Spatial Disparities and the Challenges to Inclusive Growth in the Philippines

Ma. Simeona Martinez

Abstract

This paper charts the interconnections of economic growth and spatial disparities in the Philippines in examining the spatial strategy for inclusive growth inscribed in the national development plan for the country. It synthesizes the findings and observations from key studies on spatial disparities in economic development by integrating theoretical arguments, empirical expositions, and practical insights on the patterns of "leading and lagging" areas that characterize uneven development in the Philippines. The results of spatial proximity and descriptive statistical analyses indicate the striking disparities in density and opportunities for gainful work between established urban centers and their immediate surrounds. These, in conjunction with disparities in human capital, sluggish domestic infrastructural development, weak linkage between industrial and agricultural sectors, and lapses in redistributive mechanisms, pose a challenge to economic integration and inclusive growth espoused by the National Spatial Strategy (NSS) in the Philippine Development Plan for 2017-2022.

Keywords: inclusive growth, spatial disparity, spatial proximity, spatial strategy, urbanization

Introduction

The rapid increase in per capita income growth characterizes the economies of many countries in the Asia and the Pacific regions in recent years (Chatterjee, 2005). The Asian Development Bank (ADB) reported in 2018 that the growth rate of household expenditure or income per capita of the bottom 40% of the population was faster than that of the overall population of 11 countries in the region (ADB, 2018). The Philippines registered a growth rate of 6.2% in 2018, with a 6.8% growth in the service sector, 6.7% in manufacturing, and 0.9% in agriculture, hunting, forestry and fishing (AFF) (PSA, 2019). Since 2010, the country has experienced its fastest growth in GDP per capita, such that by 2016 it has reached almost 3.5 times higher than in 1950 (Africa et al., 2017). Despite being hailed as one of the fastest growing economies in Asia (De Vera, 2019), the Philippine economy remains unsuccessful in addressing inequality and lingering poverty. About 17.6 million Filipinos are considered income poor based on the 2018 Family Income and Expenditure Survey (FIES) (Mapa, 2020). The Gini index for the Philippines has not gone below 40 from 1985 to 2015 (Oxford Business Group, 2019). These indicators manifest the glaring socio-economic predicament of poverty and exclusion in the country.

Under the Philippine Development Plan (PDP) for 2017-2022, "inclusive growth" aims to reduce poverty incidence in rural areas from 30% in 2015 to 20% by 2020. Avowing to reduce inequality and enhance resiliency, the PDP aims to decongest the National Capital Region and distribute growth throughout key centers in the country (NEDA, 2017, p. 36). The National Spatial Strategy (NSS) is an approach espoused by the Duterte administration to address the diseconomies of urban agglomeration in an inclusive and efficient manner. A "network of settlements" forming a "hub-and-spoke" pattern of development (p. 37) will promote the spread of advantages to lagging places.

Results of empirical research concur on the disparity in income, living standards, and opportunities between populations living in rural versus urban areas, across regions, and across sectors (Balisacan & Fuwa, 2004; Cororaton & Corong, 2006; Clausen, 2010; Pede et al., 2018). Most of these studies reported the results at the provincial or regional level of aggregation. Interestingly, Balisacan and Fuwa (2004) found that spatial inequality across regions moderately account for income inequality at the national level[1], and that within-region inequality appears to have more bearing on overall inequality. Further spatial explorations on outcomes and opportunities at higher data granularity may contribute to these insights by rendering a more nuanced picture of socio-spatial disparity, especially in the areas that surround the urban centers.

This paper charts the interconnections of economic growth and spatial disparities in the Philippines in examining the spatial strategies inscribed in the national development program of the country. Seeking firstly a nuanced account of the inequality-growth interface, I expound on the mechanisms by which inequality is reinforced by growth based on a review of literature. Then, I describe spatial disparities in the Philippines by synthesizing the results of prior studies and data from other secondary sources. Next, I explore the spatial axes of inequality to foreground the sectors at the intersection of poverty, low productivity, and the entanglements of capitalist development. The key spatial planning approaches carried out over the recent decades in response to spatial disparities is subsequently discussed. The remaining sections of the paper present the results of spatial proximity and descriptive statistical analyses performed to identify the challenges to economic integration and inclusive growth in light of the implementation of the National Spatial Strategy under the Philippine Development Plan for 2017-2022. In concluding the paper, I highlight practical considerations and reflections on making growth more inclusive in the Philippines.

Data and Methods

Majority of the statistical data utilized in this research were acquired from the website of the Philippine Statistics Authority (PSA). The total population and gainful workers data are statistical reports in 2015 that were aggregated per municipality and city[2]. Using the Geographic Information Systems (GIS) desktop application ArcGIS 10.2 developed by ESRI, the dataset was integrated with a digital map (in shapefile format) of municipal/city administrative units covering all 1,634 municipalities and cities in the country. The municipal layer is a map of indicative municipal administrative areas created by the PSA and the National Mapping and Resource Information Authority in 2016 and downloadable from the Humanitarian Data Exchange data repository of the United Nations Office for the Coordination of Humanitarian Affairs. Maps showing the distribution of poverty incidence, gainful workers, and population density are based on these datasets.

To analyze the distribution of outcomes (poverty), opportunities (work), and urbanization (population density) in the metropolitan, regional, and sub-regional centers for comparative purposes, the metropolitan, regional, sub-regional centers of the NSS were first queried and selected from the municipal map layer and exported as a standalone layer. The statistical summaries were then generated from this data using ArcMap 10.2. Spatial query and selection of municipalities and cities adjacent (i.e., sharing at least one boundary line or a point with the reference layer) to these centers were then performed. Statistical

summaries were derived from these adjacent cities and municipalities to examine the distribution of poverty incidence, percentage of gainful workers to total population, and population density as way of assessing the "spread" of urbanization, opportunities, and outcomes from the urban areas or growth centers.

