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Abstract: This research investigates critical land use governance and urban planning concerns, focusing on sustainable development, information technology incorporation, and global change adaptations. These questions are: How can national land use policies be mainstreamed sustainably? How can local leaders better appreciate comprehensive land use planning? What are the ethical implications of using AI in urban planning? And how can public awareness of land use management be increased? The study adopts a comprehensive literature review methodology that combines findings from various urban planning disciplines. It argues that sustainable and inclusive land-use governance must take an integrated approach focusing on sustainability, social equity, technological advancement, and local context. Current practices usually fall short of addressing intricate urban issues, necessitating new paths to resilient, sustainable, and just cities. This study is driven by the pressing need for adaptive governance systems and novel approaches to urban planning amidst rapid urbanization, climate change, and technological disruptions.

Key words: urban planning, smart cities, sustainability, governance, environmental planning

## **1. Introduction**

The recent news on pressing issues and concern for the natural environment is becoming a trend in our daily lives. Presumably, people nowadays feel the change of heat or cold temperature, prolonged periods of no rain, and sudden scattered thunderstorms, all of which are attributed to climate change. The scarcity of land resources continues to deplete due to natural occurrences like sea level rise, identified disaster-prone areas, non-arable lands, and non-self-sustaining islands due to a lack or lack of groundwater, making societies wary of the future of humankind.

Land use governance and urban planning are critical factors in shaping sustainable and liveable cities. As urban areas continue to grow and face unprecedented challenges such as climate change, rapid urbanization, and technological disruptions, the importance of effective land use management cannot be overstated. Furthermore, sustainable and liveable cities are shaped by land use governance and urban planning. The growing challenges facing urban areas, such as climate change, fast-paced urbanization, and technological disruptions, call for effective land use management.

## 1.1 Statement of the Problem

This study addresses several critical questions in land use governance and urban planning: 1) How can national land use policies be sustainably mainstreamed? 2) How can local chief executives better appreciate the importance of creating and updating comprehensive Land Use Plans (CLUPs)? 3) What are the ethical implications of using AI in CLUP creation? 4) How can public awareness and appreciation of land use management and zoning be increased? The research argues that effective land use governance requires an integrated approach considering sustainability, social

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equity, technological advancements, and local contexts. It posits that current practices often need to be revised to address the complex challenges of contemporary urban environments and that new strategies are needed to create more resilient, sustainable, and equitable cities.

## 1.2 Purpose of This Paper

- To examine the current state of land use governance and urban planning in the Philippines, focusing sustainable on development, technology integration, and adaptation to global changes, including climate considerations and circular economy principles.
- To investigate strategies for sustainably mainstreaming national land use policies in the Philippines and improving local chief executives' appreciation and implementation of Comprehensive Land Use Plans (CLUPs).
- To analyze the ethical implications of using Artificial Intelligence in urban planning and CLUP creation and evaluate the potential of 3D land use planning methodologies and smart city technologies for densely populated urban areas.
- To propose recommendations for improving land use governance, urban planning education, and ethical research practices in the context of creating sustainable and smart cities in the Philippines.

## 1.3 Highlights of This Paper

The research highlights several key findings:

- There is a significant gap between policy objectives and sustainable land use management implementation.
- Local leadership and stakeholder engagement are crucial for effective urban planning.
- Integrating new technologies, including AI, in urban planning presents opportunities and ethical challenges.

- Climate change is reshaping urban landscapes and requires new approaches to land use planning.
- 5) Assessing the effectiveness of post-pandemic urban adaptations. These research directions can significantly advance our understanding of effective land use governance and contribute to developing more sustainable, resilient, and equitable urban environments.

The study concludes that addressing these challenges requires interdisciplinary collaboration, adaptive governance structures, and innovative urban planning and land use management approaches. This research contributes to the existing literature by identifying critical research gaps in land use governance and urban planning. It provides a comprehensive overview of current challenges and emerging trends in the field, synthesizing insights from diverse areas of study. The study highlights several areas for future research, including: 1) We developing effective are strategies for mainstreaming national land use policies. 2) Exploring the long-term impacts of innovative city technologies on urban form and function. 3) Investigating methods for integrating indigenous knowledge into urban planning processes. 4) Examining the spatial implications of circular economy principles in urban contexts.

