

ETHICAL CONSIDERATIONS IN BUILDING REGULATIONS IN KENYA

Corresponding Author: Kigara Kamweru, kkamweru@uonbi.ac.ke

Owiti K'Akumu, email: owiti.kakumu@uonbi.ac.ke

Robert Rukwaro, email: rukwaro@uonbi.ac.ke

Abstract:

Building regulations provide guidance and create a restraint in the actions that are required to create living environments. The search for shelter is a primordial human activity which is a form of expression of the individuality of those who built. Guidance in this process raises ethical issues in the balance between individual predilections and community interests. This predicament is at the heart of the very need for regulations. In this conceptual paper, the nature of this dilemma is explored by analysing the issues that create ethical hazards and their mitigation, springing initially from the Kenya regulations but referencing international concerns. The paper finds that a sure path to the resolution of ethical issues has not been found yet, but pointers to its form can be garnered from available understandings. It concludes by affirming the primacy of human rights and human dignity on one level and the primacy of societal and universal values on another.

Keywords: *Ethics, regulations, building, community, environment.*

I. INTRODUCTION

Restrictions on people's actions challenge the freedoms and rights that they enjoy in a civil society and raise the question of justification; placing a burden on the regulating agents to offer that justification and bring the population to a common understanding. Absent that, the risk of rejection or resistance to adherence may manifest in the population.

Readings on regulation reveal that the process is justified with two key arguments: the first of these is public interest theory, where the interests of a population are protected against encroachment by individuals acting for their own benefit. The public interest theory posits that regulation promotes the general welfare as opposed to group or individual interests (Hertog, 1999). The other is to deliver justice and prevent a moral hazard, a situation where the costs of risky behaviour are passed on to other parties. This is fundamentally caused by the asymmetry of information in the construction process, between those who build and the eventual users of buildings.

In both these arguments, it is suggested that individuals must give up part of their freedoms for the public good. The freedom to build as one wishes, to provide their shelter needs in the manner and style that satisfies them, is not a tenable proposition. In as far as this decision involves the exercise of authority on the population; it carries the risk of misunderstanding, and possibly authoritative overreach, posing the challenge of persuading the population of the benefits of these actions.

Building regulations like all other regulations are essentially constructed to moderate conduct in order to achieve a socially desired outcome. The legal concept of "regulation" is often understood to mean control or constraint. For example, the definitive legal dictionary, *Black's Law Dictionary*, defines "regulation" as "the act or process of controlling by rule or restriction." (Black, 2009) Similarly, *The Oxford English Dictionary* defines "regulation" as a "rule or principle governing behaviour or practice; esp. such a directive established and maintained by an authority." and "to regulate" as "to control, govern, or direct." (OED) In common understanding, "control"

connotes “restrictions,” although control may have other meanings. This process in many instances can be characterised as curtailing actions and at any rate limiting the options available for action to the persons or actions being regulated (Orbach, 2012).

Ethics is a subject in the moral realm. The concern with ethics is a concern about what is right or wrong. It is the study of morally appropriate behaviour and decisions, and examining what should be done.

The research problem that this paper is concerned with arises from the interaction of the process of regulation and freedoms of citizens. It speaks to the question of who we are and the underlying question as to whether regulation curtails that. The question arises because the humanity or inhumanity at the heart of the regulation process potentially creates a problem that impinges the rights of a citizen.

The citizen is cast as the beneficiary of the regulatory process. However, they are not involved in the formulation of these regulations. This raises ethical concerns. The hazard of exploitation exists in this situation suggesting the need to protect the citizen from overreach and mischief that could be occasioned by unbridled exercise of authority.

The purpose of this paper is to highlight the areas where these dilemmas occur and to attempt to summarise the proffered resolutions. It is exploratory in nature and relies on secondary data in the main to draw a broad contour of the ethical profile.