Discussion

Unbalanced growth, regional disparities, urban primacy: facets of spatial inequality

Economic development is unevenly spread across space. The implications of spatial disparities, and how to address them through inclusive means, have been the subject of discussion in the academic and policy spheres especially in the last two decades. There has been a growing interest on the association between rapid economic growth and spatial disparities among policy makers who are concerned with growth's influence on reducing inequalities (Kim, 2008). Studies on poverty reduction among Asian countries suggest that forms of growth that increase inequality in income distribution are least likely to contribute to poverty reduction, and are thus less inclusive (see Chatterjee, 2005; Hirway, 2012). While different sectors experience growth in distinct ways, regions may also be unequally impacted by growth. Those that are endowed with good infrastructure, skills, power, and other assets tend to perform better economically than those lagging behind (Hirway, 2012). Differences in the rates of urbanization and the size distribution of cities also affect regional inequality (Kim, 2008).

Spatial inequality manifests at different scales of human interaction, for instance, locally as urban cores and their peripheries, or among regions as exemplified in disparities in socio-economic characteristics (see Mastronardi and Cavallo, 2020). Kanbur and Venables (2005) defined it as "inequality in economic and social indicators of wellbeing across geographical units within a country" that becomes more significant when it aligns with "political, ethnic, language or religious divisions" (p. 2). Described by Kim (2008, p. 4) as "the net result of the balance of forces of concentration and dispersion", spatial inequality can be defined as the uneven distribution of resources, public and social services, and of outcomes such as income (BMC, n.d., para. 1). The centripetal effects of forward and backward linkages or technological spillovers act as agents of concentration, while factors and goods immobility may prevent the tendency for clustering (Kim, 2008).

Economic growth has created differential outcomes for people, one major drawback of which is the rising social and spatial inequalities. The market-oriented policies that brought significant growth to the economies of Asian countries have disproportionately favored

the owners of capital, urban and coastal areas, and skilled workers (Zhuang, Kanbur and Rhee, 2014). These impacts are not secluded from the influence of globalization and technological change (Zhuang, Kanbur and Rhee, 2014). Both inequality of opportunity, such as access to basic and social services or market access, and of outcome, such as consumption or income, are important to address as the former is indicative of institutional inadequacies while the latter besets poverty reduction and may lead to disparities in human capital (Zhuang, Kanbur and Rhee, 2014).

One implication of spatial inequality is the concentration of skilled labor and infrastructure in urban centers, while peripheral areas face the dearth in opportunities or poor access to basic and social services. It is in this respect that spatial inequality creates undesirable consequences yet from an "economic efficiency" perspective, spatial inequality may not be entirely detrimental, particularly when "regional specialization is based on comparative advantage or returns to scale in production" (Kim, 2008, p. 1). Increased productivity and the trickle-down effect of wealth accumulation were the core ideas advanced by neoclassical economists, who posited that inequality, spatial or otherwise, will reach a point of convergence where the distribution of outcomes is spread more broadly (Abdulai, 2014; Benner & Pastor, 2016; Kim, 2008). Kim explained further:

> The neoclassical model emphasizes the role of first nature such as resource endowments and geographic proximity to rivers and ports. The increasing returns model emphasizes the role of second nature created by the density of human interactions. Because economic development allows regions to take advantage of first and second natures of geography, an increase in spatial inequality may be beneficial as productivity is increased. However, because congestion costs may not be internalized by individuals, spatial inequality in the form of excessive urban concentration or urban primacy may be harmful. Thus, theory suggests that there is an optimal level of spatial inequality (Kim, 2008, pp. 27-28)

While the relationship between increased inequality and increased productivity is empirically demonstrable, as confirmed among the Philippine provinces by Pede et al. (2018), the "optimal" degree of spatial inequality remains elusive, perhaps as elusory as the convergence of incomes inscribed in the Kuznets curve. The assumption that the benefits of economic growth will spread more broadly and spur more growth after a particular level of income is reached has been largely contested by empirical findings from post-war literature and

research in developing economies (Benner & Pastor, 2016).

Rondinelli (1980) distinguished four types of spatial disparities in economic development in the country: 1) that between urban and rural areas; 2) between Manila and rest of the country; 3) among the regions in the country and 4) between urban and rural settlements within the regions (p. 267). Basing his observations on available literature and statistical reports in the 1970s, he emphasized how income, expenditures for productive and social overhead investments, and access to opportunities like education and other social services, as well as jobs, are disproportionately higher for urban dwellers. The concentration of manufacturing and public and private services in Metro Manila has hampered the spread of urbanization in other areas (Rondinelli, 1980, p. 270). This pattern of clustering of services and facilities was also observed in larger town centers at the micro scale, which resulted in disproportionate access to services and facilities by a substantial number of smaller settlements (Rondinelli, 1980). At the regional scale, Bicol, Cagayan Valley, Eastern Visayas and Ilocos were identified as "economically depressed areas" (p. 271), while Southern Tagalog and Central Luzon obtained the highest shares of investments as well as production outside of Metro Manila (Rondinelli, 1980). Likewise, the findings of a more recent study by Clausen in 2010 (using 1999 to 2001 data) affirm the persistent dominance of the National Capital Region and adjacent areas in the share of GDP and GDP growth rates. On the other hand, the Autonomous Region in Muslim Mindanao or ARMM, Caraga, Western and Central Mindanao, Eastern Visayas, the Bicol region, the Cordillera Administrative region or CAR, and Cagayan Valley were identified as regions with the lowest GDP and GDP growth in the said period (Clausen, 2010, p. 307).

The spatial bias for Metro Manila's development since the colonial times has persisted to the present, with its share of the country's population at 12.8% in 2015 (PSA, 2016). The population encompassed by this urban agglomeration nearly doubles if Bulacan, Cavite, Laguna and Batangas are included (DENR, n.d., para. 10). The inadequate linking of the rural economy and industrial development, as well as the persistent urban bias of growth and infrastructural development, remained as challenges toward attaining favorable multiplier and trickle-down effects (Clausen, 2010; Mercado, 2002).

