



Oikos

The Zimbabwe Ezekiel Guti University
Bulletin of Ecology, Science Technology,
Agriculture, Food Systems Review and Advancement

ISSN 2957-8434 (Print)

Vol 1 Issues (1&2), November 2022

©ZEGU Press 2022

Published by the Zimbabwe Ezekiel Guti University Press

Stand No. 1901 Barrassie Rd,

Off Shamva Road

Box 350

Bindura, Zimbabwe

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JOURNAL PURPOSE

The purpose of *the Oikos - The Zimbabwe Ezekiel Guti University Bulletin of Ecology, Science Technology, Agriculture and Food Systems Review and Advancement* is to provide a forum for scientific and technological solutions based on a systems approach and thinking as the bedrock of intervention.

CONTRIBUTION AND READERSHIP

Natural scientists, engineering experts, technologists, and multidisciplinary teams are encouraged.

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Oikos - The Zimbabwe Ezekiel Guti University Bulletin of Ecology, Science Technology, Agriculture and Food Systems Review and Advancement

ISSN 2957-8434(Print)

SCOPE AND FOCUS

The journal is a forum for the discussion of ideas, scholarly opinions and case studies of natural and physical science with a high proclivity to multidisciplinary approaches. The journal is produced bi-annually.

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Language: British/UK English.

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Abstract: must be 200 words.

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Italicise *et al.*, *ibid*, words that are not English, not names of people or organisations, etc. When using more than one citation confirming the same point, state the point and bracket them in one bracket and in ascending order of dates and alphabetically separated by semi-colon e.g. (Falkenmark, 1989, 1990; Reddy, 2002; Dagdeviren and Robertson, 2011; Jacobsen *et al.*, 2012).

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Oikos: Insights into Science, Technology and Societal Advancement

EDITORIAL

ABSTRACT

The article seeks to explain the meaning and understanding of Oikos within the science, technology and advancement in Zimbabwe. It is derived from ‘_oikos’, a Greek word which means different things to different people depending on the

context, environment, cultural context and country. A desktop review and contextual and textual analysis were used. There is a need for education in universities to advance and enhance science and technology in the global future. It argues that there is a need for innovation and a good behaviour relationship between African youth and technology in the 21st century.

Keywords: knowledge; innovation; education; Africa; relationship and habitation.

INTRODUCTION

Oikos means —habitation and -ology manner—the look at ofl. So ecology commenced because of the study of where things live. The phrase has been interchangeably used with the environment. *Oikos* is a monthly peer-reviewed medical magazine overlaying studies on the subject of ecology. It is published using Wiley-Blackwell on behalf of the Nordic Foundation Oikos. Since 2011, Dries Bonte has been the editor-in-chief (Ghent University, 2011). Oikos is ancient Greek for the household(Nobis and Wohlgemuth, 2004; Wals, 2019; Borisova, 2015; Farmer, 2017; Nobis and Wohlgemuth, 2004; Wals, 2019)

INTERPRETATIONS CONSIDERING THE CHANGING WORLD

The American Association for the Advancement of Science (AAS), has the capacity to apply clinical information and techniques of analysing for non-public and public purposes. The argument is that our picks within the application of technical expertise are intricately tied up to dangers and benefits, social change-offs, fee judgment and compromise. Scientific literacy involves the capability to use medical understanding daily. Therefore, technological literacy is an accessory to clinical literacy as this involves a better comprehension of cuttingedge

technology, its capacities, scope and boundaries, fundamental principles, theories and social impact. This knowledge of technology can better be grasped through the philosophy of schooling if one wants to sanitise, compare and analyse scientific concepts, theories, legal guidelines and generalisations. It will enhance standard ethics and good judgment of medical and technological development. With its vital nature, the philosophy of schooling will help engineer a kind of medical and technological improvement that will be socially and culturally relevant and accountable. It will also encourage important wondering within the scientists and technologists to pass a protracted way to reshape their awareness.

