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Rural Depopulation and Empty Rural Houses in Bhutan: How Different Stakeholders Interpret the Local Term *Gungtong*

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Internal migration has played a significant role in shifting the population from rural to urban areas worldwide. In Bhutan, rural depopulation is mostly concentrated in the country's eastern and some central parts, and is changing

the rural landscape, economy, and society. In discussing rural population change, the term *Gungtong* is widely used in the Bhutanese media and public discourses. The literal translation of *Gungtong* is an empty registered house. However, *Gungtong* is often interpreted differently in the absence of a clear legal definition. Therefore, the primary objective of this article is to explore the various interpretations of the term *Gungtong* and understand its meaning. To explore this, 40 semistructured interviews with Bhutanese officials and rural residents were conducted. The study highlights that the *Gungtong* data gathered

annually by the government are based on the administrative complexity of rural taxation policy rather than the actual departure of people from rural areas and empty houses. However, the conversation around *Gungtong* relates to the globally recognized issue of rural depopulation. Thus, there are discrepancies within the official dataset and between the dataset and the general understanding of the issues and implications of *Gungtong*. Developing a clear understanding of the term *Gungtong* and restructuring the data collection of empty houses will help answer some critical questions on the impact of rural depopulation in farming and the rural economy, considering Bhutan's aspiration to be food self-sufficient.

Keywords: rural depopulation; *Gungtong*; empty houses; rural-urban migration; farmland abandonment; human-wildlife conflict.

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Introduction

The past century witnessed a profound shift in the world's population distribution from rural to urban (Bilsborrow 2002; Grau and Aide 2007), with internal migration playing a significant role (Skeldon 2006). Today, over 1.3 billion people in developing countries have moved internally from rural to urban areas (FAO 2018). The outmigration of people from rural areas is one of the most significant elements of rural depopulation, a complex process that results in substantial "eco-socio-economic" changes (Mickovic et al 2020: 20). Rural depopulation refers to population decrease in rural areas due to outmigration and reduced birth rates resulting from the movement of young people (Mayhew 2009).

Depopulation of mountain communities in developing countries can profoundly affect rural development and food security because of labor loss and household composition changes (Chen et al 2014), with outcomes including changes in land use patterns in villages (Lambin and Meyfroidt 2011), abandonment of farmland and family houses (Yan et al 2016), and village abandonment (Wang et al 2019). Farmlands in mountainous areas worldwide are increasingly abandoned (Khanal and Watanabe 2006; Wang et al 2020),

signaling the decline of local societies (Yamaguchi et al 2016). Thus, there are calls for researchers and policymakers to think about the future of mountain farmlands affected by outmigration (Li and Li 2017; Chaudhary et al 2020).

In discussing the issue of rural population change, the term *Gungtong* is used in Bhutan to describe an empty house, but it has no specific definition. *Gung* is defined as "households registered in accordance with the household registration system" (RGoB 2002: 2), and *tong* is a *Dzongkha* (national language of Bhutan) word for "empty." *Gungtong* can thus be understood as an empty house registered as such in the census. The census is the household registration system maintained by a small administrative unit within the district known as a block (*Gewog*) headed by a locally elected block head (*Gup*) in Bhutan.

This article explores the various interpretations of the term *Gungtong* and attempts to understand its meaning. To explore this, we conducted 40 semistructured interviews with Bhutanese officials and rural residents.

Rural depopulation in Bhutan

Bhutan faces a substantial influx of people from rural to urban areas (MoWHS 2019), with its urban population

TABLE 1 Population change in districts of Bhutan based on 2005 and 2017 PHCB.

Region	District	Population number			
		2005 PHCB	2017 PHCB	Population change ^{a)}	Net migration (2017 PHCB)
Western	Thimphu	98,676	128,207	29,531	59,578
	Chhukkha	74,387	62,926	-11,461	12,084
	Samtse	60,100	61,023	923	-5481
	Paro	36,433	43,362	6929	11,802
	Haa	11,648	12,324	676	-1056
Central western	Wangdue	31,135	35,928	4793	2726
	Punakha	17,715	27,360	9645	3454
	Dagana	18,222	24,247	6025	-6868
	Tsirang	18,667	21,514	2847	-5309
	Gasa	3116	3865	749	609
Central eastern	Saprang	41,549	42,977	1428	8060
	Bumthang	16,116	17,262	1146	1049
	Zhemgang	18,636	17,126	-1510	-10,978
	Trongsa	13,419	16,054	2635	58
Eastern	Samdrupjongkhar	39,961	33,427	-6534	-5154
	Monggar	37,069	36,255	-814	-12,709
	Trashigang	51,134	43,741	-7393	-23,536
	Trashyangtse	17,740	16,930	-810	-8776
	Pema Gathsel	13,864	22,952	9088	-11,012
	Lhuntse	15,395	14,240	-1155	-8451

Sources: 2005 PHCB (OCC 2006); 2017 PHCB (NSB 2017).