### 2. Methodology

While the study does not focus on specific case studies, it draws on a wide range of international research and examples from various urban contexts, including cities in the United States, Australia, Europe, and developing countries. The research employs a comprehensive literature review methodology, synthesizing findings from numerous studies across multiple disciplines related to urban planning and land use governance. The study primarily uses secondary data from peer-reviewed academic articles, books, policy documents, and law.

## 3. Discussion

## 3.1 Land Use

In the definition of the United States Environmental Protection Agency (nd.) [1], land use is how we utilize land resources. These entail different economic and cultural activities such as agriculture, residential, industrial, and mining undertakings spread across the country. Western approaches are at the origin of our urban and environmental planning practices due to American colonial influence and the subsequent establishment of a commonwealth government system in our public administration. This context has significantly impacted our approach to land management and development. During the early civilization of America. extensive and often uncontrolled development took place. However, awareness grew over time regarding the worthiness of land resources and the possible implications of their exploitation. This dawned upon people as widespread negative ecological impacts of land use became clear; most were irreversible.

3.1.1 Land Use Governance and Zoning Administration

At the local level, zoning administration is closely intertwined with land use governance in the Philippines due to municipal governments' requirements to formulate their Comprehensive Land Use Plans (CLUPs). This land management method combines production, conservation, and aesthetics. The decision-making process regarding land management follows its purpose, i.e., whether it is for food production, housing, recreation, or mining, among other uses, in addition to the nature it possesses.

The start of urban planning as a discipline in the country was with President Osmena's Executive Order no 98, issued on March 11th, 1946, that established the National Urban Planning Commission. Today, the zoning administration falls under the jurisdiction of the Department of Human Settlements and Urban Development (DHSUD), which used to be called the Housing and Land Use Regulatory Board (HLURB). Therefore, DHSUD sets national zoning guidelines and regulations and oversees local governments' preparation and implementation of CLUPs and zoning ordinances stipulated by the Local Government Code.

This power of review and administration over CLUPs is given to DHSUD by Republic Act No.11201, also known as the "Department of Human Settlements and Urban Development Act". The law underscores the government's commitment to providing poor and homeless citizens proper access to affordable housing that is safe, secure, resilient, and habitable. It equally advocates for on-site development within housing programs, the creation of new settlements, and sustainable urban renewal while protecting farmlands for food security.

The existing zoning system in the Philippines follows HLURB's Model Zoning Ordinance (2014). It comprises twenty-six (26) basic zone types classified based on principal use supported by building regulations specified under the National Building Code. Moreover, it includes public domain lands such as parks and water bodies under municipal jurisdictions. LGUs may also introduce overlay zones for particular uses, e.g., disaster-prone areas, Indigenous people's ancestral lands, heritage zones, eco-tourism areas, transit-oriented developments, and scenic corridors.

3.1.2 Laws Related to Urban Land Use in the Philippines

Articles II and X of the 1987 Philippine Constitution establish local government autonomy. However, for full realization, these clauses need enabling legislation. The enabling legislation is Republic Act 7160, entitled "Local Government Code of 1991".

The Local Government Code accords extensive powers to Local Government Units (LGUs), like providing for the general welfare, preserving culture, ensuring public health and safety, and maintaining ecological balance. Significantly, LGUs are required by Section 20(c) to prepare Comprehensive Land Use Plans (CLUPs) through zoning ordinances, which would serve as the leading guide in all future land use decisions.

Nevertheless, this devolution leaves urban and environmental planning responsibilities within the reach of local politicians; however, this raises concerns about their capacity to perform these functions effectively. Problems such as political dynasties and limited technical expertise may hinder fulfilling these critical tasks.

Further regulation of urban and environmental planning in the Philippines was made through Republic Act No. 10587 or the Environmental Planning Act of 2013. It defines ecological planning as a multi-disciplinary field that covers different aspects of sustainable development related to land and water resource management. This statute also establishes an Environmental Planner (EnP) and outlines their role in zoning, ordinance-making, and compliance with environmental laws.

It underscores that EnPs must promote the protection of the natural environment and strict compliance with regulatory measures. This legal framework exists to bring professional regulation into play on this complex task of balancing development against environmental preservation.

However, the mix between local governance, professional planning, and environmental protection must be revised. Rapid development in many areas suggests that finding a delicate equilibrium between progress on one hand while conserving ecology on another remains a big concern for urban planners in Philippine cities today.