The Southern African Development Community (SADC) Protocol on Science, Technology and Innovation was discussed in 2008 to improve systems. It stresses the significance of technology and generation for accomplishing sustainable and equitable socio-monetary growth and poverty eradication. To promote sustainable science, research and improvement in Africa, the most critical and strategic element is in appointing schooling and educational institutions as critical equipment closer to this purpose (Ekenam *et al.*, 2010). This is anchored on the logic that the sustained prosperity of a state depends on the level and state of its training gadget. Education empowers people and maximises countrywide highbrow assets to sustain social and financial development for the benefit of many. The study advocates for the power usage of training and educational institutions for the attainment of sustainable improvement through science and technology studies.

International technological knowledge had been included in human culture. As a basic social manner, science and generation have become vital in the 21st century. Therefore, the social justification for his or her development has been both highbrow and cloth. Through science, a man is supposed to have a better understanding of nature, surroundings and society. They also are speculated to liberate man from the chain of superstition and lack of awareness. Technology

began to —offer us absolute management over the cloth globall. From this, _man‘obtained total liberation —from tough work, starvation and povertyll (Umoren, 1996). Despite the guarantees of science and technology, Africa remains an insignificant spectator in the crucial sphere of human endeavour. This is due to the high illiteracy charge (lack of right education) in African nations, inclusive of Nigeria, Niger, Burkina Faso, Kenya, Ethiopia and Cameroon, among others. Some troubles have to do with conceptual and cultural practices that have hampered and frustrated efforts made at bringing about scientific and technological development in African international locations.

There is a dearth of the best quantity of technical, clinical, professional and managerial employees to implement such programmes. As a result, maximum African international locations like Nigeria according to Umoren (1996) are at risk, due to societal erosion with the aid of the rising tide of mediocrity, posing a fundamental risk to the future of the continent. She argues that since Africa is generating a scientifically and technologically illiterate population, Africa cannot obtain technological development. This should result in what Umoren (1991) defined as a lack of knowledge or worry about technological knowledge and technology. To lack such in the 21st Century leads to the production of techno-peasant residents who, according to Prewitt as quoted via Umoren (1997), are people bewildered and intimidated using brand-new strategies and languages of technology and technology.

The creation of the information primarily based economic system has purchased knowledge important and research has indicated a correlation between advanced understanding and aggressive gain as postulated by Teece *et al.* (1997) in their look at dynamic managerial competencies. They recommend that aggressive gain is properly decided with the aid of the organisational talents and centre

competencies and their applications in place of the differences in enterprise characteristics (Pugh, 2016). The concept then is to mix the specialised understanding embedded in people otherwise referred to as human capital, with precise organisational activities to permit innovation (Hill *et al.*, 2014). Thus, technological competencies (TCs) are now stated as a vital useful resource for advanced overall performance. An assessment of the technology age in Africa ranked Zimbabwe 54th inside the era achievement index (TAI), which is very low considering that studies have proven that the TCs region is key to monetary boom and the benefits and consequences of world technological advances are growing (Pugh, 2016). The TAI displays the ranges of technological progress and capability in phrases of the creation of technological capabilities. This is the potential to innovate, the diffusion of recent innovations, the diffusion of current innovations and the human skills essential for generation improvement. Little is understood about the improvement of TCs on account that Zimbabwe's financial woes began in the year 2000, which saw several businesses close down (Teece *et al.*, 1997; Pugh, 2016).

The Ministry of Science and Technology Development and its portfolio changed 2013 to a new setup, the Department of Science and Technology in the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (Kraemer–Mbula and Scerri, 2015). In 2013, the authorities accepted four countrywide studies priorities proposed by the Research Council of Zimbabwe:

- The social sciences and humanities.
- Sustainable environmental and resource management. □
Promoting and maintaining good health; and □ The national security of Zimbabwe.

Zimbabwe has a long research tradition dating back a century. History has been affected by the Zimbabwean economic crisis that has led to an exodus of university students and professionals in key areas of expertise (medicine, engineering and so on) (*ibid.*). More than 22% of Zimbabwean tertiary students were completing their degrees abroad in 2012 in comparison to a 4% average for sub-Saharan Africa as a whole (Lemarch and Schneegans, 2014).

