

Urbanization On Human Settlement Of Baguio City

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ABSTRACT

Tourism has a pivotal role as an income contributor in the economy of Baguio City. It spawned rural to urban migration of people who seeks employment, education, urban life and vibrant cultural heritage experience. Urbanization has determined the city to address in living within its urban bearing capacity. The city's high population density stimulated climate change impacts, greenhouse gas emissions, undersupply of water and accelerating housing shortages.

Consequent to the land scarcity in the city, it is observed that vertical and sprawling developments for residential purposes are proliferating. This paper discusses the displaced household settlements and analyses the effect of urbanization in housing shortage of Baguio with the goal of aligning the recommendation with the policies in the Philippines.

Keywords: Informal settlements, HousingUrbanization Urban policy

Introduction: Rapid urbanization has occurred in recent years contrasts sharply with the rapid rural decline (Smith et al., 2019).The increasing urban population can directly lead to enlarged urban construction areas and changes in land use types, which can further alter the physical properties of the underlying urban surface and greatly affect the characteristics of regional hydrological circulation (Harman, 2003) and (Cheng, 2007).Urbanization is rapidly occurring across the world, and the global urban population is predicted to increase by 2.5 billion by 2050 (World Urbanization Prospects, 2019). The urbanization of the global population is proceeding at

a pace that will lead to about 68% living in cities as opposed to outside (United Nations Department of Economic and Social Affairs, 2019).

Informal settlement is the most pervasive mode of urbanization throughout cities of the global South, yet little is known of how informal urban design works as a production of urban space (Dovey et al., 2020).Informal settlement is self-organized but it is not chaotic. Sites are chosen, buildings are constructed and extended, common access networks are formed and rights of way emerge to protect public access to every building or plot. A lack of knowledge about the growth

and form of informal settlement makes it hard for city governments to formulate and implement planning and building codes that integrate them with the larger city infrastructure (Dovey et al., 2020).If municipal authorities are interested in tackling the rapid growth of slums by expanding the supply of affordable housing, they should critically examine their building regulations and modify them to address the housing needs of their low-income residents (Patel et al., 2018).

Studies has found that tourism urbanization has a positive impact on local residents' income (Ma et al., 2022), population employment (Liu et al., 2017), and infrastructure construction (Kang et al., 2022). However, some

literature research has found that the rapid expansion of tourism urbanization often comes at the expense of ecological environment degradation and has a certain negative impact on human settlement environment (Satrovic and Adedoyin, 2023). The human settlement environment is the concrete embodiment of measuring the sustainable development of tourism urbanization (Ma and Tang, 2023).

Every human settlement produces transformations of the natural environment, and the process of urbanization, as well as cities, have become the model of permanent human settlement that contains most of the world's population, despite their growing environmental impact (Rodriguez et al., 2023). Urban informal settlement (UIS) refers to high-density residential area that carries the housing requirements of many people in the city. Due to the lagging nature of urban planning, informal settlements are usually characterized by low-floor and dilapidated houses, traffic congestion, inadequate public facilities, and limited medical conditions, resulting in low living standards for people. (Fan et al., 2022).

Urban sprawl has emerged as a striking characteristic of recent global urban development. Land use policies advocating urban expansion for residential use to the detriment of a critical environment as in the case of Baguio City, Philippines, have shaped and reinforced the urban sprawl phenomenon. Urban sprawl is characterized by discontinuous, fragmented/leapfrog development, with random population densities (Gonzales, 2016). Transportation

preferences factored flexibility exemplified in the private automobile and the subsequent establishment of interstates and freeways (Schultink *et al.*, 2005). Burchell and Mukhjerji (2005) link sprawl to low density occupation as well as to leapfrog development characterized

by unlimited expanses. Urbanization is a vital factor in the demographic changes in Baguio city. Baguio's distinctive transformation is the product of four factors (Reed, 1999).

During the last two decades, the expansion of Baguio city's built-up area (urban, residential, industrial, institutional, and areas occupied by other man-made structures) has been tremendous. The built-up area in the city increased. From 1075.86 ha in 1988 to 1972.71 ha and 2985.12 ha in 1988 and 2009 respectively at a rate of 8.45 % per year for the past 21 years (Estoque & Maruyama, 2010). After more than 100 years of its existence, Baguio city has been transformed physically, economically and politically. With a population of 841 in 1904, composed of 811 Igorots and 30 Ilocanos (Wilson, 1955), the figure swelled to 301,926 in 2007 (NSO, 2007). At the time when mountain tribes (Igorots) named Ibalois and Kankanaeys settled in Baguio, it was a wide expanse of pasture and grazing land, partly planted with coffee and partly used as grazing ground for cattle and horses. Besides one main horse trail, there were numerous cart trails leading to various parts of the city (Reed, 1999).