# 3.2 Good Governance, Documentation of Good Practices

Santiago (2021) [2] said that the involvement of the people within an organization, especially at the bottom or grassroots level, or the implementers of policies from top management, should not be set aside. Development applies not only to a group of people's economic and social aspects. A government office is a small republic where there are norms, culture, and values. Since "the quest for a good life" is development, a good life in a good organizational atmosphere is equivalent to better service delivery of transactions and even goods to the public by a government office. The involvement of the people at the bottom/grassroots will have a sense of ownership in implementing a policy, and obedience shall not be a burden to them, unlike in the old days of the traditional leadership of a "slave-driven" culture. A corrupt-free government office will always maintain an image over its people and even to the rest of the world of moral leadership and governance that will encourage foreign investments, promote quality of life for the people, and project to those foreign entities (either businesses, governments, or families of states) that the Philippines rejects illegal activities in its territories.

## 3.3 Research Ethics and AI in Urban/Environmental Planning

The Belmont Report, a pivotal document from the National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research, traces the development of ethics in research to its starting point. It was a response to widely spread ethical concerns about research practices, including the Tuskegee Syphilis Study.

From 1932 till 1972, the Tuskegee Syphilis Study is recognized as an example of unethical medical practice. In this study, African American men with syphilis remained untreated after penicillin became a standard treatment in 1947 so that they could observe the natural course of the disease. The public anger from this exposure led to radical changes in human subject protections and research ethics.

In 1974, Congress enacted the National Research Act in direct response to the scandal at Tuskegee. This act established the National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research. The commission's goal was to develop some basic ethical principles underlying biomedical and behavioural investigations involving humans.

The process culminating in the Belmont Report took four years, during which there were monthly meetings and publications by scholars and a four-day-long intense workshop held in February 1976. Consequently, they produced concise yet powerful three core principles for ethical research:

- a) Respect for Persons: This principle stresses respect for an individual's autonomy while protecting those who have lost it. This includes Treating participants as autonomous agents capable of making informed decisions; providing full disclosure on how such studies are conducted and possible risks attached; obtaining informed consent voluntarily; ensuring privacy rights and confidentiality are observed: and allowing participants to withdraw from the study without anv consequences.
- b) Beneficence: This principle advocates maximum benefits with minimum harm associated with research activities. It involves conducting a good risk- benefit analysis before undertaking any study, planning studies to minimize risks, monitoring adverse effects during the research process, and providing care for subjects who experience side effects.
- c) Justice: Justice is about justice, including equal selection of subjects for research and not using populations that are at risk as tools of exploitation; risk bearers in research must also be the beneficiaries of the findings, considering possible consequences of study results on society.

The Belmont Report's reach extends far beyond its original context. These principles have been adopted by different research ethics guidelines worldwide and are incorporated into human subject protection regulations from the Department of Health and Human Services, USA (2024) [3]. Another development is the proliferation of AI use or artificial intelligence, which refers to the simulation of approximation of human intelligence in machines. Stored knowledge in databases can now be used as a source of processed information or data disguised as a legitimate source. Data from AI must still be subjected to tenets of research ethics, data protection, and data privacy about urban planning in creating Smart Cities. For example, to ease traffic congestion on the main arterial highway, the researcher or data collector encodes the data in an AI application, and the machine generates a data interpretation of all the data collected.

### 3.4 The Smart Cities and Effective Urban Planning

Smart cities represent an emerging trend in regulatory and policy implications in a given state. It is an indicator of development and a measurement of good governance. Smart cities, as defined by the National Geographic Society website (nd) [4], are cities in which a suite of sensors (typically hundreds or thousands) is deployed to collect electronic data from and about people and infrastructure to improve efficiency and quality of life. A smart city has the usual components: intelligent transportation, smart buildings, smart energy, smart governance, and innovative commerce. Effective urban planning comes into play when social and environmentally sustainable measures are considered and integrated for the common good in the early stages of drawing out plans.

The components of an intelligent city about effective urban planning are as follows:

- Smart Transportation. A smart city is not considered one if there is no efficient transportation network system due to compelling reasons such as a poor economy, disgruntled commuters, a loss of resources, and slow development.
- Smart Energy. Sustainable, clean, and green energy must power the smart city. The Johns Hopkins University website on the Masters in Sustainable Energy distinguished sustainable

energy from renewable energy. It may often be interchangeably used, as the website says there is an overlap between the two as many sustainable energy sources are also renewable. Still, again, they are different.