Dis/Advantaged geographies of economic development

The connection between economic advantages and urban proximity has been an important focus for policy and research on inequality in the Philippines. A study by Cororaton & Corong (2006) based on the 1994 Family Income and Expenditure Survey (FIES) poverty indices demonstrated that rural dwellers are substantially

poorer than urban households, and that urban households in Metro Manila are less prone to poverty than those in other regions. The centers of trade in Visayas and Mindanao, the Central Visayas and Southern Mindanao (now Davao) regions, also exhibited lower poverty indices, as well as Southern Tagalog and Central Luzon which are the regions proximate to Metro Manila (Cororaton & Corong, 2006, p. 24). The more recent study by Dumayas in 2017 noted that regional poverty incidence in 2012 was lowest in the National Capital Region (or Metro Manila) at 3.9 %. CALABARZON (10.9%), Central Luzon (12.9%) and the Ilocos Region (18.5%) are at the tail of the array of regional poverty incidence, while ARMM (55.85%), Eastern Visayas (45.2%), Bicol (41.1%) Caraga (40.3%) and Zamboanga (40.1%) were the regions with the highest recorded share of population below the poverty threshold (Dumayas, 2017, p. 168). On the other hand, the Gross Regional Domestic Product percent contribution in 2013 indicates that NCR has the highest share at 36.3%, followed by Region 4A at 17.40%, Central Luzon at 9%, Central Visayas at 6.3% and Western Visayas at 4% (p.167).

Clearly, the spatial axes of inequality - urban/rural and core/periphery categories (Animento, 2015) - should not be taken as mere typologies of differentiation. It is important to examine them in relational terms, within the configurations of capitalist development (Brenner, 2008). For example, the simulation study on the impacts of trade liberalization in agriculture by Cororaton and Corong (2006, p. 39)[3] found that rural households are likely to face greater vulnerability because of the minimal capacity of the manufacturing sector to absorb labor, with attendant limitation in human capital and limited opportunity to "move towards expanding sectors". The results of the computable general-equilibrium analysis identified the declining factor returns, contracting agricultural sector, and higher poverty gap and severity in rural areas (versus urban areas) as suggestive of worse situation of the poor in rural communities compared to their urban counterparts (p. 31). This is under the scenario of agricultural contraction as an aftermath of tariff reduction in agriculture (Cororaton & Corong, 2006).

In the Philippines, about 57 million people or 54% of the population in the country are farm workers, fisherfolk, indigenous peoples (IPs), and people in rural areas working odd jobs. These are sectors that endure low incomes and job insecurity (Africa et al., 2017). The persistent marginalization of the AFF sector and the IPs has alienated them from the benefits of economic growth. As poverty is pronounced in rural areas (Balisacan, 1993), dependency on natural resources of the AFF sector entails an enormous impact of environmental degradation and insecurity of tenure on the labor force. Fisherfolk, farmers, and indigenous communities are at the forefront of land struggles involving

corporate and foreign interests. Extractive activities such as mining and logging, as well as land conversion to non-agricultural uses, impact their livelihoods and further facilitate marginalization and dispossession (Africa et al., 2017; Beyer et al., 2015; Rosete, 2016) .

Wedged in an agricultural economy, poor communities in rural areas face various risks due to low productivity, land insecurity, inadequacy of agricultural services, and economic and physical displacement (see ADB, 2009; Africa et al., 2017; Habito & Briones, 2005). Underdevelopment of rural production and the persistent forms of monopolies on land and other assets (Africa et al., 2017, p. 17), economic and physical displacement due to land use conversion, and the entrenchment of private interests in agrarian reform lands via the agribusiness venture arrangements are some of the contemporary conditions that challenge growth and sustainability in rural areas. The low productivity of rural production outside of large corporate holdings due to issues on accessibility of farm technologies and mechanization of production leaves workers from the AFF sector with marginal returns from their livelihoods. Faced with low farm gate prices due to trade liberalization and, in a broader context, having weak linkages to other sectors, they are "forced to sell their labor for exploitative prices seek various non-agricultural odd jobs" (p. 17).

Inequality also disproportionately impacts the IPs, who accounted for 14% of the population in 2010 (Africa et al., 2017). They have endured historical dispossession due to large-scale development projects, armed conflict, and cultural discrimination. Large-scale corporate mining stands as one of the main issues concerning ancestral lands in the Philippines. There have been 281 approved mining prior to the execution of Presidential Executive Order 79, or the institutionalization of reforms to ensure environmental protection and responsible mining institutionalized in 2012 (Beyer et al., 2015).

Institutional response to spatial inequality

Efforts to respond to the primacy of Metro Manila dates back to the 1960s through policies that aimed to promote the development of regions outside of NCR. The establishment of the Bataan and Cavite export processing zones, the construction of the Batangas sea port and national expressways than run north and south of Metro Manila, have all contributed to the growth in population and investments in the CALABARZON and Central Luzon regions (Einsiedel, 2020). Guided by the goal of "global integration and regional balance" (Clausen, 2010, p.3), the Philippine government's pursuit of a national physical framework plan led to the establishment of regional and provincial development authorities (RDAs) to formulate and implement area-specific development plans to address rural poverty and engage

directly in development investments (Mercado, 2002, p. 38). In its early years, the program implemented a primarily top-down approach, and while many of the RDAs were gradually abolished, the 1970s saw the establishment of Regional Development Councils which functioned as coordinators of government agencies from the regional to local levels (p. 44). By the 1980s, the regional development plans were drawn up to integrate both spatial and sectoral development strategies that are "derived from strategic matching of its regional problems, growth potentials and development constraints" (p. 44). In this phase, pursuit of the regional growth strategy underscored the "urban hierarchy system" consisting of Manila, Davao and Cebu as metropolitan centers and 10 regional centers, and other minor urban cores (p. 43).

The expansion of industries to adjacent provinces was due to policy reforms in the 1990s that aimed to enhance agricultural productivity, industrial innovation, and the dispersal of development through the "integration of economic activities" (Mercado, 2002, p. 52). Regional industrial centers or RICs were established during this phase, a total of 18 in the 14 administrative regions of the country (p. 53). Global integration, on the other hand, is exemplified by the proliferation of economic zones of Subic-Clark in Pampanga and Tarlac, Bataan (later reclassified as a freeport area), Cavite, all in Luzon, and the industrial centers in Southern Mindanao (now Davao Region) (Clausen, 2010; Mercado, 2002). Clausen (2010) observed that the institutional mechanisms of the 1990s diverted investments to Central Luzon, CALABARZON, and Central Visayas, so that by 2003 CALABARZON's SEZs have exceeded that of Metro Manila in sheer numbers (71 vs. 24), with Central Luzon and Central Visayas falling on third and fourth places. Development enclaves are not only of industrial functions but also of tourism, as in the case of Central Visayas (Clausen, 2010).

