

A CITY IN MOTION

Migration, Climate Change, and Governance in Baguio City

A Report Submitted by the Scalabrini Migration Center to GIZ Global Programme
Human Mobility in the Context of Climate Change (HMCCC)

By Maruja M.B. Asis and Alicia G. Follosco

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In Cooperation with



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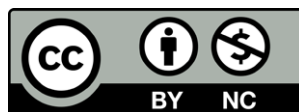
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Abbreviations

ALIVE	Arabic Language and Islamic Values Education
BPIFI	Bank of the Philippine Islands Foundation, Inc.
BLISTT	Baguio, La Trinidad, Itogon, Sablan, Tuba, Tublay
CAR	Cordillera Administrative Region
CC	Climate Change
CGB	City Government of Baguio
CHO	City Health Office
CLUP	Comprehensive Land Use Plan
CDRRMO	City Disaster Risk Reduction and Management Office
DRRM	Disaster Risk Reduction and Management
FGD	Focus Group Discussion
HMCCC	Human Mobility in the Context of Climate Change
KI	Key Informant
KII	Key Informant Interview
LCCAP	Local Climate Change Action Plan
LMIS	Local Migration Information System
LGU	Local Government Unit
MAO	Municipal Agriculture Office
NEDA	National Economic and Development Authority
POPCOM	Commission on Population and Development
RBIM	Registry of Barangay Inhabitants and Migrants
ROE	Rapid Onset Event
SMC	Scalabrini Migration Center
SOE	Slow Onset Event
UCC	Urban Carrying Capacity
WWF	World Wide Fund for Nature

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Executive Summary

Baguio City has been a migration magnet since the 1900s, and migration has since contributed to its remarkable population growth, economic dynamism, and the making of a multi-ethnic, multicultural Baguio. Having reached its ideal population size of 25,000-30,000 decades ago, the city's estimated population of close to 370,000 paints a picture of a city bursting at the seams. This study attempted to examine and link three strands: migration, climate change (particularly slow onset events), and governance. It is highly relevant to consider these strands in Baguio City given the significance of migration, the urgency of environment-related concerns, and the role that governance can play in promoting sustainable development in the city. Following are the sets of questions explored by the study:

- What are the reasons that brought migrants to Baguio City? What is the role of environment-related reasons in their migration to Baguio? How do migrants perceive and experience Baguio City as a place where they live, work, or study?
- What do migrants see as the environmental challenges facing Baguio City now and in the future? How do migrants understand slow onset climate change impacts on Baguio City?
- What are migrants' perspectives about the policies and actions of the City Government of Baguio (CGB) in addressing slow onset climate change?
- What are migrants' future plans? What factors will incline them to stay or leave Baguio City? How do they understand the impact of slow onset climate change on migration?

As a secondary objective, the study looked into the possibility of the future migration of farmers from Atok, Benguet should climate change adversely affect the agriculture sector, a sector that heavily relies on environmental conditions.

Primary data were drawn from focus group discussions with migrants and key informant interviews with relevant stakeholders in Baguio City, supplemented by interviews conducted with farmers and other resource persons in Atok and La Trinidad, Benguet. Data collection was conducted mostly in January 2020. A total of 76 individuals participated in the study. Among these were migrants who represented the following groups: professionals, construction workers, university students, and Muslims from Mindanao.

HIGHLIGHTS FROM THE STUDY

1. The reasons for migration to Baguio were mainly employment and education-related. For Muslims, the conflict in Mindanao was a factor in their migration to Baguio. The city's cool weather is a pull factor which is unique to Baguio.
2. Migrants have varying degrees of permanence and temporariness in their residence in the city, ranging from those who have been in Baguio on a relatively permanent basis to those who stay in Baguio during the work week and return to their hometowns on weekends. Whether or not migrants will settle in Baguio will depend on prospects and future plans, such as employment opportunities and marriage, among others.
3. In general, migrants consider Baguio as a welcoming place and they appreciate the multicultural character of the city.
4. The economic conditions of migrants differ strikingly by occupation, suggesting the different degrees of economic integration of migrants in Baguio City. Professionals have stable employment and income while those in the informal sector have variable income and lack social protection. In the case of Muslim migrants, their employment prospects are mostly in trading and within the ethnic community.
5. Social networks played an important role in facilitating migration and creating chain migration originating from specific origin communities.
6. Migrants, especially professionals and students, shared the concerns of residents over the current and long-term environmental health and livability of Baguio City.
7. Migrants, residents, and other stakeholders also worried about the influx of tourists and the associated problems of congestion, traffic, carbon emission, and mounting trash problems.
8. Migrants' views on how climate change may affect migration suggest that the link is not automatic as other factors may intervene. As an origin area, increasing temperature may not necessarily trigger migration from Baguio because other areas in the Philippines will likely be warmer. As a destination area, climate migrants may be deterred from migrating to Baguio because it is prone to earthquakes, and there are other destinations to consider.
9. Although Baguio City does not have policies to manage migration (unlike the well-established legal and policy frameworks to address the host of environment-related concerns), the CGB has introduced good practices to promote the social integration of migrants. The institutional support given to the Arabic Language and Islamic Values Education (ALIVE) program for Muslim students in public schools and the dialogue with the Muslim community are excellent examples.

Among the recommendations forwarded by the study is to develop programs – such as skills training and upgrading, and programs to support migrants in their job search – to provide more employment options for migrants and to improve their economic integration in Baguio City. Some research recommendations are also offered.

01

Introduction

Baguio is a city whose past, present, and future prospects are intimately tied to the arrival of different waves of migrants. With a land area of 57 square kilometers and a population of 345,000 (as of the 2015 census), there are about 6,000 people per square kilometer in Baguio City, making it one of the most densely populated cities in the country (Llanes, 2019; see also Palangchao, 2019). The growth of the city's population is spurred not only by natural increase but by unrelenting migration. As an economic center, educational magnet, and the hub of the Cordillera region, migrants are drawn to the city, many of whom eventually decide to settle permanently in Baguio. The country's Summer Capital is also a major tourist destination. During the day or whenever there are festivities and events, Baguio's population is further boosted by the arrival of tourists (see Table 1 for an overview of Baguio City's profile).

TABLE 1. BAGUIO CITY: PROFILE

Elevation	5,050 ft.
Land Area	57.49 sq. km.
City class	Highly urbanized city
Income class	1st class
Number of barangays	128
Population (2015 Census)	345,000
Population (2019 projected)	367,167
Population density (2015)	6,007 per sq. km.
Population density (2019)	6,386 per sq. km.

The making of Baguio as a migration magnet started in the 1900s. Early migration from the lowlands was eased by the opening of Kennon Road in 1905. Later, the completion of the Baguio-Bontoc Road or Halsema Highway in the 1930s facilitated the movement of people from other parts of Benguet and the Mountain Province. Another contributing factor to migration were job opportunities at the Benguet Consolidated Mining Company, now Benguet Corporation and Philex Mining Corporation; both located close to Baguio City. More workers migrated to Baguio in the 1960s and 1970s, the period of house construction boom in the city. First, it was the workers who came, but later, their family members joined them. In the mid-1990s, the

Baguio Export Processing Zone brought in investments which generated more job opportunities. This was followed by the rise of the Business Process Outsourcing (BPO) industry as a source of employment. With job opportunities in the BPO sector, many student migrants found work as call center agents and remained in the city.

Over the years, migrants to Baguio not only came from other parts of the Cordillera region or the lowlands but also from other countries. In the last two decades, the city's international migrants have been dominated by Koreans. A few Koreans started with missionary work in the 1990s; later, they established English language schools for Koreans in partnership with Filipinos. Some brought their families with them and settled in Baguio.

Despite the importance of migration to the city's social landscape, studies on migration to Baguio City are sparse. About a decade ago, a review of international migration studies in the Cordillera Administrative Region (CAR) noted the importance of economic drivers in migration in the region (Rosito, 2006 as cited in Folloso and Soler, 2011: 41). While migration contributes to the city's vibrancy, its contribution to population increase is inevitably linked to rising demand for housing, resources, and social services. Housing and commercial construction has generated questions about proper land use, the safety of built infrastructure, and environmental consequences. The demand for resources such as water, the production of waste and its management, the regulation of land use and flood control (given that Baguio City has the highest rainfall in the country, according to the 2014 BPI Foundation Inc./WWF study) have implications for the health of the environment in general. The study found that Baguio City is exposed to the following climate/environmental challenges: extreme rainfall and intensified tropical cyclones, landslide risk because it is criss-crossed

by seismic faults, flooding, inadequate water supply and runoff. Even marginal lands in Baguio City are occupied, mostly by poor migrant families who are exposed to various environmental risks, including those brought about by climate change. These manifold issues pose enormous challenges for a city that was designed for 25,000-30,000 people (CGB, n.d.a.), which was achieved between 1939 and 1948 (NEDA-CAR, 2019: 150). These concerns were amplified in the 2019 National Economic and Development Authority-Cordillera Administrative Region (NEDA-CAR) study on the city's urban carrying capacity (hereafter referred to as the UCC study). The study examined Baguio's urban carrying capacity, i.e., "the maximum level of human activities, population growth, land use and physical development sustained by the urban environment without causing serious degradation and irreversible damage" and proposed recommendations. In January 2020, the CGB came up with a 15-year rehabilitation plan to address environmental degradation.

The present study builds on the momentum of research that have examined the environmental impact (e.g., NEDA, 2019) and climate change impact (BPIFI-WWF, 2014) on Baguio. The study attempted to explore the climate change and migration nexus in the context of Baguio, a city that is affected by both phenomena. The study is specifically interested in slow onset events (SOEs), i.e., hazards that do not emerge from a single, distinct event but develop gradually over time, often resulting from a confluence of different events. This is in contrast with rapid onset events (ROEs) which may be single, discrete events that occur in a matter of days or even hours (UNFCCC, 2012).¹ The climate change and migration nexus was explored from the perspective of migrants, who comprise a substantial share of Baguio City's constituents. Toward this end, the study pursued the following questions:

¹ The Framework Convention on Climate Change identifies the following as SOEs: sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification (UNFCCC, 2012:2). On the other hand, examples of ROEs are: earthquakes, cyclones or typhoons or windstorms, landslides and avalanches, wildfires, floods and volcanic eruptions.

What are the reasons that brought migrants to Baguio City? What is the role of environment-related reasons in their migration to Baguio? How do migrants perceive and experience Baguio City as a place where they live, work, or study?

What do migrants see as the environmental challenges facing Baguio City now and in the future? How do migrants understand slow onset climate change impacts on Baguio City?

What are migrants' perspectives about the policies and actions of the City Government of Baguio (CGB) in addressing slow onset climate change?

What are migrants' future plans? What factors will incline them to stay or leave Baguio City? How do they understand the impact of slow onset climate change on migration?

As a secondary objective, the study sought to explore the possibility of the future migration of farmers from Atok, Benguet should climate change adversely affect the agriculture sector. This was added to provide a comparison with the views and experiences of migrants who are already in Baguio. Furthermore, as a sector that heavily relies on environmental conditions, climate change impacts on agriculture may trigger migration as one of several adaptive strategies.

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MIGRATION TO BAGUIO

Baguio was established as a chartered city on 1 September 1909. In the next 30 years, what used to be a vast expanse of *rancherias*² of the Ibalays/Ibalois, was transformed by various construction projects, shaping Baguio into a semblance of an American city. Civil servants, American colonial officials, affluent Filipinos, and other foreigners trooped to the highlands and built summer houses. The construction of Benguet Road (now known as Kennon Road) made the city accessible, which led “to a multiethnic convergence in Baguio—a phenomenon never before experienced by the Igorots and, thus, a development to which they could not readily respond” (Prill-Brett, 2019: 292).

The multi-ethnic character of Baguio today can be gauged from the various mother tongues spoken by the city’s population: 50 percent Ilocano; 23 percent Tagalog; 4 percent Pangasinense; 10 percent Cordillera languages; and others (OCPDC, 2002 as cited in Estorque and Muriyama, 2013: 243)³. Another indicator is ethnicity. In the census, ethnicity is measured by the question: “What is _____’s ethnicity by blood? Is he/she a/an _____?” Based on the 2010 census, out of the total population then of 315,800, Ilocanos comprise a third of the city’s population. Collectively, the six major ethno-linguistic groups from the Cordillera comprise 34.5 percent, of whom the Kankanaeys are the largest group (11.5 percent). Other Cordillera ethno-linguistic groups are among those included in ‘others’ in Table 2.

Continuing migration has diversified the “old” categories of Baguio’s population—Ibalays/Ibalois, Baguio “old-timers” (lowlanders and expatriates), and other Cordillerans. The migration of other Cordillera indigenous populations to Baguio started during the construction years in the 1900s. The construction boom, the mining booms in Benguet Province, the Second World War, epidemics, tribal wars and conflicts, and militarization of the Cordillera countryside underlaid the different drivers behind the migration of Cordillera indigenous peoples over the decades (Cacho and Carling, 2012). The major Cordillera indigenous peoples who migrated to Baguio are the Kankanaey,

² “Spanish-introduced administrative political divisions of Ibaloy settlements” (Prill-Brett, 2019: 302).

³ As a measure of ethnicity, language has some limitations: many ethnolinguistic groups in the Cordillera speak Ilocano, but they are not Ilocanos.