Baguio's status as the summer capital of the country, its growing socio-economic activities and employment opportunities, and the development and availability of basic and essential urban services and facilities are the major factors that inspired and encouraged people to flock to this city (Estoque & Maruyama, 2011). In Baguio City, the UHI value has increased from 1987 to 2015 due to the rapid expansion of impervious surfaces and the loss of green spaces caused by rapid urbanization (Estoque & Maruyama, 2017).

1. Objectives:

1. Analyze the current situation of displaced human settlements of Baguio City
2. Identify recommendations for the current situation of displaced housing settlement of Baguio city

2. Methodology

Qualitative Research - Primary data is collected with first-hand observations, interviews in consideration with the numbers of Displaced Households per Barangay in the City of Baguio. Secondary data will be taken from the case

studies regarding Informal Settlements

Significance of the Study

This research paper is significant as it addresses the critical consequences of informal settlements in a locality:

Significance to the Researcher- Housing studies offer students chances to conduct research in fields such as urban planning and urban design

Significance to the Environment- This study provides knowledge to the uncontrolled increase of population results to produce higher amount of pollution like Greenhouse Gas Emissions

Significance to the Community and Environment – This study aims to identifies solutions to rigorous influx of informal settlements that contributes to the Scarcity of Natural resources like land and water that is needed in a locality

3. Scarcity of Land and Water due to overpopulation

In 1905, Baguio city, was envisioned to accommodate up to 25,000 people, as planned by Daniel H. Burnham, an American architect and city planner (Alabanza, 2007; Doronila, 2009, Gutierrez & Cariño, 2009). Currently, according to the Baguio City Planning Office, the recorded population of Baguio City in 2020 was 366,358. By 2043, the reflected exponential population growth is 600,000. The population of Baguio City further quadruples in number during festivals, holidays and other special events.

| ON FOREST COVER | | | |
|-----------------|--------------|--------------|--------------|
| SUPPLY | DEMAND | 2023 DEFICIT | 2029 REQMT |
| 1,465.432 ha | 1,724.100 ha | 258.668 ha | 1,724.100 ha |

Data Source: Baguio City Planning and Development Office

The table above shows the City of Baguio has a supply of 1,465.432 hectares forest cover with a demand of 1,724.100 hectares by the year 2029.

| ON OPEN SPACES | | | |
|----------------|-----------|--------------|------------|
| SUPPLY | DEMAND | 2023 DEFICIT | 2029 REQMT |
| 732.716 ha | 862.05 ha | 27.822 ha | 862.05 ha |

Data Source: Baguio City Planning and Development Office

The table above shows the City of Baguio has a supply of 732.716 hectares open spaces with a demand of 862.05 hectares by the year 2029.

ON GROUND WATER

| 2023 WATER DEMAND | 2026 WATER DEMAND | 2029 WATER DEMAND |
|--------------------------|--------------------------|--------------------------|
| POPN = 380,269 | POPN = 394,708 | POPN = 409,695 |
| 20.82M cu.m. | 21.61M cu.m. | 22.43M cu.m. |

Data Source: Baguio City Planning and Development Office

The table above shows that in 2023, the water demand to cater the 380,269 population of Baguio was 20.82M cu.m. . The water demand further increases with the reflected population in 2029.



Business District of Baguio 379. Baguio Market and looking up the main business street. ca. 1920,
(Photo Source: Album – J & K Evans)



Central
District of Baguio City, 2024 (Photo Source: Chelsea Par-ogan)