II. THEORY

The nature of Ethics

A simple definition of ethics is the moral principles that govern a person's behaviour or the conducting of an activity. Ethics examines the rational justification for our moral judgements, what is morally right or wrong. (The branch of knowledge that deals with moral principles is also referred

to as Ethics). (Oxford Advanced Learner's Dictionary)

The nature of ethics is debated in literature without a firm and sure consensus of what it represents. Fromm (1990) suggests that what is ethical is that which supports life and its sustenance. Distinction is made between humanistic ethics -the principle that only man himself can determine the criterion for virtue and sin, and not an authority transcending him- and authoritarian ethics. The latter is seen as the situation where the norm giver is an authority transcending the individual.

Other authorities see ethics as referring to well-founded standards of right and wrong that prescribe what humans ought to do, usually in terms of rights, obligations, benefits to society, fairness, or specific virtues (Velasquez, Andre, Shanks, S.J., and Meyer; 2010). Ethics have also been expressed as based on the notion of conflict and choice between competing alternatives (Braunack-Mayer, 2001).

The broad area of convergence is the idea that ethics relate to the choice between right and long.

Ethical dilemma arises when the notions of right and wrong are in conflict. It is a problem in the decision-making process between two possible options, neither of which is absolutely acceptable from an ethical perspective.

Underlying the statements of regulation is the tension arising from conflicting aspirations that cast individual concerns against societal needs, and which potentially raise ethical dilemmas.. The institution of regulations is itself an act of protecting the public interest and protecting the vulnerable. Public interest theory envisages a bulwark against special interests.

At the core of the building process is an asymmetry of information that arises from the technical nature of the production of buildings. Such a skewed situation raises a

moral hazard for users of buildings, a manifestation of an ethical dilemma.

The more complex plane emerges in the relationship that buildings have on the environment. The impact on the environment that is associated with the working of buildings and the impact on human health has been the subject of concern for many years.

Concerns over the sustainability and resilience of cities have tended to focus on the actual fabric and what is constructed. The transformation of the ground cover is identified as a major factor in the creation of micro climates and weather patterns in the city. Human activities contribute to the creation of heat islands within urban areas. This is seen to contribute to negative outcomes on the climate and on the practical impacts of the weather.

According to the United Nations, cities are a key contributor to climate change, as urban activities are major sources of greenhouse gas emissions. Estimates suggest that cities are responsible for 75 percent of global CO₂ emissions, with transport and buildings being among the largest contributors. In the process they create “costly impacts on cities’ basic services, infrastructure, housing, human livelihoods and health”.(UNEP, 2023)

Poor appreciation of the process

In 2004 the Australian Government through the Productivity Commission undertook an examination of the performance of the building regulations in that country. Among the concerns at the core of this inquiry was whether they deliver justice and an improvement of society. The final report of this commission found it necessary to restate the justification for government regulation of the building process.(Productivity Commission, 2004).

Recent research in varied areas of knowledge, has sought to emphasise the importance of ethical standards in creating an organisational culture. In business, a

concern with ethics is seen as the way to build corporate character where individuals employed and communities in which the organizations function, may flourish (Gripopoulou, 2019). In engineering, a common understanding of ethics is seen as underpinning the health of the profession (Githui, 2012).

Flawed understanding of science

The Grenfell fire in London in June of 2017 placed a spotlight on the manner of regulation of residential buildings. The investigative report into this fire found that the adoption of a risky strategy to mitigate the effects of a fire hazard, led to serious scrutiny of the principles underpinning this approach (Crown Copyright, 2019). Those principles were seen to be flawed and largely responsible for the loss of life that occurred.

Misrepresentation and fraud

In the field of construction ethical dilemmas arise in the aggressive pursuit of profit which may lead to corrupt practices. The concern with ethics however goes back to ancient times. Ethical challenges arise when there is a clash of principles. A particular trap is the political expediency that may seem on the face of it to be promoting societal interest. In Kenya it has been shown that even public building constructed by government overlook required standards (Makuta, 2019).

