Introduction

Context

According to Elvira "Ka Elvie" Baladad, a farmer-leader of PARAGOS-Pilipinas, among the roots of the problem of food insecurity in the Philippines is the limited and diminishing land area dedicated to agriculture, particularly for rice.

"Filipinos will surely go hungry if nothing is done with the unabated conversion of irrigated, irrigable and rainfed lands planted to our staple food-rice," Baladad warned.

However, what Senator Cynthia Villar once said is also true: "There is no ban on land conversion." There are supposed to be stringent requirements and processes in place to ensure that conversion, if indeed necessary, is done properly and with due consideration to all stakeholders involved, particularly the farmers, and the country's overarching need to be food secure.

Among the strict rules on land conversion - or simply the act of changing the current use of an agriculture land into non-agricultural use as approved by the Department of Agrarian Reform (DAR) - is that irrigated and irrigable lands should not be eligible for conversion. This is stipulated by Section 22 of Republic Act 9700 amending Section 65 of Republic Act 6657 or the Comprehensive Agrarian Reform Law.

For land conversion to be approved, a certification is required from the Department of Environment and Natural Resources (DENR) confirming that landholdings to be converted are alienable and disposable. Further, another certification from the National Irrigation Authority (NIA) verifying that the area to be converted is neither irrigated nor irrigable is mandatory, according to Department of Agriculture (DA) Administrative Order (AO) 1 of 2017 and DA AO 18 of 2020.

And yet rampant land conversion has continued, as seen in at least two instances in the province of Bulacan, where prime agricultural and irrigated land has been transformed into commercial developments and residential subdivisions.

In recent years, policy issuances have further facilitated conversion of agricultural lands to other uses. Among these are the DA AO 30 Series of 2020, which revokes the DA AO 18 of 2020 and mandates that certification from the different agencies including NIA and DENR are no longer required for land conversion applications. The DA cites that this is in line with the Ease of Doing Business Act (RA 11032). Further, DAR issued AO 1 of 2019 to fast-track the process of converting agricultural lands to other uses.

And while it is true that there is a need to build houses to accommodate the growing Filipino population, it is also necessary that Filipinos do not build on places where farmers grow food. Otherwise, how will Filipinos feed its growing population?

Comparing the annual production and consumption of rice from 2014 to 2020, the Philippines has been in deficit for rice production since 2018 at almost 197,000 metric tons during the said year. In 2019, rice production deficit has risen to more than 1.4 million metric tons (see Annex A).

Box 1. Current process for land use conversion

According to the Comprehensive Agrarian Reform Law (RA 6657), agricultural land may be converted after five years from the awarding of the land, if the land in question is no longer sound for agricultural purposes, or if a locality has become urbanized, thus making the land more valuable when used for residential, commercial, or industrial uses. Owners of private agricultural lands, fully-paid beneficiaries of the agrarian reform program, and government entities may apply for the conversion of agricultural lands. While this process may be lengthy and involves numerous requirements, only the Department of Agrarian Reform (DAR) may provide the conversion order. The requirements for agricultural land classification and corresponding timeline per step may be accessed here: http://invest.cfo.gov.ph/pdf/part2/conversion-of-land-to-commercial-and-industrial-use.pdf

Under DAR Administrative Order 1, Series of 2019, the agency issued guidelines to streamline the tedious process of land use conversion. The conversion should be acted upon within 30 working days from the date of filing and docketing – from as long as 24 months – provided these applications comply with the requirements and all the documents are complete and sufficient in form and substance, although it can be cut if protests are filed. The Land Use Cases and Regional Land Use Cases Committee are mandated to convene within five days to evaluate applications for land conversion.

It was also provided that the Environmental Compliance Certificate (ECC) from the Department of Environment and Natural Resources (DENR) is no longer part of the requirements for processing the applications for land conversion. Meanwhile, if the proposed project is within Environmentally Critical Areas (ECAs) or will involve the establishment of an Environmentally Critical Project (ECP), the ECC issued by the DENR shall still constitute part of the conditions for the validity of the conversion grant. Failure to secure an ECC will revoke the conversion grant.