Bontoc, Sadanga, and Ifugao. In Baguio City, they formed their own communities, hence, there are areas in Baguio which are known as Bontoc Village or Ifugao Village.

According to Cacho and Carling (2012: 23), 35 percent of Baguio's indigenous population work in the formal sector as professionals, government employees, businesspeople and traders. The majority, 65 percent, are under-employed or jobless, primarily because the traditional skills the migrants bring with them— weaving, stonewalling and woodcarving—do not match the skills needed for urban-based jobs.

Some migrants engage in backyard piggery and backyard gardening, livelihood activities that they can practice in their villages, but are difficult to maintain in the city⁴. Because of their precarious economic conditions, many of the indigenous Cordillera migrants (who had actually become residents)⁵ cannot afford housing and lack access to basic services. There had been efforts to organize the indigenous sector from the early 1980s to fight for recognition of their rights, interests and welfare (Cacho and Carling, 2012). The cultural impacts of migration on the authority of elders were discussed by Bangkawayan (2011) in her study of the Northern Kankanaey from Bogang, Sagada to the Baguio-La Trinidad area. The study concluded that in the new and urban context, the authority of the elders over the younger ones has been eroded due to the scattered residence patterns of migrants, the shift from subsistence economy to urban employment, and the inapplicability of practicing agricultural rituals in the city, among others.

TABLE 2. POPULATION OF BAGUIO CITY BY ETHNICITY, 2010 CENSUS OF POPULATION

ETHNICITY	FREQUENCY	PERCENTAGE
Ilocano	103,458	32.8%
Tagalog	37,027	11.7%
Kankanaey	36,854	11.7%
Pangasinan/ Pangalato	27,961	8.9%
Ibaloi/Ibaloy	21,292	6.7%
Applai	19,903	6.3%
Bontok/Bontoc	14,931	4.7%
Ifugao	10,375	3.3%
Bisaya/Binisaya	7,168	2.3%
Kalinga	5,759	1.8%
Kapampangan	5,023	1.6%
Others	59,033	8.2 %

As mentioned earlier, lowlanders who started migrating to Baguio in the early decades of the 20th century have become a core population of the city known as Baguio “old-timers.” Migration from the lowlands is a continuing phenomenon (e.g., see Nacar and Parel, 2016).

From the Cordillera and the neighboring Ilocos and Central Luzon provinces, the geographical origins of migrants to the city have expanded to the rest of

⁴ In Baguio, lack of proper disposal of wastes from the piggeries has added to the pollution of the city's rivers (See, 2018). The CGB issued an ultimatum for hograisers to stop operations by 31 December 2019; this is in compliance with national laws that prohibit commercial and backyard piggery in urban areas. In an interview with one of the barangay chairpersons in January 2020, the barangay had to enforce the prohibition of backyard piggery, the main livelihood of some Ibaloi families.

⁵ According to Cacho and Carling (2012), the indigenous migrants continue to maintain their farms and homes in their communities of origin, and hence, they consider them as semi-transient. The authors of the present study consider them as residents or settlers if they have resided in Baguio for at least five years. A large proportion of Baguio residents may have a migrant origin (i.e., they were not born in Baguio), but if they have resided in Baguio for five years or more, they have become settlers or residents, even if they continue to maintain ties to their home communities.

the country. Migration from Mindanao has added another layer of diversity to Baguio—the presence of Muslims. The conflict in Mindanao was an important reason among the earliest cohorts of Muslim migrants (Basquez and Marzan, 2002; Medina, 1996).

Apart from economic opportunities, the climate of Baguio was an important consideration in the decision of different migrants to move to the Summer Capital (Nacar and Parel, 2016; Basquez and Marzan, 2002; Medina, 1996; Aquitania and Palafox, 2001). The Cordilleran, lowlander, and Muslim migrants commonly mentioned family and friends who have preceded them to Baguio, suggesting the influence of social networks. Except for the Kankanaey migrants who said that they plan to remain in Baguio (Aquitania and Palafox, 2001), the other migrants said they would consider staying if they found stable gainful employment (Nacar and Parel, 2016; Basquez and Marzan, 2002; Medina, 1996).

Delias and Daly (2016) discussed the migration of low-wage workers, tertiary level students and BPO workers to Baguio as being shaped by government policies and business interests. According to them, the surge in the migration of low-wage workers to Baguio accompanied the push for the tourism sector, which intensified after the 1990 earthquake. The continuing migration of tertiary level students to the city has much to do with the concentration of major higher education institutions in Baguio – seven in 10 universities in CAR are in Baguio. They cited that for each local tertiary student, there are three non-local or what they call “transient” students. The Baguio City Economic Zone (BCEZ) is one of the four pioneering economic zones set up in 1979. It is a major contributor to the city’s revenues. Aside from producing clothing, aircraft parts, and electronic components for export, the complex has also become home to a thriving BPO sector. The BPO industry has become the single largest private employer in the city. Based on interviews that Delias and Daly (2016) have conducted, many workers in the BPO sector are not from Baguio.

CHALLENGES OF POPULATION GROWTH

In 1903, Baguio had a population of 489. Between 1939 and 1948, it achieved its ideal population of 25,000–30,000 (PDO-CGB, 2016: 7). As discussed earlier, migration was and continues to be a major factor in the population growth of Baguio City. Figure 1 shows the estimated and projected population of Baguio City from 2018 to 2045. The projections are from the UCC study. The projections are based on the scenario they determined most likely to happen (Scenario 3), which assumes continuing annual growth of 1.54 percent from 2016 to 2020, 1.34 percent from 2021 to 2030, and 1.24 percent from 2031 onwards (NEDA-CAR, 2019: 45–46).

Continuing population growth raises exposure to geohazards. Between 1990 and 2010, Baguio experienced population growth mostly because of migration. According to Delias and Daly (2016), based on the updated hazards map done by the Department of Environment and Natural Resources in 2008, 80 percent of the land in Baguio is highly susceptible to landslides and generally unsafe for dense habitation. At least 25 sinkholes have been identified, with four located in the densely populated neighborhoods in City Camp Proper, Crystal Cave, Dominican, and Green Valley (as cited in the CLUP 2013–2023). Also, most of the buildings in the vulnerable areas were either not formally planned or did not adhere to building codes. Many built multi-storey buildings that are rented out to transient workers and students. They also found that most of the population increase occurred in risky places: “[o]verall, twenty-seven out of the twenty-nine neighborhoods with the highest population growth from 1990 until 1995 were areas that had high susceptibility to sinkholes and landslides” (Delias and Daly, 2016: 71). Regardless, illegal settlements and major land development projects for residential and commercial purposes mushroomed in these areas. The greatest population increase still occurs in neighborhoods or areas that are highly vulnerable to hazards, including earthquakes.

The lessons of the 1990 earthquake seem to have been forgotten by residents and are not generally known to new migrants. Baguio used to hold an annual commemoration of the 1990 earthquake. In 2010, the 20th anniversary of the earthquake, a report noted that then Baguio Mayor Mauricio Domogan “refused to commemorate the tragedy’s 20-year high point. He was a Baguio Congressman when he convinced the local government that 2008 would be the last time the city would commemorate the quake so residents could finally ‘move on’” (Cabreza and Sotelo, 2010)⁶.

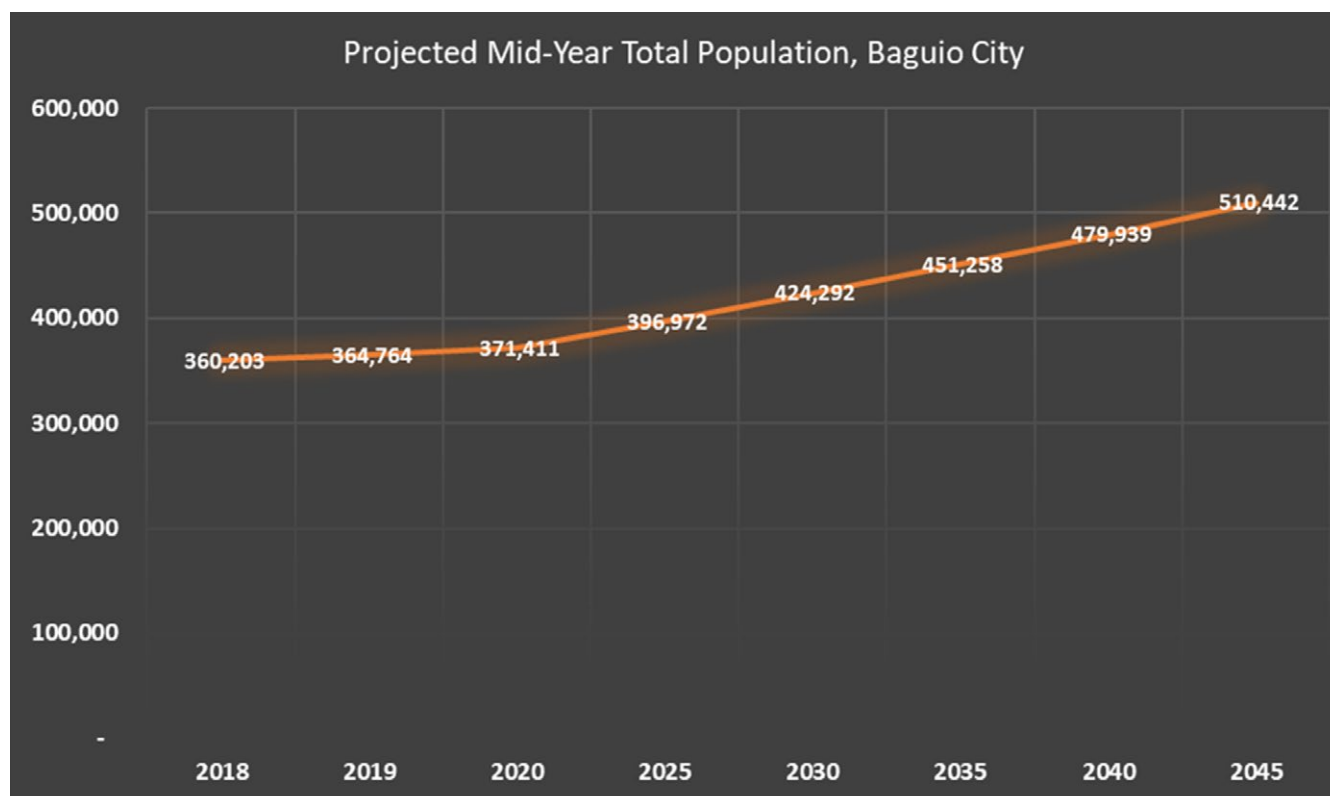
On 19 December 2018, the City Council approved the local shelter plan 2018-2026 of the City of Baguio. As the blueprint for the implementation of housing projects,

the target population of the plan are informal settlers or those in reservation areas, doubled-up households or unit-sharers, and projected new households (See, n.d.a.). When the administration of Mayor Benjamin Magalong commenced on 30 June 2019, the long-running conundrums of informal settlements and houses in high risk areas did not escape his attention of the current administration. To reduce the housing backlog and to provide decent housing to informal settlers, he mentioned affordable tenement housing as a solution. Given the limited land area of Baguio, he hoped that people would learn to accept that single-detached housing units are not feasible (See, n.d.b.).

The UCC study is the most recent undertaking which

6 The activities in the 2008 commemoration were intended to mark “a departure from ‘remembering a time of denouement’ every earthquake anniversary” (Guimbatan, 2008). The yearly commemoration continues, but the remembering part, particularly the atang or offering, is no longer performed and has been replaced by tree planting.

FIGURE 1. PROJECTED MID-YEAR POPULATION, 2018-2045



Source: Table 7 in NEDA-CAR (2019: 45-46)

Note: Table 7 in NEDA-CAR (2019: 45-46) has year by year estimate and projection from 2018 to 2045.

examined the city's population growth in relation to its resource base. According to the UCC study, "[a]s of 2015, the population density of Baguio City has reached its critical level of about 6,000 persons per square km compared to the national standard of 1,000 persons per square km" (NEDA-CAR, 2019: 13)⁷. Considering the environmental capacity, population, and the built-up area, the results of the carrying capacity modeling suggest that Baguio has reached its maximum carrying capacity in 2018 (NEDA-CAR, 2019: 151). The carrying capacity can be exceeded, but this will have negative repercussions on the resource base and will adversely affect the people's quality of life. The study underlined that the carrying capacity is not fixed and it can be adjusted by considering management and technological solutions. The study has extensive recommendations on ecology and the environment, transport, urban land requirements, and urban facilities and services. It noted the lack of survey data on the daytime or transient and seasonal population of Baguio City, as this is crucial to policymaking and planning. The UCC study recommends that in the future a periodic census (or survey) of the transient population be carried to reach a more refined estimation of the city's carrying capacity (NEDA-CAR, 2019: 12).