The aforementioned case of Grenfell Fire in London offers a lesson that some compromises on the basis of costs can be expensive for society. The report into the investigations on this fire, placed blame on the process of regulation and enforcement and also cast doubt on the standards expected. (Crown Copyright, 2019) The report made wide ranging recommendations on the administration of building regulations related to residential buildings.

Involvement of Communities

International conventions on risk management have highlighted the need for

a more involving process of formulating regulation. Evidence of this is seen in the final report of the Sendai Framework for Disaster Risk Reduction. (United Nations Office for Disaster Risk Reduction,[UNISDR], 2015).These concerns point to the need for a balance in the formulation of regulation and a formulation of principles and policies that forestall the problems.

From the foregoing, it is clear that the process of constructing buildings is fraught with the potential to err in the pursuit of a stated end. The inability to be categorical as to what should have priority requires a deeper understanding of the process to reveal where a satisfactory guiding principle might lie.

III. METHODOLOGY

This is a conceptual paper and is not based on an empirical study. Jaakkola (2020) suggests four approaches to the research design for conceptual papers: Theory synthesis, Theory adaptation, Typology and Model.

The research methods adopted for the paper is interpretation, and the reference data is the formal statements of building regulations for Kenya, notably the incumbent Building Code 1968 and the draft National Building Regulations of 2015 including subsequent revisions.

As a conceptual paper, the arguments are not derived from data in the traditional sense but involve the assimilation and combination of evidence in the form of previously developed concepts and theories (Jaakkola, 2020; Hirschheim 2008).

Table 1 Research design elements in conceptual design	
Empirical research	Conceptual paper equivalent
Theoretical framing	Choice of theories and concepts used to generate novel insights
Data (source, sample, method of collection)	Choice of theories and concepts analyzed
Unit of analysis	Perspective; level(s) of analysis /aggregation
Variables studied (independent/dependent)	Key concepts to be analyzed/explained or used to analyze/explain
Operationalization, scales, measures	Translation of target phenomenon in conceptual language; definitions of key concepts
Approach to data analysis	Approach to integrating concepts; quality of argumentation
Source: Jaakkola, 2020	

Table 1 summarises a comparison of the main research elements in empirical research and conceptual design.

The general theory of regulation, the focal theory of the building regulations, explains to a great extent the logic behind the building regulations. Coupled with an historical survey of the development, the

logic behind the formulation of the regulations can be rationalised and clarified. The general theory however, does not fully capture the ethical dimension. The prism of a supplementary theory is necessary to shed light on the nature of the ethical dilemma. The tension that creates a predicament pivots of the need to regulate with empathy, to preserve the fundamental tenets of a positive society. It is the difficulty of imposing an authoritative regime of regulations on an otherwise free society, and the consequent need to justify the action.

This study seeks to unearth the necessary basis for this approach and the resolutions available to mitigate. It does this by referencing the scholars of the enlightenment and taps into the insights behind the imposition of authority of societal processes.

IV. THE ETHICAL FOUNDATIONS OF BUILDING REGULATIONS

The provision of shelter aims at creating conditions for decent living in environments capable of supporting the basic needs of human living. Good living environment provide delight and opportunity to live beyond the threshold of survival, providing a degree of enjoyment. The fundamental nature of this concern is demonstrated by the writing of the Roman architect Vitruvius who identified the three elements of a well-designed building as *firmitas*, *utilitas*, and *venustas*, translated as firmness, utility and delight (Marconi, 2015). Firmness or physical strength secured the building's structural integrity. Utility provided an efficient arrangement of spaces and mechanical systems to meet the functional needs of its occupants. And *venustas*, the aesthetic quality associated with the goddess Venus, imparted style, proportion, and visual beauty.

The imperative of design to create safe environments for living goes to the very genesis of the regulations themselves. The

building regulations as we know them today are birthed in crisis. It is in the crisis that engulfed the Industrial towns in the mid-nineteenth century that the effort to create a building code was made as has been narrated in numerous publications (Rosen, 1993; Benevolo, 1971; Mumford, 1961; etc). The need to preserve life in the light of a major public health crisis gave impetus to the early efforts to create the code. Thus the regulations are linked to the preservation of life and life sustaining environments at the level of first principles.

