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Is the City of Baguio Headed Towards Urban Decay?

A Discussion on the Role of an Integrated Metro Baguio Area Development Framework in Alleviating the Challenges of the City Exceeding Its Urban Carrying Capacity

Jeffrey H. Javier and Karl Mico D. Alangui





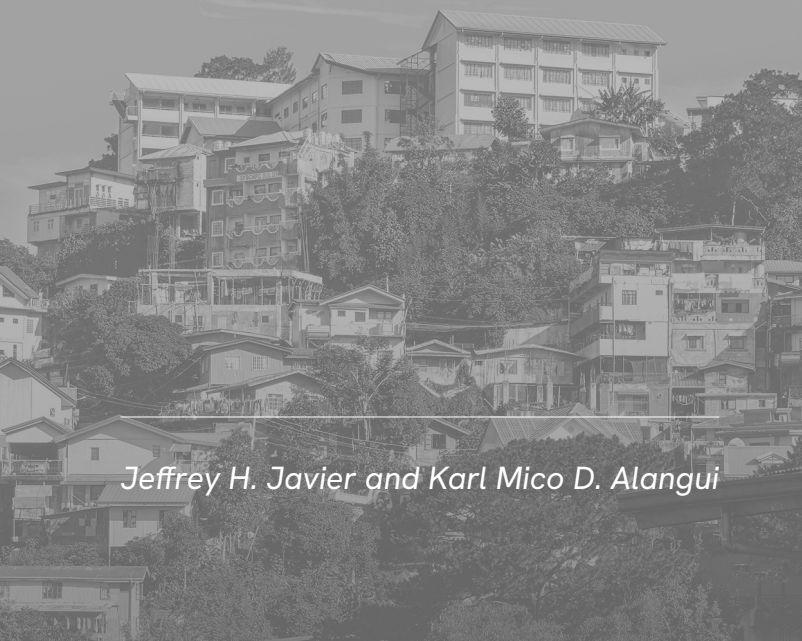
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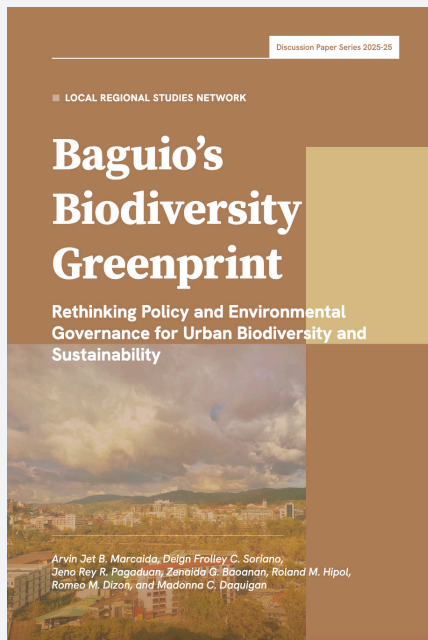
"Urban Overload on the Hills: A view of Baguio City's dense hillside housing highlights the urgent need to address urban carrying capacity and sustainable development amidst growing population pressures."

Location: Barangay Camp 7, Baguio City | Date: 28 June 2025

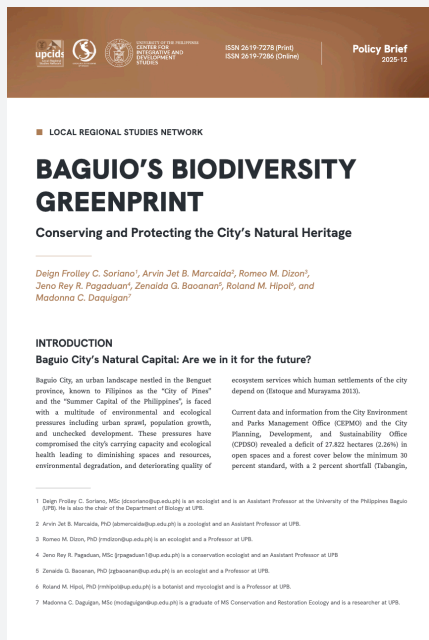
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IS THE CITY OF BAGUIO HEADED TOWARDS URBAN DECAY?

A Discussion on the Role of an Integrated
Metro Baguio Area Development Framework in
Alleviating the Challenges of the City Exceeding
Its Urban Carrying Capacity

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- Baguio City, designed for 25,000–30,000 residents but now with a resident population of 380,000, has long exceeded its maximum urban carrying capacity that, if left unaddressed, will lead to urban decay.
- To address urban challenges, the City's policy framework is geared towards *Baguio 2043: A Livable, Inclusive and Creative City*. It aims to transform Baguio into a more sustainable, inclusive, and innovative urban environment while preserving its cultural and natural heritage and transitioning to a smart city.
- As a highly urbanized chartered city, Baguio's development strategies should consider and include the broader development of its neighboring municipalities to help address the challenges of urbanization.
- An integrated urban and rural development framework will establish a more coherent land use, infrastructure, and environmental protection strategies and mechanisms within the Metro Baguio area. An integrated and unified Metro Baguio urban and rural development framework will allow the spread of economic and social development including protection of natural resources to be more coordinated and sustainable. The spread of urbanization within the Metro Baguio area will be properly regulated and carefully projected. To achieve this, the role of a central governing body or authority that will facilitate strong coordination among the Metro Baguio local government units is crucial in ensuring a collaborative policy framework in mitigating the challenges of urbanization throughout the Metro Baguio area.

ABSTRACT

Baguio City, the cultural, educational, and economic center of Northern Philippines, faces significant urbanization challenges that threaten its sustainability and quality of life. These challenges are exacerbated by limitations in the city's urban carrying capacity, and the city's ability to support population growth, infrastructure demand, and environmental protection. The central argument is that the city has long exceeded its assimilation capacity in terms of urban road area, solid waste collection, water supply, open spaces, land for development, forests, and green covers. In the absence of any vital action, the city will be heading towards urban decay or failure to provide the necessary support to its infrastructure and social problems.

