SMERU RESEARCH REPORT

REVIEW OF PUBLIC EXPENDITURE FOR STUNTING PREVENTION AT REGIONAL LEVEL: THE FACTORS INFLUENCING STUNTING PREVALENCE VARIATION IN SIX *KABUPATEN/KOTA* IN INDONESIA

Rachma Indah Nurbani, Hastuti, Dyan Widyaningsih, Akhmad Ramadhan Fatah, Elza Elmira, Nina Toyamah, Laskar Rianto, Steve Christiantara

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Abstract

Review of Public Expenditure for Stunting Prevention at Regional Level: The Factors Influencing Stunting Prevalence Variation in Six *Kabupaten/Kota* in Indonesia

Rachma Indah Nurbani, Hastuti, Dyan Widyaningsih, Akhmad Ramadhan Fatah, Elza Elmira, Nina Toyamah, Laskar Rianto, Steve Christiantara

Indonesia is one among countries in the world with severe nutrititional status in the world with its stunting prevalence of around 31%. This is not directly proportional to the government's increased expenditure in their nutrition improvement attempt that it gives rise to a question on the effectiveness of the interventions they have made. Therefore, thanks to the support from the World Bank and Ministry of Finance of the Republic of Indonesia, The SMERU Research Institute conducted a study to analyze regional governments' expenditure in their attempt for stunting prevention in order to understand the factors which varied the stunting conditions at regional level. This study in November–December 2018 was conducted in six kabupaten/kota, they were Kabupaten Lampung Tengah, Kabupaten Brebes, and Kabupaten Sumba Tengah (high stunting regions); and Kabupaten Belitung, Kota Surakarta, and Kabupaten Klungkung (low stunting regions). This study used quantitative and qualitative approaches to analyze the pattern of regional government's stunting-related expenditures in 2015–2017 and explored the processes through which the five focus interventions were organized in 2017. This study found that regional government's budget/expenditure was not good enough to explain the stunting prevalence variation. Despite the many supporting factors, the regional governments also encountered many obstacles related to regional financial management, such as coordination with the central government and their capacity in planning, managing, implementing, and performing monev on the budget usage. Therefore, there is a need to take steps for improvement in all budgeting stages and its utilization, both by the central and regional governments, including by improving the information distribution management, improving the mechanism for determining budget allocation, promoting campaign on the intervention goods benefits.

Keywords: stunting, budget, intervention program

Table of Contents

List of Tables

List of Figures

List of Boxes

List of Abbreviations

APBD	Anggaran Pendapatan dan Belanja Daerah	Regional Government Budget
APBD-P	Anggaran Pendapatan dan Belanja Daerah Perubahan	Amended Regional Government Budget
APBDes	Anggaran Pendapatan dan Belanja Desa	Village Government Budget
APBN	Anggaran Pendapatan dan Belanja Nasional	State Budget
ASI	Air Susu Ibu	Breast Milk
ATK	Alat Tulis Kantor	Stationery
Baduta	Bawah dua tahun	Under two years of age
Balita	Bawah lima tahun	Under five years of age
Bappeda	Badan perencanaan pembangunan daerah	Regional development planning agency
Bappenas	Badan perencanaan pembangunan nasional	National development planning agency
BCG		*Bacille Calmette-Guerin*/vaccine for tuberculosis
BOK	Bantuan Operasional Kesehatan	Health Operational Aid
BOKB	Bantuan Operasional Keluarga Berencana	Family Planning Operational Aid
BOP	Bantuan Operasional Pendidikan	Education Operational Aid
BOP PAUD	Bantuan Operasional Penyelenggaraan Pendidikan Anak Usia Dini	Early Childhood Education Administration Operational Aid
BOS	Bantuan Operasional Sekolah	School Operational Aid
BPKAD	Badan Pengelolaan Keuangan dan Aset Daerah	Regional Financial and Asset Management Agency
BPS	Badan Pusat Statistik	Statistics Indonesia
Bumil	Ibu hamil	Pregnant mothers
CBR	angka kelahiran kasar	Crude Birth Rate
DAK	Dana Alokasi Khusus	Special Allocation Fund
DAU	Dana Alokasi Umum	General Allocation Fund

DBH	Dana Bagi Hasil	Profit-Sharing Fund
Dinkes	Dinas kesehatan	Health department
DPA	Dokumen Pelaksanaan Anggaran	Budget Implementation Document
DPR	Dewan Perwakilan Rakyat	House of Representatives
DPRD	Dewan Perwakilan Rakyat Daerah	Regional Legislative Council
DPT		Diphtheria, Pertussis, and Tetanus
E-PPGBM	Elektronik Pencatatan dan Pelaporan Gizi Berbasis Masyarakat	Electronic Community-Based Nutrition Recording and Reporting
E-renggar	Elektronik perencanaan dan penganggaran	Electronic planning and budgeting
FGD	diskusi kelompok terfokus	Focus Group Discussion
IDL	Imunisasi Dasar Lengkap	Complete Basic Immunization
IMD	Inisiasi Menyusui Dini	Early Initiation of Breastfeeding
IPV		Inactivated Polio Vaccine
IVA	Inspeksi visual dengan asam asetat	Visual inspection with acetic acid
IYCF		Infant and Young Child Feeding
Jampersal	Jaminan persalinan	Maternity coverage scheme
Juknis	Petunjuk teknis	Technical guidelines
KB	Keluarga Berencana	Family Planning
KEK	Kekurangan Energi Kronis	Chronic Energy Deficiency
Kemendagri	Kementerian dalam negeri	Ministry of home affairs
Kemenkes	Kementerian kesehatan	Ministry of health
Kemenkeu	Kementerian keuangan	Ministry of finance
MP-ASI	Makanan Pendamping Air Susu Ibu	Breast Milk Complementary Foods
Monev	Monitoring evaluasi	Monitoring and evaluation
OPD	Organisasi Perangkat Daerah	Regional Government Organization
PAD	Pendapatan Asli Daerah	Locally Generated Income
PAUD	Pendidikan Anak Usia Dini	Early Childhood Education
PEFA		Public Expenditure and Financial Accountability
Pemda	Pemerintah daerah	Regional/local government

