

## THE TRILOGY OF EDUCATION, ENVIRONMENT AND ECONOMY

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**ABSTRACT:** *Education is the pivot of development. It has an over-riding force on the nature of the environment and economy that prevail in any given state. To that extent, education becomes the lubricant that shapes the behaviour, attitudes, abilities, perception and choices which set the overall tone of the economy. Education, therefore, as a factor of environmental and economic choices which make all the difference between developed, developing and underdeveloped societies, is the subject of critique in this paper.*

**KEYWORDS:** Education, Environment, Economy.

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### Introduction

In this discourse, an attempt is made to establish a link between education, environment and economy as the bedrock of development in all progressive societies. As former American President Benjamin Franklin once said, ‘an investment in knowledge pays the best interest’. And it is generally said that no nation rises above the quality of its teachers and level of education. Equitable quality education that is sustainable is the foundation of development. In this case, education must be seen to be affordable at all levels, and has open access irrespective of sex, age, colour or background.

Education aids the civilizing process and the development of cultural levels. It helps the development of perspicacity, perception, worldview, values (individual and organizational), knowledge, skills, information and the general sophistication of life. United Nations (2014:58) highlights:

*Education is a fundamental human right and the bedrock of sustainable development – social, economic, and environment – and underpins governance, and security of the individual. The interconnected dividends that results from investments in equitable quality education are immeasurable – generating greater economic returns and growth for individuals and societies, creating a lasting impact on public health, decent work and gender equality, and leading to safer and more resilient and stable societies.*

*As an enabling factor for the multiple dimensions of societal development, quality education is a key lever for sustainable development. It plays a crucial role in shaping personal and collective identities, promoting critical social capital and cohesiveness, and responsible citizens based on principles of respect for life, human dignity and cultural diversity.*

Education is the pivot of social, economic and environmental sustainability which are top development priorities. It is education that makes the difference between primitive man and

modern man, palaeolithic culture and modern culture, and defines the path of development for the individual and all social institutions. Human capacity building, nurture and empowerment of mental process is propelled by education. While education produces the skills and knowledge – the fulcrums for economic development – it produces the skills and knowledge, the lens through which man sees and understands issues about the environment for his participation in sustainable environmental management.

The United Nations (2014) in its report emphasizes focus on access to education for all at all levels, equity and equality of education as priority areas. There is the need, particularly in developing countries, for a lifelong approach, including access to early childhood care and education (ECCE), post-basic and higher education, and adult learning and non-formal education, and responding to country contexts and settings, development challenges and priorities, including in conflict-affected countries. Expanding access to education requires for the formal education sector to establish innovative partnerships with non-governmental service providers, private sector, communities and parents.

Similarly, the need for disadvantaged children, youth and adults to acquire relevant technical and vocational skills combined with the necessary functional skills for a decent life and work should be fully reflected in education policies and strategies. Reaching out to out-of-school children and youth using innovative flexible and mobile interventions, including school-feeding programmes, and partnering with non-formal education providers and communities should be a priority, especially for those countries that have large out-of-school populations. In a related issue, gender equality remains a high priority, with a renewed focus on enhanced access to post-basic and post-secondary education for girls and women in safe, supportive learning environments. These success factors are attainable when necessary educational frameworks are put in place by governments.

### **Education: A Melting-pot**

The global environment is in need of protection, restoration and management. Education for sustainable environment promotes the development of the knowledge, skills, understanding, values and actions required to create a sustainable world, which ensures environmental protection and conservation, promotes social equity and encourages economic sustainability. Education encourages people to use environmental resources more efficiently and recycle household waste. By increasing awareness and concern, education can encourage people to reduce their impact on the environment through more efficient use of resources, especially in areas of resource scarcity. According to Sustainability Times (2018), “if you want to educate people to care about the environment, educate them”. And UNESCO (2019) reports that with a world population of 7 billion people and limited natural resources, we as individuals and societies need to learn to live together sustainably’. People need to take responsible actions based on the understanding that their present actions can have implications on the lives of people and planet in future. Education empowers people to change the way they think and work towards a sustainable future.

Reorganizing education as a melting-pot for knowledge, skills and development of understanding and attitudes required for sustainable environmental management, UNESCO (2002) citing Agenda

21 – A Manifesto for Education, Chapter 36.3, on Education, Awareness and Training states as follows:

*Education, including formal education public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns.*

To achieve the above vision, chapter 36 called on governments, international agencies, businesses and civil society groups to:

- ensure that basic education and functional literacy for all is achieved
- make environmental and development education available to people of all ages
- integrate environmental and development concepts, including those of population, into all educational programmes, with analyses of the causes of the major problems
- involve school children in local and regional studies on environmental health, including safe drinking water, sanitation, food and the environmental and economic impacts of resource use.