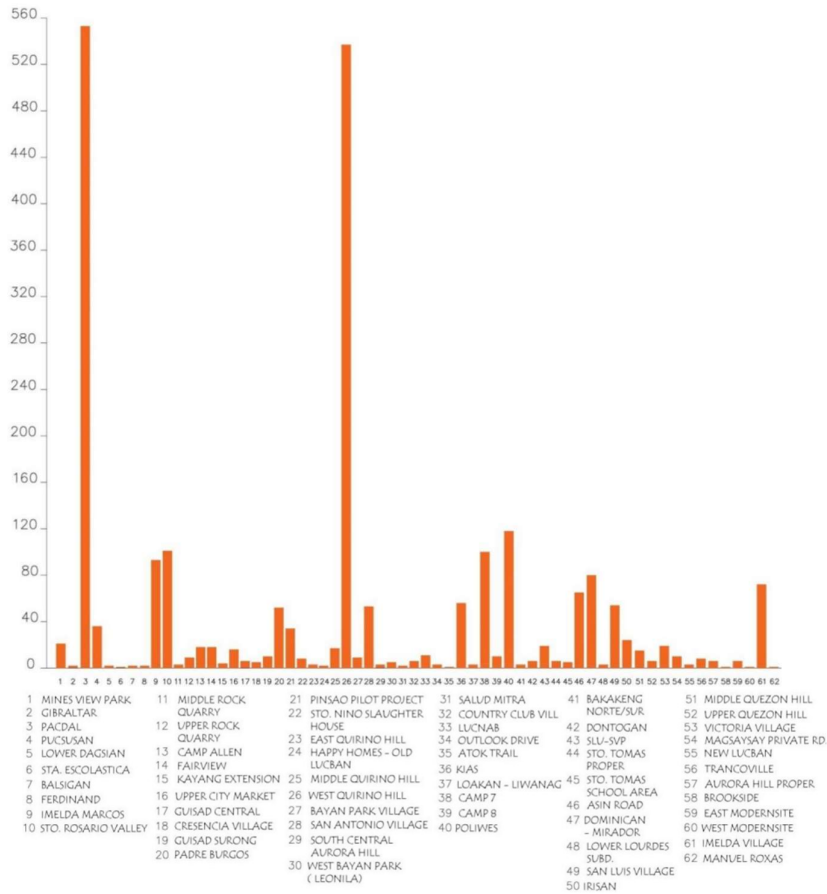


Figure 1: Number of Displaced Households: Landslide Graph

Data Source: Baguio City Planning and Development Office

Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 1, it is recorded that the Pacdal Barangay had 553 number of displaced human settlement followed by the West Quirino Hill Barangay with 537.

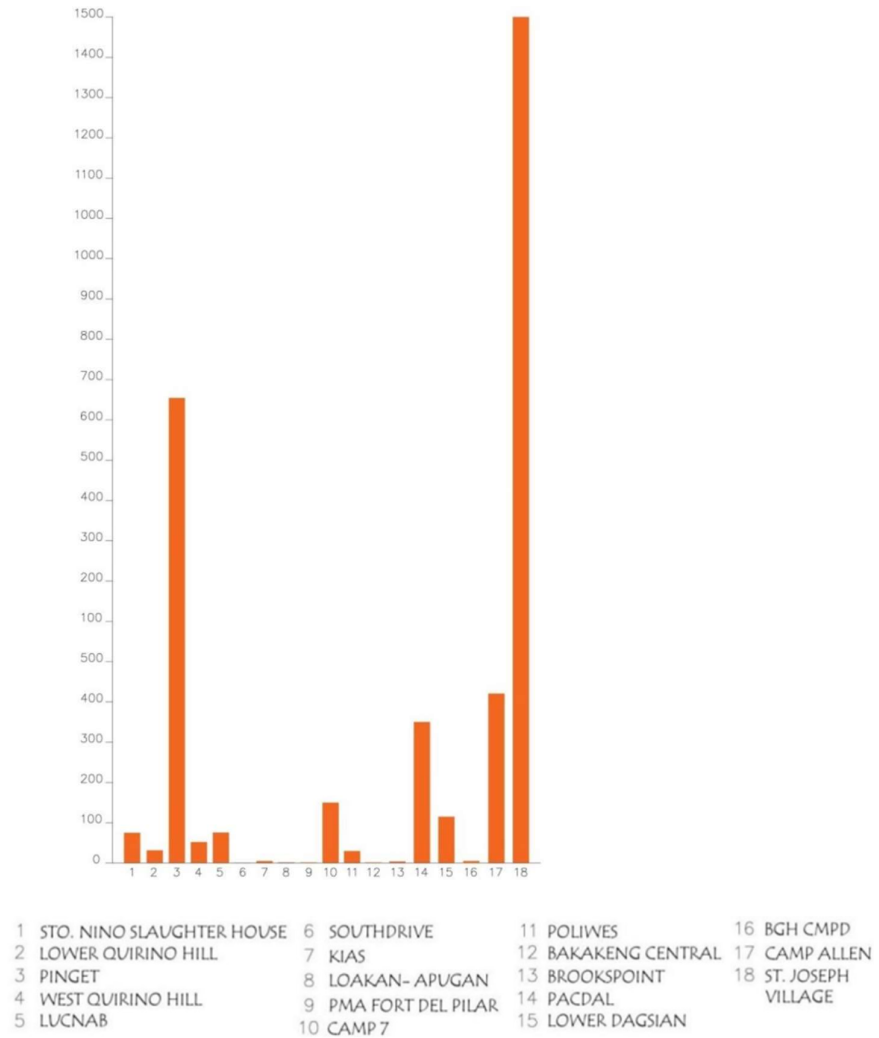


Figure 2: Number of Displaced Households: Watershed/Reservation/Protected Area/Forest Zone Graph
 Data Source: Baguio City Planning and Development Office
 Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 2, the graph shows that St. Joseph Village Barangay with 1500 had the highest number of displaced human settlements on the urban’s protected zone.

