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Rural Poverty in Indonesia

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Abbreviations and Acronyms

2SLS	Two-Stage Least Squares regression
Asean	Association of South East Asian Nations
Bappenas	*Badan Perencanaan Pembangunan Nasional* (Ministry of National Development Planning/ National Development Planning Agency)
BLSM	*Bantuan Langsung Sementara Masyarakat* (Unconditional Cash Transfers)
BLT	*Bantuan Langsung Tunai* (Unconditional Cash Transfers)
BPNT	*Bantuan Pangan Non-Tunai* (Non-Cash Food Program)
BPS	*Badan Pusat Statistik* (Statistics Indonesia)
Covid-19	Coronavirus Diseases 2019
GDP	Gross Domestic Product
GKG	*Gabah Kering Giling* (Milled Dry Grain)
GKP	*Gabah Kering Panen* (Harvested Dry Grain)
IFLS	Indonesian Family Life Survey
IV	Instrumented Variables
Jamkesnas	*Jaminan Kesehatan Nasional* (National Health Insurance)
NER	Nett Enrollment Rate
PBI	*Penerima Bantuan Iuran* (recipient of contribution assistance)
PIP	*Program Indonesia Pintar* (Smart Indonesia Program)
PKH	*Program Keluarga Harapan* (Family Hope Program)
PODES	*Potensi Desa* (Village Potential Statistics)
PPP	Purchasing Power Parity
Rastra	*Beras untuk Keluarga Sejahtera* (Subsidized Rice for the Poor)
SAKERNAS	Survei Angkatan Kerja Nasional (National Labor Force Survey)
SD	*Sekolah Dasar* (Elementary School)
SHM	*Sertifikat Hak Milik* (certificate of ownership)
SMA	*Sekolah Menengah Atas* (Senior High School)
SMP	*Sekolah Menengah Pertama* (Junior High School)
SUSENAS	*Survei Sosial Ekonomi Nasional* (National Socio-Economic Survey)
WASH	water, sanitation, and hygiene

EXECUTIVE SUMMARY

Over the last 15 years, rural poverty has been reduced in Indonesia, but the rate of reduction is slowing, and the economic impacts of COVID-19 are expected to lead to a reversal. Between 2007 and 2018, headcount poverty ratios fell in rural areas from 20 percent to 13 percent, and the number of the poor dropped from 20 million to 15 million. However, this trend has been slowing in recent years, and the COVID-19 pandemic could lead to a reversal. Between 2007 and 2011, the rural poverty rate was reduced by over 4 percentage points, from 16.6 percent to 12.5 percent, while, between 2012 and 2018, only an additional 2.1 percentage point decline was realized. This trend will be worsened by an anticipated surge in the number of poor by up to 10 million, of which 63 percent are expected to be in rural areas. The rural poverty problem is now twofold: the risk of entrenched pockets of poor in areas of the country that have always exhibited higher poverty rates and limited development outcomes, alongside many new rural poor spread throughout the country.

Poverty has stagnated in some regions because economic growth has not been inclusive in rural areas. Labor incomes have been the main driver of rural poverty reduction in Indonesia in the past. Sustained economic growth of around 5 percent for over a decade has resulted in the expansion of economic opportunities outside the farm, and many rural dwellers have benefited. However, the opportunities have not been available in all types of rural locations. Areas that are more well connected and closer to urban agglomerations, predominantly within Java-Bali, but also around the large cities in Sulawesi and Sumatra, have been able to effect a more rapid transition to better off-farm jobs. In contrast, the limited urban agglomeration in Eastern Indonesia continues to hinder the proliferation of off-farm activities to the same extent. This dichotomy is reflected in earnings growth. Since 2007, the income of rural farm workers and casual workers outside Java and Bali has been stagnating, increasing by only 15 percent, while real wages have risen by 62 percent in Java and Bali.

The growth in leading areas has not spilled over to lagging areas, as urbanization is contributing little to poverty reduction in rural locations. This highlights the importance of strengthened connectivity across the country. Connectivity across locations will help facilitate the integration of factor and output markets and enable rural areas to achieve growth, especially in parts of Eastern Indonesia. However, despite the clear earnings premium characterizing urban locations, there is little rural-to-urban migration in Indonesia. This hints at the possible hidden costs of migration. Connectivity will also be important in hastening recovery from the economic impacts of COVID-19 by enabling economic migrants to return to cities once it is safe to do so and allowing food products from rural sectors to reach larger regional markets.

In regions where the off-farm job creation has been sluggish, improving incomes in agriculture will provide a significant share of the rural population with better opportunities. Because over half the rural labor force is engaged in agriculture, enhancing agricultural incomes is an obvious pathway for poverty reduction. Options exist to increase rice paddy yields through access to mechanization, improving market access, and supporting local agricultural extension services. Crop diversification can also be supported through stronger land tenure rights, better access to markets, access to financing, and better education. Some of these challenges can be tackled effectively in communities through community access to extension services, storage, and transportation logistics, connection to financial services, and support for the intervillage clustering of farm production. Beyond improving agricultural incomes, targeted interventions can also help expand livelihood options in forest and coastal regions to relieve the pressure of the degradation of ecosystems critical to disaster and climate resilience.

Gaps are also persistent across urban and rural areas in nonmonetary measures of well-being, such as in access to schools, health services, and clean water. These are important in addressing and ensuring inclusive participation in future economic growth. Nonmonetary development indicators and access to basic services have improved in rural areas, but the improvement has not been uniform across the country, and gaps remain in major indicators, especially in Eastern Indonesia. Progress in educational attainment and access to health services has been strong, but the gaps are more pronounced in various water and sanitation indicators, as well as in the quality of human capital services.

These gaps are especially substantial in Maluku, Nusa Tenggara, and Papua. A failure to address and narrow these gaps between urban and rural areas could limit the progress in shared development progress across Indonesia.

Interventions targeted at families and locations left behind will be instrumental in reducing poverty and strengthening inclusive outcomes, but more needs to be learned about what works. Persistent regional disparities and high rates of poverty associated with certain locations, including entire regions (such as Papua) and pockets in seemingly prosperous areas (for example, the rural peripheries of large metropolitan areas and rural areas in Java), call for targeted interventions to complement other broadbased measures. Indonesia has tried a variety of area-based policies to address some of these challenges. Among these are policies to improve human capital outcomes, which have yielded positive results in lagging locations. Grounded on these lessons, policies aimed at more remote rural areas might initially address augmented service delivery. More research could be conducted to explore what works, particularly in the context of the unique challenges posed by the country's diverse geographies and the population subgroups that have been left behind.

More research is needed also on the fallout of the Covid-19 crisis and the new challenges it may add to the agenda in addressing rural poverty in Indonesia. The likely duration, complexity, and enormity of the impact of the crisis will call for a rethinking of the policy response to the rural poverty challenge. A renewed emphasis on rural poverty may be expected because the majority of the new crisis poor will be rural residents. This will also reinforce the medium-term agenda in addressing structural issues related to the economic resilience of the population in rural areas. A reorientation of programs and policies may also be anticipated, at least in the short run, to confront the immediate challenges involved in mitigating the shocks among the vulnerable in these areas through, for instance, unconditional cash transfers funded through the dana desa (village fund) allocations. More needs to be learned about the medium-term fallout as the crisis unfolds and then dissipates and about the optimal policy configuration to address the long-term challenges of poverty and vulnerability in rural Indonesia.

INTRODUCTION

Indonesia has sustained robust growth over a long period, and this has enabled millions of citizens to move out of poverty. Indonesia's gross domestic product (GDP) has risen at an average 5 percent a year since 1990 and 5.3 percent a year after the Asian financial crisis at the end of the 1990s. This growth has been supported by favorable international commodity markets, a large, young population, and a solid macroeconomic policy framework. Although the growth has moderated in the last few years as commodity prices and global financing conditions that had buoyed growth previously have become less favorable, annual GDP growth has still averaged 5 percent since 2014. As a result, GDP per capita is calculated to have grown sixfold between 1990 and 2018, while extreme poverty declined from 57 percent to slightly less than 6 percent.[2]

However, many Indonesians remain vulnerable, and most of those who have escaped poverty still lack the economic security and well-being of the middle class. Despite the progress in poverty reduction, around 30 percent of Indonesians still risk falling back into poverty or become poor following a financial or nonfinancial shock.[3] In addition—although their number is growing—fewer than a quarter of Indonesians are today free from worry about monetary poverty and therefore belong to the middle or upper class. Joining the middle class is associated with people who have additional disposable income for discretionary expenditures, such as on health care, education, and housing, which directly affect their well-being.

While rural areas have also benefited from this broadbased growth, an overwhelming majority of the poor and vulnerable are living in rural areas. Making continued progress in reducing poverty will require that the challenges to improving the living conditions of the poor in rural areas are addressed.

Against this backdrop, the objective of this report is to update the knowledge about rural poverty in Indonesia. The report analyzes the trends in rural poverty and inequality, the profile of the rural poor, and drivers of observed poverty reduction. New analysis is combined with syntheses of recent work, especially the recent report on urbanization. The goal is to consolidate relevant material on rural poverty. The final section of the report offers some reflections on future research to deepen the understanding of the challenges and the opportunities involved in reducing rural poverty in Indonesia.

One area where future research would be critical is in achieving an understanding of the full extent of the fallout of the Covid-19 crisis in rural areas in Indonesia. The research upon which the report is based has preceded the onset of the Covid-19 crisis and is therefore unable to internalize the economic and social ramifications of the crisis, the full magnitude of which remains unclear. However, preliminary impact estimates suggest that dislocations in the labor market and pressures in food supply chains could generate large welfare losses across Indonesia, including in rural areas. As previous crisis episodes have demonstrated (for example, the Asian financial crisis), these shocks may reverse the progress achieved in enhancing living standards and reducing poverty and lower the trajectory of recovery. Acquiring an understanding the extent of these impacts in labor market dislocations, food prices, or dramatic changes in the patterns of internal migration and the mitigating role of policy instruments beyond short-term measures will require more research.

[2] This rate is calculated using the international poverty line, which allows for a longer comparison over time. It is slightly lower than the 2017 official poverty rate (10.6 percent), which is based on the national poverty line.

[3] The vulnerability line is 1.5 times higher than the poverty line, at Rp 531,000 per person per month ($2.20–$3.30 per person per day) (Wai-Poi et al. 2018). The bottom 40 percent of the distribution (the bottom 40) represents the vulnerable and the poor considered together.

SECTION 1

STYLIZED FACTS AND TRENDS

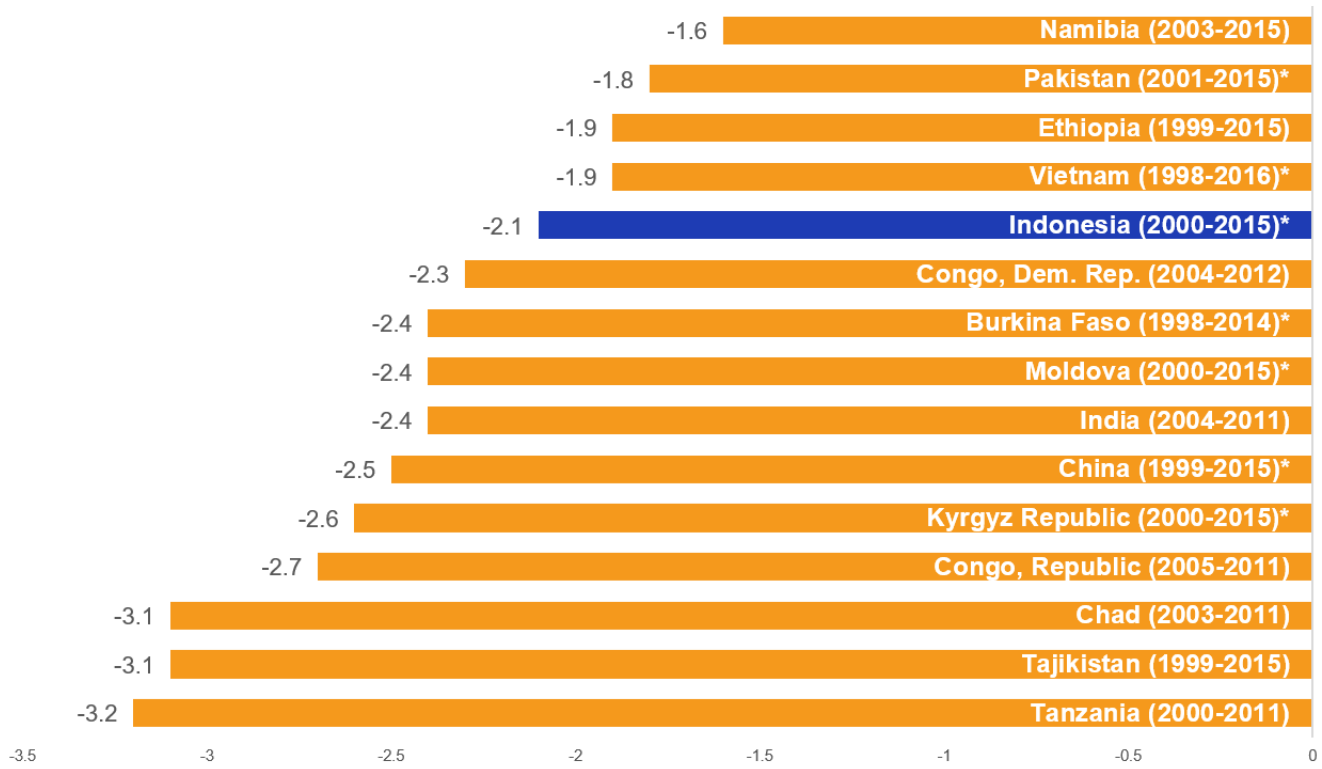
Recent trends

Over the last decade, there has been a robust, but decelerating reduction in monetary poverty in rural areas

Progress is being made in reducing poverty across the country, although the pace of the reduction has slowed. Based on the internationally comparable benchmark of $1.90 a day (in 2011 purchasing power parity dollars), Indonesia is among countries that have made the most rapid gains in poverty reduction in the last two decades (figure 1.1). In 2000–15, the $1.90-a-day poverty rate declined by 2.1 percentage points a year, comparable to the declines in China (2.5 percentage points) and India (2.4 percentage points). The poverty rate based on the national poverty line also declined, reaching 9.4 percent in March 2019 (figure 1.2). However, as figure 1.2 also shows, the pace of poverty reduction after 2010 was about half (0.3 percentage points a year) what it had been in 2003–10 (0.6 percentage points a year). The slowdown in the rate of reduction at lower rates of poverty is not surprising; it becomes progressively more difficult to help the poor as the poverty rate declines.

Figure 1.1: Indonesia has seen some of the most rapid rates of poverty reduction, 2000–14

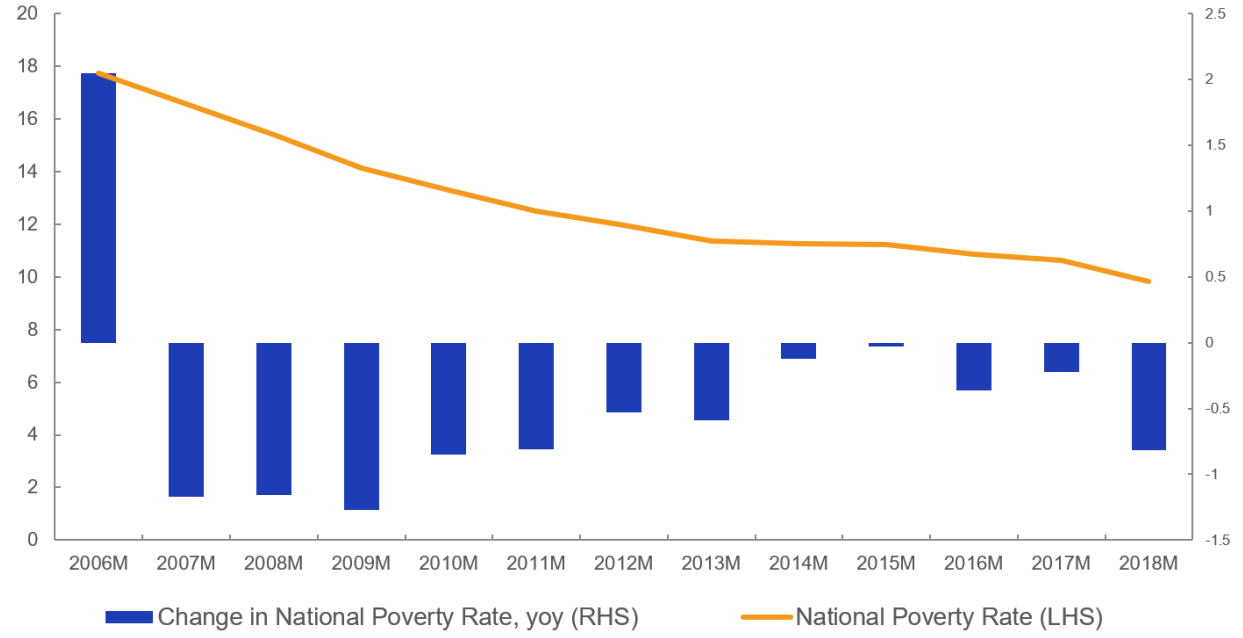
percentage points, annualized



Source: PovcalNet (online analysis tool), World Bank, Washington, DC, http://iresearch.worldbank.org/PovcalNet/.
Note: Based on $1.90-a-day purchasing power parity poverty line.
* The two surveys are not fully comparable.

Figure 1.2: The poverty rate has continued to decline in Indonesia

% of population that is poor



Sources: SUSENAS (Survei Sosial Ekonomi Nasional, National Socio-Economic Survey) (database), Badan Pusat Statistik (Statistics Indonesia), Jakarta, https://mikrodata.bps.go.id/mikrodata/index.php/catalog/SUSENAS; World Bank calculations.

A key driver of the poverty reduction has been the robust growth performance sustained over three decades. Indonesia's GDP has grown at an average 5 percent a year since 1990 and 5.3 percent since the Asian financial crisis at the end of the 1990s. This growth has been supported by favorable international commodity markets, a large, young population, and a solid macroeconomic policy framework. Although growth has slowed in the last few years as the tailwinds created by good commodity prices and global financing conditions have turned to headwinds, annual GDP growth has still averaged 5 percent since 2014. This has allowed GDP per capita to grow sixfold between 1990 and 2018.

Poverty reduction in rural areas has been quite remarkable as well. The rural poverty rate fell from more than 20 percent in 2007 to around 13 percent in 2018 (figure 1.3). Furthermore, the number of the poor in rural areas decreased from more than 20 million in 2007 to around 15 million in 2018 (figure 1.4). These declines in rates and numbers suggest that poverty reduction has been robust in rural areas.

Figure 1.3: Poverty rate in Indonesia by location, 2007–18

% of population that is poor

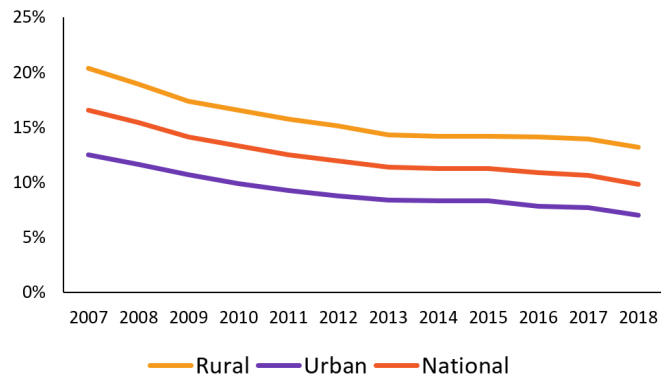
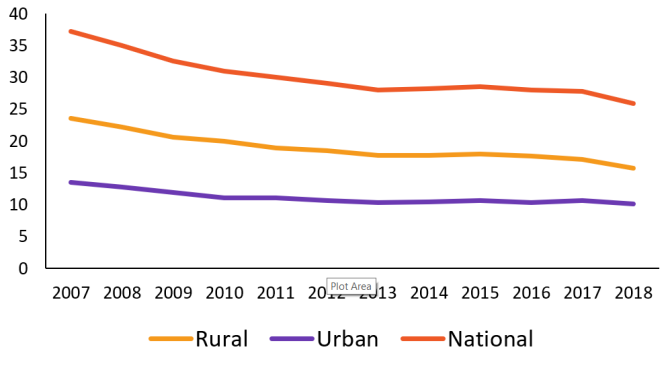


Figure 1.4: Number of poor in Indonesia by location, 2007–18

population that is poor, millions



Sources: Statistics Indonesia; World Bank calculations.

Poverty reduction has occurred throughout Indonesia, and there have been signs of convergence as poorer regions experience greater poverty reduction. All regions experienced a decline in poverty rates in 2007–18 (figure 1.5). Regions with higher poverty rates in 2007, such as Papua, exhibited a stronger reduction in the poverty rate (from 50 percent to 36 percent). Regions with lower poverty rates in 2007, such as Kalimantan, showed a weaker reduction in the poverty rate (from 11 percent to 7 percent). These data indicate that there has been convergence in poverty reduction during the last 10–15 years. Regions with significant numbers of poor people, such as Java-Bali and Sumatra, also experienced strong reductions in the number of the poor (figure 1.6). The number of the poor in Java-Bali fell by almost half, from around 12 million in 2007 to only 6 million in 2018. However, in the outer regions, reductions in the number of the poor appear to be slowing. For example, the number of the poor in Papua rose slightly, from 1.0 million in 2007 to 1.1 million in 2018. Although the poverty rate decreased, the rise in the number of the poor can be explained by the growth in the total population of Papua, which expanded from 2.5 million to 4.2 million in 2007–18, thereby outpacing the growth rate in the number of the poor. These differences indicate that some regions, especially regions in the east, need more support to reduce the number of the poor.

Figure 1.5: Poverty rate, by island group, Indonesia, 2007–18

% of population that is poor

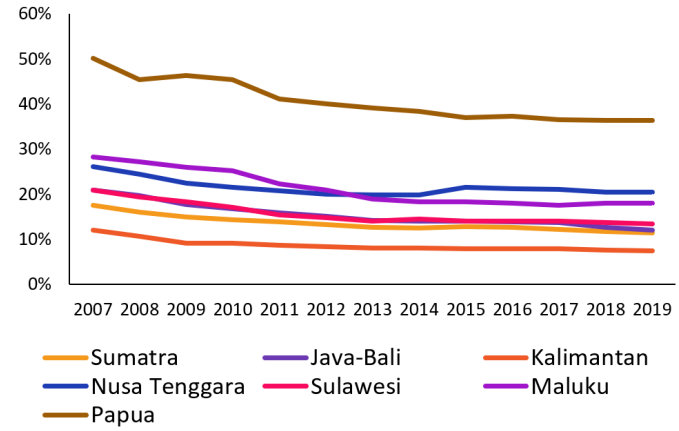
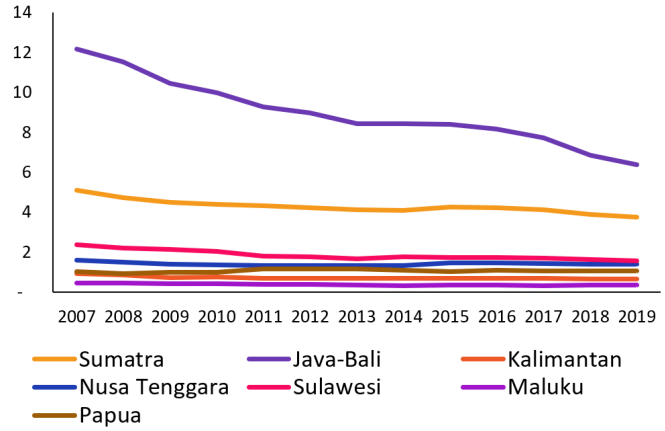


Figure 1.6: Number of the poor, by island group, Indonesia, 2007–18

population that is poor, millions



Sources: Statistics Indonesia; World Bank calculations.