Following from the above, a new vision of education was conceived by UNESCO. It is education for sustainable development as an emerging but dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future thus:

*Education will shape the world of tomorrow – it is the most effective means that society possesses for confronting the challenges of the future. Progress increasingly depends upon educated minds: upon research, invention, innovation and adaptation. Educated minds and instincts are needed not only in laboratories and research institutes, but also in every walk of life. While education is not the only answer to every problem, in its broadest sense, education must be a vital part of all efforts to imagine and create new relations among people and to foster greater respect for the needs of the environment.*

Certainly, this new vision of education is instructive for integration into all countries education system to ensure a sustainable and balanced development in which development initiatives, people and the environment are in harmony.

### **Education and Environmental Priorities**

Education is a fundamental human right, and a means by which latent human potential is developed. It is an essential tool for developing and renewing human knowledge, skills and experience. More importantly, education is the medium for activating the sense-organs necessary

for developing the mental faculties. The power of reason belong to those who can skillfully apply these faculties to useful ends.

In relation to the environment, education develops man's sensibility to the environment as well as the knowledge, skills, and understanding required for his participation in environmental care towards a sustainable future. Consequently, education can help people respond and react to the impact of man's activities on the environment. And by improving knowledge, instilling values, fostering beliefs and shifting attitudes, education has considerable power to help people reconsider environmentally harmful lifestyles and behaviour.

It is axiomatic to say that people with more education tend not only to be more concerned about the environment, but also to engage in actions that promote and support political decision that protect the environment. Such pressure is needed to reduce human action that degrade the environment, and weak government environmental policies. The World Education Blog (2015) admits that:

*By increasing awareness and concern, education can encourage people to reduce their impact on the environment through more efficient use of energy and water supplies...*

*As it becomes increasingly clear how much human action has impacted environmental degradation and climate change, especially through the release of greenhouse gases, attention must turn to education and the need to tap its potential. We are all learners when it comes to the environment and better ways to protect it and the planet we inhabit. In this sense, the notion of lifelong learning is especially apt. This trend will be further supported by the new Sustainable Development Agenda, in which education for global citizenship and sustainable futures is explicitly prioritized in one of the new education targets.*

The role of education in promoting public awareness and training is provided in Agenda 21 as contained in the report of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. It sees education as a sustainable development lens. In a more elaborate sense, the report recommended that both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address sustainable development concerns. It also recommends that education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. The recommendation adds that environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human development, should be integrated in all disciplines and should employ formal and non-formal methods and effective means of communication.

The integration of environment and development as a cross-cutting issue into education at all levels has implications for private and public participation in economic activities. The endorsement and implementation of this recommendation by governments is important because of considerable lack of awareness of the interrelated nature of all human activities and the environment. In particular, developing countries lack relevant technologies and expertise. Therefore, there is a need to increase public sensitivity to environment and development problems, and involvement in their solutions and foster a sense of personal environmental responsibility and greater motivation and commitment towards sustainable development.

Howe (2009) examines in her work, education as a tool for conservation, in which she evaluates the effectiveness of conservation interventions at achieving their goals, providing a comparative analysis of conservation success at both the global and local scales. The result of the study showed that education, both in terms of quantity and quality, is shown to be a vital contributor to the success of a conservation project. The study showed that education in general is considered to be an attractive investment (psacharopoulos, 1994) and a number of students in rates-of-return from investment in human capital in agriculture have demonstrated a significant effect of education on productivity (Asadullah and Rahman, 2009; Godoy et al, 2000; Jamieson and Lau, 1982). Likewise, there are a few studies that illustrate the positive effect of education on household income and growth (Baldacci et al., 2008; Jung and Thorberke, 2003; Yunez-Naude & Taylor, 2001). In relation to conservation, it has been shown that education can contribute to improved environmental behaviour. For example, a number of studies have shown a reduction in deforestation around homes steads with additional schooling of the household head (Alix–Garcia, 2007; Carr, 2005; Godoy and Contreas, 2001; Godoy et al., 1998). On all, education, both formal and informal, is widely used as a conservation intervention in order to develop positive attitudes, and it is often assumed that effective education will automatically lead to environmentally responsible behaviour (Dobson, 2007).