Further, the safety of persons using buildings is a strong demonstration of the risk posed by asymmetry of information. Structural stability in building being a highly technical undertaking is never obvious to the naked eye. Safety can also be compromised by poor fire safety design. In varied ways, the regulations are concern with the safety and health of persons.

At a communal level, building regulations have a concern for the sitting of buildings and thus the delineation and use of space. This is an area of political sensitivity. The fundamental concern to protect the water ways, green spaces and air quality is prone to challenges in the pursuit of individual and household interests.

In more recent times, there is a growing concern with more universal values and their manifestation in the shaping of urban areas. Speck (2012) has highlighted the need to use walkability as a measure of quality in the urban areas. This makes an aspect of human health contingent on the design of public spaces. It creates a moral imperative to be concerned about this dimension in the regulatory process. Similarly the issues brought forth in recent writings (Gehl, 2010; Klinenberg, 2018; Glaeser, 2012; Jacobs, 1995) and even earlier writings about the quality of public space (Newman, 1973; Jacobs, 1961) create the same concerns.

The new issues that have been brought to the fore suggest that the very quality of our lives is greatly impacted by the quality of

the environment. Issues like transparency in the urban fabric and the ability to relate to what is placed in the environment, the value of a communicative environment, walkability and the ease of movement around the city and inclusivity especially for the vulnerable in society; are all now seen as basic issues to be factored in the creation of public space.

The protection of the environment poses a particular challenge in the Kenya environment. Urban poverty is variously identified as a source of environmental degradation in rapidly developing urban systems. (Babanyara, *et al*, 2010). This is a situation where a political angle becomes a potent factor involving vulnerable people in society.

The ethical foundations of the regulations can therefore be seen to manifest at various levels, from the individual concerns, social level, societal level and the universal dimension.

V. ETHICAL CHALLENGES IN BUILDING REGULATIONS

The consideration of human rights is at the core of formulation of ethics. (Fromm, 1990) The key ethical challenges that arise in the regulation of the process of shaping the living environment are closely linked to our nature as human beings and the protection of human dignity. The Universal Declaration of Human Rights (1948) provides a framework for the understanding of what constitutes a threat to human dignity. It helps calibrate what is ethical and what is offensive to human nature. An ethical justification exists if a regulatory measure protects a human right. Among the issues that can be considered in this context are:

- Balancing safety and affordability.** The safety of users of a building is paramount and cannot be compromised. It however involves resources to achieve and thus creates a competing dynamic. It is a balancing between life and its maintenance on one hand, and costs on the other. In this

scenario life tramples costs and gives powerful moral force to the resultant controls.

- Ensuring accessibility and inclusivity.** Society tends to place premium on the proper treatment of the vulnerable, especially the people with disabilities and the infirm. This is part of the effort to ensure societal harmony and springs from the concern with the right to life. Universal design has now become accepted widely as a norm and different countries have passed laws to ensure adherence.

Buildings provide a highly visible demonstration of this principle and moral order is challenged when accessibility for vulnerable persons is not taken into consideration. The existence of laws like Persons with Disability Act, show the importance attached to the matter.

- Addressing environmental and sustainability concerns.** The concern with the environment and the ability to maintain its life sustaining capacity is linked to the wider concerns about the environment. The Brundtland Commission report pointed out “that physical expansion of cities has also had serious implications for the urban environment and economy.” (WCED, 1987).

Individual interest in the construction of a building must factor the broader concern with the health of the environment.

- Mitigating social and economic disparities.** Economic disparities within communities can hinder the access to adequate shelter. The ability of mitigating this by the ingenious application of knowledge requires to be accompanied by clarity about the minimum provisions. The researchers have shown elsewhere that the statement of building regulations contains mechanisms - in the various ways in which acceptable standards are stated - to ensure that this license is not abused.