The number of the near poor has also declined in rural areas and nationwide in the last 15 years. The vulnerability of a population to poverty can be measured using the share of the population living at 1.0–1.5 times the national poverty line. According to this measure, although the vulnerability rate is higher in in rural areas than in urban areas, it fell substantially, from more than 40 percent in 2007 to around 24 percent in 2018 (figure 1.7). In urban areas, the vulnerability rate was 17 percent in 2018. Across regions, the vulnerability rate also fell (figure 1.8).

Figure 1.7: Vulnerability rate, by rural or urban location, Indonesia, 2007–18

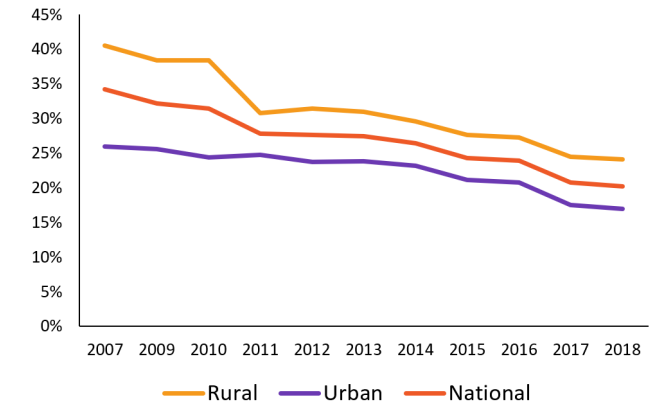
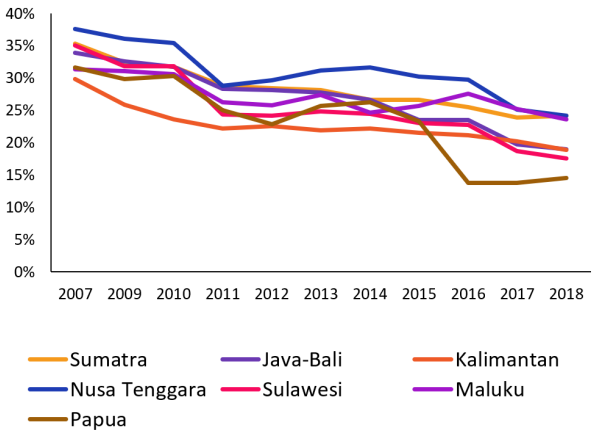


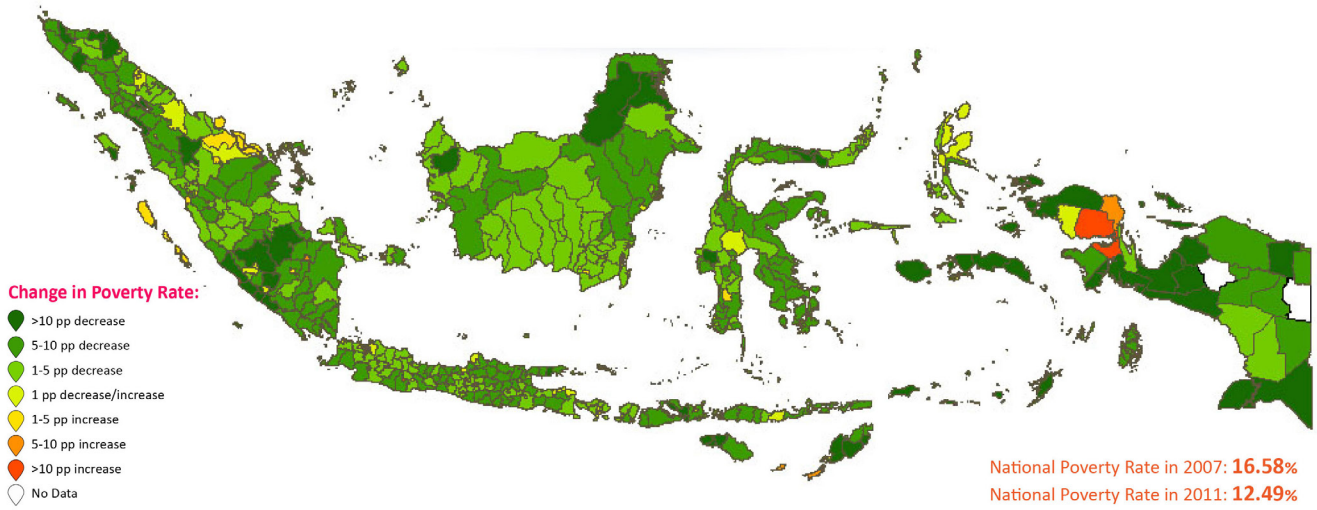
Figure 1.8: Vulnerability rate, by island group, Indonesia, 2007–18



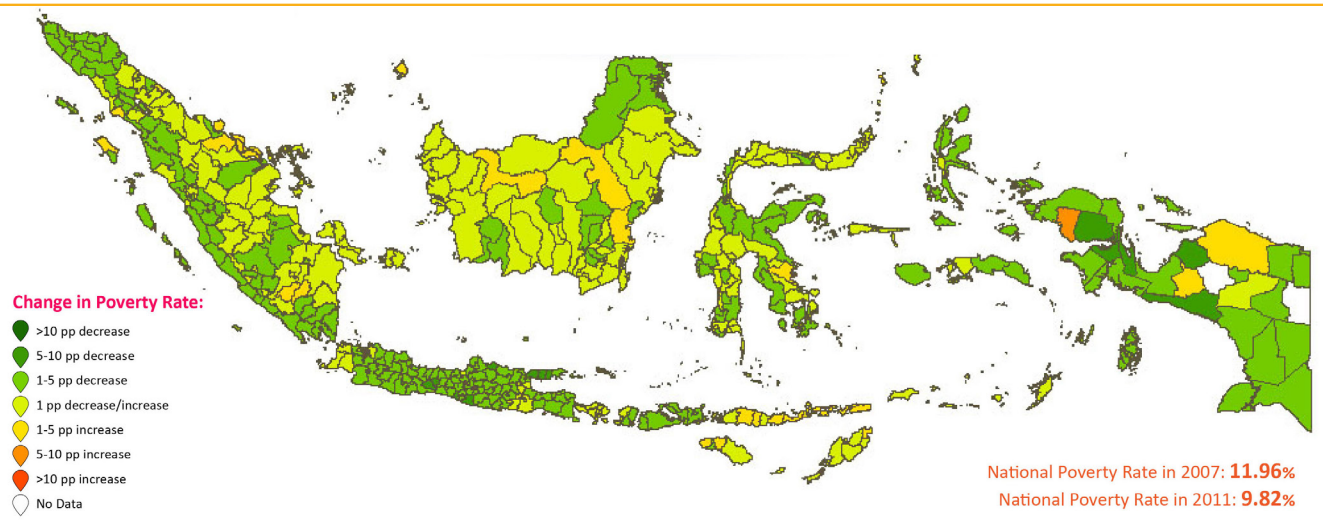
Sources: SUSENAS data; World Bank calculations.

Most of the progress in poverty reduction, especially in terms of the poverty rate, occurred in 2007–11. In 2007–11, the poverty rate dropped 4.1 percentage points, from 16.6 percent in 2007 to 12.5 percent in 2011. This reduction was greater than the reduction in 2012–18. In 2012–18, the poverty rate fell 2.1 percentage points, from almost 12.0 percent in 2012 to 9.8 percent in 2018. Almost all regions in Indonesia, regardless of their predominantly urban or rural status, exhibited a similar pattern of stronger poverty reduction in 2007–11 (maps 1.1 and 1.2). This is consistent with the slower economic growth in the country, which decreased to 5.0 percent in 2014–19 as the tailwinds of commodity prices waned and global uncertainty increased.

Map 1.1: Change in poverty rate (P0), 2007–11



Map 1.2: Change in poverty rate (P0), 2012–18



Sources: Statistics Indonesia; World Bank calculations.

Rural residents who remain poor tend to share a profile (figures 1.9–1.14).[4] The majority of poor rural households work in agriculture (64 percent), and most are self-employed. This is in stark contrast with the 30 percent of households working in agriculture nationwide. The average years of schooling among poor rural households is 5.3 years, compared with the national average of 8.1 years. Poor households also tend to be larger, with 4.5 members versus the national average of 3.8 members, and to have a higher dependency ratio, with 63 percent more elderly members, 52 percent more young children, and 30 percent more people with disabilities than the national average. While migration is not uncommon in Indonesia, it is rare among the poor. Only 7 percent of poor rural households have migrant heads. This is lower than the national average of 17 percent. However, the heads of poor households must often hold multiple jobs to augment their incomes. This may involve temporary migration within the same region. The World Bank field survey

[4] The analysis relies on SUSENAS data and a field survey. The 2018 SUSENAS survey was conducted by Statistics Indonesia (Badan Pusat Statistik, BPS) and covers all 34 provinces and 514 districts) and is thus representative at the district level. The field survey was conducted by a World Bank in 2019 in 12 districts in six provinces, namely, Asahan and Langkat (North Sumatra), Blora and Kendal (Central Java), Jember and Kediri (East Java), Manggarai Barat and Timor Tengah Selatan (East Nusa Tenggara), Hulu Sungai Tengah and Hulu Sungai Utara (South Kalimantan), and Enrekang and Tana Toraja (South Sulawesi). At least 200 households were surveyed in each district.

carried out in 2019 shows that the heads of poor households in the cash for work program have, on average, more than 1.5 jobs and that 2.1 household members are working. These numbers are greater than the corresponding numbers in nonpoor households and households that are not in the cash for work program.

Figure 1.9: The share of rural poor households active in agriculture is greater than the national average

% of households with heads working in agriculture

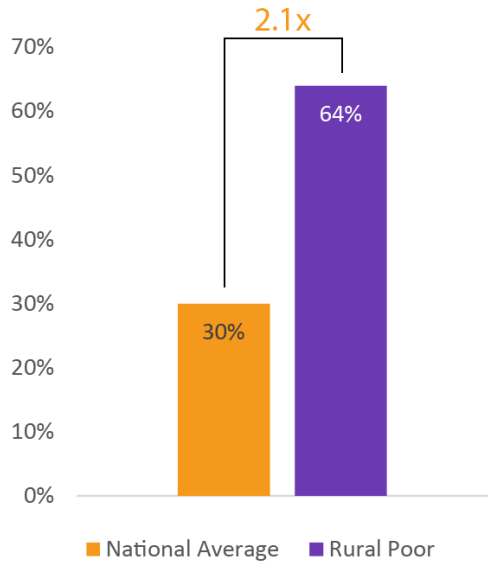


Figure 1.10: Years of schooling among poor rural households are less than the national average

average years of schooling of household heads

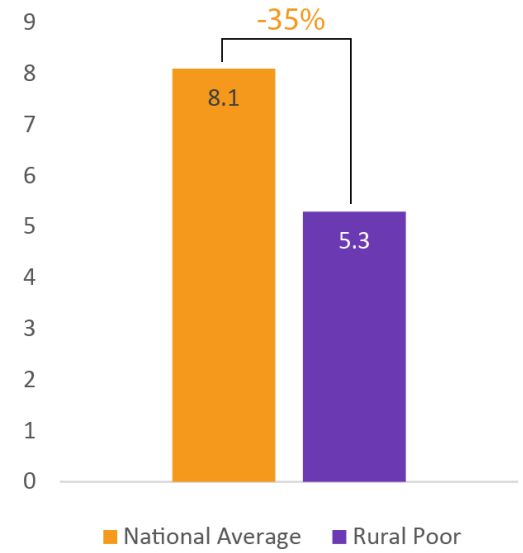


Figure 1.11: Poor rural households are larger than the national average

household members, by type, number

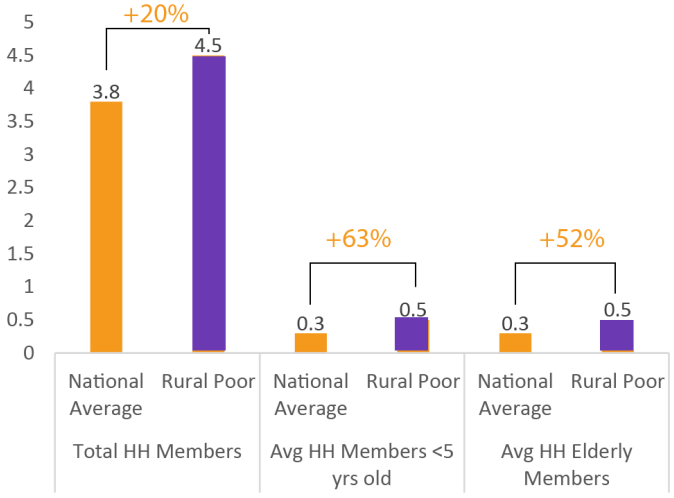


Figure 1.12: The number of poor rural households with disabled members is greater than the national average

households with at least one member with disabilities, %

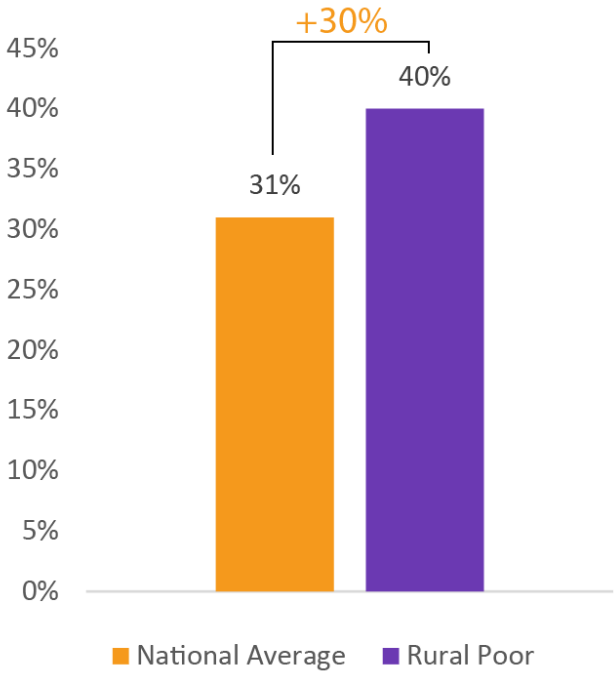


Figure 1.13: The share of female household heads in rural areas is virtually the same as the national average

households with a female head, %

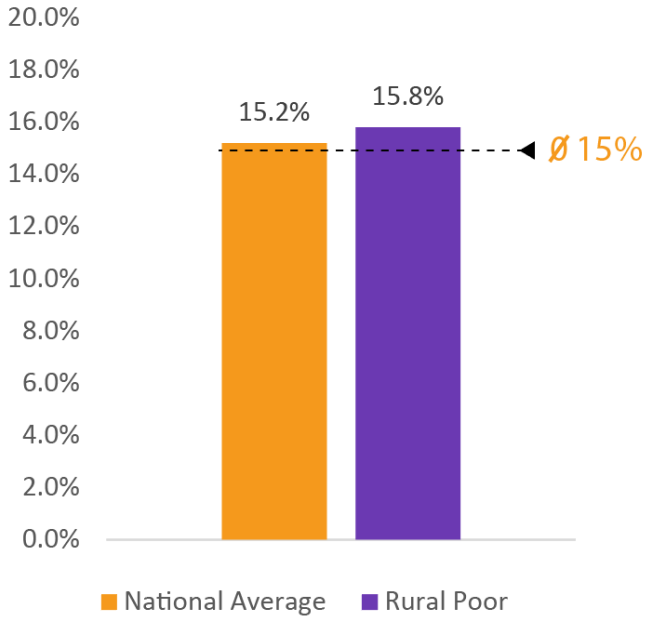
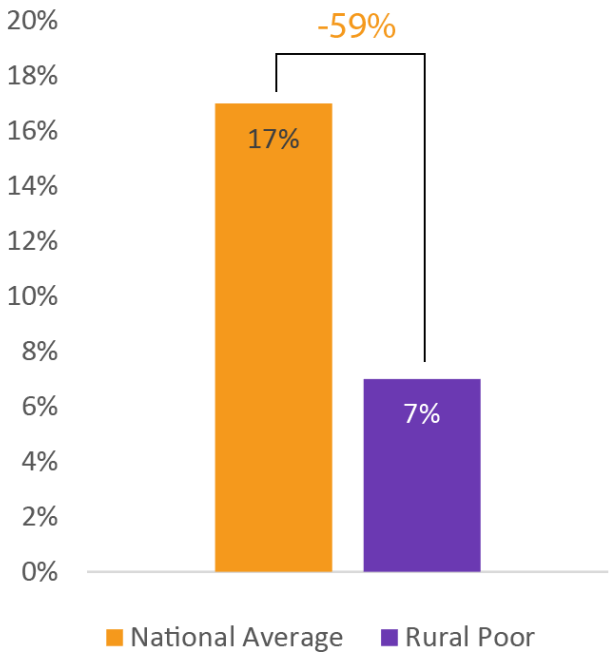


Figure 1.14: Households in rural areas are less likely to have a migrant head

households with a migrant head, %



Sources: SUSENAS data; World Bank calculations.

The elderly, female-headed households, the disabled, and young school dropouts are also at greater risk of exclusion in rural areas. A look at the characteristics of specific groups that are often considered at risk of social and economic exclusion in rural areas shows that the incidence of poverty is higher among certain groups: the elderly, young school dropouts, and individuals with disabilities (table 1.1).[5] Food security is also a more pressing concern among these groups, as well as among female-headed households. These groups all exhibit lower educational attainment, which, without mitigating programs, could act as a long-term constraint on economic opportunities. This is reflected in the high levels of employment in agriculture relative to the average among rural workers. Labor force participation is low, at 35 percent, among the disabled, suggesting that support for these individuals in participating in the rural workforce is not adequate. Meanwhile, migrants in rural areas, that is, individuals currently residing in provinces in which they were not born, exhibit less vulnerability to exclusion, lower poverty rates, higher educational attainment, and higher labor force participation rates.

[5] The elderly are defined as individuals above age 65; school dropouts as individuals ages 18–30 who have dropped out or not finished upper-secondary or lower levels of education, or have never been to school; disabled persons are those having difficulty with vision, hearing, walking, or climbing stairs, using and moving fingers, remembering or concentrating, controlling behavior and emotion, talking and communicating with others, or taking care of themselves; migrants are defined as those living in a province in which they were not born.

Table 1.1: Vulnerability indicators, rural populations

	Poverty Status	Years of Schooling	Employed in Agriculture	Food Insecurity	Employed	Unemployed	Not in Labor Force
Average Rural Population	14%	6.16	54%	7%	66%	3%	31%
Elderly	18%	3.5	80%	8%	49%	0%	51%
Youth At Risk	19%	5.57	61%	19%	66%	5%	29%
Female Household Head	12%	4.54	61%	10%	65%	1%	34%
People with Disabilities	19%	3.69	54%	14%	34%	1%	65%
Economic Migrant	9%	7.12	58%	7%	70%	2%	28%

Sources: SUSENAS data; World Bank calculations.

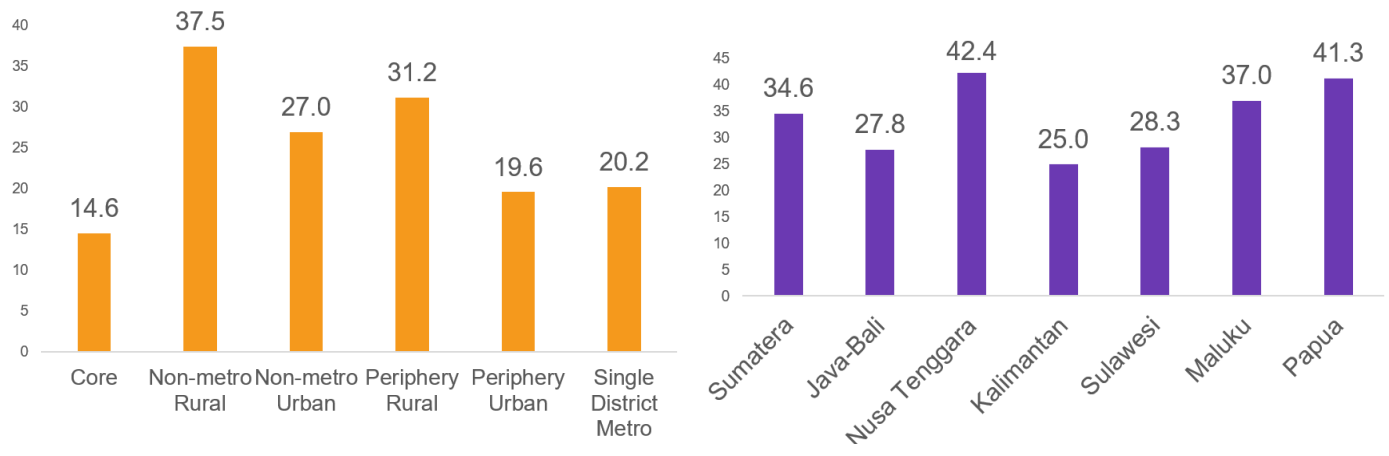
Vulnerability and inequality

Though economic vulnerability has declined in rural areas, nonmetropolitan rural areas show the highest rates of poverty and vulnerability and the largest numbers of the poor and vulnerable

A cross-sectional snapshot of the poor and vulnerable highlights the unevenness of economic opportunities across space in Indonesia. Metropolitan cores have the lowest rates of poverty and vulnerability (14.6 percent), while non-metropolitan rural areas have the highest rates of poverty and vulnerability (37.5 percent). The rural peripheries of metropolitan areas, despite their proximity to cities, have the second highest incidence rate of poverty and vulnerability (31.2 percent).[6] Across island regions, Nusa Tenggara and Papua have poverty and vulnerability incidence rates of over 40 percent, whereas the incidence rates in Kalimantan and Java-Bali are lower, at 25 percent and 28 percent, respectively (figure 1.15).

Figure 1.15: Poverty and vulnerability rates, by the profile of places and island region, 2018

a. By the portfolio of places *b. By island region*



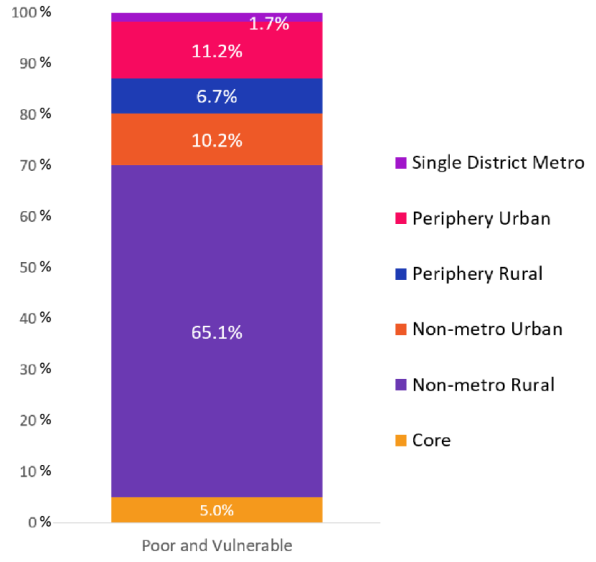
Source: World Bank calculations using 2018 SUSENAS data.

[6] The definition of the portfolio of places was introduced in a recent World Bank report on urbanization in Indonesia (Roberts, Gil Sander, and Tiwari 2019). It makes a distinction between rural areas that are close to cities and are part of the commuting zones of large metropolitan areas versus nonmetropolitan rural areas that are rural in the conventional sense.