However, a conversion grant is no longer necessary if the land can be actually, directly, and exclusively used as a resettlement area or relocation site of persons displaced by a nationally-declared calamity – that is if the area is declared neither irrigated nor irrigable, or that there are no tenants on the land.

According to DAR, AO No. 01, Series of 2019 "reflects the directive" of President Duterte for "all agencies that play a role in determining if the requirements provided by the law for land conversion to come up with a solution that makes sure the process will not be delayed subject to the tillers' rights and food sufficiency."

The DAR also stressed that applications for land use conversion under this AO does not mean "automatic approval" of applications as these will still be evaluated under agrarian reform laws.

Further, AO 6, Series of 2019 was issued, mandating the creation of a Land Use Cases Committee, which will issue decisions, resolutions and/or orders related to, among others, applications for land conversion, petitions for revocation of exemption/exclusion orders and appeals from the decision of regional directors relative to applications for conversion involving lands with an area of five hectares and below.

These support Executive Order No. 75 issued in Feb. 2019 that directed all departments, bureaus, and offices of the government to identify public lands devoted to our suitable for agriculture that can be distributed to qualified beneficiaries.

DAR Secretary Castriciones had said that the implementation of the EO would boost the government's Comprehensive Agrarian Reform Program. □

In 2017, the total converted land and permanently non-restorable areas is at 150,686.40 hectares (NIA, 2017). In the same year, the 150,686.40-hectare of lands (irrigated and irrigable), if not converted into other land uses, could have produced around 208,625.32 MT of rice (computed using traditional seeds' yield). With the assumption that the effects of land conversion to rice production reflects in the next year (2018), the potential yield of the converted land in 2017 will be more than enough to address the deficit of 196,817.60 MT in 2018 (see Table below).

Table 1. Potential rice yield of converted lands in 2017

Total converted land and permanently non-restorable areas in 2017 (in hectares)*	Potential yield of converted land in 2017 (in MT)**	Computed deficit in rice production in 2018*** (in MT)
150,686.40	208,625.32	196,817.60

** Source: Status of Irrigation Development data based on NIA's inventory as of 31 December 2017*
*** Computed by multiplying the total converted land and permanently non-restorable areas in 2017 with the average palay production per hectare using the traditional seeds' yield of 2.13 MT/ha – the lowest yield among the types of palay seeds (DA-PhilRice, 2020), then multiplied by 65 percent recovery.*
**** Refer to Annex A for the computation*

This reveals a disturbing pattern: the Philippines destroys farms that could have otherwise been used for food production. As a result, the country lags behind Association of Southeast Asian Nations (ASEAN) counterparts where Filipinos produce an average of 3.98 million metric tons of rice annually – far from the ASEAN countries' annual average of 4.3 million metric tons.

According to the Philippine Statistics Authority's Agricultural Indicators System (PSA-AIS) report on output and productivity, in 2019, the country's area harvested for agricultural crops was at 13.30 million hectares. This figure is 1.3 percentage points lower than the 2018 record. The area harvested for *palay* which was at 4.65 million hectares, also went down by 3.1 percentage points (PSA, 2020c).

The drive for more real estate also has a direct effect on the conversion of agricultural lands. In a rapidly growing and dense country with a population of 109 million, the real estate sector has flourished as it attempts to meet the steady demand for decent housing. This is evidenced by the constant inflow of Foreign Direct Investments (FDI) into the real estate sector. Only in 2013 did net FDI slide below a hundred million USD. In 2018, FDI in real estate was its highest in recent years, at 294 million USD (BSP, 2020). Investments in this industry trump those in agriculture and mining (See Figure 1).