Permenkes	Peraturan menteri kesehatan	Ministerial regulation of health
PKK	Pemberdayaan Kesejahteraan Keluarga	Family Welfare Empowerment
PMT	Pemberian Makanan Tambahan	Supplementary Meal Provision
PNS	Pegawai Negeri Sipil	Civil Servant
PNSD	Pegawai Negeri Sipil Daerah	Regional Civil Servant
P2P	Pencegahan dan Pengendalian Penyakit	Disease Prevention and Control
P3K2	Pendukung Program Prioritas Kabinet Kerja	Working Cabinet's Priority Program Supports
Polindes	Pondik bersalin desa	Village maternity clinic
Poskesdes	Pos kesehatan desa	Village health post
Posyandu	Pos pelayanan terpadu	Integrated health post
PSG	Pemantauan Status Gizi	Nutritional Status Monitoring
PUPR	Pekerjaan Umum dan Perumahan Rakyat	Public Works and People's Housing
Pusdatin	Pusat data dan informasi	Data and information center
Puskesmas	Pusat kesehatan masyarakat	Community health center
Pustu	Puskesmas pembantu	Community health sub-center
Rakor	Rapat koordinasi	Coordination meeting
Renstra	Rencana strategis	Strategic plan
Riskesdas	Riset kesehatan dasar	Basic health research
RKA	Rencana Kerja dan Anggaran	Work Plan and Budget
RKO	Rencana Kebutuhan Obat	Medicine Need Plan
RKP	Rencana Kerja Pemerintah	Government Work Plan
RKPD	Rencana Kerja Pemerintah Daerah	Regional Government Work Plan
RPJMD	Rencana Pembangunan Jangka Menengah Daerah	Regional Medium-Term Development Term
RPJMN	Rencana Pembangunan Jangka Menengah Nasional	National Medium-Term Development Term
SDM	Sumber Daya Manusia	Human Resources
Sekda	Sekretaris daerah	Regional secretary
SIKDA	Sistem Informasi Kesehatan Daerah	Regional Health Information System
SKPD	Satuan Kerja Perangkat Daerah	Regional Government Agency

SMK	Sekolah Menengah Kejuruan	Vocational High School
SPM	Standar Pelayanan Minimal	Minimum Service Standards
Stranas	Strategi nasional	National strategy
RUK	Rencana Usulan Kegiatan	Proposed Activity Plan
Tenakes	Tenaga kesehatan	Health personnel
TK	Taman Kanak-kanak	Kindergarten
TKDD	Transfer ke Daerah dan Dana Desa	Transfer to Region and Village Fund
TNP2K	Tim Nasional Percepatan Penanggulangan Kemiskinan	National Team for the Acceleration of Poverty Reduction
TPAD	Tim Penyusun Anggaran Daerah	Regional Budgeting Team
TPO	Tim Perencana Obat	Medicine Planning Team
TTD	Tablet Tambah Darah	Blood Supplement Tablet
UKM	Usaha Kecil Menengah	Medium and Small Enterprises
WA		WhatsApp
WHO		World Health Organization

Executive Summary

Introduction

Indonesia is one among countries in the world with severe nutritional status since its stunting prevalence in children under five years of age is around 31%. Therefore, investment in *stunting* prevention attempt has been the government commitment focus in the next few years. At national level, this commitment is implemented into the National Strategy to Accelerate Stunting Prevention 2018–2024 which aims at reducing stunting prevalence to 22% in 2025.

Indonesia's failure to break free from the group of countries with severe nutritional status is not directly proportional to the government's increasing expenditure for nutrition improvement efforts. This raises a question of the effectiveness and efficiency of work mechanisms of various interventions which have been implemented so far. Therefore, The World Bank provided support to The SMERU Research Institute to conduct a study that analyzed government expenditures for stunting prevention efforts. By exploring it at kabupaten/kota government level, this study aims at understanding factors that may contribute to or explain the variations in stunting conditions in the case study regions. It is expected that the results of this study can be used as important inputs for the Indonesia government to improve the effectiveness of stunting interventions in districts.