Note: PHCB, Population and Housing Census of Bhutan.

^{a)} Represents difference between 2017 PHCB and 2005 PHCB.

increasing from 30.9% of the total population in 2005 to 37.8% in 2017, and projected to rise to 56.8% by 2047 (NSB 2019). The World Urbanization Prospects 2018 data published by the United Nations (UN 2019) show that, though the percentage of the rural population in Bhutan followed a steady decline from 1950, the population (in absolute terms) in the rural area increased until 2018, after which the data predicted a decrease in the rural population.

UN data are consistent with the 2005 (OCC 2006) and 2017 (NSB 2017) Population and Housing Censuses of Bhutan, which showed an increase in rural population between these 2 censuses of 13,300 people, corresponding to a 14% increase. During the same period, urban population increased by 92,156 (86% of the total population increase), indicating a disproportionate rise.

However, while the population data at the national level do not suggest rural depopulation in Bhutan, data at the district level suggest otherwise. For example, Table 1 shows that 7 districts (5 districts from the eastern region, which are largely rural) have lost population when comparing the districts' population from 2 censuses. Further, data from the 2017 Population and Housing Census of Bhutan showed that 11 districts had negative net in-migration, which means

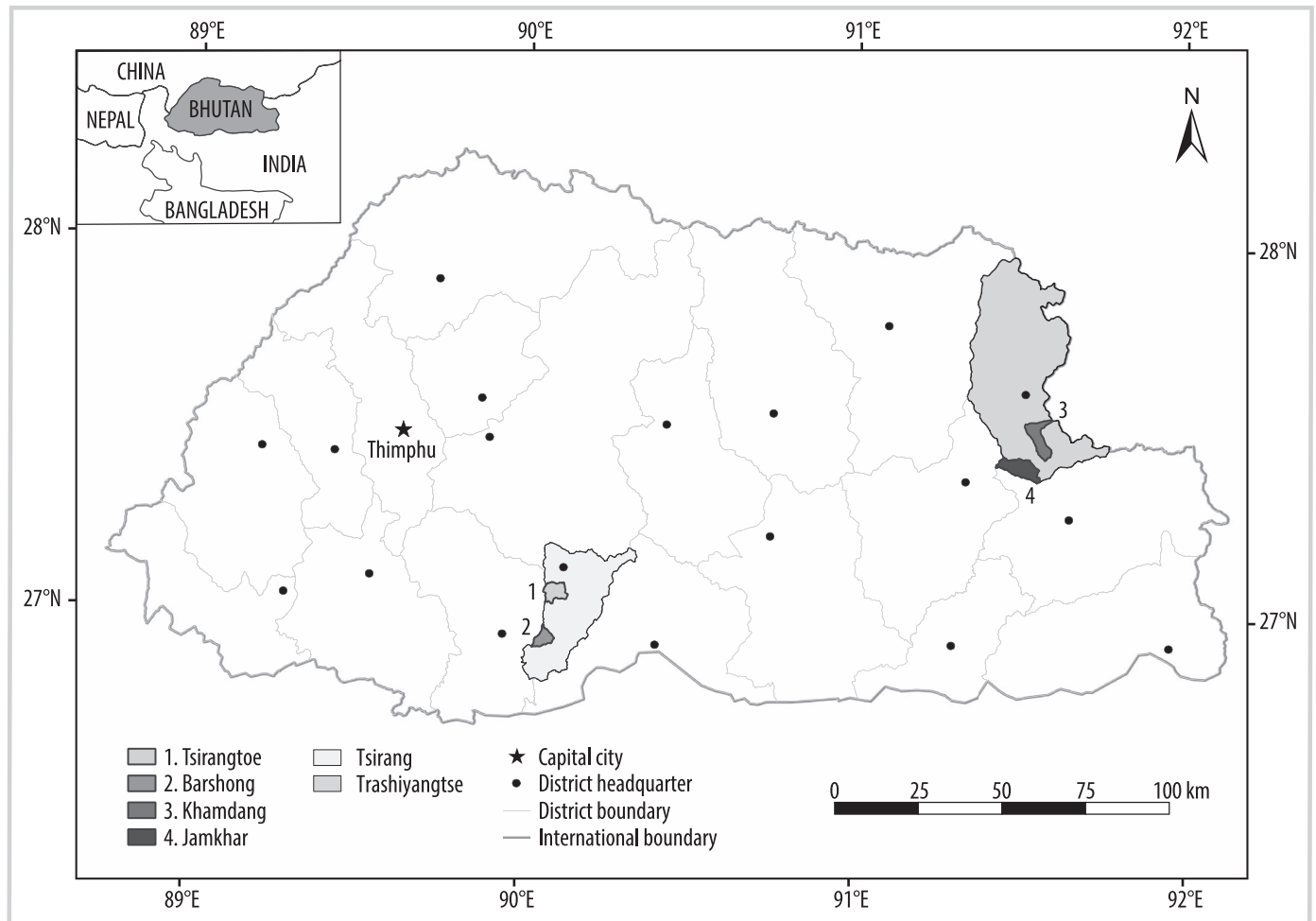
more people outmigrating than in-migrating. Again, the districts with the highest net population loss are clustered in the east.