Interestingly, the UCC study advances that in the future, Baguio will cease to attract migrants mostly because of lack of residential space, and that they may opt to settle in La Trinidad or other parts of Benguet close to Baguio. Thus, the study assumes that in the future, Baguio's population growth (based on the city's permanent or nighttime population) will be due more to natural increase than in-migration. An earlier study also concluded that Baguio's population growth is posing dangers to the city's sustainability. Recognizing the role of migration, Cleto and Cariño (2012: 10) said that it will be difficult to control the city's population growth because of Baguio's roles "as a popular tourist

destination and center of education and health services, all of which contribute to the city's transient population and a high rate of in-migration." In the future, one view expects migration to slow down because Baguio can no longer accommodate additional migrants; another view is that more migrants will continue to come, and this will require better planning, as well as mitigation and adaptation strategies to reduce environmental impacts.

POLICY RESPONSES OF THE CITY GOVERNMENT OF BAGUIO (CGB)

The 16 July 1990 earthquake was a traumatic experience for Baguio City. Although the epicenter of the 7.7 magnitude earthquake was Nueva Ecija, the damage to life and property in Baguio was extensive—more than a thousand people died, major hotels and buildings crumbled, and many homes were destroyed. Through the city government's recovery efforts, aided by national government funding for the city's rehabilitation and the modernization of the Marcos Highway and Baguio-Bauang Road, and the people of Baguio, the city recovered from the earthquake. Just four years after the earthquake, from 1994 to 1996, Baguio was consistently on top of the country's cleanest and greenest urbanized cities (Aboot, 2018).

After the earthquake, reviews and plans on disaster preparedness were carried out in Baguio City and nationally. National frameworks and laws served as a template for the formulation of Baguio's disaster risk management. The 1990s mostly focused on the creation of structures to implement national policies in the local context. The CGB reactivated the City Disaster Coordinating Council in 1992, which was responsible for implementing the policies set by the National Coordinating Council for disaster management. Three years later, in 1995, the City Disaster Operations Center was established to serve as a center for disaster

⁷ Critical level refers to the "population load poses a threat to the environment and natural resources of the city" (NEDA-CAR, 2019: 13).

management and planning operations (Delias and Daly, 2016). It was not until two decades later—with the enactment of Republic Act No. 10121, or the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010—that the CGB formulated and completed a comprehensive framework on disaster risk reduction and management (Delias and Daly, 2016). In keeping with the more proactive framework of Republic Act No. 10121, national government agencies and LGUs are mandated toward risk reduction, building resilience, creating DRRM offices, formulating DRRM plans, and allocating a budget to fund their DRRM plans. At the time of the study, Baguio's City Disaster Risk Reduction and Management Office (CDRRMO) has its own building; the office is envisioned to house an integrated command center that will coordinate and facilitate an appropriate response to emergency situations.

In the last ten years, the CGB formulated important policies and measures to promote the sustainable development of the city, which include the following:

- The Comprehensive Land Use Plan (CLUP) of Baguio City 2013-2023 was approved by the City Council through Resolution No. 306, Series of 2016 (PDO-CGB, 2016). As the blueprint of the city's physical and economic development, the plan aims to pursue development goals while preserving the city's ecological balance. It is worth mentioning that in his message, then Mayor Mauricio Domogan stated that the CLUP will guide "the effective use of limited resources vis-à-vis Baguio's multiple roles as center for tourism, education, trade and regional center and an alternative haven from the adverse effects of climate change." The last point suggests a new role for Baguio City and the prospect of additional influx of people who had been displaced by climate change in their origin communities. It does not consider the other possibility: that climate change in Baguio City may trigger out-migration, or Baguio losing its appeal as a tourist destination.
- Another key document is the Environment Code which was approved by the City Council through Ordinance No. 18, Series of 2016 (CGB, n.d.b.). The Declaration of Policy specifically mentions climate change and has a section devoted to climate change (Book VII-Climate Change Adaptation and Disaster Risk Reduction and Management). The section on climate change recognizes both SOEs and ROEs. The city will mainstream disaster risk reduction and climate change in its urban planning. While the Local Climate Change Adaptation Plan or LCCAP is still being crafted (it is expected to be completed by the end of 2020), the Environment Code provides guidelines to the different offices on the mitigation of the effects of climate change and disasters. Examples are the directives to the City Schools Division Office to integrate climate change adaptation in the school curricula and to train barangays on how to prepare their climate change adaptation and mitigation plans.
- Ordinance No. 35 series of 2017 or the "Plastic and Styrofoam-Free Baguio Ordinance" aims to regulating the sale, distribution, and use of plastic bags and polystyrene foam or Styrofoam in Baguio City (CGB, n.d.c.). It builds on Ordinance No. 26 series of 2007 or the Baguio City Paper Bag Ordinance mandates the use of paper bags, buri bags, and other biodegradable containers in all supermarkets, groceries, and other retail business establishments in the city.
- The 2017 ordinance covers all business activities and establishments in the city including city government schools and offices. The prohibition against the use of plastic bags and Styrofoam containers is aimed at reducing waste that can impact negatively on the environment and at reducing the burden on the city's solid waste management system.

- In January 2020, the City Government launched the 15-year Baguio rehabilitation plan⁸. The main areas for rehabilitation are the following: the environment, transport and traffic, water supply, tourist destinations, and geo-hazard areas occupied by informal settlers. The national government will provide support, including PHP 480 million from the Department of Tourism earmarked for the rehabilitation of the Burnham Park Complex.

Following the launch of the rehabilitation plan, on 20 January 2020, a proposal was filed to collect environmental fees from businesses providing accommodations and from persons visiting parks or tourist attractions that are managed and maintained by the City Government of Baguio. According to the proponents—Councilors Benny Bomogao, Joel Alangsab and Arthur Alladiw—the fees will help address limited funds to sustain the city’s tourist attractions and to defray the costs of waste management and environmental programs. The proposal was approved on first reading and referred to the Committee on Health and Sanitation, Ecology, and Environmental Protection for review and recommendation (See, 2020).

It is noteworthy that the legal framework to promote sustainable development, environmental health, and disaster risk reduction and management has been built over the years. While migration has been implied as a contributing factor to the environmental challenges of Baguio, however, migration-related policies seem non-existent.

CLIMATE CHANGE AND MIGRATION

In a global context, climate change as a driver of migration has been debated in academia, the international policy arena and humanitarian circles. In 2005, the Institute for Environment and Human Security at the United Nations University in Bonn, said that environmental deterioration displaces 10 million people a year; thus by 2010, there could be 50 million environmental refugees⁹. When this did not explicitly happen, it weakened the position that climate change increases the likelihood of migration and raised such questions as “how environmental changes affect migration events, and whether it is even reasonable to use environmental conditions to explain migration” (Gesing, Herbeck and Klepp, 2014: 5). According to them, assuming that environmental conditions lead to migration “neglects the interaction between the different cultural, political, and social factors which, in fact, form the basis of migration decisions making it neither possible nor effective to consider these dimensions separately from each other” (Gesing, Herbeck and Klepp, 2014: 5). Along this line, Cometti (2015: 14) argued that the study of climate change and migration “is complex and goes beyond classic causality.” She called for an ethnographic approach which should include the way that people make sense of climate change (Cometti, 2015: 14).

In the Philippines, climate change is widely discussed as a policy issue, but research that specifically examines the climate change and migration nexus is missing. An exception is Bohra-Mishra et al. (2017) who considered how climate change may spur internal migration. Their study interrogated climate variability and internal migration in the Philippines by examining the following: 1) the effects of both climatic variations (variability in temperature and precipitation) and

⁸ For details, see <http://www.baguio.gov.ph/content/areas-rehabilitation-city-bared-briefing-three-line-agencies>

⁹ The use of the term environmental or climate refugee is not encouraged. The term refugee has a specific meaning as defined in Article 1(A2) in the 1951 Convention relating to the Status of Refugees. Instead, the terms environmental migrants or climate migrants or displaced person should be used to refer to individuals moving because of climate change (IOM, 2019: 29-30, 62-63; UN, nd; UNU, 2015).



extreme events (specifically typhoons) on aggregate inter-provincial migration; 2) the link between crop yields and climatic variations; and 3) climate migration sensitivity to demographic and socio-economic characteristics. Using census data, climate data and rice yields, the study reached the following conclusions:

- A rise in temperature and, to some extent, increased typhoon activity increase outmigration; precipitation does not have a consistent, significant effect.
- A rise in temperature and to some extent, typhoons, promote migration through their negative effect on crop yields.
- Males, those with more education, and younger individuals are more sensitive or more responsive to climatic impacts, and are thus more likely to migrate.

The findings from the Bohra et al. (2017) study provide an important backdrop in appreciating the big picture. Although they did not focus on climate change and migration, existing studies on climate change in Baguio (BPIFI/WWF, 2014) and the UCC study (NEDA-CAR, 2019) share the same macro approach to climate change and environmental questions. By focusing on migration decision making and understandings of climate change of migrants in Baguio City, this study hopes to uncover the micro dimensions of climate change and migration nexus. In Baguio City, much of the discussion on the presumed links between climate change and migration is often framed in terms of how migration has contributed to the city's population growth, which in turn, has climate change impacts. The migrants' perspective is often left out in these discussions and the study aims to remedy this oversight.

03 Methodology

Primary data for the study were collected through key informant interviews (KIIs) and focus group discussions (FGDs) with migrants in Baguio City and stakeholders.

Most of the data collection activities were carried out in January 2020. Preliminary interviews conducted in December 2019, and several follow through interviews in February 2020 provided supplementary information. A total of 76 research participants were reached by the study, comprising 37 migrants and 28 stakeholders in Baguio City, and 11 farmers, owners/managers of tourist destinations, municipal government officers, and a farm supervisor and a farmworker in Benguet. The research sites of the study are indicated in Figure 2. The breakdown of interviews and FGDs conducted in Baguio City and Benguet is presented in Table 3.

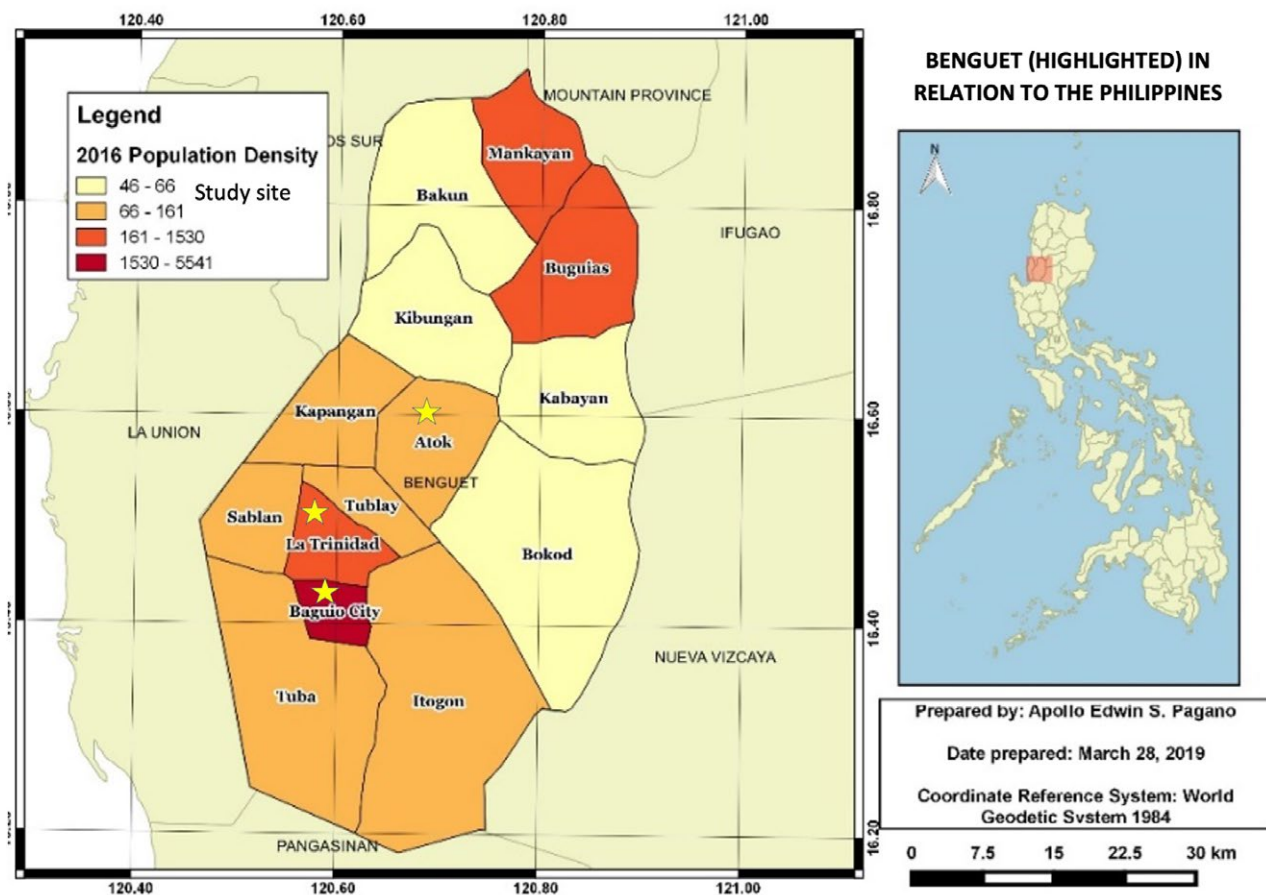


FIGURE 2. RESEARCH SITES: BAGUIO CITY AND ATOK AND LA TRINIDAD, BENGUET

Source: Maps from Jaime V. Ongpin Foundation, Inc.¹

¹ Thanks to Ms. Ma. Rosario R. Lopez, Executive Director of Jaime V. Ongpin Foundation, Inc., for permission to use the maps.