- Smart Building. Innovative engineering and green building architectural designs should be observed in human settlement planning and urban development.
- Smart Commerce. The private sector is doing its part in co-creating the intelligent city. Private sector engagement is vital in intelligent cities; their resources, which comprise capital and human resources, should be effectively and efficiently tapped and
- Smart Governance. Where good e-governance is practiced through effective and efficient government operations, E-government, as defined, refers to the application of information and communications technology for providing government services and the exchange of information and communication between the government and the four major stakeholders of a nation, namely the citizens, businesses, employees, and other government organizations.

# 3.5 Climate Gentrification, Circular Economy and Urban Planning

Climate gentrification suggests that areas less susceptible to climate change's impacts become more appealing, increasing property values and displacing existing residents. For instance, it can manifest as wealthier populations relocating to higher elevation areas in coastal cities to avoid floods or sea level rise, which may affect lower-income groups already residing there. About such a concept, the circular economy is a model of economic development aimed at minimizing waste and maximizing resource utilization. It embraces the tenets of reduce, reuse and recycle against the conventional take-make-dispose linear approach. This could involve waste-to-energy projects, urban farming, and sustainable building practices in Philippine urban settings. The association between these concepts in Philippine urban planning is intricate and multifaceted because they all have a bearing on one another. Implementing circular economy principles enhances overall urban resilience as cities focus on combating climate change effects. Better waste management and increased resource efficiency can reduce flood risks, improve liveability, and mitigate some aspects that drive climate gentrification.

# 3.6 National Land Use Policies Mainstreaming That Is Sustainable

Cowell and Owens (2006) [5] analyzed the difficulties in integrating sustainability into spatial planning policies in the UK. Their research showed how policy objectives, political processes, and institutional arrangements were closely intertwined to achieve sustainable results. They argued that even though sustainability has become a significant concept within planning policies, its realization is often hindered by conflicting priorities and institutional barriers. On top of this, Searle and Bunker (2010) [6] delved into the contentions between urban consolidation policies and local planning in Australian cities. They found that national policies promoting compact city development often encountered resistance from the grassroots level, thus calling for better harmonization governance of various levels. Additionally, Stead (2013)[7] undertook comparative analysis of national spatial planning in Europe, emphasizing the need for context-specific approaches to policy implementation.

# 3.7 Local Chief Executives and the Comprehensive Land Use Plans: Increasing Awareness Through Strategies on Public Land Use Management

Hambleton's (2015) [8] work on place-based leadership provides valuable insights into the role of local leaders in urban governance. According to him,

effective urban leadership necessitates a deep understanding of local context and mobilizing diverse stakeholders behind a common vision. Building upon this, Nyseth et al. (2019) [9] explored transformative leadership in urban planning, which, among others, insists on leaders who can navigate complexity and facilitate collaborative processes. Also, Meijer and Bolívar (2016) [10] examined leadership in innovative city governance, pointing out the indispensability of leaders who can balance technological innovation and social-environmental considerations.

# 3.8 Land Use Planning Policy on Climate Gentrification and Integration of Circular Economy Principles

In the case of Keenan et al. (2018) [11], climate gentrification was introduced as a manifestation of property value changes due to loss or gain associated with climate change risk factors across Miami-Dade County, Florida. One crucial aspect brought out by research was the need for social justice policy responses to climate changeinduced urban transformations. It is important to note that Anguelovski et al.'s study revolved around "green gentrification" [12], whereby adaptation measures to extreme weather events may lead to the displacement of certain groups and increased social inequalities. Similarly, Shi et al. (2016) [13] delved into the challenges of cities achieving equitable climate adaptation policies, emphasizing a participatory approach and addressing social vulnerability. This study examines how cities can develop more just and inclusive approaches to climate resilience.

Conversely, Anguelovski et al. (2019) [12] focused on "green gentrification", a term used to describe how climate adaptation strategies manifest as drivers of inequality and spatial segregation within urban areas. Notably, this work highlights the need to incorporate equity considerations when developing adaptation strategies. Once again, Shi et al. (2016) [13] investigated issues surrounding fair climate adaptation policy formulation at the city level by concentrating on community engagement and vulnerability analysis. Their findings provide insights into how cities can create equitable and inclusive climate resilience approaches.

