Kementerian Koordinator
Bidang Kesejahteraan Rakyat

TNP2K
THE NATIONAL TEAM FOR
THE ACCELERATION OF POVERTY REDUCTION

INFRASTRUCTURE CENSUS

Report On Infrastructure
Supply Readiness In Indonesia –
Achievements And Remaining Gaps

2011

Infrastructure Cencus 2011

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BPS Statistics Indonesia (Badan Pusat Statistik)
D3 Diploma 3 (Associate's Degree)
Dukun bayi Traditional Midwife
GOI Government of Indonesia
Kabupaten District
Kecamatan Sub-district
KDP Kecamatan Development Program
NTB Nusa Tenggara Barat
NTT Nusa Tenggara Timur
OLS Ordinary Least Squares
PCA Principal Components Analysis
PAUD Pendidikan Anak Usia Dini (Pre-School Education Facility)
PNPM Program Nasional Pemberdayaan Masyarakat
(National Program for Community Empowerment)
PODES Potensi Desa (Village Potential Statistics)
Polindes Pondok Bersalin Desa (Community Maternity Clinic)
Poskesdes Pos Kesehatan Desa (Community Health Post)
Posyandu Pos Pelayanan Kesehatan Terpadu (Integrated Health Service Post)
Puskesmas Pusat Kesehatan Masyarakat (Community Health Center)
Puskesmas Pembantu Auxilliary Community Health Center
S1 Sarjana 1 (Bachelor's Degree)
SD Sekolah Dasar (Elementary School)
SLB Sekolah Luar Biasa (Special School for Diabled Students)
SMA Sekolah Menengah Atas (Senior Secondary School)
SMK Sekolah Menengah Kejuruan (Senior Secondary / Vocational School)
SMP Sekolah Menengah Pertama (Junior Secondary School)
Susenas Survei Sosial Ekonomi Nasional (National Socioeconomic Survey)
TK Taman Kanak-Kanak (Kindergarten)
WHO World Health Organization

CONTENTS

EXECUTIVE SUMMARY

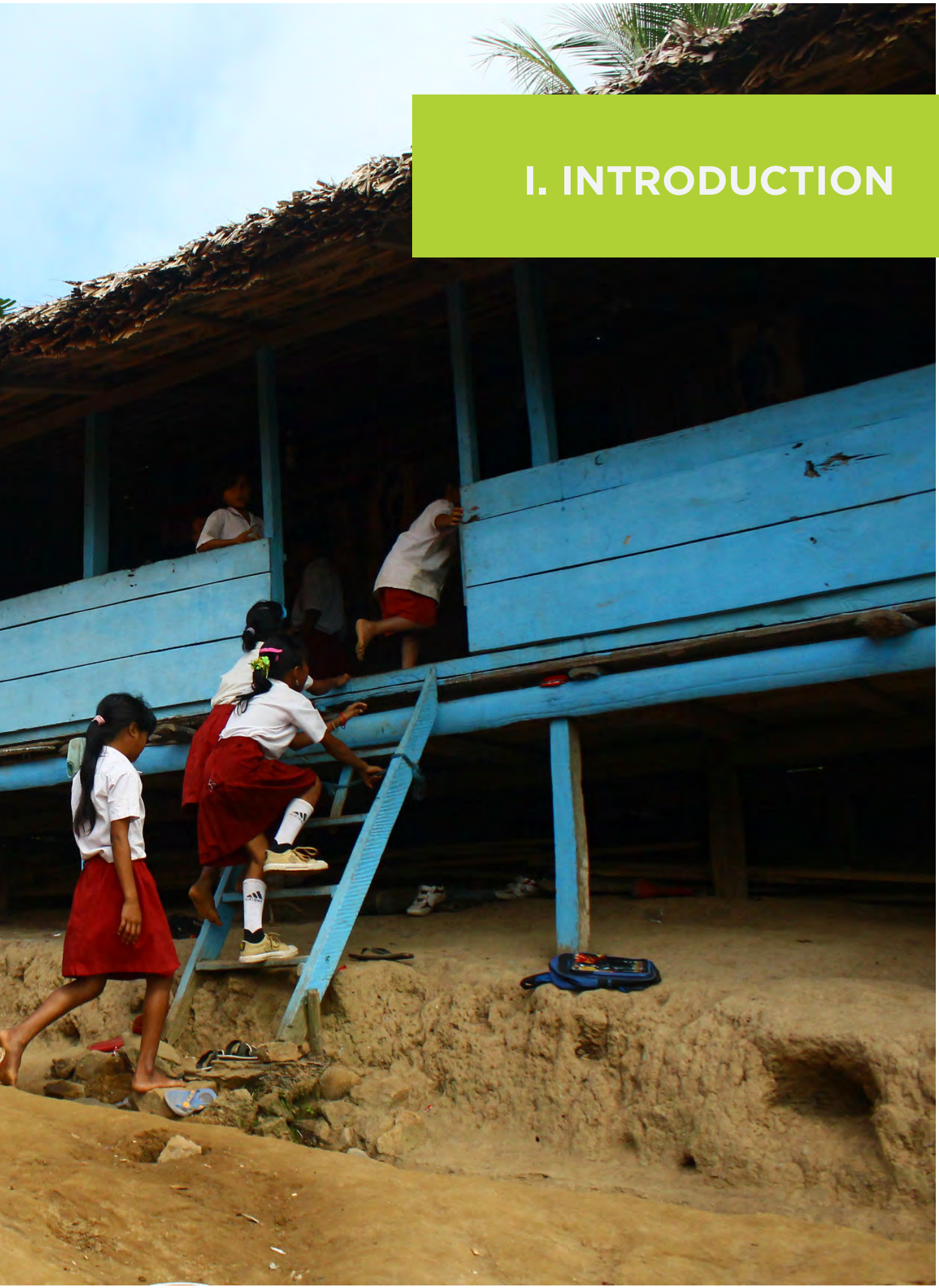
At the request of the National Team for Poverty Reduction (TNP2K) and the Vice-President, a census of basic village infrastructure, including health and education, has been conducted using the 2011 round of PODES, the national village census. Based on the information from both the infrastructure census and the PODES core survey, the objective of this analysis is twofold. First, the in-depth information on the quantity and quality of existing infrastructure is used for a comprehensive assessment of the local-level availability of basic facilities and services. In particular, indicators that measure the supply readiness of health and education services are developed for all districts and sub-districts in Indonesia. Second, based on the analysis of local patterns of available infrastructure, this study aims to quantify the needs for investments in health, education and transportation infrastructure.

The infrastructure census provides detailed facility-level information on public health and education facilities, covering a total of 166,506 health facilities and 164,561 schools all across the country. Along with the information on the physical availability of (public and private) health and education facilities from the PODES core survey, the data allow painting a nuanced picture of supply readiness of health and education services in Indonesia. To this end, seven indicators are selected for both the health and education sector, along three dimensions: (i) availability and accessibility of facilities; (ii) presence and qualification of personnel, and (iii) physical characteristics of facilities.

All indicators represent a supply readiness norm or target, and are calculated at the sub-district level. Based on the indicators, existent supply gaps are quantified. For both health and education, the respective indicators are then combined into composite indices of supply readiness. While the data on transportation infrastructure in PODES is less inclusive than what is available for the health and education sectors, a number of supply readiness indicators are also provided for transportation infrastructure.

The main findings from the analysis are:

- Overall, the results show a consistent picture of the quantity and quality of available basic infrastructure in Indonesia. For both health and education, we observe similar spatial patterns of supply readiness across the sectors' different dimensions. Moreover, results are robust across sectors, with significantly positive correlations between the various indicators of health, education and transportation infrastructure.
- In general, the largest gaps in infrastructure supply readiness are found for the Papua region, the Maluku Islands, NTT, as well as the remote areas of Kalimantan and Sulawesi. The urban-rural divide is thereby substantial, not only with respect to the accessibility, but also the quality of available services.
- For health, the lowest average scores are found for the provinces of Kalimantan Barat (75 %), NTT (71 %), Maluku Utara (69 %), Maluku (66 %), Papua Barat (50 %), and Papua (39 %). The highest average levels of health supply readiness are observed for all Javanese provinces (ranging from 99 % for DI Yogyakarta to 92 % for Banten), Bali (99 %), Bangka Belitung (95 %), Sumatera Barat (92 %), and NTB (90 %).
- Similar patterns are found for the ranking of average education supply readiness, with DKI Jakarta (98 %) and DI Yogyakarta (97 %) performing best, and Papua Barat (40 %) and Papua (26 %) showing the lowest average scores. These patterns are generally confirmed by the indicators of transportation infrastructure as well.
- Despite these consistent overall trends, we observe substantial variations within regions and provinces. The availability of the indicators at sub-district level thereby allows for the identification of such local disparities.
- Based on the indicators of supply readiness, the magnitude of existent gaps and resulting investment needs are quantified. This particularly includes, but is not limited to, the number of citizens without easy access to health and education facilities. Overall, it is estimated that more than 6 million people in Indonesia have no (easy) access to primary health care provision, and around 36 million people lack access to inpatient services offered at hospitals. For education, we find that more than 9 million people live in places without junior secondary schools readily available, with this number increasing to 16.6 million for early childhood education facilities.



I. INTRODUCTION

INTRODUCTION

Over the past decade, the Government of Indonesia has invested significant resources in community driven development approaches to poverty reduction and small scale infrastructure provision in rural areas. Initially targeted toward the poorest sub-districts, like the predecessor program KDP, PNPM-Rural has expanded to cover every rural sub-district and village in Indonesia. PNPM-Rural has spent the majority of it several-billion dollar budget on block grants to communities to build small-scale village infrastructure. A number of studies demonstrated positive returns and impacts (Olken et al., 2011; World Bank, 2011), but there is little understanding of the infrastructure deficit remaining, the cost of addressing such a deficit via a sustained PNPM or other approaches, and the most efficient means of doing so. To date, the GOI has developed less comprehensive and less evidence-based approaches on key issues such as whether and how much tertiary infrastructure contributes to poverty reduction; when and where maintenance is needed; and determining block grant allocation size. The primary reason for the current approach is a lack of complete and comprehensive data on existing infrastructure. Lacking good data on where and to what extent infrastructure gaps exist, a systematic and evidence-driven approach to addressing the gap via targeting of PNPM and other programs has not been feasible.

At the request of the National Team for Poverty Reduction (TNP2K) and the Vice-President, the PNPM Support Facility (PSF) Monitoring and Evaluation team has implemented a census of basic infrastructure for all 76,000 villages in Indonesia through PODES 2011. The primary objective of the census is to quantify the gap of acceptable-quality working basic infrastructure for all villages in Indonesia (main road, bridges, schools and health clinics) as an input to developing better strategies for financing, timeframe, programming and management of national and international resources for all PNPM programs. The collected data and the results from this analysis will allow the government to create a mechanism to estimate and track the remaining gap of addressing the existing village infrastructure deficit at the national, regional and local levels. Moreover, the data allows for a more systematic and evidence based approach to determining needs and priorities for PNPM moving forward (including targeting, maintenance and block grant size), assessing the impact of community-based programs on poverty reduction and determining local government allocation.

This report provides a detailed overview of the analysis and its main results. Section II presents the data and the overall methodological approach. Sections III and IV describe the selection of indicators, their properties and distribution for the health and education sector, respectively. In section V, we turn to the results for transportation infrastructure, while section VI provides a summary with some concluding remarks and potential policy implications.

II. DATA AND METHODOLOGY

II.1. The 2011 Core Podes And The Infrastructure Census

In 2011, the PNPM Support Facility (PSF) conducted a census of basic village infrastructure, including health and education, through the 2011 wave of PODES (Village Potential Statistics Survey or Potensi Desa). Administered by BPS, PODES is conducted three times per decade and collects socio-economic information from all Indonesian rural villages and urban neighborhoods.[1]

The core PODES survey includes a wide range of indicators, ranging from population characteristics to infrastructure, economic activities, and social life. Using the available information on existing health, education and transportation infrastructure, this analysis aims at providing an accurate and up-to-date picture of the local supply of basic infrastructure and services.

For each village, the PODES core data provides information on (i) the type and number of existent education and health facilities; (ii) the distance to the next facility in case a facility is not present in the village;[2] (iii) the number of physicians, midwives and nurses; and (iv) the type and condition of existent roads and bridges. The information on the quantity of available health and education facilities from the PODES core is complemented by quality-related information on these facilities from the infrastructure census. Drawing on the list of existent health and education facilities from the PODES core survey, the infrastructure census was collected directly from the facilities and provides in-depth information on public health facilities (including the full sample of 9,212 Puskesmas, 22,883 Puskesmas Pembantu, 28,672 Poskesdes and 14,408 Polindes, as well as a sub-sample of 91,331 Posyandu) as well as public schools (including 134,517 primary (SD), 21,530 junior secondary (SMP), and senior secondary (6,224 SMA / 2,589 SMK) schools).

The two data sources therefore allow for a comprehensive assessment of both the quantity and quality of health and education infrastructure in Indonesia. As far as possible with the given data, we also evaluate the robustness of the survey. As the PODES core is based on responses of the village heads, misreporting by local authorities is a major concern. If respondents expect their answers to affect the allocation of public funds to the village or, in general, have doubts about the purpose of the survey, the state of the community's public services and facilities might not be reported accurately. Further, relying on a single respondent can be problematic when this person is not fully aware of the various aspects of village life.

The reliability of the data is therefore assessed in several ways. First, BPS and PSF implemented a range of quality controls when collecting the data, including sending independent consultants to verify data, spot-checking (also to remote areas) and going back to the field for some areas where high data error/inconsistency were found. Second, we evaluate the consistency of the survey information throughout the analysis (see section II.2 for the methodological approach). In what follows, the available information on health and education infrastructure from both the PODES Core and Infrastructure Census dataset is presented in more detail.

1 PODES 2011 includes 78,600 villages/neighborhoods.

2 For health facilities, PODES additionally provides information on how easily a certain facility type can be reached from the village.

Information on Health Infrastructure

The information on existent health services available from the PODES data can be categorized along four dimensions: (i) physical availability and accessibility; (ii) health workforce; (iii) services and equipment; and (iv) building characteristics. Table II.1 gives an overview of the variables at hand for each of these dimensions.

The PODES core data provides information on the existence of different types of health facilities in the village, including hospitals, maternal hospitals, polyclinics, Puskesmas, Puskesmas Pembantu, Poskesdes, Polindes, and Posyandu, as well as physician's and obstetrician's practices. In case the respective facility is not available within the village/ neighborhood, the core includes information on a) the distance to and b) the ease of reaching the nearest facility.

Both the core and the census include information on the number of physicians, dentists, midwives, nurses and other health personnel working in the facilities and villages.[3] Further, the infrastructure census contains information on the availability of a range of services and equipment at the facility level. These variables are not available for those facilities that are not covered by the census (i.e. hospitals, polyclinics, physician's and midwife's practices). Aggregating this information at village or sub-district level would hence only be accurate for those sub-districts where no hospitals and polyclinics are present (which applies to around 60 percent of the 6,771 sub-districts). Finally, the infrastructure census provides information on a range of building characteristics, of which the availability of electricity and the supply of water, as well as indicators of roof and floor quality are most suited to assess the physical condition of facilities.

Information on Education Infrastructure

The data on education supply and infrastructure from the Core and the infrastructure census is also categorized along three dimensions: (i) physical availability; (ii) student numbers and teacher characteristics; and (iii) available rooms and facility characteristics. Table II.2 provides an overview.

Information on existent public SD, SMP, SMA and SMK is available from both the Core and the infrastructure census, while the Core additionally provides information on early childhood education facilities (PAUD and Kindergarten/TK), as well as the number of private facilities for all school types, including academies, special schools (SLB), Islamic boarding schools, and Madrasah diniyah. Further, the core includes information on the distance to the nearest school for each school type, if the respective facility is not present within the village or neighborhood.

For all public schools the infrastructure census provides information on the number of students (by sex and grade), as well as the number of teachers, their type of contract (permanent vs. temporary), and their level of education (S1 degree or higher versus D3 degree or lower). With this information, the average number of students per class, student-teacher ratios, and the share of permanent and/ or teachers holding at least an S1 degree are calculated for each school.

As for the health facilities, the school census provides information on a range of building characteristics. We focus on the availability of electricity and water within the facility and indicators of roof and floor materials and quality. Furthermore, the census contains information on available rooms, including the number of classrooms, laboratories, libraries, bathrooms, exercise fields, UKS rooms, and staffrooms.

[3] In part, the numbers differ substantially between the two sources, which is due to the broader focus of the Core data (including hospitals, polyclinics, physician's and midwife's practices).

Table II.1: *Available Information on Health Infrastructure from PODES*

Dimension	Indicator(S)
1. Physical Availability and Accessibility	Three indicators are available: • Number of facilities per 10,000 population • Share of population that can easily reach the facility • Distance to the next facility For the following types of health facilities: • Hospitals • Polyclinics • Maternal Hospitals • Puskesmas • Puskesmas Pembantu • Poskesdes • Polindes • Physician's practice • Midwife's practice
2. Health Workforce	• Physicians: number within the village & distance to / ease of reaching of the next practice • Midwives: number within the village & distance to / ease of reaching of the next practice • Dentists: number within the village • Nurses and other health personnel: number within the village
3. Services and Equipment	The infrastructure census provides information on the availability of the following services (in the surveyed facilities): • Inpatient services • Dentist services • Pregnancy check-up • Delivery by doctor/midwife • Immunization services • Family planning services • Laboratory • Weighing services • Provision of vitamin A • Provision of iron pills Incubator availability, Vaccine storage equipment
4. Building Characteristics	Electrification, Water source, Type and condition of roof and wall

Table II.2: *Available Information on Education Infrastructure from PODES*

Dimension	Indicator(S)
Physical Availability (public and private)	• Number of Facilities per 10,000 population • Distance to the next facility
Students and Teachers (for public schools)	• Student-Teacher Ratios • Number of Students per Class • Share of permanent / S1 teachers
Available Rooms and Facility Characteristics (for public schools)	• Libraries • Laboratories • Electrification • Water Source • Type and condition of roof and wall

II.2. Methodological Approach

This section provides a general overview of the main steps in the analysis, the methodological approach and implementation. More detailed explanations are given in the technical appendices, while the subsequent chapters only refer to the main results.

The main goal and, at the same time, challenge of this analysis is to use the immense amount of information from the PODES data for a reliable and accessible description of the state of village infrastructure in Indonesia. On the one hand, we aim for a comprehensive breakdown of the different aspects of local service supply; on the other hand, we intend to condense the available information into a summary indicator that allows for an easy grasp of the overall situation. The analysis of infrastructure supply readiness therefore consists of three main phases: (i) identification of the main indicators and analysis of the geographical distribution of these indicators; (ii) constructing a composite index based on the selected indicators; and, (iii) quantifying supply gaps.

Selection of the main indicators

The data from both the PODES Core village survey and the infrastructure census are combined to make use of all the information available. Therefore, the facility-level information from the infrastructure census is first transformed into village-level indicators, and then merged with the Core data into a single dataset. These indicators of local health, education and transportation infrastructure can be aggregated at sub-district, district and provincial level. Throughout this study the main level of analysis is the sub-district (kecamatan) for mainly three reasons: (i) a range of health and education institutions, such as Puskesmas or junior secondary schools, are provided at the sub-district level; (ii) most existent community driven development programs in Indonesia target sub-districts; and (iii) the sub-district level allows for both sufficiently accurate and detailed information.

Based on the sub-district dataset, the information available from the two surveys is explored in order to identify the most suitable indicators of health and education supply readiness. The selection of indicators is partly built on statistical properties, such as the nationwide variation of indicators or the correlation between different indicators. Moreover, we rely on expert consultation and take into account official government targets in order to identify those indicators most reflective of local realities and policy priorities. As a general rule, the selected indicators of supply readiness take a value between 0 and 1, reflecting the share of the population, facility or geographic area that meet a supply readiness norm or threshold. We choose at least two indicators for each dimension in health and education, which provides us with seven indicators for both health and education supply. The data on transportation infrastructure in PODES is less inclusive than the in-depth information available for the health and education sectors, but still allow for deriving a number of supply readiness indicators.

The analysis of the indicators' statistical properties allows –to a certain degree- for an assessment of the validity of the data. In particular, we evaluate the correlations between indicators, both within and across the different sectors, to identify common patterns in the data. This provides us with a measure of data consistency and, hence, an indicator of the reliability of the resulting relative rankings with respect to village infrastructure across the country. Moreover, we relate the chosen indicators of supply readiness to actual outcomes of the health and education system, respectively, as one (rather rough) way of testing the external validity of the PODES data. Still, a comparison of the PODES data with data on basic village infrastructure from other quantitative surveys or qualitative fieldwork would be desirable in order to assess the accuracy of the reported absolute levels of supply readiness. While beyond the scope of this analysis, comparisons with data that are currently being collected by the GOI and others would constitute a valuable complement to this study.

Construction of composite indices for health and education

The composite index of supply readiness for each sector basically reflects a weighted average of the selected indicators, and will therefore also be bounded by 0 and 1. A larger value indicates a higher degree of supply readiness, although interpretation of the value itself is not always straightforward, as this depends on the weights attached to each of the underlying indicators. The composite index is therefore better suited for comparing relative rather than absolute performance of districts. Note that we do not construct a composite index for transportation infrastructure, due to the limited number of indicators.

The choice of method for assigning weights is a crucial, yet admittedly arbitrary, step in constructing the composite index of infrastructure readiness in Indonesia. It is crucial because the weights determine the relative influence of each of the underlying indicators of the composite index. It is also arbitrary because the choice of weights inevitably involves a value judgement. It is therefore important to be transparent in both the arguments for the choice of weight, and the method for constructing the weight. We opt for assessing three different methods for constructing weights, each with different implicit choices, argumentation and intuition, while aiming to keep the methods as straightforward as possible.

First, we base the weights on explicit policy preferences. Although such a weighting scheme is clearly very arbitrary, the advantage is that the choices explicitly reflect different policy priorities and are open to scrutiny and debate. Here, we propose three in principle arbitrary weighting schemes:

i. Relatively larger weights to indicators in the physical availability dimension, which would emphasize the important role of availability of facilities for delivering health care and education services.
ii. Equal weights across all dimensions of accessibility. As the number of indicators may vary across dimensions, this could imply that the weights across indicators will not be equal.
iii. Equal weights across the seven indicators of supply readiness.

Second, weights are derived by means of so-called Principal Components Analysis (PCA), a statistical method used to summarize the information from a large number of related, or correlated, variables.[4] We derive the first principal component, the linear combination of the selected indicators that best captures the variation in the data, and use the eigenvectors of the first component as relative weights for the composite index. The advantage of PCA is that it seems less arbitrary in that we let the covariance in the data determine the policy priorities. However, PCA based weights are also difficult to interpret and to relate to policy priorities.

Third, we relate the weighting scheme for the supply readiness indicators to explicit policy objectives in terms of actual outcomes of the health and education systems, such as health care utilization by potential patients or average test scores from the National Exam (Ujian Nasional, UN). Two methods are used to assess the relative importance of the different supply indicators for health and education outcomes:

i. Weights are based on the supply indicators' contribution to the absolute level of the health or education outcomes, by means of OLS regressions of the selected indicators on district-level outcome variables. The estimated coefficients are then used to construct the weights.
ii. Weights are based on the supply indicators' contribution to inequality in health or education outcome variables. We measure inequality by means of a concentration index, which we decompose into the individual contributions of the seven supply indicators. These individual contributions are the product of (i) the responsiveness (or elasticity) of the outcome variables with respect to the supply indicators, and (ii) the inequality in the distribution of supply indicators across districts. For details on the inequality decomposition see Appendix 1.

Quantifying existing gaps

Existing shortcomings in infrastructure supply readiness, and the corresponding supply needs, are then quantified based on the main indicators, with the existing supply gap expressed as the distance to the maximum value of 1.. We provide different scenarios using different assumptions and benchmarks. In particular, we distinguish between absolute and relative levels of deprivation in terms of access to basic infrastructure.

In general, two different approaches are possible to identify targeting priorities. First, policy interventions can focus on those regions where the largest share of population, facilities, or villages is lacking certain infrastructure. A potential policy target with this approach would be to increase supply readiness to a value of, for example, 0.75 for all sub-districts in Indonesia. As the sub-districts lagging behind the most are mostly rural areas with a low population density, a relatively small number of people would benefit from infrastructure improvements in these areas.

Alternatively, investment priorities can be determined based on the absolute number of citizens that lack access to basic services. With this second approach, the focus would, at least partly, shift from remote, sparsely populated areas with very little infrastructure available, to more urban, densely populated areas with an overall higher level of supply readiness, but larger numbers of citizens without access to certain services. We will identify the magnitude of the gaps as well those areas most eligible for infrastructure investments based on both approaches.

[4] A well-known application of the PCA is the asset index, where information on the ownership of a large number of items is reduced into a single index.

III. HEALTH INFRASTRUCTURE

III.1. Selection of Supply Readiness Indicators

The PODES Core and the Infrastructure Census allow for categorizing the available information along four main dimensions. We derive a total of seven indicators in order to reflect the various aspects of health care supply. In what follows, the choice of the different indicators is motivated.

1. Physical Availability and Accessibility

The three types of indicators at hand (number of facilities per capita ("population-based"), distance-based, access-based) provide different pictures of the availability of health facilities. The population-based indicators tend to be lower in densely populated areas and higher in sparsely populated areas, and hence do not necessarily reflect actual availability of services. The correlations of these indicators with other indicators of infrastructure readiness are usually low or even negative, which is largely driven by the substantial impact of the population denominator on the indicator. As this would lead to a biased mapping of available infrastructure, no population-based indicators are included neither for the health nor for the education sector. However, we do account for population density when assessing the magnitude of existing infrastructure gaps.

A more reliable measure of health care accessibility is the "distance to the next facility" indicator. However, these indicators show a relatively high number of missing values (no information for up to 1,000 sub-districts). Therefore, a "ease of reaching" indicator is constructed, which is based on the assessment of the village head on how easy a certain health facility can be reached from the village.[5] The "ease of reaching" dummy at village level equals 1 if a facility is a) found within the village or b) "very easy" or "easy" to reach (according to the village head/the core respondent). Measuring the share of the sub-district population that can easily reach a certain facility, these indicators indirectly account for distance and transport infrastructure. The correlation with the distance-based indicators is generally high, around 0.60, which confirms the reliability of this class of indicators.

We group the nine facility types into three indicators in order to capture different functions of the health care system:

- Access to Primary Care: share of the population that can easily reach a polyclinic, Puskesmas, Puskesmas Pembantu, or physician's practice.
- Access to Secondary Care: share of the population that can easily reach a hospital
- Access to Delivery Facilities: share of the population that can easily reach a hospital, maternity hospital, Puskesmas, Polindes or midwife's practice.

The first indicator is intended to measure access to basic health services, which requires a choice on the health facilities to be included. For comparison, we do provide alternative definitions of primary care, in particular using a broader definition which includes all facility types other than hospitals (provision of secondary care) and Posyandu (no provision of core health services).

2. Health Workforce

We have information on the number of physicians, midwives and nurses in each village and by facility type. We propose two indicators that reflect targets set by the GOI:

- Physician at Puskesmas: In each Puskesmas, at least one physician should be present. We measure the share of Puskesmas in a sub-district that fulfill this condition.
- Midwife in the Village: The presence of midwives is crucial for maternity care and attended delivery. We measure the share of the sub-district population living in villages where a midwife is present.

5 For all nine health facility types, the village head/respondent of the PODES core reports on whether it is "very easy", "easy", "difficult", or "very difficult" to reach the next facility(if no such facility is available in the village).

The World Health Organization proposes an indicator of health professionals per 10,000 population to measure health workforce density (WHO, 2011). However, population-based indicators are problematic for the above stated reasons. Indeed, the WHO indicator performs poorly, with (i) negative or very low correlations with all other indicators of supply readiness; and (ii) no explanatory power when assessing the determinants of health care utilization. An indicator that performs slightly better is based on the number of physicians per 10,000 population, which is used as an alternative indicator of health workforce (see Appendix 2 for a more detailed description of population-based indicators of health workforce).

3. Services and Equipment

The information on services and equipment available from the infrastructure census is problematic for three reasons. First, only facilities covered by the infrastructure census are included, hence the indicators miss out on services offered at hospitals and polyclinics as well as at physician's and midwife's practices. Second, in case a service is not available within a village, no information on the location of the nearest facility that offers the service is available. Third, the service categories and the information on available equipment are relatively broadly defined and therefore not well suited for the assessment of supply quality (for instance, the impact of a laboratory crucially depends on equipment and tests available). We therefore do not use the information on services and equipment for the index.

4. Building Characteristics

Instead, the quality of health facilities is measured with two indicators of basic amenities.

- Water Supply Puskesmas: An official target for Puskesmas facilities is to have access to water either at the facility or within 500 meters from the building. As no information on the distance to the next water source is available, we use a dummy that equals one if the next water facility can be reached in 10 minutes or less.
- Electrification: The second indicator measures the share of health facilities in the sub-district (excluding Posyandu) with electricity.

We do not use indicators of building material, as these indicators are likely to also reflect regional differences in building styles, and, hence, not necessarily the quality of infrastructure. Table III.1 provides an overview of the selected indicators of health supply readiness.

Table III.1: *Overview of Selected Health Indicators*

Indicator	Description
Access to Primary Care	Share of Population that can easily reach a polyclinic, Puskesmas, Puskesmas Pembantu, or physician's practice
Access to Secondary Care	Share of Population that can easily reach a hospital
Access to Delivery Facility	Share of Population that can easily reach a hospital, maternity hospital, Puskesmas, Polindes or midwife's practice
Physician at Puskesmas	Share of Puskesmas with at least one physician present
Midwife in the village	Share of Population living in villages with a midwife present
Water Supply Puskesmas	Share of Puskesmas with water installation within facility or 10 min walk
Electrification	Share of health facilities with electricity (excluding Posyandu)

III.2. Description of the National Patterns of Infrastructure Availability

Descriptive statistics for the seven indicators are presented in Table III.2, where all indicators are bounded between 0 and 1, and larger values indicate a higher degree of supply readiness. On average, 92.6 percent of population in the 6,771 sub-districts has access to primary health services as defined in Table III.1. When in addition access to Polindes, Poskesdes and midwife's practices is considered, this average increases to 95.5 percent. Overall, basic health care is hence readily available in many parts of Indonesia. However, regional differences are still substantial and are discussed in greater detail below.

Access to secondary care is more restricted, with an average of only two thirds of the sub-district's population living in villages from where a hospital can easily be reached. Delivery facilities are, on average, difficult to reach for about ten percent of the sub-district population. The indicators of health personnel and building characteristics show similar sub-district averages, ranging between 0.81 for the share of health facilities with power supply and 0.86 for the share of Puskesmas with a physician present.

Table III.2: *Health Indicators: Descriptive Statistics*

Descriptive Statistics	Obs.	Mean	SD	Min	Max
Access to Primary Care	6771	0.926	0.173	0	1
Access to Secondary Care	6771	0.673	0.407	0	1
Access to Delivery Facility	6771	0.899	0.220	0	1
Physician at Puskesmas	6771	0.858	0.339	0	1
Midwife in the village	6771	0.848	0.251	0	1
Water Supply Puskesmas	6771	0.848	0.345	0	1
Electrification	6771	0.814	0.267	0	1

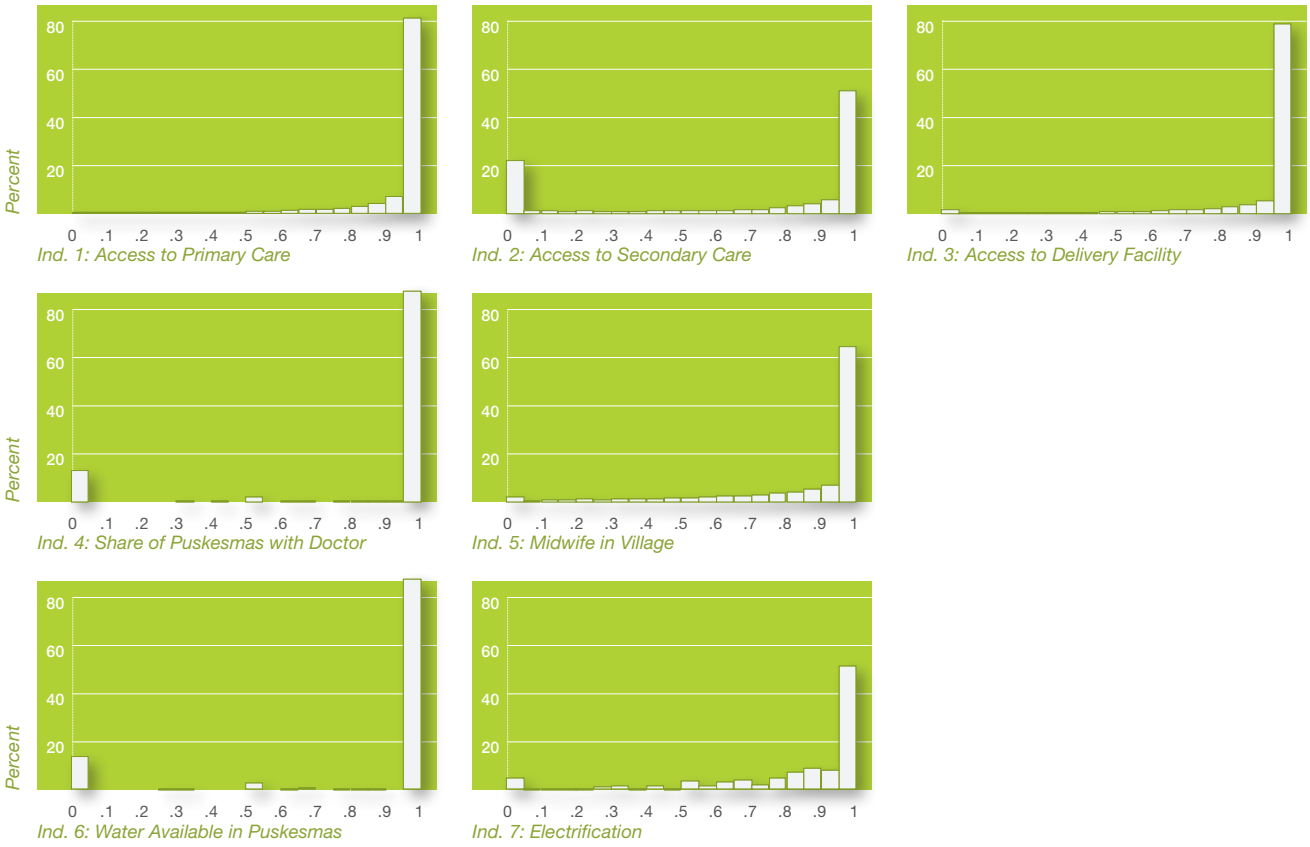
Table III.3 reports the correlations between indicators, which range between 0.30 and 0.62 (with the exception of access to delivery facilities and access to primary care: 0.78). These significantly and uniformly positive correlations point to similar patterns of supply readiness across different dimensions and, moreover, confirm the consistency of the chosen indicators. Along with the, in part, substantial variations of the indicators across sub-districts, these statistical properties suggest a reasonably robust assessment of the local availability of basic health infrastructure across Indonesia.