TABLE 3. RESEARCH PARTICIPANTS BY PLACE AND SECTOR/GROUP

PLACE / SECTOR	NUMBER OF PERSONS
Baguio City	
Interviews and FGDs with migrants	37
FGD with construction workers	4
FGD with UP students (2 groups)	13
FGD with SLU students	4
FGD with professionals	6
FGD with Muslim male migrants	6
Interviews with Muslim female migrants	4
Interview with a professional	1
Interviews with stakeholders	28
Elected officials (city and selected barangays)	9
Officials of city government offices	7
Officials of regional government offices	6
Residents with advocacy	3
Residents involved with specific groups	2
Pioneer resident	1
Benguet	
Interviews with various key informants	11
Owners/managers of tourist destinations (Atok)	2
Farmers (Atok)	5
Farm supervisor; farmworker (Atok)	2
Municipal government officers (Atok and La Trinidad)	2
Grand Total	76

The team sought the assistance of faculty members from two universities, a dorm manager, a call center agent, and a staff member of a construction company to invite participants. Through this strategy, several FGD groups and interviews were organized. The team had to work with what was possible and who actually showed up during the FGD dates. There were instances when many more participants were recruited than was needed (such as the case with university students). On some occasions, an FGD was scheduled, but because participants came at different times, individual

interviews were done instead. Even when the minimum of six participants was not met, the team proceeded with the FGD because it would have been difficult to reschedule. An important caveat is the participation of more women than men in the FGDs with students and professionals. Despite the problems, the team completed six FGDs with migrants (three with students and one each with professionals, construction workers, and male Muslims) and five interviews (one with a female professional and one each with four female Muslims).

BOX 1. MIGRANTS, TRANSIENTS AND TOURISTS

In the research literature and news reports about Baguio City and also in the interviews conducted by the present study, the terms “migrants,” “transients” and “tourists” are mentioned and seem to be used interchangeably. Migrants, transients and tourists move, but they are not the same.

As indicated below, migration involves the crossing of defined geographic or political units during a specified period of observation. The geographic or political units (e.g., city/municipality, province, region, country) and the period of observation (the 2018 National Migration Survey used at least three months) must be specified

What is migration?

“Migration. A form of geographic or spatial mobility of people involving a change of usual residence between clearly defined geographic or political units during a specified period of observation for reasons that may be economic, social, political and/or cultural in nature” (PSA and UPPI, 2019: 42).

The focus of the present study is on internal migration.

“Internal Migration. A form of geographic or spatial mobility of people involving a change of usual residence within a country (region, province, city/municipality) during a specified period of observation for economic, social, political and/or cultural reasons” (PSA and UPPI, 2019: 42).

The migrants who participated in this study were born or had resided in another city/municipality, province and region in the Philippines and had lived in Baguio City for at least three months. Note that migrants who have lived in their current place of residence for a certain period of time (e.g., five years based on the use of census data) are already counted as residents.

At the time of data collection, the Local Migration Information System (LMIS), now known as the Registry of Barangay Inhabitants & Migrants (RBIM), was being piloted in four barangays: City Camp Central, Mines View Park, San Luis and Upper Rock Quarry. The project aims to build a database on migration at the level of the barangay (see Annex 1 for the RBIM questionnaire). The LMIS includes the variable “type of resident” which has three categories: (1) non-migrant—previous residence five ago, and/or six months ago is the same as current residence; (2) migrant—previous residence five years ago, and/or at least six months and one day and current residence is different; and (3) transient—previous residence five years ago, and/or six months ago and current residence is less than six months.

In light of the historical and continuing migration and short-term movements of people to Baguio City, distinguishing migrants, transients and tourists would help refine research, policy and advocacy discussions in Baguio City.

(For more details on the definition and measurement of migration in the Philippines, please see PSA Board Resolution No. 08, Series of 2017.)

For this study, a migrant is an individual who had resided in another city/municipality, province or region or country, and moved to Baguio City, where she/he has resided for at least three months, but less than five years. This follows the definition of a migrant used by the 2018 National Migration Survey which was jointly conducted by the Philippine Statistical Authority and the University of the Philippines (PSA and UPPI, 2019). For this study, the duration of residence in Baguio City must be at least

three months to no more than five years (see Box 1) at the time of data collection.¹⁰ The recruitment process took into account the gender and age of potential participants.

Meetings with farmers and interviews with municipal officials, owners/managers of tourist attractions, and a farm supervisor and farmworker were also conducted in Atok, Benguet. The fieldwork in Atok allowed the study to capture a community whose

¹⁰ In the census of population, the data to identify domestic and international migrants in the Philippines are drawn by comparing place of residence at two points in time. For example, in the May 2010 census, the identification of a migrants is based on the question “In what city/municipality did reside five years ago (May 1, 2005)?” An individual is identified as a migrant if his/her residence five years ago (May 1, 2005) ago is different from his/her residence at the time of the May 2010 census. Another measure, called lifetime migration, is derived by comparing place of birth and place of current residence. Lifetime migration does not cover any migrations that may have transpired between an individual’s time of birth and the time of the census.

economic backbone is agriculture but is also becoming a tourist destination. An interview with a municipal government officer in La Trinidad was also realized; the interview provided insights on the formulation of La Trinidad's Local Climate Change Plan, 2017-2026.

Gender, age, and economic status were sensitizing filters in the analysis of interviews and transcriptions. In the presentation of findings, the names and designations of the key informants and FGD participants have been withheld or the names have been changed to protect the privacy of the research participants. In the discussion, the group represented by different participants is identified – as migrants, as stakeholders, and others – to provide some background on their social location.



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04

Findings

DRIVERS OF MIGRATION TO BAGUIO

Like generations of migrants before them, the current migrants who participated in this study were primarily drawn to the economic opportunities offered by Baguio City. Baguio's unrivalled place as the economic, educational, and administrative center of CAR continues to drive migration to the city. The presence of regional government offices, an export processing zone, a popular mall, and BPO companies generate jobs that attract migrants. As a popular tourist destination, a range of service-related jobs is filled by locals and migrants alike. Baguio City attracts many students because the city's educational institutions (St. Louis University, University of Baguio, University of the Cordilleras, and the University of the Philippines Baguio) are renowned and top-performing universities. These are elaborated below.

Economic-driven migration. The study captured two types of economic migrants—professionals and construction workers—who found employment opportunities in the city. The professionals found work in the BPO sector, a bank, university (as researchers), and church (as missionaries to students) while the construction workers were employed by a Baguio-based construction company that has long-term projects with a hospital. The professional group was dominated by recent graduates, almost all of whom completed their university education in Baguio City. Most of the professionals originated from outside Northern Luzon, suggesting that the geographic origins of professional migrants had expanded beyond CAR and Northern Luzon. The construction workers were from La Union and Nueva Ecija. Except for one whose family had joined him in Baguio, the rest left their families behind in their home provinces. Those from La Union had the advantage of shorter journey times. In fact, one of the two professionals from La Union also goes home to his family every weekend.

Education-related migration. The three groups of students who participated in the study attended two major universities. In one group, the students came from Ifugao, La Union and Pangasinan. For this group, other family members studied in the same university and they were following a family tradition of sorts. The two other groups were students in another university; the students were not only from nearby Northern Luzon provinces but also from other parts of Luzon. In general, for students coming from Northern Luzon, proximity to home was an additional reason why they chose to study in Baguio.

Conflict-related migration. Among the FGD participants and interviewees, some of the Muslim migrants from Mindanao, some cited conflict as a push factor that played a part in their decision to leave their home communities. A recent migrant came to Baguio following the siege of Marawi City in 2017.¹¹ The decision to come to Baguio, however, was also influenced by the presence of family and friends who had established a foothold in the city.

Baguio's environment as a pull factor. Of all the migrants involved in the study, none cited moving to Baguio due to climate change factors that affected their home communities. However, Baguio's environment – the cool weather, the scent of pine trees, the beautiful scenery – adds to the attractiveness of Baguio as a destination. The salience of Baguio's environment came up in migrants' response to the question on what they liked about living in Baguio. The cool climate was the topmost answer. They said Baguio's cool climate is soothing and pleasant ("One does not sweat [in Baguio]"). In the FGD with male Muslim migrants, one participant said that even if one has problems, somehow the cool weather is a stress reliever; his colleagues agreed with him. Students

mentioned that the weather is conducive for studying. Several key informants considered Baguio's cool climate as a distinctive appeal of the city; without it, they said that Baguio would be just like any other highly urbanized city.¹²

Multiple migration drivers. The different migration drivers discussed above reflect that primary reason for migration is not the only factor that figures in the decision to migrate to Baguio. A professional migrant who works in the BPO sector took the opportunity to transfer to Baguio so she and her son can be together. When she worked in Manila, she left her son in the care of her parents in La Union; she did not think Manila was a good environment to raise her son. Also, the migration of Muslims to Baguio cannot be solely attributed to the conflict in Mindanao. Some of the Muslim migrants came to Baguio to join other family members. Furthermore, for Muslims who are from the Cordillera or CAR or other areas in Luzon, one pull factor to Baguio is to study in the Islamic school, Al-Maarif Educational Center, Inc.—this was the case of one male FGD participant.¹³

Social networks as facilitators. Other than migration drivers, it is also important to mention the role of social networks – largely family, relatives and friends – which play a key role in facilitating migration. The drivers of migration address the question why people move. But, by themselves, push factors (conditions in the origin communities that promote out-migration) or pull factors (conditions in the destination communities that attract migrants) are not sufficient to account for migration. Social networks are intervening factors that can facilitate and thereby increase the likelihood of migration taking place through providing support to potential migrants—e.g., information, financial support and accommodation, among others. The role of social

11 According to a barangay chairperson, their barangay experienced a spike in the arrival of Muslims following the Marawi siege.

12 Compared to the lowlands, Baguio temperature is generally cooler by 9°C (PDO-CGB, 2016: 61).

13 According to a key informant, the Islamic school also has international students.

BOX 2. MUSLIM MIGRANTS FIND A HOME IN BAGUIO¹

The migration of Muslims to Baguio has been going on for decades, but their increasing number and presence in the city seem to have been more marked in recent years (Dalay-on, 2014). Several key informants shared that they have recollections of Muslims being present in Baguio in the 1970s and 1980s. Some key informants mentioned having grandfathers who have migrated to the city earlier; one research participant shared that she and her family are living in a house acquired by her grandfather. The fragile peace and order situation in Mindanao had been cited as a major reason for the migration of Muslims to Baguio City. The Marawi siege in 2017 was a factor that contributed to the recent surge of migration from Mindanao. However, as the accounts of research participants indicate, factors other than the protracted conflict in Mindanao brought many Muslims to Baguio City. The presence of an Islamic school and the search for better business and employment prospects are also important pull factors.

Baguio's Muslim population was estimated at 8,000 as of 2012; more updated estimates are not available. The majority of Muslim migrants from Mindanao are Maranaos; the Tausugs and Maguindanaos comprise the two other relatively big groups. There are six mosques and two prayer rooms in the city. An Islamic school, the Almaarif Educational Center, Inc., has been in existence since 1995.² According to one key informant, the stores and establishments in the City Center are mostly owned by Muslims. Muslims have become visible in public life. Two Muslims have been elected as barangay chairpersons – and they won in predominantly Christian barangays, namely Campo Filipino and Malcolm Square (from interview with a resource person, January 14, 2020).³

Public schools which have many Muslim students offer ALIVE (Arab Language and Islamic Values Education), an after-school program that Muslim pupils voluntarily attend to enhance their understanding of Islamic teachings. In Baguio City, ALIVE started as a pilot program in Central Elementary School in 2005, and was formally introduced in 2008. Later, the Department of Education in Baguio City opened ALIVE in five public elementary schools. Some of the FGD participants are teachers in the ALIVE program. According to a community leader, ALIVE is a very important program to promote and strengthen Islamic values among young Muslims.

According to the Muslim migrants interviewed in the study, there are also Muslims in La Trinidad – many of them work or run a business in La Trinidad Public Market. Thus, it seems some Muslim migrants are moving out or opting for less crowded areas, such as La Trinidad, in their search for home or work.

An official in a barangay where many Muslims reside said that their Muslim constituents are cooperative. The women are traders in the night market. Some of the men join the village guards who go around the barangay in the evenings. In another barangay with a fairly large Muslim population, an official shared some challenges in integrating Muslims in the community. They do not want to be included in the barangay census; the barangay manages to get some details about them when they apply for barangay clearance, a requirement for applying for a business permit. Similar to the experience of the other barangay, they often refuse to have their children vaccinated.

1 Most Filipino Muslim migrants come from Mindanao, mostly they are Maranao or Tausug. Some migrants from Mindanao include non-Muslims. Also, not all Filipino Muslim migrants come from Mindanao. Some of the Muslim research participants are from the Cordillera region, most of whom are balik-Islam (Islam returnees). While non-Muslims view balik-Islam as converts to Islam, the balik-Islam see themselves as having returned to Islam (Wadi, 2014). According to Wadi (2014): "The notion of "balik" or "return" is viewed to have ontological and epistemological dimension as well. It means that man's original nature or fitrah is in accord with Islam. Hence, when a person embraces Islam, he is just actually returning to his nature and thus s/he has to struggle to return to such nature. In fact, some would say that conversion is not the proper term to describe said phenomenon. Reversion is more appropriate."