- Protecting cultural and historical heritage.** The protection of cultural and historical heritage also informs the formulation of the regulations. The character of a locality

can be impacted negatively by the placement of the physical structure that constitutes a settlement or town. Protection of vistas and places of cultural interest need this support of the regulations though the fluid nature of their definition raises difficulties in the creation of protective regulations. This is especially so when a struggle ensues in the balancing of individual property rights and community interests.

The ethical dilemma in the building regulations arises out of the need to balance the rights and freedoms of citizens and the broader imperative to sustain liveable environments, factoring in the overall beauty of the result. The long term viability of a settlement is a matter that is unlikely to trouble the individual trying to actualise a project on their property. The inability of individuals even acting in the most rational way to advance a common or collective interest, brings the challenge into a sharp focus. Neither in theoretical discourse, nor indeed in politics have these issues been resolved. The commons has now been defined as a particular governance challenge (Ostrom, 2015; Standing, 2019).

VI. ETHICAL DECISION-MAKING IN REGULATION

The roots of the logic underpinning ethics in regulation can be garnered from early enlightenment thinkers. The theory of Utilitarianism- associated with Jeremy Bentham (2010) and John S Mill (2002) - is one such source. Utilitarianism is an ethical theory that determines right from wrong by focusing on outcomes. It is a form of consequentialism. Utilitarianism holds that the most ethical choice is the one that will produce the greatest good for the greatest number. (Mill, 2002)

Following on this theory, regulation can be looked at as a process of ensuring that the interests of the majority are not sacrificed for the benefit of a few. It is an imperative that such a risk is utterly removed.

Consequentialism adds the additional dimension of justifying the regulation through a consideration of the outcome. If it results in a satisfying environment, it is then right.

In the Social Contract theory expounded by Thomas Hobbes, the view is that people live together in society in accordance with an agreement that establishes moral and political rules of behaviour. Our choice is either to abide by the terms of the contract, or return to the State of Nature, which Hobbes (1651) argues no reasonable person could possibly prefer. Social contract theories have also been expounded by other important philosophers like Locke (2003) Bentham (2010) and Rawls (1971)

A Social Contract framework relies on the notion that society can agree on what constitutes a good environment, which would then provide the acceptable basis to regulate. Consensus building in this manner may have to rely on the varied tools of shaping opinion in society including political processes, civic education and the discernible input of the professionals.

The Kenya constitution of 2010 now places public participation at the centre of decision making. Public participation is seen as *“a vision of democracy in which citizens are active in public affairs, promoting their notion of justice and good policies, and engaging in dialogues with the legislature and the executive and in these ways enhancing public deliberation and democracy. It is a means of bringing people’s preferences and aspirations onto the agenda of the state. And it is seen as relevant to accountability.”* (Ghai, 2013).

Public participation is one way in which ethical considerations can be integrated into the regulatory process and mitigate against bad decisions. However, while the benefits of public participation are clear in ensuring a response to the needs of a community and tapping into the skills and experiences of members of the public, challenges to effective participation

remain. Among these are the costs of the process, lack of trust and even “Elite capture” where influential members of society can impose their will on the process.

Further a lack of civic education and a well understood framework for public participation may dilute the efficacy of the process.

Whereas this provision may not have contributed to the current set of building regulations, it is a requirement that has to be factored in further revisions of the Code.

VII. ETHICAL IMPLICATIONS OF REGULATORY INNOVATION

New technologies that are now coming into common use also bring in ethical questions that have not been encountered before. The reliance on data gathering technologies to enhance security - for example in the ubiquitous use of closed circuit cameras - raises the possibility of misuse of that information, potentially invading privacy. The enhancement this technology brings into security arrangements carries the possibility of misuse of the data so gathered.

VIII. LEGAL AND POLICY FRAMEWORKS

The broad picture that offers guidance on the incorporation of the ethical considerations is starts with the Constitution of Kenya. The constitution promises that everyone is entitled to a “clean and healthy environment” with the additional promise of a right “to have the environment protected for the benefit of present and future generations”. The positioning within the constitution is a powerful counterweight to the temptations to sacrifice these rights to short term satiation. This position is reinforced further by providing a wide ranging right to apply to the courts for redress on environmental rights.