Table III.3: *Health Indicators: Correlations*

Correlations	Primary	Secondary	Delivery	Physician	Midwife	Water
Access to Secondary Care	0.54	1.00				
Access to Delivery Facility	0.78	0.62	1.00			
Physician at Puskesmas	0.42	0.36	0.47	1.00		
Midwife in the village	0.60	0.53	0.65	0.50	1.00	
Water Supply Puskesmas	0.37	0.30	0.40	0.49	0.43	1.00
Electrification	0.47	0.45	0.51	0.44	0.54	0.38

Before turning to the spatial patterns of health care supply, Figure III.1 provides a graphical representation of the seven indicators' distribution. While primary health care services are almost universally available, access to hospital treatment is severely limited in about 20 percent of all sub-districts. In more than 80 percent of the sub-districts, Puskesmas are staffed with at least one physician. However, large variations are observed for the village-level availability of midwives, with a total of 1,136 sub-districts in which a midwife is present in less than 50 percent of the villages. A somewhat similar picture emerges for the two indicators of basic amenities: Water supply is a given for most Puskesmas, while electrification of health facilities is less prevalent, with universal access to electricity found in only about 45 percent of the sub-districts.

Figure III.1: *Distribution of Health Supply Readiness Indicators*



In what follows, maps for all seven indicators present the regional patterns of infrastructure supply readiness. The same classification is used for all indicator maps (as well as for the maps of the composite indices in the next section) in order to simplify comparisons across the different aspects of health care supply.[6]

6 The data from PODES 2011 is not (yet) completely compatible with the administrative coding that underlies the most recent sub-district maps. Therefore, a total of 38 sub-districts cannot be represented by the maps. Despite this minor incompatibilities between the PODES codes and the mapping tools, the whole set of indicators is available for all sub-districts covered by PODES 2011.

Dimension 1: Physical Availability And Accessibility

Figure III.2 confirms widespread access to primary health care in most of Java (access given for an average of 98 percent of the sub-district population), Bali (100%) and NTB (98%). Availability of health services is more limited in rural areas[7] of Kalimantan, Sumatra and Sulawesi, with a respective average of 10, 7, and 7 percent of the sub-district population lacking easy access to primary care. Severe gaps in basic access to health care are observed for the rural sub-districts of Papua (average sub-district access rate of 62 %) and, less dramatic, in rural Papua Barat (77%) and Maluku (87%). Appendix 3 provides province and district-level overviews of all indicators.

Figure III.2: *Map – Share of the Population with Access to Primary Care*

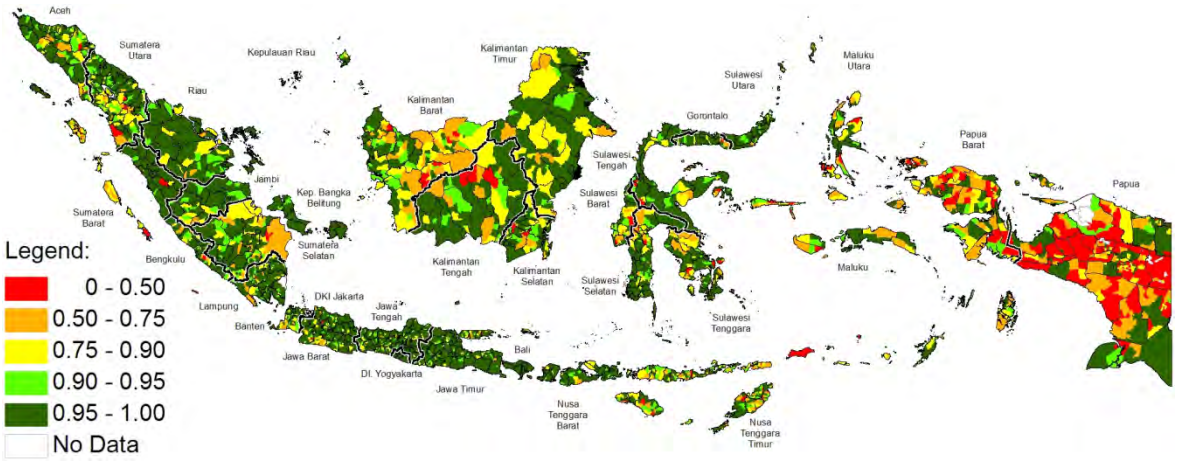
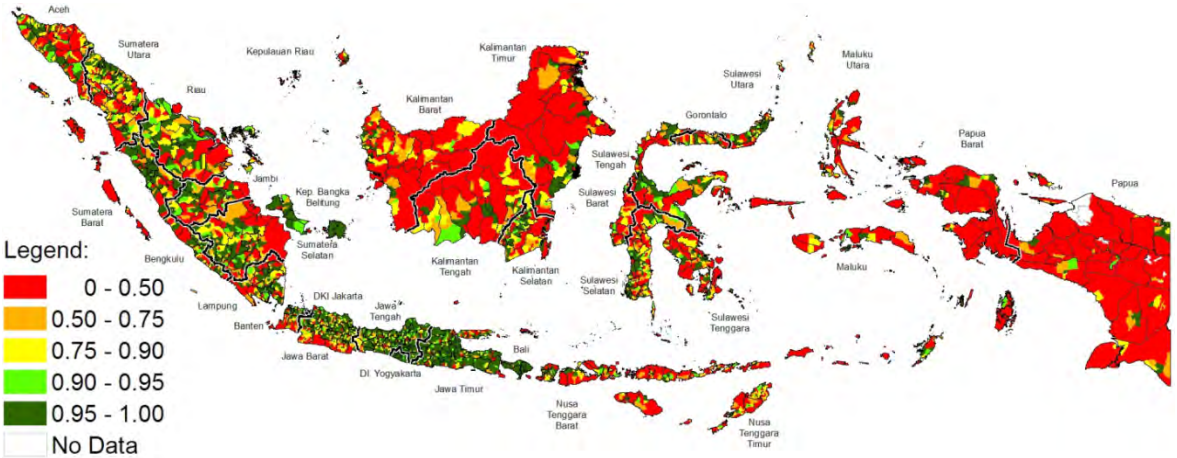


Figure III.3: Map – *Share of the Population with Access to Secondary Care*

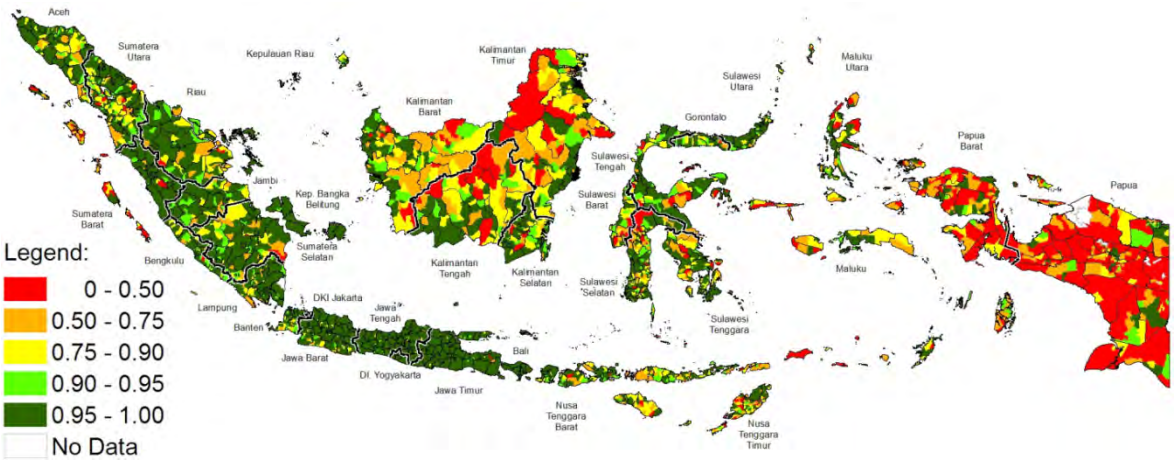


In contrast to the overall good access to primary health services, secondary care at hospitals is less easily available in large parts of the country. Besides Papua and Papua Barat (average sub-district access rate of 18 percent) and the Moluccas (37%), low access rates are also observed across NTB and NTT (51%), Kalimantan (53%), Sulawesi (62%) and Sumatra (71%). Urban-rural differences are substantial: While an average of 91 percent of the population in urban sub-districts has easy access to hospitals, this holds true for an average of only 51 percent of the population in rural sub-districts across the country.

[7] A sub-district is classified as urban when at least one village/neighborhood in the sub-district is coded as urban (2,763 sub-districts in total). Accordingly, a sub-district is classified as (exclusively) rural when all villages in the sub-district are coded rural (4,008 sub-districts).

The availability of delivery facilities by and large follows similar patterns as observed for access to primary health care. However, especially in rural areas off Java a large share of the population has limited access to delivery facilities: In the 3,377 rural sub-districts outside Java, an average of 19 percent of the population is lacking easy access, as compared to only 2 percent of the population in the 631 rural sub-districts in Java.

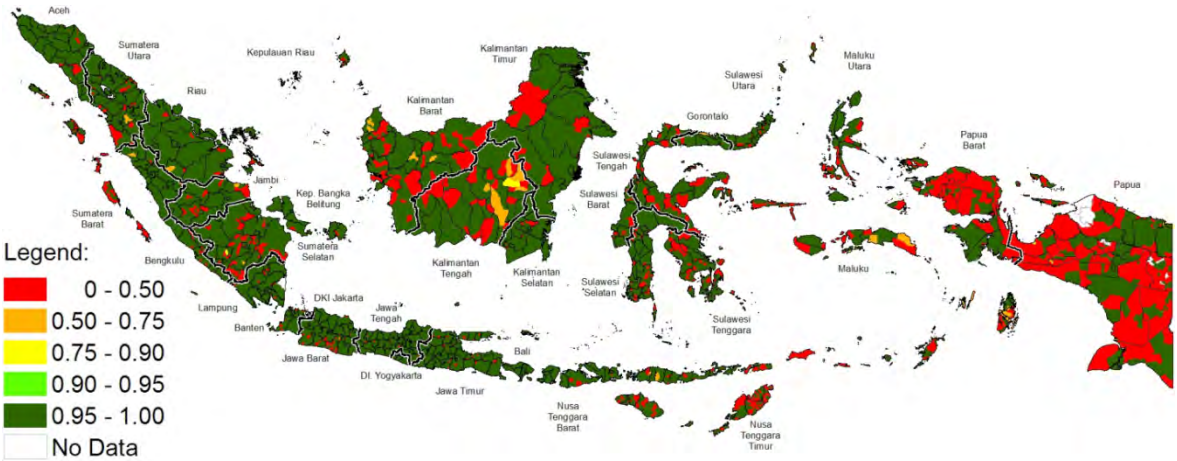
Figure III.4: *Map – Share of the Population with Access to Delivery Facilities*



Dimension 2: Health Workforce

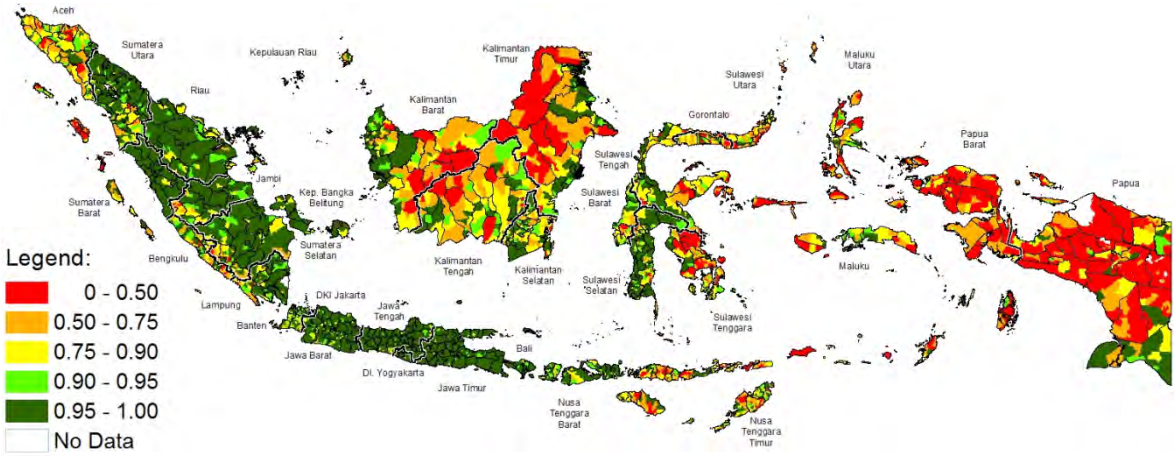
Given the existence of only one Puskesmas in most sub-districts, the share of Puskesmas with a physician is almost a binary indicator. Again, gaps are most prevalent in Papua, where in many sub-districts a Puskesmas is not available at all. Overall, one quarter of rural sub-districts off Java does not provide a Puskesmas staffed with a physician, with this share increasing to 40 percent for the Moluccas and 69 percent for Papua / Papua Barat.

Figure III.5: *Map – Share of Puskesmas with at least one Physician*



In line with the overall patterns of health care availability, the presence of midwives is particularly limited in rural and remote areas. Overall, midwives are present in 96 percent of urban neighborhoods, but only in 78 percent of rural villages. Lowest rural access rates are observed for the provinces of Sulawesi Utara (61%), Maluku (54%), Kalimantan Timur (51%), Maluku Utara (50%), Papua (30%) and Papua Barat (27%). It is important to note that our definition of midwives does not include traditional midwives (dukun bayi). Accounting for the presence of dukun bayi, the share of villages without any midwife is reduced to an average of 11 percent for all rural areas, with this indicator substantially above 10 percent only for Papua / Papua Barat (47 percent).

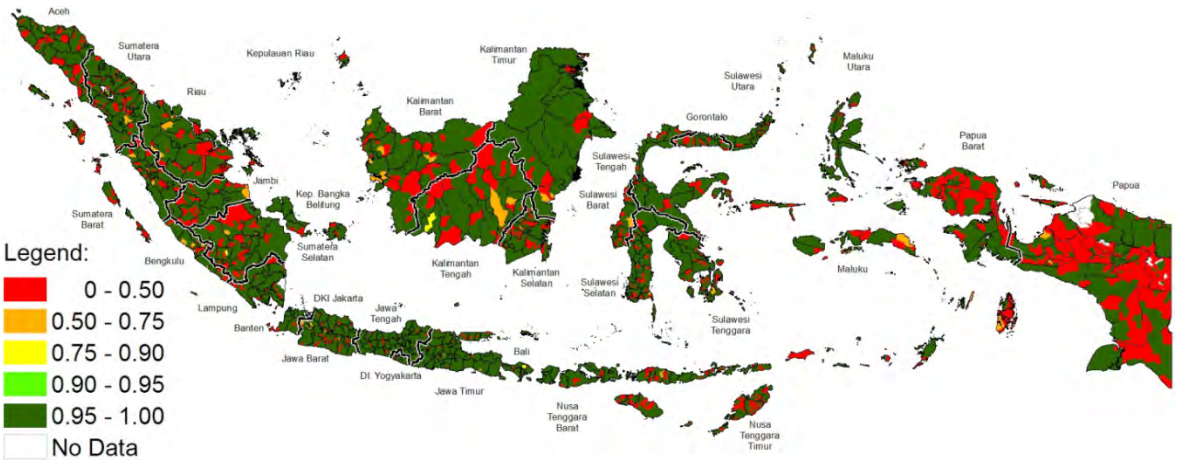
Figure III.6: *Map – Share of the Population Living in a Village with a Midwife*



Dimension 3: Building Characteristics

Similar to the indicator of the presence of a physician at Puskesmas, the indicator of the share of Puskesmas with water supply either within the facility or within 10 minute walk has almost a binary distribution. Outside Java and Bali, and with the exception of Papua / Papua Barat, a relatively uniform picture evolves: around 10 percent of the urban sub-districts and 20 percent of the rural sub-districts do not provide a Puskesmas with water installation. In Papua / Papua Barat, a similar 12 percent of the urban sub-districts do not provide a Puskesmas with water supply, but this figure increases to 61 percent for the province's rural sub-districts.

Figure III.7: *Map – Share of Puskesmas with Water Installation*



The availability of electricity in health facilities varies greatly across both regions and facility types. Overall, health facilities in Papua / Papua Barat (52 percent), the Moluccas (66 percent), and NTT / NTB (70 percent) are least likely to have access to electricity, while almost universal supply is given in Java (97 percent) and Bali (96 percent). In Table III.4, these figures are disaggregated by type of health facility. With the exception of Papua / Papua Barat, average electrification rates for Puskesmas are above 90 percent across the country. Puskesmas Pembantu, Poskesdes, and Polindes have significantly less often access to electricity, with relatively similar average electrification rates across facility types within regions.

Figure III.8: *Map – Share of Health Facilities with Electricity (excl. Posyandu)*

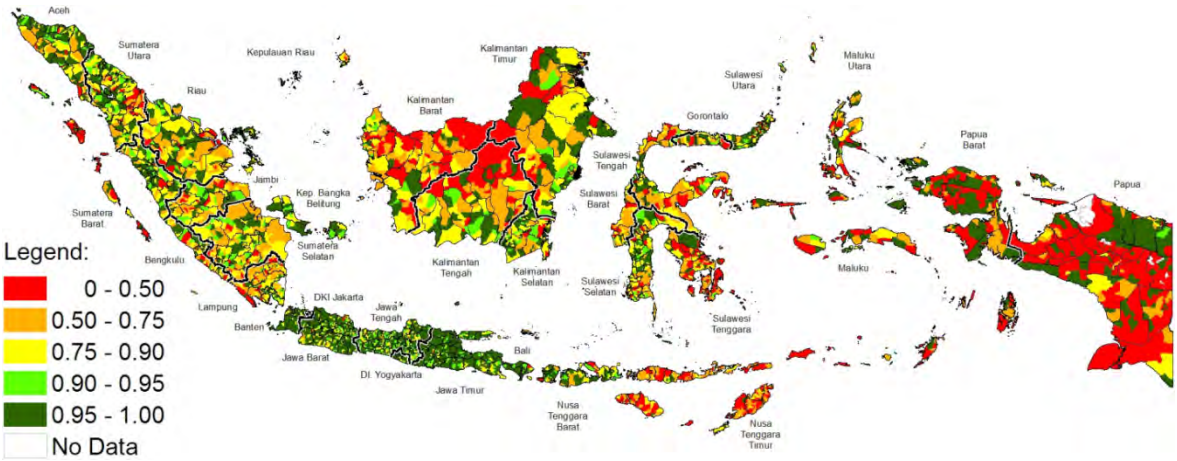


Table III.4: *Share of Health Facilities with Electricity – by Region and Facility Type*

Region	Puskesmas	Pustu	Poskesdes	Polindes
Sumatra	97.4	83.3	82.2	85.5
Java & Bali	100.0	96.4	95.3	97.4
NTT & NTB	94.2	69.1	70.5	61.4
Kalimantan	98.1	75.0	74.8	73.1
Sulawesi	94.7	80.4	69.8	68.8
Maluku & North Maluku	90.5	64.3	60.6	53.6
Papua & Papua Barat	72.3	50.3	30.0	39.0

III.3. Composite Indices of Health Supply Readiness

In a next step, the information from the seven indicators is aggregated into (i) sub-indices for each dimension, as well as (ii) composite indices based on all indicators. The provision of such condensed information thereby allows assessing overall supply readiness at local levels and identifying priority regions for future policy interventions. In general, the island of Java and the province of Bali perform best, while the largest gaps in infrastructure supply readiness are found for the Papua region, the Maluku islands, NTT, as well as for the interior of Kalimantan. Overall, 19 percent of the Indonesian sub-districts can be considered supply ready with a maximum score of 100 percent, while substantial gaps are observed for one quarter of the sub-districts with a score of below 75 percent.[8] Before having a closer look at the spatial patterns of the supply of basic health services, this section presents the construction of the various composite indices.

To begin with, Table III.5 shows the mean values and pairwise correlations of the sub-indices for the three major dimensions physical availability, health workforce, and building characteristics. The sub-indices are calculated as simple averages of the respective indicators in each dimension. Similar mean values and positive correlations between 0.55 and 0.65 endorse the impression of fairly consistent patterns of supply readiness across different dimensions of health infrastructure.

Table III.5: *Sub-Indices Health – Mean Values and Correlations*

Sub-Index	Mean	Correlations		
		Availability	Workforce	Building
Physical Availability	0.833	1.00		
Health Workforce	0.853	0.63	1.00	
Building Characteristics	0.831	0.55	0.65	1.00

[8] These statistics are based on version A of the composite health index, where particular weight is given to the indicators of physical availability.

Going a step further, we combine the information from all seven indicators into one global index of health supply readiness. As discussed in section II.2., we propose six different weighting schemes for the composite index for comparison and robustness purposes. First, the weights are determined based on policy preferences, giving (i) a total weight of 60 percent to the three indicators of physical availability; (ii) equal weights across the three dimensions of accessibility, personnel, and building characteristics; and (iii) equal weights across the seven indicators of supply readiness.

Second, the Principal Components Analysis (PCA) is employed to derive weights for the seven indicators. Table III.6 presents the respective eigenvectors and weights for each indicator from the PCA analysis, which results in fairly equal weights across all seven indicators of health supply readiness.

Table III.6: *Principal Component Analysis Health Indicators*

Indicators	Eigenvector	Weight
Access to Primary Care	0.408	0.155
Access to Secondary Care	0.366	0.139
Access to Delivery Facility	0.432	0.164
Physician at Puskesmas	0.345	0.131
Midwife in the village	0.410	0.156
Puskesmas Water Supply	0.310	0.118
Electrification	0.361	0.137
	2.631	1.000

Third, we link the supply readiness indicators to actual outcomes of the health system, namely health care utilization by potential patients. Outpatient utilization rates, the dependent variable in our regression model, measure the share of the population that used outpatient services in the last month – out of those respondents reported sick. As this variable, which is derived from the 2010 Susenas, is only available at district-level, we aggregate the seven supply readiness indicators accordingly. Table III.7 presents the correlations between outpatient utilization rates and the seven indicators, as well as the OLS regression estimates and resulting weights for the composite index.

Table III.7: *OLS Regression Results: Determinants of Outpatient Utilization Rates*

Indicator	1. Correlation	2. OLS I	3. OLS II	4. Weights
Access to Primary Care	0.47	0.02 (0.867)	0.02 (0.854)	0.031
Access to Secondary Care	0.51	0.09*** (0.002)	0.09*** (0.002)	0.169
Access to Delivery Facility	0.52	0.24** (0.015)	0.24** (0.016)	0.438
Physician at Puskesmas	0.37			
Midwife in Village	0.41	-0.00 (0.917)	-0.09* (0.053)	
Personnel: Score Physicians	0.13	-0.09* (0.061)	-0.00 (0.949)	
Puskesmas Water Supply	0.43	0.09* (0.093)	0.09* (0.093)	0.158
Electrification	0.49	0.11*** (0.006)	0.11*** (0.005)	0.204
	Observations:	497	497	
	R2:	0.319	0.319	
		P-values in parentheses. Statistical significance: * at 10%; ** at 5%; *** at 1%. Constant included.		

On table III.7, Column 1 (correlation) shows that outpatient utilization rates are strongly and positively correlated with all supply readiness indicators, hence providing some evidence for the external validity of the chosen indicators. To assess these correlations further, we run simple OLS regressions on outpatient utilization rates and obtain positive regression coefficients for the three access indicators as well as for the two indicators of building characteristics (column 2). For comparison, we replace the 'Physician at Puskesmas' with the 'Physicians Score' indicator (see Appendix 2 for details). As the regression results do not improve (column 3), we stick to our seven core indicators. Based on the regression coefficients from OLS I, the weights for the composite index are derived, where indicators with negative coefficients are given zero weight and the weights for the remaining five indicators are rescaled as to sum to 1 (column 4). While this is a simple way of assessing the determinants of health care utilization, the results provide an alternative approach to the determination of the indicator's weights.

A second alternative to determine weights with the help of health outcome variables is to assess the supply indicators' contribution to inequality in health care utilization using the concentration index (see Appendix 1 for a more detailed description of the method). Table III.8 presents the results from this approach. We start from the OLS I regression of the seven supply indicators on outpatient utilization rates. The concentration index for the outpatient utilization rates equals 0.029, which indicates a pro-rich distribution of outpatient utilization for those reported ill. The concentration indices for all the covariates result in all positive values (column 2), likewise pointing to a relatively more abundant health care supply in wealthier districts.

With all positive concentration indices, the contribution of each covariate to the overall inequality of utilization is determined by the sign of the regression coefficient and the subsequent elasticity. The residual component is very large, indicating that the supply indices only explain a limited part of inequality in utilization. However, this is not unexpected given the relatively low R-squared of the OLS regression. As to translate these results to weights, the indicators with a negative contribution are given a weight of zero and the other contributions are rescaled so they sum to 1.

This leaves us with a total of six alternative weighting schemes for the composite index of health infrastructure supply readiness. Table III.9 summarizes the weights of the seven indicators for each of the six alternative indices. While the composite indices A to D use the full set of seven indicators, versions E and F are based on the regressions on outpatient utilization rates and result in the exclusion of the health personnel indicators.

Table III.8: *Health Indicators: Decomposition of the Concentration Index*

Indicator	1. Coefficients	2. CI	3. Contribution	4. Percent	5. Weights
Access to Primary Care	0.017	0.028	0.001	3.8	0.019
Access to Secondary Care	0.094	0.099	0.017	56.9	0.286
Access to Delivery Facility	0.242	0.038	0.021	71.3	0.360
Puskesmas with Physician	-0.004	0.042	0.000	-1.4	
Midwife in Village	-0.087	0.053	-0.010	-33.4	
Water Installation	0.087	0.030	0.006	19.6	0.098
Electrification	0.113	0.061	0.014	46.8	0.236
Residual			-0.048	-163.6	
Total		0.029		100.0	1.000

Table III.9: *Overview of Weights for the Composite Health Indices*

Index	Primary	Secondary	Delivery	Physician	Midwife	Water	Electr.
A. Focus on Access	0.200	0.200	0.200	0.100	0.100	0.100	0.100
B. Equal Dimension	0.111	0.111	0.111	0.166	0.166	0.166	0.166
C. Equal Indicator	0.143	0.143	0.143	0.143	0.143	0.143	0.143
D. PCA	0.155	0.139	0.164	0.131	0.156	0.118	0.137
E. Utilization OLS	0.031	0.169	0.438			0.158	0.204
F. Utilization CI	0.019	0.286	0.360			0.098	0.236

Tables III.10 and III.11 provide descriptive statistics and pairwise correlations for the six composite indices, respectively. Like the underlying indicators, the composite indices are bounded between 0 and 1, with higher values indicating higher supply readiness. The average Indonesian sub-district achieves a score of around 0.84 or 84 percent, dependent on the weighting scheme used. Using composite index A as reference, both the highest possible score of 1 (1,291 sub-districts) and the lowest possible score of 0 (35 sub-districts) are observed.

Table III.10: *Composite Health Indices: Descriptive Statistics*

Descriptives	n	Mean	SD	Min	Max
Index A: Focus on Access	6771	0.836	0.212	0	1
Index B: Equal Weights Dimensions	6771	0.839	0.214	0	1
Index C: Equal Weights Indicators	6771	0.838	0.212	0	1
Index D: PCA	6771	0.841	0.209	0	1
Index E: Utilization OLS	6771	0.836	0.218	0	1
Index F: Utilization CI	6771	0.809	0.235	0	1.00
Electrification	6771	0.814	0.267	0	1

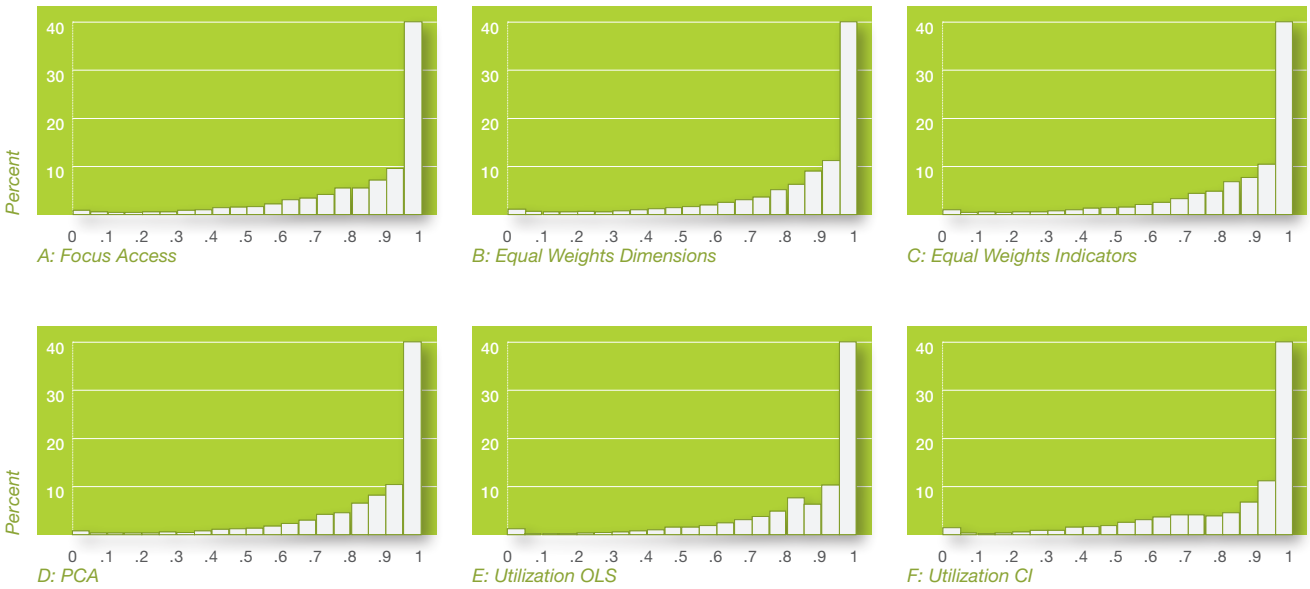
Interestingly enough, the alternative weighting schemes have little impact on the distribution of the composite indices. This is confirmed by extremely high correlations between the different versions of the composite indices. Versions A to D are almost identical, due to similar weights and the positive correlations between the seven sub-indicators. Even when the health personnel indicators are excluded for the regression-based weighting schemes (versions E and F), correlations are still above 0.95 (with the exception of version B and E).