Corroborating the result of the study above, are some contributions to World Education Blog (2015). These comments are noteworthy:

*April: With emphasis on global warming and environmental changes that are occurring,... I wonder what efforts can be made in order to reach those who had less education to understand the importance of global warming and ways to increase awareness about the environment.*

*Lauren: ... education at school is an important way of making the youth aware of environmental issue and how it can impact their own life. But ... in developing countries most of the children have no school or regular lessons, no way to go to school or have to work with their parents to live.*

*Melisa Hansen: Must add, ... that this education and awareness is not only needed in developing countries, but also in those countries where everyone can easily have access to education... I consider that societies in powerful and developed countries,*

*where access to education is not a problem, still lack this global education... looking at the bigger picture of our world and not just the lack of education and awareness in developing countries, after all, the polluting factories are not always located there, neither the ones who benefit from mining, fracking and destroying rainforests, just to mention some examples. We have a lot of work to do and a lot to learn, all together.*

The views expressed above speak volume about the importance of education as a driver of economic growth and sustainable environment, and should be an integral part of lifelong learning of children, youth and adults provided for in any country's education system – on a continuous basis throughout life.

### **Environment: Local and International Precepts**

To guarantee achievement of sustainable global environment for present and future generations, local and environmental precepts must coalesce through adherence to the principle of 'thinking globally and acting locally'. The following benchmark charted by Natural Resource Governance Institute is a good roadmap for local and international environmental precepts and governance regime towards SDGs:

**Precept 1:** Resource management should secure the greatest benefit for citizens through an inclusive and comprehensive national strategy clear legal, framework and competent institutions. The criteria for achieving this precept include:

To consider the long term approach recognizing the fact that the transformation from wealth in the ground to wider societal benefits can take many years and present many challenges and surprises along the way. Therefore, citizens concerned about the welfare of their children and future generations should recognize that these future generations have a right to benefit from extraction and to be shielded from its inevitable impacts.

- Include the public: A national strategy is more likely to succeed if it is the outcome of inclusive processes that are open and participatory. Decision makers should seek to incorporate the inputs of other stakeholders.
- Ensure strategy is comprehensive: Taking a comprehensive approach provides governments with a framework to understand and better implement initiatives in the extractive sector involving upstream and downstream industry decisions, environmental and community issues etc.
- Translate strategy into a clear and coherent institutional framework.
- Decide whether to open area for exploration after considering the environmental impacts.
- Create competent institutions with a unified objective: Institutions must be assigned coherent objectives in line with the country's strategic plan.
- Form strategy early, cognizant of future uncertainty.

**Precept 2:** Resource governance requires decision makers to be accountable to an informed public. The criteria for achieving this precept include:

- Provide transparency of information along the entire chain of decisions.
- Provide clear roles to institutions: roles and standards of behaviour should be clearly defined and understood by all so that the public can monitor government action.
- Support a critical mass of informed citizen to demand a good governance.
- Enforce the rules.

**Precept 3:** The government should encourage efficient exploration and production operations and allocate rights transparently. The criteria for achieving this precept include:

- Verify over areas to be licensed for exploration.
- Secure property rights and decide on areas to open for exploration.
- Build and maintain a good understanding of the resource base.
- Select an appropriate method to allocate rights.
- Ensure development plans conform to government objectives and approve them in a timely manner.
- Maintain accounts of the physical resource.

**Precept 4:** Tax regimes and contractual terms should enable the government to realize the full value of its resources consistent with attracting necessary investment, and should be robust to changing circumstances. The criteria for achieving this precept include:

- Consider the function, not the form, of the tax regime.
- Use royalties.
- Consider how to tax income and rent.
- Avoid tax incentives and simplify tax regimes.
- Avoid using state equity to increase government returns.
- Ensure competent tax administration and implement tax avoidance rules.
- Establish transparency, stability, and robustness.

**Precept 5:** The governments should pursue opportunities for local benefits, and account for, mitigate and offset the environmental and social costs of resource extraction projects. The criteria for achieving this precept include:

- Involve the local community in decision making and assessment.
- Measure and mitigate the negative effects of extraction.
- Establish and define ownership rights.
- Take opportunities to develop local benefits from extraction.
- Communicate with members of local government and strengthen their capacity.

**Precept 6:** Nationally owned companies should be accountable, with well-defined mandates and an objective of commercial efficiency. The criteria for achieving this objective include:

- Decide on an operational role for the national company.
- Consider the governance roles of the national company.
- Establish checks and balances.
- Manage the evolution of roles.