2 For details about the Islamic school, see <http://www.almaarifeduc.com.ph/?run=hist>

3 Other sources are: Discover Islam Baguio (<http://discoverislambaguio.com/>) and Baguio Muslim Communities (<http://www.baguioMuslims.com/>)

networks was apparent in the chain migration of Cordillera indigenous people to Baguio City. The establishment of Bontoc Village or Ifugao Villages suggests the recreation of the migrants' home communities in the Baguio setting. Among the migrant participants in the study, the role of social networks is very striking in the case of Muslim migrants from Mindanao. Almost all of the Muslim migrants who participated in this study had family and friends in Baguio City who helped them navigate their new life. The woman and her children from Marawi City joined her husband who had been in Baguio for some time. According to her, their family lives in a house owned by her grandfather, and in her compound, she has about 70 relatives. She entrusts her children to her relatives while she and her husband are at work.¹⁴

LIVING IN BAGUIO

Social integration. Overall, migrants consider Baguio as welcoming; many described the people of Baguio as kind. The city's convivial atmosphere could have been shaped by a long history of migration and the peaceful co-existence of different cultures. Migrants, particularly professionals and students, appreciated Baguio's multicultural diversity. People in Baguio not only come from different provinces in the Philippines but also from other countries. Up until a few years ago, there were many Koreans in the city. Their numbers had declined while foreigners from other regions, such as Africa, have increased in recent years.¹⁵ Migrants also liked the range of culinary options and the vibrant art scene.¹⁶

In the FGD with Muslim men, participants talked about Baguio as a hospitable place for Muslims. According to one informant, Muslims do not feel like they are being stared at (especially the women who are identified as Muslim because of their dress and hijab). Participants said that they feel safe and accepted in Baguio (see Box 2).

In terms of the environmental, social, and cultural aspects, migrants had an overall positive assessment of their life in Baguio. Students were satisfied with their educational experience in the city. As discussed in the next section on work and employment, the findings point to marked differences in the experiences of professionals, construction workers, and Muslim migrants.

Work and employment. Of the three groups, professional migrants were found to generally have a stable income and are protected because they are in the formal sector. This group is dominated by women and early career professionals who are working at their first job after college. Concerns about income did not come out as an issue for this group. The two older professionals from the BPO and university were concerned about other matters. The BPO professional's main issue was the laid-back work culture in Baguio; she misses the more stimulating and competitive work culture in Manila. She had no plans of establishing permanent residence in Baguio. The male professional works in the university during the week and goes home to his family on weekends. His wife has a permanent position as a teacher in La Union; if she joins him in Baguio, it will be difficult for her to obtain a teaching position in Baguio. Although not an ideal situation, the family has adjusted to the arrangement, which they found to be a better situation than when he was working in Manila.

All four construction workers interviewed were migrants, but only one has been joined by his family. The three others live in the project's premises which enable them to save on rent and transportation. On weekends, the two men from La Union typically go home to their families, while the one from Nueva Ecija visits his family less frequently. For these workers, moving to Baguio as a family is not possible because their income—the

14 Several barangay officials shared their observation of the tendency of Muslim families to share housing arrangements.

15 Based on the interview with a staff of a Korean organization in Baguio City.

16 In 2017, Baguio was declared a "creative city" by the United Nations Educational, Scientific and Cultural Organization (UNESCO) for its crafts and folk art (<https://news.abs-cbn.com/life/11/01/17/baguio-hailed-as-a-unesco-creative-city>).

daily minimum wage in Baguio City is PHP 350 (EUR 6.23)—will not be able to cover accommodation and living expenses. Although their income is low, they have social protection. Their company enrolled them in the Social Security System, PhilHealth and Pag-IBIG or Home Mutual Fund. Living in the project site, their interactions are limited to their co-workers and they do not venture out beyond the worksite. For them, Baguio is a workplace; they were not aware about the social and political issues of the city. For this group, the company is crucial in promoting their well-being in Baguio. It is possible that they will be assigned to other construction projects elsewhere, hence their stay in Baguio is likely temporary.

Muslim migrants in Baguio City are mostly engaged in trade—the night market, Malcolm Square, and Baguio Center Mall are among the major venues where they conduct their trading activities. Two of the male migrants in the study sold cellphones; both admitted that the competition is stiff, so they shifted to online selling. The other participants were Arabic Language and Islamic Values Education (ALIVE) teachers, one was connected with a center, and one was a student in the Islamic school. Among the four Muslim woman, only one was employed as a sales assistant in her aunt's clothing shop, earning PHP 300 per day.¹⁷ The three other women had no jobs; all three had worked abroad before; and two were in difficult economic circumstances. The employment prospects of Muslim participants in the study were limited to trading, buy-and-sell, or working for businesses owned by relatives or co-ethnics. According to a key informant, trading and buy-and-sell among Muslim migrants is already a saturated sector. He advises potential Muslim migrants to consider places outside of Baguio and to explore other livelihoods. Thus, while Muslim migrants may find Baguio welcoming, in terms of economic integration, their employment is largely within and among their ethnic community.

¹⁷ Her husband sells cellphones; on a good day, he can bring home PHP500.

Future migration plans. Among the current migrants, the study found varying degrees of permanence and temporariness in their residence in Baguio. Their length of stay in the city can be placed on a continuum: a) those who have been in Baguio on a relatively permanent basis (e.g., Muslim migrants who are in Baguio with their families); b) those who came to Baguio temporarily and have remained (e.g., former students who became workers); c) those who are expected to remain in Baguio for a certain period of time (e.g., students); and d) those who stay in Baguio during the week and return to their hometown on weekends (e.g., professionals, construction workers, students), particularly for those from nearby municipalities and provinces. Whether or not migrants will settle in Baguio will depend on prospects and future plans, such as employment opportunities and marriage plans, among others.¹⁸

Presently, the students are temporary migrants in Baguio. The discussions with students revealed fluid migration plans and intentions: some would consider to stay in Baguio if they can find work, some plan to return to their hometowns, some intend to find work in Metro Manila, and some will move to where there are employment opportunities. Most of the young professionals were former students of Baguio universities. Some of them also mentioned wanting to remain in Baguio, but better opportunities elsewhere or marriage plans, among others, will play an important in deciding whether or not to remain in Baguio.

¹⁸ In Baguio's popular parlance, the fourth category may be part of the transient population. However, if they spend more time in Baguio during the week, their usual place of residence is Baguio. For workers and students who commute to Baguio on a daily basis, their usual place of residence is where they return to at night. The UCC study discussed the need to estimate the nighttime and daytime population of Baguio for planning purposes.

VIEWS ON CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

Perceptions of climate change. When asked about climate change, most migrants and stakeholders have recollections of Typhoon Ompong (international name: Mangkhut), a tropical cyclone that made landfall in Cagayan, Philippines on 15 September 2018, bringing flashfloods, storm surges, and landslides. CAR was among the battered regions. Itogon, Benguet experienced a landslide which resulted in 100 deaths.¹⁹ Key informants from the Baguio City Disaster Risk Reduction and Management Office and the La Trinidad Municipal Disaster Risk Reduction and Management Office remembered providing assistance to the municipality of Itogon.

Perceptions of SOEs were explored via the question whether they have observed any change in Baguio's environment and what these changes are. All research participants—from the residents in their 80s to the migrants in their 20s—were quick to indicate climate variability and increasing temperature.²⁰ They commented that the time and length of dry and rainy seasons, or cold and warm weather seasons in Baguio are less predictable now. Everybody remarked on the increasing temperature, mentioning that Baguio's weather has become warmer. According to many of them, January in previous years was colder, but now, there is no need for sweaters or jackets.

Residents lamented the loss of pine trees and wooded areas in “old” Baguio. An 80-year old resident recalled that Baguio smelled more fragrant before because there were more pine trees. Another resident said that in the past, “you know that you are approaching Baguio because of the scent of pine trees,” but now, the scent of pine trees has become fainter.

Many stakeholders and migrants commented on the deforestation of Baguio, with many citing the loss of forested areas to give way to various projects such as the construction of SM Baguio City. The loss of biodiversity was less observable to many research participants. Many could not name which flora or fauna had been reduced in number or had been lost altogether. Several stakeholders and migrants did mention that the cutting of trees may have resulted in the reduction or loss of some species. A resident observed that there are now fewer fern varieties in the more wooded parts of Camp John Hay.

SOEs, migration and tourism. Migration has been implicated in discussions on climate change in Baguio through its contribution to population growth. According to stakeholders, increasing population implies more resource requirements: more housing construction without much regard for safety and environmental impact; increased use of vehicles which results in more traffic congestion and more carbon emissions; worsening water shortage; and more garbage production which calls for more efficient solid waste management.

Although migration/migrants and tourism/tourists are not the same (and this was made clear in the discussions with research participants), migrants and stakeholders raised concerns about the influx of tourists to an overpopulated city. Research participants said that the stream of visitors to Baguio is now a year-round occurrence. Concerns about garbage, congestion, and traffic problems were somehow linked with or exacerbated by tourist arrivals. A government official even questioned whether Baguio really earns from tourism, citing the case of tourists who come for the day, they bring their own food, they camp out in Burnham Park, and then

19 From <https://reliefweb.int/report/philippines/update-typhoon-ompong-mangkhut-27-september-2018-200-pm>

20 Data on average temperature do not indicate a marked increase in temperature: from 1970 to 2010, the average annual temperature was 19.5oC, with January as the coldest and March as the warmest (PDO-CGB, 2016: 61). In 2019, the mean temperature was 19.45oC, with January as the coldest and May as the warmest.

they leave garbage behind. It is interesting to point out that migrants (particularly students) are as caring and protective of Baguio's environment as the residents.²¹

Tentative notions on climate change and migration.

Probing whether and how climate change may affect migration did not surface in the discussions with migrants, mainly because the migrants in this study do not identify as climate migrants.²² Nonetheless, some insights on how climate change may (or may not) influence migration are suggested by the following observations shared by the participants:

- Although it is not climate change-related, the 1990 earthquake, an example of rapid or extreme geological event, did not lead to outmigration from Baguio. According to Baguio residents who were interviewed in the study, they did not consider moving elsewhere despite the massive destruction of the city. As data shows, Baguio's population, in fact, has been on an upward trend.
- In the future, some migrants and key informants speculated that if Baguio will continue to experience increasing temperature, it will likely lose its appeal to tourists. This scenario suggests the possibility that climate change in Baguio will reduce the influx of tourists. As to whether increasing temperature will reduce migration to Baguio or will incline migrants and residents to leave Baguio are questions that need to be explored further in future research. If Baguio will have a warmer temperature, other areas in the country will experience the same change, and in fact, it will be warmer in other areas (Baguio City, due to its elevation averages temperatures 8°C cooler than the

rest of the country according to state weather bureau PAGASA). In the event of increasing temperature in Baguio, this – or other climate change impacts for that matter – will not be the sole driver to leave the city.

- Some migrants expressed reservations about Baguio as a haven for climate migrants in the future:²³ some of them said that Baguio is prone to earthquakes and heavy rainfall, and these might discourage climate migrants from relocating to Baguio. Others mentioned that the high cost of housing in Baguio could be a deterrent.
- People who might be displaced by climate change, particularly rising sea levels, may not necessarily migrate to Baguio City because there are other options. Baguio as a destination for climate migrants in the future is also a question that can be explored more meaningfully in future research.

VIEWS ON THE ENVIRONMENT-RELATED POLICIES OF THE CGB

Stakeholders, particularly residents active in various community groups, were well-informed about the various environment-related policies of the CGB. For several stakeholders, especially residents, what is more important is the enforcement of existing laws and regulations, particularly those concerning land use and zoning. Residents who have lived through the 1990 earthquake aired their deep disappointment over what they see as blatant violations of these regulations. They wondered why the construction of high-rise condominiums have been allowed when there is supposed to be a six-storey limit. Infrastructure developments in wooded areas and construction of houses on sloping areas

21 Interviews in Atok, Benguet, an emerging tourist destination in CAR, revealed similar concerns over the growing number of tourists visiting the community.

22 Advocacy groups and the media use the term “environmental refugees” or “climate refugees” to refer to people who are forced to move because of conditions of drought, floods and storms. As had been mentioned, “refugee,” is a legal term as defined in the 1951 UN Convention Relating to the Status of Refugees and its 1967 Protocol. The term climate migrant is proposed instead (UNU, 2015; UN, n.d.).

23 A news report speculated on Baguio becoming “a site for “environmental refugees” when people from the lowlands unable to withstand the increasing temperature start migrating to elevated areas with temperate climate and where basic services and job opportunities are present” (Palangchao, 2019).

FIGURE 3. TYPICAL ANNUAL CROPPING SEASON

Crop /Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Potatoes												
Lettuce												
Cabbage												
Carrots												

Legend	
Land Preparation	Maintainance
Planting	Harvest

also point to the routine violation of existing regulations.