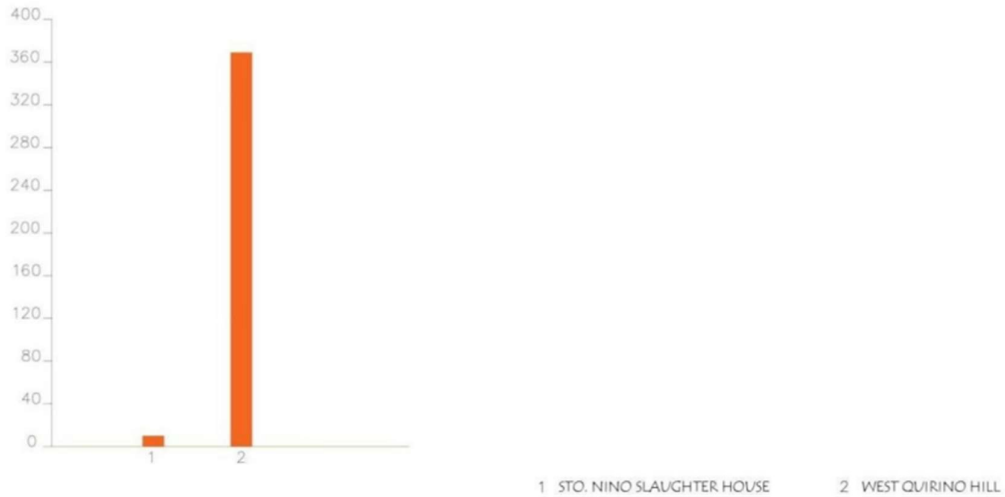


Figure 3 : Number of Displaced Households: Drought Graph
 Data Source: Baguio City Planning and Development Office
 Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 3, the graph shows that due to drought, the Sto. Nino Slaughter House had 10 displaced human settlements while the West Quirino Hill Barangay had 369 displaced human settlements.

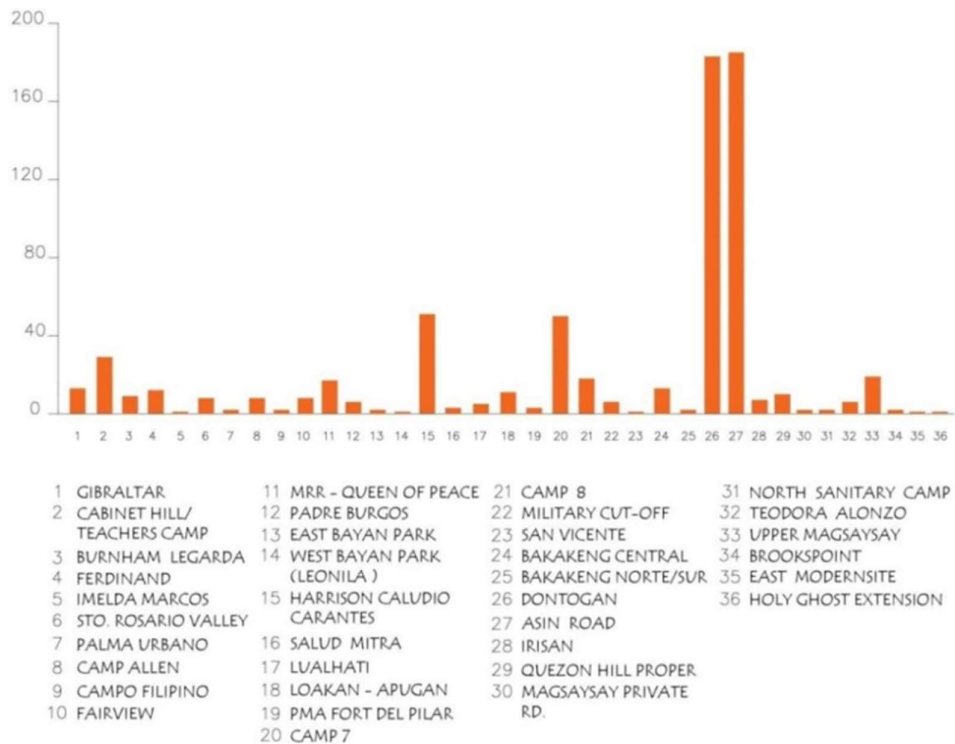


Figure 4: Number of Displaced Households: Eviction/Demolition Graph
 Data Source: Baguio City Planning and Development Office
 Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 4, the two barangays with the highest number under eviction or demolition section are the Asin Road Barangay with 185 displaced human settlement and the Dontogan Barangay with 183.