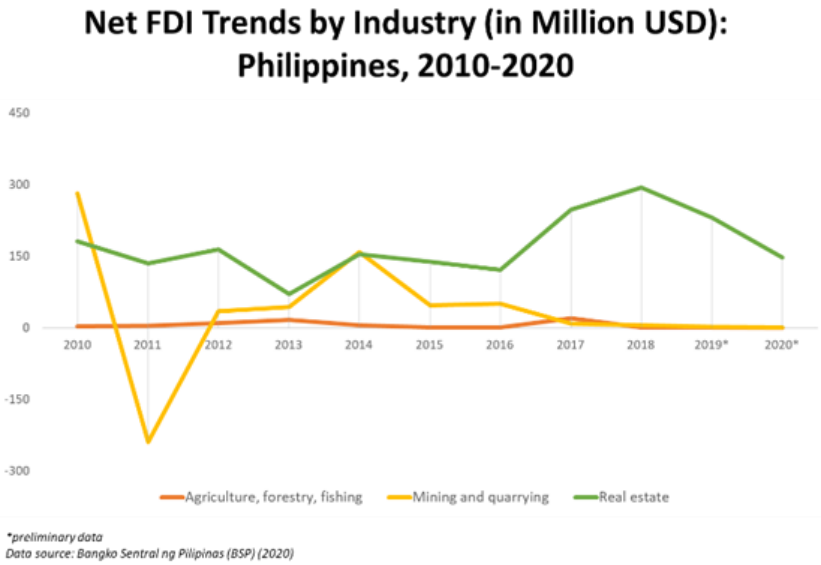


Figure 1. Net FDI Trends in the Philippines

Of special importance is Central Luzon (Region III) that has historically been the rice basket of the Philippines. Central Luzon has the highest total irrigable area of 483,830.18 hectares nationwide of which, 323,964.80 hectares are already irrigated (NIA, 2017). Unfortunately, Central Luzon also sees the largest total conversion of agricultural lands at 23,592.10 hectares (15.66 percent of the total conversion in the Philippines) permanently non-restorable areas as of 2017 (NIA, 2017).

The majority of those converted agricultural lands were converted to residential uses to make way for housing projects in peri-urban or near-city locations.

Such conversion is a painful process when seen from the point of view of lifelong farmers such as Marciano Mananghaya, Petronilo Bernardo, Mario Pacheco, Petronilo Bernardo, and Cecila Maniego. For decades, they lived a quiet life raising crops and their growing families. But today, they can only look at what once was their farmland spanning roughly 58 hectares in a small village in Baliuag, Bulacan with alternating feelings of fury and sadness. The land on which they built their homes, raised their families, and planted various fruit trees and harvested rice had been taken from them by private landowners, who have in turn proceeded - despite the farmers' vigorous and sustained protests - to parcel it out and sell to the private sector for commercial use.

Despite their advancing years, dwindling resources, and weakening morale, the brave farmers continue to fight for their right over the land where they had stayed for decades, saying that they are no longer fighting for it for themselves, but rather for their children and their grandchildren. It has been an arduous and expensive battle and the farmers involved in the case have no illusions that it will become easier, for their adversary has deep pockets and has the support of people in powerful positions, including leaders of various local government units.

Their case mired in the dockets of the DAR Central Luzon office is unfortunately far from an isolated one. Such incidents where farmers have lost their farmland that is rightfully theirs and legally vested under the Comprehensive Agrarian Reform Law (CARL) to private entities eager to convert precious land into commercial developments is unfortunately duplicated all over the country. This thus threatens the Philippines' food security as the land capable of producing food to adequately feed the growing population is alarmingly dwindling.

A Global Agricultural Information Network report of the US Department of Agriculture showed that the Philippines will likely suffer the largest decline in rice production this 2020 and in 2021, with the shrinking of agricultural land due to rampant conversion to commercial use being one of the contributing factors (Miraflor, 2004).