Similarly, a study conducted by Choda (2012) in one of the blocks in Trashigang district found that 50% of households ($n = 210$ households) had a member who had migrated out of the census block; most were males of labor force age. Therefore, rural depopulation in Bhutan is mostly concentrated in the country's eastern and some central parts. Conversely, districts with the highest population gain are clustered in the western part of the country, indicating net population gains in urban areas. This pattern has persisted across the last 2 censuses (2005 and 2017). Urbanization is likely to increase into the future, and while patterns of migration are changing, rural depopulation will continue to be an issue for the eastern and central parts of the country (NSB 2020).

Existing conversation around *Gungtong*

Gungtong was first discussed as a concern at the national level during the fifth annual block head conference in 2009 (Chophel 2010). This identified the inconvenience faced by

FIGURE 1 Location of the study blocks (Gewogs) in Bhutan.



officials working in blocks during the collection of rural taxes as they could not trace the whereabouts of *Gungtong* household members. However, the implications of *Gungtong* reported by the media (see Pem 2016; Wangchen 2018; Younten 2019; Drukpa 2020) and the concerns expressed by His Majesty the King of Bhutan (BBS 2016) relate to global issues of rural depopulation and not the rural tax. The issues arising from rural depopulation are farm labor shortages (Wang et al 2019), only the elderly population remaining in the villages (FAO 2018), an increase in fallow lands (Khanal and Watanabe 2006), and abandonment of family houses (Yan et al 2016), not the rural tax.

In public conversation, *Gungtong* is often seen as negative for local communities, local environments, and the administrative functioning of the block (Chophel 2010; NSB 2018). Because of this, a *Gungtong* penalty was introduced by some blocks, and some are proposing the introduction of a penalty system (Tshering 2018; Younten 2019).

While *Gungtong* is a widely used term in Bhutan's media and public discourses, a clear legal or accepted definition does not exist. In the absence of an accepted definition, it is often interpreted differently. The Department of Local Government (DLG), Royal Government of Bhutan, compiles the data on *Gungtong*, which officials in blocks collect. However, as mentioned above, the differences in how *Gungtong* as an issue was raised by block heads and reported

in the media and government documents (NC 2016) suggest that *Gungtong* is interpreted differently. This may mean that *Gungtong* data do not accurately reflect rural depopulation.

Method

Study site

The study sites were selected after we conducted a preliminary analysis of the 2019 *Gungtong* data obtained from the DLG. Two districts, Trashiyangtse (located between 27°36'41"N and 91°29'52"E) and Tsirang (27°01'18"N and 90°07'22"E) were selected for the study. Trashiyangtse district was selected because it had the highest recorded percentage of *Gungtong* households among the 20 districts. Trashiyangtse district is in the eastern part of the country and is largely rural. According to the 2019 *Gungtong* data maintained by the DLG, the district had 740 *Gungtong* households of the 3581 total registered households.

Tsirang district was selected because one of its blocks, Barshong, had the highest percentage of *Gungtong* among 205 blocks. Tsirang is in the central part of the country, with easy access to the capital, Thimphu, and a border town in India. The district recorded 307 *Gungtong* households of the total 4254 households in 2019. Two blocks in each district—Barshong and Tsirangtoe in Tsirang, and Jamkhar and Khamdang in Trashiyangtse (Figure 1)—were selected for the

TABLE 2 Categories of interview participants.