**Precept 7:** The government should invest revenues to achieve optimal and equitable outcomes, for current and future generations. The criteria for achieving this precept include:

- Ensure equitable allocation for future generation.
- Consider equity amongst today's citizens.
- Ensure investment is efficient.

**Precept 8:** The government should smooth domestic spending of revenues to account for revenue volatility. The criteria for achieving this precept include:

- Consider using hedging contracts.
- Consider accumulating foreign assets, and borrowing in the short-term.
- Consider how the extractive industry tax regime affects volatility.
- Establish checks to ensure appropriate use of instruments.
- Make changes to investment expenditure before recurrent expenditure.

**Precept 9:** The government should use revenues as an opportunity to increase the efficiency of public spending at the national and sub-national levels. The criteria for achieving this precept include:

- Manage spending policies to avoid economic deterioration.
- Improve public spending management.

**Precept 10:** The government should facilitate private sector investments to diversify the economy and to engage in the extractive industry. The criteria for achieving this precept include:

- Establish an enabling environment for private investment.
- Decide whether to provide target support to business.
- Decide whether to use local content regulations.
- Choose whether to encourage downstream operations.

**Precept 11:** Companies should commit to the highest environmental, social and human rights standards, and to sustainable development. The criteria for achieving this precept include:

- Abstain from corrupt practices.
- Contribute to sustainable development outcomes.
- Provide relevant project information.

**Precept 12:** Governments and international organizations should promote an upward harmonization of standards to support sustainable development. The criteria for achieving this precept include:

- Promote, monitor and enforce public disclosure requirements for the extractive industry.
- Ensure that extractive projects comply with environmental and social standards.
- Reduce illicit financial flows and corruption.
- Support the exchange and extension of extractive industry skills.

So far, what has been referred to above relate to government and corporations. Human rights to environment are as contained in the existing human rights treaties concerned with civil and



political rights of the United Nations Charter, 1945. And scholars are of the view that if fully mobilized, may offer local and international environmental protection, although there are reasonable indications that they may fall short in meeting this end. This right, according to Dias (2000) is contained in part 1 of the Draft Declaration Key general concepts. Principle 1 reiterates the interdependence and indivisibility of human rights, an ecologically sound environment and sustainable development. Principle 2 reaffirms the right to a “secure, health and ecologically sound environment”. Principle 3 reaffirms the right to freedom of discrimination in regard to actions and decisions that affect the environment. Principle 4 sets out the principle intergenerational equity. The rest of part II, part III, part IV and part V relate to *substantive* environmental rights, *procedural* aspects of environmental human rights, *duties* and *special considerations* respectively.

Without doubt, there are obvious impediments in the way of implementing these human rights to environment by various governments. However, putting these laws in place reduces infractions and abuses as people (individually or collectively) and governments can challenge through local or international courts of jurisdiction, violations to these rights.

### **Education and the Signposting of the Economy**

Education is one of the fundamental factors of development. Education raises people’s productivity and promotes entrepreneurship and technological advances. It plays an important role in securing economic and social progress and improving income distribution. Developing knowledge and raising skills holds the key to higher living standards and well-being. Investing in knowledge creation and enabling its diffusion is the key to creating high-wage employment and enhancing productivity growth. This should be provided at basic vocational and higher levels of education to engender sustained growth in today’s global economy. A nation’s economy flourishes as the proportion of educated workers increase since educated works can more efficiently carry out tasks that require literacy and critical thinking. Education is an investment in human capital.

Education is the signpost that shows development indicators of the direction of present and future growth. It provides the yardstick for measuring the level of manpower development of a nation. Indeed, as Nelson Mandela noted, “education is the most powerful weapon you can use to change the world”. And Plato rightly put it, “if a man neglects education, he walks lame to the end of his life”.

Education is generally seen as an investment in human capital (Akbari, 2016; Grant, 2017; Salgur, 2013). No nation can achieve sustainable economic development without substantial investment in human capital. Education enriches human understanding of themselves and their world. It improves the quality of their lives and enhances broad social benefits to individuals and society. Education increase human productivity and creativity, and promotes entrepreneurship and technological advancement. More importantly, it guarantees economic and social progress and improves income distribution.