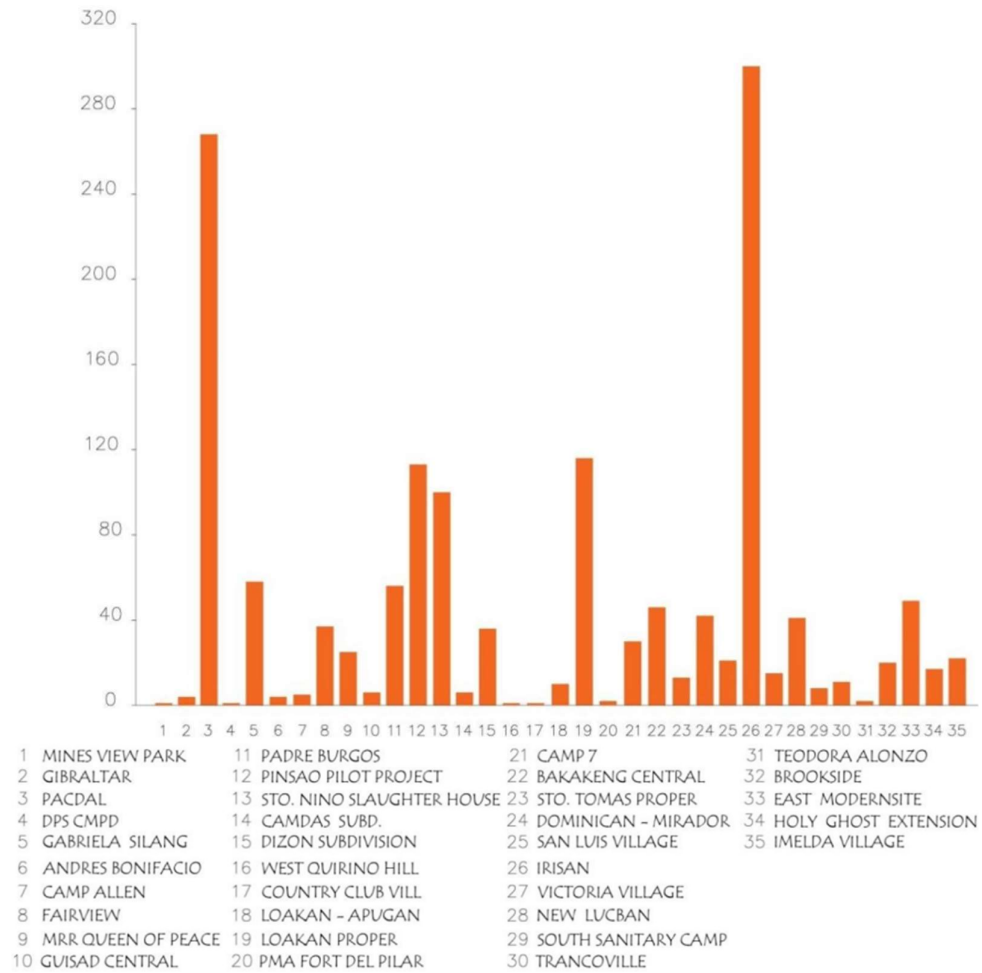


Figure 5: Number of Displaced Households: Waterways Graph

Data Source: Baguio City Planning and Development Office

Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 5, the graph shows that the Irisan Barangay with 300, had the highest number of displaced human settlements on the urban’s waterways.