Scope of Research and Methodology

The stunting prevention attempts consisted of a number of specific and sensitive interventions. This study focused on five specific interventions: (i) Supplementary Feeding Provision (PMT) for pregnant mothers and toddlers, (ii) complete basic immunization, (iii) iron folic acid supplementation (TTD) for pregnant mothers, (iv) vitamin A for toddlers, and (v) zinc for diarrhea treatment. The study was conducted in November-December 2018 within six kabupaten/kota. Kabupaten Lampung Tengah, Kabupaten Brebes, and Kabupaten Sumba Tengah represented 20 districts with the highest stunting prevalence and Kabupaten Belitung, Kota Surakarta, and Kabupaten Klungkung represented 20 districts with the lowest stunting prevalence in Indonesia based on Riskesdas 2013.

This study used quantitative and qualitative approaches. The quantitative approach was used in analyzing local government expenditure in relation to stunting prevention intervention which was implemented in 2015–2017. The data were mainly from APBD and Regional DPA. The interventions analyzed included specific and sensitive interventions. Additionally, an analysis was also made to budget allocation for two case study interventions, namely PMT and immunization. Meanwhile, the qualitative approach was used to explore the process of how focus interventions were implemented in regions in 2017, starting from planning/budgeting, implementation, reporting, to monitoring. The qualitative findings also served to explain the trend and composition of budget resulting from quantitative analysis.

Stunting and the Socio-Economic Conditions in the Case Study Regions

Stunting and the socio-economic condition

The stunting level in six case study districts based on Riskesdas 2013 indicated the high stunting level in Indonesia. The regions within high stunting group had extremely high stunting prevalence. And the regions with low stunting level also had a fairly high stunting prevalence. Among all case study regions, Sumba Tengah had the highest stunting prevalence (64%), and Klungkung had the lowest prevalence (19%). Nevertheless, the initial data of Riskesdas 2018 showed that the stunting prevalence in regions with high stunting level significantly decreased. On the contrary, the stunting prevalence in districts with low stunting tended to increase**.**

The community in regions with high stunting level encountered more obstacles to access a good quality of life and health than those communities in other regions. These regions had higher poverty level and unemployment. Also, these regions had lower educational achievement and access to basic services and facilities, including health.

Local government commitment

Stunting prevention began to be a priority issue in several study regions, especially in regions with high stunting level. However, until 2018, all study regions had no legal regulations yet to accelerate stunting prevention attempts. Nevertheless, in some study regions, this stunting issue had been included in their 2018 planning and budgeting documents to be implemented in 2019. The study village governments in all regions had also allocated the village's fund for health sector whose projects had something to do with stunting prevention effort, such as local food procurement for pregnant mothers and/or toddlers managed by posyandu cadres.

Local stakeholder's understanding

The understanding of stakeholders in all study regions on stunting was still varied and relatively different from one study region to the others. This was influenced by their educational background, work experience, and degree of exposure to stunting issue they received. In general, stunting was defined as a condition of toddlers or children who had heights below their age standards due to their obstructed growth as a result of nutrition intake deficiency. At village level, the understanding of stakeholders in locus villages was better than in non-locus villages.

Local Government Spending for Stunting-Related Intervention

Spending allocation

The local government spending allocation of study regions for stunting-related interventions was very low, i.e. on average below 2% of the total local government spending for 2015-2017 and Sumba Tengah in particular had 3.5% in 2017. This stunting-related spending was distributed to several sectors. Only Brebes had the largest stunting-related spending allocation in health sector, as high as 45%. In the other five study regions, the largest stunting-related allocation was for public works and housing, ranging from 32% to 67%, and for health sector it ranged only from 5% to 30%.

Development and composition of per capita expenditure

The government expenditure of regions with high stunting level for each stunting beneficiary tended to increase, yet the nominal value was still relatively lower than the amount spent by the government of regions with low stunting level. An exception was made for Sumba Tengah which was actually the region with greatest amount of budget spent for each stunting target. A consistent increase in per capita expenditure for stunting intervention from one year to another was found in Klungkung, Brebes, Lampung Tengah, and Sumba Tengah.

Expenditure by intervention type: spesific and sensitive

Generally speaking, stunting-related expenditure in 2015–2017 was mostly used for sensitive intervention at an absorption average of 73%–96%. This expenditure was used mainly for clean water infrastructure construction and early childhood education, as well as childbirth assurance. On the other hand, the expenditure for specific intervention was only around 4%–27%.

Expenditure by sectors in charge and spending type

In the study regions beyond Java and Bali, public work and housing sector played a major role through sensitive intervention implementation in the form of infrastructure construction. In Java and Bali study regions, the sectors playing fairly substantial role were health and education. Meanwhile, in nearly all study regions, the largest stunting-related local government expenditure was for goods and services expenditure. The capital spending component was mostly found in infrastructure construction project in the study regions beyond Java and Bali, and the employee spending component were frequently found in early childhood education project.

Local government's budget and expenditure planning reliability

Planning an accurate budget was still a problem of the local government in study regions. This was indicated from the fairly great deviation between original and revised budgets,

and between the revision and the realization of that budget. The significant deviation between budget revision and realization also showed the low local government's budget absorption.

In 2015-2017, on average the revision made to local government's original budget was insignificant (1%), yet the change for each year was highly volatile, i.e. 12% on average with the lowest being in Belitung (4%) and the highest in Brebes (24%). This fluctuation was mainly driven by revision to sensitive intervention budget for infrastructure projects and those projects from special transfer fund. The fact that that many of local government's budgets and intervention programs were initiated by the central government showed that the central and local governments were out of sync in their budget planning processes.