Additional guidance is offered by the National Urban Development policy which indicates among its guiding principles the pursuit of liveability- Urban areas that have good quality infrastructure and services, and are secure, clean and green. Other stated principles and objectives are similarly well intentioned.

Further reference is provided by international conventions that offer guidance on the proper formulation of regulations. In almost every case, these appeal to higher principles most critical of which are the universally accepted human rights.

IX. FUTURE TRENDS AND RECOMMENDATIONS

Recent discourse on global issues reveal

cast as a choice between individual aggrandisement and the public good. This can be brought under regulatory control.

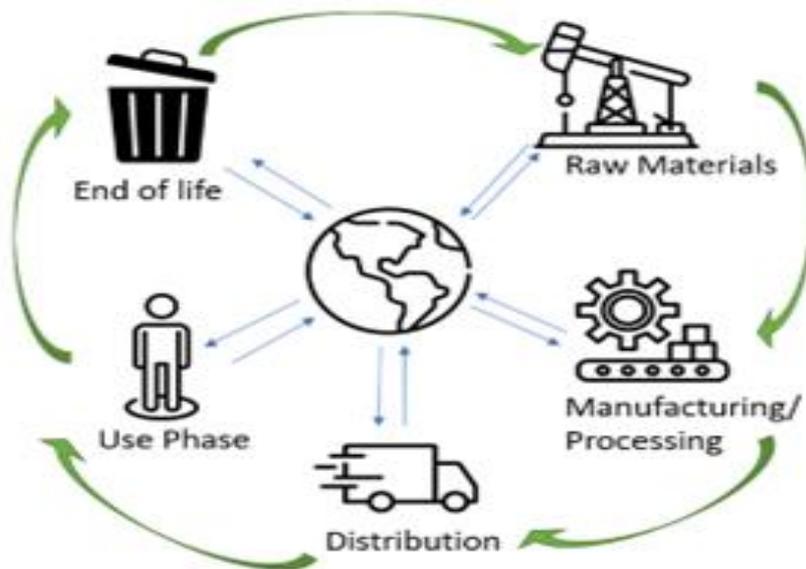


Fig 1: Life Cycle Analysis

Source: Mooney, 2022

that the process of making buildings has impacts that go beyond the concerns of individuals and communities, to a wider sphere. Concerns with climate change, a global matter of concern, are a case in point. The Brundtland Commission (WCED, 1987) identified building as a factor in the environmental response. In Kenya this was eventually reflected in the requirement that developers of buildings indicate their environmental impact as part of the approval process. Among other issues that will continue to raise concern are:

Climate Change On a global scale, the concerns with climate change are intensifying. The search for mitigation measures will focus on the urban fabric and it can be expected that new strictures will be put in place to ensure the preservation of public good. Among the areas that could see changes are the use of active systems to mediate the environmental response, but which themselves offend the environment through the inordinate consumption of energy. Passive systems relying on integration of mitigation measures into the fabric may be deemed superior. The choice between passive and active systems can be

Resource use. Environmental concerns are sharply invoked when common resources are involved. The prudent use of resources like energy and water are already beginning to feature as part of the building regulations. Individual choices around these matters must be externalized for the communal good. Two broad concerns arise in the consideration of resource use. On the one hand economic use of these resources would require that individuals do not extract more than they need. In the consideration for example on electric power for lighting purposes, it is imprudent to create buildings that need power that can be effectively served by tapping on natural light.

The cradle to grave life cycle thinking, illustrated in Figure 1, requires a clear picture of the supply chain for material. Risk mitigation may require regulations of the various aspects of the supply chain. A failure to take this level of control exposes society to the negativities of the material sourcing process and would be unethical.