Among the migrants, professionals and students also remarked on zoning violations; students highlighted the need to maintain protected areas. Many migrants were aware of the ban on the use of plastic, but they also noted that the ban is not strictly enforced.

Overall, migrants and stakeholders think that CGB's current policies and programs have to address climate change; the focus, thus far, has been on disaster risk reduction and management.

In general, migrants were not active in community organizations. It was mostly Baguio residents who have raised their voices in advocating for reforms and initiating actions to promote a safe, healthy, and sustainable environment. Following are some examples of these collective actions:

- The Baguio We Want: a coalition of people's organizations that defines the Baguio that they want to see, which includes a Baguio that promotes and nurtures a healthy environment. A people's summit organized in 2015 formulated a ten-point agenda that the group used for advocacy purposes and in engaging with candidates running for elective posts in the CGB.²⁴

- Zero-Waste: a group that advocates for zero waste practices given the scale of Baguio's waste management problem. The group campaigned for the passage of Ordinance No. 35 series of 2017 or the "Plastic and Styrofoam-Free Baguio Ordinance." Even without funding, the group conducts awareness raising and educational campaigns to promote zero waste. One of the conveners became a barangay kagawad (barangay councilor) and was able to implement a zero-waste program in her barangay during her term.
- Baguio Road Traffic and Obstructions (and Pedestrians'/Commuters' Welfare): an online group which aims to find "solutions to problems and highlight urgent problems regarding the city traffic and vehicular congestion."²⁵

Research participants, particularly residents, expressed optimism about the future of Baguio, citing the value of research findings and community action to find better ways. Stakeholders (especially residents and those in government) were also hopeful that the commitment, vision, and leadership of Mayor Benjamin Magalong will steer Baguio in the right direction.

²⁴ See <https://www.facebook.com/pg/thebaguiowewant/>

²⁵ See <https://www.facebook.com/groups/baguiotraffic>

Climate Change And Small Farm Owners

As mentioned at the beginning of the report, this secondary objective was included in the study to provide a comparative analysis of how informants in agriculture and in rural areas perceive and respond to climate change. The following insights are based on the interviews conducted with small family farm owners, farm supervisors, and a farm worker in two corporate farms, and a representative from the Municipal Agricultural Office (MAO) of Atok, Benguet.

Farming practices. The four farming families interviewed in Atok own and operate farmland that range in size from at least 200 square meters to a few hectares. The farmers had been commercially growing temperate crops and flowers since their teens. The three older farmers (Manong Walter, Manong Fred and his wife Alma, and Manang Marta, all pseudonyms) learned farming from their parents while the younger farmer-couple, Ollie and Carmen (also pseudonyms), supplemented their practical experience with formal training in agriculture. For the most part, they rely on their own labor, occasionally hiring some workers during harvest time and the hauling of farm produce.

Among the farmers, Manang Marta currently grows mostly cut flowers and vegetables in between flower growing seasons. Manong Fred is the only one who has shifted to organic farming, after attending a training program on organic farming sponsored by the Department of Agriculture. He said that the adjustment to organic farming was not easy, but he is now convinced of the many benefits of organic farming. For one, unlike conventional farming, organic farming is less capital intensive. Manong Walter, on the other hand, said that organic farming is “matrabaho” (labor intensive). He will need to hire workers which will increase cost.

All of them practice rotation farming, based on the known schedule of rainy and dry seasons (e.g., see Figure 3, based on Manong Walter’s annual cropping schedule), and availability of water. Atok is an elevated area (7,400 ft above sea level) and farmers and residents source water from springs that are replenished by rainfall. Water supply is also unevenly distributed in Atok. In the lower elevation areas, like Pasdong, there is always enough supply no matter the season. But in some places, like Paoay, springs dry up and may produce little during the summer months.

Usually, more than one farmer draws water from a spring; they have a verbal agreement and they take turns in drawing water for their crops. The farmers invest in building an impounding tank and install a hose to reach their farms. When a spring dries up, they have to find another source.

All the farmers commented on the changing period and length of time of the rainy and dry seasons. Compared with the Baguio-based research participants, their observations and their responses to climate change are rooted in their actual experience. Box 3 describes how farmers have adjusted or adapted to climate change.

No evidence of migration as a response to climate change. According to the Municipal Agricultural Office (MAO) of Atok, there have been no documented instances of farmers leaving the community for good due to the inability to farm because of drought, excessive rain, very high temperatures, and other climate related changes. Even under difficult circumstances, farmers have not abandoned their farms because this is tantamount to abandoning their inherited land. In the future, they will most likely not abandon their farms even when water becomes scarce, or when water sources dry up. As pointed out earlier and attested to by the MAO, in the face of these changes, farmers adjust their farming activities. They also adopt certain technologies, such as fog harvesting or impounding of rainwater within the farm to be able to accumulate enough to irrigate their farms.

BOX 3. SMALLHOLDERS ADAPT TO CLIMATE CHANGE

Farmers have noted the variability of the beginning and end of the seasons.

- In the past, the rains would come in May, but these days, rains start as early as March.
- Before, rains lasted until November or December; now, the rain stops in October.
- Typhoons and winds are stronger now.

In places like Atok, farmers have to deal with frost, which usually occurs at night when temperatures dip. However, if the frost on the leaves of plants is not too thick, the ice naturally melts when it warms during the day or when there is light rain.

When asked about the impact of climate change, Manong Walter underscored the importance of water supply. According to him, “Climate change has no effect on a farmer for as long as there is water.”

To cope with extended dry spells or extended rainy seasons, farmers in general simply make adjustments their cropping calendars. When water supply dwindles in the summer months, they delay planting until water supply is more stable, or they plant other crops that require less water, or they plant high breed crops that can withstand the dry spell. If they share an irrigation source with other farmers, they develop a schedule to rotate the use of water supply. If there is no water at all, farmers leave their lands idle and find other lands with some irrigation to rent and farm for the period. On very hot days, they adjust their working schedule, working earlier, from 4:30 to 10:00 in the morning, and returning to work in the late afternoon when it is cooler. Manong Fred, the organic farmer, practices successive planting of different crops to have a variety of produce the whole year through. He also advises to collect the weeds and compost them, instead of the usual practice of burning weeds to clear the land, which is not healthy and contributes to climate change.

None of the farmers mentioned migration to other places or leaving farming as an adaptive strategy to deal with climate change. The fact that they own their farms and their life-long farming experience may predispose farmers to remain in agriculture.

Farmworkers, on the other hand, may have less investments in farming in the community, and may either seek farm employment in other areas or consider off-farm employment.

On their own, farmers in Atok have developed adaptive strategies in response to climate change. These include adjustments in the choice of crops or varieties that can better withstand changing conditions. The idea of migrating to other areas did not arise in the conversations with farmers. To date, their long experience with farming has equipped them with knowledge and insights that enable them to adjust to climate change. Small farm owners have found ways to cope with climate change which sustain production. Getting their produce to the market and obtaining a fair price is a constant challenge that they grapple with. Another challenge is the ageing of the farmers. Except for Ollie, the rest are more than 50 years old, and none of their children are in farming.

Sidchogan-Batani and Ngina (2009) noted that adaptation to climate change in the agriculture sector can be costly as this may involve initiatives such as the “adoption of new seeds, more intense time use, a need to review land use plans, climate change, among others.” Based on the responses of small family farmers in Atok, Benguet, they have keenly observed climate variability and have adapted to changing weather conditions by making adjustments that did not require major investments, mostly by choosing plants that could better withstand new conditions (e.g., prolonged rain or heavy rainfall, or drought), or by postponing the planting of some varieties. These strategies need to be acknowledged, and where appropriate, to be supplemented by other approaches (such as adoption of new seeds) to enhance the menu of adaptive strategies that small landholding farmers can avail of. The recently published, *Compendium of Climate-Resilient Agriculture Technologies and Approaches in the Philippines*, by Labios et al. 2019, can be a useful resource in developing programs and intervention involving farmers.

The Department of Agriculture through the MAO has provided support and assistance to small farm family owners in the community. The farmers mentioned receiving seeds, plastic sheets, pipes, cement, crates, and sprayers. Two farmers received a hand tractor and a shredder. The hand tractor had big tires which was difficult to use in the terraced farms. A small hand tractor or a hoe would be more suitable in terraced farming. In terms of need, they said that plastic sheets to build a greenhouse would be useful for them.

CLIMATE CHANGE AND CORPORATE FARMS

Atok is also home to two corporations renting land in the community for the commercial production of select high value vegetables and flowers for the Metro Manila market. Farm A is fully devoted to the production of celery and six varieties of lettuce, namely Romaine, Green Ice, Red Butter, Green Butter, Lolla Rosa Red

and Lolla Rosa Green. The farm is also trying to grow broccoli. Some flowering plants are cultivated around the farm as insect repellent. The farm uses hydroponic and drip technologies, and has made considerable investments on facilities and fixtures such as green houses with drip irrigation fittings and water pumps. Farm B exclusively produces high value flowers—tulips, astromeras, daisies—suitable for the cold climate of Atok.

Both commercial farms employ many workers, unlike the small family farms which are mostly one- to two-person operations. Farm A has 60 workers; Farm B has 40. The majority of farm workers—who are almost all men—hail from other provinces. The workers in Farm A come from Rosales, Pangasinan (where farm supervisors come from), and Misamis Oriental (the home province of the wife of the farm manager). In Farm B, all the workers come from Bohol Province; they were recruited at different times by the farm supervisor, who himself comes from Bukidnon.



Farm A (left) and Farm B (above) invest in technology in managing their farms. | © Alicia G. Follosco | GIZ

Many of them had been working in these two farms for many years. Some of the married workers have brought their family along and live on the farm. One worker claims they do not wish to go back to their hometown because there is no work for them, being a farm hand in Farm B means a steady and regular income. In both farms, the workers receive minimum wage, but they are adequately covered by PhilHealth, SSS and Pag-IBIG. They also have free housing with free utilities and a regular supply of rice. The Farm A workers from Rosales go home at least once a month or as needed for family emergencies. The workers can hitch a ride on the farm's trucks bound for Metro Manila and back, while those from Misamis Oriental manage to visit their home communities every 3-4 years.

The drivers and patterns of the migration of farmworkers to rural Atok share some similarities with the migration of workers to Baguio City. In both cases, the main driver is the search for employment opportunities. Although farmworkers are among the least paid, the migrant farmworkers employed by these two corporate farms receive the basic minimum wage, and they enjoy other benefits, including social protection. The long years of employment of some of the workers suggest that they have become settlers in Atok. With respect to differences between the migration to Atok and Baguio City, the migrant farmworkers are mostly men, whereas the workers and professionals interviewed in Baguio City were less skewed in terms of gender composition. The construction workers were all men, but the professionals were dominated by women. Although this observation cannot be generalized to the population of migrant workers in Baguio City, it reflects the gender profile of internal migration in the Philippines. Until recently, rural-to-rural migration was undertaken mostly by men, while women dominated rural-to-urban migration (Quisumbing and McNiven, 2006; Gultiano and Xenos, 2004 as cited in Asis and Battistella, 2013).

Findings from the 2018 National Migration Survey suggest some nuances in recent internal migration in the country. In terms of lifetime migrants (i.e., the number of persons whose place of birth and current place of residence at the time of the survey differ), the survey found more rural-to-rural flows than rural-to-urban flows. Females outnumbered males among lifetime rural-to-rural migrants (51.7 percent vs. 48.3 percent) while the share of both genders was balanced among rural-to-urban migrants (PSA and UPPI 2019: 56). Similarly, among period migrants (i.e., the number of persons whose place of residence five years ago and current place of residence at the time of the survey differ), there were more rural-to-rural migrants than rural-to-urban migrants. Interestingly, there were no pronounced differences in the share of males and females in both rural-to-urban and rural-to-rural migrations (PSA and UPPI, 2020: 56, 58).

Given the scale of their operations and being well-established corporations, these two farms utilize the latest farm technologies that ensure steady and regular production. Both have the capacity and resources to install deep wells and water pumps to guarantee a regular supply of water throughout the year. As such, they do not experience the seasonal shortage of water the way smaller family farms in the area do.

In summary, with their resources, corporate farms invest in smart farming and technology to address and mitigate the negative impacts of climate change. They also have a ready market for their produce and flowers in Metro Manila, thereby avoiding intermediaries, and securing fair price in the process.

05

Conclusion and Recommendations

Baguio City has been a migration magnet since the 1900s, and migration has since contributed to its remarkable population growth, economic dynamism, and the making of a multi-ethnic, multicultural Baguio. Having reached its ideal population size of 25,000-30,000 decades ago, the city's current population estimated at more than 370,000 suggests a picture of a city bursting at the seams. This study attempted to examine and link the three strands of migration, climate change—particularly SOEs—and governance. It is highly relevant to consider these strands in Baguio City given the significance of migration, the urgency of environment-related concerns, and the role that governance can play in promoting sustainable development of Baguio City.

Primary data for the study were drawn from FGDs with migrants and KIIs with relevant stakeholders in Baguio City, supplemented by interviews conducted with farmers and other resource persons in Atok and La Trinidad, Benguet.

Following are key insights about migration, the climate change and migration nexus, and governance in the context of Baguio City.