In all study regions, the budget realization was always lower than the budget revision with difference average of -20% and change deviation of 14%. This deviation occurred in nearly all interventions, yet its main driver was sensitive intervention with great unit cost and coverage scale such as clean water infrastructure construction and sanitation. The low budget absorption was due to the less accurate budget revision and the low capability of implementing the budget.

Case study: budget allocation for PMT and immunization

PMT and immunization were the two interventions with the largest budget among the five specific interventions which were the focus of this study. The allocation among regions in PMT intervention was relatively similar, and in immunization it varied greatly. However, the budget allocation of these two interventions did not correlate with their achievement indicators. By per capita budget, the largest PMT investment was in Surakarta and Sumba Tengah, and the largest immunization investment was in Belitung, Sumba Tengah, and Surakarta.

In all study regions, PMT budget increased. This indicated the high commitment that these local governments had to procuring local PMT, except Lampung Tengah which did not make any budget for local PMT. Most study regions used PMT budget to fund material procurement. Meanwhile, the immunization budget varied greatly and had unclear pattern.

Stunting Intervention Implementation: Five Focus Interventions

The five focus interventions were the direct interventions from the central government who was also in charge of providing intervention goods. Local governments were responsible for their implementations in their regions, including providing logistic management support activity and intervention success. Some local governments also procured similar intervention goods, be it to complement/enrich the interventions or to serve as local programs.

Planning and budgeting

Planning and budgeting mechanisms

The sources of local government support funding in the focus intervention implementation consisted of APBD (from PAD) and transfer funds (DAK, DAU, and DBH). The sources of funding for a program was determined based on several factors, including the program's consistency with technical guidelines of the funding source and the amount of budget needed. The planning and budgeting processes followed predetermined mechanisms and schedules, and were performed in stages. All the planning referred to the regional planning documents which were prepared by taking into account such documents as national planning document, Minimum Service Standards (SPM) for health sector, previous year's achievement, and priority scales.

Planning the needs of intervention goods

Planning for the goods consisted of: yearly planning for the purpose of next year's program implementation and distribution planning for proposing each distribution. The planning was initiated by persons in charge of the program at Puskesmas. However, the bottom-up method of proposal tend to be made only for goods distribution. In yearly planning, the number of beneficiary targets was not based on real data, rather it was an estimate produced by formula and the data source was determined by the central government. Particularly for PMT, until 2018 no planning/bottom-up proposal was made since the allocation was determined by the central government.

Supporting and inhibiting factors

(+) Availability of budget from various sources
(+) Information communication network which accelerated information dissemination
(+) Online application helped the planning process and improved the budgeting accountability
(+) Coordination meeting helped coordination and minimized program overlapping

(–) Workload for planning various programs and sources of funding
(–) Less adequate quantity and quality of HR and high transfer of employees
(–) Inconsistency of schedules between central and local governments in relation to the budget ceiling and delivery of DAK technical guidelines
(–) Sudden instruction on budget efficiency
(–) Large number of coordination meetings which took too much time and resources
(–) Technical issues (facilities & infrastructures) inhibited effective use of planning application
(–) Low data reliability

Implementation

In general, the implementation of focus interventions in regions with high and low stunting levels was technically not significant. However, there are different supporting and

inhibiting factors between them, such as regional access, which possibly influenced the quality of interventions.

Generally, the intervention goods from the central government fulfilled the local needs and even relatively too much. A few of insufficient or delayed procurement cases occurred, yet it could be dealt with by the Kabupaten/Kota health department or Puskesmas by independently procuring it.

Distribution

The intervention goods was distributed in stages through health institutions at each government level, except for PMT which since 2018 had been directly dropped to puskesmas by third parties. The distribution methods from province to puskesmas varied among regions and types of intervention. The same applied to the distribution method from puskesmas to implementing institutions at community level. In some cases, puskesmas brought the intervention goods to beneficiaries. In other cases, executor at community level took the interventions goods to puskesmas. The budgeting for these distribution methods was managed by puskesmas taken from APBD or non-physical DAK.

Storage

Each health institution at province level and downward stored the intrevention goods for varied durations among institutions and intervention types. All institutions had storage for medicines, including vitamin A, Fe, and zinc. Particularly for vaccine which should be stored using a tighter procedure, kabupaten/kota health department and puskesmas along with their personnel had no special storage system and in regions that are difficult to access, there existed problems related to intervention goods delivery and storage.

Distribution to target group

There was a little variation of distribution to target groups among intervention type and study regions. In general, it was found that: (i) intervention beneficiaries were as per the target requirements, except in some PMT cases, (ii) not all beneficiaries received the interventions as required, and (iii) not all beneficiaries utilized the intervention in compliance with the provisions.

Supporting and inhibiting factors

(+) In all study regions, health personnel and facilities were available at village/kelurahan level and these were supported by posyandu and its fairly active cadres

(+) Budget for implementing the interventions were available from many sources

(+) The beneficiary sweeping practice by health personnel and cadres supported the target achievement

(+) Information communication network accelerated information dissemination

(–) Inconsistency of schedule between non-physical DAK budget disbursement and service activities

(–) Dissemination or promotion of focus interventions to community was highly limited

(–) Taste and aroma of PMT, Fe, and zinc were less favorable, making them not completely consumed

(–) Central and local government coordination had not been too effective, which resulted on abundant/insufficient or delayed supplies

(–) The regional access obstacle in some study regions influenced the intervention goods quality

Reporting

Mechanism

In all study regions, no special reporting mechanism for the implementation of five focus interventions, rather they were combined with other reportings. Generally, there were two types of reporting, namely program implementation reporting and medicine use reporting. The program reporting in all study regions was made in stages and bottom-up. Formally, the reporting duty began with village midwives. Informally, posyandu cadres also reported an activity implementation to village midwives. The health department in all study regions had started to report online.