Despite these challenges, the city is aiming towards *Baguio 2043: A Livable, Inclusive, and Creative City*. It is a framework that aims to transform Baguio into a more sustainable, inclusive, and innovative urban environment while preserving its cultural and natural heritage and transitioning to a smart city. However, based on its livability index, only one of its 128 barangays could be considered livable, and 28 barangays were found to have very high social vulnerability. Given these data, the vision remains ambitious, and any development within the city will eventually affect its neighboring municipalities.

As urbanization continues to strain Baguio's infrastructure, housing, transportation, and ecological systems, it is critical to understand the relationship between the city's development strategies and the broader regional planning efforts. It is important to allow neighboring municipalities to cope with the eventual spillover of urbanization in the Metro Baguio area. Strategic policy frameworks and strengthening regional cooperation will allow the Metro Baguio local government units to optimize the allocation of resources, develop infrastructure, and enhance sustainable urban planning while addressing the critical aspects of Baguio City's dwindling carrying capacity. The role of a central governing agency, in this case, the Metropolitan Baguio City, La Trinidad, Itogon, Sablan, Tuba, and Tublay Development Authority (MBLISTTDA), is likewise

crucial in ensuring a regional collaborative framework. The relationship between MBLISTTDA, Baguio City, and the component municipalities will play a pivotal role in mitigating the challenges of urbanization and ensuring that growth is managed within the sustainable limits of Metro Baguio's infrastructure and its natural resources.

Keywords: urban carrying capacity, Metro Baguio, regional development planning, sustainability, urbanization, BLISTT

INTRODUCTION

Baguio City, the Summer Capital of the Philippines, is an important government, cultural, educational, and economic hub in northern Luzon. The city serves as a regional center for commerce, education, governance, and tourism. Its unique topographic features, climate, and cultural significance make it a popular destination for migrants and tourists. The city is also the converging and jump-off point of tourism in the region. In 2023 alone, Baguio City recorded 1.31 million tourist arrivals, covering only tourists staying overnight and excluding day-tour visitors (Refuerzo 2023). The Baguio City Tourism Operations Office reported that the average annual tourist arrival figure can rise to 3–4 million if tourists who are not officially recorded are to be considered. The 2023 data of the Philippine Statistics Authority reveal that tourism contributes 20 percent to the city's gross domestic product (GDP). Aside from tourism, the city plays a vital role in the distribution of products to and from the province of Benguet. Geographically located at almost the center of Benguet province, it serves as a gateway for trade of agricultural and manufactured products to and from Benguet and other provinces of the Cordillera region. In terms of education, the city is the leading educational center in Northern Luzon and outside of Metro Manila. The city hosts 22 higher education institutions aside from the basic and secondary education institutions that annually attract students not just from nearby municipalities but also from provinces in Northern Luzon. For the academic year 2023–24, the city's elementary and high school population was recorded at 92,869 with 3,856 students coming from neighboring municipalities (DepEd Baguio City 2023). At the higher education level, about 150,000 students are enrolled in

HEIs within the city. The student population suggests that education is not restricted to Baguio residents only.

However, these very attributes of the city have raised questions about its urban carrying capacity, which may be defined as the maximum population and development level the city can sustainably accommodate without compromising the quality of life, the environment, or future growth prospects. The central argument is that Baguio City, constrained by its geographic location, land area, rapid population growth, and inadequate infrastructure, has long exceeded its assimilation capacity in terms of urban road area, land for development, solid waste collection, water supply, open spaces, forest areas, and green covers. Such issues regarding exceeding its urban carrying capacity would provide considerably significant challenges for sustainable urban development. The city's life support systems, from forest and green covers and open spaces to areas for land development, are already below the minimum standards. An important aspect of policy decision-making is to identify the primary factors contributing to the challenges in Baguio City's urban carrying capacity.

The need for effective coordination between Baguio and its neighboring localities is likewise crucial to addressing the city's challenges of exceeding its maximum carrying capacity. It is critical that the city does not continue with "business as usual" for any developments within the city will affect its neighboring municipalities. Examining whether current policies, frameworks, and initiatives are addressing urbanization concerns would provide insights into how these affect the broader development of the Metro Baguio area. These challenges have made the city's urbanization and sustainable development planning complex. An analysis of the issues on urban carrying capacity faced by Baguio and an assessment of the policy landscape can provide an understanding of mitigating the pressures of urban development within the Metro Baguio area. As urbanization continues to strain Baguio City's infrastructure, housing, transportation, and ecological systems, it becomes critical to understand the relationship between the city's urban carrying capacity and the broader regional planning efforts.

CURRENT STATE OF BAGUIO CITY'S URBAN CARRYING CAPACITY

Urban carrying capacity refers to the ability of an urban area to accommodate and support its population without compromising the quality of life, the environment, or its resources. It can be defined as the maximum population or level of economic activity that an urban area can sustain without degrading the environment, overburdening infrastructure, or harming social systems (Cohen 1995). The importance of understanding urban carrying capacity lies in its role in shaping sustainable development policies. It provides decision-makers with insights into the physical, social, and economic limits of a city or a region. If urban growth exceeds the set of limits, it can lead to overcrowding, poor living conditions, and environmental degradation, which can have lasting negative effects on public health, social equity, and economic performance. The series of public forums, through the initiatives of the University of the Philippines Center for Integrative and Development Studies (UP CIDS) and the Cordillera Studies Center (CSC) of UP Baguio, provided an insight into the current state of the city's urban carrying capacity. The Baguio City Planning, Development, and Sustainability Office (CPDSO) and the National Economic and Development Authority–Cordillera Administrative Region (NEDA–CAR) were invited to present the status of the city's urban carrying capacity and the impact of the city exceeding the urban carrying capacity on the development planning of the overall Metro Baguio area. The series of public forums provided a venue to continue the discussions on what policy actions are to be undertaken to resolve the challenges of the city exceeding its urban carrying capacity. Revisiting the status of the city's carrying capacity allowed a review and assessment of the policies and actions undertaken to address the issues and concerns on the city's carrying capacity. Identifying other areas of policy actions that could help alleviate the issues and concerns on the city's carrying capacity (i.e., education, tourism, transportation, etc.) was also raised during the series of public forums.