These reforms and policies that were meant to address spatial inequality were criticized for their tendency for dispersed industrial development than economic integration (HDN, 2013). These are evident in the establishment of economic zones and regional agro-industrial networks (formerly RICs) (Cariño, 1996), the profuse airports and seaports (HDN, 2013), and weak domestic infrastructure[4] (Balisacan, Hill & Piza, 2009). Economic integration aims to "reduce the distance between people and economic opportunities, wherever the latter may be found" (HDN, 2013, p. 31). As pointed out in the 2013 Human Development Report, prematurely dispersing industries to lagging areas counteracts agglomeration economies and may create fragmentation as a consequence (HDN, 2013). Moreover, there is no apparent improvement in spatial integration of the Philippine economy over time, as the findings of Balisacan, Hill, and Piza's study (2009) suggest.

Under the Philippine Development Plan for 2017-2022, the government is pursuing regional agglomeration, connectivity, and reduction of vulnerability as its approach to addressing the diseconomies of urbanization and spatial inequality (NEDA, 2017, p. 36). The uneven development and socioeconomic inequalities among different regions in the country, as well as the congestion of major cities, are some of the key issues that the government proposes to address through the PDP. By creating a network of places on the basis of comparative advantage, the National Spatial Strategy (NSS) espoused in the Philippine Development Plan 2017-2022 of NEDA aims to "link lagging regions with leading ones" (NEDA, 2017, p. 36).

The space for inclusivity in development planning

Discussions on inclusive growth have been ongoing since the 1950s along the lines of distributional themes, well into the 1990s within the growth-poverty debates alongside pro-poor growth and the emphasis on human development and capabilities (de Haan & Thorat, 2015, p. 11). It is rooted in "human rights, inequality, redistribution, rural development, entitlements and capabilities concepts" (Gupta & Vegelin, 2016, p. 436). Social inclusiveness as an approach to inclusive growth aims at empowering the most disadvantaged through enhancing opportunities for participation and investing in human capital (Gupta & Vegelin, 2016). Ali and Son (2007) define inclusive growth as "growth that not only creates new economic opportunities, but also one that ensures equal access to the opportunities created for all segments of society" (pp. 1-2). It underscores growth that provides access to development opportunities for all sectors and regions, including the poor and the vulnerable (p. 2). The creation of job opportunities, bolstering productivity, strengthening of human capabilities, and interventions to manage social risks are fundamental measures in realizing the outcomes of inclusive growth (pp. 2-3). In the same vein, social inclusion is foreseen to improve access to development opportunities to all through the "removal of institutional barriers" that may reinforce differential access or discourage opportunities especially to the most disadvantaged segment of the society (p. 2).

In the Philippines, Medium Term Development Plans such as PDP 2017-2022 lay out the major socio-economic programs and policy initiatives at the national level. The preparation of the PDP is spearheaded by the National Economic Development Authority (NEDA) in consultation with the Cabinet Committee. Regional and local development plans must be in consonance with the PDP to ensure that the principles espoused and strategies being promoted at the national level are applied to local planning (Morales, 2016).

Participation in the formulation of Medium Term Plans at the national level is usually conducted through a series of consultation via the Regional Development Councils (RDCs), where participants from the LGUs, private and business sectors, academe, legislature and executive agencies, and civil society gather and express their opinions and suggestions (Exec Order No. 366, 1989). In 2019, the government opened its online platform for the public to comment on PDP 2017-2022 (POGP, 2019). At the local level, where the development strategies are operationalized, the creation of the Comprehensive Land Use Plans (CLUPs) and the Comprehensive Development Plans (CDPs) are largely consultant-driven (DILG, 2008), suggesting that the scope and substance of participation depends on how consultants manage the planning process.

It would be relevant to emphasize how community participation in local planning, which is often neglected in the planning process, facilitates the operationalization of sustainability and equity in policy, as emphasized in Saguin et. al. (2017). Looking through the perspective of social justice and equity allows for targeting the systemic factors or processes contributing to inequality and the uneven distribution of outcomes across space, and helps develop land use planning approaches that are sensitive to local urban conditions (p. 106).

Spatial strategy for inclusive growth

The Philippine Development Plan (PDP) for the year 2017-2022 is founded on Ambisyon Natin 2040, a long-term vision stating the kind of life Filipinos would like to attain. It lays down the broad and specific approaches of the government towards a prosperous Philippines where the society is "predominantly middle class", innovative, healthy, living in high-trust, and where "no one is poor" (NEDA, 2017, p. 2). Under the said PDP, poverty targets include the reduction of poverty incidence from 21.6% in 2015 to 14% percent by 2022, which translates to lifting about 6 million people out of poverty (NEDA, 2017). This means specifically addressing poverty in agriculture and focusing on regions characterized by high poverty incidence and inequality.

By promoting the growth of regional centers outside of the NCR, the NSS aims to decongest the region and to distribute growth throughout key centers in the country (NEDA, 2017, p. 36). It will be supported by physical infrastructure and socio-economic services, such as quality education, healthcare, and affordable housing (NEDA, 2017, p. 37). The NSS also serves as the foundation of plans and policies for infrastructure development, disaster mitigation, environmental protection and conservation, and urban development (p. 31).

