regarding sustainability challenges.

- Project-focused work on problems specific to local, national, and worldwide significance in cooperation with educational institutions and other (local) partners.

- Research-based internalization of education for sustainable development (ESD) processes in different learning areas like schools, colleges, or non-formal educational institutions.

- Working experiences with education for sustainable development (ESD) approaches and their fault-finding views.

3.8 Assessing Learning Outcomes and Programs

Finally, assessing learning outcomes and the quality of programs from the educational perspective of sustainable development meant for SDG-6 can be accomplished by:

- Integrating education for sustainable development (ESD) in policies, strategies, and programs. In all formal, nonformal and informal learning setup, policy is a major factor for integrating ESD.

- Incorporating education for sustainable development (ESD) in curricula and textbooks. ESD must be incorporated in all curricula of formalized education starting from early childhood through different levels and areas of education and progressively, to higher

education.

- Incorporating education for sustainable development (ESD) in teacher education. Educators are a powerful force of change which force of change enables them to provide educational response needed to achieve the sustainable development goals (SDGs).

- Delivering education for sustainable development (ESD) in the classroom and other learning settings. Schools and universities must place themselves in a setup and forefront of learning and experiencing sustainable development and ultimately organize all their processes towards rules of sustainability.

4.0 Improving Education in my Community to Achieve SDG-6

To improve education in my community through possible modules of a teacher education curriculum with education for sustainable development (ESD) as key element is important for the next generation to have the tools and mindset to achieve clean water and sanitation goals, the following aspects must be put into consideration and resolved.

- **Improvise meals at schools** so that the learners can be able to study without going hungry. This still calls for zero tolerance to corruption of either greed or need for a lot of government funds are diverted and wasted which should have otherwise been channeled to feeding the learners especially in government aided schools, learners are subjected to studying on empty stomachs.

- **Engage the area Members of Parliament** to table a motion regarding alternatives for affordable and reliable electricity supply to these schools like solar systems, wind power systems if the current main greed installation of hydroelectricity distribution would be costly in a short run so that irrecoverable gaps are not created in the learning process.

- This means that a comprehensive multigrid power supply plan must be instituted and achieved in a long run. The world has gone digital and during this pandemic, it is evident how rural schools are totally left behind. Power tariffs and data rate subscriptions in Uganda are classified amongst the highest in the world. Lower these to make them affordable including taxes levied on smart phones and computers.

- **Acknowledge and address overcrowding**. Any big number of pupils or student in each classroom has been shown to be less effective and therefore policy makers must draw a master plan that effectively stops this problem and therefore all stakeholders from parents to technocrats must be involved to conclusively address this issue.

- **Make funding schools a priority**. In my community, government aided schools receive budgetary allocation once each financial year to support operational activities in these schools. Sometimes there is delay in disbursement of this funds coupled with corruption. Since it is a countrywide problem; members of parliament must be put to task to formulate stringent laws to address this monster problem.

- **Address the high school dropout rate** at the primary level due to financial constraints by financially empowering the parents and guardians of these pupils at the parish level like for example introducing the affordable parish financial model so that they can participate in sustainable economic activities.

- **Engaging the appropriate stakeholders** to prompt the government to revert to supplying free scholastic materials like textbooks, exercise books and others in addition to virtualizing access to these learning resources so that a wide spectrum of access to learning materials is created and easily accessible. The government has its own Telecommunications network called Uganda Telecommunications which can be refurbished, and all public schools connected to this communications backbone freely while private schools connected at a subsidized rate. This calls for public-private sector type of arrangement to be legalized.

- **Raise standards of living for teachers** by constructing decent housing, raising their remunerations, and giving them health insurance to attract more qualified teachers and retain them in the profession and these members of parliament must be engaged through several and different fora and from time to time till this issue becomes a national concern. Most of the time teachers are left to tassel on their own in vain.

- **All stake holders must be involved in the classroom running and curriculum building**. Starting from Parents with basic knowledge in education, professionals across the board to technocrats and policy makers in the government. In recent decades, the education system transitioned from teachers and local boards in terms of who makes

decisions that affect classrooms and curricula and this in turn affected student performance and increased the dropout rates.

- **Involve the local councilors (LCs)**, **Parents and all the other stake holders** to continuously engage the Local Government at the district level to invest in construction and maintenance of feeder roads so that school going children can easily walk to school even in wet seasons. Sometimes, the roads are so bad that seasonal rivers and swamps flood and cut-off connecting roads to school and the day scholars cannot make it to school.

5.0 Conclusion

SDG-6 targets at ensuring availability and sustainable management of water and good sanitation practices for all. Water and sanitation are important to the health of people and the environment we are living in.SDG-6 variably addresses the issues relating to drinking water, sanitation and hygiene (WASH), the quality and sustainability of resources of water, globally.

Improving drinking water quality, sanitary facilities and hygiene are key in effecting development in other areas like nutrition, education, health and gender equality. A big number of people die every year from diseases associated with drinking unsafe water, sanitation and hygiene.

UNICEF's effort towards achieving this goal focusses on providing safe drinking water, sanitary and hygiene services to homes, schools and health centres such that children can grow, interact and learn in a safe environment including everyone to enjoy affordable, clean water and good sanitation.

6.0 Bibliography

Jillian Kubala, M. S. (2020, May 27). Medicalnewstoday. Retrieved from

medicalnewstoday.com: https://www.medicalnewstoday.com/articles/what-percentage-

of-the-human-body-is-water

talks, T. (2017, February 16). Youtube. Retrieved from youtube.com:

https://www.youtube.com/watch?v=U5TxygvcmU8

UNESCO. (2017). Retrieved from https://en.unesco.org/open-access/

UNICEF. (n.d.). UNICEF Data. Retrieved from data.unicef.org:

https://data.unicef.org/sdgs/goal-6-clean-water-sanitation