Table III.11: *Composite Health Indices: Correlations*

Correlations	A	B	C	D	E
Index B: Equal Weights Dimensions	0.97	1.00			
Index C: Equal Weights Indicators	0.99	1.00	1.00		
Index D: PCA	0.99	0.99	1.00	1.00	
Index E: Utilization OLS	0.98	0.95	0.96	0.97	1.00
Index F: Utilization CI	0.97	0.92	0.95	0.95	0.99

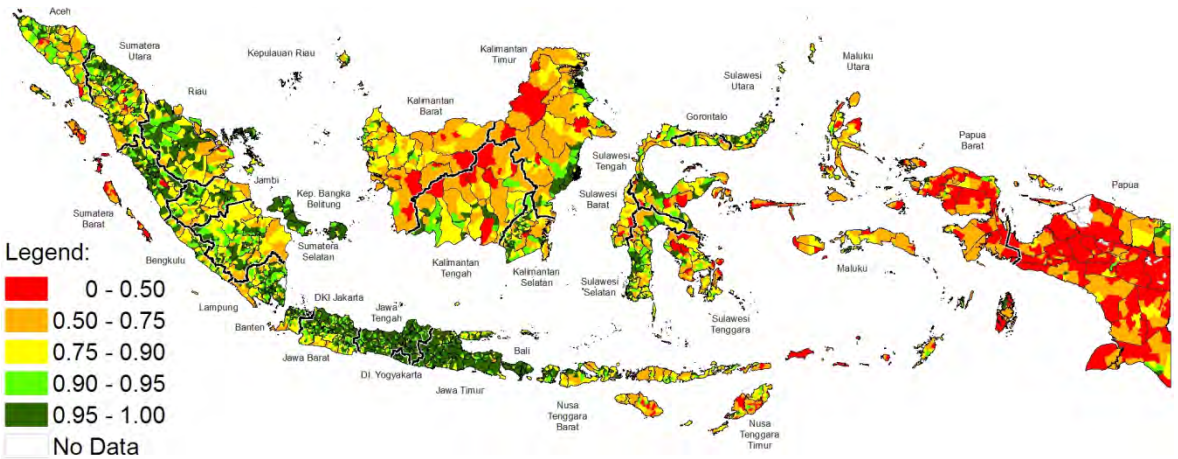
Finally, the similarity of the different composite indicators is confirmed by their almost identical distribution (Figure III.9). While the potential user of the indices can decide on his or her preferred weighting scheme, this choice will actually not alter the results substantially.

Figure III.9: *Distribution of Alternative Composite Indices of Health Supply Readiness*



The similarity of the different composite indices leads to accordingly similar spatial patterns. Representative of all composite indices, Figure III.10 maps the spatial distribution of index A. Sub-districts in Bali (0.99) and Java (0.96) have achieved very high levels of health supply readiness, average scores are observed for Sumatra (0.87), Sulawesi (0.82), Kalimantan (0.80), and NTT & NTB (0.77), while the Moluccas (0.68) and in particular Papua / Papua Barat (0.42) still lag behind. The overall gap between urban (0.96) and rural (0.75) sub-districts is substantial and particularly pronounced in regions with an overall low level of infrastructure supply readiness.

Figure III.10: *Map – Composite Index of Health Supply Readiness (Index A)*



III.4. Quantifying Needs for Investment

Based on the seven indicators of health supply readiness, the investment needed to achieve basic levels of infrastructure throughout Indonesia is estimated. The distance of each indicator to its maximum value of 1 is thereby calculated for each sub-district and interpreted as gap. Table III.12 gives an overview of total national gaps for each indicator, derived from the sum of sub-district gaps.

1. Physical Availability and Accessibility

For the three indicators of physical availability, the number of citizen without easy access to the respective services is calculated. An estimated 6.2 million people in Indonesia lack easy access to primary health services, of which 80 percent live in rural sub-districts. A total of 383 or 6 percent of the sub-districts do not provide a Puskesmas, with about 60 percent of these sub-districts located in Papua or Papua Barat, and the remaining 40 percent distributed relatively equally across rural areas outside Java. While indicative of an overall low level of health care supply, it is likely that many of these sub-districts without Puskesmas emerged only recently from the process of pemekaran, the formation of new districts and sub-districts during the decentralization process.

Table III.12: *Overall Gaps in Health Supply Readiness, by Indicator*

Indicator	Type of Gap	Total National Gap
Access Primary Care	Number of citizens without access Number of sub-districts without Puskesmas	6.23 Mio. 383 (population: 1.41 Mio)
Access Secondary Care	Number of citizens without access Number of districts without hospital	35.97 Mio. 42 (population: 4.73 Mio)
Access Delivery Facility	Number of citizens without access Number of sub-districts w/o delivery facility	6.77 Mio. 222
Physician at Puskesmas	Number of Puskesmas without physician	732 (8 %)
Midwife in the Village	Number of villages without midwife	14,842 (population: 11.82 Mio)
Puskesmas Water Supply	Number of Puskesmas without water installation	852 (9 %)
Electrification	Number of health facilities without electricity • Puskesmas • Puskesmas Pembantu • Poskesdes • Polindes	10,629 (14 %) 305 (3 %) 3,855 (17 %) 4,229 (15 %) 2,198 (15 %)

Relative gaps in brackets for facility-level gaps.

In 694 sub-districts, less than 75 percent of the population can easily reach primary health care providers. A policy goal aiming at minimum access rates to primary health care of 75 percent across all sub-districts would require providing access to a total of 1.31 million people. Table III.13 gives an overview of the regional distribution of (i) the sub-districts with access rates below 75 percent; and (ii) the number of people without easy access to primary care, secondary care and delivery services, respectively. The figures reveal the different distributions of relative and absolute gaps. Out of the 694 sub-districts with access rates below 75 percent, 42 percent are located in Papua and 17 percent in Sumatra. However, out of the 6.23 million people without access to primary care, 'only' 15 percent live in Papua or Papua Barat, while 29 and 27 percent of the citizens without access are found in Java and Sumatra, respectively.

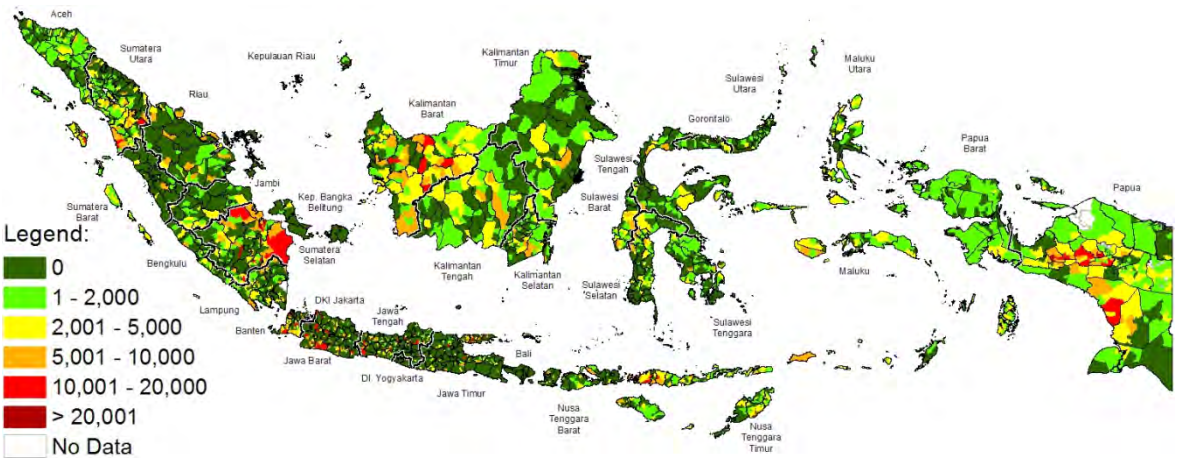
Map III.11 describes the absolute number of people without access to primary care by sub-district. In Papua, for instance, more than 5,000 citizens without access are found in a total of 42 sub-districts (which equals 7 percent of the sub-districts in the province). 46 such sub-districts are located in Jawa Barat, 35 in Jawa Tengah, 29 in Sumatera Utara, 25 in Jawa Timur, 27 in Kalimantan Barat, and 20 in NTT and Banten each.

Table III.13: *Access to Health Services – Absolute and Relative Gaps*

Region	Primary Care		Secondary Care		Delivery Facilities	
	Share Kec. below 0.75	Share People	Share Kec. below 0.75	Share People	Share Kec. below 0.75	Share People
Sumatra	16.7	25.6	25.5	28.5	14.4	25.9
Java & Bali	5.2	28.5	11.2	29.5	1.8	8.7
NTT & NTB	9.2	7.9	9.3	8.8	8.7	10.5
Kalimantan	10.2	10.4	12.7	11.7	12.8	15.3
Sulawesi	10.8	9.3	16.5	12.3	12.6	16.9
Maluku & North Maluku	5.8	3.4	5.4	3.2	6.5	5.0
Papua & Papua Barat	42.1	14.9	19.5	5.7	40.2	17.7
Absolute Numbers	*694*	*6.23 Mio.*	*2,578*	*35.97 Mio.*	*956*	*6.77 Mio.*

'Share Kec. below 0.75' reports the regional distribution of the 694 sub-districts with an indicator score below 0.75 (e.g. 16.7 % of the 694 sub-districts are found in Sumatra). 'Share People' reports the regional share in the total number of people without access.

Figure III.11: *Map – Number of Citizens without Access to Primary Health Care*



Similar differences between relative and absolute gaps are observed for the two other indicators of physical availability. In particular, the availability of delivery services follows similar patterns than the indicator of access to primary care. Some 40 percent of the sub-districts with access rates below 75 percent are located in Papua / Papua Barat, while only 18 percent or 1.20 million out of the 6.77 people without access live in this region. The largest number of people without access is observed for Sumatra, which accounts for one quarter of the citizens without access. Figure III.12 presents the spatial distribution of absolute gaps with respect to access to delivery facilities.

Significantly more people lack easy access to hospital services. As revealed by Table III.13, large numbers of sub-districts with access rates of less than 75 percent are found across all regions of the country. 30 percent of the overall 36 million people without access live in Java, 29 percent in Sumatra. The provinces with highest absolute gaps are thereby Jawa Barat (5.0 million people), Jawa Timur (2.6 Mio.), Sumatera Utara (2.3 Mio.), NTT (2.2 Mio.), and Kalimantan Barat (2.0 Mio.). Figure III.13 provides a graphical representation of these gaps at sub-district level.

Figure III.12: *Map – Number of Citizens without Access to Delivery Services*

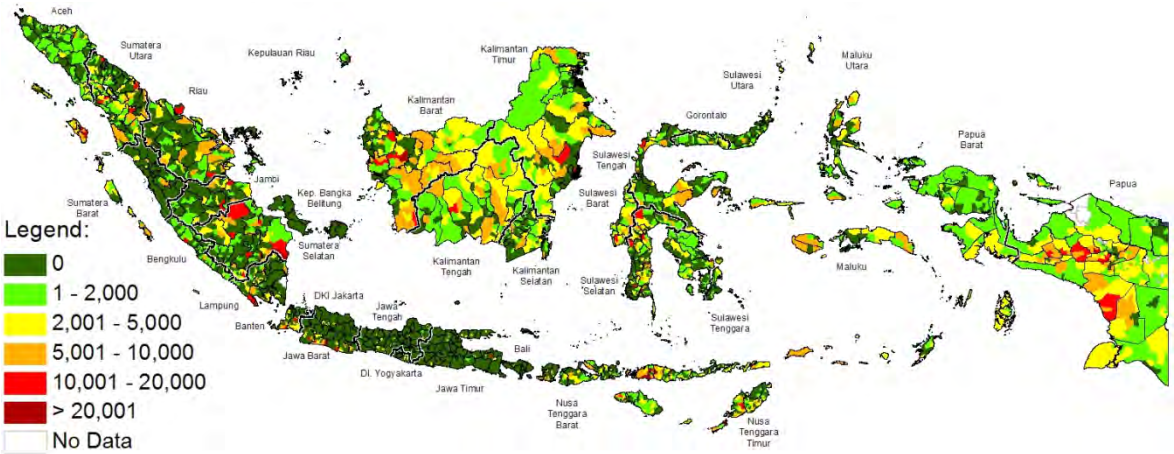
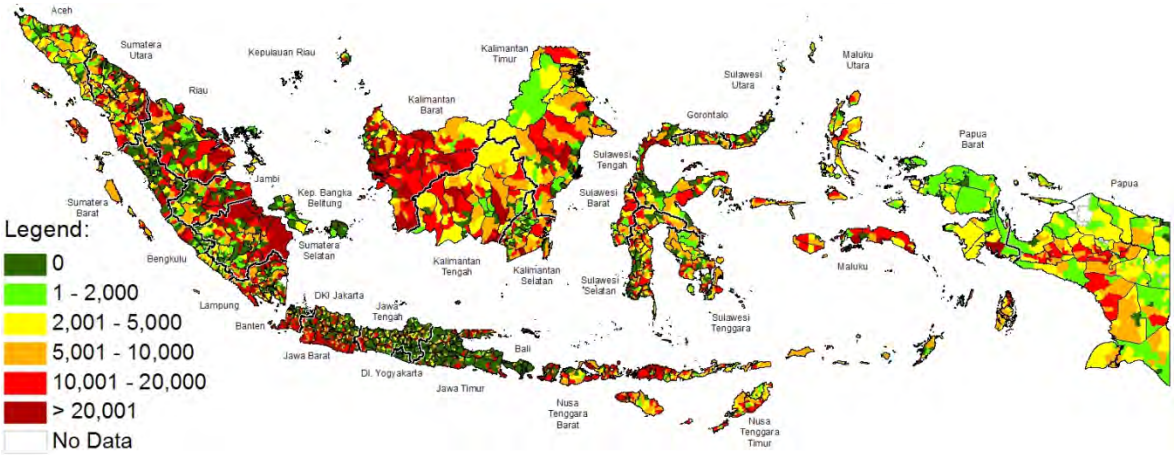


Figure III.13: *Map – Number of Citizens without Access to Secondary Health Care*



2. Health Workforce

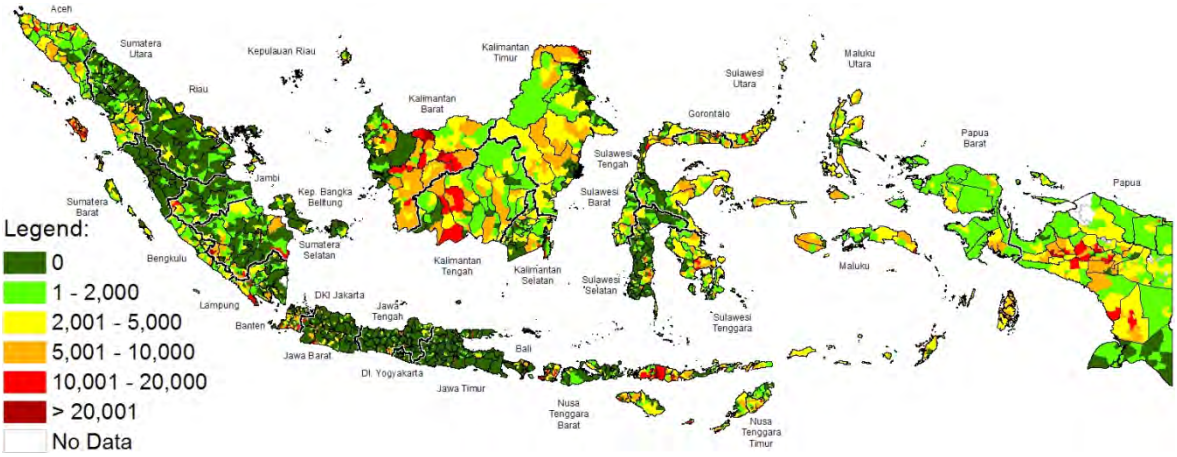
Turning to the indicators of health personnel, we find that 732 of the existing Puskesmas are not staffed with a physician. Most of the Puskesmas without a physician present are thereby found in Papua (109), NTT (67), Papua Barat (55), Maluku (52), and Sulawesi Tenggara (51). If the 383 sub-districts currently without a Puskesmas were to be equipped with such a community health center, a total of 1,049 physicians would need to be hired to achieve the policy goal of staffing each Puskesmas with at least one physician.

The GOI target of having one midwife per village is not (yet) fulfilled in 14,148 or 27 percent of the Indonesian villages. A total of 11.82 million people live in these villages, with the highest numbers of people without access to a midwife in the village found for Papa (1.33 Mio.), NTT (0.99 Mio.), NAD (0.79 Mio.), Sumatera Utara (0.72 Mio.), Jawa Barat (0.65 Mio.), Kalimantan Barat (0.59 Mio.), and Sulawesi Utara (0.59 Mio.). Figure III.14 illustrates these spatial patterns.

3. Building Characteristics

The assessment of existing gaps with respect to building characteristics is comparably straightforward. We observe 852 Puskesmas without water supply within the facility or 10 min walk, and a total of 10,629 health facilities without electricity.[9] Most important should be to provide electricity for the 305 Puskesmas without power supply, of which 93 are located in Papua, 34 in Sulawesi Tenggara, 27 in NTT, and 20 in Sumatera Utara.

Figure III.14: *Map – Number of Citizens Living in Villages without Midwife*



9 Included are Puskesmas, Puskesmas Pembantu, Poskesdes, Polindes.

IV. EDUCATION INFRASTRUCTURE

IV.1. Selection of Supply Readiness Indicators

Similar to the analysis of health care supply readiness, the available information on education infrastructure is categorized along three dimensions, and seven indicators are derived to capture the different aspects of the school system.

1. Physical Availability and Accessibility

The two types of indicators available (population-based, distance-based) offer different pictures of the availability of education facilities. As discussed before, per capita measures tend to be largely driven by the population denominator and do not necessarily reflect the density of supply. Indicators of the distance to the next facility are more reliable measures of education accessibility, and we focus on two indicators:[10] (i) access to early childhood education (ECED) facilities and (ii) access to junior secondary schools (SMP):

1. Access to ECED. This indicator is composed out of two variables at village level: (i) the existence of an Early Childhood Education Post (PAUD) in the village; and (ii) the existence of a Kindergarten/TK in the village or within 1 km from the village. The "Access to ECED" indicator measures the share of the sub-district population that lives in a village for which at least one of the two conditions is fulfilled.
2. Access to SMP: share of the sub-district population that lives in a village with a SMP within 6 km, which is an official MSS (Minimum Service Standard) target for remote areas. For comparison, the same indicator is constructed for a maximum distance of 3 km from the village.[11]

We do not use the distance to elementary schools (SD) as a national indicator of supply readiness, since the data show almost universal physical access to primary education for most regions. However, substantial shares of the populations in sub-districts in Aceh (11 percent on average), Papua Barat (16 percent), and Papua (41 percent) have no SD available within 1 km from the village, and this indicator could be employed for local targeting.

2. Quality of Teaching

The infrastructure census provides detailed data at school level, including information on the number of students and the number and qualification of teachers. While this allows for the calculation of the frequently used indicators of student-teacher ratios (STR) and average numbers of students per class, we do not include these variables in the index for the following reasons. The average number of students per class is strongly correlated with population density and constitutes a weak proxy for education quality. In fact, we find positive correlations between average class size and all other indicators of supply readiness used for the index. Likewise, low student-teacher ratios especially in small schools often indicate an over-hiring of teachers rather than excellent learning conditions (World Bank, 2010). For instance, the MSS target for SD schools is to have at least one teacher per 32 students, which is fulfilled in 97 percent of the sub-districts. Such an indicator would hence possess neither sufficient explanatory nor statistical power.

We focus instead on the qualification of teachers, measured by the share of teachers holding a bachelor's (S1) degree. Based on the MSS for elementary and junior secondary schools, we construct the following two indicators:

3. Teacher Qualification SD: According to the MSS, each elementary school (SD) should employ at least two teachers with S1 qualification. We therefore calculate the share of SD in a sub-district fulfilling this condition.
4. Teacher Qualification SMP: Another MSS target states that 70 percent of the teachers at junior secondary schools (SMP) should hold an S1 degree. The indicator measures the average share of teachers with an S1 degree at SMP schools in a given sub-district.[12]

[10] As no information on the ease of reaching education facilities is available from the PODES core data, and as the data on distances to the nearest schools are available from all sub-districts, the distance indicators are used to assess the physical availability of education facilities.

[11] The distance to the next SMP is missing for 84 sub-districts (1 in Sumatera Utara, 7 in Papua Barat, 76 in Papua), where no SMP is available at all. The "Access to SMP" indicator is coded zero for these sub-districts.

[12] Alternatively, the share of SMP schools with at least 70 percent of the school's teachers holding an S1 degree could be used. Given the generally low number of SMPs per sub-district, this would result in a categorical indicator with few different values. The share of S1 teachers among SMP teachers in the sub-district therefore provides a more continuous indicator, which better reflects the entire distribution of teacher qualification.

3. Available Rooms and Facility Characteristics

The school census provides information on existent rooms and facilities in each school, and we include one indicator of available school facilities:

5. Laboratory in SMP: According to the MSS, each SMP should provide a natural science lab for its students. We proxy this target through the share of SMP in the sub-district that provide a laboratory.

Finally, the characteristics of the school buildings are assessed through two indicators of electricity and water supply:

6. Electrification: Share of schools with electricity.
7. Water Supply: Share of schools with water available in the student's bathroom.

It is important to note that the indicators of teacher qualification and facility characteristics are derived from the infrastructure census and hence based on information from public schools only, while the indicators of accessibility derived from the PODES core incorporate both public and private school facilities. Table IV.1 provides an overview of the seven selected indicators of education supply readiness.

Table IV.1: *Overview of Selected Education Indicators*

Indicator	Description
Access to ECED	Share of the population living in villages with an early childhood education post (PAUD) in the village or a Kindergarten/TK within 1 km of the village
Access to SMP	Share of the population living in villages with a SMP within 6 (3) km
Teacher Qualification SD	Share of SD with at least 2 teachers holding an S1 degree
Teacher Qualification SMP	Average Share of SMP teachers holding an S1 degree
Laboratory in SMP	Share of SMP with laboratory
Electrification	Share of schools with electricity
Water Supply	Share of schools with water available in the student's bathroom

IV.2. Description of the National Patterns of Infrastructure Availability

Consistent with the indicators of health (and transportation) infrastructure, all seven education indicators are bounded between 0 and 1, with larger values indicating larger supply readiness. The descriptive statistics in Table IV.2 reveal that, on average, about one fifth of the sub-district population has no access to ECED facilities in the immediate vicinity. Junior secondary schools are available within 6 km from the village for an average of 89 percent of the sub-district population, while an average of only 79 percent lives in places with a SMP facility within 3 km distance. The sub-district averages observed for the teacher qualification and building characteristics indicators show similar sub-district mean values (0.73 to 0.80), while laboratories are available in only 62 percent of the SMP in the average sub-district.

All indicators are thereby positively correlated (Table IV.3), with correlations ranging between 0.44 and 0.68. Similar to the results for the health sector, we find consistent patterns of infrastructure readiness across different dimensions of education supply: areas with a high density of education facilities are hence likely to provide more educated teaching staff and better equipped schools as well.

Table IV.2: *Education Indicators: Descriptive Statistics*

Descriptive Statistics	Obs.	Mean	SD	Min	Max
Access to ECED	6771	0.810	0.297	0	1
Access to SMP (6 km)	6771	0.887	0.216	0	1
Access to SMP (3 km)	6771	0.789	0.242	0	1
Teacher Qualification SD	6771	0.728	0.333	0	1
Teacher Qualification SMP	6771	0.756	0.250	0	1
Laboratory in SMP	6771	0.621	0.365	0	1
Electrification	6771	0.795	0.295	0	1
Water in Bathroom	6771	0.751	0.265	0	1

Table IV.3: *Education Indicators: Correlations*

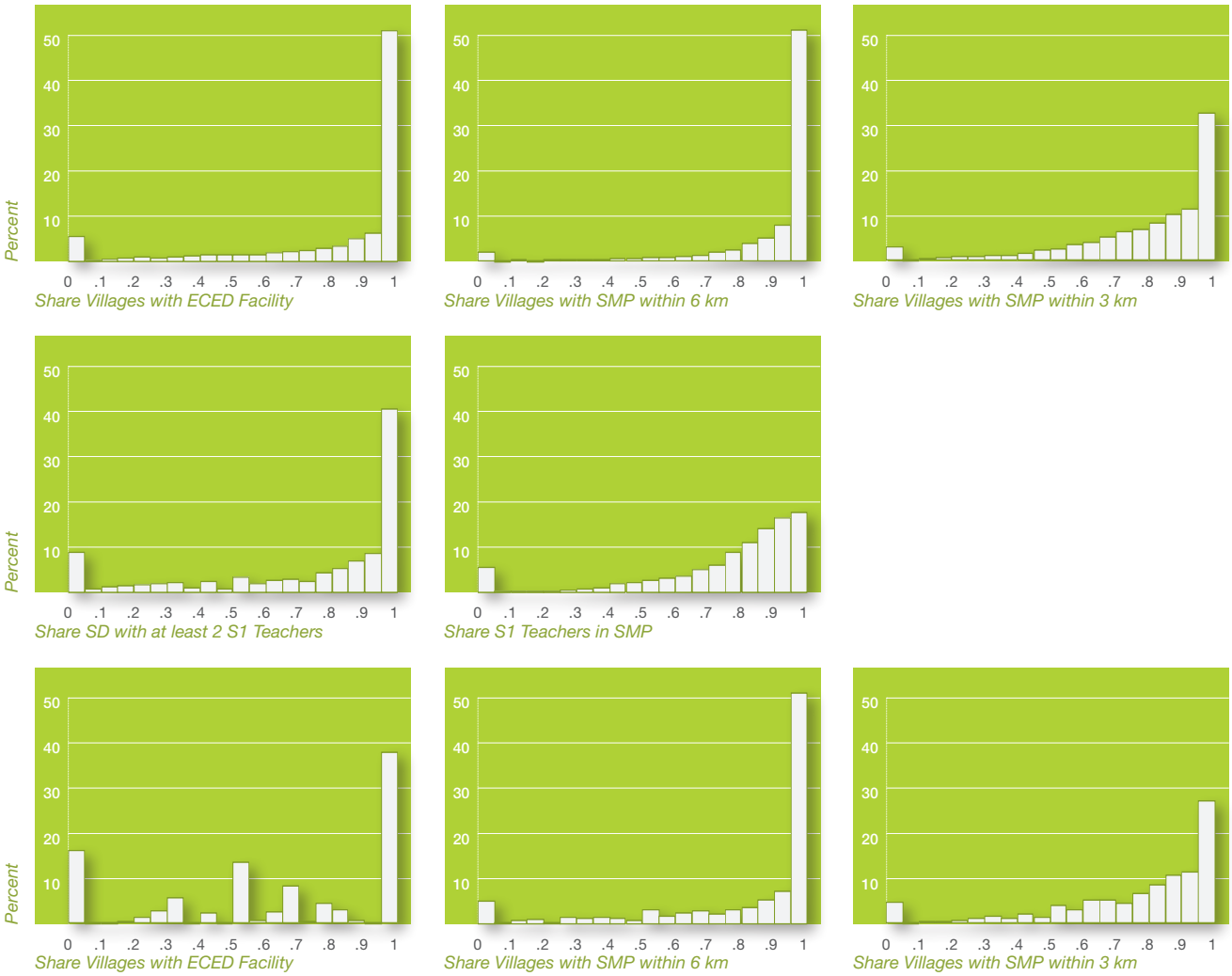
Correlations	ECED	SMP 6 km	SMP 3 km	S1 SD	S1 SMP	Lab SMP	Electr.
Access to SMP (6 km)	0.68	1.00					
Access to SMP (3 km)	0.68	0.87	1.00				
Teacher Qualification SD	0.66	0.57	0.56	1.00			
Teacher Qualification SMP	0.57	0.58	0.52	0.59	1.00		
Laboratory in SMP	0.50	0.44	0.42	0.55	0.54	1.00	
Electrification	0.65	0.58	0.55	0.68	0.55	0.54	1.00
Water in Bathroom	0.67	0.57	0.55	0.60	0.53	0.52	0.63

Figure IV.1 provides a graphical overview of the distribution of the education indicators. In 49 percent of the sub-districts universal access to ECED facilities is given, while in a total of 1,057 sub-districts less than 50 percent of the population has access to these services. Junior secondary schools are available within 3 km in 96 percent of the urban neighborhoods, but only in 71 percent of the rural villages. The MSS goal of a SMP facility within 6 km of villages in remote areas is fulfilled for 86 percent of the rural villages. However, we observe 173 sub-districts in which no village has such access to junior secondary education.

The variations in average teacher qualification prove to be even more substantial. On the one hand, in 32 percent of the sub-districts, every SD school fulfills the target of having at least two teachers with an S1 degree; on the other hand, 577 sub-districts do not have a single elementary school with at least two teachers holding an S1 degree. Large disparities are also observed for the share of SMP teachers with an S1 degree: In 877 or 13 percent of the sub-districts, an average of less than 50 percent of the teaching force at public junior secondary schools has an S1 degree, while this rate is found above 90 percent in about one third of the sub-districts.

Along similar lines, 16 percent of the sub-districts do not provide a single SMP school equipped with a laboratory, while in 37 percent of the sub-districts all SMP facilities provide a laboratory. The availability of electricity and of water in the student's bathroom is also distributed unequally across the country. In 44 percent of the sub-districts all public schools have access to electricity; at the same time, electricity is available in less than 50 percent of all public schools in a total of 998 sub-districts.

Figure IV.1: *Distribution of Education Supply Readiness Indicators*



In what follows, maps of all seven indicators present the regional patterns of infrastructure supply readiness. The same classification as for the health indicators is used in order to simplify comparison.

Dimension 1: Physical Availability And Accessibility

While early childhood education facilities are readily available in urban areas across the country (access given in 98 percent of urban neighborhoods), their prevalence in rural areas is less common and characterized by huge regional differences. High availability in Java and Bali (95 percent of rural villages) is contrasted by substantially lower figures for Sumatra (64%), Kalimantan (64%), NTT (63%), Maluku / Maluku Utara (49%), and Papua / Papua Barat (16%). Moreover, substantial variations are present within regions and provinces. For instance, striking differences in the availability of ECED facilities are found between rural villages in neighboring Sumatera Utara (48%) and Sumatera Barat (96%). Likewise substantial variation is observed within the province of Sulawesi Selatan, where universal availability of ECED facilities is given in half of the rural sub-districts, but 13 percent of the rural sub-districts still report easy access to ECED facilities for less than 50 percent of the population.

As for early childhood education facilities, access to junior secondary schools is almost universally given in urban areas. In 99 percent of the 13,361 urban neighborhoods across Indonesia, a SMP is available within 6 km distance, in 96 percent within 3 km. The MSS goal of a SMP within 6 km in remote areas is not fulfilled in 14 percent of Indonesia's rural villages, with the largest gaps in the Maluku provinces (20%), Kalimantan (26%), and Papua / Papua Barat (52%). Comparably comprehensive supply is found for rural villages in Sulawesi (gap: 9%) and Sumatra (11%), with notable differences across provinces in these regions. While the average gap is even smaller for the rural areas of Java (4%) and Bali (5%), the picture changes when the 3km distance threshold is applied: only 81 percent of rural villages in Java and 75 percent in Bali provide access to SMP education facilities within 3 km. Interestingly, a relatively high supply density in this sense is observed for the rural villages of Sumatera Barat (84%), Sulawesi Utara (85%), Gorontalo (86%), and NTB (92%).

Figure IV.2: *Map – Share of the Population with Access to ECED Facilities*

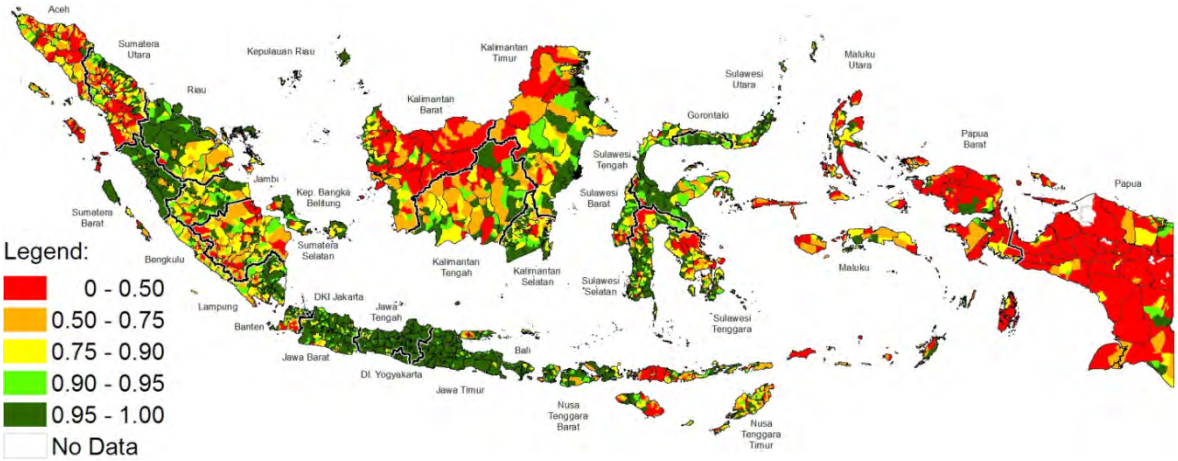
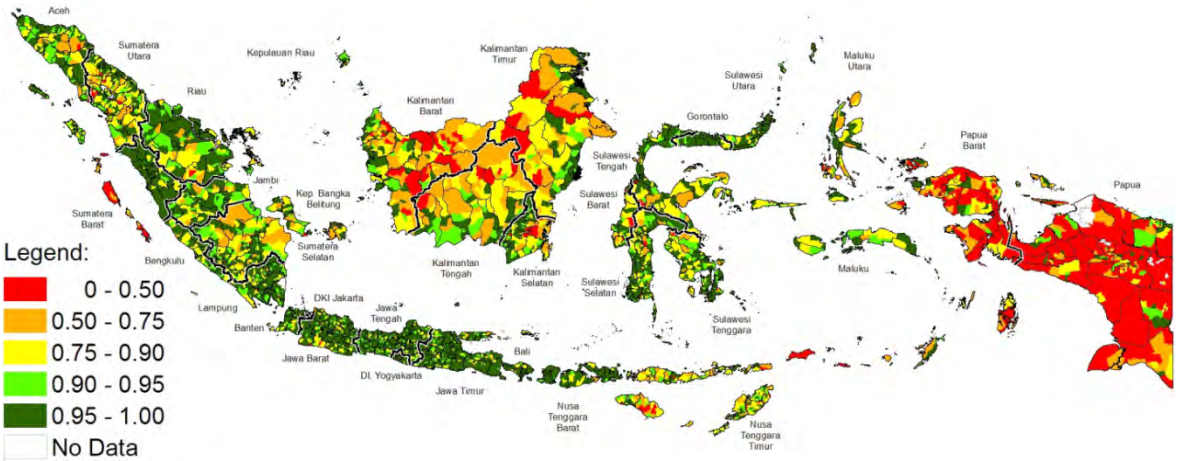


Figure IV.3: *Map – Share of the Population with SMP within 6 km from the Village*



Dimension 2: Teacher Qualification

Overall, 84 percent of the 134,290 public SD schools covered by the infrastructure census employ at least two teachers with an S1 degree. This MSS target is often fulfilled in Bali (99%), the provinces of Java (96%), Sulawesi Selatan (94%), and NTB (92%). Lowest rates of SD schools with at least two teachers holding a bachelor's degree are found for Kalimantan Barat (47%), Maluku (41%), NTT (32%), Papua Barat (30%), Maluku Utara (30%), and Papua (29%). Urban-rural differences are thereby substantial, with 97 percent of the urban SD schools meeting the MSS target, but only 78 percent of the schools in rural villages.