For Baguio City, the concept of urban carrying capacity is particularly relevant given its role as an economic, tourism, and education hub in the north. Its growing population density, limited land area, and ecological vulnerability are primary considerations in planning its urban development. The city is already facing significant pressure on its urban carrying capacity due to factors like population growth, migration, informal settlements, and expanding

commercialization. Designed for a population of 25,000 to 35,000, the city's latest census data indicate a population of over 380,000 representing residents alone. On average, the city's daily population load reaches over 764,301, comprising residents, tourists, and other transient populations doing business in the city (Tabangin 2024). A figure that exceeds ten times what the city was originally designed for.

CHALLENGES TO THE CITY'S URBAN CARRYING CAPACITY

Rapid population growth, overcrowding, and urbanization pressures

A pressing challenge to Baguio's urban carrying capacity is the rapid growth of its population driven by both natural population growth and rural-to-urban migration. Baguio City, as a regional economic center, significantly influences the migration trend, as more people relocate to the city for employment, education, and better living conditions and opportunities. On average, the city's daily daytime business population reaches at least 350,000 with the student population reaching around 28,000. Given these statistics, the city is already within the limits of the assimilation capacity of its related resources. As presented by Architect Tabangin (2024) from the CPDSO, given the ongoing trend in population growth, the city already surpassed its population density limit of six people per square meter as early as 2015. With the exponential growth of population, the city is projected to reach more than 600,000 in resident population by 2043. A critical state in terms of the city being able to provide essential services to its population. As it stands, the city is already experiencing the effects of exceeding the threshold capacity of some essential services like water supply (0.15 m³ per person), solid waste collection (0.24 MT per person each year), and liquid waste treatment (0.3 m³ per person every day).

With the city's population reaching more than ten times what it was designed for, estimates suggest that the city's effective capacity is much lower, leading to problems in informal settlements and insufficient housing infrastructure. With rising population density, greater demand is exerted on housing, transportation, and public services. The reported

population density of 6–7 individuals per square meter of land is already a critical level. Although the city wants to accommodate housing and urban expansion, the land available for development, with a threshold of 110 m² per person, is limited.

The influx of tourists during peak seasons further intensifies this strain, resulting in overcrowding and the unsustainable consumption of resources like water, waste disposal, housing availability, and transportation systems. At peak tourist season, the city's population density doubles at 13–14 individuals per square meter. Along with the increase in the city's population from tourism comes the rise in waste generated. On average, tourists contribute 19.69 percent of waste during peak events (Lunag et al. 2019). Although a study by the DENR's Watershed and Water Resources Research Development and Extension Center (WWRRDEC) indicated that the city has yet to breach its tourism carrying capacity, the city's population density suggests a different story. In a report, the WWRRDEC informed that the city's tourism carrying capacity is around 2.2 million per year (Cabreza 2019). However, Baguio's physical and ecological limits are continuously being stretched due to population growth and limited land available for expansion. The hilly topography, deforestation and land conversion of protected areas, overstretched infrastructure and urban management facilities, road networks, and unregulated construction and tourism activities are collectively adding to the challenges in urban planning.

Increasing demand for affordable housing and minimum compliance with building regulations

Rapid migration from neighboring rural areas and provinces, coupled with the lack of affordable and accessible housing has led to uncontrollable urban sprawl, unregulated construction, and a growth in informal settlements. Migration has led to the demand for housing within the city continuously outstripping supply. The city also faces problems with land ownership and tenure, especially with informal settlers in proclaimed forest reservations. As stated by the CPDSO, around 78.03 hectares within proclamations are occupied by informal settler families. The city is likewise facing challenges in compliance with building permits and regulations of the National Building Code. Reportedly, at least 80 percent of buildings in the city lack the required building permits raising issues regarding safety and potential risks associated

with unregulated construction. Unregulated building constructions encroach on open spaces and do not follow setback requirements in both residential and commercial areas (Tabangin 2024). These requirements are crucial for maintaining urban planning standards and ensuring adequate living conditions. With the lack of affordable housing, informal settlements on steep slopes, which are susceptible to landslides and other hazards, have also steadily been growing. Informal settlements often lack the appropriate infrastructure, such as proper sanitation and waste disposal systems. This contributes to poor living conditions, public health risks, and a nightmare in disaster management. These issues highlight the challenges in managing and require targeted interventions and policy measures to effectively address housing development.

Social vulnerability and livability

In this context, social vulnerability refers to the sensitivity of specific population segments to the negative effects of urbanization, climate change, resource degradation, and other pressures that accompany rapid urban growth. These vulnerabilities arise from the interplay of social, economic, and physical aspects that determine one's resilience or vulnerability to such stressors. For the city, urbanization has steadily outpaced the development of supporting infrastructures, significantly affecting lower-income communities. This has led to certain barangays showing very high social vulnerability that impacts the overall livability and sustainability of urban settlements. Reports indicated that 28 barangays exhibit a very high social vulnerability as influenced by economic factors (occupancy, businesses, unemployment, etc.), vulnerable populations (senior citizens aged 60 and above, children below 14, persons with disability [PWDs], etc.), housing conditions (typology, structural conditions, and functions) and exposure to risk factors (land use, population density, etc.) (Tabangin 2024). The more diverse the economy of an area allows it to be more resilient due to higher opportunities for employment and education. On the other hand, the higher the number of vulnerable populations, poor housing capabilities, and population and structural density of an area, the less resilient it will be. To make matters worse, only one out of the 128 barangays of the city is considered livable based on the city's set of livability index (upgraded built and social environment, improved governance systems, and environmental quality).