Objectives and uses of the study

This study aims to contribute to identifying solutions for the financial sector to stem the tide of land use conversion of ricelands in Bulacan province, Central Luzon, Philippines. As such, the study has:

- engaged farmers in Bulacan province, in particular from the municipalities of Baliuag and Plaridel on the identification of real estate developers involved and effects of land use conversion to the local rice industry, particularly to smallholder rice farmers;
- analyzed the policy conditions that led to the unabated rise of the conversion of ricelands in Bulacan; and,
- formulate recommend actions to address the issues identified.

Methodology, scope, and limitations of study

To meet the objectives of this study, the researchers drew heavily from interviews and focus group discussions with six farmers in Baliuag, Bulacan who continue to pursue their agrarian reform case involving

58 hectares of land and a young farmer of nearby Plaridel who noted the increasing hectare of prime agricultural land in his area being lost to conversion into industrial and commercial projects such as property development.

The research focused on these two areas in Bulacan because of the clear example of land conversion of prime agricultural land into commercial developments that benefited big business.

These interviews were complemented by discussions with non-government organizations as well as research of pertinent government data needed to shed light on the phenomenon of land conversion. An online Focus Group Discussion (FGD) to discuss the case and discuss potential courses of action was organized with farmers and civil society support groups last 8 March 2021.

More interviews and visits to the pertinent government offices would have been conducted but it became impossible to do so because of the lockdown protocols put in place since March 2020 to halt the spread of COVID-19 that led to limited government operations, bans on face-to-face meetings, and strict controls over people's mobility.

Also, financial data were difficult to come by as non-listed or private corporations in the Philippines have long been reluctant to share their data to the public. Plus, the quarantine measures made it impossible to personally go to the offices of the Securities and Exchange Commission (SEC) to conduct a more in-depth study. Private companies can also hide behind stringent data privacy and protection and bank secrecy laws, allowing them to keep potentially incriminating evidence of wrongdoing beyond the reach of regulators.

Shrinking agricultural lands in Central Luzon and Bulacan

In Central Luzon and particularly in the province of Bulacan, the trend of declining agricultural land is unmistakable.

As is the trend for the rest of the country, the number of farms considerably increased while the size of farms and average farm area (in hectares) decreased in in Central Luzon from 2002 to 2012, thus pulling down potential productivity. As per the 2012 Census of Agriculture and Fisheries, the total number of farms in the region was 361,545 (from 341,466 in 2002), totaling 446,176 hectares (from 552,104 in 2002), with an average farm area of 1.2 hectares (from 1.6 tares in 2002) (PSA, 2012a).

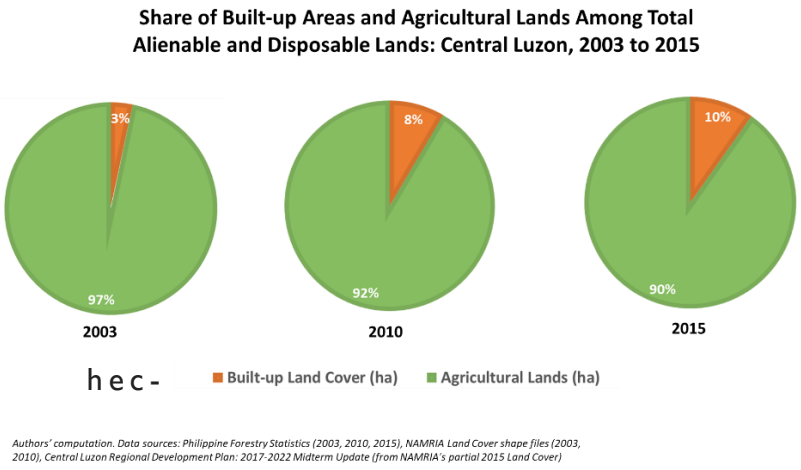


Figure 2. Share of Built-Up Areas and Agricultural Lands in Central Luzon

This general trend may be attributed to three factors: a) land division among families, b) the implementation of agrarian reform, and c) conversion of agricultural lands into other uses for urban development (PSA, 2012b).