In three out of four SMP schools, at least 70 percent of the teachers hold an S1 degree, which is the MSS target. When aggregating this information to the sub-district level, the average share of SMP teachers with an S1 degree is particularly high in urban sub-districts (85 percent vs. 61 percent in rural areas). While the overall mean value for Javanese sub-districts is at a high 91 percent, an average of only 86 and 73 percent of the SMP teachers holds an S1 degree in Java Barat and Banten, respectively. Comparably high(er) sub-district averages are reported for Kalimantan Selatan (88%) and Sulawesi Selatan (85%); lowest sub-district averages from NTT (45%), Papua Barat (40%), Kalimantan Barat (38%), Maluku (24%), and Papua (16%).

Figure IV.4: *Map – Share of SD Schools with at least 2 'S1 Teachers'*

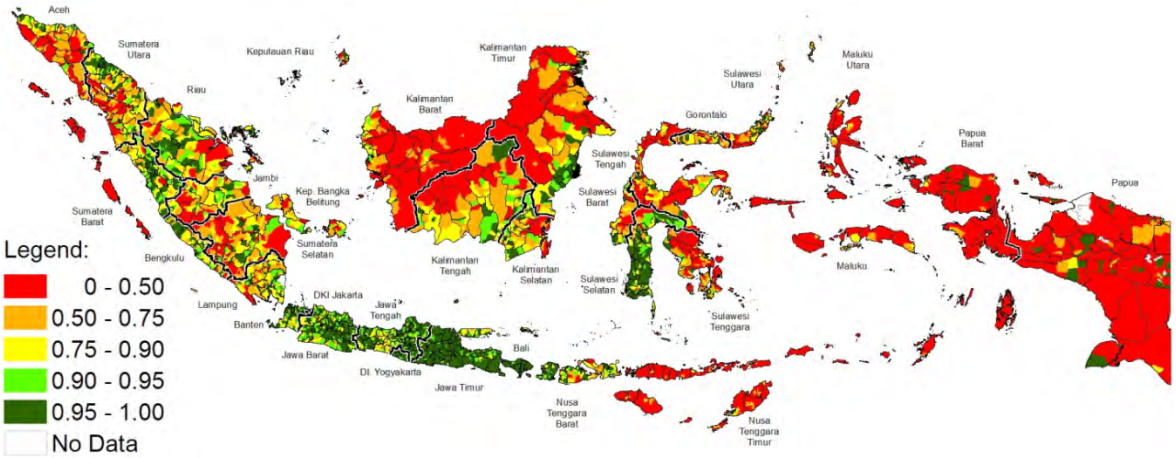
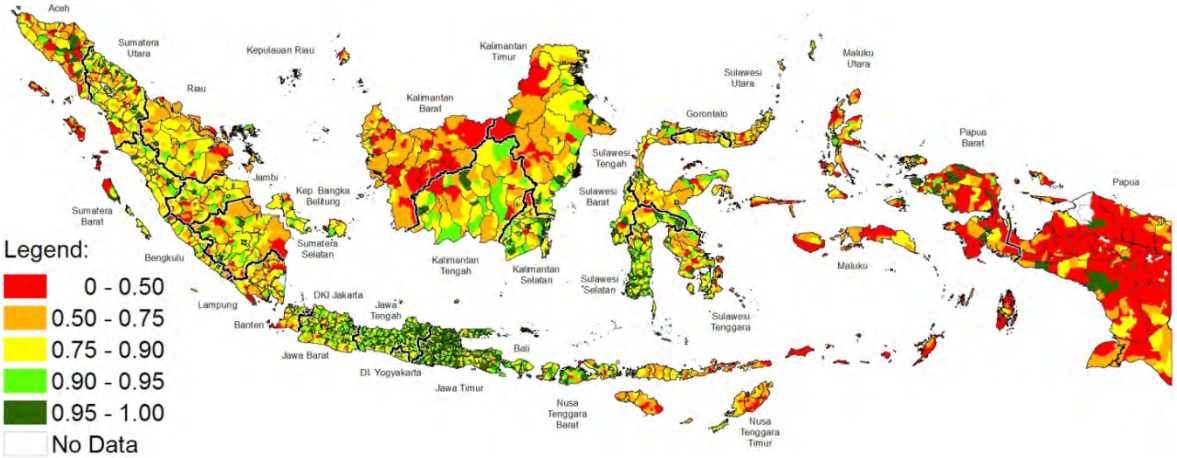


Figure IV.3: *Figure IV.5: Map – Average Share of SMP Teachers holding an S1 degree*



Dimension 3: Facility Characteristics

The indicator for SMP school laboratories shows the lowest average score of all education supply readiness indicators, as only 64 percent of all 21,486 public SMP schools provide a laboratory for their students. SMP schools in urban areas are quite well equipped (90 percent with laboratory), while facilities in rural villages lag behind substantially (55 percent with laboratory). The variation within regions thereby tends to be larger than the variation across island groups. In Java, for instance, the relatively good provision of SMP schools with laboratories in Jawa Tengah (86 percent) is contrasted by a low 54 percent of SMP schools with laboratories in Banten.

The availability of electricity in schools varies greatly across regions, with the overall spatial distribution being similar to the patterns observed for the other indicators of education supply readiness. Schools in urban areas usually have access to electricity (99%), while power supply is given for only 82 percent of the schools in rural areas. Across regions, elementary schools show the lowest, and senior secondary schools the highest rates of electrification. Table IV.4 provides an overview of the share of schools that provide electricity and water in the student's bathrooms, respectively, by region and type of school.

Figure IV.6: *Map – Share of SMP with Laboratory*

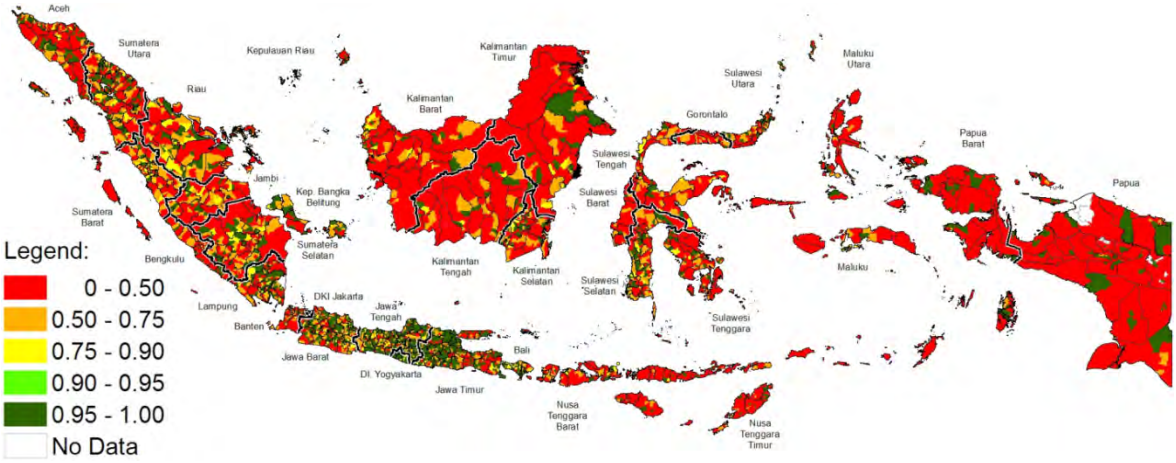
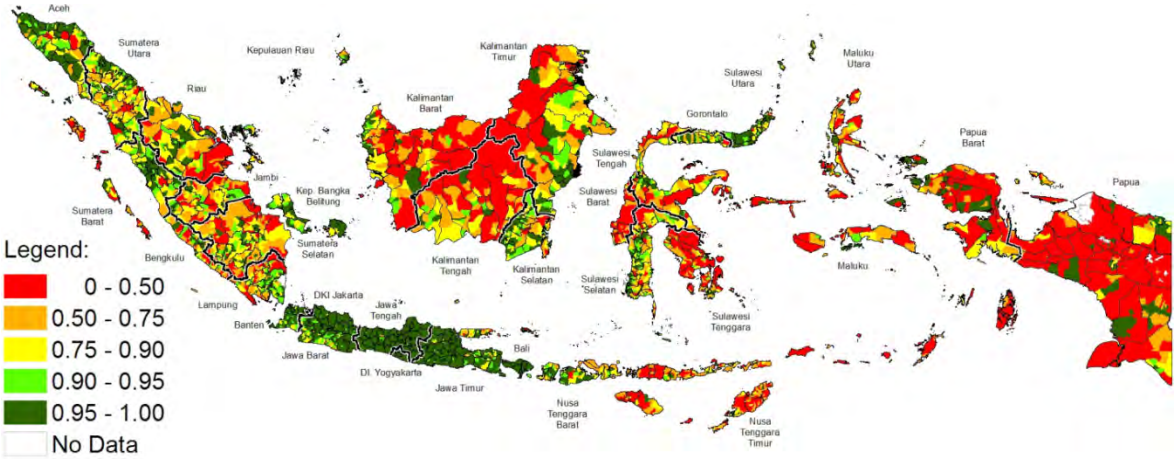


Figure IV.7: *Map – Share of Schools with Electricity*



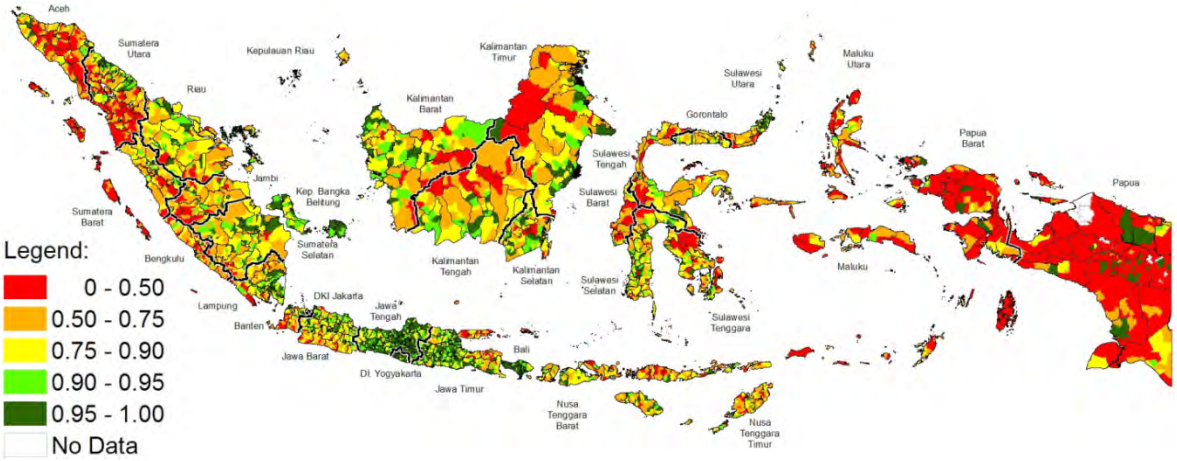
The second indicator of building characteristics shows a similar distribution across regions and school types: Water in the student's bathroom is provided in 82 percent of the country's 164,561 public schools, with an overall availability of 95 percent in urban areas and 76 percent in rural areas. Water supply is generally less predominant than electrification, though this trend is reversed for the SD level in some regions (in particular Kalimantan).

Looking at differences across provinces, comparably low levels of water supply at public schools are observed for rural areas in Aceh (67%), Sumatera Barat (60%), Banten (66%), Sulawesi Tengah (67%), and Sulawesi Barat (63%), as well as for schools in the Moluccas (53%) and Papua / Papua Barat (38%).

Table IV.4: *Share of Schools with Electricity and Water Supply – by Region and School Type*

Region	Electricity				Water in Student's Bathroom			
	SD	SMP	SMA	SMK	SD	SMP	SMA	SMK
Sumatra	80.7	86.8	95.1	90.7	73.7	79.6	88.7	84.1
Java & Bali	98.3	99.3	100	99.8	87.9	95.3	98.6	96.9
NTT & NTB	70.6	78.4	90.5	92.5	73.9	79.7	86.1	85.0
Kalimantan	68.7	82.7	92.4	93.0	80.7	86.0	92.9	93.8
Sulawesi	71.7	83.5	91.7	91.4	75.3	80.6	84.0	83.1
Maluku & North Maluku	58.7	64.2	77.3	76.0	56.2	60.0	59.9	61.0
Papua & Papua Barat	47.3	64.1	78.9	84.0	39.7	51.5	61.3	62.7

Figure IV.8: *Map – Share of Schools with Water in the Student's Bathroom*



IV.3. A Composite Index of Education Supply Readiness

In order to summarize the information from the seven indicators, we aggregate them into sub-indices for each dimension as well as composite indices based on all indicators. In general, the regional patterns of the supply of basic education services in Indonesia are in line with the results observed for the health sector. With the islands of Java and Bali – on average – performing best and the region of Papua lacking behind most, 25 percent of the sub-district achieve a supply readiness score of 95 percent or better, while 30 percent obtain a score of below 75 percent.[13] Before discussing the composite indices of education supply readiness in more detail, a brief description of the underlying calculations is given.

Table IV.5 presents the mean values and pairwise correlations of the sub-indices for the three dimensions physical availability, teacher qualification, and facility characteristics. The sub-indices are calculated as simple averages of the respective indicators in each dimension. The strong positive correlations among the sub-indices confirm fairly consistent patterns of supply readiness across different dimensions of the school system.

Similar to the composite indices of health supply readiness (see section III.3), we combine the information from the seven education indicators into one global index of education supply readiness. We use the same three methods as for the health sector to derive the seven indicators' weights for the composite index: First, the weights are determined based on policy preferences with three in principle arbitrary weighting schemes: (i) a particularly focus on facility availability, with the two access indicators accounting for a total of 50 percent of the composite index and the five remaining indicators accounting for 10 percent each; and (ii) equal weights across the three dimensions accessibility, teacher qualification, and facility characteristics. For comparison, an alternative indicator of SMP availability is used, with the threshold of accessibility being reduced from 6 km to 3 km.

Table IV.5: *Sub-Indices Education – Mean Values and Correlations*

Sub-Index	Mean	Correlations		
		Availability	Workforce	Building
Physical Availability	0.823	1.00		
Health Workforce	0.742	0.74	1.00	
Building Characteristics	0.722	0.73	0.77	1.00

[13] These statistics are based on version A of the composite health index, where particular weight is given to the indicators of physical availability.

Second, weights are derived from a principal components analysis of the seven indicators. Table IV.6 presents the eigenvectors from the first principal component and the resulting weights. As the weights are fairly similar across indicators, we do not include an additional composite index with equal weights across indicators (as is done for health).

Finally, we also link the supply readiness indicators to actual outcomes of the education system; here using the average SMP-level test scores from the 2010 national exam (UN) at district level. Again, two methods are employed to assess the relative importance of the different supply indicators for the SMP students' performance in the national exam: (i) OLS regressions of the seven indicators are run on average test scores at district level and the estimated coefficients are used as weights; and (ii) based on the these OLS regressions, concentration indices are used to account for the indicator's contribution to inequality in education outcomes. Table IV.7 presents correlations between the test scores and the seven indicators, as well as the OLS regression estimates and the resulting weights for the composite index.

Table IV.6: *Principal Component Analysis Education Indicators*

Indicators	Eigenvector	Weight
Access to ECED	0.401	0.152
Access to SMP (6 km)	0.372	0.141
Teacher Qualification SD	0.394	0.149
Teacher Qualification SMP	0.365	0.138
Laboratory in SMP	0.339	0.128
Electrification	0.391	0.148
Water in Bathroom	0.381	0.144
	2.824	1.000

Table IV.7: *OLS Regression Results: Determinants of Average UN Test Scores (SMP)*

Indicator	1. Correlation	2. OLS I	3. OLS II	4. Weights
Access to ECED	0.29	-5.58*** (0.001)	-5.86*** (0.000)	
Access to SMP (6 km)	0.37	7.66*** (0.000)	7.18*** (0.000)	0.302
Teacher Qualification SD	0.47	6.96*** (0.000)	6.53*** (0.000)	0.275
Teacher Qualification SMP	0.35	-2.17 (0.267)		
Laboratories in SMP	0.46	6.29*** (0.000)	6.08*** (0.000)	0.256
Electrification	0.43	3.98** (0.010)	3.95** (0.011)	0.166
Water in Bathroom	0.27	-7.61*** (0.000)	-7.74*** (0.000)	
	Observations:	479	479	
	R2:	0.320	0.319	
		P-values in parentheses. Statistical significance: * at 10%; ** at 5%; *** at 1%. Constant included.		

Column 1 shows significantly positive correlations between the indicators of education supply readiness and the average UN score, hence confirming the choice of indicators. To assess these positive correlations further, we run simple OLS regressions on test score averages at district level and obtain positive regression coefficients for four out of the seven control variables / indicators (column 2). In column 3, the insignificant indicator of SMP teacher qualification is excluded and the weights for the composite index are derived from the estimated coefficients (column 4)[14]. While this is a simple way of assessing the determinants of education outcomes, the results provide one alternative approach to the determination of weights.

The second alternative to determine weights based on regression estimates uses the concept of the concentration index to assess the indicator's contribution to inequality in test scores (a more detailed description of the method is given in Appendix 1). Table IV.8 presents the results for this approach. We start from the OLS II regression of the seven supply indicators on average SMP test scores. The concentration index for the outpatient utilization rates equals 0.0064, which indicates a slightly pro-rich distribution of (higher) test scores. Decomposing the concentration indices for all covariates results in all positive values (column 2), which points to relatively higher average test scores in wealthier districts.

With all positive concentration indices, the contribution of each covariate to the overall inequality in test scores is determined by the sign of the regression coefficient and the subsequent elasticity. The residual component is relatively small, indicating that the supply indices explain a substantial part of inequality in education outcomes. As to translate these results to weights, the indicators with a negative contribution are given a weight of zero and the other contributions are rescaled so they sum to 1.

Table IV.8: *Education Indicators: Decomposition of the Concentration Index*

Indicator	1. Coefficients	2. CI	3. Contribution	4. Percent	5. Weights
Access to ECED	-5.86	0.0833	-0.0055	-86.4	
Access to SMP (6 km)	7.18	0.0425	0.0038	59.1	0.194
Teacher Qualification SD	6.53	0.1088	0.0072	112.3	0.367
Teacher Qualification SMP					
Laboratory in SMP	6.08	0.1026	0.0054	84.4	0.276
Electrification	3.95	0.0733	0.0032	50.2	0.163
Water in Bathroom	-7.74	0.0858	-0.0070	-109.6	
Residual			-0.0007	-10.0	
Total		0.0064		100.0	1.000

[14] Similar to the approach for the health index, indicators with negative regression coefficient is given zero weight, and the remaining coefficients are rescaled in order to sum to 1.

This leaves us with a total of six alternative weighting schemes for the composite index of education infrastructure supply readiness. Table IV.9 summarizes the weights of the seven indicators for each of the six alternative indices. While the composite indices A to C use the full set of seven indicators, versions D and E are based on the regressions on UN test scores and result in the exclusion of three indicators.

Tables IV.10 and IV.11 provide descriptive statistics and pairwise correlations for the six composite indices, respectively. Like the underlying indicators, the composite indices are bounded between 0 and 1, with higher values indicating higher supply readiness. The average Indonesian sub-district achieves a score of around 0.77 or 77 percent, dependent on the weighting scheme used.[15] Using composite index A as reference, both the highest possible score of 1 (36 sub-districts) and the lowest possible score of 0 (99 sub-districts) are observed.

The alternative weighting schemes have little impact on the distribution of the composite indices. This is confirmed by extremely high correlations between the different versions of the composite indices. Versions A to C are almost identical, which is due to similar weights and the positive correlations between the seven sub-indicators. Even with the reduced set of underlying indicators (versions D and E), correlations are still above 0.92. Finally, the similarity of the different composite indicators is confirmed by their almost identical distribution (Figure IV.9).

Table IV.9: *Overview of Weights for the Composite Education Indices*

Index	ECED	SMP 6 km	S1 SD	S1 SMP	Lab SMP	Electr.	Bathroom
A. Focus Access	0.250	0.250	0.100	0.100	0.100	0.100	0.100
A1. SMP Distance 3 km	0.250	0.250 (3km)	0.100	0.100	0.100	0.100	0.100
B. Equal Dimension	0.166	0.166	0.166	0.166	0.111	0.111	0.111
C. PCA	0.152	0.141	0.149	0.138	0.128	0.148	0.144
D. Utilization OLS		0.302	0.275		0.256	0.166	
E. Utilization CI		0.194	0.367		0.276	0.163	

Table IV.10: *Composite Education Indices: Descriptive Statistics*

Descriptives	Obs.	Mean	SD	Min	Max
A. Focus Access	6771	0.789	0.227	0	1
A1: SMP Distance 3 km	6771	0.765	0.231	0	1
B. Equal Dimension	6771	0.771	0.230	0	1
C. PCA	6771	0.766	0.231	0	1
D. Utilization OLS	6771	0.759	0.245	0	1.00
E. Utilization CI	6771	0.740	0.260	0	1

Table IV.11: *Composite Education Indices: Correlations*

Correlations	A	A1	B	C	D
A1: SMP Distance 3 km	0.99	1.00			
B: B: Equal Dimension	0.99	0.98	1.00		
C: C: PCA	0.99	0.98	1.00	1.00	
D: D: Utilization OLS	0.95	0.94	0.97	0.97	1.00
E: E: Utilization CI	0.93	0.92	0.96	0.96	1.00

[15] Index E provides a slightly lower average score due to the relatively large weight given to the indices of teacher qualification in SD and laboratories in SMP, which both show relatively low averages themselves.

Figure IV.9: *Distribution of Alternative Composite Indices of Education Supply Readiness*

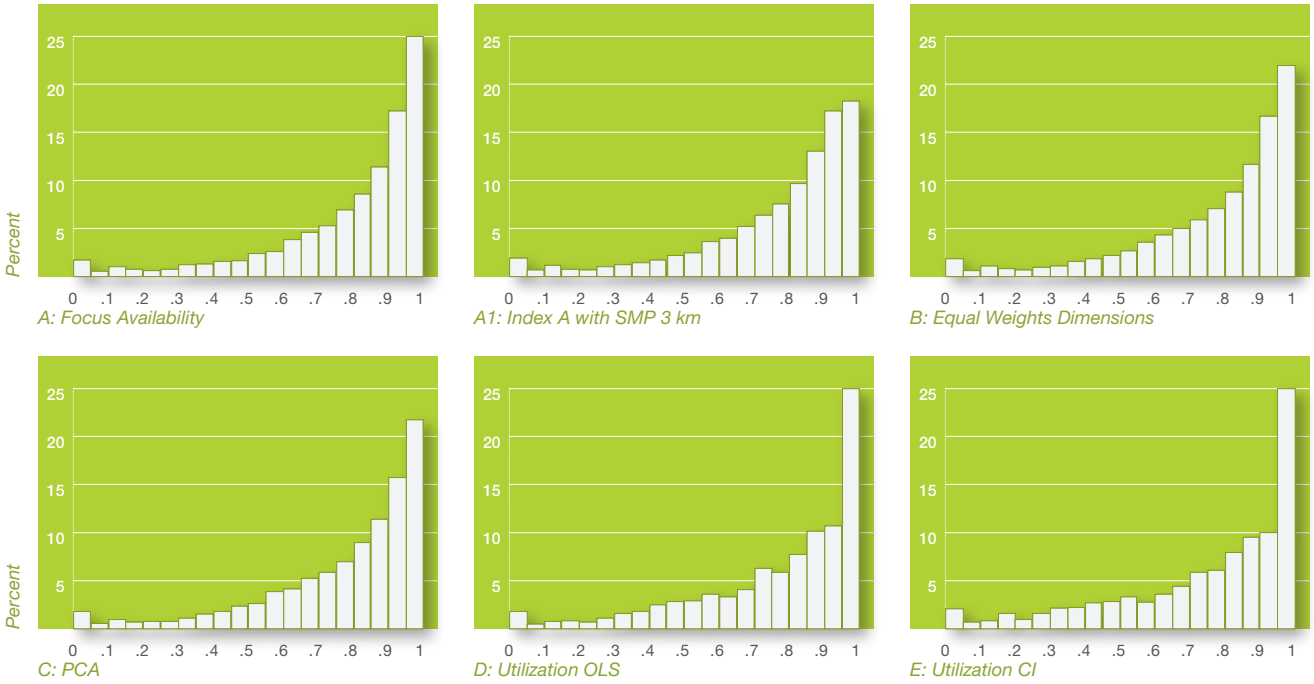
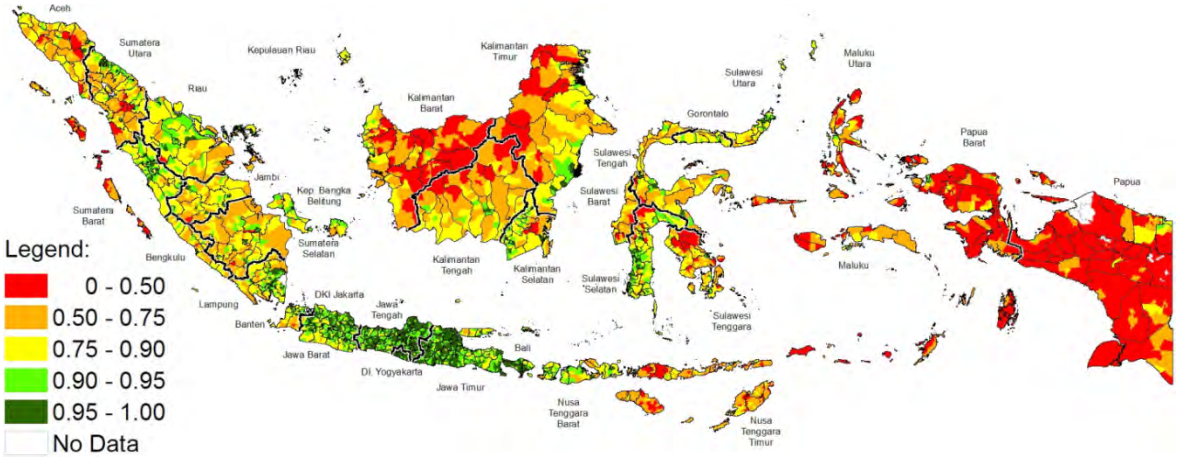


Figure IV.10: *Map – Composite Index of Education Supply Readiness (Index A)*



The similarity of the different composite indices translates into accordingly similar spatial patterns. Representative of all composite indices, Figure IV.10 maps the spatial distribution of index A.

On average, sub-districts in Bali (0.96) and Java (0.94) achieve the highest levels of education supply readiness, average scores are observed for Sulawesi (0.81), Sumatra (0.80), Kalimantan (0.74), and NTT & NTB (0.72), while the Moluccas (0.60) and in particular Papua / Papua Barat (0.30) lag behind substantially. The overall gap between urban (0.93) and rural (0.70) sub-districts is likewise significant.

IV.4. Quantifying Needs for Investment

We use the seven indicators of education supply readiness to provide estimates of the existing gaps in the supply of education services. As for the health sector, we interpret the distance between the sub-district score and the maximum value of 1 as gap and calculate the total national gap for each indicator. Table IV.12 gives an overview of the results.

Table IV.12: *Overall Gaps in Education Supply Readiness, by Indicator*

Indicator	Type of Gap	Total National Gap
Access to ECED	Number of citizens without access Number of villages w/o ECED facility	16.64 Mio 19,052
Access to SMP (school within 6 km)	Number of citizens without access Number of Kecamatan w/o SMP	9.46 Mio 230 (population: 2.39 Mio)
Teacher Qualification SD	Number of additional 'S1' teachers needed in SD (to reach 2 S1 teachers in every school)	32,586
Teacher Qualification SMP	Number of additional 'S1' teachers needed in SMP to reach 70% in every school Number of additional 'S1' teachers needed in SMP to reach 70% among permanent staff	26,086 14,675
Laboratory in SMP	Number of SMP without laboratory	7,796 (36 %)
Electrification	Total Number of Public Schools without electricity SD SMP SMA SMK	21,653 (13 %) 18,610 (14 %) 2,537 (12 %) 338 (5 %) 168 (7 %)
Water in Bathroom	Number of Public Schools without water installation in student's WC SD SMP SMA SMK	30,207 (18 %) 25,896 (19 %) 3,355 (16 %) 642 (10 %) 314 (12 %)

Relative gaps in brackets for facility-level gaps.

1. Physical Availability and Accessibility

For the two indicators of physical availability, the number of citizen without easy access to the respective services is calculated. As no village-level information on the number of children at different ages is available, an estimate of the number of 'eligible' children without easy access cannot be provided. Drawing on total population numbers instead, we find 16.6 million people with no immediate access to early childhood development facilities. Out of the 19,052 villages with no ECED facility in the village or within 1 km distance, 99 percent are in rural areas. A similar urban-rural divide is observed for access to junior secondary schools, with an SMP available within 6 km (3 km) in 99 percent (96 percent) of all urban neighborhoods.

Table IV.13 provides an overview of the regional distribution of (i) the sub-districts with access rates below 75 percent; and (ii) the number of people without easy access to ECED facilities and SMP, respectively. Most sub-districts with access rates to ECED facilities below 75 percent are found in Sumatra (34 % of the 1,770 sub-districts) and Papua (28 %). When looking at the absolute numbers of people without easy access (hence accounting for population densities), the picture changes, with 41 percent of these citizens living in Sumatra, but only 12 percent in the Papua provinces.

Table IV.13: *Access to Education Facilities – Absolute and Relative Gaps*

Region	Access to ECED		SMP within 6 km	
	Share Kec. below 0.75	Share People	Share Kec. below 0.75	Share People
Sumatra	34.2	41.2	16.3	27.7
Java & Bali	3.1	13.7	3.6	26.4
NTT & NTB	7.6	8.4	7.5	6.6
Kalimantan	11.4	12.4	18.8	14.7
Sulawesi	9.6	8.2	6.3	7.6
Maluku & North Maluku	6.2	4.1	4.1	2.3
Papua & Papua Barat	28.1	12.0	43.5	14.6
Absolute Numbers	1,77	16.64 Mio.	978	9.46 Mio.

'Share Kec. below 0.75' reports the regional distribution of the 694 sub-districts with an indicator score below 0.75.
'Share People' reports the regional share in the total number of people without access.

Figure IV.11 shows the absolute number of people without access to ECED facilities by sub-district. Most sub-districts with more than 10,000 people living in villages without access to ECED facilities are found for Sumatera Utara (83), Sumatera Selatan (52), Kalimantan Barat (51), Papua (41), Banten (30), as well as NAD (28) and NTT (28). Again, we observe particularly significant differences between relative and absolute gaps for Papua, driven by at the same time low relative scores and low population densities.

Overall similar patterns are observed for the availability of a SMP facility within 6 km from the village. While 44 percent of the sub-districts with access rates below 75 percent are located in the Papua provinces (Table IV.13), this region accounts for 15 percent of the 9.46 Mio. citizens without access. Most people without junior secondary schools within 6 km distance live in Java and Sumatra, with the highest absolute numbers found for the provinces of Papua (1.23 Mio.), Sumatera Utara (0.84 Mio.), Jawa Barat (0.77 Mio.), Jawa Tengah (0.76 Mio.), Jawa Barat (0.71 Mio.), Kalimantan Barat (0.68 Mio.), and Sumatera Selatan (0.60 Mio.).