Interview participants	Number
Government officials (current and retired)	8
Journalists	2
LG officials (current and retired)	10
<i>Gungtong</i> household members	11
Non- <i>Gungtong</i> household members	9
Total	40

study because they had the highest and lowest percentage of *Gungtong* among blocks in each district.

Data collection and analysis

We conducted 40 semistructured interviews in October 2019 and from November 2020 to January 2021. Interviews in 2019 were conducted face-to-face; however, interviews from 2020 and 2021 were conducted virtually, through Zoom, WhatsApp, and WeChat, as face-to-face interviews were not possible because of COVID-19. Participants for the interviews were government officials, local government officials (LG officials), journalists, and household members (Table 2).

Government officials from the Ministry of Home and Cultural Affairs, National Statistical Bureau, and Ministry of Agriculture and Forests were approached based on their association with blocks in their duty of work. LG officials included the block head (also known as chairperson of the block), deputy chairperson of the block (*Mangmi*), representative of a village (*Tshokpa*), and administration officers working in a block. Except for the administrative officer appointed by the Royal Civil Service Commission, all LG officials are elected as the people's representatives from their block.

Household participants included members from *Gungtong* (a household that had migrated from a block) and non-*Gungtong* households (household members who were still living in their census block during the time of the interview). The list of *Gungtong* and non-*Gungtong* households was obtained from the block. Simple random sampling was administered to the list of households using the “=RAND” function in Microsoft Excel to select the first *Gungtong* and non-*Gungtong* household participants. However, if the members of the first selected household were not available for the interview, the next randomly selected household was approached. After the first interview, the rest of the households were approached using the snowball technique (Oliver 2010), based on the interview participant's recommendation on whom they perceived knowledgeable to talk about *Gungtong*.

The interviews explored how different groups of people understood *Gungtong* and the implications and drivers that surround *Gungtong*. In this article, we present how *Gungtong* is differently interpreted. The interviews were conducted in the local language and translated and transcribed to English. The qualitative analysis program NVIVO 12 Pro was used during the analysis process to assist with data organization during coding and identification of themes.

Results

Gungtong, as a term, is assumed to be understood by everyone in Bhutan. However, there is variation in its interpretation. This variation exists between and among the government, LG officials, and rural residents.

In presenting our results, we use “empty” to describe a family house and farmlands that the household has temporarily or permanently abandoned. A household is a group of family members registered in the same census. The census holds the household's information such as house number (*Gung* number), land certificate number (*Thram* number), and the details of the family members such as age and gender.

The results are presented in 3 sections. The first section explores the LG officials' interpretation of *Gungtong*, and the second and the final section explore the government and households' interpretation of *Gungtong*, respectively.

Local governments' interpretation of *Gungtong*

LG officials viewed *Gungtong* from the administrative perspective of collecting rural taxes. Thus, their interpretation of *Gungtong* was closely tied with the government census registration system. Based on how differently they interpreted *Gungtong*, 3 different patterns of interpretations emerged—all around the existence of land certificate number and house number (Figure 2). The 3 different patterns were (1) household with an empty house and land, (2) household with land but without a house, and (3) household with neither house nor land. However, while for some LG officials, only interpretation 1 was *Gungtong*, for some, interpretations 1 and 2, and for some, all 3 patterns were interpreted as *Gungtong*.

It is important to note that, though the interpretation of *Gungtong* differed between LG officials, the *Gungtong* data collected by them were compiled by DLG. In the section that follows, we present brief descriptions of the 3 patterns of interpretation of what was *Gungtong* and what was not *Gungtong* for LG officials.

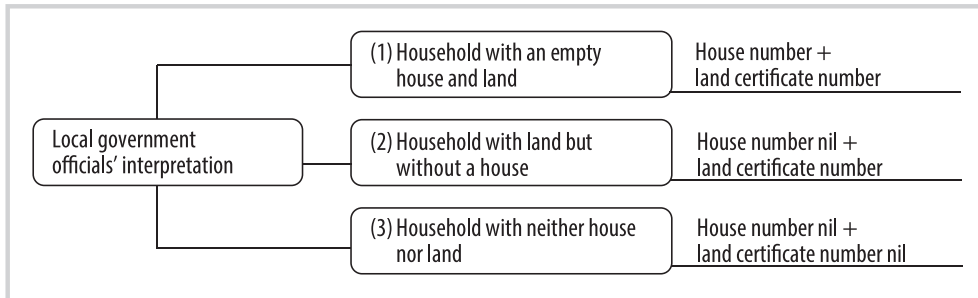
Household with an empty house and land: This was the only uniform interpretation across all LG officials interviewed. However, while registered empty houses and lands were interpreted as *Gungtong*, there was no clear direction or understanding of how long the house must be empty to be categorized as *Gungtong*, resulting in some variation between LG officials. For example, a deputy chairperson of a block said:

... households which never return to village are considered *Gungtong*
... we do not classify them as *Gungtong* within a year or 2 ...