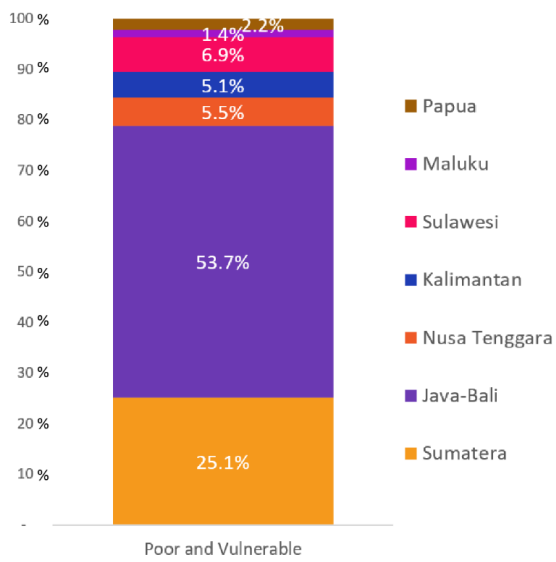
Looking at where most of the poor and the vulnerable live reveals starker disparities. Given their large population shares, it is unsurprising that nonmetropolitan rural areas (65.1 percent) and the islands of Java-Bali (53.7 percent) are home to the largest number of Indonesia's poor and vulnerable (figure 1.16). But smaller pockets of poverty exist everywhere. Of the total number of the poor and vulnerable, 11.2 percent reside in the urban periphery of large metropolitan areas; 10.2 percent in small towns; and about 5.0 percent in metropolitan cores. The outer islands account for between 1.4 percent (Papua) and 7.0 percent (Sulawesi) of the total poor and vulnerable.

Figure 1.16: Where are the poor and vulnerable located, 2018?

a. By the portfolio of places



b. By island region



Source: World Bank calculations using 2018 SUSENAS data.

Risks of exclusion and rising inequality are emerging concerns in rural areas. Rising inequality is an increasing concern (figures 1.17 and 1.18). Most of the districts in Java-Bali, Nusa Tenggara, the southern part of Sulawesi, and Papua show Gini coefficients greater than 0.35. However, the income inequality problem within the rural population is more severe in Eastern Indonesia. In Java-Bali, income inequality can be traced to the disparity between urban and rural areas, which may subside if, as anticipated, urbanization continues apace. Thus, by 2035, 84 percent of the population in Java-Bali is expected to be living in urban areas. However, in parts of Eastern Indonesia, income inequality is worse in rural areas than in the region as a whole.

Figure 1.17: Gini coefficient, by urban or rural location, 2008–18

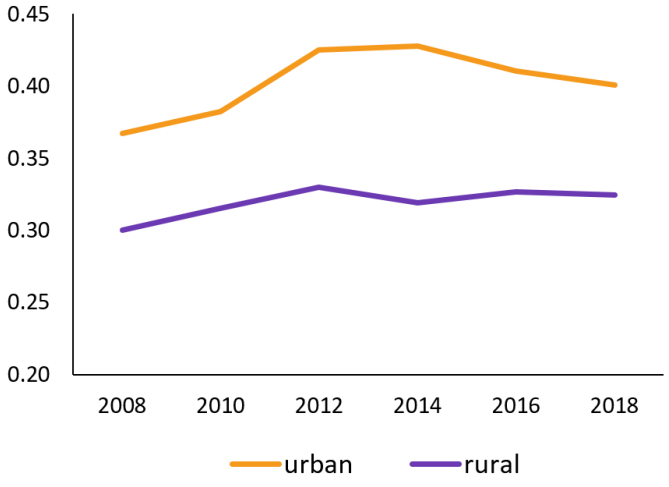
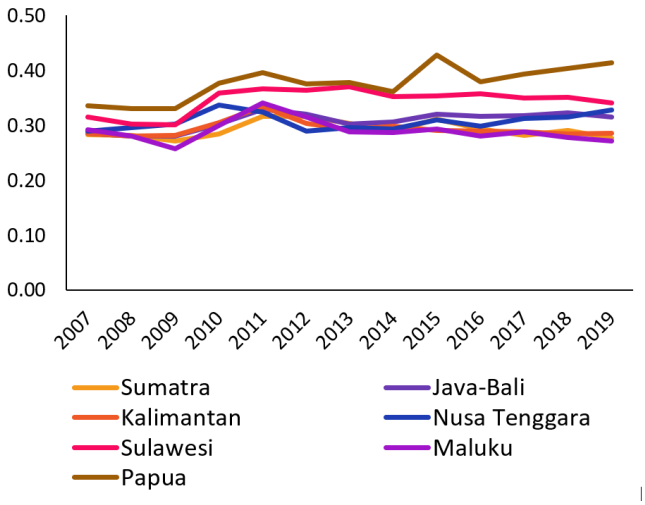


Figure 1.18: Gini coefficient, by island group, 2008–18



Sources: SUSENAS data; World Bank calculations.

Pockets of deprivation

Despite the general progress, pockets of extreme deprivation persist in many rural locations

Even prior to the COVID pandemic, in 2019, one rural household in five did not have enough food for all members (box 1.1). In a field survey carried out in 2019 among 2,400 households receiving various forms of social assistance across 120 villages in six provinces, 19 percent of the households indicated they had not had enough food to eat in the last year. Social assistance recipients of the Program Keluarga Harapan (the Family Hope Program, PKH), a conditional cash transfer program launched in 2007, tended to be slightly more vulnerable than non-PKH recipients (19.5 percent versus 17.5 percent), while households with access to in-kind rice transfers through the Rastra Program (Subsidi Beras Sejahtera, subsidized rice for the poor) showed no difference in vulnerability. There was regional variation in the incidence of food insecurity. Households in East Nusa Tenggara were the most highly exposed to food shortages (34 percent of households), followed by households in North Sumatra (23 percent) and South Sulawesi (19 percent). There was no significant difference in food security between female-headed and male-headed households. Larger households were at greater risk. Over half of all households (55 percent) reported that they had been worried about this during the previous 30 days.

Box 1.1: COVID 19: Impacts and Responses in Rural Areas

Impacts

This study was prepared prior to the recent escalation of the global coronavirus pandemic. The pandemic will continue to have an impact on rural poverty. However, because the health and economic impacts are still unfolding and the future trajectories are unknown, it is not possible to provide a full assessment of the impacts on rural poverty. Rural populations will certainly be affected through several channels, including (a) the spread of health impacts, (b) reductions in economic activities, and (c) effects in food systems and prices.

Current health records indicate that health morbidity is accruing to older age groups that are less likely to be active labor market participants. However, poor rural households tend to have older household heads and more elderly household members, suggesting that they experience greater vulnerability to loss of household income earners if the disease burden becomes prevalent in rural areas.

Initial estimates suggest that real GDP growth will fall to zero in 2020 because of the pandemic despite the government's recent expansionary monetary and fiscal policies. The economic downturn could raise poverty incidence by 1.3–3.6 percentage points, translating into 3 million to 10 million additional poor relative to 2020 without the pandemic. Among the new poor, 22 percent would be households involved in agriculture, about 25 percent in traditional services, and an overwhelming 63 percent in rural areas. Java-Bali and Sumatra would account for more than three-quarters of the new poor.

Indonesia has protective national food policies that are responsible for the large domestic production of rice, the main staple. In mid-April, the Ministry of Agriculture estimated that rice stock would exceed demand until the end of May. However, recently imposed caps on rice exports from India and Vietnam could pose a risk to the availability of the staple in the Indonesia.

Travel restrictions and overreactive behavioral responses, such as hoarding, could have detrimental impacts on the real welfare of rural households by triggering adverse price effects. These types of local market disruptions could also limit access to the inputs and services needed for cultivation and introduce distortions in supply chains. This would impact staples and other food products and could lower nutrition, which is already low in some rural areas. Beyond these challenges to food supplies, the global economic downturn is expected to reduce the demand for agricultural exports, such as in horticulture, which will reduce rural household incomes.

There should be more analysis and careful monitoring of these vulnerabilities.

Responses

To soften the economic impacts, the government has been rolling out multiple programs to provide support, including in rural areas. The number of beneficiaries of the PKH is being expanded from 9.2 million to 10.0 million, and the value of transfers is being raised by 25 percent for three months. Program Sembako, the national food voucher program, will be temporarily expanded to increase benefits by around 33 percent for nine months and to raise coverage by 15 million to 20 million low-income households. To strengthen health care access, premiums in the national health care program (BPJS Kesehatan) will be waived for 30 million nonsalaried workers. The goal is to cover hospital bills directly.

There are several ways the government can use existing programs to support rural areas. These include (a) direct cash assistance, (b) expansion of cash for work activities, and (c) rural livelihood support. The government has plans to implement the first two through the Village Law Program, which delivers Rp 122 trillion to all villages across the country every year. Rp 22.4 trillion is being reallocated for distribution to poor and vulnerable families through direct cash assistance (Bantuan Langsung Tunai), an unconditional direct cash transfer rolled out in 2005 and 2008. The government is also scaling up the use of cash for work to provide additional support for rural households. There will be benefits to

ensuring the accurate targeting of these programs to help provide coverage to poor and vulnerable households, particularly such households that are not benefiting from other response programs, including the PKH and Program Sembako. This may be achieved through community validation, for example, through the public posting of beneficiary lists. The cash for work program could also trigger greater local economic spillover effects if activities rely on local materials and generate community infrastructure.

Village funds might be used to finance the community features of smallholder farming to strengthen national food security over the immediate term, for example, by supporting bulk purchases of agriculture inputs for the planting season, aggregating farm output to facilitate improved market access, and providing shared food storage facilities. In accordance with the cash for work program, it is possible to pay the labor for any activities related to the critical agriculture supply chain.

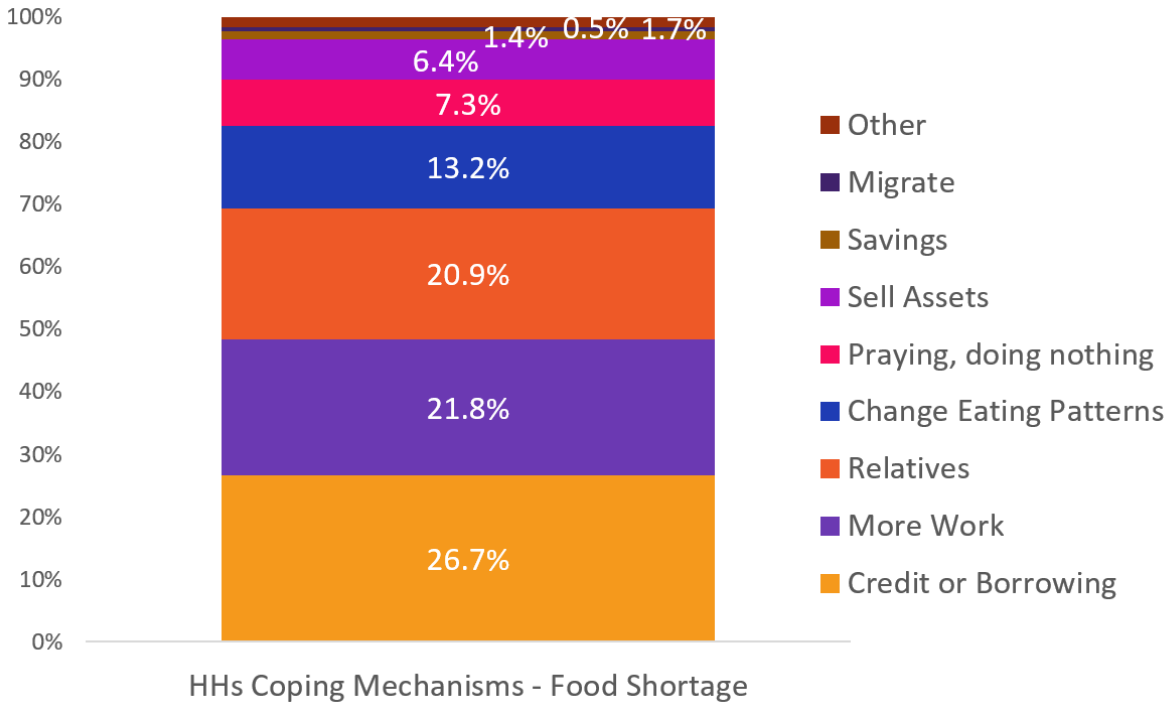
As the economy recovers, enabling labor mobility and facilitating easier remittance flows will also help hasten the distributive benefits of new growth. Long-term approaches to strengthening food systems, for example, by reviewing agricultural policies, supporting the use of digital tools for market links and logistic services, improving the operation of value chains, and enhancing the access to inputs, will also be beneficial.

Climate dependency and the lack of economic opportunities were the main drivers of the food insecurity observed among rural households. Among the reasons for food shortages, 47 percent of households indicated that the problems were related to the weather, including exposure to drought, floods, the length of the lean or hunger period, late or early rains, and landslides. The next biggest cause was the lack of adequate work (30 percent of households), followed by exposure to plant diseases and insects and other pests (9 percent). Other causes included (in order of importance) insufficient farming inputs and the small plots, illness or death among household members, food access (prices, market access), and education expenses.

Strategies for coping with food insecurity are mixed (figure 1.19). In the short term, if food security is a concern, households indicate they reduce the variety of foods consumed (54 percent), substitute food types (45 percent), and borrow food from neighbors and relatives (52 percent). If food security becomes a more pressing issue, many households are obliged to borrow money (27 percent), receive help from relatives (21 percent), or try to find more work (22 percent). Selling assets (livestock, land, equipment) is not a common strategy (6 percent), nor is migration (1 percent).

Figure 1.19: Household coping strategies in the face of a food shortage

households using coping mechanism, %



Source: 2019 World Bank survey data.

Nonmonetary measures of poverty

Poverty reduction has generally gone hand in hand with improvements in nonmonetary development indicators, but large rural-urban gaps remain

In addition to the reduction in monetary poverty, several indicators of nonmonetary well-being have also improved. Enhancements realized in education; health care; water, sanitation, and hygiene (WASH); electricity supply; road access, internet access, and so on have uplifted the quality of life among adults and have boosted the future life chances of children.

Educational access has improved throughout Indonesia, though Papua is still lagging. One of the improvements in education can be tracked through an increase in the access to Sekolah Menengah Pertama (junior high school, that is, lower-secondary education). The average net enrollment rate (NER) in rural areas has improved from below 65 percent in 2007 to around 77 percent in 2018, although it still slightly lags the rates in urban areas (around 81 percent; figure 1.20). Junior high school NERs have improved in all regions. The NERs are highest in Java-Bali and Sumatra (81 percent and 79 percent, respectively). Papua is still lagging in access to education; its junior high school NER in 2018 was only 59 percent; the corresponding NER in Kalimantan, the region with the lowest rate after Papua, was 73 percent (figure 1.21). Given their poverty rates, Kalimantan and Sulawesi might have been expected to achieve more progress on this development outcome (figure 1.22).

Figure 1.20: Junior high school NER, by urban or rural location, 2007–18

age-relevant population that is enrolled, %

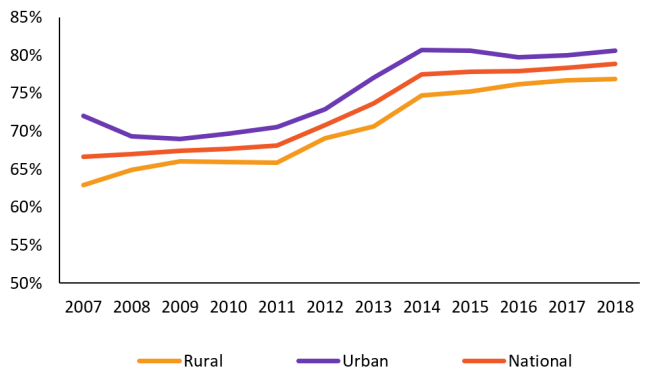


Figure 1.21: Junior high school NER, by island group, 2007–18

age-relevant population that is enrolled, %

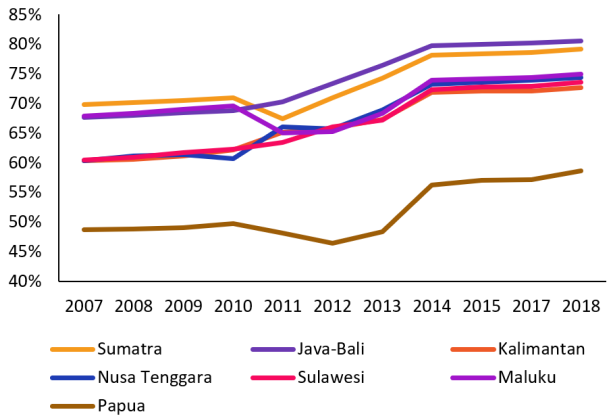
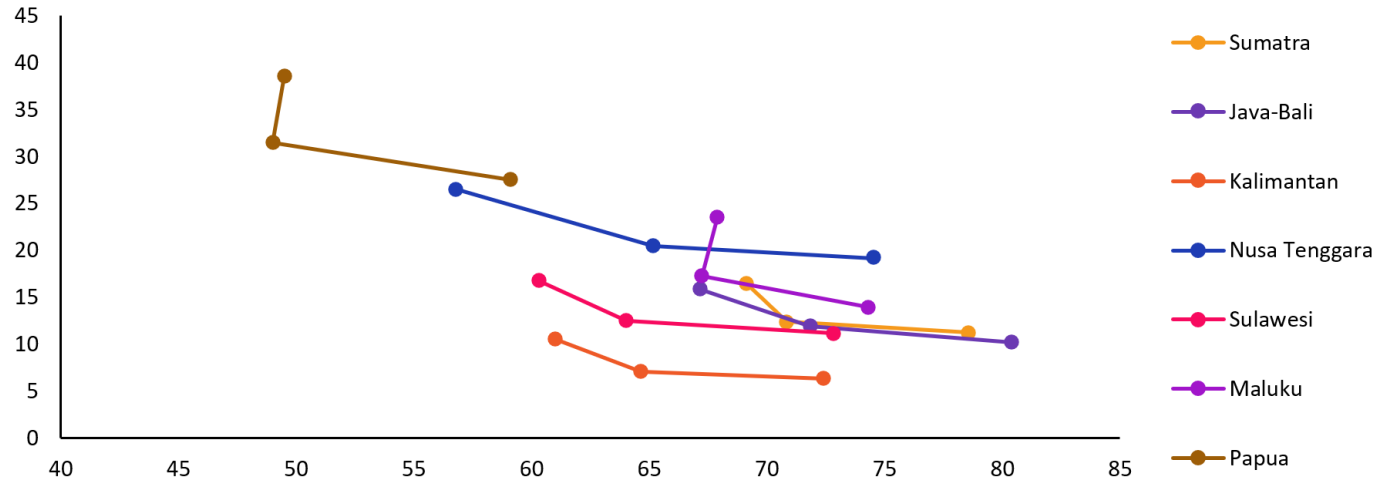


Figure 1.22: Junior high school NER versus poverty rate, 2004–18

age-relevant population that is enrolled, % (x-axis); % of population that is poor (y-axis)



Sources: Statistics Indonesia; SUSENAS data; World Bank calculations.

Note: The scatterplot of junior high school NERs (x-axis) vs poverty rate (y-axis) in each region consists of the average of the variables across 2004–08, 2009–13, and 2014–18.

The ability to provide better health services to a broader share of society, including in rural areas, has improved. A proxy that shows the improvement in health service provision, especially in rural areas, is the higher share of births attended by skilled health personnel in 2018. The improvement in rural areas in 2007–18 was impressive and shows that rural areas are rapidly catching up with urban areas (figure 1.23). In 2018, the share of births attended by skilled health personnel in rural area was 89 percent, up from 63 percent in 2007. This was slightly below the share in urban areas, which was 94 percent (up from 90 percent in 2007). The improvement was quite rapid across regions, except Papua, where the rate rose only from 56 percent to 61 percent (figure 1.24). While there was substantial improvement in Maluku, from 44 percent to 66 percent, there was a wide gap in 2018 between Maluku and Papua relative to the other regions. This welfare indicator tracks the improvement in poverty reduction in most regions.

Figure 1.23: Births attended by skilled health personnel, by urban or rural location, 2007–18

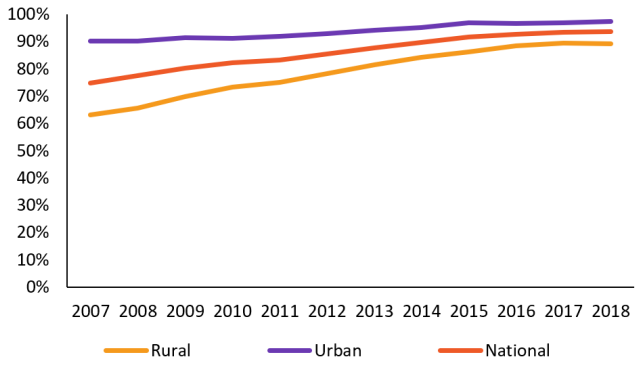
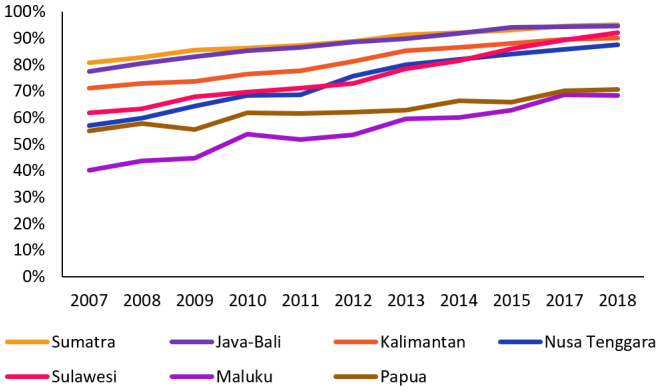


Figure 1.24: Births attended by skilled health personnel, by island group, 2007–18



Sources: Statistics Indonesia; SUSENAS data; World Bank calculations.

Access to services such as clean water, sanitation, and electricity, all show improvement across regions, but access to clean water and sanitation is markedly lower in rural areas. In 2007–18, improvements were made in access to WASH and electricity in rural areas and at the national level (figures 1.25 and 1.26). However, a relatively wide gap between urban and rural areas exists in access to safe drinking water (83 percent versus 61 percent) and private sanitation facilities (85 percent versus 73 percent). Improvement in WASH and in electricity occurred extensively across regions (figures 1.27 and 1.28). Papua is well behind other regions on all measures: electricity (71 percent versus 99 percent, respectively), private sanitation facilities (60 percent versus 79 percent), and safe water (44 percent versus 73 percent). If improvements in these indicators are tracked against reductions in poverty, Kalimantan lags relative to its poverty rates.

Figure 1.25: Access to WASH and electricity, by urban or rural location, 2007

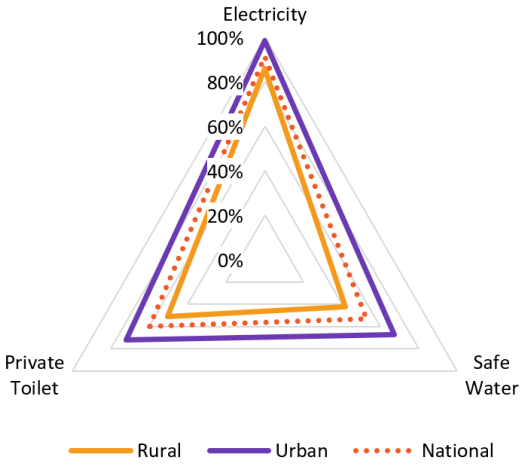
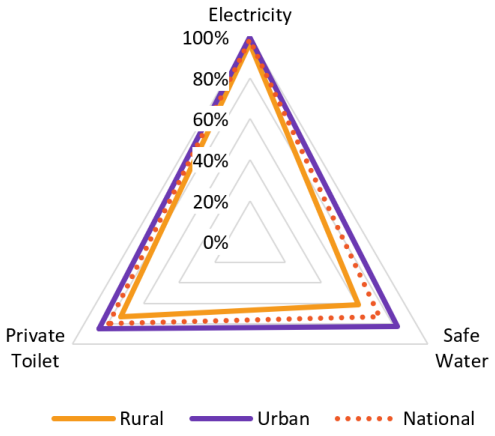


Figure 1.26: Access to WASH and electricity, by urban or rural location, 2018



Sources: SUSENAS data; World Bank calculations.