The key principles of spatial development are:

- Integration of leading and lagging areas and urban-rural linkages through transportation networks
- Improvement of access to social services
- Identification of locations of major infrastructure to maximize their benefits
- Improvement of local, national, and international connectivity
- Promotion of sustainable development (NEDA, 2017, p. 31)

Under the regional agglomeration approach adopted in the NSS, the benefits of growth will be spread to outlying areas through the labor force, large markets, and innovation opportunities of the regional centers. Suitable physical and human infrastructure and other social and economic services, together with efficient urban management, will facilitate these objectives (NEDA, 2017, p. 37). Aside from fostering agglomeration economies by facilitating the growth of regional centers, NSS is also reinforcing connections among regional and metropolitan centers through a three-tiered network of settlements: (1) metropolitan centers; (2) regional centers; and (c) sub-regional centers (p. 37). The metropolitan centers have special functions such as acting as a hub for "economic, commercial and logistics activities" (Metro Cebu); center for commercial, education, and health services (Metro Davao); and seat of national government with diverse functions (NCR). On the other hand, regional centers function as "direct linkages to metropolitan centers" strategically located to provide specific or varied functions, such as administrative centers (e.g., Calamba City, Iloilo City, Butuan City, Baguio City); tourism hubs (e.g., Puerto Princesa City, Tagbilaran City, Naga City); and international gateways (e.g., Iloilo City, Bacolod City, Zamboanga City, and General Santos City) (p. 39). These settlements are visualized in the map (Figure 1).

Another principle embodied in the NSS is connectivity and urban-rural linkages, which aims to equalize opportunities across space through physical connectivity as well as investments and human development. This would involve investments in education, health, and other social services (NEDA, 2017, p. 39). The NSS draws its network of settlements from the hierarchy of settlements based on size, as what can be gleaned in Figure 2 that highlights municipalities and cities with extremely large populations relative to the average.

Taking advantage of agglomeration economies by bolstering regional development has played a central role in national economic planning since the 1970s (Andriesse, 2017). The creation of NEDA in 1972 and the subsequent establishment of its regional headquarters were institutionalized through the Integrated Reorganization Plan of 1972, the Presidential Decree that divided the country into 11

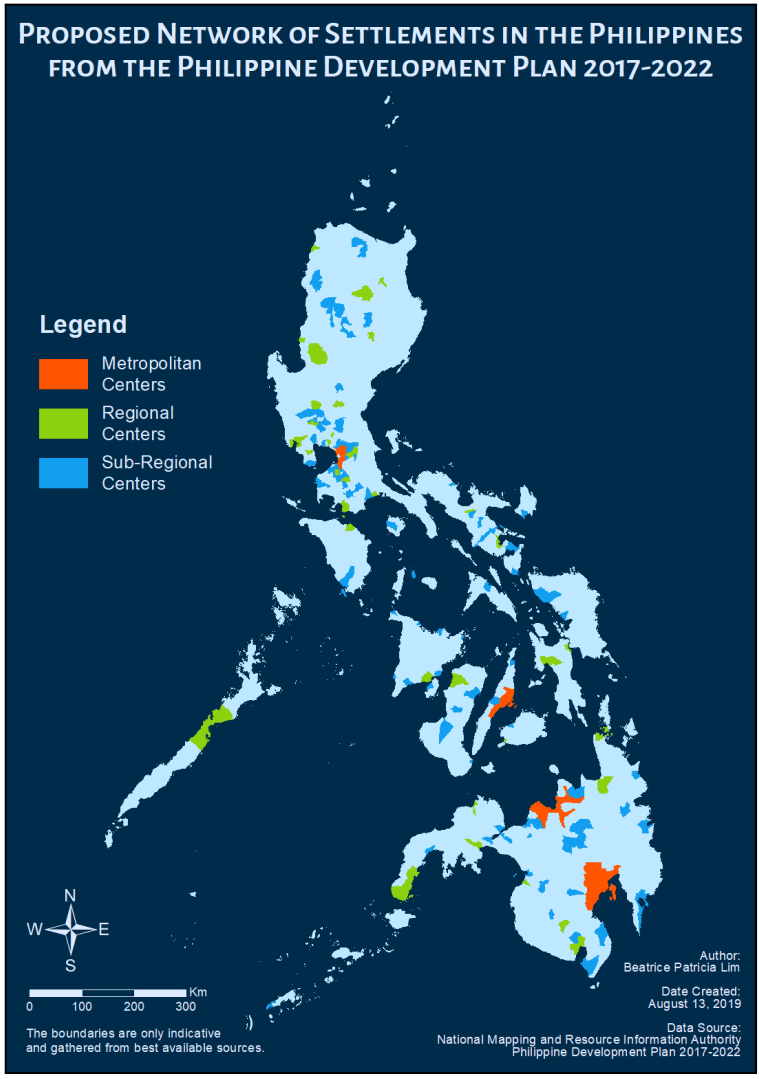

Figure 1. Location of metropolitan, regional and sub-regional centers identified in the National Spatial Strategy of the Philippine Development Plan 2017-2022. Cartography by Beatrice Patricia Lim.

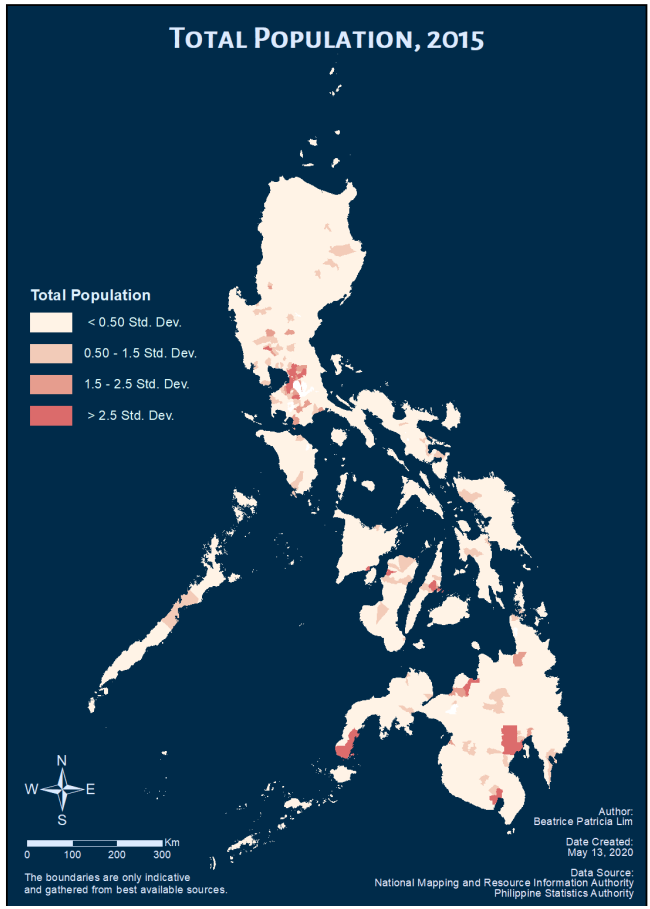

Figure 2. Map highlighting the municipalities and cities with population greater than 2.5 standard deviations from the mean population size in 2015. Cartography by Beatrice Patricia Lim.