However, LG officials' interpretation of having a house was the existence of a house number, not necessarily a structure (house). If there was a house number, they assumed a house's existence. According to an official, a house number without a house was not possible, as numbers were assigned only after the house was built. Otherwise, the household would have house number as “nil” (*Gung-Nil*—a category assigned when land is transferred, but no house has been built) and not the house number.

An LG official said there were some *Gungtong* households with a house number, but without a trace of a house. This

FIGURE 2 Three different patterns of *Gungtong* interpretations by LG officials.



situation had arisen because there was once a house, so a house number was assigned. But decades ago, the family left the house, which has now disappeared (rural houses are constructed of local resources such as timber and mud, which disappear quickly into the landscape once the roof is gone). An official said:

... we have 5 households with house number but without traces of having once had a house on the land, as they have been Gungtong for over 30 years now ...

However, even after leaving the place years ago, *Gungtong* households still maintained their census in the block to retain ownership of their ancestral property.

Interestingly, for one block head, whose block reported not having a single *Gungtong* in 2019, having a house number without a structure was not a “true” *Gungtong*. The block head said:

... my block does not have any Gungtong in true sense ... Gungtong means a house that's left empty ... However, others consider Gungtong even if the households don't have a house as long as the households have a house number ... we do have households with lands but without a house, which we don't consider Gungtong.

For this block head, *Gungtong* applied to only those plots with an existing empty house, which he called “true” *Gungtong*. This interpretation may be why his block did not report any *Gungtong* in 2019.

Household with land but without a house: Further to the interpretation presented above, 5 LG officials from our interviews interpreted households with land but without a house as *Gungtong*. Though such households would have a land certificate number, their house number would be nil. This is different from the earlier interpretation of a household with a house number but without a house (because of the house once existing but now being in ruins). Households in this interpretation of *Gungtong* never had a house on their land.

This interpretation of *Gungtong* is due to family property division. For example, an LG official said that his block saw an increase in *Gungtong* due to family property division within households. When a property is divided, and household members register as a new household, it creates a new household in the census with house number as nil until a house is built on their land. He said:

Family property division is increasing Gungtong ... We saw an increase in Gungtong after the NCRP [National Cadastral Resurvey Program] ... for example, a household that is Gungtong divided family land with 4 children during the NCRP, and all children

separated their census from the original household ... 4 new Gungtong were formed. If only the land were divided and not the census, we would not have seen so much of Gungtong.

In this particular example, *Gungtong* was recorded in the data because the land had been divided and registered as new households in the census. Since one sibling inherited a family house, one *Gungtong* household of interpretation 1 was formed in addition to 3 *Gungtong* households of interpretation 2. However, if household members had not split their census after the family property division, no additional *Gungtong* would have formed. In this case, *Gungtong* represented the division of land: a reduction in the size of land parcels but more family members owning land. Migration may or may not have occurred and is not relevant to this designation of *Gungtong*.

Household with neither house nor land: In some blocks, a household existed without any land registered in the census. Two LG officials, in addition to interpretations 1 and 2, interpreted such households as *Gungtong*. This type of household would have a land certificate number as nil, meaning no land, and a house number as nil in the census. Households without land resulted from political turmoil and family property division.

Bhutan suffered political unrest in the 1990s, leading to some fleeing the country (Turner et al 2011). The political turmoil was concentrated in the southern part of the country, occupied by migrants from Nepal (Rose 1994). During this period of unrest, those households with a member who fled the country were stripped of their land. While they might still exist in the census, they held no land certificate and house number. This type of *Gungtong* was mainly reported from districts located in the southern part of the country. When asked how the household could exist without any land, a block head said:

... it happened as their family members fled the country during the 1990s problem. Since their land was taken back by the government, those who chose to be in the country just have their census records ...

Another cause for such *Gungtong* was family property division. As stated above, family property division can create a new household. If the newly created household sells its land, the household still retains its census in the block. An LG official explained:

We have 2 such Gungtongs in our record ... a woman who owns the land after the property division sold her land when she married a man from another place. However, she kept her census with us ...

In this particular example, *Gungtong* was recorded in the data because a household record still exists in the block despite not having any land. This interpretation of *Gungtong* is not necessarily an empty house or even the fallow land, nor do such households pose an issue in the administrative functioning of the block.