Prendeville et al.'s research aims to investigate ways in which circular economy principles have been applied in urban contexts, particularly about land use planning with a focus on critical attributes influencing movement towards circularity, such as adaptive reuse of buildings and infrastructure through urban design, that includes waste management systems [14]. Thus, Williams (2019) [15] expanded on "circular cities", showing how circular economy principles could be incorporated into urban planning and design. Marin and De Meulder (2018) [16] also highlighted the need for new ways to build from scratch to ensure a closed-loop resource system supporting circular economy principles.

3.9 3D Land Use Planning Methodologies for Densely Populated Urban Areas; Impacts on Land Use Patterns Due to Smart City Technologies in Long-Run; AI Ethical Concerns during CLUP Development

Based on this, Afzalan and Muller (2018) [17] examined the usage of online platforms in planning for public participation and revealed both the benefits and difficulties of digital engagement strategies. Additionally, Brown and Kyttä (2014)[18] comprehensively reviewed PPGIS methodologies used in land use planning, stressing the necessity for integration of local knowledge into planning processes. Porter (2010) [19] critically examined the challenges and opportunities in incorporating indigenous planning approaches within mainstream planning systems. She calls for a complete re-think of how we plan to include indigenous worldviews and knowledge systems. In addition, Barry and Porter (2012) [20] discussed "recognition" as a concept concerning Indigenous rights and knowledge through their example from Australia but also considered other relevant contexts;

they argue that such recognition is hardly possible within state-based land-use management schemes. Finally, Jojola (2013) [21], overviewing Indigenous principles and practices of planning, underscored the significance of place-based culturally relevant ways towards community development.

Biljecki et al. (2015) [22] examined 3D city model applications within urban planning and management. They realize that 3D modelling can potentially improve spatial analysis, visualization skills. and decision-making processes, making it more accessible in complex urban environments. Kahila-Tani et al. (2016) [23] investigated digital tools application towards boosting public participation in urban planning, concentrating on the Helsinki master plan process; their study revealed how PPGIS serves as an essential avenue for involving ordinary people in complex issues related to urban development.

Further, Koziatek & Dragićević (2017) [24] looked at 3D visualization tools in public participation in urban planning, showing that these technologies enhance stakeholder involvement in proposed developments by understanding them more clearly. Moreover, Stoter et al. (2016) [25] examined the legal and administrative challenges of implementing 3D land administration systems and called for updated regulatory frameworks that would allow vertical urban development. Alternatively, Yigitcanlar et al. (2020) [26] conducted a holistic assessment of bright city ideas and their perception of Australia through geo-twitter analysis, whereby they found out that intelligent technologies are reshaping cities in different ways. Colding and Barthel (2017) [27] built on this by investigating the possible ecological impact of smart city technologies by advancing integrated approaches to technological innovation and environmental sustainability.

Additionally, Angelidou (2015) [28] studied spatial dimensions of innovative city policies, which indicate how these technologies reshape the form and structure of urban areas. Zenkteler et al. (2021) [29] provided a

discussion on AI's potential as well as its challenges as one such new technology being employed in urban planning, which also touches on ethical issues such as data protection, unfairness in algorithmic predictions, and perpetuation of inequalities through AI in the development process. Cugurullo (2020) [30] examined the critical use of AI in thoughtful city planning, emphasizing the necessity for ethical frameworks to guide the design and deployment of these technologies. Cowley et al. (2021) [31] delved deeper into the moral ramifications of digital technologies for urban governance, focusing on transparency, accountability, and public engagement within decision-making processes.

# Synthesis of the Preceding Studies, Concepts, and Definitions

Land governance and urban planning in the Philippines blend American-influenced practices with local autonomy, as mandated by the 1987 Constitution and the Local Government Code of 1991. This system aims to balance development with environmental protection but faces challenges from political dynasties and varying levels of understanding among local officials.

The emergence of smart cities has introduced sustainable development concepts focusing on innovative transportation, energy, building, commerce, and governance solutions. These approaches incorporate cutting-edge technologies and eco-friendly practices to enhance urban living while addressing environmental concerns. Climate change has become critical, prompting strategies to mitigate climate gentrification and implement circular economy principles.