The health infrastructure of Baguio is also placed under pressure from its own residents and patients from other provinces seeking modern health facilities and services. As a center for tertiary health facilities, the city is open to patients across Northern Luzon. The overburdening of existing health services and facilities may result in reduced access to necessary services, particularly for marginalized residents of the city. The disparities in access to crucial services (e.g., healthcare, education, sanitation, and housing) increase social vulnerability. Improvements are currently underway for public health facilities, but it may still take a long time before the implementation and impact can be felt.

Economic systems

Employment, business development, tourism impacts, and other economic systems are key dimensions of the city in dealing with the pressures of rapid urbanization, environmental sustainability, and social inclusivity. As the city grows, it becomes more challenging to balance economic growth with sustainability. With an economy largely dependent on tourism, any change in trend will greatly impact local income and employment. As it is, tourism contributes at least 20 percent of the city's gross domestic product (GDP). The April 2023 report of the Baguio City Public Information Office reveals that the city recorded 1.31 million tourist arrivals in 2023, encompassing only those who stayed overnight while excluding daytime tourists (Baguio City Mayor's Office: Public Information 2023). On average, the annual tourist arrival figure can rise threefold or to 3–4 million if the numbers of those who are not officially recorded are to be considered. However, the seasonal nature of tourism leads to fluctuating demand for services and infrastructure. During peak season, the city experiences overcrowding, traffic congestion, an increase in waste generation, and strained public services, while during off-peak seasons, businesses may struggle.

Infrastructure deficits and limitations

Despite continuous improvements in the city's infrastructure, it still struggles to support the growing population and increasing economic activities. The city's road network, water supply systems, and waste disposal infrastructure are still struggling to keep pace with the high demands of urbanization. Public utility systems, such as water supply and waste management, are

overstretched, resulting in water shortages and ineffective waste disposal. Water supply in the city has had to be rationed to ensure that each household is able to get a fair share of water. The city is currently dependent on underground water, of which there is no current data available regarding actual supply, and the city is in dire need of an alternative source else a decrease in individual allocation for water will be inevitable. As mentioned in the reports, the city has also already surpassed its urban road area capacity assimilation of 40 m² per person, solid waste collection of 0.24 MT per person per year (Tabangin 2024), and collecting liquid waste (10,016 m³) that is more than the sewage treatment plant capacity of 8,600 m³ per day (Diwas 2024).

Traffic congestion and mobility issues

Mobility and access to services are impeded by several factors: traffic congestion, insufficient public transport systems, and road networks. The city's narrow roads and hilly terrain contribute to the traffic congestion, especially during peak tourist seasons. Furthermore, the population significantly grows during tourist peak seasons, coupled with limited road capacity and the absence of efficient public transport and smart mobility systems have led to daily traffic jams in the city. The increasing vehicle numbers create a hostile environment that undermines the efforts to promote pedestrianization and sustainable urban mobility. Hampering mobility has significantly impacted the quality of life, most especially for the residents. As reported by Architect Tabangin (2024), at present the city's roads are already accommodating three times its intended capacity with approximately 45,000 vehicles from the ideal 15,000 vehicles.

Environmental degradation

Baguio's natural environment, including its forests and water systems, is particularly vulnerable to degradation with pressure put on by rapid urbanization. Illegal logging, unregulated construction, the wide spread of informal settlers, and waste dumping all contribute to the decline in the city's environmental health. Climate change, which has led to unpredictable weather patterns, including abnormal rainfall volume and heat indexes, only aggravates the threat of environmental degradation toward a sustainable ecosystem. Efforts to preserve Baguio's natural heritage, including its green spaces and scenic views also face growing opposition from economic interests

seeking to capitalize on land for development and tourism. As reported by the City Environment and Parks Management Office (CEPMO), the urban audit has highlighted challenges in the city's green support systems. In particular, the city's green cover has a supply deficit of approximately 111 hectares; forest cover of 258 hectares, and open spaces of 27 hectares. The audit report also noted that the headwaters of some rivers from the city failed on certain parameters of water quality (Diwas 2024).

All in all, the city is already below the minimum standards of the resources and life-support systems required for its population. Given population growth, land conversion, limited land for development, and rapid urbanization, it is projected that there will be larger deficits for the city as the demands for these resources and services far outrun supply. Given these challenges, it is critical that the city does not stay “business as usual.” If left unabated, the city might head towards urban decay and stagnant economic and social development. The CPDSO estimates that the city might come into irreversible urban decay if the challenges of exceeding the urban carrying capacity are not addressed by 2043.

POLICY LANDSCAPE AND EXISTING FRAMEWORKS AND INITIATIVES IN URBAN DEVELOPMENT PLANNING

The city and the corresponding regional development councils recognize the need to develop alternative or complementary growth centers with the current congestion in Baguio City. Several policy actions are undertaken at the cluster level in anticipation of the urbanization of the Metro Baguio area. These were directed at dispersing economic activities and mitigating the negative effects of urbanization as experienced by the City of Baguio.

The Baguio, La Trinidad, Itogon, Sablan, Tuba and Tublay (BLISTT) Interlocal Cooperation Program

As early as 1994, a BLISTT interlocal cooperation program was introduced as part of a regional spatial strategy to identify growth centers that are envisioned as catalysts of development. The interlocal cooperation program was aimed to facilitate cooperation among local government units (LGUs) in matters such as transportation, solid waste management, water supply,

ecotourism, industrial expansion, housing, and disaster risk reduction. The program stressed the necessity of collaborative action among BLISTT LGUs to sustain services, improve livelihoods, and enhance the quality of life with the eventual urbanization of the BLISTT areas (Dado 2024).