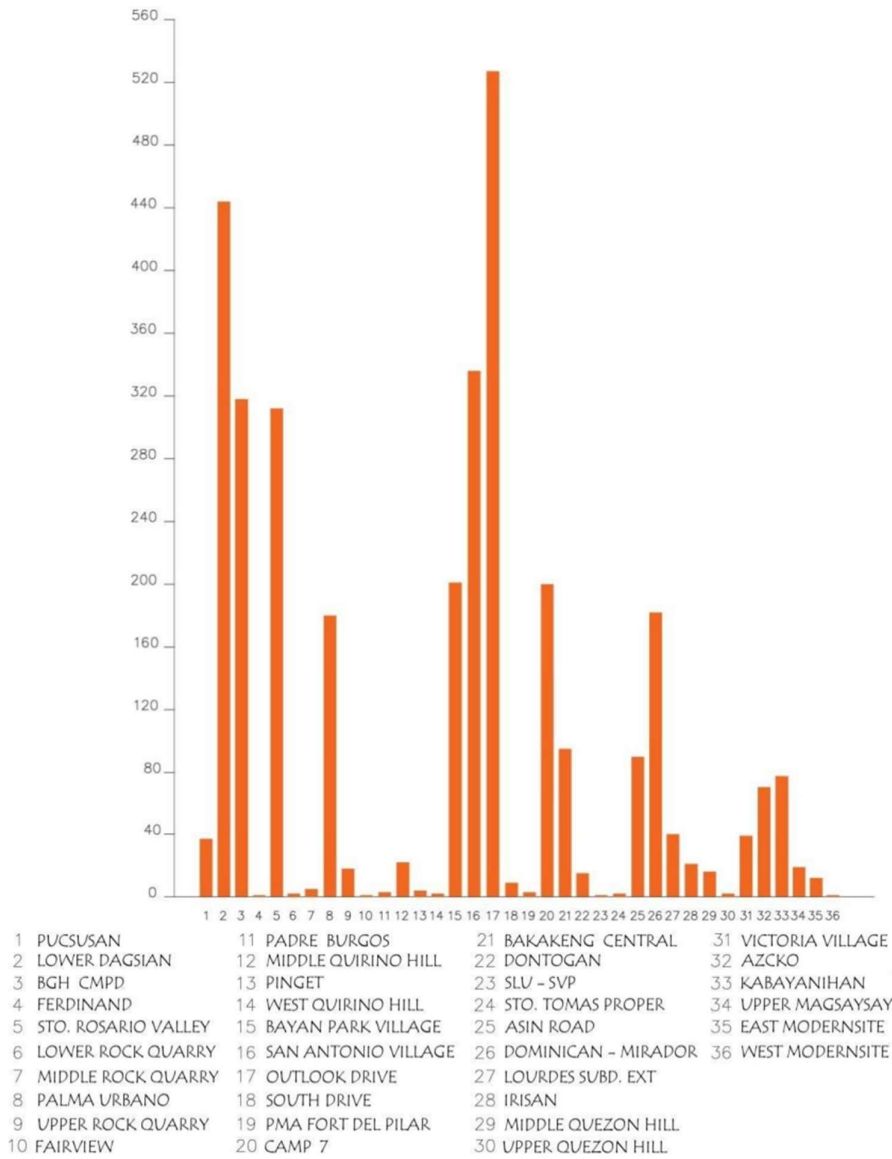
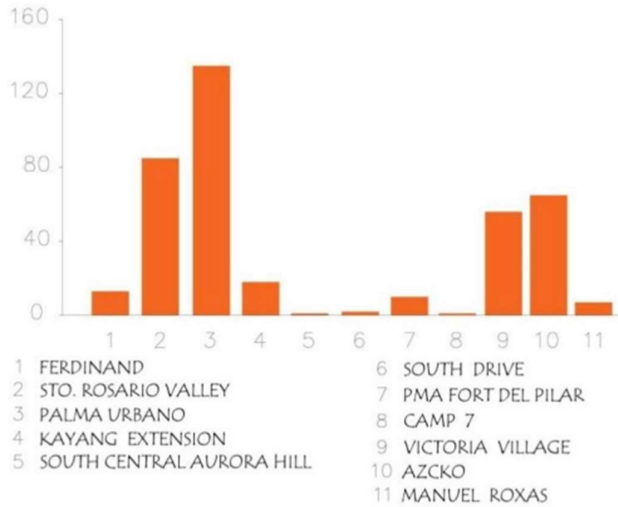