Figure 1.27: Access to WASH and electricity, by island group, 2007

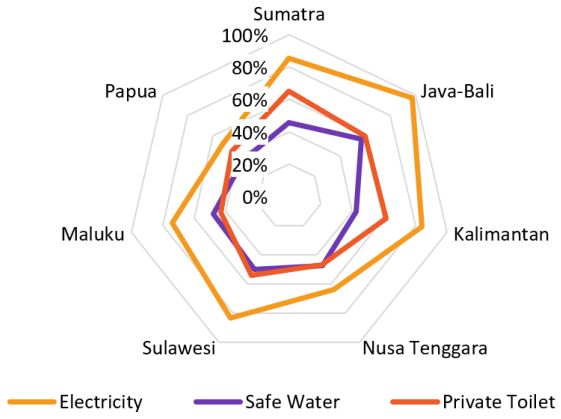
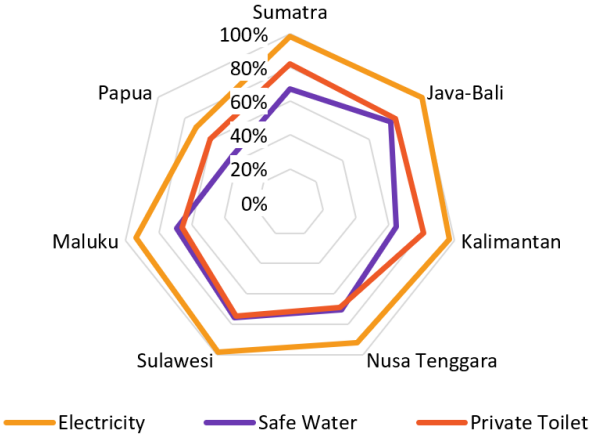


Figure 1.28: Access to WASH and electricity, by island group, 2018



Sources: SUSENAS data; World Bank calculations.

While progress has been made across all regions in village road access, regions except for Java-Bali are notably behind, particularly Papua, at 23 percent access. As measured by the share of villages with access to an asphalted road, there was an increase in road access from 52 percent to 70 percent in 2005–18 (figure 1.29). However, even with this improvement, the gap between desa (village community) and nondesa (kelurahan, that is, urban community) is sizable (70 percent versus 96 percent). The wide gap also appears across regions. In 2018, the share of villages with asphalted roads in Java-Bali was 94 percent, while it was only 23 percent in Papua, and all other regions were still at least 20 percentage points behind (figure 1.30). Lower poverty rates correlate with greater access to asphalted roads across regions, although Java-Bali and Papua are off-trend. Papua is further behind on road access relative to the poverty rate, while Java-Bali has always benefited from better rural road connectivity (figure 1.31).

Figure 1.29: Villages with access to asphalted roads, by urban or rural location (desa vs nondesa), 2005–18

population with access to asphalted roads, %

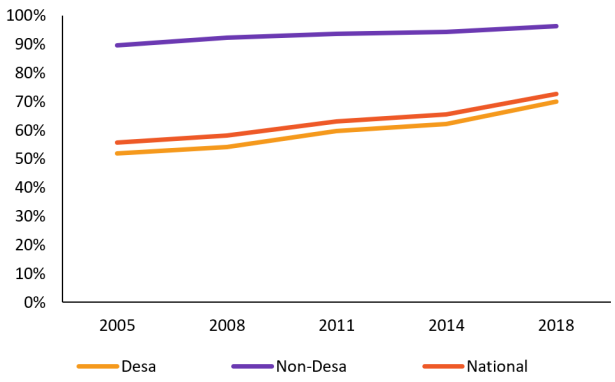
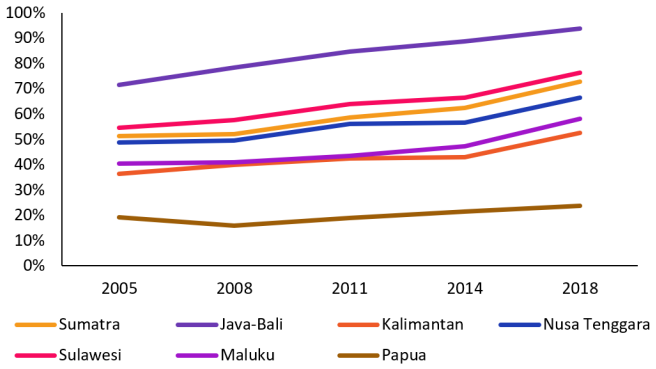


Figure 1.30: Villages with access to asphalted roads, by island group, 2005–18

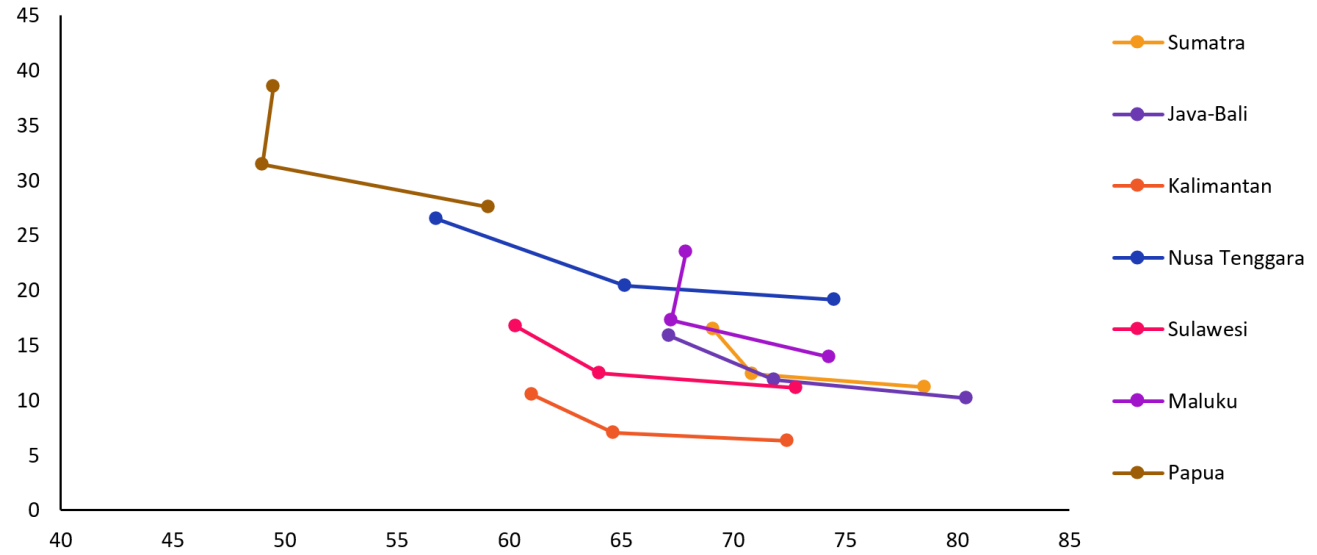
population with access to asphalted roads, %



Sources: Statistics Indonesia; SUSENAS data; World Bank calculations.

Figure 1.31: Villages with access to asphalted roads compared with poverty rate, by island group, 2004–18

% of population with access to asphalted roads versus % of population that is poor



Sources: Statistics Indonesia; SUSENAS data; World Bank calculations.

Note: The scatterplot of the share of villages with access to asphalted roads (x-axis) versus the poverty rate (y-axis) in each region consists of the average of the variables across 2004–08, 2009–13, and 2014–18.

Indonesia experienced a robust and rapid expansion in the access to Internet in 2007–18. The progress in rural areas has been especially notable, increasing by over 40 percentage points, from 1 percent to 42 percent (figure 1.32). All regions have benefited. Even in Papua, access was at 32 percent, while it was 60 percent in Java-Bali (figure 1.33). However, rural areas must still play catch-up given the 28 percent gap in access relative to urban areas in 2018.

Figure 1.32: Population with access to Internet, by urban or rural location, 2007 and 2018

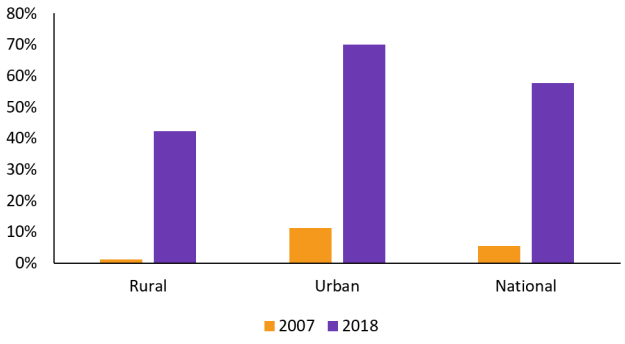
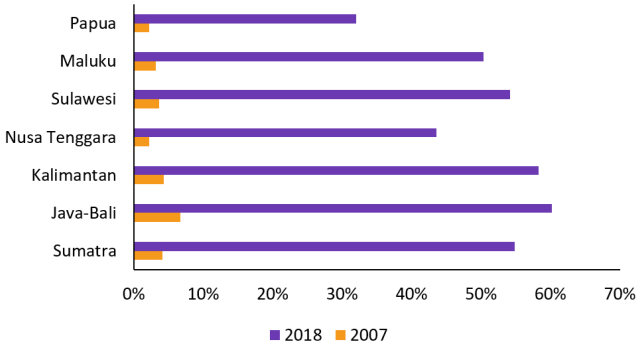


Figure 1.33: Population with access to Internet, by island group, 2007 and 2018



Sources: Statistics Indonesia; SUSENAS data; World Bank calculations.

These gaps are even more pronounced when quality dimensions are considered

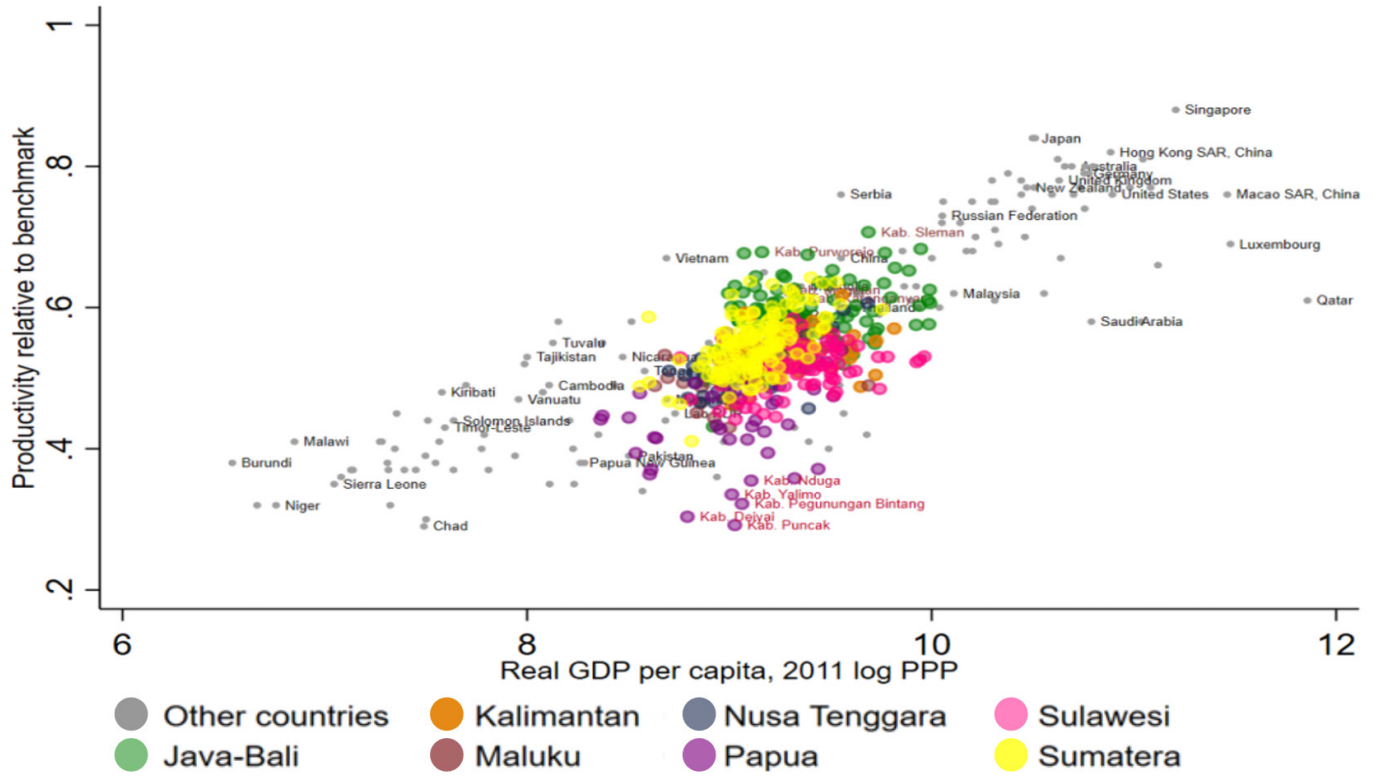
Despite some convergence in access indicators, the quality of services varies widely across the vast archipelago. One manifestation is the stark disparities in human capital. In 2019, the World Bank Human Capital Project introduced the human capital index, a summary measure of the aggregate human capital potential of countries. The associated indicators are derived from the following measures: (1) expected learning-adjusted years of schooling, (2) stunting prevalence, (3) child survival rates, and (4) adult survival rates. They capture access and quality within Indonesia's education and health care systems, but also within other complementary services, such as drinking water, sanitation, and food and nutritional security.

Gaps are more pronounced if quality dimensions are considered. At 0.53 on a scale of 0 to 1 (the benchmark for the index) on the inaugural global iteration of the human capital index in 2019, Indonesia outperformed its lower-middle-income country peers (0.48), but scored lower than its regional neighbors in East Asia and the Pacific (0.62) and

also the average of the nine countries of the Association of Southeast Asian Nations included (0.59).[7] Recent efforts to generate subnational human capital indexes in Indonesia have revealed a startling picture: some parts of the country (mainly in metropolitan-Java) are almost at par with countries such as China and Vietnam, while other parts of the country (mainly in nonmetropolitan rural Papua) exhibit human capital indexes comparable with the indexes of Chad, Niger, and Sierra Leone (figure 1.34).

Figure 1.34: The human capital index, by district, Indonesia

human capital index relative to the benchmark versus GDP per capita



Sources: D'Souza, Gatti, and Kraay 2019 ; Kraay 2019 ; Sari and Tiwari 2020.

Note: Per capita GDP across districts was found to be unreliable for this application. Therefore, the average (national) per-capita GDP scaled by welfare ratios for each district has been used. The welfare ratio is the ratio of the average per capita consumption of district i relative to the national average.

Conclusion

Stylized facts on monetary and the nonmonetary dimensions of poverty in Indonesia show that addressing rural poverty and improving rural human development are integral to the poverty reduction challenge. An overwhelming majority of the poor and vulnerable in the country live in rural areas. Nonmetropolitan rural areas alone account for 65.1 percent of this group. While decentralization has brought about some convergence in access indicators, a lot more work will be necessary to close the quality gaps. Uneven service delivery and the weak quality of the delivery in rural areas mean that millions of children have a poor start in life. The inequality of opportunities accounts for a third of total inequality today.

[7] See "Human Capital Project," World Bank, Washington, DC, https://www.worldbank.org/en/publication/human-capital.

SECTION 2

KEY DRIVERS OF POVERTY REDUCTION AND THE CHALLENGES

Key drivers of poverty reduction

Based on the methodology proposed by Azevedo et al. (2013), it is possible to decompose changes in poverty using income and expenditure data. The contribution of improved labor incomes to rural poverty reduction can be compared with other factors, such as nonlabor income and government transfers. Using the methodology proposed by Azevedo et al. (2013), it is possible to decompose changes in poverty using income and expenditure data (details in supplementary technical appendix A.1 available on request). This type of decomposition can help illuminate the factors that have been important in poverty reduction, alongside whether these factors have varied across regions. The methodology has been applied using data from the Indonesia Family Life Survey (IFLS) in 2007 and 2014, which enable a consistent examination of income, consumption, and savings across time,.[8] These data also have the advantage of covering self-employed individuals as well as wage workers. However, the data are not representative of Eastern.[9]

Nationwide, labor income has been the most important driver of rural poverty reduction. Calculations using three poverty lines—the national poverty line, the rural poverty line, and a $2.00-a-day purchasing power parity poverty line—show that labor income is the main driver of rural poverty reduction nationwide (figure 2.1).[10] Labor income is especially significant in rural Java-Bali, where it contributed to a 2.1 percentage point reduction in poverty. Since 2007, real wages have risen by 62 percent in Java-Bali, but increased by only 15 percent in other regions. Except in the most populous region, Java-Bali, social assistance has also played an important role in poverty reduction. Government transfers—for example, the Raskin Program (Beras untuk Rumah Tangga Miskin, rice aid for poor families, launched in 1998), direct cash assistance, the Bantuan Langsung Sementara Masyarakat unconditional cash transfer rolled out in 2013, and PKH—have made the largest contributions. This highlights the lack of job opportunities and job diversity outside Java-Bali. Around 60 percent of households outside Java-Bali in the sample work in agriculture, forestry, and fishing, compared with fewer than 45 percent in Java-Bali.

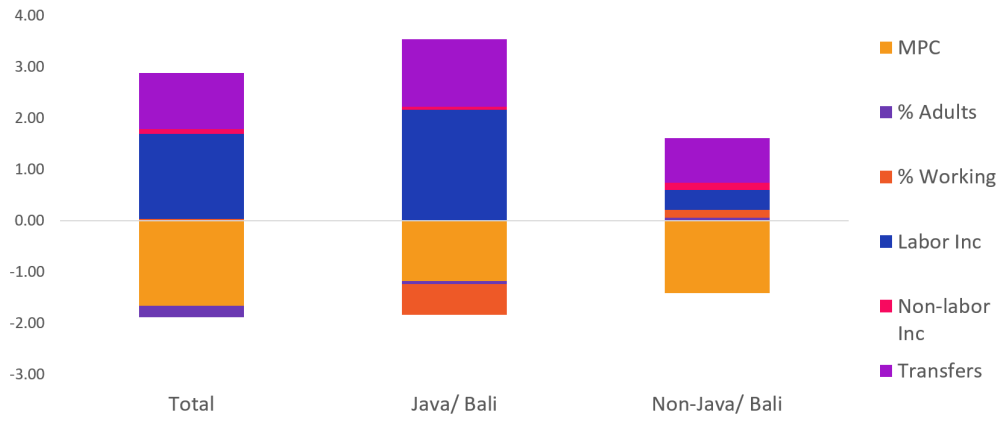
[8] The decomposition methodology relies on the ability to of the data to generate an identity income equation for households, which is not possible using SUSENAS or SAKERNAS data because these data are drawn from different sets of households. For the IFLS, see IFLS (Indonesia Family Life Survey) (database), RAND Corporation, Santa Monica, CA, https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS.html. For SAKERNAS, see SAKERNAS (Survei angkatan kerja nasional, National Labor Force Survey) (database), Badan Pusat Statistik (Statistics Indonesia), Jakarta, https://mikrodata.bps.go.id/mikrodata/index.php/catalog/SAKERNAS.

[9] The following 10 provinces are not covered in the IFLS data: Bengkulu, Central Sulawesi, East Nusa Tenggara, Gorontalo, Maluku, North Kalimantan, North Maluku, North Sulawesi, Papua, and Southeast Sulawesi.

[10] Improvements in labor income are estimated to have reduced rural poverty by 1.7 percentage points in 2007–14. However, other factors, such as reductions in savings (higher marginal propensity to consume), lead to lower net rural poverty reduction.

Figure 2.1: Decomposition of changes in the rural poverty rate, 2007 and 2014

percentage point contribution of each factor



Sources: IFLS 2007, 2014; World Bank calculations.

Note: Labor income refers to the changes in employment and earnings. Nonlabor income refers to income generated through assets (farm and nonfarm), pensions, and scholarships. Transfers includes the Raskin Program (rice aid for poor households), unconditional cash transfers (direct cash assistance and the Bantuan Langsung Sementara Masyarakat transfer), and conditional cast transfers (PKH). MPC = marginal propensity to consume.

It is almost tautological to find that labor income is the driver of poverty reduction. Own labor is often the only productive asset that the poor possess. So, the extent to which the poor are able to use this asset to earn higher incomes is directly related to their ability to move out of poverty. The overall quality of the asset (human capital, skills, employability), the intensity with which the asset can be used (participation in the labor market, which is chronically low and has been stagnant among many women), and the returns to the asset in the prevailing market (the same kind of worker could be paid much more in urban areas of the country) are all relevant to understanding the challenges of poverty reduction. Section 1 illustrates the gaps in human capital that give rural residents a poor start in life. This section examines the labor market conditions that determine the various possibilities for using the human capital.

Structural transformation and off-farm opportunities

Barring exogenous improvements in agricultural productivity of the kind seen, for example, in India during the green revolution, experiences across the developing world show that poverty reduction often goes hand in hand with the expansion of off-farm activities. This is also consistent with the classic view on the process of development, which sees economic diversification as the typical pathway toward economic prosperity. A distancing from low-productivity agriculture to higher-productivity sectors such as industry and services can lead to a structural transformation where higher wages among individuals and improved productivity at an aggregate level are expected benefits.

While rural workers are transitioning out of agriculture in all regions, the trend is notably more advanced in Java-Bali and least advanced in Papua.

Since 2007, the share of workers in agriculture has steadily decreased, including in rural areas, where there is a stronger association with agricultural activities (figure 2.2). While this trend is prominent across regions (figure 2.3), it is notably more advanced in Java-Bali and least advanced in Papua. In relation to poverty rates, Papua and Java-Bali appear to be on quite different trends in comparison with the other regions. Employment opportunities outside agriculture have always been abundant in Java-Bali and scarce in Papua (figure 2.4). In fact, Papua is the only region where more than half the employed labor force was still working in agriculture in 2018 (61 percent). This also reflects differences in the sectoral composition of output across regions, for example. Java-Bali has a considerably more diversified economy than other regions (box 2.1).

Figure 2.2: Population working in agriculture, by urban or rural location, 2007–18

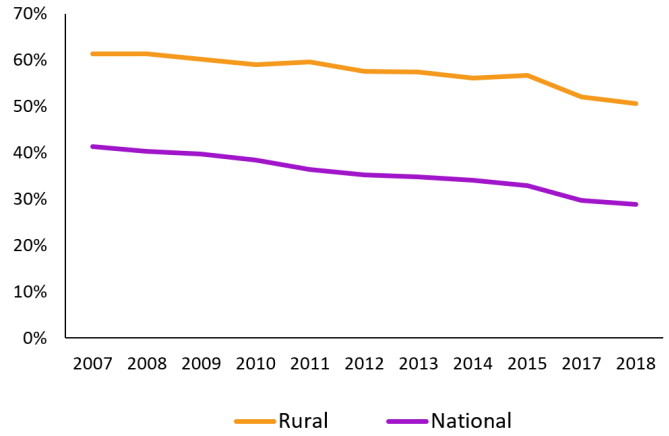


Figure 2.3: Population working in agriculture, by island group, 2007–18

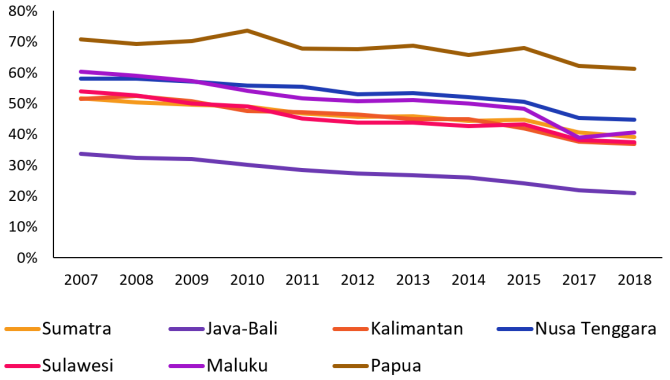
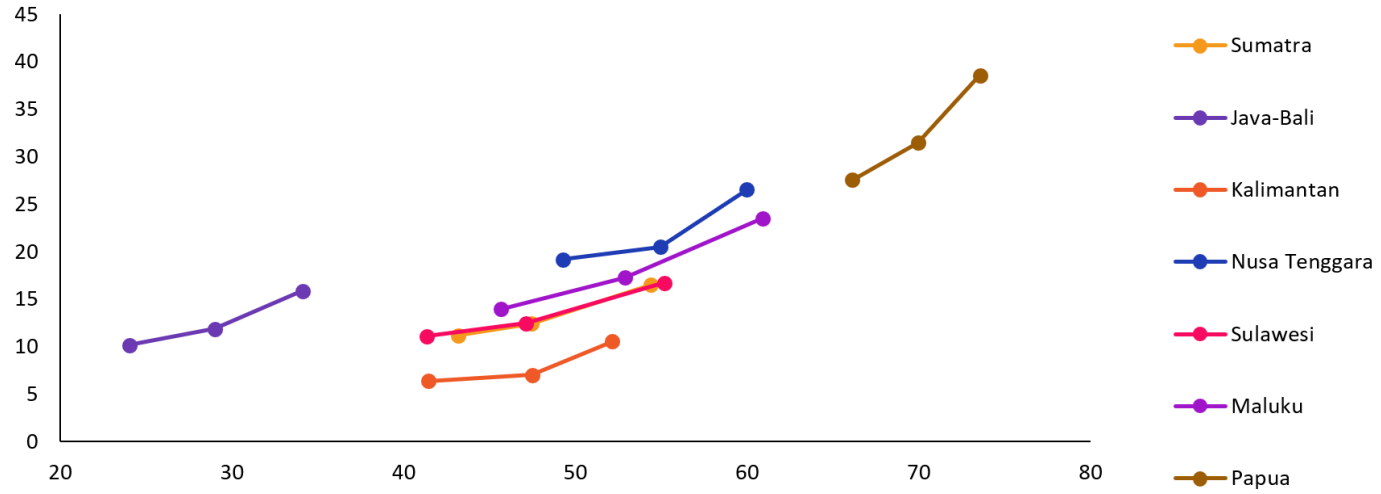


Figure 2.4 Share of people working in agriculture vs poverty rate by islands group, 2004–18

(% of villages working in agriculture in each region vs. poverty rate in those regions)



Sources: Statistics Indonesia; SAKERNAS database; World Bank calculations.