Supporting and inhibiting factors

(+) Existence of online reporting application which supported an effective reporting

(+) Existence of social media as a means of informal reporting in all study regions

(+) Implementation of disincentive scheme in Sumba Tengah to support punctual reporting

(–) Successive delayed reporting in some study regions

(–) Limited Human Resource in terms of their quality and quantity

Monitoring and evaluation

Mechanism

Procedurally, the monitoring and evaluation implementation are within the regular cycle of program activity. However, the monitoring and evaluation could not always be made regularly in all study regions. There were four paths for monitoring and evaluation: reporting, meeting, field visit, and online monitoring application. Monitoring through written report and regular meeting were found in all study regions, and the other two monitoring methods were only found in some study regions.

The monitoring of focus intervention utilization had begun to be implemented, even though it had not been implemented for all focus interventions nor in all study regions. The program monitoring by health department and puskesmas was still limited to distribution target fulfillment. And the monitoring to consumption compliance in all study regions were done only to vitamin A intervention; and compliance in terms of PMT/MP-ASI consumption, TTD, immunization, and diarrhea incidence pattern were monitored only in a few regions.

Supporting and inhibiting factors

(+) Active role played by posyandu cadres as the program executors at community level

(–) Limited budget

(–) Human Resource limitation

I. Introduction

1.1 Background

Indonesia is one among countries in the world with severe nutritional status in the world with its stunting prevalence in children under five years of age reaching 30.8% (Riskesdas, 2018). It is ironic given the country's success in reducing its poverty level and in increasing its per capita income which leads it to another success in penetrating middle-low income country group. This is quite worrisome considering that human resources development becomes an important step which determines a state's economic sustainability in the future. Moreover, it is predicted that Indonesia will have demographic bonus by 2030.

Stunting is an urgent issue which needs to be dealt with immediately, thus, the investment in stunting preventive efforts has been the government's focus in the next following years. This commitment is manifested in the National Strategy to Accelerate Stunting Prevention 2018 – 2024 (STRANAS) that explicitly targets a decrease in stunting prevalence to 22% by 2025. To support the achievement of this target, the government launches numerous supporting strategies, including Guidelines for Implementing Integrated Stunting Reduction Intervention at Kabupaten/Kota; Guidelines of Stunting Reduction Convergence down to Village Level; and Strategy of Communicating Behavior Changes in Stunting Prevention. Stunting has also been the national development priority and the target of government budget in health. This is indicated by the inclusion of indicators and targets for stunting prevention as a national development target in the 2015-2019 National Medium-Term Development Plan (RPJMN)[1]. Based on the 2015-2019 RPJMN, the government targeted a decrease in stunting prevalence for infants under two years of age (*baduta*) to 28.8% (Pritasari, 2018).[2]

It is not easy to realize the integrated stunting preventive attempts considering the government's large and complex work system. Furthermore, stunting is a multi-sector issue. Even at central level, the stunting preventive efforts involve around 24 ministries and institutions in charge of both specific and nutrition sensitive intervention, not to mention the regional government organizations (OPDs) at various administrative levels of regional governments. The vast area of coverage and a large number of target groups among the population are justification of the complexity of the existing system.

Indonesia's failure to break free from the group of countries with severe nutritional status is not directly proportional to the government's constantly increasing expenditure for nutrition improvement efforts. This raises a question of the

[1]Ministries / Implementing Institutes / Stunting Prevention Programs / Activities, 2018.

[2]Kirana Pritasari, 2018, "Stunting Reduction Acceleration Attempt: Evaluation of 2018 Implementation and 2019 Action Plan" (http://www.depkes.go.id/resources/download/info-terkini/materi_rakorpop_2018/Evaluasi%202018%20dan%20Rencana%20Tindak%20Lanjut%20Penurunan%20Stunting.pdf accessed on 21 July 2019).

effectiveness and efficiency of work mechanisms of various interventions which have been implemented so far. Therefore, it is important to evaluate the implementation of interventions and expenditures spent by the government. Thanks to the support from the World Bank and Ministry of Finance of the Republic of Indonesia, The SMERU Research Institute conducted a study which analyzed the government expenditure for stunting-related efforts at *kabupaten/kota* (district) level. This report presents the study results as follows.

1.2 Research Objective

By exploring it at the kabupaten/kota governments, this research aims at **understanding factors that may contribute to variations in stunting prevalence outcomes in selected local governments** in Indonesia. To achieve this objective, this research would specifically perform numerous analyses at the study kabupaten/kota level to:

1. Identifying the level and composition of local (district) government spending on stunting related interventions;
2. Identifying and analyzing the challenges in the implementation of stunting intervention across budget process and cycle;
3. Understanding the success factors and challenges in implementing stunting reduction interventions in selected local government;
4. Assessing the effectiveness of spending for selected stunting intervention performed in selected districts;
5. Providing policy recommendations on ways to improve intervention to reduce stunting prevalence at the subnational level.