and eventually 13 regions (Mercado, 2002). Manila in NCR, Cebu in the Central Visayas, and Metro Davao of the former Southern Mindanao (now Davao Region) were on the top ranks of what was then conceptualized as an "urban hierarchy or system" that was composed of the aforementioned cities, 10 regional centers, five sub-regional centers, 62 major urban centers from each of the provinces of the country, and 163 other minor urban centers (p. 43). This network of urban centers sought to disperse industries (Mercado, 2002) and, until the devolution of development planning to local governments by the 1990s, regional centers were primed to promote economic growth by connecting urban areas to the rural hinterlands (Clausen, 2010). These efforts have nevertheless underachieved its purpose as the NCR and adjacent regions CALABARZON and Central Luzon continue to dominate domestic production, while Metro Cebu "has not been able to generate a significant number of spread effects to the rural areas of the Central Visayas" (Andriesse, 2017, p. 101).

As a network of interconnected growth centers that should act as "engines of economic growth and venues of growth and poverty reduction" (NEDA, 2017, p.36), the spatial distribution of regional and sub-regional centers outside of NCR merit a closer exploration[5]. It would be relevant to examine their salient characteristics in relation to conditions of poverty and labor, as human capital investments and high domestic production are precursors to the success of strategies to divert and sustain growth from historically advantaged urban centers. Below are maps that indicate the location of the network of settlements espoused by the NSS and the distribution of poverty and gainful workers in the country. They provide an overview of the spatial challenges to spreading inclusive growth, where the growth centers appose disadvantaged communities caught in high levels of poverty and the dearth of productive occupations.

One would observe that the towns and cities in the Bicol and Eastern Visayas regions suffer from high degree of poverty and low gainful workers to total population percentage. This may also explain the lack of large urban cores and fewer number of sub-regional centers in these areas, which would inhibit the expected positive economic benefits of the NSS.

Three highly urbanized cities (Mandaue, Lapu-lapu, and Cebu) four component cities (Carcar, Danao, Naga and Talisay) and six municipalities (Compostela, Consolacion, Cordova, Liloan, Minglanilla, and San Fernando) comprise Metro Cebu (OECD, 2017, p. 7). Half of the municipalities are first class towns that have an average annual income of at least P30M[6]. This aggregate of urban centers in the Visayas has a highly variable population density that ranges from about nine

(the towns of Consolacion and Compostela) to 144 (City of Mandaue) persons per hectare[7]. The average percentage of the population with gainful work[8] in 2015 was at 40.7%, while the average poverty incidence in 2012 is estimated at 12.7%.

Metro Davao, on the other hand, is composed of five cities (four component cities and one highly urbanized city) Davao, Digos, Panabo, Samal and Tagum; and two municipalities Santa Cruz and Carmen. The highest poverty incidence in these areas is 28.6%, while the average is at 19.9%. Based on the 2015 population census, the average population density in Metro Davao is 6 persons per hectare, while people with gainful work account for a mean percentage of 50%. The mean value of poverty incidence in Metro Davao in 2012 was 19.9%

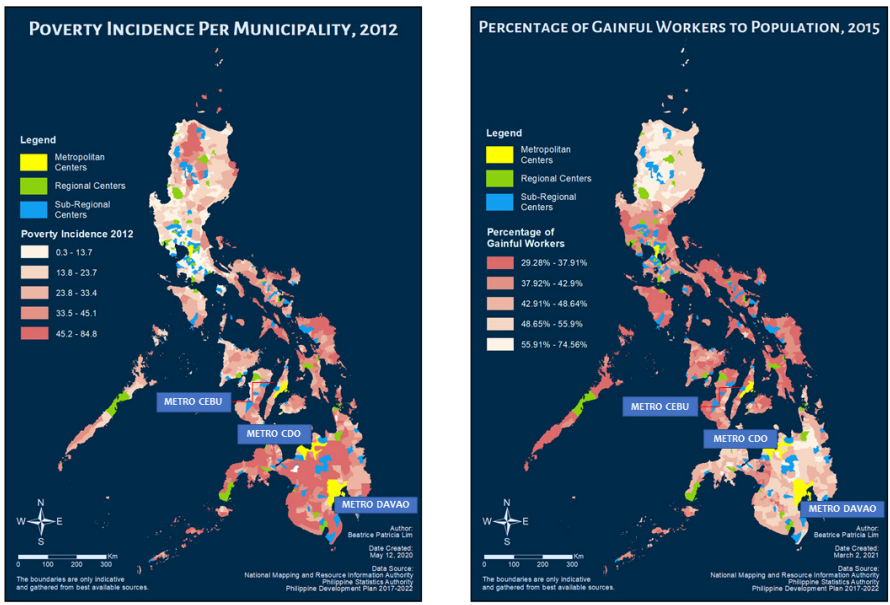

Figure 3-4. Illustrations of the distribution of poor households (left) and gainful workers (right). Classification of data was based on quantile method, where the fifth class represents the upper 20% of municipalities and cities with the highest rank in terms of poverty incidence and gainful workers to population percentage. Cartography by Beatrice Patricia Lim.

At present, Metro Cagayan de Oro consists of 2 cities out of 13 LGUs of varying income levels. The mean population density in these areas is estimated to be 5 persons per hectare. The mean ratio of population with gainful work is at 53.8%, while the mean value of poverty incidence is at 27.9%. Overall, metropolitan centers outside the NCR have a lower population density and higher poverty incidence when compared with NCR's 221 persons per hectare and 2%, respectively.