As the region is where most of the country's primary food staple is produced, agriculture is also a significant livelihood source in Central Luzon. As of April 2020, around 213 thousand individuals in the region[2] are employed in agriculture – more than 201,000 males and over 11,000 females (PSA, 2020f).

[2] 6.6% of the total working population of around 3.2 million

However, as Figure 2 shows, the decrease in agricultural lands in favor of built-up areas has been becoming more apparent in recent years. Spatial data from the National Mapping and Resource Information Authority (NAMRIA) exhibit how the share of agricultural lands has been shrinking from comprising 97 percent (1.14 million hectares) of the total alienable and disposable (A&D) lands in 2003, to 90 percent (1.09 million hectares) of the total A&D lands in 2015.[3]

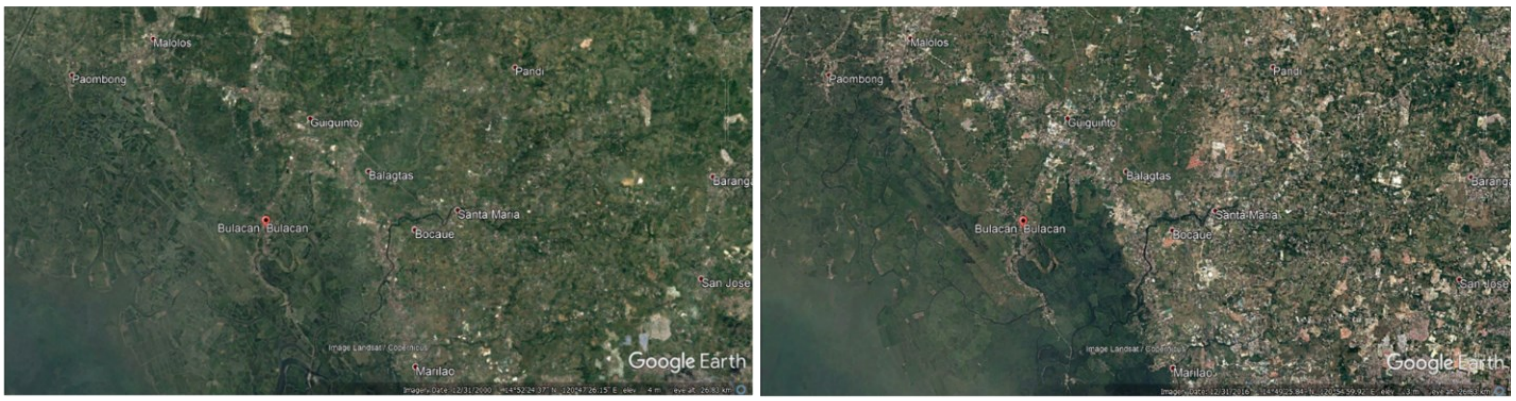
It is not difficult to see that decreasing agricultural lands and increasing population are closely correlated. With a growth in population comes the need to satisfy demand for housing and urban infrastructure. Such is evident in Central Luzon.

As early as 1995, the forces that would exert pressure on the rapid industrialization of the area to the detriment of the agriculture were already at play. The administration of former President Fidel V. Ramos, who then advocated the rapid industrialization of the Philippine economy, sought Japan's help to put together the Central Luzon Development Program (CLDP). Central Luzon was given special focus because it was deemed a rapidly urbanizing region, a receiving area of spillover from Metro Manila and with highly established agriculture as the mainstay of its regional economy, putting it in a position to contribute a great deal to the country's gross domestic product. The CLDP "paradigm" espoused by the Japan International Cooperation Agency that prepared the master plan indeed spelled out the vision to make Central Luzon an "industrial heartland."

Sitting just above Metro Manila, the region continuous to be more populous and urbanized. The most recent population census revealed that the population of Central Luzon grew by over one million from 2010 to 2015, reaching over 11.22 million individuals with a 1.95 percent growth rate.