It is still unclear why such households are reflected as *Gungtong* by some blocks. At present, LG officials are encouraging such households to shift their census to locations where they have land. Once such households are removed from each block's census, this interpretation of *Gungtong* will cease to exist.

What is not *Gungtong* for LG officials?

There are 2 situations when LG officials did not identify registered households as *Gungtong*: (1) empty house and land but living within block, and (2) manipulation in reporting.

Empty house and land but living in census block: When household members of an empty house and land live within the census block but on a different property, such households are not recorded as *Gungtong*. The primary reason for not interpreting such households as *Gungtong* was that they were perceived as not impacting the administrative functioning of the block. The household continued to pay rural taxes on time and attends to any obligations, such as participating in the block's community works and development meetings.

It is quite common in rural Bhutan for households to leave their house empty and live elsewhere but within the block because of cultural beliefs. For example, when a family member falls sick, an astrologer is consulted. Sometimes the astrologer advises the family members to relocate as their current house or land is inhabited by local deities. For example, one respondent who was now *Gungtong* said:

I came here for treatment ... my son was in the village with his family but was living in another village in the block as my place is home of local deity ... However, they also left the place, as they often became sick. So after my son left, we became Gungtong.

Manipulation in reporting: There were situations where LG officials removed a household from the *Gungtong* list when submitting the data to DLG, even when the household fell within the 3 interpretations of *Gungtong*. An official working in DLG noticed this practice during his field visit, saying:

... when LG officials submit their Gungtong data, they remove some from the list and include some due to their vested interest ... during my Gungtong survey in 2016 from 16 districts, I found more Gungtong than are reported by them.

This approach to *Gungtong* data was supported by a deputy chairperson of a village who said:

... It can also be a strategy to acquire more development budgets from the government. For example, suppose Gungtong numbers are more ... the government feels that there is no point bringing development in places where no people live in the village ... development is planned based on the number of people in the village.

Interestingly, when the same official was asked why his block reports more *Gungtong*, and his neighboring block does

not, even though there are some *Gungtong* households, he contradicted himself.

... my neighboring block has all developmental facilities, and the government will likely ask why there are more Gungtong despite having all the developmental facilities ... However, for my block, we have to show more Gungtong as it is likely that the government will invest more in bringing development to encourage people to return ...

It seems that, in the hope of gaining development funds from the government, *Gungtong* numbers can be underreported or overreported to the DLG by LG officials. Though there is no evidence to support this claim, the twelfth 5-year development plan (2018–2023) of the LG reflected that blocks “with larger size of resident population receive more resources” (GNHC 2019: 13).

Government officials and media's interpretation of *Gungtong*

Unlike the LG officials, government officials and media personnel interpreted any house left empty, irrespective of the census, as *Gungtong*. One of the government officials strongly believed that *Gungtong* was purely an empty house, and the term *Gungtong* was not appropriate if there was no house in the first place:

... I believe Gungtong should only be considered as those houses which are left empty as there cannot be a Gungtong without having a structure [house] in place.

In the absence of a legal or accepted definition of *Gungtong*, different offices are coming up with their own definitions of *Gungtong*. All definitions are around the existence of an empty house but differ in the timescale of how long the house has been left empty. For example, the Royal Insurance Corporation of Bhutan (RICB) follows the policy guideline issued by the Ministry of Finance, Royal Government of Bhutan. The policy states, “Houses left unoccupied for more than 6 months in a year shall not be eligible to subscribe to the scheme in the succeeding year” (MoF 2012: 1). The scheme here refers to the rural house insurance premium, where the government pays half of the premium on behalf of the household, which RIBB refers to as government subsidy. An official working in RIBB said:

... While we do not have a definition of Gungtong, we do follow the 6 months guidelines issued by the Ministry of Finance while insuring rural houses ... LG officials inform us when the house is Gungtong after which we remove subsidy.

RICB relies on LG officials to determine whether the rural house insurance subsidy should be withdrawn from the unoccupied house, since the subsidy only applies to those houses in the census. Even though a 6-month timeline was specified in the guidelines, LG officials did not subscribe to this rule. For example, when asked about RIBB's 6-month rule, the LG official said:

... we consider Gungtong only when the house remains empty for over a year as some people need to spend more than 6 months ... while on medical treatment ... it is unfair on our part to categorize them as Gungtong when they are helpless.

Though a guideline of 6 months exists for the removal of rural insurance subsidies, there is no requirement for the household to report to their block administration when they

decide to be *Gungtong*. Thus, LG officials will not know when the house was left empty.