Figure 6: Number of Displaced Households: Earthquake/Sinkhole Graph

Data Source: Baguio City Planning and Development Office

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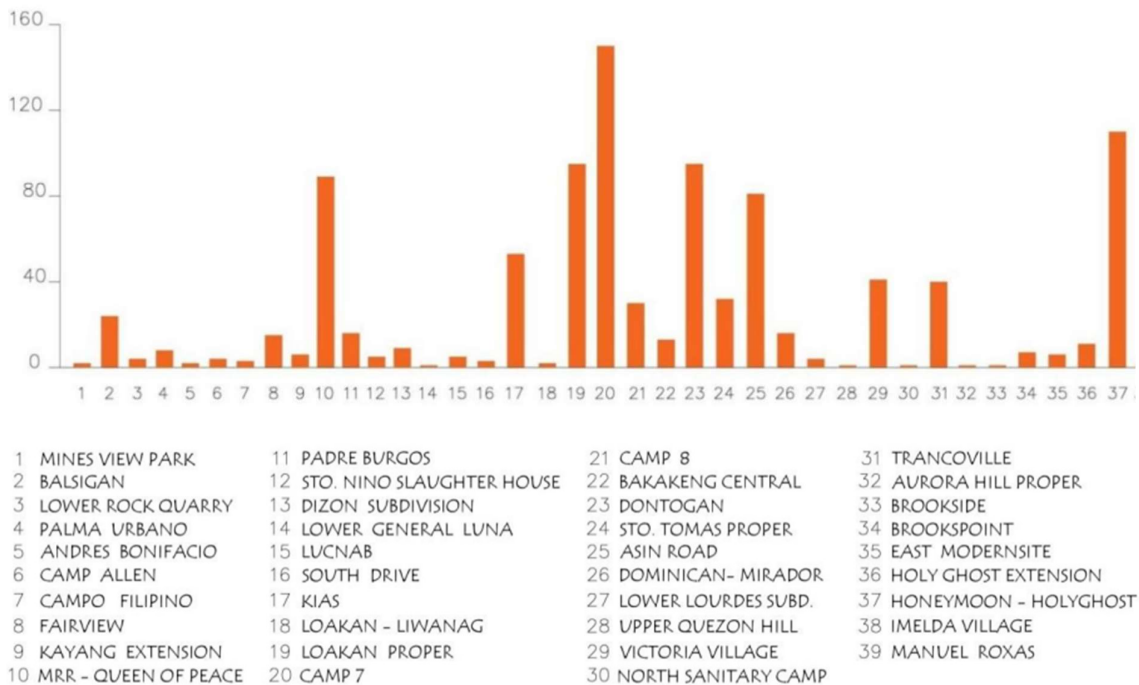
On Figure 6, the graph shows that the Outlook Drive Barangay with 527, had the highest number of displaced human settlements under earthquake or sinkhole circumstances.

4. Figure 7: Number of Displaced Households: Human Induced Disaster Graph

Data Source: Baguio City Planning and Development Office

Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 7, the graph shows that the Palma Urbano Barangay with 135, had the highest number of displaced human settlements under human induced disasters.



5. Figure 8: Number of Displaced Households: Infra Projects Graph

Data Source: Baguio City Planning and Development Office

Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 8, the graph shows that the Camp 7 Barangay with 150, had the highest number of displaced human settlements considering Infra Projects.

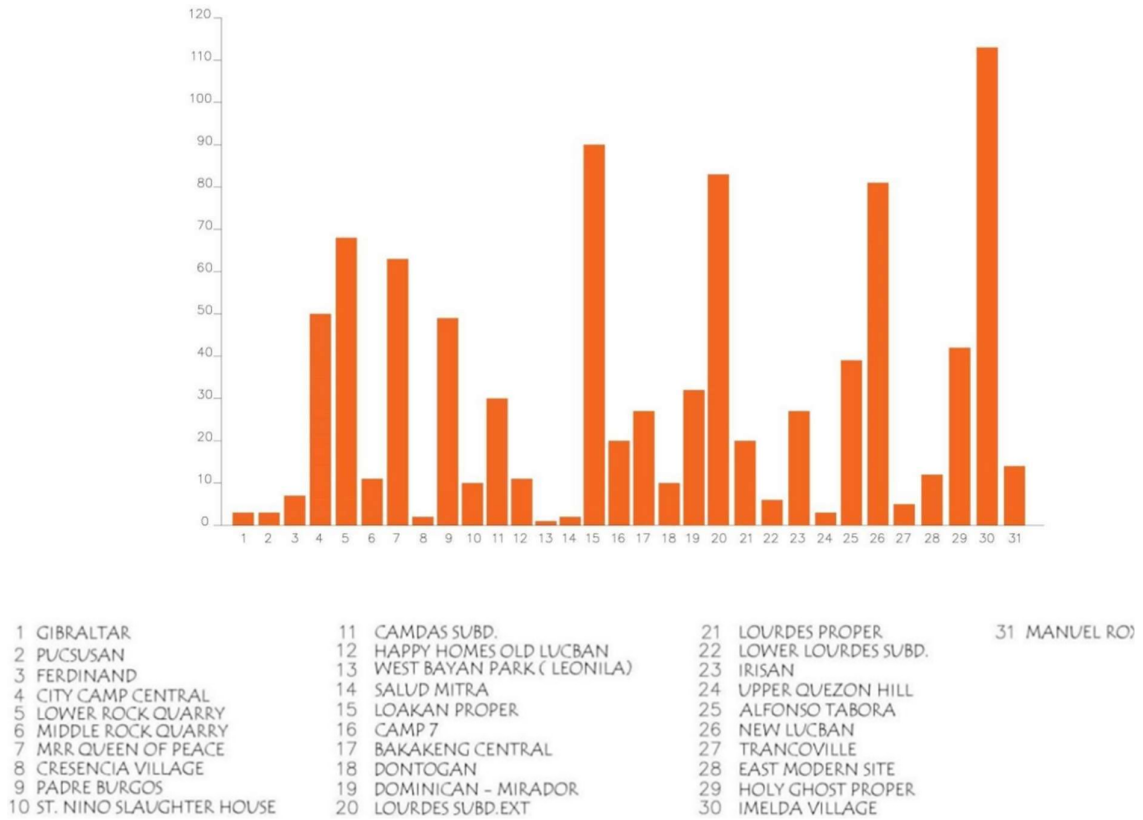
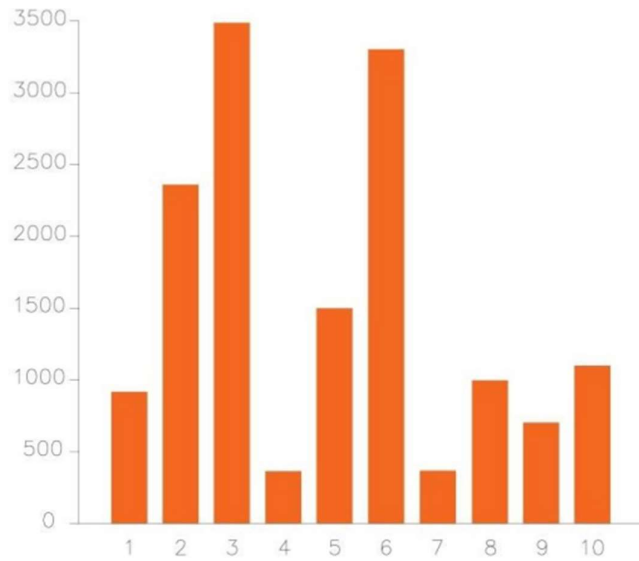