Technology use. The interaction with technology is opening up new areas of challenges. Technology is utilized in the main to facilitate more efficient use of

buildings. The nature of the technology available however has the potential of occasioning negativities where the benefits may be negated. The potential for data collection may make it easier to create efficiencies in the use of buildings but they may also intrude into personal information. Technology creates new bonds and frames of interaction with buildings, occasioning a breach of privacy in ways not possible before. In the realm of possibility, technology may also affect human health especially in the use of electromagnetic spectrum which the public hardly comprehends.

The science behind the technology used in various ways in public buildings, represent another area where an asymmetry of knowledge would require the intervention of authorities.

Security Arrangements. Security arrangements seek in the main to protect the owners of the properties and the properties themselves, but could easily compromise the safety of casual users of buildings. The rise in concerns about terrorism has introduced new aspects in the usage of public buildings.

X. CONCLUSION

The fundamental purposes of building regulations seek to create decent solutions to the problems of shelter while mitigating the negative pressures imposed by the fact of high densities. Society however is more complex and the priorities within communities may vary, in the main short term needs getting prioritised over longer term concerns.

The act of constructing of building is a small but critical connection to universal values. The negative effects that buildings can effect on the environment are not always evident in the short term. Yet the potential of an overall low quality of living environment ensuing over time is very real, aspects of which may be difficult to reverse. The imperative to keep the process of creating the building environment on the

right track is highly vulnerable to the political pressures of immediate societal needs.

Buildings regulations are impactful at varied levels of human's interaction with the environment. At each level a concern is raised by the higher principle of sanctity of human life and the protection of its quality.

At the human level, the concerns with safety and health create an ethical check on actions builders can take. The regulations serve as mediation basis for ensuring that the attendant asymmetry of knowledge does not create negativities which ultimately will be hurtful to society.

At the societal level, the choices that affect inclusivity and accessibility in the construction process have the capacity to either enhance positive values or harm them. Similarly choices can be made that impact of social inequalities and the access to shelter for sections of society.

Regulations also mitigate in how society responds to universal concerns including mitigating the vagaries of climate change and overall environmental responses.

The mitigations of such negativities must rely on ingenious approaches to decision making. Ultimately they will rely on an enlightened population or at the very least, a society that is sensitive to the dangers that reckless construction could inflict on the population.

Public authorities need to be awake to these dangers so that they can protect against short term interests. The placement of a healthy environment for all at the level of a constitutional right is a step in the right direction. Further, channels for civic education need to be explored and incentives introduced into the economy to keep a focus on the ethical dilemma the process of creating the built environment brings forth.

XI. REFERENCES

- Babanyara, Y.Y., Usman H. A. and Saleh U. F. (2010). *An overview of urban poverty and environmental problems in Nigeria*, [Journal of Human Ecology](https://doi.org/10.1080/09709274.2010.11906304) DOI: [10.1080/09709274.2010.11906304](https://doi.org/10.1080/09709274.2010.11906304)
- Black, H. C. (2009). *Black's Law Dictionary* (9th ed.), Independently published.
- Benevolo, L. (1971). *The origins of modern town planning*, The MIT Press
- Bentham, J. (2010). *Introduction to the principles of morals and legislation*, White Dog Publishing
- Crown Copyright. (2019). Grenfell Tower Inquiry: (Phase 1 Report) Report of the public inquiry into the fire at Grenfell tower on 14 June 2017. Report available at www.gov.uk/official-documents
- Ethics (n.d.) at *Oxford Advanced Learner's Dictionary*. <https://www.oxfordlearnersdictionaries.com/definition/english/ethic>
- Fromm, E. (1947). *Man for himself: an inquiry into the psychology of ethics*, Holt Paperbacks
- Gehl, J. (2010). *Cities for people*, Island Press; Illustrated edition
- Ghai, Y.P. (2013). Article in the *Star Newspaper* of 15th June 2013. Nairobi
- Githui D. M. (2012). *Ethical Issues in the Construction Industry in Kenya: A Critical Analysis of the Professional Conduct in Engineering Technology Management*, Industrial Engineering Letters, Vol 2, No 7
- Glaeser, E. (2012). *Triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier, and happier*, Penguin Books.
- Hertog, J. D., (1999). General theories of regulation in *Encyclopaedia of law and economics*, pp. 223 - 270 Economic Institute/ CLAV, Utrecht University.
- Hobbes, T. (1651). *Leviathan*, Penguin Classics
- Locke, J. (2003.) *Two treatises of government and a letter concerning toleration*. Yale University Press.
- Grigoropoulou, J. E. (2019). *The role of ethics in 21st century organisations*, American Community Schools of Athens, [International Journal of Progressive Education](https://doi.org/10.1080/09709274.2010.11906304), Volume 15 Number 2, 20
- Hirschheim, R. (2008). Some Guidelines for the Critical Reviewing of Conceptual Papers, *Journal of the Association for Information Systems*, Vol 9, Issue 8, Special Issue 3/4
- Jaakkola, E. (2020). *Designing conceptual articles: four approaches*, *AMS Review* (2020) 10:18–26 <https://doi.org/10.1007/s13162-020-00161-0>
- Jacobs, A. B. (1995). *Great streets*, MIT Press
- Jacobs, J., (1961). *The death and life of great American cities*, Random House, New York
- Kamweru, G. K. (2023.) *The implications of the Kenya building regulations on urban resilience*, unpublished thesis, University of Nairobi.