Public engagement in planning has evolved with digital tools, though integrating indigenous knowledge remains challenging. Advanced technologies like 3D modelling and AI are transforming urban planning, offering improved analysis and decision-making

capabilities. However, these innovations raise ethical questions about data usage and societal impacts.

## 4. Results

4.1 How Shall the National Land Use Policy be Mainstreamed Sustainably?

In a treatise entitled "Planning Law and Administration in Philippine Local Government", done by one of the Philippine Institute of Environmental Planners, an accredited professional organization by the Philippine Regulation Commission until the end of February 2024, the College of Fellows lawyer, and environmental planner, Asteya Santiago et al. [32] in the Philippine Planning Journal in 1971, it was mentioned that:

- Finding a coincidental resemblance between actual land use and zoning maps is only possible in some cities with an enacted zoning ordinance. Reasons are: 1) changes to zoning ordinances are made almost indiscriminately, allowing uses different from those provided in the zoning maps. Resolutions are usually passed by the Council, allowing non-conforming uses; and 2) the laxity of enforcing officials.
- Regarding planning, LGUs must show more effective capacity performance in raising sufficient revenues for their respective areas.
- The recruitment of qualified civil servants into the service is problematic, aside from succumbing to interference.
- In-migration and an increasing population are contributing to problems in the locality.
- Planning is design-oriented, paying little attention to financing and the sequence of development.
- Lack of any arrangement to link local to national planning and
- The political system needs to strengthen those characteristics necessary for effective planning.

To date, the above findings are still being implemented in the country in urban/environmental planning.

Navarro, in her discussion paper entitled "The Need for National Land Use Act in the Philippines" [published by the Philippine Institute in Development Studies in 2023, espoused that land use misgovernance is due to the non-institutionalization of a national-level framework for land use and the lack of harmonization of sector- specific laws on resources [33].

Data from the Department of Human Settlement and Urban Development shows that local government units still have no CLUPs. DHSUD already called the attention of these local government units for compliance with this mandated plan. Still, accordingly, their difficulties are budget constraints, the absence of a geographic information system specialist in their area, multi-tasking or overload of tasks in the municipal planning and development office, and insufficient qualified staff.

Navarro, in her paper, showed through her economist lens the following: land use analysis in economics, the nexus between sociology and natural sciences in analyzing land use, the data number of threatened wildlife species by status category, gross irrigation service area, and previously irrigated lands converted to non-agricultural uses, among others. She further elucidated that almost three decades-old advocates need help to hurdle the legislative mill of a National Land Use Policy.

Issues of and by legislative branch members consist of their personal interests, business interests, political image, and future political ambitions. These land use problems were already seen and documented in 1971. To date, 2024 is the year 2024. The call for legislation of the National Land Use Act in the Philippines, due to its non-passage, has bloomed into problems in areas of pandemic protocols, mismanagement, threatened food security, natural resources and protected areas, mismanagement, abuse and issue of indigenous people's rights, inadequate human settlements,

population/in-migration problems, climate change effects, abuse of property rights, and more.

The National Land Use Policy will be mainstreamed sustainably if our legislators set aside the above reasons why this bill continues to be pending. After passage, that is the only starting point for the work and solutions to the pressing problems it produced.

# 4.2 How Shall Local Chief Executives Appreciate the Importance of Creating and Updating Their Local Government Unit, CLUP?

Appreciation of urban and environmental planning primarily based on land use management and zoning administration must be instilled in local elective and appointive officials, officers, and employees as foundational knowledge in local public administration. The Department of Interior and Local Government, through its training, education, and capacity-building arm, the Local Government Academy, must have programs that are heavy on these subjects and must coordinate with higher educational institutions offering urban and environmental courses in devising a course design for local elective and appointive officials and officers.

Hiring professionals and qualified individuals for the Planning and Development Coordinator (PDC) is in short supply because of the Civil Service Commission Memorandum Circular No. 10 series of 2017. According to the general qualification standards for local government units' PDCs, an applicant must be a licensed Environmental Planner with planning education and experience.

There are more or less six (6) thousand registered professional urban and environmental planners in the country.

Home and school are places; they can be juridical persons represented by natural persons that should reflect the mission and vision of such entities. The environment, or simply the surroundings of the home and school, affects its foundational values, knowledge, and wisdom. If these entities are not safeguarded against the realities of the practical world of "survival of the fittest" (in general view, "a value in the animal kingdom") and neglect its foundation values, knowledge, and wisdom, then what shall be imparted to persons under the care of homes and schools shall not be the latter but the former.