Figure IV.11: *Map – Number of Citizens without Access to ECED Facilities*

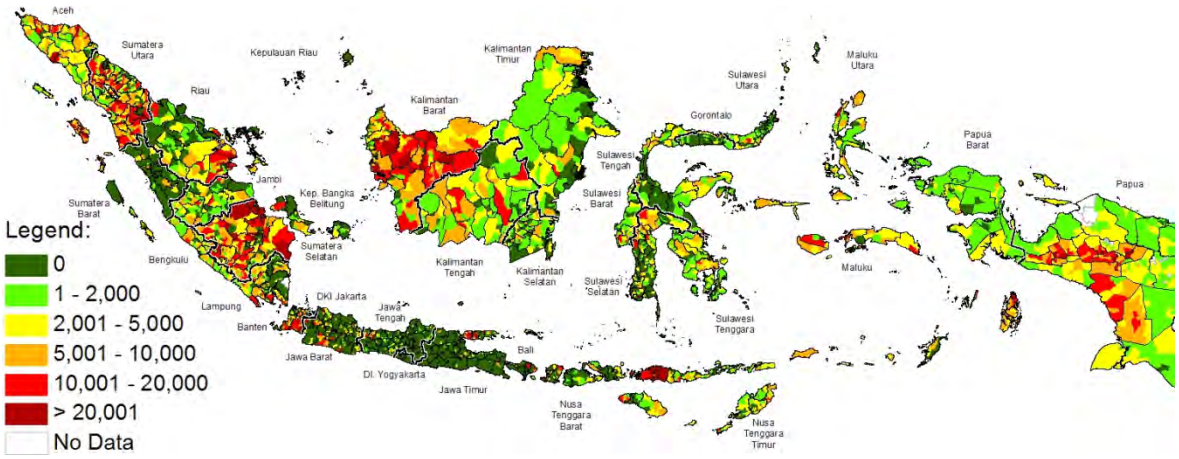
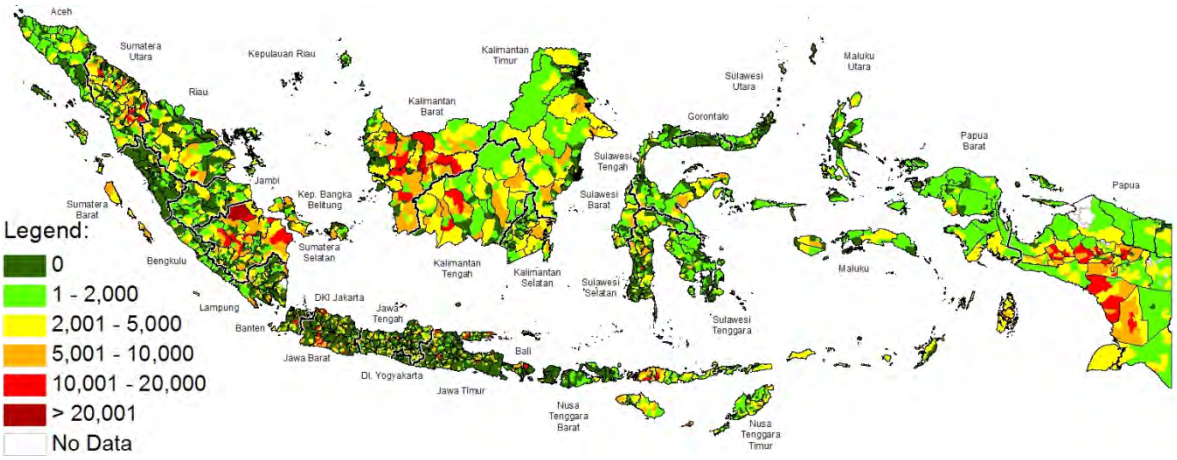


Figure IV.12: *Map – Number of Citizens without Access to SMP within 6km*



2. Teacher Qualification

Turning to the indicators of teacher qualification, we calculate the number of additional teachers with an S1 degree needed to reach the targets of (i) at least two 'S1' teachers in each SD school and (ii) at least 70 percent of teachers with S1 degree in each SMP school, respectively. Under the assumption of a constant total teaching force, 32,586 SD teachers and 26,086 SMP teachers would need to obtain a bachelor's degree or be replaced by new teachers with this qualification. However, these numbers may be seen as upper-bound estimates for at least two reasons. First, we also consider temporarily hired teachers here. For instance, the number of additionally needed SMP teachers with an S1 degree decreases to 14,675 when the 70 percent goal is to be achieved among permanent staff only. Second, recent studies point to an over-supply of teachers especially in small schools in rural areas (World Bank, 2010), which would call into question the underlying assumption of a constant teaching force.

Nevertheless, the numbers provide insight into the spatial distribution of teacher (under)qualification. Out of the estimated 32,856 additional SD teachers with S1 qualification, 11.1 percent would need to be hired in Sumatera Utara, 10.4 percent in Kalimantan Barat, 9.6 percent in NTT, as well as 7.5 and 6.4 percent in the Maluku and Papua provinces, respectively. At SMP level, the target of having at least 70 percent of the teaching force holding an S1 degree would require the qualification/replacement of 2,180 'non-S1 teachers' in the province of Sumatera Utara, 2,094 in NAD, 2,012 in Jawa Barat, 1,832 in Kalimantan Barat, 1,739 in NTT, and 1,713 in Maluku.

3. Building Characteristics

The assessment of existing gaps with respect to building characteristics reveals that a total of 21,653 public schools lack electricity and 30,207 schools do not provide water in the student's bathroom. Most of these schools are elementary schools, which account for 86 percent of the schools both without electricity and water in the student's bathroom. Most of the schools without electricity are thereby found in Sumatra (7,337), Sulawesi (4,701) and Kalimantan (4,010). Water in the student's bathroom is not available in 10,256 public schools in Sumatra, 8,276 in Java, 4,379 in Sulawesi, and 2,574 in Kalimantan

V. TRANSPORTATION INFRASTRUCTURE

V.1. Selection of Supply Readiness Indicators

The analysis of transportation infrastructure draws on the transportation module of the PODES core, which provides some information on the physical availability and accessibility of infrastructure. Within this dimension we discern three categories and six indicators.

1. Characteristics of Main Roads

The information available on road characteristics is based on subjective assessment of the type and quality of the main road in a village.

- Surface of the Main Road: This indicator reflects the share of villages for which the main road has a hardened surface, made of either asphalt/concrete or gravel/stone. The main road is defined as the widest road heading to the highway that leads to the nearest district head's office.
- Condition of the Main Road: share of the villages for which the main road is considered to be in "good" condition, which implies that the road suffers from no or just minor damages (in contrast to damage along most or all of the road).

2. Characteristics of Bridges

The village census asks village heads about the condition of the existing bridges in the village and the requirements for new bridges in the villages, providing the following indicators:

- Condition of the Bridges: share of the villages for which the bridges are considered to be in "good" condition or to suffer from just minor damage (in contrast to moderate or heavy damages).[16]
- Need for New Bridges: share of the villages that indicate that additional bridges are required.

3. Availability of Public Transport

Finally, we use information on the availability of public transport from the village head's office to (i) the offices of the sub-district head; and (ii) the district regent or major. We focus only on public transport that follows a fixed route.

- Public Transport to Sub-district Head: share of the villages where public transport to the office of the sub-district head is available and follows a fixed route.
- Public Transport to Regent/Major: share of the villages where public transport to the office of the regent or major is available and follows a fixed route.

The six indicators of infrastructure supply readiness are listed in Table V.1 below.

Table V.1: *Available Information on Transportation Infrastructure from PODES*

Dimension	Indicator	Description
Characteristics Main Road	Surface of Main Road	Share of villages with main road surface being either asphalt/ concrete or gravel/stone etc.
	Condition of Main Road	Share of villages with main road with no or minor damages
Characteristics Bridges	Condition of Bridges	Share of villages with bridges with no or minor damages
	Need for New Bridges	Share of villages that report no need for new bridge(s)
Availability of Public Transport	Public Transport to Sub-district Head	Share of villages with public transport with fixed route to the office of the sub-district head
	Public Transport to Regent/Mayor	Share of Villages with public transport with fixed route to the office of the regent/major

[16] Only villages with at least one bridge are considered for this indicator, which prevents us from calculating this indicator for a total of 301 sub-districts that lack any bridges.

V.2. National Patterns of Infrastructure Availability

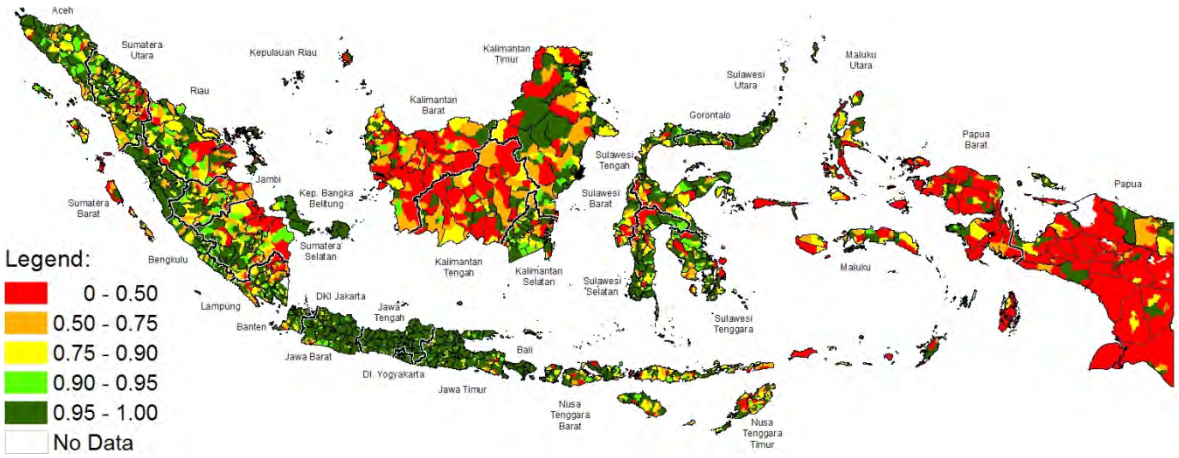
Descriptive statistics are presented in Table V.2, where all indicators are again bounded by 0 and 1. On average, 86 percent of villages per sub-district have a main road that is paved by asphalt or concrete, or has a stone/gravel surface. In just over half of the villages the main roads are, on average, considered to be in good condition. The average condition of bridges scores better, with 83 percent of villages (that have bridges) reporting that their bridges are in good condition and suffer at most minor damage. About a quarter of villages indicate that new bridges are required in the village. Public transport, with a fixed route, to the nearest sub-district head's office and regent/majors office is available in 34 and 60 percent of the villages of the average sub-district, respectively.

Table V.2: *Transportation Indicators: Descriptive Statistics*

Descriptive Statistics	Obs.	Mean	SD	Min	Max
Main Road: Paved or Gravel/Stone	6703	0.858	0.277	0	1
Good Condition of Main Road	6671	0.577	0.318	0	1
Good Condition of Bridges	6470	0.832	0.207	0	1
No Need for New Bridges	6771	0.226	0.262	0	1
Public Transport to Sub-district Head	6771	0.344	0.365	0	1
Public Transport to Regent/Mayor	6767	0.600	0.402	0	1

The geographical profile of road and bridge characteristics, and public transport availability, is portrayed in figures V.1 to V.3. Figure V.1 shows that across sub-districts in Java almost all villages have main roads with asphalt or gravel/stone surfaces. On Sumatra and Sulawesi, sub-districts also score predominantly above 90 percent, but still a non-trivial number of sub-districts fall in the range between 0.5 and 0.9, and incidentally we see sub-districts where less than half of the villages have main roads with some form of hardened surface. For Kalimantan, NTB and NTB we observe a large degree of variation across sub-districts within regions, while sub-districts on Maluku and in particular Papua score very low, predominantly below 0.5 and often below 0.25.

Figure V.1: *Map – Share of Villages with Asphalt or Gravel/Stone Main Road*



The sub-districts shares of villages where no new bridges are required, is shown in Figure V.2. On Java, villages predominantly report that no new bridges are needed, although there is quite some variation across sub-districts. On Sumatra and Papua, we see a much greater degree of variation across sub-districts than on Java, but still ranging along the full scale from 0 and 1. A large variation is also observed for Kalimantan, NTB and NTB, and Maluku, but average levels are lower, often below 0.5.

With regard to the availability of public transport, Figure V.3 portrays large geographic differences, both across and within regions. On Java, the availability of public transport with fixed routes is the norm. However, on Kalimantan and Papua the village shares are predominantly below 0.25. Sumatra, NTB, NTT, and Maluku also score low on average, but still show some variation within the larger regions.

Figure V.2: *Map – Share of Villages with NO need for New Bridges*

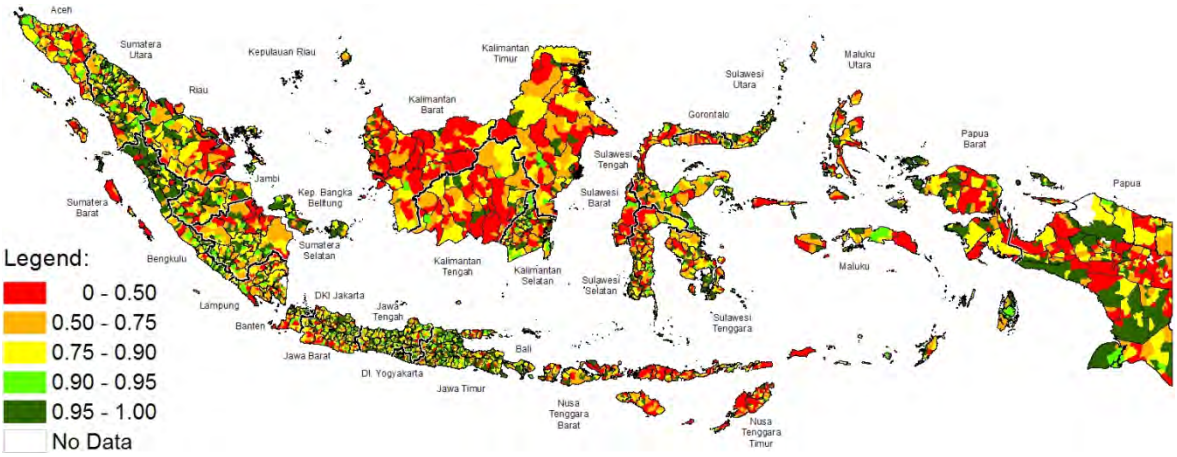
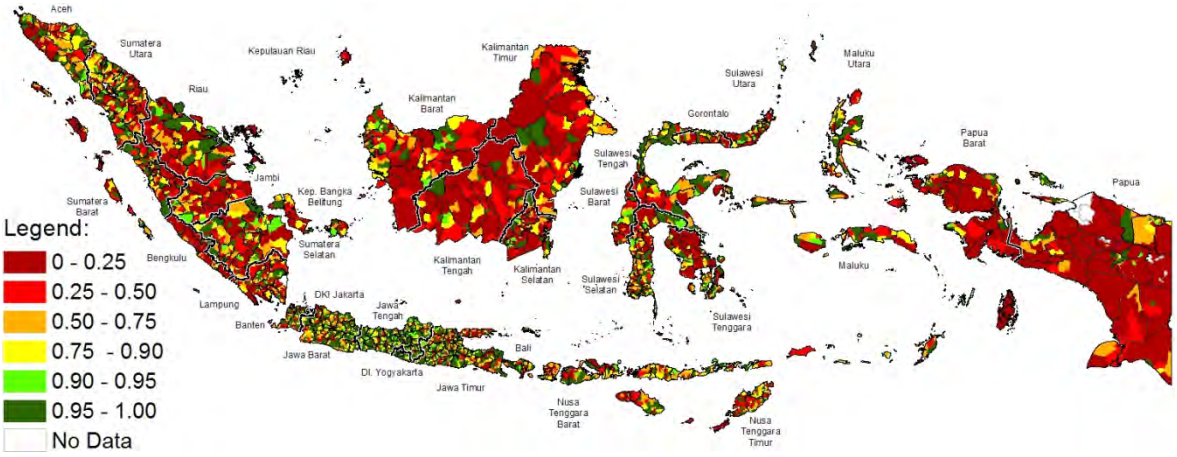


Figure V.3: *Map – Share of Villages with Public Transport to Regent/Mayor's Office*



V.3. Quantifying Needs for Investment

The gap in access to transportation infrastructure is given in Table V.3, expressing the gap in terms of the number of villages that report a lack of infrastructure. Out of 78,600 villages included in the census, 9,735 villages report having a main road that does not have a hardened surface. However, a much larger number of villages, 31,309, report substantial damage to the main village road. A comparable number of villages, 35,048, reports substantial damages to bridges along the main road, while 17,450 villages need additional bridges to be built. Access to public transport with a fixed route to the sub-districts head's and the regent/mayor's office is lacking in 51,316 and 31,026 villages, respectively.

Table V.3: *Overall Gaps in Transportation Infrastructure*

Dimension	Type of Gap	Total Gap
Characteristics of the Village's Main Road	Number of villages with main road not asphalted or with graveled surface	9,735
	Number of villages with main road substantially damaged	31,309
Characteristics of Bridges	Bridges with substantial damages	35,048
	Number of villages with need for additional bridge(s)	17,45
Availability of Public Transport	Number of villages without public transport with fixed route to the sub-district head's office	51,316
	Number of citizens without public transport with fixed route to the regent/mayor's office	31,026

V.4. Comparison with Health and Education Supply Readiness

There is an unambiguously positive correlation between transportation and indicators for health and education availability, as shown in Table V.4, suggesting the presence of common determinants for investments in local infrastructure across sectors. This correlation is particularly strong for hardened roads, with correlation coefficients ranging from 0.54 to 0.63. For the quality of roads and bridges, and adequacy of bridges, the correlation coefficients are also positive yet slightly smaller, ranging from 0.20 to 0.41. A similar degree of positive correlation with health and education indicators is also observed for the local availability of public transport.

Table V.4: *Correlations between Transportation and Health/Education Availability Indicators*

Indicators of Physical Availability: Health and Education	**Main Road**		**Bridges**		**Public Transport**	
	Asphalt or Gravel/Stone	In Good condition	In Good Condition	No extra bridges needed	To Sub-D. head's office	To Regent/ Mayor's office
Access to Primary Care	0.55	0.20	0.32	0.21	0.22	0.29
Access to Secondary Care	0.54	0.41	0.38	0.36	0.42	0.30
Access to Delivery Facility	0.63	0.31	0.36	0.29	0.30	0.33
Access to ECED	0.61	0.29	0.37	0.27	0.33	0.34
Access to SMP	0.61	0.25	0.34	0.24	0.27	0.33

VI. SUMMARY OF RESULTS AND POLICY RECOMMENDATIONS

VI.1. National Patterns of Infrastructure Supply Readiness

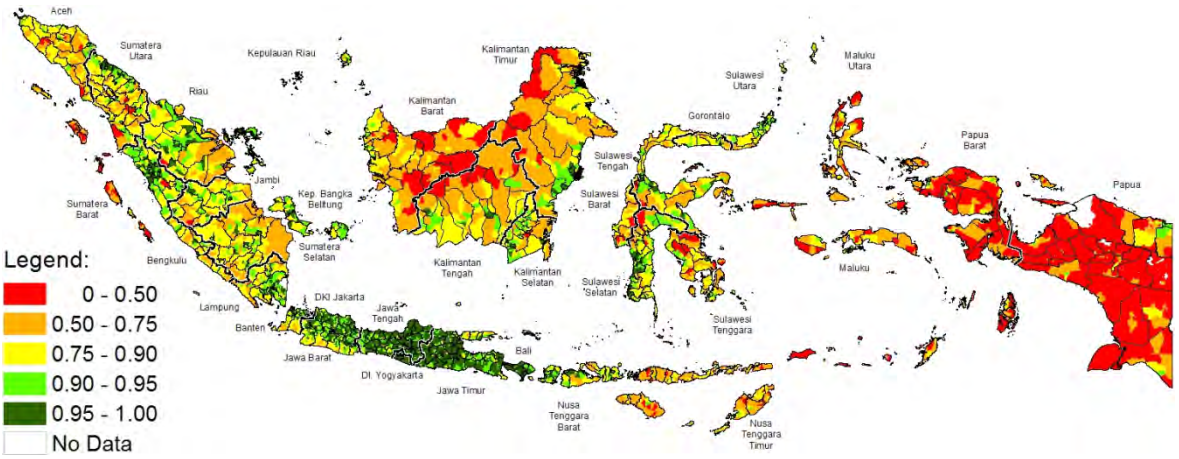
The analysis of the 2011 PODES data provides a consistent picture of the supply of basic services in Indonesia. Across the health, education and transportation infrastructure indicators, similar regional patterns of supply readiness are revealed. For instance, the composite indices for health and education show high correlations of around 0.80 to 0.85, dependent on the weighting schemes used. Figure VI.1 combines the composite indices for health and education into one 'meta index',[17] in order to illustrate the general spatial distribution of (gaps in) the provision of social services.

While the interpretation of the absolute values of this 'meta index', which combines a total of 14 sub-indicators, is not straightforward, the map does summarize the main results of the analysis at a glance, reflecting the relative geographical differences in overall infrastructure supply readiness. In general, the island of Java and the province of Bali perform best with respect to the quantity and quality of available infrastructure. However, and despite the good average results for these regions, local needs for investment still exist, in particular in the provinces of Jawa Barat and Banten. Overall, the largest gaps in infrastructure supply readiness are found for the Papua region, the Maluku islands, NTT, as well as for the interior of Kalimantan.

As to the health sector, the lowest average scores are found for the provinces of Kalimantan Barat (75 %),[18] NTT (71 %), Maluku Utara (69 %), Maluku (66 %), Papua Barat (50 %), and Papua (39 %). The highest average levels of health supply readiness are observed for all Javanese provinces (ranging from 99 % for DI Yogyakarta to 92 % for Banten), Bali (99 %), Bangka Belitung (95 %), Sumatera Barat (92 %), and NTB (90%).

Similar patterns are found for the ranking of average education supply readiness, with DKI Jakarta (98 %), DI Yogyakarta (97 %), Jawa Tengah (96 %), and Bali (96 %) performing best, and Kalimantan Barat (64 %), Maluku Utara (61 %), Maluku (60 %), Papua Barat (40 %) and Papua (26 %) showing the lowest average sub-district scores. To a large extent, these patterns are also observed for the indicators of transportation infrastructure. However, despite the consistent overall trends, we also observe substantial variations within regions and provinces. One explanation for these local disparities is a stark urban-rural divide, not only with respect to the accessibility, but also the quality of available services.

Figure VI.1: *Map – Combined Health and Education Index*



[17] We use the composite indices for health and education with a particular focus on physical availability (versions A), respectively, and calculate the average of these two indices for this 'meta index'.

[18] The reported scores represent the average sub-district score by province (based on the composite indices with a particular focus on physical availability). Tables A.3 and A.4 alternatively present the scores calculated at the provincial level.

VI.2. Policy Recommendations

The 2011 PODES infrastructure census provides detailed and up-to-date information on the availability and quality of basic infrastructure in Indonesia. The various indicators developed through this analysis may, therefore, constitute a valuable tool for informing national and local governments, international organizations, and NGOs alike, on regional variation in infrastructure investment needs. Potential applications of these data include:

- Improve targeting of PNPM and other government programs: Based on a complete and comprehensive picture of remaining deficits in the provision of basic infrastructure, the indicators can contribute to an improved targeting of PNPM and other government programs.

- Contribute to the provision, assessment, and improvement of social services in Indonesia: Actively disseminating the data can foster its usage by the various public and private stakeholders that are engaged in the provision of social services in Indonesia. This awareness of the data would thereby also help avoid the costly collection of already existent information.

- Support efforts to improve transparency and accountability at local level: Regional and local inequities can be identified given the implementation of the analysis at sub-district level. The public dissemination of the indicators may contribute to increased transparency, and, hence, political accountability at local level.

- Provide the basis for follow-up analyses and the continuous monitoring of infrastructure supply readiness: The present assessment of the local supply of basic services offers various opportunities for follow-up analyses.

  – The results from the PODES data should be compared with related surveys of local health and education infrastructure in order to further evaluate the reliability of the data and to bring together available information, where possible. The assessment of the quality of the provided indicators may also be complemented by qualitative fieldwork.

  – If data on cost values are available, the results can also be used to estimates the financing gap of addressing the existing infrastructure deficit at the national, regional and local levels

  – Combining the PODES indicators with other socio-economic datasets will facilitate research into the determinants of local service supply, demand, and outcomes.

  – To this end, it is not only desirable to regularly conduct the PODES core survey, but also to repeat the infrastructure census in the future, thus enabling continuous monitoring of the quantity and quality of village infrastructure. Keeping track of changes over time will enable a more rigorous evaluation of social programs.

If the infrastructure census is conducted again in the future, we suggest the following changes and amendments:

- The health survey covers a subset of public health facilities. Subject to budget restrictions, other public and private facilities, such as hospitals or polyclinics, should be included for completeness.

- The information on the services offered by health facilities could be expanded and, in part, be rendered more precisely. In particular, further information on available medical equipment, supplies, and treatments would provide an interesting supplement to assess the quality of services.

- The education survey is confined to public facilities. Again subject to budgetary constraints, the inclusion of private facilities would be particularly useful in the area of secondary schooling, where private schools account for a substantial share of the existent facilities. Moreover, no facility-level information is collected on early childhood education facilities.

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APPENDIX

Appendix 1: Decomposition of Concentration Indices

An alternative method for determining weights is to assess the policy priority of the various indices in terms of their contribution to inequality in access to health care and education services, respectively. In what follows, we describe the method for the determination of weights for the composite health index. The approach for the composite education index follows the methodology, using test scores from the national exams instead of utilization rates as outcome variable.

Inequality in health care utilization can be expressed in terms of a concentration index:

$$CI = \frac{2}{\mu}\mathrm{cov}(h, r)$$

where h is health care utilization, μ is the mean of h, and r is the district fractional rank in the national distribution of some welfare measure.

The determinants of health care utilization can be assessed through a linear regression:

$$h = \alpha + \sum_k \beta_k x_k + \varepsilon$$

Inequality in health care utilization can then be decomposition into individual contributions of these determinants:

$$CI = \sum_k \frac{\beta_k \bar{x}_k}{\mu} CI_k + \frac{CG_\varepsilon}{\mu}$$

While the regression coefficients describe what determines average health care utilization, the decomposed CI describes to what extent these determinants contribute to inequality in health care utilization across districts. This contribution is the product of (1) the responsiveness (or elasticity) of health care utilization with respect to various types of health care supply, and (2) inequality in the distribution of this health care supply across districts. For example, variable x may be a good predictor of health care utilization, but it will only contribute to inequality of health care utilization if it is itself unequally distributed. That is, if x is equally distributed across districts, then the effect of changing x will be similar across districts.

Appendix 2: Alternative Indicators of Health Personnel

For comparison, the following four population-based indicators of health workforce are briefly described:

- Number of Physicians per 10,000 Population [Target: 1 Physician per 10,000]
- Number of Midwives per 10,000 Population
- Number of Nurses per 10,000 Population
- Number of Core Medical Professionals (Physicians, Midwives, Nurses) per 10,000 Population [WHO Target: 23]

Table A.1 provides descriptive statistics for the six indicators. In the average sub-district, 1.6 physicians, 7.2 midwives, and 9.5 nurses are available per 10,000 inhabitants, which results in 18.3 core health professionals per 10,000 population. We calculate score indicators for the availability of physicians and core health professionals, using 1 physician and 23 core health professionals per 10,000 population as target, respectively. Table A.2 reports the correlations between the population-based indicators and the seven core indicators selected for the index. The consistently insignificant or negative correlations point to a structurally different picture of health service supply that is obtained from population-based indicators, as compared to the results from all seven core indicators of health supply readiness.

Table A.1: *Alternative Health Personnel Indicators: Descriptive Statistics*

Descriptives	n	Mean	SD	Min	Max
Physicians per 10,000 Population	6771	1.6	2.7	0	52.1
Midwives per 10,000 Population	6771	7.2	7.0	0	208.5
Nurses per 10,000 Population	6771	9.5	13.1	0	300.8
Core Medical Professionals per 10,000 Pop.	6771	18.3	17.9	0	433.2
Core Medical Professionals Score (23=100)	6771	0.621	0.289	0	1
Physicians Score (max=1)*	6771	0.637	0.415	0	1

The Physicians Score takes on the value 1 for sub-districts that fulfill the target of 1 physician per 10,000 population. In this special case, the indicator represents a truncated version of the Physicians per 10,000 population indicator.

Table A.2: *Alternative Health Personnel Indicators: Correlations of with Core Indicators*

Correlation with the other Index-Variables	Primary	Secondary	Delivery	Physician	Midwife	Water	Electr.
Physicians per 10,000 Pop.	0.07	0.11	0.07	0.16	0.02	0.08	0.10
Midwives per 10,000 Pop.	0.03	-0.13	-0.04	-0.03	0.05	-0.05	-0.04
Nurses per 10,000 Pop.	-0.08	-0.31	-0.21	-0.13	-0.30	-0.09	-0.17
Core Medical Pro's per 10,000	-0.04	-0.26	-0.16	-0.09	-0.20	-0.08	-0.12
Core Medical Pro's; Score	0.06	-0.23	-0.08	-0.02	-0.16	-0.02	-0.12
Physicians; Score	0.26	0.24	0.27	0.42	0.24	0.27	0.24

This impression is confirmed by the graphical representation of the population-based indicators. Figures A.1 and A.2 describe the spatial distribution of the two score indicators of health personnel. The maps reveal that the population-based indicators are heavily driven by the population denominator, resulting in higher scores especially in Papua and Kalimantan, while densely populated areas in Java perform relatively poorly. Similar geographical patterns are generally observed for indicators which are based on per capita measures. We therefore do not use this type of indicator as to avoid a biased assessment of available basic infrastructure.