- Klinenberg, E. (2018). *Palaces for the people: How social infrastructure can help fight inequality, polarization, and the decline of civic life*, Crown
- Makuta, P. M. (2019). *A study of fire safety preparedness in different categories of public Secondary schools of Thika west district, Kenya*, Jomo Kenyatta University of Agriculture and Technology, Digital Repository
- Marconi, C. (2015). *The Oxford handbook of Greek and Roman art and architecture.*, New York.. ISBN 978-0-19-978330-4. OCLC 881386276
- Mill, J. S. (Author) and Sher, G.(Ed) (2002). *Utilitarianism*, Hackett Publishing Company, Inc.; Second Edition
- Ministry of Housing, Kenya (2009), Building code of the Republic of Kenya, Government of Kenya, Nairobi
- Ministry of Land, Housing and Urban Development, (2015) National building regulations, Government of Kenya, Nairobi, at www.housing.go.ke/building-code.htm
- Mooney, G. (2022). *What does life cycle analysis (LCA) mean?* Blog at <https://clearstreamsolutions.ie/2022/09/12/life-cycle-assessment/>
- Mumford L. (1961). *The city in history: Its origins, its transformations, and its prospects.* Houghton Mifflin Harcourt;
- Newman, O. (1972). *Defensible space; crime prevention through urban design*, Macmillan
- Orbach, B. (2012). *What Is regulation?* in Yale Journal on Regulation Online 1, Arizona Legal Studies Discussion Paper No. 12-27, Available at SSRN: <https://ssrn.com/>
- Ostrom, E. (2015). *Governing the commons. The evolution of institutions for collective action.*, Cambridge University Press.
- Oxford Languages. (2013). *Oxford English Dictionary*, Oxford University Press; 7th edition
- Productivity Commission. (2004). *Reform of building regulation*, Research Report, Productivity Commission, Melbourne.
- Rawls, J. (1971). *A theory of justice*. Harvard University Press.
- Rosen, G.(2015). *A history of public health*, (Revised and expanded edition), Johns Hopkins University Press, Baltimore.
- Speck, J. (2012). *The walkable city*, North Point Press
- Standing, G.(2019). *Plunder of the commons: A manifesto for sharing public wealth*, Pelican
- United Nations Office for Disaster Risk Reduction. (2015). *The Sendai framework for disaster risk reduction 2015–2030*, United Nations
- United Nations General Assembly. (1948). *The universal declaration of human rights*, New York:
- World Commission On Environment and Development. (1987). *Our common future* (Oxford Paperbacks) 1st Edition

Website

<https://www.unep.org/explore-topics/resource-efficiency/what-we-do/cities/cities-and-climate-change> accessed on 22 September 2023.