Bulacan — a peri-urban province that begins where Metro Manila ends — had the highest population with 3.2 million people dwelling in the area. It was also the fastest-growing province in Central Luzon, with an average annual population growth rate of 2.28 percent from 2010 to 2015 (PSA, 2016). A quick bird's eye view of the province through satellite images (see Figure 3) will confirm how the landscape of the province changed over the course of a few years, due to increasing population and the growth of built-up areas.

Satellite Image: Province of Bulacan, 2000 (left) and 2016 (right)

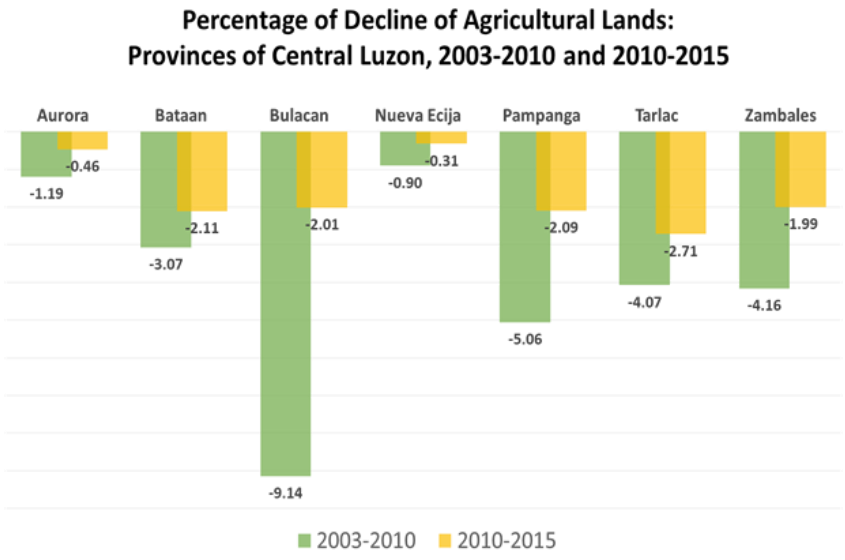


Source: Google Earth Pro

Figure 3. Satellite Images of the Province of Bulacan

[3] Computed by Naungayan using data from Philippine Forestry Statistics (2003, 2010, 2015), NAMRIA Land Cover shape files (2003, 2010), Central Luzon Regional Development Plan: 2017 -2022 Midterm Update (from NAMRIA's partial 2015 Land Cover)

Unsurprisingly, Bulacan is also the province with the highest percentage of decline of agricultural lands among the provinces of Central Luzon. From 2003 to 2015, Bulacan shed 19 thousand hectares of agricultural lands (about 11 percent of the 176 thousand hectares of agricultural lands in 2003). Figure 4 shows this comparative decrease from 2003 to 2010, and from 2010 to 2015.



Author's computation. Data sources: Philippine Forestry Statistics (2003, 2010, 2015), NAMRIA Land Cover shape files (2003, 2010), Central Luzon Regional Development Plan: 2017-2022 Midterm Update (from NAMRIA's partial 2015 Land Cover)

Figure 4. Percentage of Decline of Agricultural Lands in the Provinces of Central Luzon

Palay is the primary crop planted in the farmlands of Bulacan and in the rest of Central Luzon. Since 1978, the areas harvested for *palay* in Bulacan ranged from a low of 40 thousand to 88 thousand hectares. In 2019, *palay* was harvested in almost 78 thousand hectares of land in Bulacan -- the smallest annual area harvested since 2011. From 2014 to 2019, the area harvested for *palay* also decreased by 4.84 percent as is shown in Table 2. By contrast, although the hectares are small compared to those for *palay,* area planted for high value crops (such as banana, mango, string beans, ampalaya, and papaya) increased substantially.