The results of this research will be used as **feedbacks to the World Bank to support the Ministry of Finance and Ministry of Health** in building a better understanding on the level, composition, and effectiveness of government expenditure allocated to stunting preventive efforts, at both national and regional levels. The findings of this research will also be important feedbacks for **improving the effectiveness of stunting prevention interventions at local level**.

II. Research Methodology and Scope

This study used quantitative and qualitative approaches. The quantitative approach was used in analyzing the regional government expenditure for stunting-related interventions. And the qualitative approach was used in conducting an in-depth study of the processes of how stunting preventive interventions were organized—from planning and budgeting, implementation, reporting and, finally, to monitoring and evaluation.

2.1 Data and Information Collection Method

The expenditure analysis review was performed by observing the spending pattern, including allocation, composition, and budget disbursement and accountability report of the stunting-related interventions implemented by case study of kabupaten/kota governments in 2015 – 2017. The main data source were from the regional government budget (APBD) and the budget implementation document (DPA), that covers the budget data and realized expenditure District government budget and financial reports. The stunting interventions analyzed in this budget analysis included specific- and sensitive-nutrition interventions, with a further in-depth analysis being conducted to 2 study case of stunting-related interventions on supplementary feeding (PMT) and immunization .

Budget data collection is carried out by local data collectors. For APBD, the data collected includes three versions of the budget, namely the initial budget, the revised budget, and the realized budget. The APBD covers all regional government organizations (OPD) that organize stunting-related interventions at the kabupaten/kota level. While for DPA, it only covers the budget held by the Health Office for PMT and immunization-related interventions as a case study.

Local government expenditure spending analysis began with sorting stunting-related programs and projects in regionallocal government budget. The programs and projects are sorted by seeing the program ir names, the regional government organization in charge of them, result of qualitative in-depth analysis conducted at each study location, and through an intensive consultation with the World Bank Team.

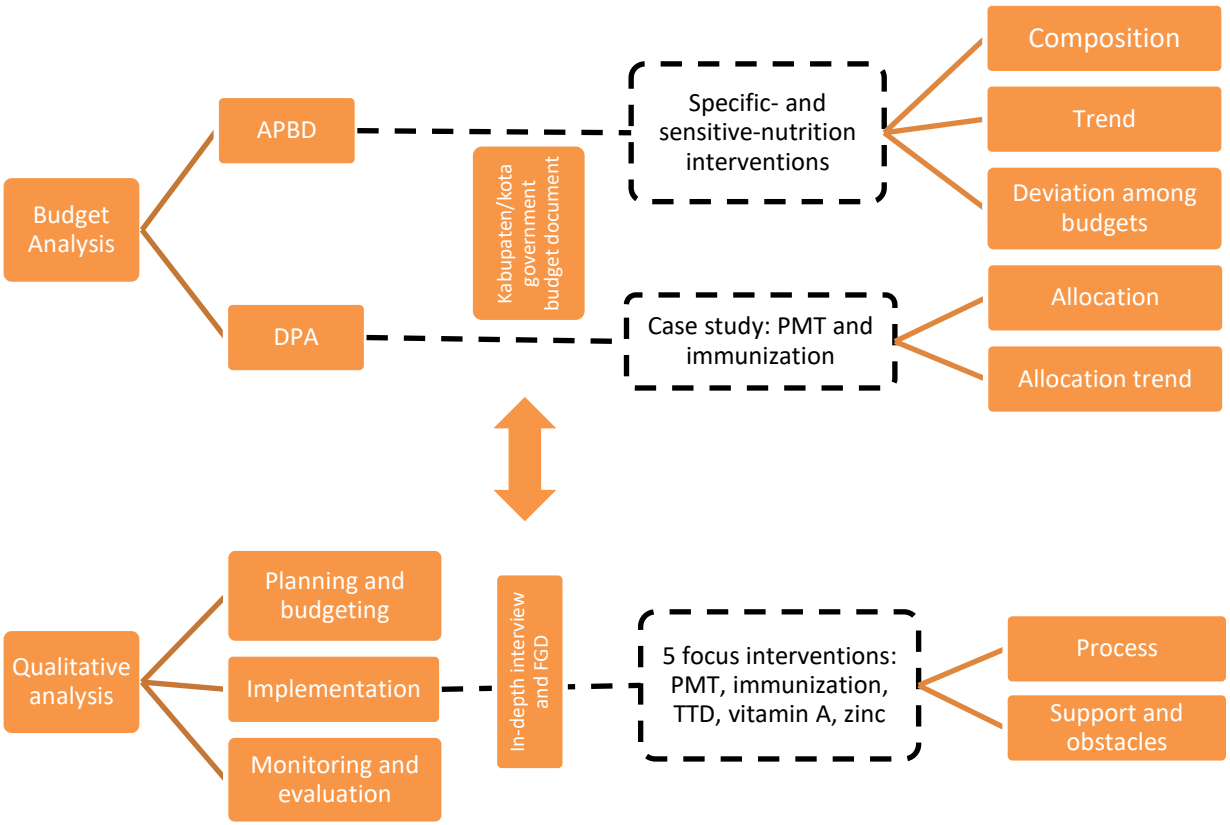
The qualitative analysis traced further the process of how stunting-related interventions were organized, ranging from planning and budgeting, implementation, reporting to monitoring and even its evaluatuon at regional level in 2017. In addition, various challenges and supports encountered during numerous stages of five focus interventions were also explored. The main source of this qualitative analysis was informant's statement obtained through interview and focus group discussion (FGD).