Note: The scatterplot of the share of worker in agriculture (x-axis) vs the poverty rate (y-axis) in each region consists of the average of the variables across three periods: 2004–08, 2009–13, and 2014–18.

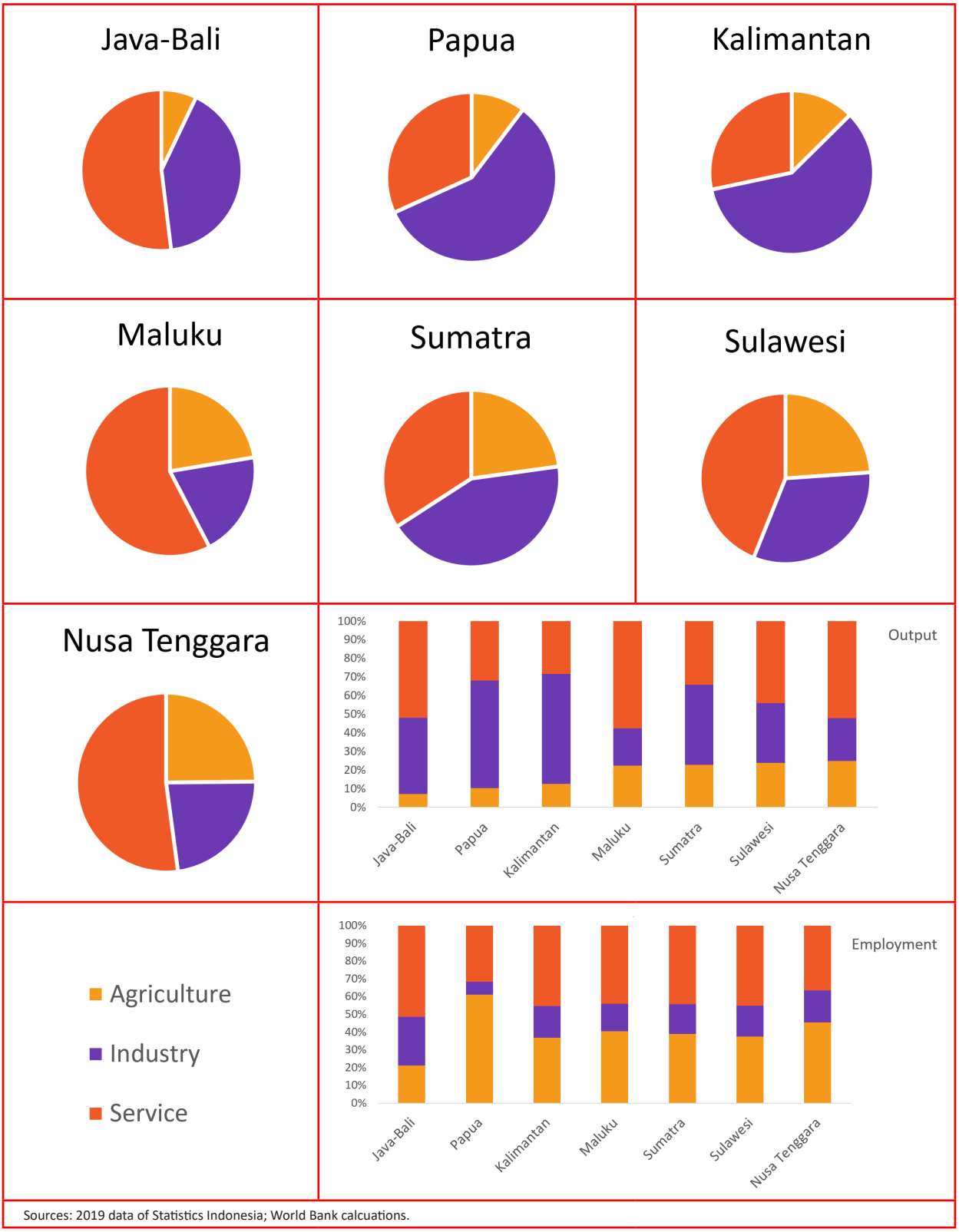
Box 2.1. Sectoral Output across Regions

Java-Bali is the most advanced region in that it has the lowest share of agricultural output and a strong combination of output from industry and services.

Papua and Kalimantan have a high share of output from mining and quarrying activities, which are categorized under the industrial sector, hence the predominance of this sector in their economies. However, mining and quarrying are not labor intensive and have a lower value added relative to other industrial activities, such as manufacturing or construction. In these regions, 37 percent (Kalimantan) and 61 percent (Papua) of the population remain employed in agriculture.

Maluku, Nusa Tenggara, Sulawesi, and Sumatra have similar shares of agricultural output (figure B2.1.1). The important difference between these four is that Sulawesi and Sumatra have a stronger degree of industrialization relative to Maluku and Nusa Tenggara. This higher industrialization corresponds with the presence of three multidistrict metro areas in Sumatra (Aceh, Bukittinggi, and Medan) and one such area in Sulawesi (Makassar), compared with none in Maluku and Nusa Tenggara.

Figure B2.1.1: Share of output across sectors, by region

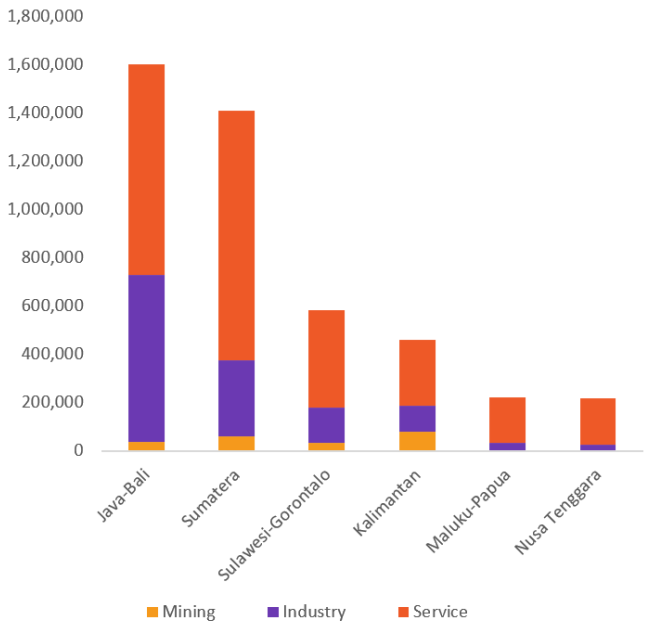


Sources: 2019 data of Statistics Indonesia; World Bank calcuations.

Most new jobs have been created in services, though there are differences across island regions. In Java-Bali, for example, almost as many jobs were created in the industrial sector as in services. The number of new jobs in manufacturing were significant in the islands of Java-Bali and, to some extent, in Sumatra, but practically nonexistent on other islands. Within services, whereas trade has been the most dominant subsector in Java-Bali, community and social service jobs have been the most rapidly growing segment outside Indonesia's most populous island, Java. In the island of Papua for example, the expansion of social and community services alone accounts for 83 percent of the growth in off-farm jobs in the region (figures 2.5 and 2.6).

Figure 2.5: Rural off-farm job creation in three sectors, by island, 2008 and 2018

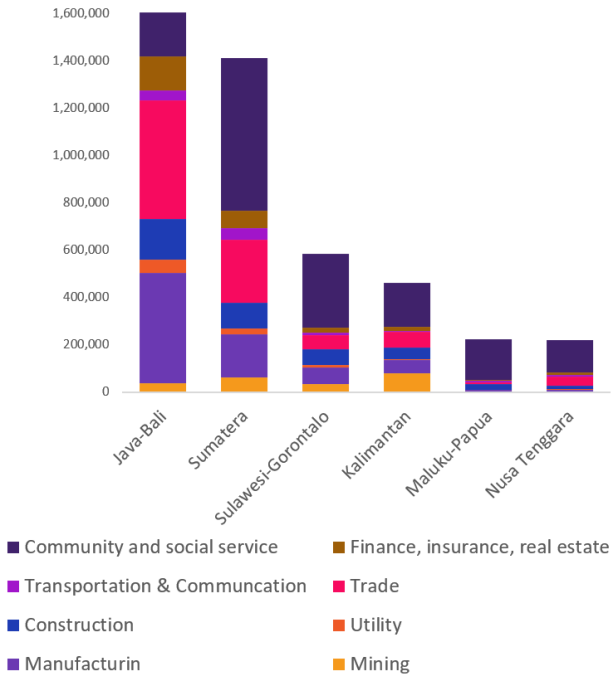
number of jobs



Source: Calculations based on August version of SAKERNAS 2008, 2018.

Figure 2.6: Rural off-farm job creation in nine sectors, by island, 2008 and 2018

number of jobs

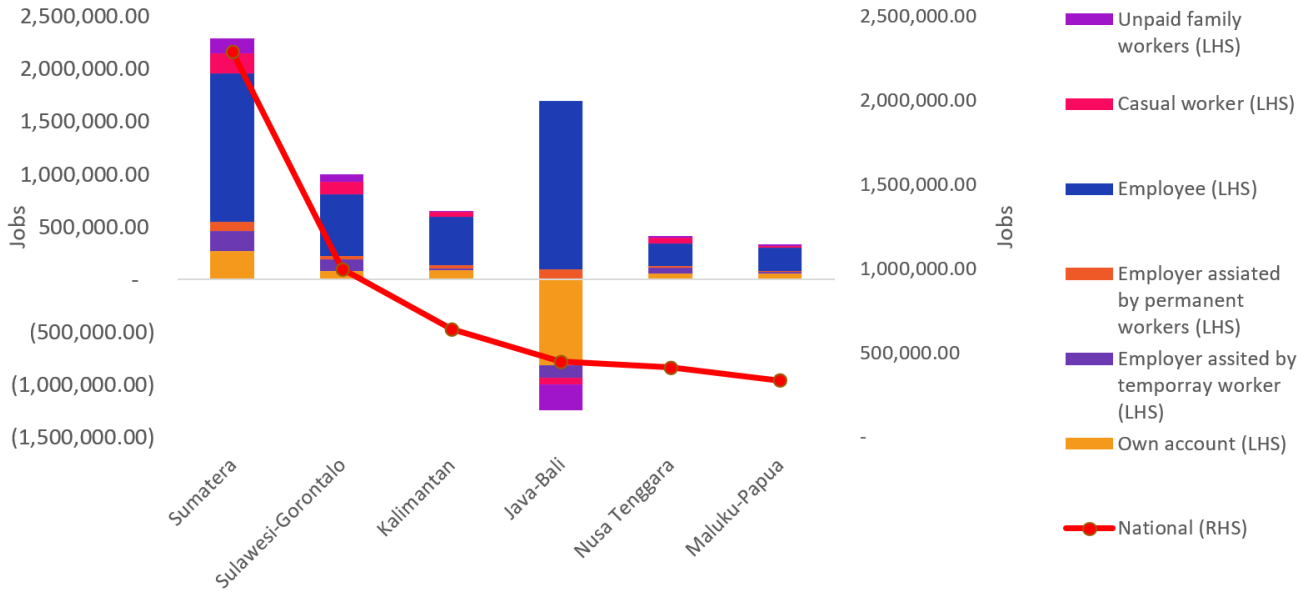


Source: World Bank calculations based on August version of SAKERNAS 2008, 2018.

The occupations in which people engage is an important marker of job quality. There are striking differences across island regions. While most island regions saw growth in all types of occupations, the rural areas of Java-Bali stand out. There was a distinct and sizable growth in the employee category, coupled with a commensurate decline in the employment in other types of occupations. In the last 10 years, the rural areas of Java-Bali experienced growth of 1.7 million in the number of employees and of employers with permanent staff, while the number of lower-quality off-farm jobs (such as casual and own-account labor activity) declined by 1.2 million (figure 2.7). This shift from lower-quality jobs in Java-Bali has benefited women. Around 350,000 women are estimated to have moved out of casual and unpaid family work. In most regions, there has been strong participation of women in the growth of employee jobs, at around 45 percent. However, Kalimantan and Maluku-Papua lag, with only 31 percent and 35 percent of women taking on these new jobs.

Figure 2.7: Rural off-farm job creation, by type of job and island, 2008 and 2018

number of jobs



Source: World Bank calculations based on August version of SAKERNAS 2008, 2018.

Some improvements in the quality of jobs notwithstanding, most rural off-farm jobs are still in low-skilled occupations. Trade and retail, restaurants and hotels, other services, manufacturing, and construction have seen the greatest growth in employment in rural areas. Though the rate of job formality has been steadily improving, rising from less than a quarter of rural workers in 2008 to more than a third of all employment in rural areas in 2018 (figures 2.8 and 2.9), most off-farm workers in rural areas are still engaged in informal low-skilled jobs. Production floor workers, laborers, transportation operators, and sales force contributed the major share of rural off-farm employment in 2018, accounting for nearly 80 percent of rural off-farm jobs. Among these categories, women were more strongly represented in sales work, at 58 percent, while men were more highly represented in the remaining categories, at 74 percent.

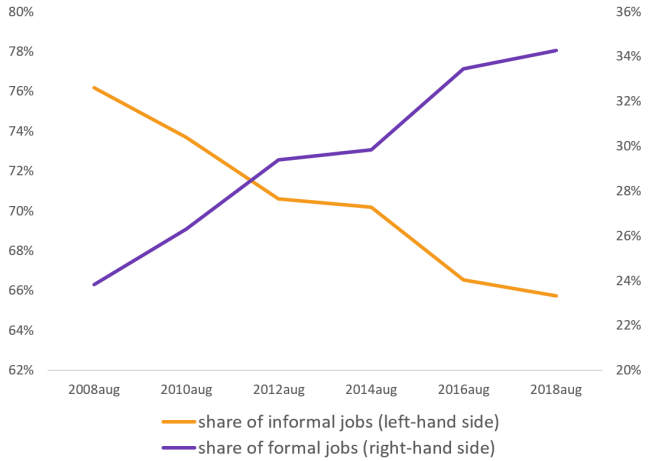
Figure 2.8: Off-farm jobs in rural area, by type of employment, 2018

% of off-farm jobs

Source: World Bank calculations based on August version of SAKERNAS 2018.

Figure 2.9: Formal and informal jobs in rural areas, 2008–18

% of rural jobs

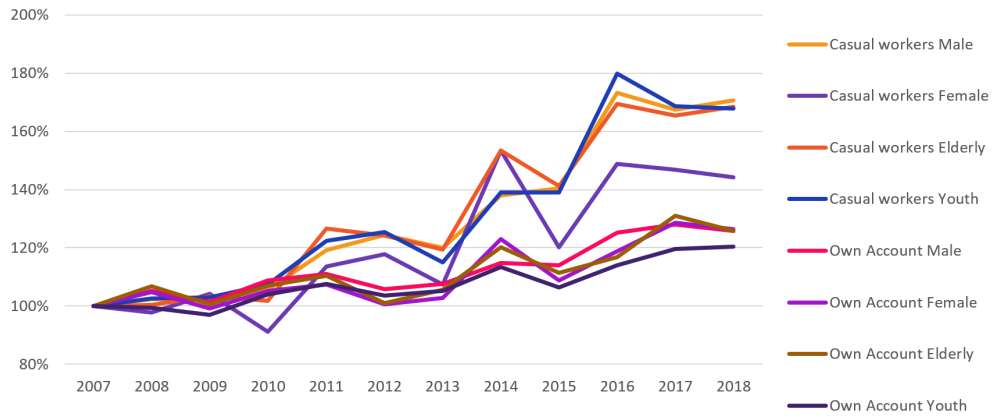


Source: World Bank calculations based on August version of SAKERNAS 2008, 2018.

Access to opportunities varies across groups in terms of real wage growth and job formality. Among casual workers, among whom lower-wage jobs are concentrated in rural areas, there was a noticeable gap in real wage growth in 2007–18 between women (44 percent) and other worker categories (around 70 percent; figure 2.10). Less divergence is apparent in own-account work, although there is less opportunity overall for income growth in this category. Real wage growth has been 20 percent to 26 percent over the last 10 years. Wage information on the elderly (above age 50) and youth (ages 18–30) indicate that these groups are not obviously disadvantaged in rural areas. However, 65 percent of men are employed in formal jobs in rural areas, while the elderly and youth have much lower representation, at 17 percent and 13 percent, respectively.

Figure 2.10: Real wage growth in rural employment, by category of worker

real wage growth, %



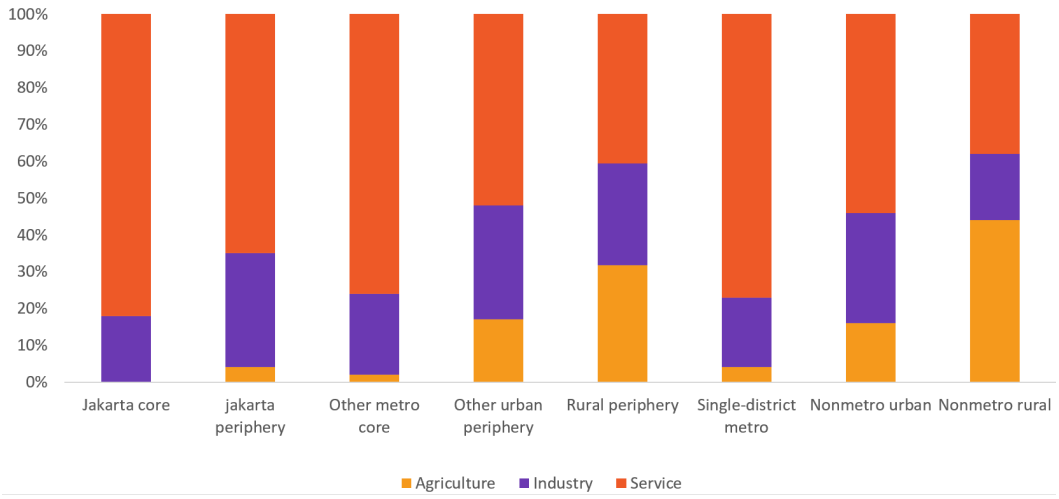
Source: World Bank calculations based on August version of SAKERNAS 2018.

Within rural areas, locations near multidistrict metropolitan areas (rural peripheries) offer, on average, a greater number of nonfarm jobs than other rural areas (nonmetropolitan rural areas). The share of nonfarm jobs in the rural peripheries of multidistrict metropolitan areas is 12 percentage points higher than the share of off-farm jobs in nonmetropolitan rural areas (figure 2.11). This corresponds to a difference of 9 percentage points—17 percent versus 26 percent—in

the sectoral output generated through agriculture in these two types of rural areas. The proximity of rural residents to cities and metropolitan areas spurs the demand for nonfarm wage jobs for several reasons. Proximity facilitates commuting by rural residents to obtain nonfarm wage jobs in cities and metropolitan areas. Furthermore, because metropolitan cores are more built up, land is more expensive in cities and metropolitan areas, shifting the demand for residential land to rural peripheries to provide housing for workers. This increase in the demand for residential properties drives the demand for construction jobs in the rural periphery, while the improved earnings of workers employed in nonfarm wage jobs in cities drives growth in services that cater to the needs of the urban population.

Figure 2.11: Sectoral structure of employment, by type of location, 2007 and 2017

% of total jobs



Sources: Roberts, Gil Sander, and Tiwari 2019; calculations using data of the August version of SAKERNAS 2007, 2017.

Where opportunities for nonfarm work exist, individual characteristics, such as educational attainment, gender, and age, determine who obtains these jobs.

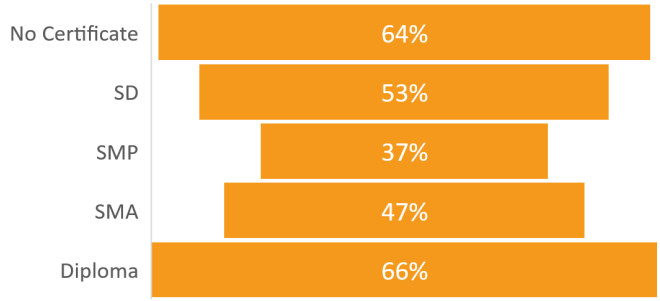
Within rural areas, educational attainment is the most important determinant of who finds work in nonagricultural jobs. Higher educational attainment is associated with a greater probability of obtaining off-farm work. The off-farm employment rate is less than 10 percent among workers with primary educational attainment, 20 percent among workers with junior secondary educational attainment, 30 percent among workers with senior secondary educational attainment, and 80 percent among workers with tertiary educational attainment. Nonetheless, nearly three-quarters of the rural labor force has less than senior secondary educational attainment, and more than 50 percent have either no education or education below the primary level. The gender dimension is also important (box 2.2)

Box 2.2. Labor Force Participation among Poor Women

A significant share of women in rural villages are neither working nor in school. Based on field data on 5,281 women in 2,400 mostly poor households across 120 villages in six provinces, 24 percent were in school, 34 percent were working, and 42 percent were neither working nor in school. The women who were neither working nor in school most frequently said their role as homemakers was the reason they could not work in paid employment.

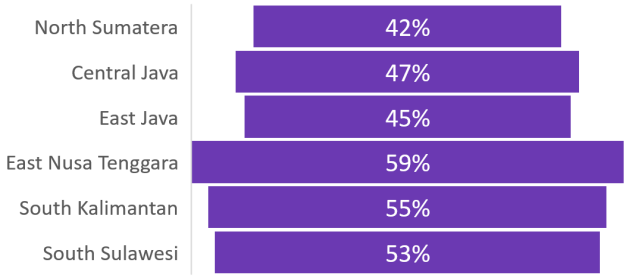
Educational attainment and region of residence play a role in determining rural female labor force participation (figures B2.2.1 and B2.2.2). There is a U-shape in the relationship between educational attainment and female labor force participation. Women with no education, primary education, or tertiary education show higher rates of labor force participation than women with secondary education (junior or senior high school). Women in more remote regions, such as East Nusa Tenggara, South Kalimantan, and South Sulawesi, also show greater labor force participation than women in Central and East Java and North Sumatra.