Table 2. Area Harvested and Volume of Production of Selected Crops in Bulacan

Selected crops in Bulacan	Area Harvested		Volume of Production	
	2019 (in hectares)	% of Change (2014-2019)	2019 (in metric tons)	% Change (2014-2019)
Palay	77,990	-4.84	368,658	-0.93
Corn	1,158	-0.77	5,008	36.61
Banana	1,540	16.73	20,257	6.76
Mango	8,926	1.87	9,218	6.26
String beans	835	25.00	17,769	-1.19
Ampalaya	305	6.64	4,801	15.87
Papaya	278	42.78	3,854	78.51

Author's computation. Data source: Philippine Statistics Authority (2020d, 2020e, 2021a, 2021b)

The trends in the volume of production are less straightforward. The annual volume of *palay* production in Bulacan dipped to as low as 119 thousand metric tons in 1998. In recent years however, the production volume has been swinging stably between 350 and 380 thousand metric tons per year. The production volume in 2019 was 368 thousand metric tons, almost three thousand metric tons higher than the volume for the previous year. Compared to 2014 though, the 2019 figure was almost one percent lower. Meanwhile, corn and other high value crops have significantly increased their production volume as may be gleaned from Table 2 above.

When put into the context of the Philippines being an agricultural, rice-eating country who also happens to be the world's top rice importer (Ocampo, 2020), the decline in area harvested for *palay* and the stagnation of *palay* production in Bulacan are causes for concern.

Relying on imports for a food staple makes the country vulnerable to uncertainties. Rice-exporting countries are not immune to the effects of climate change, extreme weather events, and sudden economic shocks that may affect the quantity and prices of their rice (Almojuela-Tolentino and Tolentino, 2015). As we witnessed during the COVID-19 pandemic, major exporters like Vietnam may decide to restrict trade should they need to keep supplies abundant for their own citizens.

Drivers of land conversion in Bulacan

While Bulacan's, Central Luzon's, and the country's populations continue to rise, the *total* land area remains the same. Hence, increased pressure to feed more people with decreasing areas for cultivation may lead to increased conflicts related to access to resources and food (Almojuela-Tolentino and Tolentino, 2015).

Housing and Infrastructure Needs

Due to its proximity to the National Capital Region, housing and infrastructure projects proliferate in Bulacan as a contributing solution to decongest Metro Manila.

Box 2. Expansion of Real Estate Projects in Bulacan

Bulacan is described as the *Gateway to the North,* being the province that first greets travelers as they move past the northern tip of Metro Manila. The province, with three component cities and 21 municipalities, is the fastest growing economy in Central Luzon. Being in close proximity to Metro Manila, it has been a favorite destination for property developers and investors looking to capitalize on the desire of urban workers for decent dwellings away from the congestion of Metro Manila. The province is a haven for low-, mid-, and high-end real estate projects.

Informal settlers from Metro Manila cities of Makati, Manila, Taguig, and Quezon City are offered affordable housing units in Bulacan. Areas like San Jose del Monte City and the municipality of Pandi are where many of the National Housing Authority's resettlement sites are.

Meanwhile, big real estate companies such as Senator Villar's Vista Land — under which is Camella, the Philippines "largest homebuilder;" Ayala Land; Avida Land; Asian Land; and Rockavilla Realty and Development have developed and continue to develop multiple subdivisions and housing projects in Bulacan. Camella for one, has a 300-hectare residential site in Malolos, three subdivisions in San Jose del Monte, and an ongoing project in the municipality of Bulacan.

Responding to investor interest in Bulacan, several infrastructure projects and development plans will make the province more accessible to families in search of a home, everyday commuters, and businesspersons alike. Among such projects are the Stage 3 of the Metro Manila Skyway System, Metro Rail Transit System Line 7, proposed 2,500-hectare Bulacan International Airport, Bulk Water Supply Project, and 50 billion PHP Mega City. □

Source : Lamudi, 2019

The more specific drivers of land conversion in Bulacan are shown through the case studies in Baliuag and Plaridel in Bulacan (to be presented in the next section).

DAR and LGU favoring local elites

This issue is particular to the case in Baliuag, Bulacan where a land development proceeded within the more than 57-hectare landholdings in Sta. Barbara, Baliuag despite an ownership issue pending for around 50 years between the farmers and the landowner.