DIMENSION AND SCOPE

A fundamental need for improvement of technology, research and national development is to set up a sound instructional system (Ekenam *et al.*, 2010). This instructional device ought to be anchored on a valid philosophical basis that encourages partnership for change of humans, thoughts and guide facilities. Universities and studies institutes in extraordinary African international locations ought to enhance their relevance to society through the improvement of partnerships with the local people, enterprises and country-wide research facilities (Kraemer–Mbula and Scerri, 2015). Educational institutions ought to be open to satisfy the needs of neighbourhood industries, humans, and the environment, updating their research programmes and sports to satisfy the practical needs of society. Local studies and improvement should be as selective as possible with the intention of managing scarce assets (Umoren, 1996).

With a legitimate philosophy of schooling, medical and technological research and pastimes are refocused closer to the enhancement of the situations of lifestyles. It will help to test the detrimental inclinations of some sciences and technologies. The philosophy of schooling directed at bringing about a brand-new clinical subculture in African countries will go a long way to preserve the continent's herbal surroundings (Ekenam *et al.*, 2010). -New scientists and IT specialists could be knowledgeable to obey the herbal legal guidelines and

maintain its concepts. Life in the new techno-lifestyle will be sacred and no longer concerned with experimentation based totally on trial and error techniques.

Traditional interpretations of the format of the *oikos* in Classical Athens were divided into male and female spaces with an area called the *gynaikon* or *gynaikonitis* women's chores that include cooking and textiles (Andrianos, 2018) and a place for men referred to as the *andron*. It has been argued that, instead of dividing the household area into "male" and "female" spaces, it is best to look at areas as being no private or open to all. In this model, access to the private areas is reserved for the family while public areas are for visitors (Farmer, 2017). Initially, the *kyrios* of an *oikos* might have been the husband as head of the family. However, when a son came of age, he became the *kyrios* (Foxhall, 1989). A new *oikos* was formed when a son received their inheritance from their fathers upon the death of the father of before (Patterson, 2009). Therefore, a new *oikos* would have been shaped in every age and would continue to be perpetuated through marriage and childbirth.

The Second Science and Technology Policy cites sectorial regulations focusing on biotechnology, data and conversation technology (ICTs), space sciences, nanotechnology, indigenous knowledge structures, technologies yet to emerge and medical solutions to emergent environmental challenges (Lemarchand, and Schneegans, 2014). The policy makes provisions for setting up a National Nanotechnology Programme. Zimbabwe has a National Biotechnology Policy that dates back to 2005 (Maclurcan, 2005). Despite poor infrastructure and a lack of human and financial assets, biotechnology studies are better established in Zimbabwe than in maximum sub-Saharan African locations. s. The Policy asserts that the authorities dedicate a minimum of 1% of GDP to Gastroesophageal reflux disease (GERD), focusing a minimum of 60% of college education on growing

talents in science and technology and ensuring that faculty students commit at least 30% of their time to study technological topics (Kraemer–Mbula and Scerri, 2015).

Zimbabwe has a rather nicely-developed countrywide infrastructure and a long-status way of life of promoting research and improvement (R&D) as evidenced by the levy imposed on tobacco growers (Lemarch and Schneegans, 2014). To accomplish international appeal, Zimbabwe will need a high level of accuracy in some of the structural weaknesses. Although the infrastructure is in the vicinity to harness R & D to Zimbabwe's socio-economic improvement, universities and studies institutions lack the monetary and human sources to promote R&D and the present-day regulatory surroundings hinder the transfer of the latest technologies to the business sector (Kraemer–Mbula and Scerri, 2015; Maclurcan, 2005).

The improvement timetable for 2018, the Zimbabwe Agenda for Sustainable Economic Transformation, excluded targets for increasing the wide variety of scientists and engineers, or the staffing requirements for industry and other effective sectors. The lack of coordination and coherence among governance structures has also brought about a multiplication of research priorities and negative implementation of current regulations (Lemarch and Schneegans, 2014).