Grant (2017) reports the World Economic Forum 2016 as suggesting three channels through which education affects a nation’s productivity. First, it increases the collective ability of the workforce

to carry out existing tasks more quickly. Second, secondary and tertiary education facilitates the transfer of knowledge about new information, products and technologies created by others. Finally, by increasing creativity it boosts a nation's capacity to create new knowledge, products, and technologies. Education is a leading determinant of economic growth, employment, and earnings. Ignoring the economic dimension of education would endanger the prosperity of future generations, with widespread repercussions for poverty, social exclusion, and sustainability of social security systems.

The human capital is considered an important element for the economic growth and development of any nation. Education is seen as a pivotal factor for improving the quality of the human capital. Consequently, education plays a vital role in the social and economic development of any nation. For no nation can succeed in achieving a sustainable economic growth without providing quality education to its human capital. Such an education system promotes sustainable economic growth, and enhances total production, per capita income, and the quality of family life.

Salgur (2013) citing UNESCO Educationfor All (EFA) Global Monitoring Report 2011 indicates that many low-income countries have made good investments in their educational systems since 1990. The economic growth of a country, according to this report, depends mainly on three factors:

- human capital
- physical capital
- financial capital

The human capital is the human capacity required to manage the physical and financial capital involved in production processes. The physical capital refers to all the natural resources that a country possesses while financial capital is the power of investment required to transform the physical capital into valuable goods.

In the light of UNESCO's report, the President and Chief Executive Officer, Federal Reserve Bank of Philadelphia 2008, Charles I. Plosser highlights the links between education and economic well-being both for the individual and society as a whole. In his speech he establishes the importance of education to the development of human capital for economic growth and prosperity. In his view, economic prosperity is generally measured in terms of living standards, and the improvement in living standards is closely linked to the growth in the productivity of labour. In order to improve living standards, the productivity of individuals in a society must increase. Education affects productivity in two critical ways. First, education supports innovation that creates new technologies, which in turn, enhance the productivity of workers in the economy. Second, education improves workers' skills, which allows them not only to use new technologies but also to use existing technology more efficiently. As to how education aids technological progress Charles Plosser avers:

*One way that education improves productivity is through research and development, which contributes to innovations and new technologies that improve our standards of living and the quality of our lives. We have seen this play out in the innovations of the*

*past two decades,. Advances in information and communications technology have had dramatic effects on the U.S. economy and how people live and work...*

*But technological progress and innovation occur in all fields. We have seen great strides in the development of drugs and medical procedures that improve our health. We also have seen innovation and productivity gains in service industries. Innovation in financial services has changed how firms and individuals use and access the financial market place. Electronic payments, improved access to credit, and new products that distribute risk and improve the efficiency of financial markets are widespread. These innovations lower costs and expand opportunities for individuals and firms... education helps to teach individuals the skills necessary to use and take advantage of new technologies.*

What the above excerpt indicates is that knowledge and skills acquired through education not only contribute to productivity through the innovations and technologies they foster, but they equip individuals with the tools and skills to use new technology in ways that make the individuals more productive. Education enhances productivity and raises living standards. It enables consumers and businesses to make more informed and thus better decisions and choices – improving the broader economy in the process.

Education as an investment, Harry A. Patrinos, Practice Manager, World Bank Education 2016, says:

*Countries need to improve quality, strive for excellence, and expand opportunities, based on efficiency and equity. This means ensuring that disadvantaged youth enroll and succeed.*

*While the returns to schooling are high on average, results vary. There must be better information for such students who don't perform well and greater support networks to help them take on the challenges of completing their tertiary level education. More information will also benefit students and families from disadvantaged backgrounds, who tend to overestimate benefits and underestimate costs.*

*Education is truly one of the most powerful instruments for reducing poverty and inequality and it sets the foundation for sustained economic growth. Let's start investing in it more.*

What all of this boils down to is that the consumption benefits of education are two-fold: if the welfare of society depends on the welfare of its citizens, then the society as a whole also gains in welfare as a result of the increased consumption benefits of individuals from more education.

## CONCLUSIONS

The trilogy of education, environment and economy are complementary – a severance of one from the other results in stagnation and underdevelopment. It can be recalled from the discussions in this paper that investment in education has both private and social or public benefits – and social

benefits far exceed private benefits. Education enhances good interpersonal relationship among neighbours and fellow citizens, and makes social and political life more healthy and meaningful. Education has effect on technological advancement, and higher education stimulates research and raises productivity which undoubtedly leads to economic growth. Needless to say, the integration of environmental principles into the education system will lead to global education for all in which people of all cultures become responsible and effective participants in the primary environmental care of their homesteads and communities, and to greater extent, contribute to national and global economy.

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