Figure A.1: *Map – Core Medical Professionals per 10,000 Population – Score (Target: 23)*

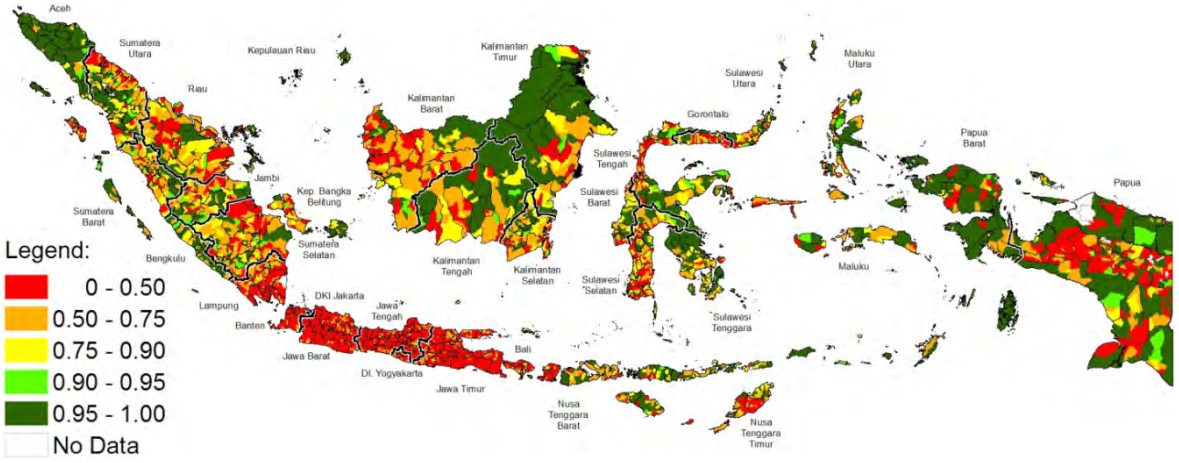
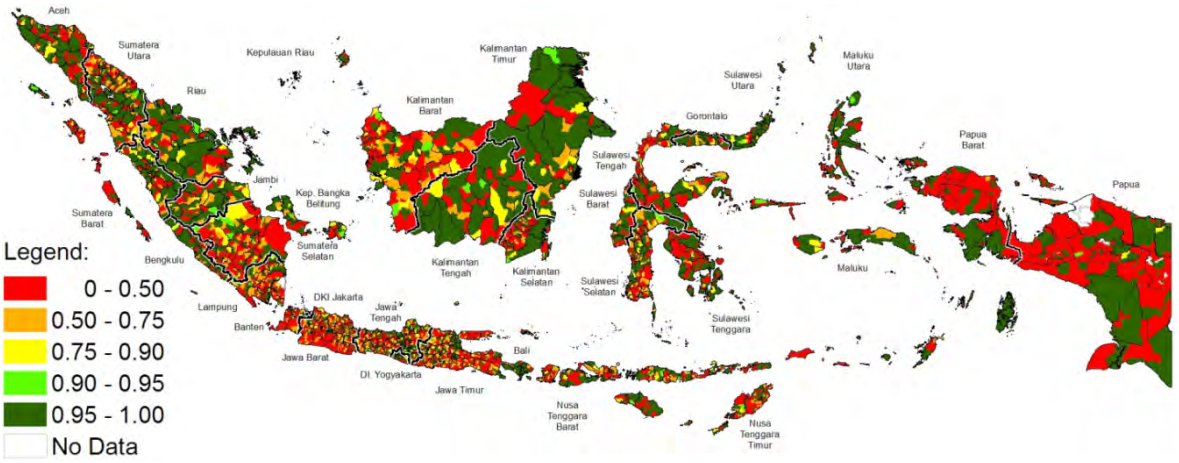


Figure A.2: *Map – Physicians per 10,000 Population – Score (Target: 1)*



Appendix 3: Province- and District-level Overviews

Table A.3: *Health Indicators and Composite Indices – Province-level Scores*[19]

Province	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
	Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Nanggroe Aceh Darussalam	0.97	0.74	0.96	0.89	0.97	0.83	0.90	0.85	0.91	0.88	0.89	0.89	0.89	0.89	0.90	0.88
Sumatera Utara	0.96	0.83	0.95	0.91	0.92	0.95	0.93	0.89	0.85	0.87	0.91	0.90	0.91	0.91	0.90	0.88
Sumatera Barat	0.99	0.87	0.99	0.95	0.98	0.99	0.99	0.91	0.90	0.90	0.95	0.95	0.95	0.95	0.94	0.92
Riau	0.98	0.77	0.96	0.90	0.98	0.98	0.98	0.86	0.80	0.83	0.90	0.90	0.90	0.91	0.88	0.86
Jambi	0.98	0.77	0.97	0.91	0.94	0.95	0.94	0.87	0.80	0.83	0.90	0.89	0.90	0.90	0.89	0.86
Sumatera Selatan	0.95	0.78	0.96	0.90	0.89	0.96	0.92	0.90	0.82	0.86	0.89	0.89	0.89	0.90	0.89	0.87
Bengkulu	0.97	0.82	0.97	0.92	0.92	0.88	0.90	0.78	0.82	0.80	0.89	0.87	0.88	0.89	0.88	0.87
Lampung	0.97	0.77	0.98	0.91	0.97	0.97	0.97	0.92	0.77	0.84	0.91	0.91	0.91	0.91	0.89	0.86
Kepulauan Bangka Belitung	1.00	0.92	1.00	0.97	1.00	0.97	0.99	0.95	0.93	0.94	0.97	0.97	0.97	0.97	0.96	0.95
Kepulauan Riau	1.00	0.89	0.99	0.96	0.97	0.98	0.98	0.96	0.88	0.92	0.95	0.95	0.95	0.95	0.94	0.93
DKI Jakarta	1.00	1.00	1.00	1.00	0.98	0.99	0.99	0.98	1.00	0.99	1.00	0.99	0.99	0.99	1.00	1.00
Jawa Barat	0.99	0.88	0.99	0.96	0.98	0.99	0.98	0.94	0.96	0.95	0.96	0.96	0.96	0.96	0.96	0.95
Jawa Tengah	0.98	0.95	1.00	0.98	0.99	0.99	0.99	0.98	0.95	0.96	0.98	0.98	0.98	0.98	0.97	0.97
DI Yogyakarta	1.00	0.99	1.00	1.00	1.00	0.97	0.99	0.96	0.98	0.97	0.99	0.98	0.99	0.99	0.99	0.99
Jawa Timur	0.99	0.93	1.00	0.97	0.98	1.00	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Banten	0.98	0.88	0.98	0.95	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.96	0.95
Bali	1.00	0.98	1.00	0.99	0.99	0.99	0.99	0.97	0.96	0.97	0.99	0.98	0.99	0.99	0.99	0.98
Nusa Tenggara Barat	0.99	0.80	0.97	0.92	0.97	0.92	0.95	0.97	0.92	0.94	0.93	0.94	0.94	0.94	0.93	0.91
Nusa Tenggara Timur	0.91	0.53	0.88	0.77	0.80	0.79	0.80	0.83	0.59	0.71	0.76	0.76	0.76	0.76	0.75	0.71
Kalimantan Barat	0.92	0.58	0.90	0.80	0.83	0.87	0.85	0.87	0.67	0.77	0.80	0.81	0.81	0.81	0.79	0.75
Kalimantan Tengah	0.96	0.64	0.89	0.83	0.86	0.86	0.86	0.88	0.73	0.80	0.83	0.83	0.83	0.83	0.82	0.78
Kalimantan Selatan	0.97	0.81	0.97	0.92	0.98	0.92	0.95	0.87	0.91	0.89	0.92	0.92	0.92	0.92	0.91	0.90
Kalimantan Timur	0.98	0.80	0.94	0.90	0.96	0.90	0.93	0.95	0.83	0.89	0.91	0.91	0.91	0.91	0.89	0.87
Sulawesi Utara	0.98	0.83	0.96	0.92	0.95	0.75	0.85	0.95	0.87	0.91	0.91	0.90	0.90	0.90	0.92	0.90
Sulawesi Tengah	0.96	0.66	0.92	0.85	0.81	0.86	0.83	0.91	0.73	0.82	0.84	0.83	0.84	0.84	0.84	0.80
Sulawesi Selatan	0.97	0.81	0.94	0.91	0.94	0.95	0.94	0.93	0.84	0.88	0.91	0.91	0.91	0.91	0.89	0.87
Sulawesi Tenggara	0.96	0.62	0.94	0.84	0.79	0.80	0.79	0.86	0.59	0.72	0.81	0.79	0.79	0.80	0.80	0.76
Gorontalo	0.97	0.75	0.95	0.89	0.96	0.79	0.88	0.84	0.82	0.83	0.88	0.87	0.87	0.87	0.88	0.85
Sulawesi Barat	0.92	0.66	0.87	0.81	0.89	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.82	0.79	0.77
Maluku	0.93	0.57	0.87	0.79	0.68	0.83	0.76	0.74	0.63	0.68	0.76	0.74	0.75	0.76	0.75	0.72
Maluku Utara	0.90	0.55	0.87	0.77	0.72	0.68	0.70	0.87	0.71	0.79	0.76	0.75	0.76	0.76	0.78	0.74
Papua Barat	0.91	0.62	0.85	0.79	0.56	0.69	0.62	0.77	0.69	0.73	0.75	0.72	0.73	0.73	0.77	0.74
Papua	0.71	0.40	0.63	0.58	0.60	0.54	0.57	0.68	0.45	0.57	0.57	0.57	0.57	0.57	0.56	0.53

[19] The reported indicator scores are calculated at provincial level, e.g. measuring the share of the provincial population with easy access to primary health care. These scores differ from average sub-district scores by province, where equal weight is given to each sub-district irrespective of population size.

Table A.4: *Education Indicators and Composite Indices – Province-level Scores*[20]

Province	Physical Availability			Teacher Qualification			Facility Characteristics				Composite Indices					
	ECED	SMP (6)	SubIndex	SD S1	SMP S1	SubIndex	Lab SMP	Electricity	Water	SubIndex	Access	SMP 3km	Equal D.	PCA	OLS	CI
Nanggroe Aceh Darussalam	0.73	0.96	0.85	0.74	0.72	0.73	0.62	0.96	0.71	0.76	0.80	0.77	0.78	0.78	0.81	0.78
Sumatera Utara	0.82	0.94	0.88	0.72	0.75	0.73	0.59	0.82	0.69	0.70	0.79	0.77	0.77	0.76	0.77	0.74
Sumatera Barat	0.99	0.98	0.98	0.89	0.83	0.86	0.65	0.93	0.77	0.78	0.90	0.89	0.88	0.87	0.86	0.85
Riau	0.92	0.95	0.94	0.80	0.73	0.76	0.59	0.72	0.79	0.70	0.83	0.82	0.80	0.79	0.78	0.76
Jambi	0.93	0.96	0.94	0.76	0.78	0.77	0.61	0.74	0.73	0.69	0.83	0.82	0.80	0.79	0.78	0.75
Sumatera Selatan	0.82	0.92	0.87	0.71	0.78	0.75	0.63	0.75	0.82	0.73	0.80	0.78	0.78	0.78	0.76	0.74
Bengkulu	0.82	0.95	0.88	0.86	0.80	0.83	0.56	0.79	0.70	0.69	0.81	0.78	0.80	0.79	0.80	0.78
Lampung	0.93	0.97	0.95	0.81	0.72	0.77	0.67	0.79	0.81	0.76	0.85	0.83	0.82	0.82	0.82	0.80
Kepulauan Bangka Belitung	0.94	0.92	0.93	0.73	0.81	0.77	0.72	0.95	0.94	0.87	0.88	0.85	0.86	0.86	0.82	0.80
Kepulauan Riau	0.96	0.98	0.97	0.72	0.74	0.73	0.56	0.92	0.87	0.78	0.87	0.85	0.83	0.83	0.79	0.76
DKI Jakarta	1.00	1.00	1.00	1.00	0.90	0.95	0.96	1.00	0.99	0.98	0.98	0.98	0.98	0.98	0.99	0.99
Jawa Barat	0.98	0.98	0.98	0.96	0.86	0.91	0.76	0.98	0.84	0.86	0.93	0.92	0.92	0.91	0.92	0.91
Jawa Tengah	0.99	0.98	0.99	0.94	0.91	0.93	0.86	1.00	0.96	0.94	0.96	0.94	0.95	0.95	0.94	0.94
DI Yogyakarta	1.00	1.00	1.00	0.99	0.86	0.92	0.97	1.00	0.99	0.99	0.98	0.97	0.97	0.97	0.99	0.99
Jawa Timur	0.99	0.98	0.98	0.98	0.93	0.96	0.82	0.97	0.87	0.89	0.95	0.93	0.94	0.94	0.94	0.93
Banten	0.93	0.99	0.96	0.96	0.79	0.87	0.54	0.98	0.76	0.76	0.88	0.87	0.86	0.86	0.86	0.85
Bali	0.99	0.97	0.98	0.99	0.89	0.94	0.81	1.00	0.96	0.92	0.95	0.93	0.95	0.95	0.94	0.94
Nusa Tenggara Barat	0.96	0.99	0.98	0.92	0.85	0.89	0.58	0.90	0.78	0.75	0.89	0.89	0.87	0.86	0.85	0.84
Nusa Tenggara Timur	0.74	0.88	0.81	0.32	0.66	0.49	0.36	0.57	0.73	0.55	0.67	0.64	0.62	0.61	0.54	0.48
Kalimantan Barat	0.71	0.85	0.78	0.47	0.60	0.53	0.46	0.62	0.82	0.63	0.69	0.67	0.65	0.65	0.61	0.57
Kalimantan Tengah	0.86	0.87	0.86	0.73	0.78	0.76	0.48	0.58	0.75	0.61	0.76	0.75	0.74	0.73	0.68	0.66
Kalimantan Selatan	0.95	0.95	0.95	0.81	0.86	0.84	0.68	0.91	0.87	0.82	0.89	0.86	0.87	0.87	0.83	0.82
Kalimantan Timur	0.95	0.94	0.94	0.73	0.80	0.77	0.49	0.83	0.85	0.72	0.84	0.83	0.81	0.80	0.75	0.72
Sulawesi Utara	0.96	0.98	0.97	0.69	0.72	0.71	0.62	0.92	0.81	0.78	0.86	0.85	0.82	0.82	0.80	0.76
Sulawesi Tengah	0.92	0.93	0.93	0.57	0.76	0.67	0.50	0.70	0.69	0.63	0.79	0.77	0.74	0.73	0.68	0.64
Sulawesi Selatan	0.93	0.96	0.95	0.94	0.88	0.91	0.65	0.85	0.81	0.77	0.89	0.86	0.88	0.86	0.86	0.85
Sulawesi Tenggara	0.86	0.96	0.91	0.58	0.77	0.68	0.52	0.53	0.74	0.60	0.77	0.75	0.73	0.71	0.67	0.63
Gorontalo	0.97	0.99	0.98	0.75	0.68	0.72	0.49	0.88	0.84	0.73	0.85	0.84	0.81	0.80	0.77	0.74
Sulawesi Barat	0.88	0.93	0.90	0.73	0.83	0.78	0.44	0.51	0.66	0.54	0.77	0.75	0.74	0.72	0.68	0.66
Maluku	0.76	0.92	0.84	0.41	0.48	0.45	0.37	0.64	0.59	0.53	0.67	0.66	0.61	0.60	0.59	0.54
Maluku Utara	0.72	0.91	0.81	0.30	0.65	0.47	0.37	0.60	0.56	0.51	0.65	0.64	0.60	0.59	0.55	0.48
Papua Barat	0.72	0.81	0.76	0.29	0.70	0.50	0.43	0.65	0.51	0.53	0.64	0.62	0.60	0.59	0.54	0.49
Papua	0.39	0.58	0.48	0.30	0.55	0.42	0.35	0.48	0.41	0.41	0.45	0.43	0.44	0.44	0.43	0.40

[20] The reported indicator scores are calculated at provincial level, e.g. measuring the share of the provincial population with easy access to primary health care. These scores differ from average sub-district scores by province, where equal weight is given to each sub-district irrespective of population size.

Table A.5: *Health Indicators and Composite Indices –District-level Scores*

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Nanggroe Aceh Derussalam		0.97	0.74	0.96	0.89	0.97	0.83	0.90	0.85	0.91	0.88	0.89	0.89	0.89	0.89	0.90	0.88
Simeulue	1101	0.99	0.53	0.74	0.75	0.75	0.80	0.78	0.75	0.88	0.81	0.77	0.78	0.78	0.78	0.74	0.72
Aceh Singkil	1102	0.96	0.56	0.91	0.81	0.91	0.86	0.88	0.82	0.80	0.81	0.82	0.83	0.83	0.83	0.81	0.77
Aceh Selatan	1103	0.97	0.71	0.95	0.88	0.95	0.77	0.86	0.67	0.74	0.71	0.84	0.81	0.82	0.83	0.82	0.80
Aceh Tenggara	1104	0.98	0.75	0.98	0.91	0.89	0.74	0.82	0.79	0.86	0.83	0.87	0.85	0.86	0.86	0.89	0.87
Aceh Timur	1105	0.93	0.53	0.94	0.80	0.92	0.86	0.89	0.85	0.95	0.90	0.84	0.86	0.85	0.86	0.86	0.81
Aceh Tengah	1106	0.93	0.62	0.98	0.84	1.00	0.88	0.94	0.79	0.92	0.85	0.86	0.88	0.87	0.88	0.87	0.84
Aceh Barat	1107	0.95	0.74	0.93	0.87	1.00	0.72	0.86	0.77	0.77	0.77	0.85	0.83	0.84	0.84	0.84	0.82
Aceh Besar	1108	0.99	0.85	0.99	0.94	1.00	0.86	0.93	0.92	0.96	0.94	0.94	0.94	0.94	0.94	0.95	0.94
Pidie	1109	0.99	0.85	0.99	0.94	1.00	0.67	0.83	0.88	0.97	0.93	0.92	0.90	0.91	0.90	0.94	0.93
Bireuen	1110	0.95	0.77	0.97	0.90	1.00	0.90	0.95	0.94	0.98	0.96	0.92	0.93	0.93	0.93	0.93	0.91
Aceh Utara	1111	0.97	0.46	0.95	0.80	1.00	0.69	0.84	0.79	0.91	0.85	0.82	0.83	0.82	0.83	0.83	0.78
Aceh Barat Daya	1112	1.00	0.86	0.99	0.95	0.92	0.88	0.90	0.77	0.94	0.85	0.92	0.90	0.91	0.91	0.92	0.92
Gayo Lues	1113	0.94	0.57	0.90	0.80	1.00	0.93	0.97	1.00	0.89	0.94	0.86	0.90	0.89	0.89	0.86	0.81
Aceh Tamiang	1114	0.96	0.91	0.99	0.95	1.00	0.97	0.99	1.00	0.98	0.99	0.97	0.98	0.97	0.97	0.98	0.96
Nagan Raya	1115	0.97	0.79	0.98	0.91	1.00	0.73	0.86	0.85	0.94	0.89	0.90	0.89	0.89	0.89	0.92	0.90
Aceh Jaya	1116	0.98	0.78	0.99	0.92	1.00	0.84	0.92	0.88	0.65	0.76	0.89	0.87	0.87	0.88	0.87	0.84
Bener Meriah	1117	0.95	0.68	0.96	0.86	1.00	0.88	0.94	0.90	0.97	0.93	0.89	0.91	0.90	0.91	0.90	0.87
Pidie jaya	1118	0.99	0.94	0.99	0.97	1.00	0.86	0.93	0.90	0.95	0.93	0.96	0.94	0.95	0.95	0.96	0.96
Banda Aceh	1171	1.00	1.00	1.00	1.00	1.00	0.97	0.98	0.91	1.00	0.95	0.99	0.98	0.98	0.98	0.99	0.99
Sabang	1172	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Langsa	1173	1.00	0.98	1.00	0.99	1.00	0.96	0.98	1.00	1.00	1.00	0.99	0.99	0.99	0.99	1.00	0.99
Lhokseumawe	1174	1.00	1.00	1.00	1.00	1.00	0.98	0.99	0.83	0.99	0.91	0.98	0.97	0.97	0.98	0.97	0.98
Subulussalam	1175	0.88	0.39	0.89	0.72	1.00	0.97	0.98	0.80	0.82	0.81	0.79	0.84	0.82	0.83	0.78	0.72
Sumatera Utara		0.96	0.83	0.95	0.91	0.92	0.95	0.93	0.89	0.85	0.87	0.91	0.90	0.91	0.91	0.90	0.88
Nias	1201	0.69	0.31	0.53	0.51	0.63	0.36	0.49	0.63	0.39	0.51	0.51	0.50	0.50	0.50	0.48	0.45
Mandailing natal	1202	0.88	0.68	0.94	0.83	0.88	0.93	0.90	0.85	0.90	0.87	0.85	0.87	0.86	0.87	0.87	0.84
Tapanuli Selatan	1203	0.89	0.67	0.95	0.84	0.88	0.93	0.90	0.88	0.89	0.88	0.86	0.87	0.87	0.87	0.88	0.85
Tapanuli Tengah	1204	0.96	0.73	0.98	0.89	0.90	0.97	0.94	0.81	0.87	0.84	0.89	0.89	0.89	0.89	0.89	0.86
Tapanuli Utara	1205	0.90	0.63	0.92	0.82	1.00	0.96	0.98	0.89	0.94	0.92	0.87	0.91	0.89	0.89	0.87	0.84
Toba Samosir	1206	0.87	0.74	0.90	0.84	1.00	0.98	0.99	0.89	0.97	0.93	0.89	0.92	0.91	0.91	0.88	0.87
Labuhan Batu	1207	0.98	0.82	0.97	0.92	0.92	0.99	0.96	0.85	0.52	0.68	0.88	0.85	0.86	0.87	0.83	0.81
Asahan	1208	0.97	0.87	0.94	0.93	1.00	0.99	0.99	1.00	0.90	0.95	0.95	0.96	0.95	0.95	0.93	0.92
Simalungun	1209	0.98	0.87	0.98	0.94	1.00	0.99	0.99	0.91	0.81	0.86	0.94	0.93	0.93	0.94	0.92	0.90
Dairi	1210	0.97	0.64	0.91	0.84	0.89	0.97	0.93	0.83	0.76	0.80	0.85	0.86	0.85	0.86	0.82	0.79

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Karo	1211	0.99	0.92	0.97	0.96	0.95	1.00	0.97	0.95	0.98	0.96	0.96	0.97	0.96	0.97	0.96	0.96
Deli Serdang	1212	1.00	0.97	1.00	0.99	1.00	1.00	1.00	0.97	0.92	0.94	0.98	0.98	0.98	0.98	0.97	0.97
Langkat	1213	0.98	0.86	0.97	0.94	1.00	0.99	1.00	0.93	0.88	0.91	0.94	0.95	0.95	0.95	0.93	0.92
Nias Selatan	1214	0.75	0.33	0.64	0.57	0.28	0.34	0.31	0.52	0.24	0.38	0.48	0.42	0.44	0.45	0.49	0.44
Humbang Hasundutan	1215	0.86	0.46	0.76	0.69	1.00	1.00	1.00	0.83	0.97	0.90	0.80	0.86	0.84	0.84	0.77	0.73
Pakpak Bharat	1216	0.96	0.63	0.84	0.81	0.88	0.96	0.92	1.00	0.77	0.89	0.85	0.87	0.86	0.86	0.82	0.78
Samosir	1217	0.79	0.50	0.83	0.71	1.00	0.98	0.99	0.75	0.98	0.86	0.80	0.85	0.83	0.84	0.79	0.76
Serdang Bedagai	1218	1.00	0.90	0.99	0.96	1.00	0.99	0.99	0.85	0.93	0.89	0.96	0.95	0.95	0.96	0.94	0.94
Batu Bara	1219	1.00	0.73	0.99	0.91	1.00	1.00	1.00	1.00	0.88	0.94	0.93	0.95	0.94	0.95	0.93	0.89
Padang Lawas Utara	1220	0.79	0.43	0.82	0.68	0.93	0.82	0.88	0.87	0.72	0.79	0.74	0.78	0.77	0.77	0.74	0.69
Padang Lawas	1221	0.94	0.78	0.94	0.89	0.91	0.80	0.86	0.82	0.93	0.87	0.88	0.87	0.87	0.88	0.89	0.88
Labuhan Batu Selatan	1222	0.97	0.74	0.98	0.90	1.00	0.99	0.99	1.00	0.63	0.82	0.90	0.90	0.90	0.90	0.87	0.83
Labuhan Batu Utara	1223	0.99	0.65	0.96	0.86	1.00	1.00	1.00	0.94	0.56	0.75	0.87	0.87	0.87	0.87	0.82	0.77
Nias Utara	1224	0.86	0.20	0.70	0.59	0.82	0.48	0.65	0.82	0.45	0.63	0.61	0.62	0.62	0.62	0.59	0.51
Nias Barat	1225	0.66	0.13	0.49	0.43	0.83	0.31	0.57	0.67	0.56	0.61	0.49	0.54	0.52	0.51	0.48	0.42
Sibolga	1271	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Tanjung Balai	1272	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.88	0.84	0.86	0.97	0.95	0.96	0.96	0.95	0.95
Pematang Siantar	1273	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Tebing Tinggi	1274	1.00	1.00	1.00	1.00	0.89	1.00	0.94	1.00	0.98	0.99	0.99	0.98	0.98	0.98	1.00	0.99
Medan	1275	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Binjai	1276	1.00	1.00	1.00	1.00	1.00	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Padangsidimpuan	1277	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.95	0.99	0.98	0.98	0.99	0.98	0.97
Gunungsitoli	1278	0.83	0.76	0.79	0.80	0.25	0.69	0.47	0.75	0.42	0.59	0.69	0.62	0.64	0.65	0.71	0.69
Sumatera Barat		0.99	0.87	0.99	0.95	0.98	0.99	0.99	0.91	0.90	0.90	0.95	0.95	0.95	0.95	0.94	0.92
Kepulauan Mentawai	1301	0.72	0.10	0.61	0.48	0.57	0.81	0.69	0.86	0.67	0.76	0.58	0.64	0.62	0.62	0.58	0.50
Pesisir Selatan	1302	0.99	0.63	1.00	0.88	1.00	1.00	1.00	1.00	0.88	0.94	0.91	0.94	0.93	0.93	0.91	0.87
Solok	1303	0.98	0.90	0.97	0.95	1.00	1.00	1.00	0.83	0.88	0.85	0.94	0.93	0.94	0.94	0.92	0.91
Sijunjung	1304	0.99	0.76	0.98	0.91	1.00	1.00	1.00	0.92	0.90	0.91	0.93	0.94	0.94	0.94	0.92	0.89
Tanah Datar	1305	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.95	0.89	0.98	0.96	0.97	0.97	0.96	0.97
Padang Pariaman	1306	0.99	0.95	1.00	0.98	1.00	1.00	1.00	0.83	0.97	0.90	0.97	0.96	0.96	0.97	0.96	0.96
Agam	1307	1.00	0.88	0.98	0.95	1.00	1.00	1.00	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.94
Lima Puluh Kota	1308	1.00	0.85	1.00	0.95	0.95	1.00	0.98	0.95	0.82	0.89	0.94	0.94	0.94	0.94	0.93	0.91
Pasaman	1309	1.00	0.83	1.00	0.94	1.00	1.00	1.00	0.81	0.85	0.83	0.93	0.93	0.93	0.93	0.91	0.90
Solok Selatan	1310	1.00	0.74	1.00	0.91	1.00	1.00	1.00	1.00	0.90	0.95	0.94	0.95	0.95	0.95	0.93	0.90
Dharmasraya	1311	0.98	0.80	0.95	0.91	1.00	1.00	1.00	0.92	0.93	0.92	0.93	0.94	0.94	0.94	0.92	0.90

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Pasaman Barat	1312	0.99	0.85	0.99	0.94	0.94	1.00	0.97	0.88	0.86	0.87	0.93	0.93	0.93	0.94	0.92	0.91
Padang	1371	1.00	0.99	1.00	1.00	1.00	0.99	1.00	0.95	0.91	0.93	0.98	0.97	0.98	0.98	0.97	0.97
Solok	1372	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.94	0.85	0.97	0.95	0.96	0.96	0.95	0.96
Sawah Lunto	1373	1.00	1.00	1.00	1.00	1.00	0.98	0.99	1.00	0.95	0.97	0.99	0.99	0.99	0.99	0.99	0.99
Padang Panjang	1374	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.96	0.99	0.99	0.99	0.99	0.98	0.98
Bukittinggi	1375	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	0.85	0.92	0.97	0.95	0.96	0.96	0.97	0.96
Payakumbuh	1376	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	0.90	0.95	0.99	0.98	0.98	0.98	0.98	0.98
Pariaman	1377	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Riau		0.98	0.77	0.96	0.90	0.98	0.98	0.98	0.86	0.80	0.83	0.90	0.90	0.90	0.91	0.88	0.86
Kuantan Singingi	1401	0.99	0.78	0.96	0.91	0.91	0.97	0.94	0.91	0.79	0.85	0.90	0.90	0.90	0.91	0.89	0.87
Indragiri Hulu	1402	0.96	0.67	0.96	0.86	1.00	0.97	0.99	0.79	0.84	0.81	0.88	0.89	0.88	0.89	0.86	0.83
Indragiri Hilir	1403	0.97	0.47	0.88	0.78	0.92	0.98	0.95	0.80	0.75	0.77	0.81	0.83	0.83	0.83	0.78	0.73
Pelalawan	1404	0.96	0.72	0.92	0.87	1.00	0.99	1.00	0.83	0.70	0.77	0.87	0.88	0.88	0.88	0.83	0.80
Siak	1405	0.98	0.92	0.98	0.96	1.00	0.99	0.99	0.93	0.92	0.93	0.96	0.96	0.96	0.96	0.95	0.95
Kampar	1406	0.99	0.80	0.98	0.92	1.00	0.98	0.99	0.89	0.73	0.81	0.91	0.91	0.91	0.91	0.88	0.86
Rokan Hulu	1407	0.99	0.91	0.98	0.96	1.00	0.99	1.00	0.90	0.79	0.85	0.94	0.93	0.94	0.94	0.92	0.91
Bengkalis	1408	0.99	0.84	0.96	0.93	1.00	0.97	0.99	0.91	0.82	0.87	0.93	0.93	0.93	0.93	0.90	0.89
Rokan Hilir	1409	0.98	0.62	0.99	0.86	0.94	0.98	0.96	0.88	0.86	0.87	0.88	0.90	0.89	0.90	0.88	0.84
Kepulauan Meranti	1410	0.89	0.38	0.89	0.72	1.00	0.94	0.97	0.63	0.72	0.67	0.76	0.79	0.78	0.79	0.73	0.68
Pekanbaru	1471	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.88	0.94	0.98	0.98	0.98	0.98	0.97	0.96
Dumai	1473	0.99	0.99	0.99	0.99	1.00	1.00	1.00	0.67	0.92	0.79	0.95	0.93	0.94	0.95	0.93	0.94
Jambi		0.98	0.77	0.97	0.91	0.94	0.95	0.94	0.87	0.80	0.83	0.90	0.89	0.90	0.90	0.89	0.86
Kerinci	1501	0.98	0.80	0.98	0.92	1.00	0.71	0.86	1.00	0.84	0.92	0.91	0.90	0.90	0.90	0.92	0.90
Merangin	1502	0.96	0.74	0.98	0.89	0.95	0.97	0.96	0.79	0.80	0.80	0.89	0.88	0.88	0.89	0.87	0.85
Sarolangun	1503	0.92	0.63	0.97	0.84	0.92	0.95	0.93	0.92	0.76	0.84	0.86	0.87	0.87	0.87	0.86	0.82
Batang Hari	1504	1.00	0.64	0.94	0.86	1.00	0.99	0.99	1.00	0.71	0.86	0.89	0.90	0.90	0.90	0.85	0.81
Muaro Jambi	1505	0.98	0.76	0.97	0.90	1.00	0.97	0.99	1.00	0.94	0.97	0.93	0.95	0.94	0.94	0.93	0.90
Tanjung Jabung Timur	1506	0.98	0.44	0.91	0.78	0.71	0.99	0.85	0.65	0.65	0.65	0.76	0.76	0.76	0.77	0.74	0.69
Tanjung Jabung Barat	1507	1.00	0.57	0.92	0.83	0.94	0.99	0.97	0.75	0.66	0.70	0.83	0.83	0.83	0.84	0.78	0.74
Tebo	1508	0.99	0.76	0.99	0.91	0.93	1.00	0.96	0.86	0.91	0.88	0.92	0.92	0.92	0.92	0.91	0.89
Bungo	1509	1.00	0.98	0.99	0.99	0.94	0.97	0.96	0.78	0.75	0.76	0.94	0.90	0.92	0.92	0.91	0.91
Jambi	1571	1.00	1.00	1.00	1.00	0.95	0.98	0.97	0.95	1.00	0.98	0.99	0.98	0.98	0.98	0.99	0.99
Sungai Penuh	1572	0.99	0.98	0.99	0.99	1.00	0.62	0.81	0.83	0.93	0.88	0.93	0.89	0.91	0.91	0.95	0.96
Sumatera Selatan		0.95	0.78	0.96	0.90	0.89	0.96	0.92	0.90	0.82	0.86	0.89	0.89	0.89	0.90	0.89	0.87
Ogan Komering Ulu	1601	0.99	0.81	0.96	0.92	0.87	1.00	0.93	0.93	0.85	0.89	0.92	0.91	0.92	0.92	0.91	0.89