MIGRATION PATTERNS: SOMETHING OLD, SOMETHING NEW

As the gateway to and the only center in CAR, Baguio continues to attract migrants seeking employment, education and economic opportunities, the same reasons that have pulled migrants to the city over the decades. For migrants from Mindanao, conflict is one of the drivers of migration from this region, mostly involving Muslims. The 2017 Marawi siege occasioned a spike in the recent migration of Muslims, and in part, the choice of Baguio as a destination was influenced by the presence of well-established social networks. As a migrant destination, a unique pull factor of Baguio City is its environment, particularly the cool climate.

Migrants have varying degrees of permanence and temporariness in their residence in the city. Their length of stay in the city can be placed on a continuum: a) those who have been in Baguio on a relatively permanent basis (e.g., Muslim migrants who are in Baguio with their families); b) those who

came to Baguio temporarily and have remained (e.g., former students who became workers); c) those who are expected to remain in Baguio for a certain period of time (e.g., students); and d) those who stay in Baguio during the week and return to their hometown on weekends (e.g., professionals, construction workers, students), particularly for those from nearby municipalities and provinces. Whether or not migrants will settle in Baguio will depend on prospects and future plans, such as employment opportunities and marriage plans, among others.

Migrants consider Baguio as a welcoming place and they appreciate the multicultural character of the city. For Muslim migrants, in particular, the welcoming milieu of Baguio is indicated by the sense of acceptance and safety felt by migrants, the presence of mosques in the city, and the CGB's support for ALIVE classes. Migrant construction workers who live in the project site are the least connected to the community and social life of the city; for them, Baguio is mainly a place where they work.

The economic integration of migrants differs strikingly by occupation. Professionals have stable employment and income while those in the informal sector have variable income and lack social protection. The construction workers in this study earn minimum income, but they have social insurance such as PhilHealth, SSS and Pag-IBIG coverage. Muslim migrants are mostly in trading, with the wealthier ones employing co-ethnics as assistants. The trading sector is already an overcrowded arena, suggesting the need to explore other employment options for Muslim migrants.

Compared to rural migration to Atok, farmworker migrants employed by corporate farms are predominantly male. Farmworkers earn minimum wage income, free accommodation and have social protection.

In both urban and rural migration, social networks played an important role in facilitating migration and creating chain migration originating from specific origin communities.

CLIMATE CHANGE AND MIGRATION NEXUS

Migrants, especially professionals and students, shared the concerns of residents over the current and long-term environmental health and livability of Baguio City. Migrants, residents, and other stakeholders shared concerns about the influx of tourists and the associated problems of congestion, traffic, carbon emission, and mounting trash problems. Increasing temperature was the most recognized type of SOE among migrants and other research participants.

Migrants' views on how climate change may affect migration suggest that the link is not automatic as other factors may intervene. As an origin area, increasing temperature may not necessarily trigger migration from Baguio because other areas in the Philippines will likely be warmer. As a destination area, climate migrants may be deterred from migrating to Baguio because it is prone to earthquakes and there are other destinations to consider.

In rural, agricultural Atok, farmers have keenly observed climate variability and increasing temperature. Farmers have adjusted to these changes by rescheduling their working hours or planting vegetables that can withstand little or heavy rainfall. Migrating to farm elsewhere or leaving farming was not an option considered by smallholders, as it would be tantamount to leaving their lands.

GOVERNANCE

The CGB has established the legal framework and policies for land use, zoning, and the protection of the environment. The Baguio rehabilitation plan, launched in January 2020, is the latest policy and comprehensive 15-year plan of action that identifies needed interventions in the environment, transport and traffic, tourist destinations, and informal settlements in hazard-prone areas. Under the environment, the main concerns are the sewerage system, solid waste management, green

cover, air quality, and the city cemetery. For tourism, the action focuses on the improvement of tourist destinations in the city, beginning with Burnham Park.

Although Baguio City does not have policies to manage migration (unlike the well-established legal and policy frameworks to address the host of environment-related concerns), the CGB nonetheless has introduced good practices to promote the social integration of migrants. The institutional support given to the ALIVE program and the dialogue with the Muslim community are excellent examples.

The shared views of residents and migrants in advocating for the promotion and protect of Baguio's environment reflects the potential of migrants to engage in active citizenship, i.e., participation in activities that promote and sustain democracy. Several community groups, including an online group, actively engage the local government and with other stakeholders, to question, propose solutions, and collaborate to build a sustainable and livable Baguio.

POLICY AND RESEARCH RECOMMENDATIONS

Findings from the study point to some policy recommendations. Inasmuch as the environmental aspects have received much attention, including the recently launched 2020 Baguio Rehabilitation Plan, the recommendations to the CGB will focus more on migration-related concerns.

As an initial step toward developing a migration lens in policymaking, the CGB can undertake or commission a Green Paper on migration to Baguio City. Among others, the Green Paper can review the ongoing initiatives that collect data on migrants and transients (e.g., LMIS, now known as the Registry of Barangay Inhabitants & Migrants (RBIM)), and part of the preparation of the Green Paper could involve consultations with different generations and/or groups of migrants in the city to look into their concerns and contributions, and where appropriate, to make

recommendations on policy areas that would promote the participation and inclusion of migrants in Baguio City.

As the study indicated, the lack of decent work opportunities hampers the economic integration of some migrants in Baguio City. Professional migrants and workers employed in the formal sector have stable employment and are covered by SSS, Philhealth and Pag-IBIG. In the case of Muslim migrants, their employment prospects fall outside the formal sector – mostly, they are in the trading sector, employed by co-ethnics. To promote the economic integration of migrants, the following support programs may be developed under the Public Employment Service Office and/or the Technical Education and Skills Development Authority:

- a. Skills development programs based on the labor market needs of Baguio City;
- b. Coaching for job interviews and preparation of resumes;
- c. Support in developing a business plan (for those interested in starting a business);
- d. Information campaign on social protection programs, requirements and the application process; and
- e. Encouragement of voluntary enrollment in social protection programs.

One aspect of the 2020 Baguio Rehabilitation Plan is strategic action for the improvement of tourist destinations and heritage sites. It is laudable to improve these sites, but doing so with a view to increase and promote tourism needs to consider the undesirable consequences of tourism for the city. As the study noted, stakeholders and migrants have expressed concerns over the incessant and growing influx of tourists to Baguio, which they saw as having negative impacts on the environment. Although tourism is not synonymous with migration, it entails population movement or the comings and goings of people. Given the importance of tourism to Baguio's economy, the tendency is to promote it. The

proposal to charge fees for tourist destinations owned or managed by the CGB is intended to raise funds for maintenance of these sites and to cover funds for waste management. The study recommends public education, specifically for tourists, to promote sustainable or responsible tourism. The idea is to invite tourists to share – particularly in terms of their actions and practices – towards ensuring that the beauty of Baguio will be enjoyed by generations to come. Tourist establishments and businesses can be partners in this educational program.

For as long as Baguio City remains as the economic, educational, and administrative center in CAR, it will continue to attract migrants. Renewed efforts to realize the Baguio, La Trinidad, Itogon, Sablan, Tuba and Tublay (BLISTT) growth center are expected to foster development beyond Baguio. The BLISTT Action Agenda 2017-2019 envisions BLISTT as a cooperative arrangement among the member-local government units (LGUs) to promote development for all. BLISTT is not a metro arrangement where a single LGU dominates the rest (as in Metro Davao or Metro Cebu). The BLISTT growth node aims to decongest Baguio City while spreading economic opportunities to the other member LGUs. The realization of BLISTT will benefit from developing a migration lens, as the road toward developing a regional growth node will include the movement not only of capital and goods but of people as well.

Finally, the study offers the following suggestions for future research:

The study reiterates the UCC study's recommendation to carry out a study of the daytime population of Baguio City (tourists and transients) to improve the estimation of carrying capacity. It is important to define these terms and concepts (see also PSA Board Resolution No. 08, Series of 2017, Approving and Adopting the Official Concepts and Definitions on Internal and International Migration for Statistical Purposes). Beyond estimating the size of the daytime population, it is important to know the profile, activities and services accessed by tourists and transients.

There are four barangays in Baguio City which piloted the Local Migration Information System (LMIS). The LMIS, now known as the Registry of Barangay, Inhabitants & Migrants (RBIM), offers the advantage of collecting migration data from the smallest political unit. The questionnaire includes questions on the following: previous residence five years ago, previous residence six months ago, length of stay in the barangay, type of resident (non-migrant, migrant and transient), sex, age, date of transfer, reasons for leaving the previous residence, date of transfer, plan to return to previous residence and when, reasons for transferring to the barangay, and intended duration of stay in the current barangay. The question on reasons for leaving the previous residence includes "disaster-related relocation" among the seven response categories. This may allow analysis of climate change-related relocation. The LMIS is a low-lying fruit which can be explored for further analysis to yield information on the extent of disaster-related migration in the four barangays and the profile of disaster-related migrants from other types of migrants. This can be one of the projects that the CGB can carry out or support toward developing a migration lens in policymaking for Baguio City. As the proponent of LMIS, the Commission on Population and Development (POPCOM)-CAR is an important partner in this endeavor, along with the Population Program of the City Health Office (CHO), with which POPCOM-CAR is working closely in the implementation of the ongoing LMIS. The CGB can convene a technical working group consisting of POPCOM-CAR, NEDA-CAR, the Philippines Statistics Authority-CAR, CHO, the Population Program of CHO, City Planning and Development Office, and migration scholars as core members. The technical working group can review the definitions of non-migrant, migrant and transient used in the LMIS and the local context vis-à-vis the PSA Board Resolution No. 08, Series of 2017, Approving and Adopting the Official Concepts and Definitions on Internal and International Migration for Statistical Purposes; make recommendations toward the standardization of definitions of non-

migrant, migrant and transient to the CGB; assess the quality and usability of LMIS data; and identify priority topics for secondary analysis using LMIS data.

Related to the LMIS, it would be useful to conduct an evaluation of the implementation, use, and relevance of the survey, and to assess the replicability of the survey to other barangays. It is recommended that this assessment be conducted by an independent researcher or group of researchers.

The City Health Office and the City Disaster Risk Reduction and Management Office revealed plans to conduct a health survey and disaster preparedness survey, respectively. These and future data collection activities would benefit by including questions that can provide basic information on the migration status of respondents: place of birth, place of residence five years ago, and place of residence three months ago (e.g., as used in the 2018 NMS). Responses to these questions can generate migration status, which will enable further comparative analysis between residents and migrants. Considering Baguio's multi-ethnic population, it would also be useful to include a question on ethnicity as one of the background variables.

It would also be useful to study how climate change may impact migration in known origin communities which have experienced climate change – e.g., communities which have been affected by drought, increasing temperature and other SOEs and ROEs—and to explore their adaptive strategies, including migration.

The presence of academic institutions in Baguio City bodes well for the establishment of a research consortium that will promote and support evidence-based governance and policymaking in the city.



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Annex I.

**Baseline Census for the Establishment of Registry of
Barangay Inhabitants & Migrants (RBIM)**



**Baseline Census for the
Establishment of
Registry of Barangay
Inhabitants & Migrants
(RBIM)**

No.

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<input type="checkbox"/>	Household	<input type="checkbox"/>	Institutional Living Quarter
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With technical assistance from the



POPCOM
Empowering Filipino Families

Magandang umaga/hapon po. Ako po ay si _____. Ako po ay _____ sa ating barangay. Kami po ay nag-i-interview ng lahat ng households sa ating barangay upang kumulekta ng impormasyon tungkol sa socio-economic na kondisyon at tungkol sa migration. Ito po ay makakatulong para magkaroon ng Census ang ating barangay. Nais po sana namin na humingi ng kaunting panahon upang sagutan ang aming mga tanong tungkol sa inyong household at mga miyembro nito. Sinisiguro po namin na lahat ng inyong sagot ay kum-pidensyal. Pwede po ba naming hingin ang inyong pahintulot na kayo ay ma-interview?

A. IDENTIFICATION

Province _____ Name of Respondent _____

City/Municipality _____ Household Head _____

Barangay _____ Total No. of Household Members

Address _____
(Room/Floor/Unit No. and Building Name) (House/Lot and Block No.) (Street Name)

B. INTERVIEW INFORMATION

Visit	Date of Visit	Time start	Time end	Result C=Completed CB=Callback R=Refused	Date of Next Visit	Name of Interviewer, Initial/Date	Name of Supervisor, Initial/Date
1st visit							
2nd visit							

C. ENCODING INFORMATION

Date Encoded	Name and Initial of Encoder	Name of Supervisor, Initial and Date

**Baseline Census for the Establishment of
Registry of Barangay Inhabitants and Migrants (RBIM)**

A. DEMOGRAPHIC THE HOUSEHOLD

FOR ALL HOUSEHOLD MEMBERS						
	Q1 NAME SURNAME, FIRST NAME, MIDDLE NAME OR MIDDLE INITIAL	Q2 RELATION- SHIP TO HHH	Q3 SEX	Q4 AGE	Q5 DATE OF BIRTH	Q6 PLACE OF BIRTH
LINE LIST NO.	Who are the members of this household starting from the HH head?	What is s relationship to HH head?	Is male or female?	How old is as of his/her last birthday?	When was born? MM/YYYY	Where was born? City or Municipality and Province
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

NOTES:
For SKIPPED questions, write 99

Q1 Name
List HH members in this order:
– Head
– Spouse of Head
– Never married children from oldest to youngest
– Ever married children, the spouse and their families from oldest to youngest
– Other relatives
– Nonrelatives

Q2 Relationship to Household Head
Head = 01
Spouse = 02
Son = 03
Daughter = 04
Stepson = 05
Stepdaughter = 06
Son-in-law = 07
Daughter-in-law = 08
Grandson = 09
Granddaughter = 10
Father = 11
Domestic helper = 22

Q3 Sex
Male = 1
Female = 2

Q4 Age
Write the age as of last birthday

Q5 Date of Birth
Please indicate the month and year of birth. Write the month in the upper triangle and the year in the lower triangle.