Figure B2.2.1: Female labor force participation, by education



Source: World Bank Field Survey, 2019

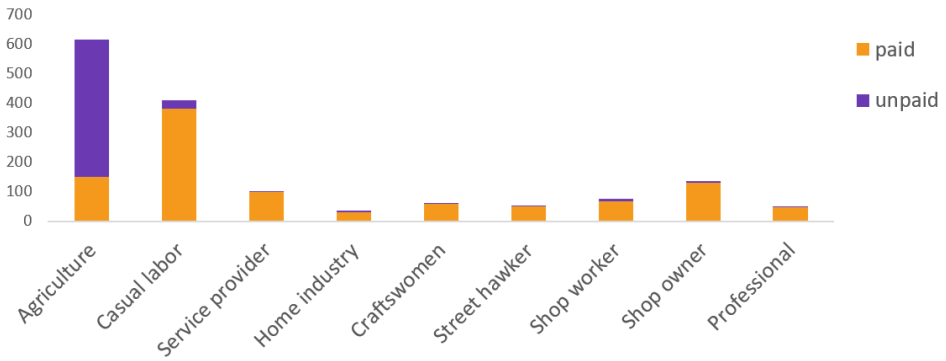
Figure B2.2.2: Female labor force participation, by region



Source: World Bank Field Survey

About a third of women who are working are unpaid family workers. Even among women who are working, only 66 percent are paid, while the remainder are doing unpaid work in their households. The most common sector of employment is agriculture (40 percent of women, of whom most are unpaid), followed by casual labor (26 percent) (figure B2.2.3). Most women who are working have primary education or less (64 percent), and there is some indication of sorting by educational attainment across sectors. For example, retail, service, and professional jobs are less common among women with primary educational attainment or less.

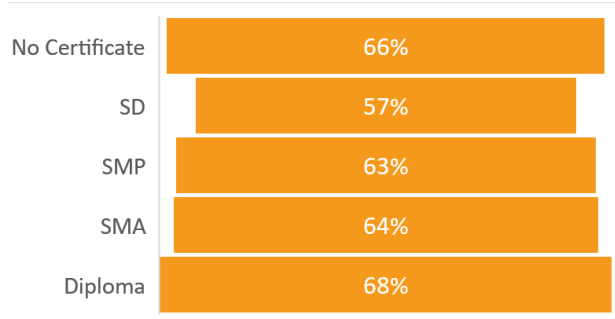
Figure B2.2.3: Sectors of employment among rural women workers



Source: World Bank Field Survey, 2019

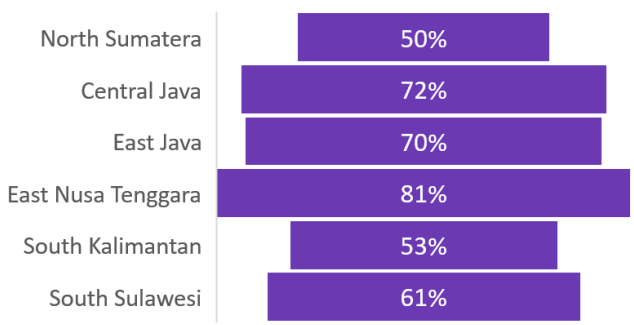
Gender wage differentials persist across all regions and levels of education. On average, men in the survey data earned Rp 1.08 million a month, while women earned Rp 0.67 million a month, indicating that women's earnings represented an average of only 62 percent of men's earnings. The wage differential showed some variation by educational attainment (figure B2.2.4). Thus, women earned from 57 percent to 68 percent relative to men at the same educational levels. The wage differential was lowest among the least and most well educated workers (66 percent and 68 percent, respectively). There are also significant regional variations in wage differentials (figure B2.2.5). Only in some regions are wage differentials correlated with low female labor force participation rates. For example, in North Sumatra, where the female participation rate is lowest, at 42 percent, the average wage differential is high, at 50 percent, and, in East Nusa Tenggara, where the female labor force participation rate is highest, at 59 percent, the average wage differential is lower, at 81 percent. However, in East and Central Java the wage differential is not as pronounced (at 70 percent and 72 percent, respectively); yet, the female labor force participation rate is low (at 45 percent and 47 percent, respectively).

Figure B.2.2.4: Gender wage differential, by education



Source: World Bank Field Survey, 2019

Figure B.2.2.5: Gender wage differential by region



Source: World Bank Field Survey

Spatial transformation and spillovers

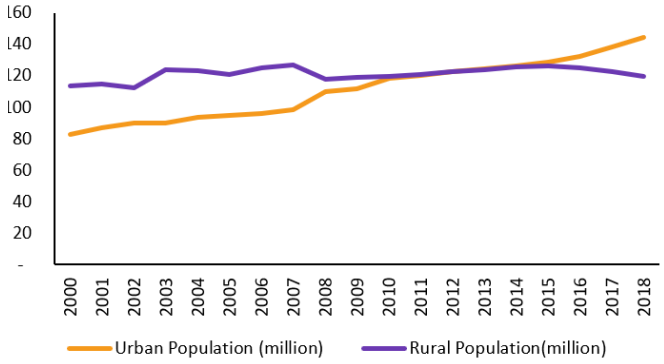
Productivity is not evenly distributed across space in any country, and Indonesia is no exception. Two theories of urban economics help explain variations in productivity across locations. One theory posits that differences in productivity arise from the structure of the local economy, associated with the sorting of workers and firms. The other posits that there are inherent characteristics underlying the productivity of places, and these are driven by place-based advantages that emanate either from natural endowments (favorable geography, climate factors, or natural resources) or from acquired advantages related to agglomeration forces (population size, market access, or the business environment). Roberts, Gil Sander, and Tiwari (2019) find that, in the case of Indonesia, productivity differences across locations have been shaped to a larger extent by differences in underlying productivity, associated with place-based advantages arising mostly from a variety of agglomeration forces. That cities exhibit higher concentrations of better jobs is thus not necessarily to be lamented. There are, however, two key questions from the perspective of rural poverty that need to be answered: (1) to what extent do higher productivity and greater prosperity in cities spill over to rural areas? and (2) what can be done to facilitate this process?

Rural areas in Indonesia have not benefited from growth spillovers in urban places

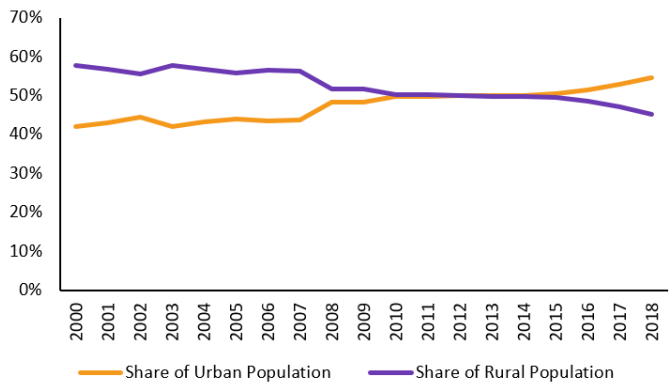
Urbanization has been intense in Indonesia in the last two decades. The degree of urbanization, that is, the share of the population living in urban areas, changed by 34 percentage points in Indonesia in 1975–2015. Indonesia thus ranks seventh among countries with the highest rate of urbanization change during the period (Wai-Poi et al. 2018). In 2000–17, the urban population increased by close to 60 million, raising the share of urban households from 42 percent to 55 percent (figure 2.12). Urbanization is expected to persist apace, and, by 2045, approximately 70 percent of Indonesians will be living in urban areas (Roberts, Gil Sander, and Tiwari 2019).

Figure 2.12: Rural and urban population trends, Indonesia, 2000–18

a. Population, millions



b. Population, %



Sources: SUSENAS data; World Bank calculations.

Indonesia has not experienced the growth one might expect given the degree of urbanization. Estimates show that, relative to other regions, the multiplier effect of urbanization has been low during the period of urban growth. In 1996–2016, a 1 percentage point rise in the share of the urban population was associated with a 1.4 percent increase in GDP per capita, but, in developing countries in East Asia and the Pacific, the corresponding increase was 2.7 percent (Roberts, Gil Sander, and Tiwari 2019). It is thus relevant to analyze the impact of urbanization on rural poverty. Has this large change in the profile of Indonesia and the distribution of the population had a positive or negative effect on rural areas?

Several drivers may influence how urbanization affects rural poverty. First, migrant flows may impact rural poverty rates. These are driven by push and pull factors, as well as access to sufficient resources to migrate from rural to urban areas. Both poor and nonpoor rural residents may wish to move to urban areas to seek better incomes, for example, through the ability to access more well paid jobs or because the opportunities will be better, for instance, through better access to schools and hospitals. The shift of the rural poor to urban areas will tend to reduce the rural poverty rate, while movements of the nonpoor to urban areas will tend to raise the rural poverty rate. Second, expanding economic activities in urban areas may also have a positive stimulus or spillover effect on rural areas, for example, by boosting the demand for rural goods, diversifying economic activities, increasing the remittances from urban areas, and raising the value of rural land. Third, the administrative reclassification of rural to urban areas has accounted for much of the

urbanization. This relabeling is likely to increase rural poverty if it is driven by adding welfare infrastructure (schools, markets, health centers), greater population density, or a reduction in the number of agricultural households: all factors correlated with greater economic development and less poverty. Table 2.1 summarizes these various drivers.

Table 2.1: Drivers of urbanization on rural poverty

Migration (+ or -)	Variation in rural poverty through a change of residence from rural areas to urban areas. Both poor and nonpoor can be migrants		
Economic links (generally -)	Capture the impact of urban population growth on the rural poverty rate	**Consumption links**	Expanding urban population will generate an increase in the demand for rural goods, like agricultural food production.
		Rural nonfarm employment	Diversification of economic activity away from farming resulting from: (1) Proximity to cities that can allow people to commute to the city to work. This increases work in services demanded by the commuter population, (2) rural households can now specialize in particular markets given the opportunity to access city markets for other goods, (3) stimulation of nonfarm activities instrumental to agricultural trade as marketing and transport.
		Remittances	Money send from rural-urban migrants to rural households
		Rural land/labor ratio	Decrease in rural labor supply and the resulting increase in land available per capita can increase labor productivity in agriculture creating an upward pressure on rural wages.
		Rural land prices	Greater demand for agricultural land for residential purposes can increase income for landowners through sale, rent or access to credit markets in which land is used as collateral
		Consumer prices	City growth reduces consumer prices creating an increase in real wages.
Reclassification (generally +)	Variation in rural poverty through a reclassification of rural areas to urban areas. Generally occurs when areas have characteristics associated with a higher level of development: greater population density, lower share of agricultural households, greater urban facilities.		

In 2000–18, urbanization had little net impact on rural poverty reduction. In general, the urbanization process had little net impact on poverty in rural areas. Following the method developed by Calì and Menon (2013), the expanding urban population shows little correlation with rural poverty reduction at the district level (table 2.2, column 1; for details on data and methods, the supplementary technical appendix A.2 is available on request). This remains true if one controls for proxies for migration through the share of the rural population most highly predisposed to migrate, represented by literate individuals ages 15–34 (column 2). This null finding persists if one focuses on urban growth among the nonpoor population within a district (column 3), although any rural poverty-reducing effects of an economic link are most likely to stem from the greater demand among this population. These results are also robust to endogeneity among factors affecting both rural poverty and rural population growth because the results remain unaffected if one adopts a fixed coefficient instrumental variable approach (columns 4 and 5).[11] The results are also parsimonious to regression specification.[12]

[11] As in Calì and Menon (2013), an instrumental variable for the urban population is constructed using the urban population growth trend since 1993. This is correlated with contemporaneous urban population growth, but may be thought implausible as a driver of contemporaneous rural population growth.

[12] Other specifications are considered whereby the share of the urban population is used in place of the absolute urban population, as well as a quadratic relationship and periphery spillover impacts from neighboring districts. See technical appendix A.2 for the full results.

Table 2.2: Effect of urbanization on rural poverty, 2000–18

Dependent variable	Rural poverty (headcount ratio)				
	Ordinary least squares			IV	
	(1)	(2)	(3)	(4)	(5)
Urban population $_{t-1}$	0.003	0.008		0.006	
	(0.51)	(1.22)		(0.07)	
Urban population - nonpoor$_{t-1}$			-0.012		0.006
			(1.38)		(0.07)
Rural pop ages 15–34 (share)		0.047	0.047	0.03	0.031
		(0.82)	(0.83)	(0.70)	(0.70)
Rural literate 15–34 (% in 15-34)		0	0	0	0
		(-0.34)	(-0.28)	(-0.13)	(-0.13)
Observations	4394	4382	4382	4233	4233
R-squared	0.354	0.408	0.408	0.422	0.422
Controlling for migration effect?	No	Yes	Yes	Yes	Yes

Source: World Bank calculations.

Note: The table shows district-level regressions. Standard errors in parentheses. Population variables are in millions. All specifications have island-year fixed effects. Controls include rural population, urban poverty rate, GDP per capita, district average access to electricity and safe water, education levels, and household size. Migration controls include the rural population share ages 15–34 and the share of these who are literate. See appendix A.2, table A.2.2 for the complete results.

*** p < .01 ** p < .05 * p < .1

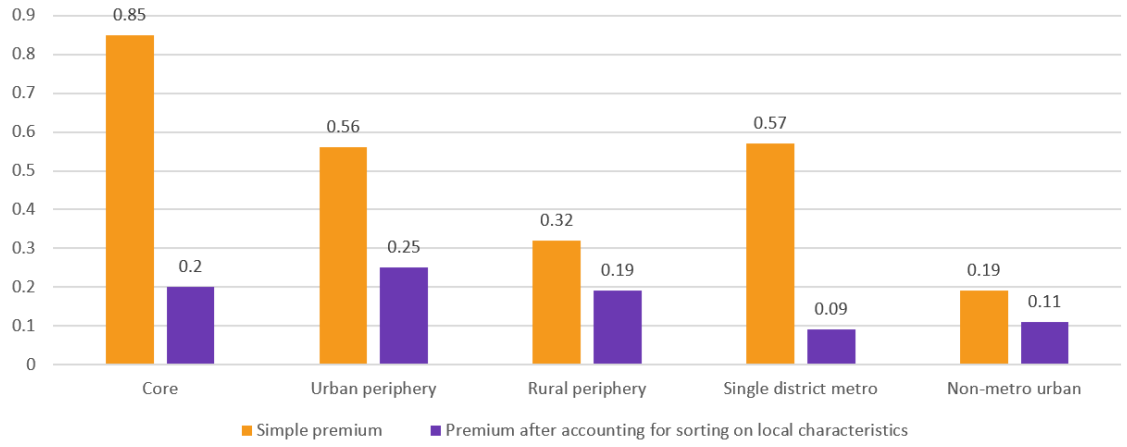
These results remain valid if one controls for population reclassification. A dataset was constructed using the PODES national data to account for reclassification, given the importance of this in the analysis, and to control directly for migration.[13] These data are only available for a subset of years: 2000, 2003, 2007, and 2011. It appears that, over this period, migration had a negative impact on rural poverty, while reclassification and growth among the nonpoor urban population had no direct impact. This suggests that net migration from rural areas to urban areas was dominated by the rural poor and that, during these early periods, this helped lower rural poverty rates. At the same time, the demands arising from the urban population, even among the nonpoor, was not sufficiently forceful to pull the poor people in rural areas out of poverty. Thus, although reclassification was anticipated to have an increasing impact on rural poverty, this has not occurred.[14]

Better jobs in urban areas translate into better earnings opportunities, but the level of rural-to-urban migration suggests that few rural residents are capitalizing on these opportunities.

There is a visible earnings spectrum from more highly urban to less highly urban locations. Average monthly earnings are more than 90 percent higher in the metropolitan core than in rural nonmetropolitan areas (figure 2.13). Urban periphery and single-district metropolitan areas exhibit a similarly high wage premium over rural areas. Nonmetropolitan urban areas or small towns show the lowest simple (unconditional) premium, around 20 percent.

[13] See PODES (Village Potential Statistics) (database), RAND Corporation, Santa Monica, CA, https://www.rand.org/well-being/social-and-behavioral-policy/data/bps/podes.html.
[14] According to detailed analysis of the dynamics of reclassification, most reclassification is driven by increases in entertainment facilities (such as cinemas) in villages that are less likely to be correlated with economic growth (see appendix A.2). This may partially explain the finding.

Figure 2.13: Earnings premiums on the portfolio of places relative to nonmetropolitan rural areas, Indonesia



Source: Setiawan, Tiwari, and Rizal 2018.

Note: Note: Reported values are calculated as [exp(α̂) -1] where α̂s are coefficients on location dummy variables of a regression of log earnings on these dummy variables with non-metro rural areas being the omitted category. The conditional versions (orange bars) control for sorting on worker characteristics (age, gender, marital status, years of education, migrant status), job characteristics (agriculture, industry or services), occupation characteristics (employee or self-employment of various kinds), geographic characteristics (island-regions), and household characteristics (size, dependency ratio). All coefficients reported in the bars are significant at the 1% level.All coefficients reported in the bars are significant at the 1 percent level.

The available evidence suggests that migration is an increasingly common phenomenon in Indonesia. Given the large earnings premiums in metropolitan areas and the welfare gaps across Indonesia's portfolio of places, a key issue is the extent to which Indonesians move across locations to capitalize on opportunities outside their places of birth. While inconsistencies in household surveys on migration complicate estimations of long-term trends and while it is unclear whether all types of migrants are captured in the surveys, the available evidence suggests that migration is increasingly common in Indonesia.[15] The share of Indonesians who are migrants has been slowly rising, reaching 21 percent in 2015. The rate of provincial migration, considering all categories of migrants (recent, frequent, long-term, and returned) increased from 9.8 percent in 1990 to 11.9 percent in 2010. District migration rose from 18.2 percent in 2000 to 21.0 percent in 2015. Long-term migrants make up the majority, 70 percent–80 percent of all migrants. However, around 15 percent of migrants have migrated in the last five years for the first time, while 5 percent–7 percent are frequent migrants and have moved again in the last five years. The smallest share (2 percent–6 percent) are migrants who have returned to their districts of birth.

Most migrants stay within the same island region. Among migrants, 75 percent stay within their island region. The share reaches 87 percent in Java–Bali; most migrants who leave their region are from Java. All non-Java islands receive significant migration from Java, especially Kalimantan (45 percent of all migrants) and Sumatra (31 percent). Kalimantan, Maluku, and Papua also receive substantial migration from elsewhere. Kalimantan and Sumatra are the largest net recipients. Inward migration rates are nearly as high in Java as in Kalimantan and Sumatra, with 2.3 million over the five years to 2015. Outward migration is twice as high in Java, at 4.6 million, making Java–Bali by far the largest net sending region. The main recipients of this migration are Kalimantan and Sumatra (Wai-Poi et al. 2018).

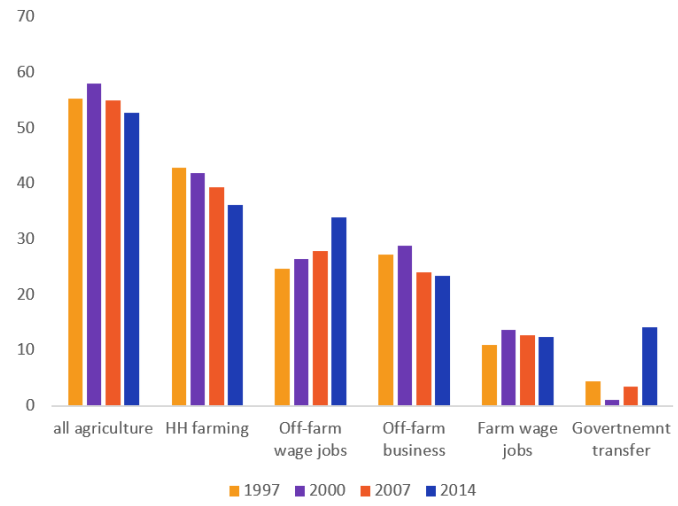
Opportunities in agriculture

Despite structural transformation, a large share of rural households rely on agriculture for livelihoods. Given the pace of the transition in agriculture, it is likely that a large share of the rural poor will continue to be engaged in agriculture in coming decades. Half of all rural workers are currently active in agriculture and locked out of nonagricultural wage jobs. Improving agricultural incomes is thus the most feasible pathway for poverty reduction among most rural households. Although 7.6 million agricultural jobs were lost in rural areas in 2008–18, the share of rural households that work in agriculture has declined by less than 3 percentage points since 1997 (figure 2.14). Labor Force Survey data of 2018 show that agriculture still employs 29.2 million people, that is, half the total employment in rural areas, and the income share of farming activities accounts for up to half of household incomes among poor and vulnerable rural households, which represent the bottom 40 in Indonesia (World Bank 2019a) (figure 2.15).

[15] The SUSENAS survey began seeking responses on migration only in 2011. The census included questions about migration in 1990, 2000, and 2010, but, in 1990, only sought information about the province (not district) of residence of respondents five years previously. The IFLS contained questions about migration consistently between 1993 and 2014, but the survey is not nationally representative and is a panel survey and thus does not have the same time consistency as would a repeated cross-sectional study. While it has admirably low attrition, migration is disproportionately affected by attrition.

Figure 2.14: Rural household livelihood participation, 1997–2014

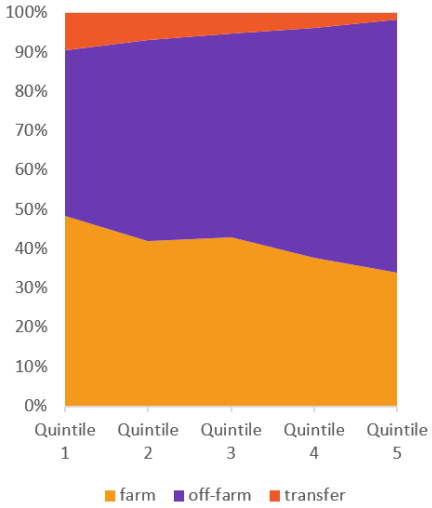
% of rural households



Source: World Bank calculations based on IFLS 2–5, 1997–2014.[[AQ: "Government misspelled]]

Figure 2.15: Rural income sources, by quintile, 2014

% of household income



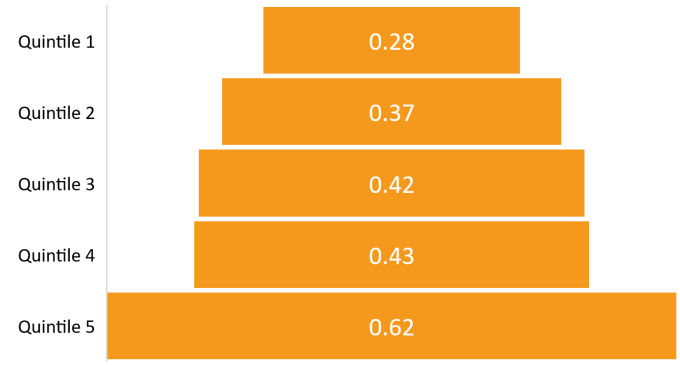
Source: World Bank calculations based on IFLS 5, 2014.

However, in 2008–14, the terms of trade measured through differences in the prices of agricultural products and agricultural inputs barely improved among farmers. They rose by less than 1 percentage point (BPS 2013). In most cases, rural farming households are not allocating land to maximize revenue potential by planting higher value-added crops, such as horticulture, that are suitable for the agroclimatic region. Instead, in the last two agricultural censuses, farmer reliance on rice paddy remained high and barely changed, at 52 percent of rural farm income, although rice paddy provides the lowest terms of trade relative to other crops (BPS 2013).

Options exist for raising rice paddy yields by strengthening land tenure rights, improving market access, and supporting local agricultural extension services. Because agricultural households rely heavily on rice to provide more than half of recommended daily calorie intake, a large share of farmers are likely to remain in paddy farming to minimize food insecurity. Most paddy farmers in Indonesia may be classified as small farmers, with average landholdings below one hectare (figure 2.16). Only 4 percent of paddy farmers in poor and vulnerable households possess land certificates (Sertifikat Hak Milik) on their largest plots, which is 13 percentage points lower relative to the richest quintile (figure 2.17). This landlessness and small average plot size substantially reduce rural paddy farm incomes. Among the bottom quintile of paddy farmers, more than 40 percent of harvested paddy is lost because of sharecropping (figure 2.18), and poorer paddy farmers achieve one ton less in yield per hectare relative to the richest quintile (figure 2.19). Improving landholdings and land security would help overcome these challenges.