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Ogan Komering Ilir	1602	0.83	0.56	0.87	0.75	0.84	0.95	0.90	0.96	0.78	0.87	0.81	0.84	0.83	0.83	0.81	0.77
Muara Enim	1603	0.95	0.84	0.98	0.92	0.91	0.98	0.94	0.77	0.91	0.84	0.91	0.90	0.91	0.91	0.91	0.90
Lahat	1604	0.97	0.88	0.98	0.94	0.84	0.81	0.83	0.84	0.81	0.82	0.90	0.86	0.88	0.88	0.90	0.90
Musi Rawas	1605	0.97	0.78	0.97	0.91	0.96	0.97	0.97	0.89	0.83	0.86	0.91	0.91	0.91	0.91	0.90	0.87
Musi Banyuasin	1606	0.95	0.79	0.94	0.89	1.00	0.98	0.99	0.80	0.83	0.81	0.90	0.90	0.90	0.90	0.87	0.85
Banyu Asin	1607	0.92	0.60	0.94	0.82	0.97	0.99	0.98	0.97	0.85	0.91	0.87	0.90	0.89	0.89	0.87	0.82
Ogan Kom. Ulu Selatan	1608	0.86	0.47	0.88	0.74	0.33	0.82	0.58	0.87	0.70	0.78	0.71	0.70	0.70	0.71	0.77	0.72
Ogan Kom. Ulu Timur	1609	0.93	0.63	0.97	0.85	0.86	1.00	0.93	1.00	0.78	0.89	0.87	0.89	0.88	0.88	0.88	0.83
Ogan Ilir	1610	0.93	0.77	0.98	0.89	0.83	0.96	0.90	1.00	0.87	0.93	0.90	0.91	0.91	0.91	0.92	0.89
Empat Lawang	1611	0.99	0.78	0.99	0.92	1.00	0.65	0.83	0.75	0.57	0.66	0.85	0.80	0.82	0.82	0.83	0.81
Palembang	1671	1.00	0.99	1.00	1.00	1.00	0.99	0.99	0.85	0.95	0.90	0.98	0.96	0.97	0.97	0.96	0.97
Prabumulih	1672	1.00	1.00	1.00	1.00	0.86	1.00	0.93	0.86	0.85	0.85	0.96	0.93	0.94	0.94	0.94	0.95
Pagar Alam	1673	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	0.99	0.99	0.99	0.99	0.99
Lubuklinggau	1674	1.00	0.99	1.00	1.00	1.00	0.97	0.98	1.00	0.89	0.94	0.98	0.97	0.98	0.98	0.98	0.97
Bengkulu		0.97	0.82	0.97	0.92	0.92	0.88	0.90	0.78	0.82	0.80	0.89	0.87	0.88	0.89	0.88	0.87
Bengkulu Selatan	1701	1.00	0.82	0.98	0.93	0.93	0.96	0.95	1.00	0.80	0.90	0.93	0.93	0.93	0.93	0.92	0.89
Rejang Lebong	1702	0.99	0.98	0.99	0.99	1.00	0.93	0.96	0.76	0.92	0.84	0.95	0.93	0.94	0.94	0.94	0.95
Bengkulu Utara	1703	0.96	0.68	0.92	0.86	0.90	0.88	0.89	0.76	0.70	0.73	0.84	0.83	0.83	0.84	0.81	0.79
Kaur	1704	0.97	0.68	0.95	0.87	0.94	0.64	0.79	0.63	0.77	0.70	0.82	0.78	0.80	0.80	0.82	0.80
Seluma	1705	0.93	0.69	0.95	0.86	0.90	0.78	0.84	0.95	0.68	0.82	0.85	0.84	0.84	0.84	0.85	0.81
Mukomuko	1706	0.97	0.60	0.98	0.85	1.00	0.93	0.96	0.88	0.87	0.87	0.87	0.89	0.89	0.89	0.87	0.83
Lebong	1707	0.95	0.91	0.95	0.93	0.71	0.77	0.74	0.79	0.98	0.88	0.88	0.85	0.86	0.87	0.92	0.93
Kepahiang	1708	0.94	0.92	0.95	0.94	0.86	0.82	0.84	0.71	0.90	0.81	0.89	0.86	0.87	0.88	0.90	0.90
Bengkulu Tengah	1709	0.94	0.79	0.98	0.90	0.95	0.91	0.93	0.60	0.81	0.71	0.87	0.85	0.85	0.86	0.85	0.84
Bengkulu	1771	1.00	1.00	1.00	1.00	0.95	0.99	0.97	0.76	0.95	0.86	0.97	0.94	0.95	0.96	0.95	0.96
Lampung		0.97	0.77	0.98	0.91	0.97	0.97	0.97	0.92	0.77	0.84	0.91	0.91	0.91	0.91	0.89	0.86
Lampung Barat	1801	0.91	0.47	0.90	0.76	0.89	0.79	0.84	0.79	0.70	0.74	0.77	0.78	0.78	0.78	0.77	0.72
Tanggamus	1802	0.96	0.77	0.95	0.89	1.00	0.93	0.96	0.86	0.72	0.79	0.89	0.88	0.88	0.89	0.86	0.83
Lampung Selatan	1803	0.99	0.83	0.99	0.94	0.96	0.99	0.97	1.00	0.92	0.96	0.95	0.96	0.95	0.96	0.95	0.93
Lampung Timur	1804	0.99	0.79	1.00	0.93	0.97	0.99	0.98	0.81	0.79	0.80	0.91	0.90	0.90	0.91	0.89	0.87
Lampung Tengah	1805	0.98	0.77	1.00	0.91	0.97	0.99	0.98	1.00	0.86	0.93	0.93	0.94	0.94	0.94	0.93	0.90
Lampung Utara	1806	0.95	0.74	0.95	0.88	0.96	0.97	0.97	0.92	0.72	0.82	0.89	0.89	0.89	0.89	0.86	0.83
Way Kanan	1807	0.95	0.64	0.95	0.85	1.00	0.93	0.97	1.00	0.70	0.85	0.87	0.89	0.88	0.88	0.86	0.81
Tulangbawang	1808	0.98	0.64	0.98	0.87	1.00	0.98	0.99	0.94	0.74	0.84	0.89	0.90	0.90	0.90	0.87	0.82
Pesawaran	1809	0.97	0.82	0.98	0.92	1.00	0.94	0.97	0.83	0.80	0.81	0.91	0.90	0.91	0.91	0.89	0.88

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Pringsewu	1810	1.00	0.97	1.00	0.99	1.00	0.98	0.99	1.00	0.66	0.83	0.96	0.94	0.94	0.95	0.92	0.91
Mesuji	1811	0.92	0.25	0.98	0.72	1.00	0.98	0.99	0.56	0.71	0.63	0.75	0.78	0.77	0.79	0.73	0.66
Tulang Bawang Barat	1812	0.96	0.67	0.99	0.87	0.80	0.99	0.90	1.00	0.65	0.83	0.87	0.86	0.87	0.87	0.87	0.82
Bandar Lampung	1871	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.87	0.91	0.98	0.97	0.98	0.98	0.97	0.96
Metro	1872	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.95	0.99	0.98	0.99	0.99	0.98	0.97
Kepulauan Bangka Belitung		1.00	0.92	1.00	0.97	1.00	0.97	0.99	0.95	0.93	0.94	0.97	0.97	0.97	0.97	0.96	0.95
Bangka	1901	0.99	0.94	1.00	0.98	1.00	0.99	1.00	1.00	0.93	0.97	0.98	0.98	0.98	0.98	0.97	0.96
Belitung	1902	1.00	0.95	1.00	0.98	1.00	1.00	1.00	0.89	0.94	0.91	0.97	0.97	0.97	0.97	0.96	0.96
Bangka Barat	1903	0.99	0.70	0.99	0.89	1.00	0.95	0.97	1.00	0.95	0.97	0.92	0.95	0.94	0.94	0.93	0.90
Bangka Tengah	1904	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.91	0.96	0.99	0.98	0.99	0.99	0.98	0.97
Bangka Selatan	1905	1.00	0.89	1.00	0.96	1.00	0.97	0.99	0.88	0.95	0.91	0.96	0.95	0.95	0.96	0.95	0.94
Belitung Timur	1906	1.00	0.99	1.00	1.00	1.00	0.94	0.97	1.00	0.91	0.96	0.98	0.97	0.98	0.98	0.98	0.98
Pangkal Pinang	1971	1.00	1.00	1.00	1.00	1.00	0.94	0.97	0.89	0.90	0.89	0.97	0.95	0.96	0.96	0.96	0.96
Kepulauan Riau		1.00	0.89	0.99	0.96	0.97	0.98	0.98	0.96	0.88	0.92	0.95	0.95	0.95	0.95	0.94	0.93
Karimun	2101	1.00	0.84	0.98	0.94	1.00	1.00	1.00	1.00	0.83	0.91	0.95	0.95	0.95	0.95	0.93	0.91
Bintan	2102	0.99	0.88	1.00	0.96	1.00	0.99	0.99	1.00	0.88	0.94	0.96	0.96	0.96	0.96	0.95	0.94
Natuna	2103	0.98	0.44	0.95	0.79	0.92	0.78	0.85	0.85	0.84	0.84	0.81	0.83	0.82	0.83	0.83	0.77
Lingga	2104	1.00	0.58	0.99	0.86	0.86	0.86	0.86	0.86	0.87	0.86	0.86	0.86	0.86	0.86	0.87	0.83
Kepulauan Anambas	2105	0.97	0.24	0.88	0.70	1.00	0.93	0.97	1.00	0.88	0.94	0.80	0.87	0.84	0.84	0.79	0.71
Batam	2171	1.00	0.97	1.00	0.99	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Tanjung Pinang	2172	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.91	0.98	0.97	0.97	0.97	0.96	0.95
DKI Jakarta		1.00	1.00	1.00	1.00	0.98	0.99	0.99	0.98	1.00	0.99	1.00	0.99	0.99	0.99	1.00	1.00
Kepulauan Seribu	3101	1.00	0.24	1.00	0.75	1.00	1.00	1.00	0.83	1.00	0.92	0.83	0.89	0.87	0.88	0.85	0.77
Jakarta Selatan	3171	1.00	1.00	1.00	1.00	0.99	1.00	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Jakarta Timur	3172	1.00	1.00	1.00	1.00	0.98	1.00	0.99	0.98	1.00	0.99	1.00	0.99	0.99	0.99	1.00	1.00
Jakarta Pusat	3173	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00
Jakarta Barat	3174	1.00	1.00	1.00	1.00	0.95	0.99	0.97	1.00	1.00	1.00	0.99	0.99	0.99	0.99	1.00	1.00
Jakarta Utara	3175	1.00	1.00	1.00	1.00	0.98	1.00	0.99	0.96	1.00	0.98	0.99	0.99	0.99	0.99	0.99	1.00
Jawa Barat		0.99	0.88	0.99	0.96	0.98	0.99	0.98	0.94	0.96	0.95	0.96	0.96	0.96	0.96	0.96	0.95
Bogor	3201	0.99	0.91	1.00	0.97	1.00	0.99	0.99	0.93	0.98	0.95	0.97	0.97	0.97	0.97	0.97	0.96
Sukabumi	3202	0.96	0.74	0.98	0.89	0.93	0.98	0.96	0.97	0.91	0.94	0.91	0.93	0.92	0.93	0.92	0.89
Cianjur	3203	0.95	0.67	0.97	0.86	0.98	0.97	0.98	0.98	0.93	0.95	0.90	0.93	0.92	0.92	0.91	0.87
Bandung	3204	1.00	0.95	0.99	0.98	0.98	0.98	0.98	0.92	0.96	0.94	0.97	0.97	0.97	0.97	0.97	0.97
Garut	3205	0.98	0.68	0.99	0.89	0.78	0.97	0.87	0.91	0.92	0.91	0.89	0.89	0.89	0.90	0.91	0.88
Tasikmalaya	3206	0.98	0.73	0.99	0.90	1.00	1.00	1.00	0.90	0.98	0.94	0.93	0.95	0.94	0.94	0.93	0.90

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Ciamis	3207	0.99	0.78	0.99	0.92	0.98	1.00	0.99	0.90	0.98	0.94	0.94	0.95	0.95	0.95	0.94	0.92
Kuningan	3208	0.99	0.93	0.99	0.97	0.95	1.00	0.97	0.97	0.96	0.96	0.97	0.97	0.97	0.97	0.97	0.96
Cirebon	3209	1.00	0.96	1.00	0.99	0.98	0.99	0.99	0.96	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Majalengka	3210	0.99	0.95	1.00	0.98	1.00	1.00	1.00	0.97	0.97	0.97	0.98	0.98	0.98	0.98	0.98	0.97
Sumedang	3211	0.99	0.94	1.00	0.98	1.00	1.00	1.00	0.94	0.92	0.93	0.97	0.97	0.97	0.97	0.96	0.96
Indramayu	3212	1.00	0.92	1.00	0.97	0.98	0.99	0.98	0.94	0.91	0.93	0.97	0.96	0.96	0.97	0.96	0.95
Subang	3213	0.98	0.85	1.00	0.94	1.00	1.00	1.00	0.98	0.98	0.98	0.96	0.97	0.97	0.97	0.96	0.95
Purwakarta	3214	0.97	0.85	0.98	0.94	1.00	0.98	0.99	0.95	0.96	0.96	0.95	0.96	0.96	0.96	0.95	0.94
Karawang	3215	0.99	0.97	1.00	0.99	1.00	1.00	1.00	1.00	0.99	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Bekasi	3216	0.98	0.93	1.00	0.97	1.00	0.99	1.00	0.92	0.98	0.95	0.97	0.97	0.97	0.97	0.97	0.96
Bandung Barat	3217	0.97	0.78	1.00	0.92	1.00	0.99	1.00	0.81	0.95	0.88	0.92	0.93	0.93	0.93	0.92	0.90
Bogor	3271	1.00	0.99	1.00	1.00	1.00	0.91	0.95	1.00	1.00	1.00	0.99	0.98	0.99	0.98	1.00	1.00
Sukabumi	3272	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00
Bandung	3273	1.00	1.00	1.00	1.00	1.00	0.94	0.97	0.89	1.00	0.94	0.98	0.97	0.98	0.98	0.98	0.99
Cirebon	3274	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bekasi	3275	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Depok	3276	1.00	0.99	1.00	1.00	1.00	0.99	0.99	0.97	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99
Cimahi	3277	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.97	0.99	0.99	0.99	0.99	0.99	0.99
Tasikmalaya	3278	1.00	0.94	1.00	0.98	1.00	1.00	1.00	0.90	0.96	0.93	0.97	0.97	0.97	0.97	0.97	0.96
Banjar	3279	1.00	1.00	1.00	1.00	0.90	1.00	0.95	1.00	1.00	1.00	0.99	0.98	0.99	0.99	1.00	1.00
Jawa Tengah		0.98	0.95	1.00	0.98	0.99	0.99	0.99	0.98	0.95	0.96	0.98	0.98	0.98	0.98	0.97	0.97
Cilacap	3301	0.97	0.87	1.00	0.94	1.00	1.00	1.00	1.00	0.97	0.99	0.96	0.98	0.97	0.97	0.97	0.95
Banyumas	3302	0.98	0.98	1.00	0.99	1.00	0.99	0.99	0.92	0.97	0.95	0.98	0.98	0.98	0.98	0.98	0.98
Purbalingga	3303	0.99	0.93	1.00	0.97	0.95	1.00	0.98	1.00	0.97	0.99	0.98	0.98	0.98	0.98	0.98	0.97
Banjarnegara	3304	0.98	0.94	1.00	0.97	1.00	1.00	1.00	0.91	0.97	0.94	0.97	0.97	0.97	0.97	0.97	0.96
Kebumen	3305	0.96	0.94	0.98	0.96	1.00	0.99	0.99	0.97	0.95	0.96	0.97	0.97	0.97	0.97	0.97	0.96
Purworejo	3306	0.96	0.90	1.00	0.95	1.00	0.89	0.95	0.96	0.94	0.95	0.95	0.95	0.95	0.95	0.96	0.95
Wonosobo	3307	0.96	0.81	0.98	0.92	1.00	1.00	1.00	1.00	0.92	0.96	0.94	0.96	0.95	0.95	0.94	0.92
Magelang	3308	0.99	0.99	1.00	0.99	0.97	0.99	0.98	1.00	0.97	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Boyolali	3309	0.97	0.91	0.99	0.96	1.00	0.99	0.99	0.97	0.94	0.95	0.96	0.97	0.97	0.97	0.96	0.95
Klaten	3310	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.94	0.95	0.99	0.98	0.99	0.99	0.98	0.98
Sukoharjo	3311	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.97	0.98	0.99	0.99	0.99	0.99	0.99	0.98
Wonogiri	3312	1.00	0.94	0.99	0.98	0.97	1.00	0.99	0.94	0.90	0.92	0.97	0.96	0.96	0.96	0.95	0.95
Karanganyar	3313	0.99	0.97	0.99	0.98	1.00	1.00	1.00	1.00	0.95	0.98	0.98	0.99	0.99	0.99	0.98	0.98
Sragen	3314	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.97	0.99	0.99	0.99	0.99	0.99	0.99	0.99

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Grobogan	3315	0.97	0.92	1.00	0.96	1.00	1.00	1.00	1.00	0.91	0.96	0.97	0.97	0.97	0.97	0.97	0.95
Blora	3316	0.97	0.89	0.99	0.95	1.00	0.98	0.99	0.96	1.00	0.98	0.96	0.97	0.97	0.97	0.97	0.96
Rembang	3317	0.98	0.93	0.97	0.96	1.00	0.96	0.98	0.94	0.99	0.96	0.96	0.97	0.97	0.97	0.96	0.96
Pati	3318	0.99	0.98	1.00	0.99	1.00	1.00	1.00	0.97	0.96	0.96	0.99	0.98	0.98	0.98	0.98	0.98
Kudus	3319	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Jepara	3320	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.91	0.95	0.99	0.98	0.98	0.98	0.98	0.97
Demak	3321	0.97	0.92	1.00	0.96	1.00	1.00	1.00	1.00	0.87	0.93	0.97	0.97	0.97	0.97	0.96	0.94
Semarang	3322	1.00	0.97	1.00	0.99	1.00	1.00	1.00	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Temanggung	3323	0.98	0.93	1.00	0.97	0.91	0.99	0.95	1.00	0.98	0.99	0.97	0.97	0.97	0.97	0.98	0.97
Kendal	3324	0.98	0.90	1.00	0.96	0.97	0.99	0.98	1.00	0.95	0.97	0.97	0.97	0.97	0.97	0.97	0.96
Batang	3325	0.99	0.97	1.00	0.99	1.00	1.00	1.00	1.00	0.93	0.97	0.98	0.98	0.98	0.98	0.98	0.97
Pekalongan	3326	0.96	0.91	1.00	0.96	1.00	0.99	0.99	0.96	0.94	0.95	0.96	0.97	0.97	0.97	0.96	0.95
Pemalang	3327	0.99	0.94	1.00	0.98	1.00	0.99	1.00	1.00	0.95	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Tegal	3328	0.99	0.98	1.00	0.99	0.93	1.00	0.96	0.93	0.95	0.94	0.97	0.96	0.97	0.97	0.97	0.97
Brebes	3329	0.98	0.92	1.00	0.97	0.97	1.00	0.99	1.00	0.86	0.93	0.96	0.96	0.96	0.96	0.96	0.94
Magelang	3371	1.00	0.97	1.00	0.99	1.00	0.95	0.98	1.00	0.94	0.97	0.98	0.98	0.98	0.98	0.98	0.98
Surakarta	3372	1.00	1.00	1.00	1.00	1.00	0.91	0.95	1.00	1.00	1.00	0.99	0.98	0.99	0.99	1.00	1.00
Salatiga	3373	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Semarang	3374	1.00	0.99	1.00	1.00	1.00	0.87	0.93	0.97	1.00	0.99	0.98	0.97	0.98	0.98	0.99	0.99
Pekalongan	3375	1.00	1.00	1.00	1.00	1.00	0.95	0.98	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00
Tegal	3376	1.00	1.00	1.00	1.00	0.86	1.00	0.93	1.00	1.00	1.00	0.99	0.98	0.98	0.98	1.00	1.00
DI Yogyakarta		1.00	0.99	1.00	1.00	1.00	0.97	0.99	0.96	0.98	0.97	0.99	0.98	0.99	0.99	0.99	0.99
Kulon Progo	3401	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.98	0.92	0.98	0.97	0.98	0.98	0.97	0.98
Bantul	3402	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.99	0.98	1.00	0.99	0.99	0.99	0.99	0.99
Gunung Kidul	3403	1.00	0.97	0.99	0.99	1.00	0.98	0.99	1.00	0.95	0.98	0.99	0.99	0.99	0.99	0.98	0.98
Sleman	3404	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yogyakarta	3471	1.00	1.00	1.00	1.00	1.00	0.78	0.89	0.94	1.00	0.97	0.97	0.95	0.96	0.96	0.99	0.99
Jawa Timur		0.99	0.93	1.00	0.97	0.98	1.00	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
Pacitan	3501	0.97	0.77	1.00	0.91	1.00	0.98	0.99	1.00	0.99	1.00	0.95	0.97	0.96	0.96	0.96	0.93
Ponorogo	3502	0.99	0.96	1.00	0.99	1.00	0.99	1.00	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.98
Trenggalek	3503	0.97	0.78	0.99	0.92	1.00	1.00	1.00	1.00	0.97	0.99	0.95	0.97	0.96	0.96	0.95	0.93
Tulungagung	3504	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Blitar	3505	1.00	0.96	1.00	0.99	0.92	1.00	0.96	0.96	0.99	0.97	0.98	0.97	0.97	0.98	0.98	0.98
Kediri	3506	1.00	0.99	1.00	0.99	1.00	1.00	1.00	0.89	0.97	0.93	0.98	0.97	0.98	0.98	0.97	0.98
Malang	3507	0.99	0.94	1.00	0.98	0.95	0.99	0.97	1.00	0.97	0.99	0.98	0.98	0.98	0.98	0.98	0.97

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Lumajang	3508	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Jember	3509	1.00	0.99	1.00	1.00	0.98	1.00	0.99	0.98	0.96	0.97	0.99	0.99	0.99	0.99	0.99	0.98
Banyuwangi	3510	1.00	0.94	1.00	0.98	1.00	1.00	1.00	1.00	0.96	0.98	0.98	0.99	0.98	0.99	0.98	0.97
Bondowoso	3511	0.99	0.94	0.97	0.97	0.92	1.00	0.96	1.00	0.99	0.99	0.97	0.97	0.97	0.97	0.97	0.97
Situbondo	3512	0.98	0.93	1.00	0.97	1.00	1.00	1.00	1.00	0.98	0.99	0.98	0.99	0.98	0.98	0.98	0.97
Probolinggo	3513	0.98	0.94	1.00	0.97	0.91	0.98	0.94	0.94	0.99	0.96	0.97	0.96	0.96	0.96	0.98	0.97
Pasuruan	3514	0.99	0.95	1.00	0.98	1.00	1.00	1.00	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.98
Sidoarjo	3515	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mojokerto	3516	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Jombang	3517	1.00	0.98	1.00	0.99	0.97	0.99	0.98	0.97	0.98	0.98	0.99	0.98	0.98	0.99	0.99	0.99
Nganjuk	3518	1.00	0.97	1.00	0.99	1.00	1.00	1.00	0.95	0.99	0.97	0.99	0.99	0.99	0.99	0.99	0.98
Madiun	3519	1.00	0.97	1.00	0.99	1.00	1.00	1.00	0.92	0.98	0.95	0.98	0.98	0.98	0.98	0.98	0.98
Magetan	3520	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Ngawi	3521	1.00	0.97	1.00	0.99	0.96	1.00	0.98	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Bojonegoro	3522	0.99	0.92	1.00	0.97	1.00	1.00	1.00	1.00	0.98	0.99	0.98	0.99	0.98	0.98	0.98	0.97
Tuban	3523	1.00	0.98	1.00	0.99	0.88	0.99	0.93	0.97	0.99	0.98	0.98	0.97	0.97	0.97	0.99	0.99
Lamongan	3524	0.98	0.90	0.99	0.96	0.97	1.00	0.98	1.00	0.99	0.99	0.97	0.98	0.98	0.98	0.98	0.96
Gresik	3525	1.00	0.85	1.00	0.95	0.97	0.99	0.98	0.97	1.00	0.98	0.96	0.97	0.97	0.97	0.97	0.95
Bangkalan	3526	0.96	0.76	0.99	0.91	0.95	0.99	0.97	0.91	0.96	0.93	0.93	0.94	0.93	0.94	0.93	0.91
Sampang	3527	0.90	0.59	0.99	0.83	0.95	0.99	0.97	0.95	0.98	0.97	0.88	0.92	0.91	0.91	0.91	0.87
Pamekasan	3528	0.96	0.84	1.00	0.93	0.95	0.99	0.97	0.95	0.99	0.97	0.95	0.96	0.95	0.96	0.96	0.95
Sumenep	3529	0.95	0.58	0.98	0.84	1.00	1.00	1.00	0.97	0.92	0.94	0.89	0.93	0.91	0.91	0.90	0.85
Kediri	3571	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.98	0.99	1.00	1.00	1.00	1.00	1.00	0.99
Blitar	3572	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Malang	3573	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Probolinggo	3574	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pasuruan	3575	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mojokerto	3576	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.99	1.00	1.00	1.00	1.00	0.99	0.99
Madiun	3577	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Surabaya	3578	1.00	1.00	1.00	1.00	0.98	1.00	0.99	0.96	0.99	0.98	0.99	0.99	0.99	0.99	0.99	0.99
Batu	3579	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Banten		0.98	0.88	0.98	0.95	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.96	0.95
Pandeglang	3601	0.90	0.55	0.94	0.79	0.92	0.91	0.91	0.94	0.98	0.96	0.85	0.89	0.88	0.88	0.88	0.84
Lebak	3602	0.92	0.64	0.93	0.83	1.00	0.90	0.95	0.93	0.99	0.96	0.88	0.91	0.90	0.90	0.89	0.86
Tangerang	3603	0.99	0.95	1.00	0.98	0.98	0.99	0.98	0.98	0.94	0.96	0.98	0.97	0.98	0.98	0.98	0.97

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Serang	3604	0.98	0.90	1.00	0.96	0.97	0.95	0.96	1.00	0.94	0.97	0.96	0.96	0.96	0.96	0.97	0.95
Tangerang	3671	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cilegon	3672	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	0.92	0.96	0.98	0.97	0.97	0.97	0.98	0.98
Serang	3673	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00
Tangerang Selatan	3674	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bali		1.00	0.98	1.00	0.99	0.99	0.99	0.99	0.97	0.96	0.97	0.99	0.98	0.99	0.99	0.99	0.98
Jembrana	5101	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Tabanan	5102	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.95	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99
Badung	5103	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Gianyar	5104	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Klungkung	5105	1.00	0.76	1.00	0.92	1.00	1.00	1.00	1.00	0.92	0.96	0.94	0.96	0.95	0.95	0.94	0.91
Bangli	5106	1.00	1.00	1.00	1.00	1.00	0.96	0.98	0.91	0.95	0.93	0.98	0.97	0.98	0.98	0.98	0.98
Karang Asem	5107	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.92	0.98	0.97	0.98	0.98	0.97	0.96
Buleleng	5108	1.00	0.96	1.00	0.98	1.00	0.97	0.98	0.95	0.98	0.97	0.98	0.98	0.98	0.98	0.98	0.98
Denpasar	5171	1.00	1.00	1.00	1.00	0.91	0.99	0.95	1.00	1.00	1.00	0.99	0.98	0.99	0.99	1.00	1.00
Nusa Tenggara Barat		0.99	0.80	0.97	0.92	0.97	0.92	0.95	0.97	0.92	0.94	0.93	0.94	0.94	0.94	0.93	0.91
Lombok Barat	5201	1.00	0.91	0.99	0.96	1.00	0.90	0.95	0.93	0.92	0.93	0.95	0.95	0.95	0.95	0.95	0.94
Lombok Tengah	5202	0.99	0.77	0.97	0.91	1.00	0.95	0.97	1.00	0.94	0.97	0.94	0.95	0.95	0.95	0.93	0.91
Lombok Timur	5203	0.99	0.92	0.98	0.97	1.00	0.84	0.92	1.00	0.97	0.98	0.96	0.96	0.96	0.96	0.97	0.96
Sumbawa	5204	0.98	0.69	0.93	0.87	0.88	0.96	0.92	0.92	0.91	0.91	0.89	0.90	0.89	0.90	0.88	0.85
Dompu	5205	0.97	0.70	0.95	0.87	1.00	0.97	0.98	0.89	0.84	0.87	0.89	0.91	0.90	0.91	0.88	0.85
Bima	5206	0.99	0.59	0.94	0.84	0.95	0.98	0.97	1.00	0.87	0.93	0.88	0.91	0.90	0.90	0.88	0.83
Sumbawa Barat	5207	0.98	0.28	0.95	0.74	1.00	0.97	0.98	0.89	0.93	0.91	0.82	0.88	0.86	0.86	0.83	0.75
Lombok Utara	5208	0.97	0.57	1.00	0.85	1.00	0.99	0.99	1.00	0.98	0.99	0.91	0.94	0.93	0.93	0.92	0.87
Mataram	5271	1.00	0.98	1.00	0.99	1.00	0.95	0.97	1.00	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Bima	5272	1.00	0.91	0.95	0.95	1.00	1.00	1.00	1.00	0.98	0.99	0.97	0.98	0.98	0.98	0.96	0.95
Nusa Tenggara Timur		0.91	0.53	0.88	0.77	0.80	0.79	0.80	0.83	0.59	0.71	0.76	0.76	0.76	0.76	0.75	0.71
Sumba Barat	5301	0.87	0.61	0.92	0.80	1.00	0.75	0.87	1.00	0.52	0.76	0.81	0.81	0.81	0.81	0.80	0.74
Sumba Timur	5302	0.91	0.43	0.85	0.73	0.80	0.82	0.81	0.85	0.57	0.71	0.74	0.75	0.75	0.75	0.73	0.67
Kupang	5303	0.96	0.47	0.77	0.73	0.70	0.83	0.76	0.78	0.46	0.62	0.72	0.70	0.71	0.71	0.66	0.61
Timor Tengah Selatan	5304	0.81	0.33	0.84	0.66	0.67	0.70	0.68	0.74	0.47	0.60	0.65	0.65	0.65	0.66	0.66	0.60
Timor Tengah Utara	5305	0.93	0.73	0.98	0.88	0.52	0.89	0.71	0.80	0.66	0.73	0.82	0.77	0.79	0.80	0.84	0.81
Belu	5306	0.91	0.56	0.94	0.80	0.48	0.89	0.69	0.78	0.54	0.66	0.75	0.72	0.73	0.74	0.77	0.72
Alor	5307	0.83	0.46	0.77	0.69	0.73	0.65	0.69	0.82	0.43	0.62	0.67	0.67	0.67	0.67	0.66	0.61
Lembata	5308	0.92	0.74	0.91	0.86	1.00	0.82	0.91	0.89	0.77	0.83	0.86	0.87	0.86	0.86	0.85	0.83

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Flores Timur	5309	0.96	0.52	0.98	0.82	0.89	0.68	0.79	0.79	0.69	0.74	0.80	0.78	0.79	0.79	0.81	0.76
Sikka	5310	0.94	0.72	0.96	0.87	0.95	0.98	0.97	0.86	0.68	0.77	0.87	0.87	0.87	0.88	0.85	0.82
Ende	5311	0.87	0.62	0.90	0.80	0.96	0.65	0.81	1.00	0.46	0.73	0.79	0.78	0.78	0.78	0.78	0.72
Ngada	5312	0.94	0.80	0.95	0.90	0.80	0.77	0.78	0.80	0.77	0.79	0.85	0.82	0.83	0.84	0.86	0.85
Manggarai	5313	0.93	0.62	0.87	0.80	1.00	0.86	0.93	0.82	0.58	0.70	0.81	0.81	0.81	0.81	0.76	0.72
Rote Ndao	5314	0.94	0.31	0.67	0.64	0.92	0.69	0.80	0.92	0.89	0.90	0.72	0.78	0.76	0.76	0.70	0.65
Manggarai Barat	5315	0.78	0.19	0.69	0.55	0.83	0.77	0.80	0.83	0.48	0.66	0.62	0.67	0.65	0.65	0.59	0.51
Sumba Tengah	5316	0.94	0.30	0.95	0.73	0.83	0.66	0.75	0.67	0.60	0.63	0.71	0.70	0.71	0.72	0.72	0.65
Sumba Barat Daya	5317	0.92	0.38	0.89	0.73	0.80	0.86	0.83	0.60	0.51	0.56	0.72	0.71	0.71	0.72	0.68	0.63
Nagekeo	5318	0.97	0.48	0.95	0.80	1.00	0.79	0.89	1.00	0.85	0.93	0.84	0.87	0.86	0.86	0.86	0.80
Manggarai Timur	5319	0.86	0.32	0.82	0.67	0.90	0.59	0.75	0.85	0.47	0.66	0.68	0.69	0.69	0.69	0.67	0.60
Sabu Raijua	5320	0.89	0.29	0.82	0.67	0.83	0.57	0.70	0.67	0.30	0.48	0.64	0.62	0.63	0.63	0.60	0.53
Kupang	5371	1.00	1.00	1.00	1.00	1.00	0.97	0.99	0.90	0.98	0.94	0.99	0.98	0.98	0.98	0.98	0.98
Kalimantan Barat		0.92	0.58	0.90	0.80	0.83	0.87	0.85	0.87	0.67	0.77	0.80	0.81	0.81	0.81	0.79	0.75
Sambas	6101	0.98	0.53	0.97	0.83	0.89	0.96	0.93	0.96	0.89	0.93	0.87	0.89	0.88	0.89	0.88	0.83
Bengkayang	6102	0.91	0.71	0.89	0.84	0.53	0.86	0.70	0.71	0.56	0.63	0.77	0.72	0.74	0.75	0.77	0.74
Landak	6103	0.93	0.54	0.92	0.79	0.81	0.84	0.83	0.81	0.47	0.64	0.77	0.75	0.76	0.77	0.75	0.69
Pontianak	6104	0.99	0.81	0.99	0.93	0.86	0.98	0.92	0.71	0.87	0.79	0.90	0.88	0.89	0.90	0.89	0.88
Sanggau	6105	0.92	0.50	0.86	0.76	1.00	1.00	1.00	0.94	0.57	0.76	0.81	0.84	0.83	0.83	0.76	0.70
Ketapang	6106	0.88	0.37	0.82	0.69	0.77	0.77	0.77	0.81	0.73	0.77	0.72	0.74	0.74	0.74	0.73	0.67
Sintang	6107	0.78	0.34	0.84	0.65	0.81	0.61	0.71	0.76	0.63	0.69	0.67	0.68	0.68	0.68	0.70	0.63
Kapuas Hulu	6108	0.82	0.36	0.77	0.65	0.74	0.70	0.72	1.00	0.56	0.78	0.69	0.72	0.71	0.70	0.70	0.63
Sekadau	6109	0.93	0.39	0.90	0.74	0.92	0.82	0.87	0.83	0.59	0.71	0.76	0.77	0.77	0.77	0.74	0.67
Melawi	6110	0.72	0.30	0.68	0.57	1.00	0.58	0.79	0.70	0.58	0.64	0.63	0.67	0.65	0.65	0.60	0.55
Kayong Utara	6111	0.92	0.43	0.94	0.77	0.86	0.93	0.89	0.86	0.76	0.81	0.80	0.82	0.81	0.82	0.80	0.74
Kubu Raya	6112	0.96	0.59	0.91	0.82	0.80	0.99	0.89	0.90	0.80	0.85	0.84	0.85	0.85	0.85	0.83	0.79
Pontianak	6171	1.00	1.00	1.00	1.00	0.91	0.98	0.95	1.00	0.97	0.99	0.99	0.98	0.98	0.98	0.99	0.99
Singkawang	6172	1.00	1.00	1.00	1.00	1.00	0.92	0.96	1.00	0.64	0.82	0.96	0.93	0.94	0.94	0.93	0.91
Kalimantan Tengah		0.96	0.64	0.89	0.83	0.86	0.86	0.86	0.88	0.73	0.80	0.83	0.83	0.83	0.83	0.82	0.78
Kotawaringin Barat	6201	0.98	0.74	0.96	0.90	1.00	0.97	0.99	0.93	0.91	0.92	0.92	0.93	0.93	0.93	0.91	0.88
Kotawaringin Timur	6202	0.96	0.69	0.90	0.85	0.85	0.81	0.83	1.00	0.77	0.88	0.85	0.85	0.85	0.85	0.86	0.82
Kapuas	6203	0.91	0.58	0.85	0.78	0.83	0.84	0.83	0.74	0.76	0.75	0.79	0.79	0.79	0.79	0.77	0.74
Barito Selatan	6204	0.97	0.69	0.92	0.86	0.80	0.90	0.85	0.80	0.60	0.70	0.83	0.80	0.81	0.82	0.80	0.77
Barito Utara	6205	0.99	0.56	0.87	0.81	0.67	0.96	0.81	1.00	0.76	0.88	0.82	0.83	0.83	0.83	0.82	0.77
Sukamara	6206	1.00	0.60	0.97	0.86	1.00	0.89	0.95	1.00	0.80	0.90	0.88	0.90	0.90	0.90	0.88	0.83