The qualitative data were collected through in-depth interview and FGD. In-depth interview was made with stakeholders at central, province, kabupaten/kota, and village/kelurahan levels, including the program implementers at puskesmas and village/kelurahan levels, as well as the intervention targets/beneficiaries. FGD was made at three levels, i.e. at kabupaten/kota, village/kelurahan, and the community. Kabupaten/kota-wide FGD involved a large number of divisions/sections within the Health Department. This FGD was done to confirm the information on planning/budgeting, implementation, reporting, monitoring and evaluation of stunting prevention intervention obtained from interviews. Village/kelurahan-wide FGD involved public figures and implementers of stunting-related interventions in villages/kelurahan, which included midwives, posyandu cadres, teachers, village/kelurahan officials, and public figures. This FGD was intended to confirm the existence, implementation, and benefit of interventions. Finally, community-wide FGD was done with pregnant mothers and mothers with toddlers experiencing or vulnerable to stunting. This community FGD was intended to figure out how stunting prevention interventions were implemented, including the community's access to intervention and benefits of interventions. All FGDs were also meant to obtain inputs or possible rooms for improvement in the interventions.

Qualitative analysis began with building a matrix from various findings which represented those intervention stages—planning and budgeting, implementation, reporting, as well as monitoring and evaluation, at each case study district. Furthermore, a comparison was made between study case districts. The qualitative analysis results were also used as sources of information which explained the trend and composition produced by expenditure analysis.

The data and information collections and analysis strategy of this study were as explained below.

Figure 1. Data and Information Collections and Analysis Strategy



2.2 Scope of Research

The stunting-related intervention analyzed in budget analysis included specific and sensitive nutrion interventions, as listed in the table below.

Table 1. Specific and Sensitive Nutrition Intervention

Specific-nutrition intervention	Sensitive-nutrition intervention
1. Provision of iron folic acid supplementation tablet—(TTD) 2. Immunization 3. Pregnant mother class 4. Provision of calcium/iodine 5. Supplementary feeding provision (PMT) 6. Malnutrition treatment 7. IYCF (*Infant and Young Child Feeding*) 8. Diarrhea response 9. STH infection response 10. Mosquito and malaria-infected pregnant mother treatment 11. Mother health service 12. Lactating , exclusive breast milk (ASI), and early lactating initiation (IMD) promotion 13. Provision of vitamin A	1. Support to food resilience 2. Social security for poor household 3. Balanced nutrition promotion 4. Provision of parenting counseling for parents 5. Provision of universal early childhood education service 6. Provision of reproductive health counseling for teenagers

As explained earlier, the budget allocation case study was also conducted to PMT and immunization-related interventions. Both interventions were selected considering that they have the largest composition among focus interventions.

Meanwhile, the five focus interventions analyzed through in-depth qualitative study included:

1. **Supplementary Feeding Provision (PMT) for pregnant mothers and toddlers**, with its beneficiary targets being pregnant mothers who had chronic energy deficiency (CED) and infants of 6 – 59 months old classified as lean (having a nutritional status below minus 2 standard deviation based on body weight/height). The intervention was special biscuit provided according to the pregnancy and infant ages;
2. **Complete basic immunization** consisting of Hepatitis B (HB-0), BCG, Diphtheria (DPT-HB-Hib) 1–3, Polio 1–4, injected polio or inactivated polio vaccine (IPV), and,measle immunizations. The targets were all newborn and up to 24 months old infants. Each immunization was administered as scheduled based on the infant's age and vaccine type;
3. **Iron Folic Acid Supplementation (TTD) for pregnant mothers,** i.e. the provision of iron or Fe supplements for daily consumption, at least for 90 days during pregnancy, targeting all pregnant mothers as its beneficiaries;
4. **Vitamin A for toddlers,** i.e. the provision of vitamin A capsule every February and August, targeting all toddlers of 6 – 59 months old. 6–11 months old babies were given blue capsule at a once a year dose, and 1–5 years old babies were given red capsule at a twice a year dose;

5. **Zinc,** i.e. the intervention given in the form of zinc tablet to be consumed for 10 days, targeting all toddlers suffering from diarrhea. Infants younger than 6 months old were given 10 mg or 1/2 tablet per day and those older than 6 months old were given 20 mg or 1 tablet per day.

These five focus interventions were selected based on the result of study previously conducted by the World Bank in which it was found that these interventions were among those perceived as the most cost effective in preventing stunting.