Figure 2.16: Land in rural paddy farming, by quintile, 2014

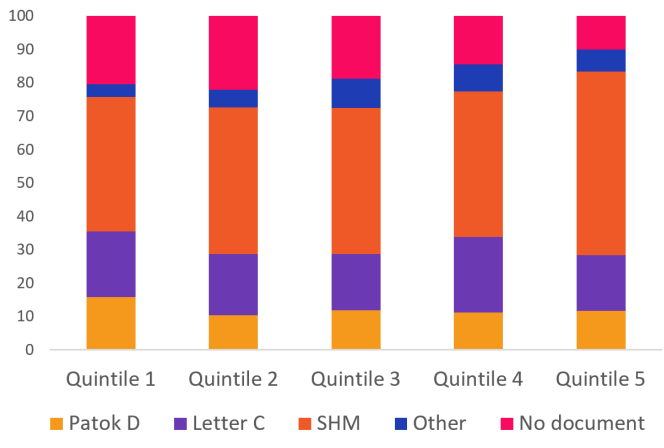
hectares



Source: World Bank calculations based on IFLS 5, 2014.

Figure 2.17: Ownership and land title, by quintile, 2014

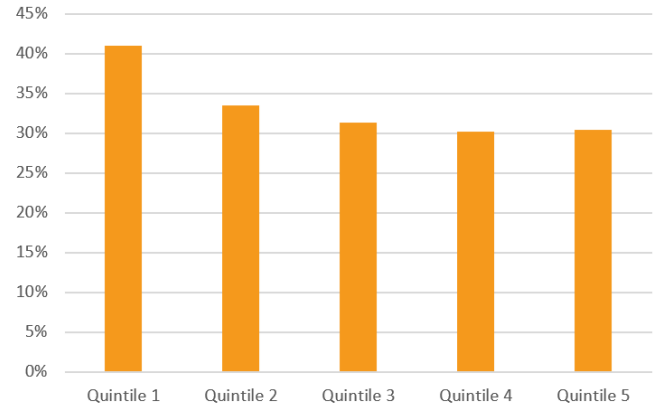
% of paddy farmers



Source: World Bank calculations based on IFLS 5, 2014.

Figure 2.18: Paddy harvest going to landowners in sharecropping arrangements, by quintile, 2014

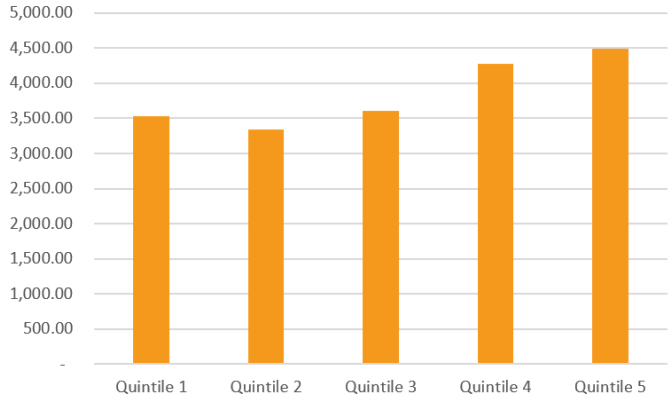
% of paddy harvest



Source: World Bank calculations based on IFLS 5, 2014.

Figure 2.19: Paddy land productivity

kilograms per hectare



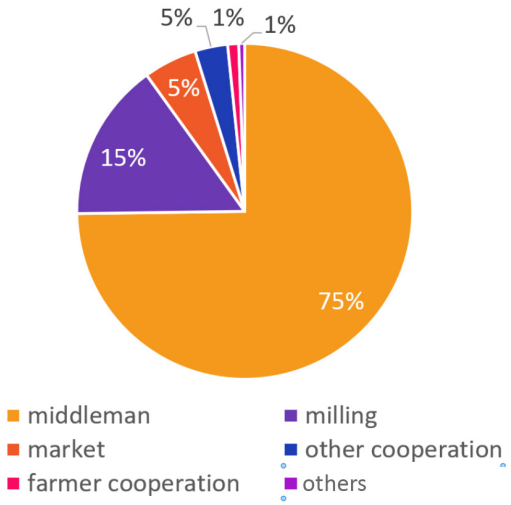
Source: World Bank calculations based on BPS 2018.

Note: Paddy productivity is calculated as lowland paddy productivity per hectare.

At the same time, market access is often difficult, and, in most cases, also hindered by middlemen that generate a wedge between the price received by paddy farmers and the price at which rice is sold in local markets. In 2014, 75 percent of the paddy harvest was sold through middlemen, thereby creating price disparities between the middlemen and the market price and reducing the benefit that paddy farmers could reap (figure 2.20). Connecting paddy farmers directly to the market through community-provided transportation might thus be a viable strategy to increase farm incomes.

Figure 2.20: The practice of selling paddy, 2014

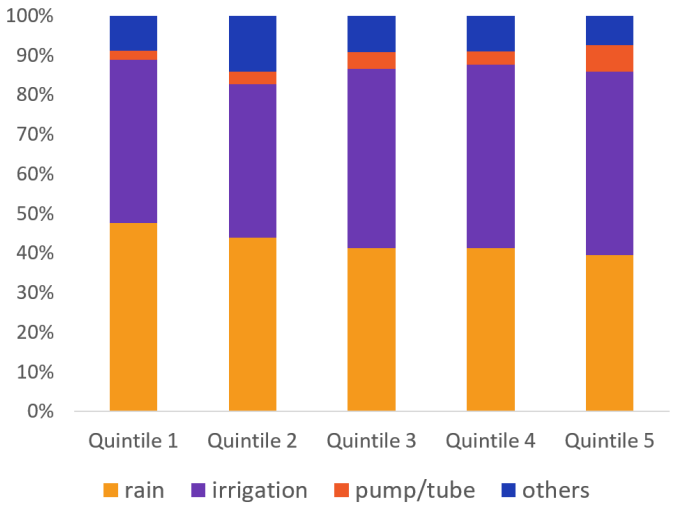
(% of paddy farmers)



Source: World Bank calculations based on the Household Survey on Paddy Farming, 2014.

Figure 2.21: Share of household paddy-farmers by water source, 2014

(% of paddy farmers)



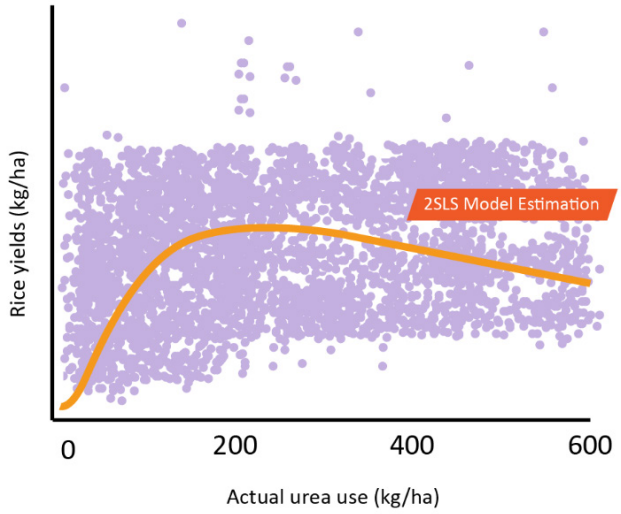
Source: World Bank calculations based on IFLS 5, 2014.

A third dimension along which support could be supplied to paddy farmers is the expansion of agricultural extension services and of access to farm inputs where economies of scale can be achieved through community provision. Nearly half the paddy farmers in the poorest quintile rely solely on rainwater for plot irrigation, thereby increasing the probability of paddy crop loss because of drought (figure 2.21). Paddy farmers in the poorest quintile also face higher rates of land degradation because of overuse of inorganic fertilizer. Recent studies have shown that the overuse of fertilizer may harm yields in the long run (figure 2.22). In 2007, the poorest farm households used twice the amount of urea per hectare relative to households in the richest quintile. Moreover, rural paddy farming household production is extraordinarily low in value addition. On average, 90 percent of the harvest of paddy-farming households is sold in its crudest form, that is, as undried husked paddy (figure 2.23). Finally, steadily aging workers with low educational attainment

drive paddy productivity down, given the correlation of this demographic group with low mechanization (table 2.3). Expanding agricultural extension services and access to other farm inputs could thus support paddy farmers, particularly if this facilitates economies of scale within communities. Strategies that would benefit most households within a village include, for example, increasing the affordable access to more resilient seed types, shared machinery, and expanding irrigation services.

Figure 2.22: Paddy land productivity vs. urea use

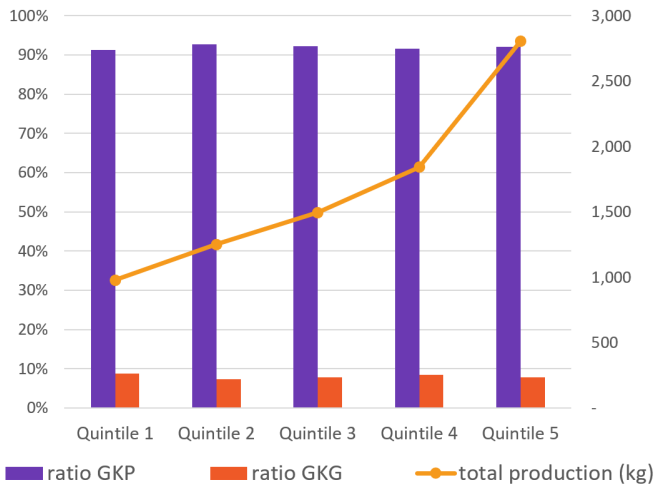
kilograms per hectare



Source: World Bank calculations based on Household Survey on Paddy Farming, 2014.

Figure 2.23: Share of unhulled rice in total production, 2014

% (left axis) and kilogram (right axis)



Source: World Bank calculations based on Household Survey on Paddy Farming, 2014.

Note: GKG: Gabah Kering Giling, dried; GKP: Gabah Kering Panen, undried.

Table 2.3: Characteristics of rural agricultural workers

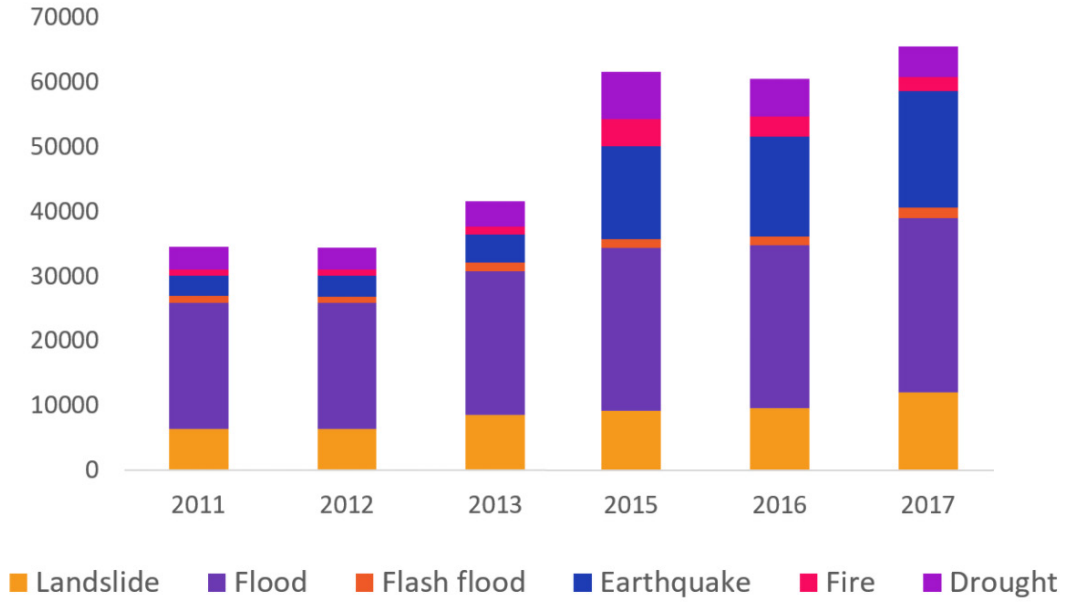
	1993	2000	2007	2018
Average age	38.1	39.61	40.71	44.22
Share of Male	60%	60%	62%	62%
Primary education, or lower	89%	83%	77%	69%
Lower secondary education	8%	12%	16%	17%
Upper secondary education	3%	5%	7%	13%
Diploma I/II/III	0%	0%	0%	0%
University/Diploma IV, or greater	0%	0%	0%	1%

Source: World Bank calculations based on SAKERNAS 1993, 2000, 2007, 2018.

However, with increasing pressures on natural resources and the imminent impacts of climate change, diversifying farming activities is also important for strengthening rural livelihoods and poverty reduction. In 2011–17, the number of villages experiencing natural disasters rose significantly. Around 6,300 villages self-reported that they had been affected by landslides in 2011. By 2017, the number had almost doubled, to 12,000. The same increasing trend emerged in flood, flash flood, and drought events. Figure 2.24 captures the number of villages that self-reported that they had been affected by each type of natural disaster. Earthquake events showed the greatest increase, from around 3,400 affected villages in 2011 to over 18,000 in 2017. Direct and indirect effects of climate change on agricultural production will severely affect the welfare of the rural population, including through changes in precipitation and temperatures, water resource availability and seasonality, soil conditions, soil erosion, changes in pest and disease profiles, and the loss in arable areas because of shrinking coastlines and desertification (World Bank 2020). Rice production is particularly sensitive to temperature changes, which creates a significant challenges for major rice producers such as Indonesia. Climate change is also expected to reduce fish stocks and harvests because of ocean warming and coral bleaching. Some models suggest that climate change could lead to a 15 percent–30 percent decline in the total fisheries catch, with exceptions in some areas, such as the south coast of Java, which includes the Bali Strait (Lumban-Gaol et al. 2012). Outside of Java-Bali, most of the rural workforce is engaged in agriculture and other activities dependent on natural resources, implying that these threats will create an additional challenge in taking advantage of opportunities for rural poverty reduction.

Figure 2.24: Villages affected by natural disasters, 2011–17

number



Sources: PODES database; World Bank calculations.

Crop diversification can be supported through stronger land tenure rights, better access to markets, access to financing, and better education. Households with land use certificates or larger amounts of land are much more likely to cultivate industrial and horticultural crops.[16] These are higher-value crops that would enable households to exploit the regional comparative advantage in agroclimatic conditions. Households with better access to markets, financing, and better educational attainment are also more likely to be able to shift into these higher-value crops. If land plots remain is small and fragmented and farming financing relies solely on farmer incomes to provide the necessary inputs for farming, households typically opt instead to use their land mostly for the plantation of paddy. Thus, enhancing landholdings, land security, the knowledge of improved farming practices among farmers, access to finance, and access to markets will be necessary to generate higher incomes among agricultural households through diversification to higher–value added crops and activities. However, some of these challenges can be tackled within communities through community access to extension services, storage, and transportation logistics, connection to financial services, and the facilitated clustering of farm products.

Beyond improving agriculture-based incomes, targeted interventions are needed to strengthen the livelihood options in forest and coastal regions. Preliminary findings indicate that villages in and around forests, peatlands, and coastal areas also receive lower incomes and have more limited access to basic services (figures 2.25 and 2.26). While further

[16] Empirical analysis on these findings is available on request through the supplementary technical appendix for this report.

analysis will increase the understanding of the relationship among proximity to natural resources, development outcomes, and sustainable livelihood options, these initial results suggest that disparities exist in these rural locations with greater natural resource endowments. To provide a robust explanation on causality and the opportunities to strengthen rural livelihoods, while improving natural resource management, additional in-depth investigation is needed. This could identify options to improve agriculture-based incomes, while relieving the pressure created by forest encroachment and coastal degradation.

Figure 2.25: Village service access, by forest cover, 2014 and 2018

% of villages with access to basic services

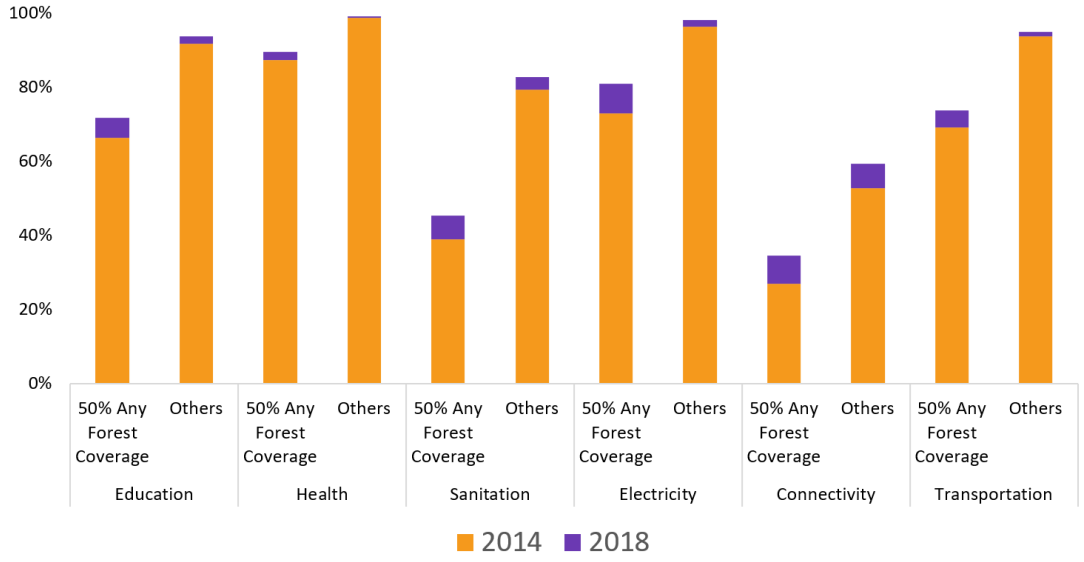
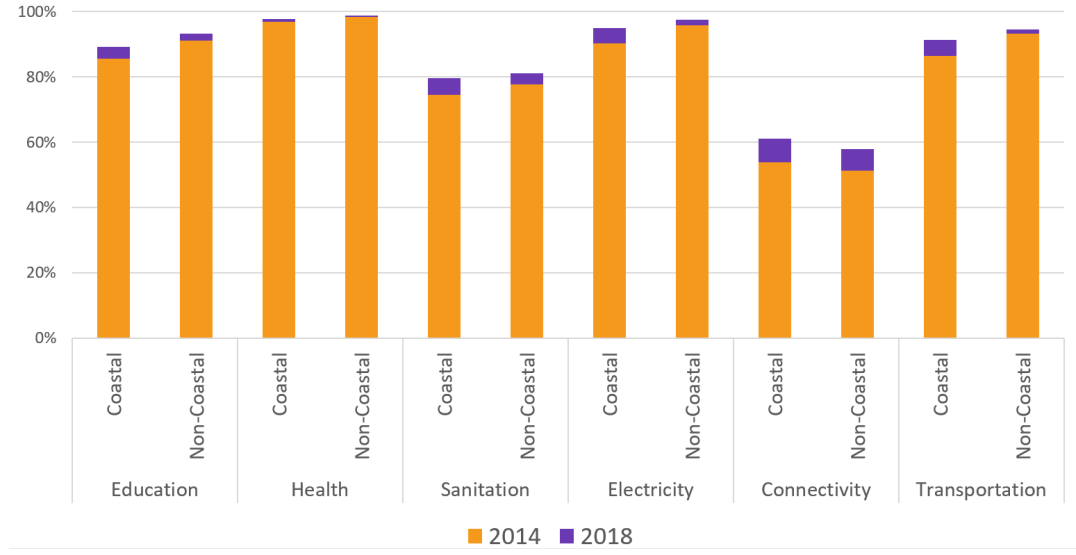


Figure 2.26: Village service access, by coastal status, 2014 and 2018

% of villages with access to basic services



Sources: Data of the Ministry of Environment and Forestry; PODES database; World Bank calculations.

Non-labor income and government transfers

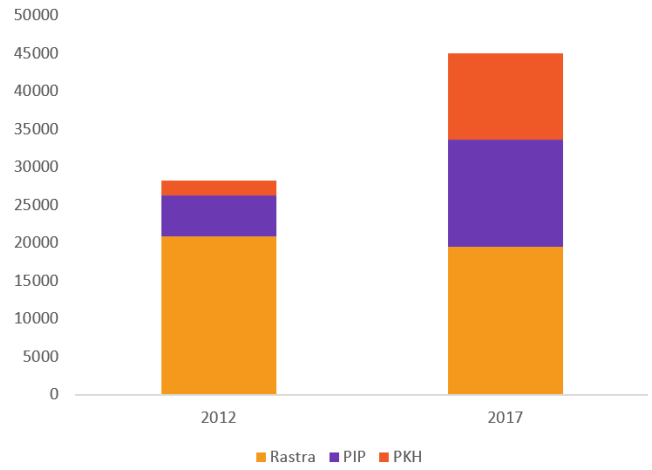
Alongside improvements in labor income, government transfers have also played a role in contributing to poverty reduction. This section explores the contribution of these non-labor sources of welfare improvements.

Indonesia has a rich portfolio of social assistance programs catering to the poor and the vulnerable; many of them are rural. In the last decade, social assistance programs have become larger, more well targeted, and more generous (fig-

ure 2.27).[17] The number of households in the bottom 40 that received any form of social assistance increased from 5.3 million to 17.3 million in 2012–17 (figure 2.28). Similarly, the share of social assistance benefits received by the target population rose from 53 percent to 71 percent in 2012–17 (figure 2.29). For the poorest decile, social assistance as a share of market income grew by a factor of almost 1.5 (figure 2.30).

Figure 2.27: Social assistance budget, 2012 and 2017

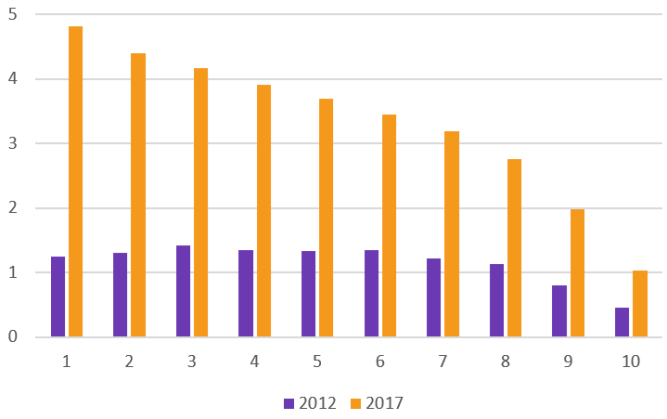
nominal Rp, billions



Source: World Bank calculations based on 2012 and 2017 data of the National Public Procurement Agency.

Figure 2.28: Household beneficiaries of social assistance programs, 2012 and 2017

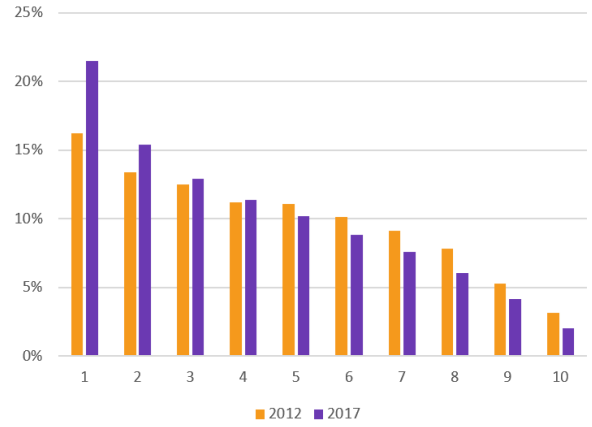
number, millions



Source: World Bank calculations based on SUSENAS 2012, 2017.