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Lamandau	6207	1.00	0.63	0.92	0.85	0.89	0.87	0.88	0.78	0.79	0.78	0.84	0.84	0.84	0.84	0.82	0.79
Seruyan	6208	0.95	0.71	0.90	0.85	0.91	0.73	0.82	0.73	0.71	0.72	0.82	0.80	0.80	0.81	0.80	0.78
Katingan	6209	0.98	0.30	0.87	0.71	0.80	0.83	0.81	0.80	0.67	0.74	0.74	0.75	0.75	0.76	0.72	0.65
Pulang Pisau	6210	0.93	0.32	0.87	0.71	0.82	0.87	0.84	0.91	0.84	0.87	0.77	0.81	0.79	0.80	0.78	0.71
Gunung Mas	6211	0.87	0.50	0.75	0.71	0.92	0.74	0.83	0.92	0.53	0.73	0.74	0.75	0.75	0.74	0.69	0.64
Barito Timur	6212	0.99	0.85	0.94	0.93	1.00	0.82	0.91	0.91	0.63	0.77	0.89	0.87	0.88	0.88	0.86	0.84
Murung raya	6213	0.97	0.50	0.68	0.72	0.75	0.81	0.78	0.83	0.57	0.70	0.73	0.73	0.73	0.73	0.66	0.62
Palangka Raya	6271	1.00	0.99	1.00	0.99	0.90	0.99	0.95	1.00	0.90	0.95	0.98	0.96	0.97	0.97	0.98	0.97
Kalimantan Selatan		0.97	0.81	0.97	0.92	0.98	0.92	0.95	0.87	0.91	0.89	0.92	0.92	0.92	0.92	0.91	0.90
Tanah Laut	6301	1.00	0.71	0.99	0.90	1.00	0.99	1.00	1.00	0.95	0.97	0.93	0.96	0.95	0.95	0.94	0.90
Kota Baru	6302	0.94	0.45	0.92	0.77	1.00	0.79	0.89	0.77	0.80	0.78	0.80	0.82	0.81	0.81	0.79	0.74
Banjar	6303	0.95	0.83	0.96	0.91	1.00	0.90	0.95	0.96	0.85	0.90	0.92	0.92	0.92	0.92	0.91	0.90
Barito Kuala	6304	0.96	0.57	0.96	0.83	1.00	0.92	0.96	0.84	0.92	0.88	0.87	0.89	0.88	0.89	0.87	0.83
Tapin	6305	0.91	0.87	0.93	0.90	1.00	0.94	0.97	0.54	0.90	0.72	0.88	0.86	0.87	0.88	0.85	0.86
Hulu Sungai Selatan	6306	0.99	0.92	0.98	0.96	1.00	0.95	0.98	0.85	0.89	0.87	0.95	0.94	0.94	0.94	0.93	0.93
Hulu Sungai Tengah	6307	0.99	0.96	0.99	0.98	0.74	0.96	0.85	0.79	0.94	0.87	0.93	0.90	0.91	0.92	0.95	0.95
Hulu Sungai Utara	6308	0.99	0.78	0.98	0.92	1.00	0.72	0.86	0.92	0.97	0.94	0.91	0.91	0.91	0.91	0.93	0.91
Tabalong	6309	0.97	0.76	0.99	0.91	1.00	0.95	0.98	0.87	0.92	0.89	0.92	0.93	0.93	0.93	0.92	0.90
Tanah Bumbu	6310	0.92	0.71	0.95	0.86	1.00	0.86	0.93	0.86	0.85	0.86	0.87	0.88	0.88	0.88	0.87	0.85
Balangan	6311	0.95	0.83	0.98	0.92	1.00	0.77	0.89	0.91	0.97	0.94	0.92	0.92	0.92	0.92	0.94	0.93
Banjarmasin	6371	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.99	1.00	1.00	1.00	1.00	1.00	0.99
Banjar Baru	6372	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.92	0.90	0.98	0.97	0.97	0.97	0.96	0.97
Kalimantan Timur		0.98	0.80	0.94	0.90	0.96	0.90	0.93	0.95	0.83	0.89	0.91	0.91	0.91	0.91	0.89	0.87
Paser	6401	0.94	0.66	0.91	0.84	1.00	0.91	0.95	0.88	0.83	0.86	0.87	0.88	0.88	0.88	0.85	0.82
Kutai Barat	6402	0.94	0.52	0.77	0.74	0.83	0.55	0.69	0.88	0.66	0.77	0.74	0.73	0.74	0.73	0.73	0.69
Kutai Kartanegara	6403	0.98	0.70	0.90	0.86	1.00	0.91	0.95	1.00	0.90	0.95	0.90	0.92	0.91	0.91	0.89	0.85
Kutai Timur	6404	0.95	0.45	0.84	0.74	0.95	0.72	0.83	0.89	0.87	0.88	0.79	0.82	0.81	0.81	0.79	0.74
Berau	6405	1.00	0.67	0.87	0.84	1.00	0.95	0.98	0.94	0.81	0.88	0.88	0.90	0.89	0.89	0.84	0.80
Malinau	6406	0.93	0.64	0.80	0.79	0.77	0.64	0.70	1.00	0.81	0.91	0.80	0.80	0.80	0.79	0.81	0.78
Bulungan	6407	0.99	0.65	0.97	0.87	1.00	0.92	0.96	1.00	0.72	0.86	0.89	0.90	0.89	0.89	0.87	0.82
Nunukan	6408	0.93	0.48	0.86	0.75	1.00	0.61	0.81	0.92	0.70	0.81	0.78	0.79	0.78	0.78	0.77	0.72
Penajam Paser Utara	6409	1.00	0.99	0.99	1.00	1.00	0.97	0.99	0.91	0.89	0.90	0.97	0.96	0.96	0.97	0.96	0.96
Tana Tidung	6410	1.00	0.00	0.76	0.59	1.00	0.89	0.94	0.67	0.90	0.78	0.70	0.77	0.75	0.75	0.65	0.57
Balikpapan	6471	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.99	1.00	1.00	1.00	1.00	1.00	0.99
Samarinda	6472	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.96	0.99	0.99	0.99	0.99	0.98	0.98

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Tarakan	6473	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bontang	6474	1.00	1.00	1.00	1.00	0.67	0.86	0.77	1.00	1.00	1.00	0.95	0.92	0.93	0.94	1.00	1.00
Sulawesi Utara		0.98	0.83	0.96	0.92	0.95	0.75	0.85	0.95	0.87	0.91	0.91	0.90	0.90	0.90	0.92	0.90
Bolaang Mongondow	7101	0.98	0.76	0.97	0.90	1.00	0.72	0.86	1.00	0.91	0.96	0.91	0.91	0.91	0.90	0.93	0.90
Minahasa	7102	0.98	0.94	0.98	0.97	1.00	0.70	0.85	1.00	0.85	0.93	0.94	0.91	0.92	0.92	0.95	0.94
Kepulauan Sangihe	7103	0.93	0.59	0.89	0.80	0.94	0.57	0.75	1.00	0.86	0.93	0.82	0.83	0.82	0.82	0.85	0.81
Kepulauan Talaud	7104	0.94	0.67	0.86	0.82	0.68	0.62	0.65	0.84	0.79	0.82	0.79	0.76	0.77	0.77	0.81	0.79
Minahasa Selatan	7105	0.99	0.91	1.00	0.97	1.00	0.73	0.87	1.00	0.85	0.93	0.94	0.92	0.93	0.92	0.95	0.94
Minahasa Utara	7106	0.97	0.81	0.95	0.91	1.00	0.84	0.92	0.90	0.82	0.86	0.90	0.89	0.90	0.90	0.89	0.87
Bolaang Mong. Utara	7107	0.98	0.54	0.98	0.83	1.00	0.70	0.85	0.88	0.89	0.88	0.84	0.85	0.85	0.85	0.87	0.82
Siau Tagulandang Biaro	7108	0.92	0.49	0.87	0.76	1.00	0.62	0.81	0.75	0.92	0.83	0.78	0.80	0.80	0.80	0.80	0.76
Minahasa Tenggara	7109	0.99	0.88	0.96	0.94	1.00	0.57	0.78	1.00	0.92	0.96	0.92	0.90	0.90	0.90	0.95	0.93
Bolaang Mong. Selatan	7110	0.96	0.28	0.91	0.72	0.80	0.64	0.72	1.00	0.95	0.98	0.77	0.80	0.79	0.79	0.83	0.75
Bolaang Mong. Timur	7111	0.98	0.66	0.96	0.87	1.00	0.56	0.78	1.00	0.97	0.98	0.87	0.88	0.88	0.87	0.92	0.88
Manado	7171	1.00	0.99	1.00	0.99	1.00	0.83	0.91	1.00	0.85	0.92	0.96	0.94	0.95	0.95	0.97	0.96
Bitung	7172	0.96	0.83	0.95	0.91	1.00	0.85	0.92	1.00	0.86	0.93	0.92	0.92	0.92	0.92	0.92	0.90
Tomohon	7173	1.00	1.00	1.00	1.00	1.00	0.96	0.98	1.00	0.93	0.96	0.99	0.98	0.98	0.98	0.98	0.98
Kotamobagu	7174	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	0.93	0.96	0.99	0.99	0.99	0.99	0.99	0.98
Sulawesi Tengah		0.96	0.66	0.92	0.85	0.81	0.86	0.83	0.91	0.73	0.82	0.84	0.83	0.84	0.84	0.84	0.80
Banggai Kepulauan	7201	0.90	0.27	0.77	0.65	0.80	0.55	0.68	0.87	0.56	0.71	0.67	0.68	0.67	0.67	0.66	0.59
Banggai	7202	0.99	0.74	0.98	0.90	0.71	0.81	0.76	0.86	0.64	0.75	0.84	0.80	0.82	0.83	0.85	0.82
Morowali	7203	0.95	0.56	0.84	0.78	0.65	0.84	0.74	0.88	0.63	0.76	0.77	0.76	0.76	0.77	0.76	0.72
Poso	7204	1.00	0.85	0.98	0.94	0.85	0.98	0.91	0.95	0.80	0.87	0.92	0.91	0.92	0.92	0.92	0.90
Donggala	7205	0.97	0.61	0.88	0.82	0.86	0.90	0.88	1.00	0.85	0.93	0.85	0.87	0.87	0.86	0.85	0.81
Toli-Toli	7206	0.98	0.68	0.96	0.87	0.86	0.90	0.88	0.79	0.63	0.71	0.84	0.82	0.83	0.84	0.82	0.79
Buol	7207	0.97	0.80	0.95	0.91	0.82	0.77	0.79	0.73	0.69	0.71	0.85	0.81	0.82	0.83	0.84	0.83
Parigi Moutong	7208	0.95	0.36	0.95	0.76	0.79	0.87	0.83	1.00	0.86	0.93	0.80	0.84	0.83	0.83	0.84	0.76
Tojo Una-Una	7209	0.88	0.60	0.72	0.73	0.69	0.69	0.69	1.00	0.72	0.86	0.75	0.76	0.76	0.75	0.75	0.71
Sigi	7210	0.94	0.82	0.94	0.90	0.93	0.89	0.91	0.93	0.81	0.87	0.90	0.89	0.90	0.90	0.89	0.87
Palu	7271	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.94	0.99	0.98	0.98	0.98	0.98	0.97

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Sulawesi Selatan		0.97	0.81	0.94	0.91	0.94	0.95	0.94	0.93	0.84	0.88	0.91	0.91	0.91	0.91	0.89	0.87
Selayar	7301	0.99	0.50	0.81	0.76	0.77	0.83	0.80	1.00	0.74	0.87	0.79	0.81	0.80	0.80	0.78	0.72
Bulukumba	7302	1.00	0.71	0.98	0.89	0.94	0.99	0.97	0.83	0.78	0.81	0.89	0.89	0.89	0.90	0.87	0.84
Bantaeng	7303	0.98	0.87	0.98	0.94	1.00	0.98	0.99	0.75	0.93	0.84	0.93	0.93	0.93	0.93	0.92	0.92
Jeneponto	7304	1.00	0.90	0.99	0.96	0.83	0.97	0.90	0.94	0.76	0.85	0.93	0.91	0.91	0.92	0.92	0.90
Takalar	7305	1.00	0.97	0.97	0.98	1.00	0.97	0.99	1.00	0.91	0.95	0.98	0.97	0.98	0.98	0.97	0.96
Gowa	7306	1.00	0.81	0.97	0.93	0.91	0.98	0.95	0.91	0.73	0.82	0.91	0.90	0.90	0.91	0.89	0.86
Sinjai	7307	1.00	0.76	0.92	0.89	0.80	1.00	0.90	0.93	0.73	0.83	0.88	0.88	0.88	0.88	0.86	0.83
Maros	7308	0.97	0.82	0.90	0.90	1.00	0.98	0.99	0.79	0.77	0.78	0.89	0.89	0.89	0.90	0.85	0.84
Pangkajene Dan Kep.	7309	0.95	0.70	0.86	0.83	0.95	0.98	0.97	1.00	0.93	0.97	0.89	0.92	0.91	0.91	0.87	0.84
Barru	7310	1.00	0.86	0.99	0.95	0.90	0.98	0.94	1.00	0.84	0.92	0.94	0.94	0.94	0.94	0.94	0.92
Bone	7311	0.96	0.67	0.90	0.84	0.83	0.86	0.85	0.92	0.72	0.82	0.84	0.84	0.84	0.84	0.83	0.79
Soppeng	7312	1.00	0.94	0.99	0.98	1.00	1.00	1.00	0.94	0.93	0.93	0.97	0.97	0.97	0.97	0.96	0.96
Wajo	7313	0.98	0.78	0.95	0.90	0.96	0.92	0.94	0.96	0.95	0.95	0.92	0.93	0.93	0.93	0.92	0.90
Sidenreng Rappang	7314	0.99	0.87	0.99	0.95	1.00	1.00	1.00	1.00	0.95	0.97	0.96	0.97	0.97	0.97	0.96	0.95
Pinrang	7315	0.97	0.88	0.95	0.93	1.00	0.99	0.99	1.00	0.93	0.96	0.95	0.96	0.96	0.96	0.94	0.93
Enrekang	7316	0.99	0.49	0.87	0.78	1.00	0.93	0.96	0.92	0.96	0.94	0.85	0.90	0.88	0.88	0.83	0.79
Luwu	7317	0.90	0.67	0.82	0.80	0.95	0.99	0.97	0.90	0.80	0.85	0.84	0.87	0.86	0.86	0.81	0.78
Tana Toraja	7318	0.83	0.58	0.80	0.74	0.84	0.85	0.85	0.89	0.73	0.81	0.77	0.80	0.79	0.79	0.76	0.73
Luwu Utara	7322	0.94	0.76	0.91	0.87	1.00	0.95	0.98	0.92	0.84	0.88	0.89	0.91	0.90	0.90	0.87	0.85
Luwu Timur	7325	1.00	0.78	0.95	0.91	1.00	0.99	1.00	1.00	0.83	0.91	0.93	0.94	0.94	0.94	0.91	0.88
Toraja Utara	7326	0.85	0.55	0.79	0.73	0.91	0.86	0.89	0.91	0.83	0.87	0.79	0.83	0.81	0.81	0.78	0.74
Makassar	7371	1.00	0.98	0.99	0.99	1.00	0.93	0.96	0.97	0.92	0.95	0.98	0.97	0.97	0.97	0.97	0.97
Pare-Pare	7372	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.96	0.99	0.99	0.99	0.99	0.98	0.98
Palopo	7373	0.99	0.97	0.99	0.98	1.00	0.97	0.99	0.90	0.89	0.89	0.97	0.95	0.96	0.96	0.95	0.95
Sulawesi Tenggara		0.96	0.62	0.94	0.84	0.79	0.80	0.79	0.86	0.59	0.72	0.81	0.79	0.79	0.80	0.80	0.76
Buton	7401	0.99	0.46	0.95	0.80	0.97	0.86	0.91	0.94	0.55	0.74	0.81	0.82	0.82	0.82	0.78	0.71
Muna	7402	0.96	0.59	0.90	0.81	0.59	0.79	0.69	0.71	0.59	0.65	0.76	0.72	0.73	0.74	0.75	0.72
Konawe	7403	0.93	0.68	0.92	0.85	0.80	0.62	0.71	0.80	0.62	0.71	0.79	0.75	0.77	0.77	0.80	0.77
Kolaka	7404	0.98	0.67	0.95	0.87	0.86	0.92	0.89	1.00	0.62	0.81	0.86	0.85	0.86	0.86	0.85	0.80
Konawe Selatan	7405	0.96	0.63	0.95	0.85	0.82	0.52	0.67	0.86	0.67	0.77	0.79	0.76	0.77	0.77	0.82	0.78
Bombana	7406	0.85	0.21	0.83	0.63	0.81	0.70	0.76	0.81	0.49	0.65	0.66	0.68	0.67	0.67	0.65	0.57
Wakatobi	7407	1.00	0.52	0.98	0.83	0.53	0.96	0.74	0.88	0.35	0.62	0.77	0.73	0.75	0.76	0.76	0.69
Kolaka Utara	7408	0.96	0.33	0.93	0.74	0.75	0.92	0.84	1.00	0.82	0.91	0.79	0.83	0.82	0.82	0.82	0.74
Buton Utara	7409	0.93	0.00	0.87	0.60	0.78	0.69	0.73	0.78	0.35	0.57	0.62	0.63	0.63	0.64	0.60	0.49

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Konawe Utara	7410	0.89	0.43	0.89	0.74	1.00	0.46	0.73	0.83	0.60	0.72	0.73	0.73	0.73	0.73	0.74	0.68
Kendari	7471	1.00	0.99	1.00	1.00	1.00	0.98	0.99	0.93	0.66	0.79	0.96	0.93	0.94	0.94	0.92	0.91
Bau-Bau	7472	1.00	1.00	1.00	1.00	0.69	0.97	0.83	0.81	0.60	0.71	0.91	0.85	0.87	0.88	0.89	0.89
Gorontalo		0.97	0.75	0.95	0.89	0.96	0.79	0.88	0.84	0.82	0.83	0.88	0.87	0.87	0.87	0.88	0.85
Boalemo	7501	0.99	0.50	0.94	0.81	1.00	0.80	0.90	0.90	0.79	0.85	0.83	0.85	0.85	0.85	0.83	0.77
Gorontalo	7502	0.97	0.78	0.93	0.89	1.00	0.85	0.92	0.90	0.83	0.87	0.89	0.89	0.89	0.89	0.88	0.86
Pohuwato	7503	0.97	0.72	0.97	0.88	0.94	0.71	0.82	0.69	0.78	0.73	0.84	0.81	0.82	0.83	0.84	0.82
Bone Bolango	7504	0.94	0.80	0.96	0.90	0.94	0.71	0.83	0.72	0.73	0.73	0.85	0.82	0.83	0.83	0.85	0.83
Gorontalo Utara	7505	0.98	0.56	0.96	0.83	0.92	0.51	0.72	1.00	0.83	0.92	0.83	0.82	0.82	0.82	0.87	0.82
Gorontalo	7571	1.00	1.00	1.00	1.00	1.00	0.95	0.98	1.00	0.97	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Sulawesi Barat		0.92	0.66	0.87	0.81	0.89	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.82	0.79	0.77
Majene	7601	0.97	0.93	0.96	0.96	0.78	0.94	0.86	1.00	0.83	0.92	0.93	0.91	0.92	0.92	0.94	0.93
Polewali Mandar	7602	0.91	0.81	0.87	0.86	0.95	0.94	0.95	0.80	0.80	0.80	0.87	0.87	0.87	0.87	0.83	0.83
Mamasa	7603	0.85	0.26	0.61	0.57	0.88	0.68	0.78	0.69	0.74	0.71	0.64	0.69	0.67	0.67	0.60	0.55
Mamuju	7604	0.90	0.58	0.91	0.80	0.86	0.90	0.88	0.72	0.67	0.69	0.79	0.79	0.79	0.80	0.78	0.74
Mamuju Utara	7605	0.99	0.51	0.92	0.81	1.00	0.93	0.96	0.64	0.76	0.70	0.82	0.82	0.82	0.83	0.78	0.74
Maluku		0.93	0.57	0.87	0.79	0.68	0.83	0.76	0.74	0.63	0.68	0.76	0.74	0.75	0.76	0.75	0.72
Maluku Tenggara Barat	8101	0.94	0.59	0.82	0.78	0.45	0.70	0.58	0.91	0.43	0.67	0.72	0.68	0.69	0.70	0.72	0.67
Maluku Tenggara	8102	0.96	0.52	0.86	0.78	0.69	0.89	0.79	0.69	0.44	0.56	0.74	0.71	0.72	0.73	0.70	0.65
Maluku Tengah	8103	0.97	0.59	0.93	0.83	0.78	0.93	0.86	0.72	0.74	0.73	0.82	0.81	0.81	0.82	0.80	0.77
Buru	8104	0.94	0.67	0.88	0.83	0.89	0.84	0.87	1.00	0.85	0.93	0.86	0.87	0.87	0.87	0.86	0.83
Kepulauan Aru	8105	0.87	0.46	0.78	0.70	0.70	0.59	0.65	0.45	0.47	0.46	0.64	0.60	0.62	0.63	0.61	0.58
Seram Bagian Barat	8106	0.97	0.27	0.96	0.73	0.50	0.93	0.71	0.88	0.66	0.77	0.74	0.74	0.74	0.75	0.77	0.68
Seram Bagian Timur	8107	0.83	0.14	0.66	0.54	0.36	0.51	0.43	0.64	0.57	0.61	0.53	0.53	0.53	0.54	0.56	0.49
Maluku Barat Daya	8108	0.68	0.04	0.50	0.40	0.78	0.58	0.68	0.67	0.35	0.51	0.48	0.53	0.51	0.51	0.42	0.35
Buru Selatan	8109	0.66	0.22	0.53	0.47	0.75	0.41	0.58	0.63	0.40	0.51	0.50	0.52	0.51	0.51	0.47	0.42
Ambon	8171	1.00	1.00	1.00	1.00	0.82	0.97	0.89	0.91	0.92	0.92	0.96	0.94	0.95	0.95	0.97	0.97
Tual	8172	0.99	0.82	0.94	0.91	0.60	0.91	0.76	0.80	0.46	0.63	0.83	0.77	0.79	0.80	0.80	0.78

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Maluku Utara		0.90	0.55	0.87	0.77	0.72	0.68	0.70	0.87	0.71	0.79	0.76	0.75	0.76	0.76	0.78	0.74
Halmahera Barat	8201	0.92	0.58	0.93	0.81	1.00	0.70	0.85	0.90	0.65	0.77	0.81	0.81	0.81	0.81	0.81	0.76
Halmahera Tengah	8202	1.00	0.21	0.78	0.66	0.88	0.92	0.90	1.00	0.79	0.89	0.76	0.82	0.80	0.80	0.73	0.64
Kepulauan Sula	8203	0.81	0.32	0.69	0.60	0.62	0.53	0.57	0.77	0.60	0.68	0.61	0.62	0.62	0.62	0.62	0.57
Halmahera Selatan	8204	0.81	0.42	0.89	0.71	0.30	0.51	0.40	0.83	0.51	0.67	0.64	0.59	0.61	0.62	0.72	0.66
Halmahera Utara	8205	0.92	0.73	0.86	0.84	1.00	0.68	0.84	0.82	0.75	0.79	0.83	0.82	0.82	0.82	0.81	0.79
Halmahera Timur	8206	0.88	0.09	0.81	0.60	0.86	0.67	0.77	1.00	0.75	0.87	0.69	0.74	0.72	0.72	0.71	0.61
Pulau Morotai	8207	0.82	0.32	0.67	0.60	1.00	0.62	0.81	0.80	0.85	0.82	0.69	0.75	0.73	0.72	0.67	0.63
Ternate	8271	0.99	0.95	0.99	0.98	1.00	0.79	0.90	0.88	0.95	0.91	0.95	0.93	0.93	0.93	0.96	0.96
Tidore Kepulauan	8272	1.00	0.64	1.00	0.88	0.71	0.87	0.79	0.86	0.94	0.90	0.87	0.86	0.86	0.87	0.90	0.87
Papua Barat		0.91	0.62	0.85	0.79	0.56	0.69	0.62	0.77	0.69	0.73	0.75	0.72	0.73	0.73	0.77	0.74
Fakfak	9101	0.95	0.73	0.87	0.85	0.89	0.79	0.84	0.89	0.62	0.75	0.83	0.81	0.82	0.82	0.80	0.77
Kaimana	9102	0.81	0.07	0.63	0.50	0.57	0.64	0.60	0.86	0.79	0.83	0.59	0.64	0.62	0.62	0.61	0.53
Teluk Wondama	9103	0.97	0.02	0.84	0.61	0.67	0.44	0.55	0.83	0.68	0.76	0.63	0.64	0.64	0.64	0.67	0.57
Teluk Bintuni	9104	0.90	0.19	0.79	0.63	0.61	0.65	0.63	0.83	0.65	0.74	0.65	0.67	0.66	0.66	0.67	0.59
Manokwari	9105	0.90	0.78	0.88	0.86	0.59	0.71	0.65	0.77	0.59	0.68	0.78	0.73	0.75	0.76	0.79	0.78
Sorong Selatan	9106	0.84	0.46	0.80	0.70	0.27	0.35	0.31	0.55	0.46	0.50	0.58	0.50	0.53	0.54	0.63	0.59
Sorong	9107	0.92	0.67	0.85	0.81	0.35	0.75	0.55	0.76	0.73	0.75	0.75	0.70	0.72	0.73	0.78	0.76
Raja Ampat	9108	0.83	0.25	0.66	0.58	0.50	0.45	0.48	0.72	0.79	0.76	0.60	0.61	0.60	0.60	0.64	0.58
Tambrauw	9109	0.55	0.00	0.51	0.35	0.50	0.28	0.39	0.75	0.63	0.69	0.43	0.48	0.46	0.45	0.49	0.41
Maybrat	9110	0.75	0.08	0.58	0.47	0.50	0.21	0.36	0.50	0.67	0.58	0.47	0.47	0.47	0.47	0.51	0.45
Sorong	9171	1.00	0.99	0.99	0.99	1.00	0.91	0.96	1.00	0.97	0.99	0.98	0.98	0.98	0.98	0.99	0.98
Papua		0.71	0.40	0.63	0.58	0.60	0.54	0.57	0.68	0.45	0.57	0.57	0.57	0.57	0.57	0.56	0.53
Merauke	9401	0.98	0.68	0.80	0.82	0.75	0.97	0.86	0.88	0.54	0.71	0.81	0.80	0.80	0.80	0.74	0.71
Jayawijaya	9402	0.72	0.44	0.73	0.63	1.00	0.43	0.72	0.83	0.17	0.50	0.62	0.62	0.62	0.61	0.58	0.52
Jayapura	9403	0.93	0.56	0.90	0.80	0.70	0.66	0.68	0.75	0.86	0.81	0.78	0.76	0.77	0.77	0.81	0.78
Nabire	9404	0.95	0.82	0.88	0.88	0.44	0.87	0.66	0.89	0.56	0.72	0.81	0.76	0.77	0.78	0.81	0.79
Kepulauan Yapen	9408	0.93	0.57	0.82	0.77	0.75	0.66	0.70	0.63	0.26	0.44	0.69	0.64	0.66	0.67	0.64	0.60
Biak Numfor	9409	0.92	0.71	0.87	0.83	0.59	0.75	0.67	0.76	0.82	0.79	0.79	0.76	0.77	0.78	0.82	0.80
Paniai	9410	0.37	0.22	0.44	0.34	0.40	0.29	0.34	0.50	0.18	0.34	0.34	0.34	0.34	0.34	0.36	0.32
Puncak Jaya	9411	0.29	0.14	0.27	0.23	0.38	0.23	0.30	0.38	0.20	0.29	0.26	0.28	0.27	0.27	0.25	0.23
Mimika	9412	0.91	0.85	0.89	0.88	0.54	0.77	0.65	0.92	0.53	0.73	0.81	0.75	0.77	0.78	0.81	0.79
Boven Digoel	9413	0.78	0.18	0.75	0.57	0.38	0.65	0.52	0.54	0.59	0.56	0.56	0.55	0.55	0.57	0.59	0.53
Mappi	9414	0.59	0.29	0.47	0.45	0.60	0.34	0.47	1.00	0.65	0.83	0.53	0.58	0.56	0.55	0.56	0.51
Asmat	9415	0.46	0.13	0.33	0.31	1.00	0.62	0.81	0.89	0.71	0.80	0.51	0.64	0.59	0.57	0.47	0.42

District	BPS Code	Physical Availability				Health Personnel			Building Characteristics			Composite Indices					
		Primary	Secondary	Delivery	SubIndex	GP Pusk.	Midwife	SubIndex	Water P.	Electricity	SubIndex	Access	Equal D.	Equal I.	PCA	OLS	CI
Yahukimo	9416	0.53	0.01	0.24	0.26	0.27	0.12	0.19	0.45	0.09	0.27	0.25	0.24	0.24	0.24	0.21	0.16
Pegunungan Bintang	9417	0.18	0.09	0.15	0.14	0.75	0.10	0.43	0.50	0.19	0.35	0.24	0.30	0.28	0.26	0.20	0.18
Tolikara	9418	0.48	0.21	0.41	0.37	0.44	0.18	0.31	0.22	0.19	0.21	0.32	0.30	0.31	0.31	0.30	0.28
Sarmi	9419	0.85	0.12	0.78	0.58	0.57	0.47	0.52	0.71	0.71	0.71	0.60	0.61	0.60	0.61	0.64	0.57
Keerom	9420	0.94	0.75	0.88	0.86	0.88	0.79	0.83	1.00	0.88	0.94	0.87	0.88	0.88	0.87	0.88	0.86
Waropen	9426	0.69	0.02	0.60	0.44	0.25	0.39	0.32	0.50	0.65	0.57	0.44	0.44	0.44	0.45	0.50	0.44
Supiori	9427	0.95	0.70	0.91	0.85	0.60	0.39	0.50	1.00	0.72	0.86	0.78	0.74	0.75	0.75	0.85	0.81
Mamberamo Raya	9428	0.59	0.00	0.30	0.30	0.50	0.20	0.35	0.75	0.20	0.47	0.34	0.37	0.36	0.35	0.31	0.24
Nduga	9429	0.90	0.00	0.51	0.47	0.50	0.21	0.36	0.63	0.22	0.42	0.44	0.42	0.42	0.43	0.39	0.31
Lanny Jaya	9430	0.50	0.01	0.39	0.30	0.40	0.53	0.47	0.30	0.24	0.27	0.33	0.35	0.34	0.35	0.29	0.24
Mamberamo Tengah	9431	0.54	0.00	0.66	0.40	1.00	0.71	0.86	0.60	0.07	0.34	0.48	0.53	0.51	0.51	0.41	0.32
Yalimo	9432	0.89	0.20	0.48	0.52	1.00	0.67	0.83	0.67	0.35	0.51	0.58	0.62	0.61	0.61	0.45	0.39
Puncak	9433	0.24	0.03	0.23	0.17	0.57	0.41	0.49	0.29	0.25	0.27	0.25	0.31	0.29	0.29	0.21	0.18
Dogiyai	9434	0.65	0.00	0.53	0.39	0.29	0.27	0.28	0.57	0.21	0.39	0.37	0.35	0.36	0.36	0.39	0.31
Intan Jaya	9435	0.20	0.00	0.19	0.13	0.60	0.18	0.39	0.40	0.33	0.37	0.23	0.30	0.27	0.26	0.22	0.19
Deiyai	9436	0.79	0.00	0.81	0.53	0.57	0.78	0.68	0.71	0.14	0.43	0.54	0.55	0.54	0.56	0.52	0.41
Jayapura	9471	1.00	1.00	1.00	1.00	0.92	0.85	0.89	1.00	0.86	0.93	0.96	0.94	0.95	0.95	0.97	0.97

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