Similarly, the DLG defines houses left empty for over a year as *Gungtong*. An official working in the DLG said:

... our [office] understanding of Gungtong is a house left empty for more than a year ... However, the general public and LG officials interpret it quite differently.

DLG was aware of the existence of various interpretations of *Gungtong*. However, LG officials were not made aware of DLG's understanding of *Gungtong*. This was revealed by various LG officials' interpretations of *Gungtong*, as explained earlier.

Though different definitions of *Gungtong* were described, none of the government officials interviewed was aware of any legal or accepted government definition, nor did we come across any government documents defining it. However, a journalist asked how they defined *Gungtong* while reporting on it said:

... we considered Gungtong as per the government definition ... a house is classified as Gungtong when it is left empty for over 4 years.

While a government document defining *Gungtong* could not be found, according to the journalist, it can be inferred that media interpret *Gungtong* similarly to the interpretation by government officials—the existence of an empty house. Therefore, unlike the LG officials, *Gungtong* is used within the government only to refer to houses left empty, irrespective of the census status, except for RICB, since the rural house insurance scheme is made available only to those rural houses with a house number. Considering the differences in the interpretation of *Gungtong* by various government offices, it is clear that the debate for government officials and media is not what *Gungtong* is, but how long a house has to be empty before it is considered *Gungtong*.

Households' interpretation

All, except one household participant interpreted *Gungtong* as abandoned land, with or without a house, irrespective of the census status of the household. The exception did not have a house on their land and did not consider themselves *Gungtong*, despite being classified as such by the block, stating:

... we are not Gungtong as we do not have a house constructed on the land. We have a small piece of land back in the village. I do not know how officials in block classified us as Gungtong.

There was disapproval from some households that did not have a house but were classified as *Gungtong* by the LG officials. This may indicate the households intended to avoid paying the annual *Gungtong* penalty of US\$ 70 to 120 (BTN 5000 to 8000), which some blocks levy on *Gungtong* households. This penalty is levied on *Gungtong* households to discourage *Gungtong*, and LG officials use the revenue generated from the penalty to hire labor for community developmental works.

Though this particular household did not consider themselves *Gungtong* because they did not have a house on their land, other *Gungtong* interview participants (without a house) concurred that they were *Gungtong*. Of the 11 interviewed *Gungtong* participants in this study, 3 did not

have a house on their land but considered themselves *Gungtong*. Similarly, a non-*Gungtong* household member whose siblings did not live in the village and did not have a house on their land considered his siblings *Gungtong*. He said:

... our family property was divided among 4 of us ... I'm the only one staying here, and the rest of my siblings are Gungtong ... since their land is bordering mine, wild animals are destroying my crops ... so I keep their lands clear of vegetation.

Except for the respondent, all 3 siblings lived elsewhere, and their land did not have a house, but the respondent and his siblings considered them *Gungtong*. The respondent was more worried about wild animals increasingly coming to his farmlands, as the siblings' farmland was covered in vegetation. The respondent's concern regarded the presence of neighbors to tend to the land rather than whether a physical house was present on that land.

The households were concerned more about crop loss to wild animals with increasing fallow lands. It became apparent in this study as all non-*Gungtong* household participants lamented farm labor shortages and increased wild animals coming closer to their farms. A non-*Gungtong* household member said:

... we don't have people here due to Gungtong ... we face lots of problems from wild animals as we have to sleep in the farms and spend time guarding the crops ... we face a huge labor force shortage.

Therefore, for households, *Gungtong* was about the absence of people from the villages and leaving their farmlands fallow because that affected their daily lives, such as through farm labor shortage, increase in vegetation, and increase in human-wildlife conflict. Thus, households were concerned about the impacts they face because of the departure of people from the rural areas.

Discussion

Rural tax is central to the issue of *Gungtong* for LG officials, and the official data on *Gungtong* is governed by the census registration system, reflecting the officials' immediate concerns for the rural tax collection. However, some questions remain. If tax is the primary concern of LGs, why do the interpretations of *Gungtong* differ between them? Why do some local governments not include households required to pay taxes (interpretations 1 and 2) as *Gungtong* but others have households that are not required to pay taxes (interpretation 3) as *Gungtong*? Why do some local governments include all interpretations as *Gungtong*? All these questions need to be explored further and are beyond the scope of this study.