Figure 9: Number of Displaced Households: Flood Graph

Data Source: Baguio City Planning and Development Office

Prepared By: Chelsea Niz Par-ogan, 2023

On Figure 9, the graph shows that the Imelda Village Barangay with 113, had the highest number of displaced human settlements under flood circumstances.



- 1 FLOOD
- 2 LANDSLIDE
- 3 WATERSHED/ RESERVATION PROTECTED AREA/ FOREST ZONE
- 4 DROUGHT
- 5 WATERWAYS
- 6 EARTHQUAKE / SINKHOLE
- 7 HUMAN INDUCED DISASTER
- 8 INFRA PROJECTS
- 9 EVICTION / DEMOLITION
- 10 THREAT OF EVICTION

Figure 10: Number of Displaced Households: Baguio City Graph
 Data Source: Baguio City Planning and Development Office
 Prepared By: Chelsea Niz Par-ogan, 2023

Figure 10 shows a summary graph showing all the displaced human settlements in Baguio City. Here we can see that settlements on the Watershed/Reservation/Protected area/Forest Zone had the highest number human settlements.

6. Laws, Policies, Ordinances on Preserved Areas

According to PRESIDENTIAL DECREE NO. 1067 CHAPTER VI:Conservation and Protection of Waters and Watersheds and Related Land Resources:ARTICLE 67 :Any watershed or any area of land adjacent to any surface water or overlying any ground water may be declared by the Department of Natural Resources as protected area. Rules and regulations may be promulgated by such Department to prohibit or control such activities by the owners or occupants thereof within the protected area which may damage or cause the deterioration of the surface water or ground water or interfere with the investigation, use, control, protection, management or administration of such waters. According to the Environmental Code of Baguio City 2016: Article 18: Water Resources Inventory and Planning: Section 100: Identification and Delineation of all watersheds and other water resources. Identified watersheds to include the following: Busol Forest Reserve, Buyod Forest Reserve, Camp 8 Watershed, Crystal Cave Forest Reserve, Forbes Park 1, Forbes Park 2, Forbes Park 3, Lucnab Forest Reserve, and Pucusan Forest Reserve, and other water resources shall be properly delineated on the ground and protected as safeguarded lands. All watersheds and any other sources of water, covered or not by Presidential Proclamations, shall be segregated and proclaimed as safeguarded lands for no other purpose except as a water sources. The city shall involve the community in guarding watersheds and other water sources.

7. Conclusion and Recommendation

There are problems about the preservation of Baguio City's Watershed/Reservation/Protected Area/Forest Zones, this area is extremely contentious. A series of discussions/ urban public consultations between the local government and the public regarding the housing settlements, ordinances, existing laws, easements and buffer zones would be a great help in understanding how we should address these conditions.

Ordinances, laws and regulations will be operative and coherent when there is clarity in public consultations. In the case of Baguio City, there is land scarcity. Guidance in implementing affordable housing and vibrant livable community will assist displaced local citizens. There is a sense of community when local citizens have ownership in spaces allotted for their residences.

These spaces become a place of inclusive cultural diversity. When local citizens has cognizance of ownership on their residences, they value it more and further nurture their place vigorously.

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