While the average poverty incidence in the NSS metropolitan growth centers has not exceeded that of the national average of 30%, the towns and cities adjacent[9] to them have a mean poverty incidence of 28.7%. In fact, 43% of these towns and cities have poverty incidence values beyond 30%. This is a striking observation considering that the majority of these towns are classified as either first or second class municipalities. The poorest of these towns are located adjacent to Metro Davao and Metro Cagayan de Oro. In terms of the population engaged in gainful work in 2015, the computed mean for the cities and towns adjacent to metropolitan centers is at 46%. These indicators suggest that while the share of productive labor force in towns and cities adjacent to the metropolitan centers is similar to that of the latter, the proportion of poor people increases drastically outside of the growth centers. The highly skewed population densities among the metropolitan centers somewhat indicate the persisting primacy of Metro Cebu (i.e., the cities of Talisay, Lapu-Lapu and Mandaue whose estimated population densities are above 50 persons per hectare). However, poverty levels outside the urban cores remain immensely high.

Among the 50 regional centers identified in the NSS, 13 are municipalities, 22 are component cities, four are independent component cities, and 11 are highly urbanized cities[10]. Nearly half of the cities are classified as first class based on income, implying that they earn an average annual income of at least P30M, while 30% are 3rd class cities earning P15-20M annually. On the other hand, 54% of the municipalities are first class towns that earn at least P15M annually. The average population density in these towns and cities is about 16 persons per hectare. While relatively privileged with resources, the average poverty incidence in these areas is 11.36%, and in some places it can go as high as over 40%. In Jolo in Sulu and Dipolog City in Zamboanga del Norte, for instance, the estimated poverty incidence is at 48% and 40% respectively.

Extending the analysis into towns and cities adjacent to the regional centers generates interesting results. For instance, 30% of the regional centers are adjacent to 5th or 6th class municipalities whose average poverty incidence is at 30%. The highest recorded poverty

incidence in these places is 67.2% The overall disparity in poverty incidence in these adjacent towns and cities is 16 standard deviations: areas in the Cordillera Administrative Region have the highest variation with 12.8 standard deviations while those within the Central Visayas Region have the lowest with 1.4 standard deviations (see Table 1). Spreading economic growth and promoting human development to adjacent areas can be significantly challenging with the existing disparities in resources and capacities to meet basic needs.

Table 1. Regional mean poverty incidence in 2012 of towns and cities adjacent to the NSS regional centers

REGION	REGIONAL MEAN OF POVERTY INCIDENCE	STANDARD DEVIATION OF POVERTY INCIDENCE
IV-A	7.2	6.0
III	9.1	5.1
I	10.7	5.8
VII	16.3	1.4
II	19.9	5.3
VI	22.3	6.7
MIMAROPA	23.4	3.9
CAR	26.7	12.8
V	29.4	8.3
XI	31.5	6.9
VIII	41.3	8.0
XIII	41.6	11.3
XII	42.0	11.2
IX	47.6	10.7
ARMM	58.3	6.2

Note: Metro Cagayan De Oro is identified as a metropolitan center in NSS. There was no regional center specified for Region 10 in the NSS. Values generated by author based on 2012 poverty incidence data by the Philippine Statistics Authority

A total of 110 towns and cities constitute the sub-regional centers named in the NSS. Sixty percent of them belong to the regions of Cordillera, CALABARZON (IV-A), Central Luzon (III) and Western Visayas (VI).

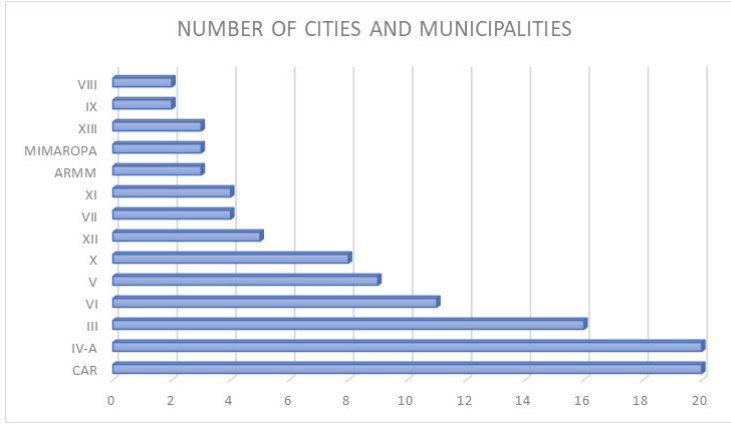

Figure 5. Distribution of sub-regional centers per administrative region. Source: Philippine Development Plan 2017-2022

Majority of the towns and cities in Central Luzon and CALABARZON are high-income LGUs. On the average, 44.9% of the population in these areas are engaged in gainful work in 2015. On the contrary, 75% of the municipalities of the Cordillera Administrative Region are 4th or 5th class towns. Eighty percent of these towns have poverty incidence above 20%, with the town of Tubo in Abra hitting a high 51.7%. As the watershed cradle of Northern Luzon (Latap, 2010), CAR's development should take into account sustainability of natural resources and cultural integrity in addressing high rates of poverty incidence and in augmenting its income.

Strategies for expanding opportunities to farmers, fisherfolk, and indigenous peoples under PDP 2017-2022

Some of the long-standing problems of the AFF sector identified by NEDA pertain to the limited access to credit and insurance that could augment working capital for farmers and fisherfolk; low levels of farm mechanization; inadequate irrigation; meager support for research, ageing farmers and fisherfolk, and the poor implementation of the Comprehensive Agrarian Reform Program (NEDA, 2017, pp. 111-114). The slow pace of land distribution was attributed to landowners' resistance; the tedious processes involved; pending harmonization of rules on land acquisition under Operation Land Transfer, as well as the

difficulties in locating landholdings and validating if the Certificate of Land Ownership Award areas are within the alienable and disposable lands (p. 120). Access to land and water resources involve ensuring the land tenure security of agrarian reform beneficiaries (ARBs) by completing the land acquisition and distribution and installation of ARBs in awarded lands. Facilitating access to resources also entails reviewing policies and laws concerning the reclassification of agricultural lands for other uses by local government units (p. 120).