The BLISTT Master Plan for Sustainable Urban Infrastructure Development (SUID)

The Master Plan for SUID for BLISTT focuses on cross-cutting infrastructure projects affecting economic activity, environmental sustainability, and social services in the Metro Baguio area. The plan puts emphasis on the importance of private sector participation and social acceptability in the implementation of projects. Key projects include the BLISTT Integrated Solid Waste Management Facility, BLISTT Agro-industrial Economic Zone, Integrated Terminal Exchange, BLISTT University Community, and a multi-modal transport system (Dado 2024).

At the city level, Baguio geared its development and policy framework towards Baguio 2043: A Livable, Inclusive, and Creative City, which aims to transform Baguio into a more sustainable, inclusive, and innovative urban environment while preserving its cultural and natural heritage and transitioning to a smart city. The framework is directed towards preventing a projected irreversible urban decay while building the city to remain an ideal place to live, work, and visit. In order to revert to a more livable city, the framework calls for the improvement, promotion, and upgrading of the city's governance, built environment, social environment, and environmental quality.

Smart Sustainable City Management

Technological development is considered integral and vital for managing the city's resources. The use of technology is expected to enhance urban management, particularly in the areas of energy efficiency, urban mobility, environmental management, and public safety. Sustainable solutions will be developed based on the use of technologies that emphasize the development of blue-green infrastructure. Through this development strategy, the city aims to foster sustainable urban design and improve accessibility and mobility by leveraging technological advancements while prioritizing both private and public initiatives and participation. The smart sustainable city management

framework is expected to align land use, zoning, and local climate change plans of the city (Diwas 2024). The strategy also involves the identification of proposed growth nodes in strategic areas of the city. The growth nodes are aimed to help decongest the city center by reducing the need to transact at the central business district (CBD) through forming communities that have the same services and facilities as the CBD (transportation hub, commerce centers, satellite public offices) (Tabangin 2024). The strategy also allows the city government to formalize participatory mechanisms for development planning and engage scientific networks and the academic community to improve the city's technical and knowledge systems and capabilities.

Periodical updating of the Baguio City Land Use Plan, climate and disaster risk assessment, and zoning decision areas

The city's land use policies, climate and disaster risk assessment actions, and zoning regulations play a crucial role in managing urban expansion. These policies are designed to direct the growth of residential, commercial, and industrial zones, along with the protection of green spaces. To achieve its 2043 vision, the city placed an emphasis on periodical and timely planning, decision-making, and project development following the land-water-energy-food nexus framework, its climate and disaster risk assessment recommendations, and its livability index results. As reported by the CEPMO, the city is periodically updating its Comprehensive Development Plan (CDP) and Comprehensive Land Use Plan (CLUP) following an extensive audit and assessment of its natural assets and population, with a primary focus on multi-hazard climate and disaster risk assessment (CDRA), micro zonation, livability index, current land use adjustments, and accessibility (Diwas 2024). The periodical update of the city's land use plan also involves the identification of resilient urban development and the design and mainstreaming of natural solutions and green infrastructure.

Baguio City Traffic Management and Transport Master Plan

Key components of the master plan include infrastructure upgrades like multilevel parking and the introduction of a modern public transportation system to reduce traffic congestion throughout the city. The master plan

also includes developing an efficient interconnectivity of road networks to promote walkability and active mobility throughout the city. Policies aimed at prioritizing the use of public transportation systems for both residents and tourists are being established to enhance traffic movement within the city.

Urban forest management strategy

The strategy involves the protection of remaining urban forests, encouraging community stewardship of urban forests and green spaces, establishing monitoring mechanisms, and providing funding support for urban forestry and greening initiatives. It also includes establishing partnerships for tree-planting programs and adopting park and river rehabilitation efforts. The city government has also intensified its efforts in documenting and reclaiming forest reservation areas occupied by illegal settlers, and validation of other green sites that can be integrated and protected in the land use and zoning plans. To foster the implementation of these strategies, programs such as roadside tree planting, and the establishment of barangay plant nurseries prioritizing endemic plant species in strategic barangays are currently being carried out by the city (Diwas 2024).

Revision and updating the Baguio Tourism Code

The city has revised its set of regulations to effectively manage and promote sustainable and organized tourism practices. The city is working on improving its visitor management system to control and monitor the arrival of visitors entering the city. Under the code, the city has established standards for tourism-related businesses to ensure respect for the city's culture and heritage, as well as the safety and satisfaction of tourists. Local businesses are also encouraged to support events and programs that highlight Baguio as a sustainable tourist destination while making sure they conform to sustainable tourism practices. Local tour guides are required to complete accreditation and capacity-building programs to help maximize the experience of visitors.

Overall, the implemented policy framework is focused on enhancing sustainable land use practices, recovery and increasing green and open spaces, and improving tourist management systems. However, progress is hindered by inadequate prioritization of programs and projects, the continuous influx of tourists, rapid migration, and resident population growth, along with the

limited capacity of the local government unit (LGU) to enforce regulations and sustainable practices effectively. Coordination between these policy levels is often insufficient, resulting in fragmented and ineffective solutions. Implementation has been slow due to poor prioritization of programs and projects. The challenges of urbanization continue to threaten the city's ecological balance unless the enforcement of these laws is reinforced and the participation of more stakeholders both inside and outside of the city is achieved.

THE IMPACTS OF THE CITY EXCEEDING URBAN CARRYING CAPACITY ON METRO BAGUIO DEVELOPMENT

The pressure on the city's ability to manage its urban carrying capacity has ripple effects on its neighboring municipalities. Failure of the city to manage the strain of an overextended carrying capacity has far-reaching consequences on its neighboring municipalities, impacting aspects such as population density to environmental sustainability. While urban expansion may present an opportunity for economic growth within the cluster/ region, it can also lead to a poorly planned development of the Metro Baguio area.