Schooling turns into a condition- sine-qua-non for the improvement of the technological era. This calls for massive training considering the requirements of the 21st century where people ought to—have the savvy to explore, recognise and to some degree control their destiny inside the society, that is redesigned by way of technology. There is a desire for this schooling to have a philosophical base on

the way to define the focal point of the brand-new clinical and technological society. This education will sell and recommend medical literacy and the practical software of clinical information to result in societal development.

Science and technology improvement is a vital condition for the nonviolent social improvement of the African continent. The sustainability of technological improvement calls for human and economic sources. This education demand which is taken as a condition-sine-qua-non for sustainable development of technology ought to be based on a philosophy of training so one can help to reshape and refocus medical and technological improvement. This is anchored on the importance of information in the improvement of society and the financial system, that technological knowledge plays a pivotal role.

REFERENCES

- Lemarchand, G. A., Schneegans, Susan (eds) (2014). *Mapping Research and Innovation in the Republic of Zimbabwe* (PDF). Paris: UNESCO. pp. Volume 2. GO-SPIN Profiles in Science, Technology and Innovation.
- Kraemer-Mbula, E., Scerri, M. (2015). Southern Africa. In: UNESCO Science Report: Towards 2030 (PDF). Paris: UNESCO. pp. 535–555.
- Teece, D.J. (2010). *Technological Innovation and the Theory of the Company: The Role of Enterprise-Level Knowledge, Complementarities, and Dynamic Capabilities*. London: Elsevier
- Andrianos, L. A. (2018). Ecumenical Theology of Hope for the Common Oikos and the Greed Line as the Principle of Sustainability. *The Ecumenical Review*, 70(4), 600-616.
- Baker, C. M. (1997). *Rebuilding the house of Israel: Gendered bodies and domestic politics in Roman Jewish Galilee, c. 135-300 CE*. Duke University
- Farmer, J. A. (2017). One or Two Things I Know About Us: Narrative Strategies for Autoethnography, Self-Representation and Healing in Four Memoirs by Poor-white Women from the US South.
- Fowlkes, D. W. & Verster, P. (2006). Family (oikos) Evangelism for reaching forward caste Hindus in India. *Verbum et ecclesia*, 27(1), 321-338.
- Green, M. (2004). *Evangelism in the early church*. Wm. B. Eerdmans Publishing.
- Holbrook, J., & Rannikmae, M. (2007). The nature of science education for enhancing scientific literacy. *International Journal of science education*, 29(11), 1347-1362.
- American Association for the Advancement of Science. (1994). *Benchmarks for science literacy*. Oxford University Press.
- Ekanem, S. A., Ekanem, R. S., Ejue, J. B., & Amimi, P. B. (2010). Science and technology research for sustainable development in Africa: the imperative of education. *African Research Review*, 4(3).
- Kraemer-Mbula, E., & Scerri, M. (2015). 20. Southern Africa, UNESCO SCIENCE REPORT.
- Foxhall, L. (1989). Household, gender and property in classical Athens. *The Classical Quarterly*, 39(1), 22-44.
- Patterson, C. B. (2009). *The family in Greek history*. Harvard university press.
- Maclurcan, D. (2005). Nanotechnology and Developing Countries—Part 2: What Realities? *Online Journal of Nanotechnology*, 1.
- Nobis, M., & Wohlgemuth, T. (2004). Trend words in ecological core journals over the last 25 years (1978–2002). *Oikos*, 106(2), 411-421.

- Wals, A. E. (2019). Sustainability-oriented ecologies of learning: A response to systemic global dysfunction. In *Ecologies for Learning and Practice* (pp. 61-78). Routledge.
- Borisova, T. (2015). On the Problem of the Transmission and the Ensuing Adoption of the Byzantine Acrostic in the Early Ecclesiastical Slavonic Hymnography. *Fragmenta Hellenoslavica*, 2, 113-136.
- Hill, L. A., Brandeau, G., Truelove, E., & Lineback, K. (2014). *Collective genius: The art and practice of leading innovation*. Harvard Business Review Press.
- Pugh, L. (2016). *Change management in information services*. Routledge.