In expanding the economic opportunities for workers in the AFF sector, the PDP 2017-2022 aims to "improve productivity and increase access" within ecological limits (NEDA, 2017, p. 115). To this end, specific steps have been identified such as the development of an agricultural map to support decision making; construction of disaster and climate-resilient, small-scale irrigation systems; facilitate the adoption of appropriate machinery; and strengthening of extension service system such as technical and business advisory services to workers (pp. 116-118). While promoting mechanization is foreseen to displace labor, such will be addressed by training provision on value-adding and entrepreneurial activities (p. 119). An ecosystem approach consisting of regular fish stock inventory and assessment; implementation of appropriate fisheries management approaches such as community-based coastal resources management and territorial use rights; and implementation of gear and vessel registration; and strengthening measures against illegal, unreported and unregulated fishing, were recommended for fisheries management (pp. 324-325).

It is also worth mentioning, albeit disconcerting, that the concerns of IPs were subsumed in the section on "Promoting Philippine Culture and Values". Cultural awareness was presented in the plan as a requisite for social inclusion and equity of which the "failure to acknowledge the significance in shaping our society may lead to cultural fragmentation, perceived distrust toward fellow Filipinos, parochialism, perpetuation of historical injustices, and inability to collaborate for nation building." (NEDA, 2017, p. 95). While the PDP rightfully identified the conflict between property rights of private entities and cultural rights of the IPs and their land rights over their ancestral domain, as well as the underrepresentation of the indigenous peoples in local councils, not much was said about the actors and factors that persistently marginalize them, and so not much was said about how the systemic root causes can be addressed.

Concluding Summary and Recommendations

This paper synthesized findings and observations from key studies on spatial disparities in economic development by integrating theoretical arguments, empirical expositions, and practical insights

on the patterns of disadvantage and prosperity that characterize uneven development in the Philippines. Developmental policies have accommodated the prospects for diverse development patterns and trajectories of regions and growth centers in the Philippines as demonstrated by the promotion of comparative advantage and area specialization. However, policy falls short in fostering economic integration especially for the sectors and peoples that are disproportionately impacted by inequality. Persistent disparities in human capital, sluggish domestic infrastructural development, weak linkage between industrial and agricultural sectors, and monopoly of assets have disadvantaged the rural poor, agricultural workers and indigenous peoples. Lingering disparities will continue to hamper economic growth if gaps in providing social services and access to development opportunities to all are not addressed.

The results of the spatial examination of poverty, distribution of gainful work, and population density affirms the intense concentration of population, productive activities, and capacities to meet basic needs within established urban centers in the country. It is apparent that the Philippines has yet to experience the spread of growth and the potentials of growth decentralization. The "spread and trickle-down" of growth from urban centers and growth hubs is challenged by the high variation in population density and high poverty incidence in the towns and cities that are adjacent to these centers. In some of these areas, poverty incidence can be as high as over 60%. At the regional level of aggregation, standard deviations can get as high up as 12.8. Integrating disadvantaged areas and communities to more developed centers, spatially and socially, should take into account the diseconomies of urban agglomeration such as congestion and high cost of mobility. Inclusive strategies should incorporate checks for the negative impacts of densification and concentration. PDP's programs for the AFF sector and for the indigenous communities, especially those pertaining to access to land and water resources and territorial use rights, further development of mechanization in agriculture, and support for human capital should be prioritized in conjunction with connectivity efforts in infrastructural development in promoting economic integration and access to all. Road and infrastructural development should also take into account sustainable land utilization and should not pave the way for environmental degradation in rural communities in the interest of urban decongestion.

To prevent congestion in developing urban centers, the growth decentralization scheme under the NSS should facilitate the creation of incentives for people in rural areas to develop local resources and human capital to counter the tendency of the labor force to migrate to urban cores. Investments in human capital and support for local

production should be coupled with increased government spending on infrastructure that will facilitate urban-rural linkages and connectivity among large and smaller settlements.

Finally, inclusive practices in development planning especially at the local level should be further be developed and reinforced. Communities most affected by spatial disparities must participate more effectively in the planning process to ensure the formulation of more inclusive solutions to socio-economic disparities.

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Endnotes

1 Balisacan and Fuwa (2003) analyzed per capita consumption expenditure during the period between 1985 and 1997

2 Gainful workers include persons 15 years old or above who are engaged in productive activities with or without pay. On the other hand, the poverty incidence data were extracted from the 2012 Municipal and City Level Poverty Estimates that were calculated by PSA based on several 2013 surveys and the 2010 population census.

3 The study utilized data from the 1994 Family Income and Expenditure Survey (FIES)

4 Weak domestic infrastructure reflects the complex and cumbersome bureaucracy on infrastructural development, as well as diverse industry players as an outcome of decentralization (Balisacan, Hill & Piza, 2009)

5 Computations are based on poverty incidence data in 2012, and number of gainful workers and total population in 2015. All data were obtained from the Philippine Statistics Authority

6 Interpretation of the income class data published by the Philippine Statistics Authority was based on the Executive Order No. 249, s. 1987

7 Population density was computed from the 2007 land area in hectares and population in 2015 data of the Philippine Statistics Authority

[8] A gainful worker is defined by the Philippine Statistics Authority as a person 15 years old or above that is engaged in any of the following classes of work: work for pay, work for profit in own business or private practice of a profession, or work without pay on own family business

[9] Towns and cities that share a common boundary line were identified using the Geographic Information Systems or GIS

[10] Based on the PSGC Publication dated March 2020 published by the Philippine Statistics Authority

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Ony Martinez is an educator and experienced mapper working with various groups and institutions on enhancing management capabilities and decision-making through spatially-enabled platforms and tools. She teaches Digital Cartography, GIS, and interpretation of remotely-sensed imagery at the Department of Geography, the College of Social Sciences and Philosophy in the University of the Philippines in Diliman. Her work spans across diverse projects and initiatives such as training and capacity-building for local development planning, spatial data development for resource management, countermapping and counter-cartographies, and the use of the geographic information systems (GIS) for disaster risk reduction and management (DRRM).