The strain on infrastructure and public services

With Baguio reaching the limit of its urban carrying capacity, the strain on infrastructure and public services becomes evident. Traffic congestion, water shortages, waste management problems, and inadequate healthcare capacity can greatly impact the living conditions of residents. Unfortunately, these problems spill over to the neighboring municipalities of the city as they form the gateway towards the city. Some residents from these municipalities are also dependent on the city for economic opportunities, education, and public services. Without the concerted effort on cooperation and appropriate integrated planning, these municipalities might find it difficult to manage urban spillover and the fast pace of urban development. The pace of growth of rural areas to urban centers frequently outpaces the development of policy and essential infrastructure support, such as roads, utilities, and social services, resulting in underdeveloped areas that lack proper amenities and connectivity. Limited public transportation options and underdeveloped road

networks result in poor connectivity, reducing overall mobility and making it harder for people to access employment, healthcare, and education facilities including entry of economic and investment opportunities.

Social and economic impacts

Economic opportunities and public services in the Metro Baguio area are largely concentrated in Baguio City, leading to disparities in access to services and employment opportunities for residents of surrounding municipalities. This uneven development can intensify income and social inequality in the region. Evident in the local government income classification, the city is classified as highly urbanized while its neighboring municipalities fall under the first to fourth class. Furthermore, the neighboring municipalities are primarily agriculturally dependent and rely on the city as one of the major markets and points of distribution of their produce. With the spillover of urbanization, there is a high tendency for agricultural lands will be converted for real estate development and infrastructure projects to cope. Considering that the surrounding municipalities are part of the country's major vegetable-producing areas, agricultural-to-urban land conversion diminishes the agricultural production capacity and increases reliance on external suppliers. Factoring in the income disparity and the urbanization spill being always accompanied by increased cost of living, lower-income families in the neighboring municipalities will find it difficult to afford the increasing cost of living.

Environmental sustainability in Metro Baguio

The fast urban development in Metro Baguio presents considerable challenges to the region's environmental sustainability. Deforestation, land conversion, pollution, and the loss of green areas are significant issues that demand urgent focus to prevent irreversible damage to the natural environment. With the rapid pace of urbanization in Baguio, its neighboring municipalities are compelled to adapt in terms of development, compromising designated land use and zoning regulations. Forest areas, agricultural lands, and other natural resources are opened and converted for economic purposes without the proper assessment and mechanisms to manage the spillover of urbanization from the city. Additionally, the lure of revenue transforms cultural and heritage sites into tourist spots in the absence of suitable guidelines and regulations.

These often lead to the deterioration of cultural value and natural resources management in exchange for income generation and economic opportunities.

The impact of Baguio City overextending its carrying capacity directly influences the development of the Metro Baguio area. Although the cluster holds significant economic, cultural, and tourism significance, the increasing pressure on resources, infrastructure, and the environment presents major challenges. Collaboration, coordinated planning, and integrated infrastructure development among the local government units are crucial for establishing a balanced and resilient Metro Baguio that can support future growth without compromising the well-being of its residents and available resources. However, each LGU still separately and individually directs the existing cooperation and development setting within the Metro Baguio area. Each local government sets its own development priorities, which might not consistently consider or align with the development priorities of the other local government units. The lack of alignment of development plans and regional goals hinders the implementation of coordinated development in the Metro Baguio area.

POLICY ANALYSIS: GAPS IN EXISTING POLICY AND GOVERNANCE

Fragmented planning and lack of coordination

Despite the existence of various policies and frameworks that allow cooperation, there is a lack of integration and coordination among local and regional or cluster governance structures. Baguio's urban capacity challenges are not adequately integrated into the broader cluster planning efforts for the Metro Baguio area. The integrated and coordinated development framework is essential in regional planning, but current efforts to address urban capacity constraints remain fragmented. Local initiatives often conflict with cluster or regional goals, leading to fragmented growth patterns and missed opportunities for efficiency.

The need for a unified comprehensive regional or cluster development plan and framework

There is a need for a comprehensive and long-term cluster development plan for the Metro Baguio area that would account for the limits and

carrying capacities of the different member local governments and prioritize sustainable development, infrastructure investment, and environmental conservation within the Metro Baguio region. As a highly urbanized city,³ Baguio should consider the development priorities of its neighboring municipalities to sustain its rapid urbanization. Baguio should consider that its status as a highly urbanized city has a big influence on the growth of its surrounding municipalities. The fast-paced urbanization of the city spilling over into its neighboring municipalities creates an interdependent but distinct urban-rural dynamic. A highly urbanized area such as Baguio boasts a much more diverse economy driven by tourism, commerce, education, and services, while its neighboring municipalities depend significantly on agriculture, mining, and rural-based economic activities. In contrast, the economies of these neighboring municipalities are not as diversified and are consequently more vulnerable to changes in certain sectors.

Insufficient infrastructure investment

A major limitation in addressing urban carrying capacity is the lack of substantial investment in critical infrastructure. The city's road networks, drainage systems, and water supply cannot keep up with the demands of its growing population.

Strict enforcement of policies

Although Baguio has enacted laws to protect its environment and regulate urban growth, enforcement remains insufficient. Informal settlers often build in hazard-prone areas, and illegal developments continue to undermine urban planning efforts. Consistent effort in the enforcement of the zoning ordinances of the city is needed to deter the growth of informal settlers and control migration.

3 A highly urbanized city in the Philippines is independent of the provincial government where it is geographically located.

CONCLUSION

The urban carrying capacity challenges posed by Baguio City require a multidimensional, evidence-based approach that transcends boundaries and involves effective governance and focus on sustainability. The issues of rapid urbanization not only affect the city directly but also have extended its impact to the wider Metro Baguio region. By capitalizing on enhanced collaboration among the LGUs within the Metro Baguio area, together with the implementation of integrated development planning and policy measures, the city can navigate the complex process of urbanization while protecting its environment and improving the quality of life for its residents. Participation of the neighboring LGUs, especially on the economic and environmental aspects, can help decongest the city's CBD. Spreading wealth and responsibility in development planning among its neighbors will assist the city to more effectively utilize its infrastructure and dwindling natural resources.