Q6 Place of Birth
Write the response

Q7 Nationality
Filipino = 1
Non-Filipino = 2
If not Filipino, please write 2 then comma and the response

<Do not ask, observation only>
Q63 Construction materials of the outer wall

0 No walls
1 Makeshift/salvaged/improvised materials
2 Glass
3 Asbestos
4 Bamboo/Sawall/Cogon/Nipa
5 Galvanized iron/aluminum
6 Half concrete/brick/stone and half wood
7 Wood
8 Concrete/brick/stone
9 Others, please specify _____

Q64 Do you have any female HH member who died in the past 12 months? How old is she and what is the cause of her death?
Age: _____
Cause of death: _____

Q65 Do you have a child HH member below 5 years old who died in the past 12 months? How old is she/he? What is the cause of her/his death?
Age: _____
Sex: _____
Cause of death: _____

Q66 What are the common diseases that causes death in this barangay?
1. _____
2. _____
3. _____

Q67 What do you think are the primary needs of this barangay?
1. _____
2. _____
3. _____

Q68 Where does your household intend to stay five years from now?
Barangay: _____
Municipality: _____
Province: _____

PAHINTULOT
Lubos kong naunawaan ang layunin ng pananaliksik at Census ng barangay. Nabasa ko at pinaliwanag sa akin ang nilalaman ng kasulatan at kusing loob akong sumasangayon na makibahagi sa proyektong ito. Naunawaan kong magiging kompiyensiyal ang lahat ng akting kasagutan. Gayunpaman, pinahintulutan ko ang paggamit ng akting impormasyon ng barangay kalakip ng pagalang sa akting "data privacy rights".

Pangalan at Lagda ng Nakapanayam

PAHAYAG SA PAGLILIMBAG
Ang resulta ng proyektong ito ay gagamitin ng ating barangay para sa pagpapalano ng mga programang makakatulong sa pagpapalago ng ating pamayanan. Ito ay maari ring gamitin para sa layong pag-aaral o para sa propesyonal na pagpapahayag. Subalit, walang indibidwal na nakapanayam ang kikitilamin. Kung ikaw ay may kung anumang katannungan, maari kang makipag-alam sa ating barangay:
(Brgy. Capt. _____) sa telepono bilang _____.

A. DEMOGRAPHIC CHARACTERISTICS				B. ECONOMIC ACTIVITY				ACTION		F. COMMUNITY TAX CERTIFICATE		G. SKILLS DEVELOPMENT	
FOR ALL HOUSEHOLD MEMBERS				FOR 15 YEARS OLD AND ABOVE				AND TRANSIENTS		FOR 18 & ABOVE		FOR 15 & ABOVE	
Q1 NAME	Q3 SEX	Q4 AGE	Q15 MONTHLY INCOME	Q16 SOURCE OF INCOME	Q17 STATUS OF WORK/ BUSINESS	Q18 PLACE OF WORK/ BUSINESS	Q40A, Q40B, Q40C REASONS FOR TRANSFERRING IN THIS BARANGAY	Q41 DURATION OF STAY IN CURRENT BARANGAY	Q42A, Q42B CTC INFORMATION	Q43 SKILLS DEVELOPMENT TRAINING	Q44 SKILLS		
Copy from previous response				How much is _____'s monthly income?	What is the major source of _____'s income?	What is the status of _____'s work/ business?	In what barangay and city/ municipality is _____'s work/ business located?	What are the reasons why _____ transferred in this barangay?	Until when does _____ intend to stay in this barangay?	Does _____ have a valid CTC?	Was the CTC issued in this barangay?	What type of skills development training is _____ interested to join in?	What type of skills do you have?
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

NOTE: For Q15, Q16, Q17 and Q18
If 0 to 14, write 99

Q15 Monthly Income
Please indicate average monthly income from all sources. If employed per day, ask the actual amount received per day and multiply by the number of days the household member worked for the month. If NONE, SKIP TO Q19

Q16 Source of Income
Employment = 1
Business = 2
Remittance = 3
Investments = 4
Others = 5

Q17 Status of Work/
Business
Permanent Work = 1
Casual Work = 2
Contractual Work = 3
Individually Owned Business = 4
Shared/Partnership Business = 5
Corporate Business = 6

Q18 Place of Work/
Business
Please write the response

Q19 Place of Delivery
Public hospital = 1
Private hospital = 2
Lying-in clinic = 3
Home = 4
If others, please write the response

Q20 Person who Assisted in the Delivery
Doctor = 1
Nurse = 2
Midwife = 3
Hilot = 4
If others, please write the response

Q21 Immunization
Please write the vaccine last received by the infant. Mother/ Baby Book or Immunization Card may be used as reference.

Q40A, Q40B, Q40C
Reasons for Transferring
Availability of jobs = 1
Higher wage = 2
Presence of schools or universities = 3
Presence of relatives and friends in other place = 4
Housing = 5
If other reason/s, write the response

Q41 CTC Information
Yes = 1
No = 2
SKIP TO Q43.

Q42A CTC Information
Please indicate the type of skills development training that the HH member is interested in

Q42B CTC Information
Yes = 1
No = 2

Q43 Skills
Development Training
Please indicate the type of skills development training that the HH member is interested in

Q44 Skills
Please indicate the most prominent skill

Refrigeration and Airconditioning = 01
Automotive/Heavy Equipment Servicing = 02
Metal Worker = 03
Building Wiring Installation = 04
Heavy Equipment Operation = 05
Plumbing = 6
Welding = 7

Carpentry = 8
Baking = 9
Dressmaking = 10
Linguist = 11
Computer Graphics = 12
Painting = 13
Beauty Care = 14
Commercial Cooking = 15
Housekeeping = 16
Massage Therapy = 17
Others = 18, please specify

A. DEMOGRAPHIC CHARACTERISTICS				E. MIGRATION INFORM		C. HEALTH INFORMATION						
FOR ALL HOUSEHOLD MEMBERS				FOR MIGRANTS		FOR 0 TO 11 MONTHS OLD			FOR WOMEN 10 TO 54 YEARS			
Q1 NAME	Q3 SEX	Q4 AGE	Q37 DATE OF TRANSFER	Q38A, Q38B, Q38C REASONS FOR LEAVING THE PREVIOUS RESIDENCE	Q39 RETURN TO PREVIOUS RESIDENCE	Q19 PLACE OF DELIVERY	Q20. BIRTH ATTENDANT	Q21 IMMUNIZA- TION	Q22 LIVING CHILDREN	Q23 FAMILY PLANNING (FP) USE	Q24 SOURCE OF FP METHOD	Q25 INTENTION TO USE FP
Copy from previous response			When did _____ transfer in this barangay? MM/YYYY	What are the reasons why _____ left his/her previous residence?	Does _____ plan to return to previous residence? When?	Where was _____ delivered?	Who attended in the delivery of _____?	What is the last vaccine received by _____?	How many pregnancies does _____ had? How many children are still living?	What family planning method does _____ and partner currently use?	If using FP, where did they obtain the FP method?	Does _____ and partner intend to use FP method? If yes, what method? If no, why not?
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

NOTE: For Q37, Q38A, Q38B, Q38C, Q39, Q40A, Q40B, Q40C and Q41
If non-migrant, write 99

Q37 Date of Transfer
Please indicate the month and year the migrant or transient transferred in the current barangay.
Write the month in the upper triangle and the year in the lower triangle.

Q38A, Q38B, Q38C Reasons for Leaving
Lack of employment = 01
Perception of better income in other place = 02
Schooling = 03
Presence of relatives and friends in other place = 04
Employment/Job Relocation = 05
Disaster-related Relocation = 06
Retirement = 07
To live with Parents = 08
To live with Children = 09
Marriage = 10
Annulment/Divorce/ Separation = 11
Commuting-related Reasons = 12
Health-related Reasons = 13
Peace and Security = 14
Others = 15, please specify

Q39 Return to Previous Residence
Yes = 1 (Write response in upper triangle and the date at the lower triangle)
No = 2 (Write response in upper triangle and 99 at the lower triangle)

Q41 Duration of Stay in Current Barangay
Write response as provided

NOTE: For Q22, Q23, Q24 and Q25
Write 99 if:

- Male,
- Female 0 to 9
- Female 55 and above

Q22 Living Children
Ask for the total number of pregnancies the HH member had. Write the answer at the upper triangle then, ask how many are still living as of time of interview and write answer in the lower triangle. If none, write 0 in the upper triangle and 99 in the lower triangle, then SKIP TO Q23.

Q23/Q25 FP Method
Female sterilization/Ligation = 01
Male sterilization/Vasectomy = 02
IUD = 03
Injectables = 04
Implants = 05
Pill = 06
Condom = 07
Modern natural FP = 08
Lactational Amenorrhea Method (LAM) = 09
Traditional = 10
If none, write 00 and SKIP TO Q25.

Q24 Source of FP
Government hospital = 1
RHU/Health center = 2
Brgy. Health Station = 3
Private hospital = 4
Pharmacy = 5
If other source, write the response

Q25 Intention to Use FP
1 = Yes (Write response in upper triangle and FP method at the lower triangle)
2 = No (Write response in upper triangle and reason at the lower triangle)

A. DEMOGRAPHIC CHARACTERISTICS				C. HEALTH INFORMATION				D. SOCIO-CIVIC PARTICIPATION				E. MIGRATION INFORMATION											
FOR ALL HOUSEHOLD MEMBERS				FOR ALL HOUSEHOLD MEMBERS				FOR 10 & ABOVE				FOR 60 & ABOVE				FOR 15 & ABOVE				FOR ALL HOUSEHOLD MEMBERS			
Q1 NAME	Q3 SEX	Q4 AGE	Q26 HEALTH INSURANCE	Q27 FACILITY VISITED IN PAST 12 MONTHS	Q28 REASON FOR VISIT IN HEALTH FACILITY	Q29 DISABILITY	Q30 SOLO PARENT	Q31 REGISTERED SENIOR CITIZEN	Q32 REGISTERED VOTER	Q33, Q34 PREVIOUS RESIDENCE	Q35 LENGTH OF STAY IN THE BARANGAY	Q36 TYPE OF RESIDENT											
LINE LIST NO.			What is the primary health insurance ___ have?	What facility did ___ visited in the past 12 months?	What is the reason for the visit in health facility?	Is there a member of the HH that has any disability? What is the disability?	Is there a member of the HH that is a solo parent? Is he/ she registered?	Is ___ a registered senior citizen?	In what barangay is ___ a registered voter?	In what barangay and city/ municipality did ___ reside five ___ years ago?	In what barangay and city/municipality did ___ reside six months ago?	How long is ___ been staying in this barangay? No. of years/ No. of months	<Do not ask> Indicate if Non-migrant, Migrant or Transient										
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Q26 Health Insurance
PhilHealth paying member = 1
PhilHealth dependent of paying member = 2
PhilHealth indigent member = 3
PhilHealth dependent of indigent member = 4
GSS = 5
SSS = 6
Private/HMO = 7
If others, please write the response

Q27 Facility Visited
Government hospital = 1
RHU/Health center = 2
Brig. Health Station = 3
Private hospital = 4
Private clinic = 5
Pharmacy = 6
Hilot/Herbalist = 7
If other facility, write the response

Q28 Reason for Visit
Sick/Injured = 1
Prenatal/Postnatal = 2
Gave birth = 3
Dental = 4
Medical check-up = 5
Medical requirement = 6
NHTS/CCT/APs requirement = 7
If other reason, write the response

Q29 Disability
If with disability, write the type of disability
If without disability, write None

NOTE:
For Q31—if 0 to 59 years old, write 99
For Q32—if 0 to 14 years old, write 99
For Q33, Q34, Q35 and Q36—if 0 to 4 years old, write 99

Q31 Registered Senior Citizen
Yes = 1
No = 2

Q32 Registered Voter
Please write the name of the barangay in which HH member is registered as voter.

Q33 Previous Residence
Write the barangay and city/ municipality where household member resided five years ago

Q34 Previous Residence
Write the barangay and city/ municipality where household member resided six months ago

Q35 Length of Stay in Barangay
Write the number of years and months of stay in the barangay.
Write the year in the upper triangle and the month in the lower triangle.

Q36 Type of Resident
Non-Migrant = 1
(Response in Q33 and Q34 is the same with current residence)
Migrant = 2
(Response in Q33 and/or Q34 is different with current residence and response in Q35 is at least six months and one day)
Transient = 3
(Response in Q33 and/or Q34 is different with current residence and response in Q35 is less than six months)

