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.

Exploitation of legal loopholes afforded by agrarian reform laws

The case of Plaridel, Bulacan case presents a situation where prime agricultural lands are being converted into subdivisions developed by a real estate developer through formal processes. There are also circumstances where the real estate developer turns off the irrigation pipe then pours massive amounts of soil on the farmland to pass it off as being idle and no longer used for agriculture – making the land applicable for land conversion.

Less earnings from rice farming

Due to decreasing volume of rice production and rice farming income in Plaridel, Bulacan, farmers are forced to sell their lands to the private developers who take advantage of their situation and offer high selling prices to their ricelands. This results to rampant selling of agricultural lands in the area.

The situation of Bulacan epitomizes the dilemma of many urban fringes: the delicate balancing of interests of urban and rural components. The province needs to support its growing population's need for housing and the province's trajectory of urbanization, while ensuring that rural dwellers have secured livelihoods and are able to contribute enough food for rest of the country.

Unfortunately, conversion of land utilized for cultivating staples is irreversible. While technology provides more flexibility in the utilization of land for settlements, the same cannot be said for the use of land for agricultural production. In the case of the latter, the availability of land remains the most crucial element.

Two Case Stories of Land Conversion in Bulacan, Philippines

CASE 1: The case of Sta. Barbara farmers in Baliuag, Bulacan

Their case began in 1973 when the rice farmers were granted Certificates of Land Transfer (CLTs) pursuant to Presidential Decree 27 issued in 1972 that directed the "emancipation of tenants from the bondage of the soil," thus mandating the transfer to them of the ownership of the land that they till.

According to Paragos-Pilipinas, the original copies of the CLTs, were taken by Alfredo Peralta and Celing de Guzman, the *encarnados* or representatives of landowner Veronica Gonzales, immediately after these were awarded to the rice farmers. These certificates have never been turned over to the farmers.

Worse, the farmers were not told by DAR that they should start paying their dues to the Land Bank of the Philippines (LBP) and instead continued to pay rent to the *encarnados*. They only started paying the LBP in 1990 and most of them have finished paying their amortizations in 2008.

However, because of their lack of knowledge on the law and procedures, they were unable to get a Certificate of Full Payment and consequently were unable to request DAR to issue their Emancipation Patents (EPs).

This opened the door for landowner Veronica Gonzales to file an ejectment case against the farmers in 2002 on grounds that her landholding was exempt from the coverage of PD 27 of 1972 (which covers land and corn farms) because the 57-hectare property had already been transferred to different persons and the ceiling for coverage was no longer applicable.

Initially, the farmers seemed on the verge of enforcing their legal claim as on 30 March 2004, the Central Luzon Office of DAR generated EPs ready for registration with the Register of Deeds (ROD) in Guiginto, Bulacan.

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