# 4.3 How Does Research Ethics Connected to AI Affect the Creation of CLUP

Notably, this body of knowledge recognizes the so-called "basis" for continuing or not undertaking medical advancement research. But how about the interaction of people at a given place, where social sciences are all about and at play, particularly in public administration and governance? The author believes that things that were discovered to be problems in the past must be documented and soon remedied.

Research ethics must always be observed in conducting the initial stages of the policy cycle. The policy cycle starts with identifying the problem, planning the following steps, understanding solutions, analyzing alternatives, recommendations, policy passage or enactment, implementation, monitoring, and evaluation. Policy wheel comprises different, independent, interrelated phases: problem definition, understanding alternative solutions, analysis, recommendations, policy passage or enactment, implementation, and evaluation. The institutionalization of reforms for the good of the community is done by following the policy process.

The conduct of stakeholders' consultations and interviews with key stakeholders must be handled carefully, and the information derived must be adequately kept safe. Maintaining the confidentiality of their valuable insights is also vital to public trust in those individuals entrusted to do this step in the CLUP process.

4.4 How Can General Awareness and Appreciation of the Importance of Land Use Management or Zoning Be Created?

Development studies is a high-end specialization with a vast body of knowledge. Development studies are "a distinct field of multi-disciplinary study, research, and policy analysis directed at understanding the processes and imperatives of national, regional, community, and global transformation". The study of development may be learning the "why moving forward" and the "why not moving forward" illustration because there is development, change, or movement of a given position. People must understand that the only thing permanent in the world is "change", which is development. Being in urban and environmental planning, land use management, or zone administration can be appreciated by everyone in society or the community without a high-end discussion or rigorous town hall meeting. "No one should be left behind" is a common political campaign slogan, but this is unrealistic.

In the paper entitled "Asserting Inclusion in Housing and Urban Development" [34], one of their central claims is that the use of force (community barricades and street occupation) against the force of the government in land use policy enforcement must be employed on a case-by-case basis. A few laws, rules, and jurisprudence protect the urban poor. Harmonizing laws in conflict with each other is the hardest in our country. During the enactment of laws, one: there is confusion, debate, and different views and opinions; two: the English language that we use in policies; and three: only those who have formal education in law and pass the State Bar Exams are professionally entitled to interpret the meaning of these legal precepts.

The urban poor are one of the most vulnerable sectors in an urban place. The attraction of a good life in the urban areas, due to numerous job opportunities, convenience, and lifestyle, contributes to the magnet force causing in-migration and overpopulation of the metropolitan areas and highly urbanized cities. We do not encourage professional squatting or informal settlers who are rampantly labelled as victims, but rather part of the flawed system that abuses those low-income individuals, renting in their "inhumanely conditioned" human settlement environment.

Creating general awareness of the value of land use management and zoning administration must be simple and communicated effectively and efficiently so that even a kid at his early stage of human development has a solid foundation on what is to be used, saved, and not abused. This system of society will be achieved if values at home and school are instilled, modelled, and practiced inside and outside, and everyone benefits, not just a few.

In sum, this paper reiterates the strong call for the pushing of the enactment of a National Land Use Act in order to provide an umbrella legislation for land use planning and management in Philippines; upscale training programs for local government officials who directly contribute towards the development of operational principles on environment particularly those focusing on urban areas: Improve recruitment procedures for qualified planners at LGU levels; improve public participation in planning through digital tools and 3D visualization; develop ethical guidelines for applying intelligent technologies and artificial intelligence systems to city planning; incorporate climate adaptation and circular economy principles into land use policies; use simple yet effective communication strategies to create awareness among the public on the importance of land use management and zoning regulations; provide better linkages between national level and local level initiatives at various levels of planning; integrate indigenous knowledge into mainstream planning systems; regularly update zoning ordinances for better alignment with actual land use patterns and development needs; further research is needed concerning long-term impacts of innovative city technologies on land use patterns and social equity issues; find ways of managing the challenges faced by urban poor populations and informal settlers more inclusively, sustainably, or equitably as described by this report's findings, these proposed measures aim at

addressing the identified issues in order to make their practices more sustainable, justifiable, as well as equitable in relation to appropriate land utilization processes.

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