The establishment of a governing body and its relationship with the local government units within the Metro Baguio area is crucial for the development of the cluster or region and for addressing the issues on the city's carrying capacity. The Metro Baguio, La Trinidad, Itogon, Sablan, Tuba, Tublay Development Authority (MBLISSTDA) offers an opportunity to promote collaboration among the Metro Baguio LGUs and help align their urban and rural development in different priority areas. The Development Council could help bring together the initiatives and efforts of the metro Baguio LGUs to create integrated development strategies as the issues of rapid urbanization extend to other LGUs. The policies and actions of the Council will play a significant role in ensuring that growth is managed within the sustainable limits of the region's infrastructure and natural resources. Integrated planning will be essential for maximizing and expanding the opportunities for improved management and growth of the broader Metro Baguio area. The MBLISTTDA can assist in developing and aligning governance policies that balance economic sustainability, environmental protection, and development.

OPPORTUNITIES FOR POLICY INNOVATION

The policies and initiatives outlined above have had varied degrees of success, but none have totally addressed the urban carrying capacity challenges. The Baguio City Traffic Master Plan remains underfunded. Despite showing promise in managing tourist arrival and mobility during the pandemic, the city's visitor management system has yet to fully take off. Furthermore, environmental protection is difficult to administer, particularly in outlying areas where there is a mix of urban and rural settings, as well as overlapping rules set by national laws.

Consider alternatives that cater to Metro Baguio's geography and culture

There is a need to rethink traditional economic models and look at new alternatives that fit with the geographical and cultural uniqueness of Baguio to ensure that the city can grow resiliently and sustainably. An integrated approach to urban development that balances growth and sustainability while addressing urbanization challenges is becoming more urgent. These scenarios create critical potential for policy innovations that the City and its neighboring local governments could pursue to promote balanced growth and urban development in the Metro Baguio area. Despite its potential, the MBLISTTDA needs the authority and resources required to carry out comprehensive regional plans.

Strengthen coordination among the BLISTT LGUs to establish a coherent regional urban and rural development framework

The BLISTT LGUs should be open to the realities of urbanization expanding throughout the Metro Baguio area as Baguio City is within the maximum limits of its carrying capacity. The challenges of urbanization can be better addressed with coordination and setting of regional or clustered development goals. A coherent regional urban and rural development framework will allow the BLISTT LGUs to maximize and appropriately prioritize the use of their resources for actions that require immediate action. Furthermore, actions can be delegated according to the strengths and available resources of each LGU. This will ensure that there will be available opportunities for growth for each

member LGU. The MBLISTTDA can be the authoritative body that can facilitate this purpose, but it will require strengthening its role in cluster governance. Key efforts could include giving the MBLISTTDA authority and resources to organize the development of a unified comprehensive development plan throughout the Metro Baguio area. With the proper authority and resources, the Council could help ensure that BLISTT leaders share resources and work together on development initiatives like transportation systems and public facilities. However, for this to work, the selected leaders of the MBLISTTDA should be familiar with and understand the concerns and leadership dynamics of the member local governments. This will help create trust among the LGUs and can lead to a joint governance system through the MBLISTTDA, rather than being characterized as another machinery that can be exploited by politicians.

Implement integrated urban and regional development planning and convergence

A unified or interconnected Metro Baguio land-use development plan that coordinates land use, infrastructure, and economic and environmental protection strategies among the local government units should be developed. A unified Metro Baguio land use development plan will help distribute economic and commercial activity, disperse the growing population into manageable nodes, and provide a more sustainable and integrated urban and social development, as well as natural resources protection. Convergence of plans will allow the neighboring municipalities of Baguio City to also showcase their available resources, potentially attracting investments, thereby decentralizing urbanization and spreading development to the Metro Baguio area. This would also help promote sustainable environmental regulations and strategies to mitigate urban sprawl, migration, and unintended land use conversion. Having an integrated and regional planning framework, guidelines, regulations, and mechanisms in place can help lead decision-makers toward the eventual urban growth of Metro Baguio.

Coordinated Tourism Management

As discussed, tourism is a major driver of congestion in the city, and regulating tourism allows for the better management of spaces and resources. Strict or effective implementation of the city's visitor quota management

system reducing tourist arrival to a manageable level during peak seasons and encouraging visitors to explore nearby municipalities can help regulate the flow of tourists within the city. Establishing tourism circuits can highlight the interrelationships and common tourism opportunities within the BLISTT area. What is unique about the BLISTT area is that it is a combination of a highly urbanized city and rural municipalities. The establishment of tourism circuits can provide a unique combination of urban tourism and rural or agritourism that could enhance the tourist experience. Tourism circuits can help spread out visitors, allow effective management and offer a better visiting experience. Furthermore, since the city is a melting pot of culture, tourism circuits or centers could facilitate the promotion of heritage and culture, creative industries, and small enterprises within the BLISTT area.

Strengthen infrastructure and public services

Investing in sustainable infrastructure upgrades, especially in transportation, water supply, waste management, business, and healthcare services should be part of the priority decisions. Connecting Baguio to its neighboring municipalities through integrated transport hubs is vital in decongesting its central business district. Prioritizing the development of multilevel transport solutions and roads could mitigate congestion in the city and promote the economy of the neighboring municipalities as well. Furthermore, prioritizing pedestrianization within the central business district would contribute to easing traffic flow and facilitate the unimpeded flow of economic activities. Enhancement of waste management and water systems is also critical in managing urban growth. The city should be able to come up with alternative solutions to the increasing demands for water and waste management, especially during peak tourist seasons.

Establishment of strategic satellite locations or nodes of commerce and public services

By spreading out urban activity, employment opportunities and services across the Metro Baguio area and congestion in the city center can be eased, while also creating new growth opportunities for neighboring municipalities. Satellite centers or nodes of commerce could reduce the need to migrate, travel, and transact in the city. However, there needs to be careful deliberation

for the set of criteria that will be used to guide the selection and development of strategic satellite locations. Among the top considerations should be accessibility, connectivity, and availability of resources.