Figure 2.29: Absolute incidence of social assistance programs, by market income decile, 2012 and 2017

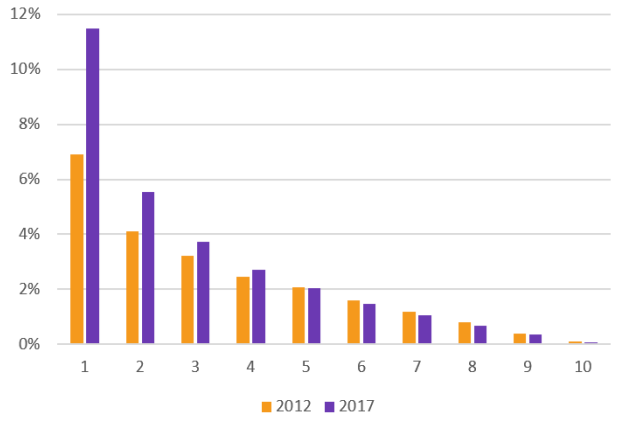
% of social assistance received



Source: World Bank calculations based on SUSENAS 2012, 2017.

Figure 2.30: Relative incidence of social assistance programs, by market income decile, 2012 and 2017

% of social assistance received as a share of market income



Source: World Bank calculations based on SUSENAS 2012, 2017.

In recent years, there has also been a distinct shift away from regressive consumer subsidies and ad hoc programs set up to respond to crises toward more well targeted household social assistance programs. Some of these programs have undergone significant expansion. The PKH is one such program. The number of beneficiaries rose from 3.5 million in 2014 to 10.0 million today. The Rastra rice subsidy program, which is currently being changed reformed into a broader food voucher program, similarly covers 15 million people. There is a means-tested school scholarship program that covers 20 million students. The subsidized health insurance program covers 96.8 million people. Overall, the number of households in the bottom 40 who are beneficiaries of any of these programs rose from 5.3 million to 17.3 million in 2012–17.

[17] Indonesia's main social assistance programs include the PKH; Rastra, which is merging with the Bantuan Pangan Non Tunai Program (noncash food assistance); PIP (Program Indonesia Pintar, School Cash Transfer Program, Scholarships for Poor Students); and the Jaminan Kesehatan Nasional–Penerima Bantuan Iuran Program (subsidized social health insurance).

Because many of these programs are targeted at reducing poverty, the coverage among the rural poor is quite high. Recent analysis suggests that rural poverty rates would be higher by 3 percentage points without the portfolio of social assistance packages that the rural poor receive. The PKH, the most well targeted program, but also the least well funded program, accounts for nearly 40 percent of rural poverty reduction through social spending. This large share derives from the rise in the number of households covered, improvements in the targeting only on poor households, and increases in the transfers received by beneficiaries.

However, there are several areas that need improvement. The first is related simply to the total benefits received by the poor and the vulnerable. At an average of about 0.8 percent of GDP, the government still spends little on social assistance relative to other comparable countries. Raising the spending on social assistance would facilitate a more comprehensive coverage of the poor and vulnerable. Second, while most of the coverage expansion the country has seen over the last five years has been geared toward poor households with children, other groups, such as the elderly and the disabled, are not adequately covered. This is particularly relevant in rural areas where population aging may leave a large segment of the population exposed. Third, fragmented delivery systems that inhibit coherence across social assistance and insurance programs limit the extent to which rural workers—many of whom are informal—benefit from social insurance coverage. Fourth, given the wide exposure of rural households to climate and disaster risks, strengthening social assistance delivery systems to make them more adaptive to such situations might also help insure the rural poor against shocks more effectively.

Conclusion

This section looks at some of the main drivers of rural poverty reduction in Indonesia and identifies the challenges associated with increasing key sources of the incomes of rural households. The findings outlined throughout the section point toward the need for a differentiated approach to improve the welfare of the rural poor across Indonesia. On the one hand are regions, such as Java-Bali, where the main driver of rural poverty reduction has been labor income growth and off-farm wage job proliferation. Public policy in these parts of Indonesia can take advantage of existing economic centers and future urbanization. On the other hand are regions spread across more remote parts of the country and clustered together with pockets of poverty where access to income diversification and off-farm work is scarcer. While social assistance programs should continue to have a leading role in poverty reduction in these areas, policy should focus on strengthening human development, enhancing productivity in agriculture, supporting transitions to off-farm work, and enabling migration.

SECTION 3

CONCLUSIONS

The findings of the report suggest the need for two approaches to supporting the poor: (1) an approach focused on rural areas with closer proximity and better access to economic centers, and (2) an approach focused on the rest of the country. The analysis shown that the distribution of the rural poor will follow two trends in the future. First, there are many rural poor in parts of Bali, Java, Sulawesi, and Sumatra who are living close to economic centers and have good opportunities for income diversification and strengthening. These poor may even become part of the growing urban populations in these parts of the country. Second are the remaining rural poor spread across more remote parts of the country and clustered in pockets of poverty, where access to income diversification and off-farm work is more scarce. The strategies to reach these two populations will be distinct.

If connecting to nonrural areas is feasible, strategies can take advantage of existing economic centers and future urbanization by focusing on making growth more inclusive. With the expected urbanization throughout Bali and Java, as well as in parts of Sulawesi and Sumatra, there are emerging opportunities for rural populations to diversify incomes as local markets grow and population density increases. For example, opportunities may emerge associated with the demand for new products in local markets, alongside the growing demand for off-farm work in services and manufacturing in more densely populated areas as growth in these sectors accelerates. Finding ways to strengthen the connectivity and links of small business owners in rural areas with these markets and of rural workers with the new job opportunities would support broader economic inclusion. An equally important and parallel policy would aim at strengthening labor market outcomes among the already employed by helping them transition from low- to higher-skill activities. This could be accomplished by raising the skill base among the rural population through several approaches, including subsidized on-the-job training, training centers, and facilitated employment matching. Along with ensuring that rural workers have access to higher-quality jobs, it will be important to support equal access to foundational human capital opportunities through high-quality schools and health care access for the future rural workforce. Lastly, while there are stronger pathways out of poverty among these rural households, the risk of households falling back into poverty will still be present. Strategies to reduce this risk by expanding health care coverage and robust social assistance systems will be critical.

In more remote, outlying rural regions, the focus can be on strengthening agricultural livelihoods, supporting transitions to off-farm work, and enabling migration. Beyond the rural areas on the periphery of economic centers, such as in Java-Bali, many rural households continue to rely on agriculture as the primary source of income. Hence, in the immediate term, finding ways to strengthen agricultural incomes is imperative. Some options might focus on supporting community access to the inputs necessary for robust farming, alongside supporting value chain addition in local food markets and enabling producer clustering to reach external markets more viably. Because agricultural productivity is strongly dependent on the natural environment and climate conditions, supporting more climate-resilient agricultural practices, while preserving the natural assets of rural communities is becoming crucial. Given the disparity in access to basic services across regions and the known impacts of limited access to health, education, and WASH services on later life outcomes among children, improving equitable access is also important. Community approaches to addressing vulnerability will be valuable. This could be promoted by ensuring that vulnerable households needing an income boost are able to participate in community public works activities and by using community validation to improve the targeting of these programs. In the longer term, communities could do more to support the transition out of agriculture, for example, by supporting migration readiness to other parts of the country or abroad, improving the mechanisms for secure remittance flows back into rural communities, and enabling community digital connectivity to open new opportunities for economic activities and skill development in rural areas.

Across all rural areas, strengthening labor market participation and labor market outcomes among diverse groups will help boost macroeconomic output and reduce household vulnerability. This report shows that female labor force participation lags male labor force participation and that labor outcomes among various groups, including the elderly, the disabled, and youth vary relative to the labor outcomes among men. There are gaps relative to men in the access to formal jobs in different sectors and occupations and real wage growth among these subgroups. While such trends are

likely to persist given the cultural and social norms, as well as the slow pace of the dynamics of human capital stocks and investment decisions within households, there may be opportunities to undertake affirmative policies aimed at addressing the gaps over the longer term. This would benefit not only households with characteristics associated with greater risk of economic vulnerability, but also the country as a whole. This is clear from the strong evidence that higher human capital stocks and greater labor mobility improve economic growth.

To help deepen rural access to regional and global value chains and promote income diversification among rural workers, the government can provide support in several key areas in partnership with the private sector. The growth of rural e-commerce and productive alliance partnerships depends on several prerequisites, including connectivity to larger regional and online markets through improved transportation networks, local expertise, the aptitude of online merchants, and existing economic clusters. In China, where the Taobao marketplace phenomenon has enabled many villages and rural households to improve their incomes, the government, together with the private sector, has provided a catalyst. Key performance indicators are used to monitor targets as local governments establish the necessary infrastructure, such as digital connectivity and robust transportation networks, while providing support to economic clusters, for instance, through exhibition halls to showcase products and offer marketing and advertising support. Local expertise has been stimulated through large online trading platforms, such as the Alibaba Group, which provides logistics, services, and training to encourage rural households to engage in online sales of farm produce and local specialties. The Alibaba–affiliate Ant Financial Services Group has provided over ¥ 100 billion in loans to more than two million users in the country's poverty-stricken counties, helping to address issues of access to finance. These efforts have helped generate a virtuous circle whereby more clusters of specialized villages spring up, sometimes building on old traditions and sometimes starting new business lines from scratch. Opportunities for rural revitalization through new and growing sectors of the economy, such as e-commerce, might be worth exploring.

Improved economic empowerment might be fostered if rural development planning places a greater emphasis on livelihood activities supported by most community members. Given the reliance on agricultural incomes among most rural households, there will be community-wide benefits if farm activities are supported. Such support might include improving access to agricultural extension services; developing knowledge about more resilient and sustainable farming methods, including diversification into higher-value crops; providing adequate storage, shared access to farm machinery, and basic crop processing equipment; supporting the implementation of food safety standards and certification, and facilitating community-sponsored transportation to local markets. This type of community support would help drive farm output clustering. As these activities mature, they could become more formalized through local producer-market alliances that bring together farmer organizations with other value chain actors. Creating jobs appropriate for the aging rural poor within communities should also be considered, for example, less physically exerting work, such as mushroom cultivation, in small-scale factories. While a more challenging issue, but one best addressed collectively by the community, is strengthening land tenure security. More could be done to understand landholding rights, which could reduce incentives for unsustainable land clearing and the fragmentation of plots. All these examples merit exploration, for instance, through field pilot programs.

The ongoing COVID-19 pandemic may have a major impact on food supply chains, which represents a concern in rural areas and a pressing need to strengthen domestic food systems. First, initial evidence, such as trends in the consumer price index, suggests that urban food prices have started rising for basic commodities because of artificial shortages resulting from logistics breakdowns. Meanwhile, based on anecdotal evidence, it appears that farmgate prices (the supply side) are being depressed because of a lack of farm labor and transport facilities to urban markets. Second is the reduced access to food because of a drastic reduction in the incomes of the poor and vulnerable deriving from the major job losses associated with the economic impact of the pandemic. Third is the possibility that the planting season will be affected because of constraints on input logistics and the loss of labor given the restrictions on the movement of people, further impacting the food supply and generating ripple effects in national food security. Policy reform measures to improve food systems that were already needed have now become more urgent. These include the relaxation of trade barriers to reduce food prices and improve nutritional intake in the near term while the COVID-19 crisis is unfolding. In the medium term, the development of efficient and competitive value chains driven by the private sector, but facilitated by strategic public investments, is becoming essential. Public policies that create the necessary enabling environment and provide essential public goods and services will help strengthen domestic food systems and can also boost the rural economy. However, given the constraints on public resources as a result of the crisis, there will be a need for efficient public spending. Future research could review ways to develop these enabling public policies and efficiently strengthen domestic food systems.

In addition, broader, deeper, and potentially longer-term impacts may also arise because of labor market dislocations, dramatically altered internal migration patterns, and human capital losses among younger and, especially, poorer children. Understanding the full extent of these impacts of the still-evolving crisis and identifying policies and programs going beyond the short-run measures that are necessarily being deployed as an immediate response are areas in which future work would be critical.

The development challenges in lagging, remote, and poorer regions are acute and require special attention. While development progress has occurred, it has not been uniform, suggesting that some rural populations are at risk of being left behind. The residents of these places are facing chronic disadvantages. Despite the resources that are reaching communities through various government programs, complementary approaches that strengthen institutions and improve the quality of spending would be valuable. Going from one-size-fits-all to adaptive and differentiated institutional support systems could be beneficial. This would entail shifting to a more highly demand-driven, needs-based approach to capacity building among local communities and local governments.

The government has tested a range of place-based policies in the past, but additional learning is required on what might work in addressing the unique challenges represented by the locations that are lagging. Consistent with global evidence, policies to incentivize firms to locate to lagging places have had no clear impact (Roberts, Gil Sander, and Tiwari 2019). It is not possible to undertake the same level of job-creating investments everywhere in Indonesia, especially in the rural parts of less densely populated regions. But it is possible to equip Indonesians for and connect them with the jobs created in the leading regions of the country. This entails augmenting the access to and quality of public services so that children in poor, vulnerable, and aspiring households have a fairer start and are equipped with the human capital needed to take advantage of the available economic opportunities. It also entails building connective infrastructure that facilitates access to services and economic opportunities.

REFERENCES

Alam, M.M., Siwar, C., Talib, B., & Mohd Ekhwan, T. 2011. "The Relationships between the Socioeconomic Profile of Farmers and Paddy Productivity in North-West Selangor, Malaysia." Asia-Pacific Development Journal 18 (1): 161–73.

Amegnaglo, C. J. 2018. Determinants of maize farmers' performance in Benin, West Africa. Kasetsart Journal of Social Sciences 1–7.

Amuka, J., Asogwa, F., Ugwu, C., & Ugwu, K. 2018. Testing the Fit of Cobb-Douglas Production Function within Unrestricted Least Square. International Journal of Economics and Financial Issues 8 (3): 142–47.

Arifin, B., Nuryantoro, N., Yasmin, F., Rifai, M.A., & Kurniadi, R. 2019. Profitability and Labor Productivity in Indonesian Agriculture. Jakarta: World Bank.

Aspinall, Edward, and Mada Sukmajati, eds. 2016. Electoral Dynamics in Indonesia: Money Politics, Patronage, and Clientelism at the Grassroots. NUS Press. https://www.thejakartapost.com/academia/2018/05/21/after-20-years-tough-road-ahead.html.

Azevedo, João Pedro, Gabriela Inchauste, Sergio Olivieri, Jaime Saavedra, and Hernan Jorge Winkler. 2013. "Is Labor Income Responsible for Poverty Reduction? A Decomposition Approach." Policy Research Working Paper 6414, World Bank, Washington, DC.

Bappenas (Ministry of National Development Planning). 2018. Pedoman Umum Pelaksaan Padat Karya Tunai di Desa Tahun 2018.

Barrett, C. B., Mesfin, B. & Abdillahi, A. 2001. Income diversification, poverty traps and policy shocks in Co ˆte d'Ivoire and Kenya. Food Policy, 26, 367–84.

BPS (Badan Pusat Statistik). 2013. Analisis Kebijakan Pertanian Indoensia: Implementasi dan Dampak Terhadap Kesejahteraan Petani dari Perspektif Sensus Pertanian 2013. Jakarta: BPS.

———. 2018. Proyeksi penduduk Indonesia 2015–2045 [Indonesia population projection]. Jakarta: BPS.

BPS (Badan Pusat Statistik) and World Bank. 2018. Indonesia: Land National Account and Extent Account for Sumatra and Kalimantan. Report 139737 (October 21). Washington, DC: World Bank.

Calì, Massimiliano, and Carlo Menon. 2013. "Does Urbanization Affect Rural Poverty? Evidence from Indian Districts." Policy Research Working Paper 6338, World Bank, Washington, DC.

CGAP. 2018. Graduation into sustainable livelihoods. Washington, DC.

Chiona, S., Kalinda, T. & Tembo, G. 2014. Stochastic Frontier Analysis of the Technical Efficiency of Smallholder Maize Farmers in Central Province, Zambia. Journal of Agricultural Science 6 (10): 108–18.

DFAT. 2017. Australia Indonesia partnership for promoting rural incomes through support for markets in agriculture (AIP PRISMA-2) Investment Design Document.

Dijkstra, L., & Poelman., H. 2014. A Harmonised Definition of Cities and Rural Areas: The New Degree of Urbanization. Regional Working Paper, Directorate-General for Regional and Urban Policy, European Commission.

D'Souza, Ritika, Roberta Gatti, and Aart C. Kraay. 2019. "A Socioeconomic Disaggregation of the World Bank Human Capital Index." Policy Research Working Paper 9020, World Bank, Washington, DC.

Duranton, G., and D. Puga. 2004. Micro-Foundations of Urban Agglomeration Economies. In J. V.-F. Thisse, Handbook of Regional and Urban Economics Volume 4: Cities and Geography, 2063–2117. Amsterdam: Elsevier.

Halim, D., Johnson, H., & Perova, E. 2017. Could Childcare Services Improve Women's Labor Market Outcomes in Indonesia? World Bank-East Asia and Pacific Gender Policy Brief.

Hengsdijk, H. 2018. Inception report vegIMPACT NL: December 1, 2017—March 31, 2018. Wageningen, the Netherlands.

Hoang, T. X., Pham, C. S. & Ulubaşoğlu, M. A. 2014. Non-Farm Activity, Household Expenditure and Poverty Reduction in Rural Vietnam: 2002–2008. World Development, Volume 64, 554-568.

IFAD (International Fund for Agricultural Development). 2013. Rural Empowerment and Agricultural Development Programme in Central Sulawesi (READ) Supervision report.

———. 2017. Village Development Programme Supervision report.

———. 2018. Smallholder livelihood development project in Eastern Indonesia: supervision report.

———. 2019. Rural Empowerment and Agriculture Development Scaling-up Initiative Supervision Report.

IFSCA. 2017. East Indonesia IFSCA Activity Annual Progress Report. Auckland, New Zealand.

G. C. Kirono, D., R. A. Butler, J., L. McGregor, J., Ripaldi, A., Katzfeya, J., & Nguyen, K. 2016. Historical and future seasonal rainfall variability in Nusa Tenggara Barat Province, Indonesia: Implications for the agriculture and water sectors. Climate Risk Management, 45-58.

Kraay, Aart C. 2019. "The World Bank Human Capital Index: A Guide." World Bank Research Observer 34 (1): 1–33.

Lockheed, M. E., Jamison, T. & Lau, L. J. 1980. Farmer Education and Efficiency: A Survey. Economic Development and Cultural Change 29 (1): 37–76.

Lumban-Gaol, Jonson, Bisman Nababan, Khairul Amri, Aryo Hanggono, and Orbita Roswintiarti. 2012. "Climate Change Impact on Indonesian Fisheries." In Climate ExChange, edited by Jacqui Griffiths, Cherie Rowlands, and Michele Witthaus, 72–75. Geneva: World Meteorological Organization.

MaCurdy, Thomas E. 1981. An Empirical Model of Labor Supply in a Life-Cycle Setting. Journal of Political Economy, University of Chicago Press 89 (6): 1059-1085.

Magnani, E., & Rammohan, A. 2006. The effect of Elderly Caregiving on Female Labour Supply in Indonesia. UNSW working paper.

Mawardi, M. et al. 2017. Preliminary study of e-Warong Kube-PKH program implementation: Research report. Jakarta, Indonesia.

Ministry of Environment, 2007. National Action Plan Addressing Climate Change. https://theredddesk.org/sites/default/files/indonesia_national_action_plan_addressing_climate_change.pdf.

MoEF Land Cover. 2018.

MOV (Ministry of Villages, Development of Disadvantaged Regions, and Transmigration). 2018. Kementerian Desa, Pembangunan Daerah Tertinggal dan Transmigrasi.

Narayanamoorthy, A. 2000. Farmers' education and productivity of crops: A new approach. Indian Journal of Agricultural Economics 55 (3): 511–20.

Newman, C. & Kinghan, C. 2015. Economic transformation and the diversification of livelihoods in rural Viet Nam. WIDER Working Paper, No. 2015/064.

Olken, Benjamin A., Junko Onishi, and Susan Wong. 2011. "Indonesia's PNPM Generasi Program: Final Impact Evaluation Report." World Bank.

Park, J., and M. Roberts. 2018. A New Typology of Districts for Indonesia. Washington DC: World Bank.

Paterson, R. R. M., L. Kumar, S. Taylor, and N. Lima. 2015. "Future Climate Effects on Suitability for Growth of Oil Palms in Malaysia and Indonesia." Scientific Reports 5: 14457. https://www.nature.com/articles/srep14457.

Pimhidzai, O. & Niu, C. 2019. Better Opportunitites for All: Vietnam Poverty and Shared Prospertity Update. Vietnam: World Bank.

PODES (Hasil Pendataan Potensi Desa 2018 [Village Potential Data Collection Results 2018]) (database), BPS Statistics Indonesia, Jakarta, https://www.bps.go.id/pressrelease/2018/12/10/1536/hasil-pendataan-potensi-desa--podes--2018.html.

Pulse Lab Jakarta & World Bank Indonesia. 2018. Reality Check Approach+: People's Perspectives of Urban Poverty and Rural to Urban Migration. Jakarta: World Bank.

Reardon, T., Delgado, C. & Matlon, P. 1992. "Determinants and Effects of Income Diversification amongst Farm Households in Burkina Faso. Journal of Development Studies 28 (2): 264–96.

Roberts, Mark, Frederico Gil Sander, and Sailesh Tiwari, eds. 2019. Time to ACT: Realizing Indonesia's Urban Potential. Washington, DC: World Bank.

Sari, Virgi Agita, and Sailesh Tiwari. 2020. "The Geography of Human Capital in Indonesia: Evidence from Subnational Analysis of the Human Capital Index." World Bank, Washington, DC.

Setiawan, I., S. Tiwari, and H. Rizal. 2018. "Economic and Social Mobility in Urbanizing Indonesia." Background paper, World Bank, Washington, DC.

Suprehatin. 2016. Adoption of High Value Horticultural Crops in Indonesia: Determinants and Impacts. Thesis submitted to the University of Adelide in fulfillment of the requirements for the degree of Doctor of Philosophy. University of Adelaide.

Suroso, D., Hadi, T. W., Sofian, I., Latief, H., Abdurahman, O., Julianto, H., & Setiawan, B. 2009. Vulnerability of Small Islands to Climate Change in Indonesia: A Case Study of Lombok Island, Province of Nusa Tenggara Barat. Researchgate, 1–8.

Taraka, K., Latif, I.A., Shamsudin, M.D., & Shaufique, S. 2012. Estimation of Technical Efficiency for Rice Farms in Central Thailand Using Stochastic Frontier Approach. Asian Journal of Agriculture and Development 9 (2): 1–11.

TNP2K. 2018. The Future of the Social Protection System in Indonesia: Social Protection for All.

Voss, John. 2008. "Impact Evaluation of the Second Phase of the Kecamatan Development Program in Indonesia." World Bank.

Wai-Poi, M., H. Alatas, K. Chandrashekar, and J. Lain. 2018. "The Different Faces of Urban Indonesia: Recent Urban Trends in Indonesia." Background paper, World Bank, Washington, DC.

Wai-Poi, M., and A. Sacks. 2018. "Better Living in the City: Trends, Patterns, and Outcomes of Migration in Indonesia." Background paper, World Bank, Washington, DC.

Winarsi, S., Widyantoro, A., and Moechthar, O. 2018. "The Law Principles for Village-Owned Enterprises (BUMDes) Managementin Indonesia to Improve the Village's Economy." Sociological Jurisprudence Journal 1 (2): 130–36.

World Bank. 2016. Indonesia's Urban Story. World Bank Group. Retrieved from http://pubdocs.worldbank.org/en/45281465807212968/IDN-URBAN-ENGLISH.pdf.

———. 2017. Village Public Expenditure Review (ViPER). World Bank.

———. 2018. "Climbing the Ladder: Poverty Reduction and Shared Prosperity in Vietnam." World Bank, Washington, DC.

———. 2019a. Aspiring Indonesia: Expanding the Middle Class. September. Washington, DC: World Bank.

———. 2019b. Village Law: Technical Evaluation of Infrastructure.

———. 2019c. "Social Protection and Jobs." draft.

———. 2019d. "Taking Stock of Indonesia's Existing Social Support Programs."

———. 2019e. "Social Protection and Jobs." draft.

———. 2020. Climate Risk Country Profile Indonesia, 2020. Washington, DC: World Bank.

———. Forthcoming. "Sentinel Villages Report: A Longitudinal Study on Village Law, 2015–2018." World Bank, Washington, DC.

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