Regarding *Gungtong* numbers, our research identified that there may be some manipulation in *Gungtong* data at the block level before submission to the DLG for final compilation. For example, some blocks, which have better facilities such as schools, roads, hospitals, and better access to economic opportunities, tend to underreport *Gungtong*. They underreport to avoid being questioned by the government about why their block sees an increase in *Gungtong* despite having better facilities than other blocks. However, there is no evidence of having been questioned by the government, nor is there firm evidence that manipulation has occurred. Conversely, some blocks may

overreport the number in the hope of having access to better funding from the government.

The discourses of *Gungtong* in national media (Pem 2016; Wangchen 2018; Younten 2019; Drukpa 2020) and the government (NC 2016) are about the implications of depopulation. *Gungtong* received significant attention from the government (NC 2016; GNHC 2019) because of its perceived negative implications to the rural population. However, LG officials' interpretation of *Gungtong* does not necessarily represent rural depopulation. Therefore, the current government data on *Gungtong* may not offer an accurate representation of depopulation. Thus, *Gungtong* data that the DLG compiles do not help in understanding the gravity of the implications of rural depopulation in rural areas of Bhutan. It is particularly challenging when different blocks are collecting their *Gungtong* numbers based on different interpretations. This means there is no way of knowing the actual number of empty houses as a result of depopulation in Bhutan.

In contrast to local government, households were clearly more concerned with farm labor shortages and increases in fallow farmlands after *Gungtong*. The conversation about *Gungtong* by research participants revolved around the globally recognized issues of rural depopulation, such as farm labor shortages, increase in fallow farmlands, and abandonment of family houses. These issues are also widely discussed in public and media discourses in Bhutan (Tshedup 2017; Phurba 2018), and His Majesty the King specifically highlighted the increase in food imports as a result of *Gungtong* during his address to the nation in 2016 (BBS 2016).

There is a direct link between *Gungtong* and fallow farmlands. This is the primary reason why *Gungtong* is a concern to households. A main issue of fallow farmlands identified in this study is the perception that they bring wild animals closer to farms, increasing the incidences of crop damage by wild animals. The fallow farmlands of *Gungtong* households and crop damage by wild animals will lead to a decrease in cultivation area, which will increase food shortages and poverty among marginal small farm households in the villages, as reported from Nepal (Khanal and Watanabe 2006). This phenomenon is not confined to Bhutan, as increases in human-wildlife conflict after the farmland abandonment have also been reported from China (Wang et al 2019), India (Sati 2020), and Nepal (Bhawana and Digby 2020).

Therefore, while *Gungtong* is a Bhutanese concept, empty houses and farmland abandonment resulting from rural depopulation are well established in the literature (Collantes and Pinilla 2004; Liu et al 2010; Wang et al 2019). Farmlands in mountainous areas around the world, specifically in the mountainous regions of India, Nepal, and China, are increasingly abandoned (Khanal and Watanabe 2006; Wang et al 2020). Increasing fallow land is a national concern for a land-scarce country like Bhutan, because of increasing dependence on food imports to meet food demand. For example, rice and maize production has steadily decreased in Bhutan, but imports have increased, according to the import and export data from 2006 to 2019 (DoA 2021).

Therefore, ignoring fallow farmlands can result in vulnerability of food security in the country, similar to that reported from Nepal (Maharjan et al 2020), which Bhutan experienced when the international borders were shut

because of the COVID-19 pandemic in 2020. As a result, there was a rush from the Ministry of Agriculture and Forests to revive fallow farmlands in the country (Nima 2020; Yonten 2020) because of a shortage of food supply. A future study to understand how COVID-19 changed migration patterns in Bhutan could potentially provide insights into why most districts from the eastern and central parts of the country are experiencing a higher rate of rural depopulation compared to those districts in the western part of the country.

Conclusion

Rural depopulation is known to have implications for local farming systems, food self-sufficiency, and preservation of traditional agriculture. In this study, we have identified that *Gungtong* is the local Bhutanese term for house abandonment but is interpreted differently by different people. Therefore, existing *Gungtong* data do not represent the actual departure of people from the rural areas.

Bhutan is still in the stage of rapid urbanization, which in this case goes hand in hand with rural depopulation. However, it is important to note that rural depopulation in Bhutan is concentrated only in districts in the eastern and central parts of the country. With minimal agricultural land and a large proportion of sloping farmlands, the impact of rural depopulation on farmland abandonment could have substantial flow-on effects for food self-sufficiency. Thus, developing a clear understanding of the term *Gungtong* will assist in restructuring data collection and answering critical questions such as: How will this continuing exodus of rural population impact rural farming and the economy? Why is depopulation concentrated in the eastern and some central districts of Bhutan? Which regions of the country will experience the most significant impacts of *Gungtong* and farmland abandonment?

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