Addressing housing and overcrowding issues through regional partnerships

The city's informal settlement relocation policies need improvement, especially for proclaimed, protected forests and disaster-prone areas. With limitations in land area available for housing development, the city could establish partnerships with its neighboring municipalities in the construction of affordable housing, establishing satellite universities and educational centers, and facilitating efficient transportation services that would be available for residents within the Metro Baguio area. This will help reduce the need to relocate within the city proper itself.

Addressing mobility issues through smart and active mobility options

The City of Baguio is a prime example of a walkable and pedestrian-friendly city with its landscape and natural features. With adequate infrastructure and policy support mechanisms, the city could champion smart and active mobility to lessen traffic congestion to a more manageable state, especially during the peak season of tourism. Smart traffic management, efficient public transport systems and mechanisms, and prioritizing pedestrian-friendly infrastructures would encourage both residents and tourists to decrease the use of private vehicles. The proximity of the city to the municipalities also allows the possibility of developing growth clusters and tourism circuits that would lessen the need for private transportation. Sustainable transport solutions, such as regionalized and clustered public transport systems and promoting nonmotorized transport options would facilitate the decongestion of major roads leading to the central business district of the city. The city could also encourage and extend public-private partnerships to finance key infrastructure projects that promote effective mobility and natural resource governance, such as public transport, waste management, and tourism facilities and services.

Improve Data Collection and Analytics for Urban Planning

Develop a comprehensive urban data collection system that integrates population growth trends, infrastructure capacities, mobility and public transportation requirements, and environmental health indicators to guide future development. Data collection and urban planning should not only focus on the city of Baguio but the neighboring municipalities as well. Eventually, these municipalities are bound towards urbanization with Baguio near the limits of carrying capacity. With the eventual spread of urbanization, the neighboring municipalities should also be aware of their own carrying capacity to mitigate the effects of rapid urbanization as experienced by the city. This could be a role that the MBLISTTDA could take on if given the authority to access the required information from the local government units.

Empower the Metropolitan Baguio City, La Trinidad, Itogon, Sablan, Tuba, and Tublay Development Authority (MBLISTTDA)

The MBLISTTDA was established by law to act to foster collaboration among the local government units within the Metro Baguio area. It serves as a mechanism to accelerate social, economic, and political growth for BLISTT as a single management entity. It was given the task of overseeing the collaborative planning, development, and implementation of policies that would guide the urban and rural growth of Baguio City and its neighboring municipalities (Republic Act No. 11932). The MBLISTTDA could be the lead agency to oversee and coordinate the development of the Metro Baguio region and influence the development of growth strategies and programs. However, the contrast in priorities and lack of funds among the LGUs and the MBLISTTDA have made the integration of development plans and programs designed to address urban capacity limitations less effective.

For its part, the MBLISTTDA initiated multiple programs aimed at improving infrastructure, promoting sustainable land use, and addressing environmental issues in the Metro Baguio area. Included among them is the development of a Regional Transportation Plan designed to alleviate traffic congestion in Baguio City and improve public transit around BLISTT; developing water resource management targeting the assurance of a sustainable water supply for the growing population of Metro Baguio and environmental conservation projects

supporting efforts to protect Baguio's forest cover and reduce urban pollution (Dado 2024). To ensure that these programs and initiatives get the traction they need, the council must fully leverage its potential to tackle issues facing the Metro Baguio cluster. It becomes critical to understand the relationship between the city's urban carrying capacity and the broader regional planning efforts spearheaded by the MBLISTTDA. The importance of strategic policy recommendations designed to enhance regional collaboration for optimizing resource allocation and infrastructure development is a vital role of the council. The MBLISTTDA must be able to connect Baguio's capacity constraints with the available resources of the city and its neighboring municipalities to improve sustainable urban and rural planning while implementing targeted policies aimed at mitigating the urbanization challenges.

Urbanization will continue to put pressure not just in Baguio City, but also across the Metro Baguio area, especially on its infrastructure, housing, transportation, and ecological systems. Through a comprehensive and coordinated approach, the city of Baguio can better manage its urban carrying capacity and ensure a more sustainable urban development for its residents and visitors. The city's neighboring municipalities have the potential to help the city deal with the challenges of urbanization as they can offer additional resources for development planning. Cities like Cebu and Davao have faced similar challenges regarding urban carrying capacity and their successful cases of regional cooperation and integrated urban planning offer valuable lessons for the city. Metro Cebu has implemented comprehensive policy strategies such as integration of digital governance, tourism regulatory compliance, and spatial planning (CLUP) to balance growth with sustainability and demonstrate the interrelations of social, economic and environmental elements of urban growth. The introduction of vertical housing strategies, encouragement of mixed-used developments and the designation of ecologically sensitive areas for conservation in its CLUP. To combat worsening traffic and improve public transit access, Cebu has prioritized intelligent mobility systems, such as the Cebu Bus Rapid Transit (BRT) system and the use of AI-based traffic management systems, that offers modernized transportation and traffic management systems. Tourism management measures such as online booking and pre-payment system for high-impact destinations offer a structured approach in the regulation of visitors and ensures pre-activity orientation. To establish accountability, tourism-related businesses are required to obtain a Tourism Compliance Certificate (TCC). This ensures that businesses adhere

to the Department of Tourism (DOT) regulations regarding safety, sanitation, and quality of service. Davao City, on the other hand prioritized public transportation modernization through a High Priority Bus System (HPBS) that aims to decongest traffic and improve mobility among residents and tourists. The City's Tourism Master Plan also highlights public-private partnerships in the promotion of eco-tourism and heritage preservation. These partnerships ensure that inputs from local communities and indigenous groups are included in the promotion of sustainable tourism. These are some of the best practices can be adapted to Metro Baguio's context to mitigate the challenges of urbanization.

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