2.3 Study Area

The research project was conducted in six case study *kabupaten/kota* located in five provinces spread in three regions of Indonesia and they represented the areas with high and low stunting prevalences. Kabupaten Lampung Tengah (Lampung Province), Kabupaten Brebes (Central Java Province), and Kabupaten Sumba Tengah (East Nusa Tenggara-NTT Province) represented 20 of districts with the highest stunting prevalence. Kabupaten Belitung (Bangka Belitung Province), Kota Surakarta (Central Java Province), and Kabupaten Klungkung (Bali Province) represented 20 of regions with the lowest stunting prevalence in Indonesia. This district classification was based on the result of calculation made by the World Bank Team and SMERU, using data from Riskesdas 2013.[3]

Table 2. Study Regions

Stunting Prevalence	Regions		
	Sumatera	Java	Eastern Indonesia
High	Kabupaten Lampung Tengah (Lampung Province)	Kabupaten Brebes (Central Java Province)	Kabupaten Sumba Tengah (NTT Province)
	Kecamatan A	Kecamatan B	Kecamatan C
	Desa A1	Desa B1	Desa C1
	Desa A2	Desa B2	Desa C2
Low	Kabupaten Belitung (Bangka Belitung Province)	Kota Surakarta (Central Java Province)	Kabupaten Klungkung (Bali Province)
	Kecamatan D	Kecamatan E	Kecamatan F
	Kelurahan D1	Kelurahan E1	Desa F1
	Desa D2	Kelurahan E2	Desa F2

In each kabupaten/kota, two case study villages/kelurahan located in one kecamatan were chosen. The kecamatan was selected by observing whether or not it shared similar stunting condition with the study kabupaten/kota. In the study kabupaten/kota representing high stunting prevalence, the kecamatan with high stunting prevalence was

[3]When this study was conducted, the Ministry of Health had finished the data collection for Riskesdas 2018 and the data had also been used for the nutritional status at national level. However, Riskesdas 2013 was still the main source of data for nutritional status at kabupaten/kota level for the said Riskesdas 2018 results had not been officially released by the government.

selected. The same applied to the low one, in the study kabupaten/kota representing low stunting regions, the one with low stunting prevalence in the said kabupaten/kota was chosen to be the study kecamatan. The village/kelurahan was selected by considering the differences in characteristics, i.e. one village/kelurahan with relatively better condition and easier access to basic health services and another village/kelurahan with the opposite conditions.[4] In selecting the kecamatan, the researcher team utilized kecamatan-wide estimated stunting level data from a study on stunting mapping conducted by SMERU together with the World Bank and National Team for the Acceleration of Poverty Reduction (TNP2K). Meanwhile, in selecting the villages/kelurahan the researchers used data on distance from the kecamatan center or *puskesmas* to the village/kelurahan and consulted with informants at kabupaten/kota, kecamatan, and community health center (puskesmas) levels. Particularly in Kabupaten Brebes and Lampung Tengah, one of the selected study villages was the one serving as the national stunting intervention locus—100 prioritized kabupaten. [5]

2.4 Study Limitation

The budget data collection began from November 2018, followed by a in-depth qualitative study in December 2018. The budget data were successfully collected, but encountered many obstacles in a small number of regions that they could only be collected during qualitative study, some were even obtained in February 2019. As a result, the data cannot be analyzed in advance to be clarified or fully utilised during out in-depth qualitative studies.

Collecting series budget data for three years (2015 – 2017) was a hurdle in itself due to the documentation or archive problems, worsened by the fact that when an employee (in charge of data) was transferred no adequate transfer of information was made in some districts. The fact that the data collection was performed at the end of the year also influenced the easiness to meet the informants for many of them were involved in various projects, particularly in planning and proposing programs, both within or outside their respective institutions, or even outside their districts. Some districts revised their budgets several times, making more than one versions of budget available. Unfortunately, no proper documentation was made with this revision and some number inconsistencies were found. Another issue was the fact that some thought budget data were sensitive, making the local government's transparency a challenge in the data collection process. In one district, the agency chief in charge of budget was allegedly involved in corruption case. This made the challenge the researcher team had in accessing the needed data harder. Still another issue was of tehnical nature, i.e. availabaility of high-quality photocopy facility and data delivery logistic, particularly in remote area. The ability and knowledge of some data collectors in some districts on government budget were still limited, which also affected the process of budget data

[4]Except Kota Surakarta whose two sample kelurahan showed no significant difference in terms of both distance and access to Puskesmas.

[5]100 priority regions for stunting preventions were established in 2018, yet most of them were relatively underdeveloped as compared to others and had even been previously prioritized for special budget transfer.

collection. In its implementation, the secondary data collection still continued when the qualitative study was conducted.

An analysis of regional government budget (APBD) had greater challenges than analyzing the state budget (APBN). Each district had varied institutional structure and nomenclature. The challenges encountered related not only to fairly great variations among districts, rather they were also related to the many versions of budget and consistency of a project's existence in a program. These variation and consistency were also observed in the budget allocations among periods. In addition, comparing budgets among districts was extremely challenging since each of them had their own policy standards for account code details, naming, and classification of projects. Not all districts documented their budget data well in softcopy, requiring the data entry to be made manually and this was vulnerable to errors. The research team applied repeated checking to the data, yet on several cases, errors or inconsistencies were still found in the numbers listed in the original documents.

III. Stunting and Socio-Economic Condition of Six *Kabupaten/Kota*

3.1 Stunting Prevalence and Local Socio-Economic Condition

The stunting level in 6 case study districts gave a picture of how high the stunting level was in Indonesia. The districts in high stunting groups had extremely high stunting prevalence, yet the stunting prevalence in the low stunting group was also relatively high.

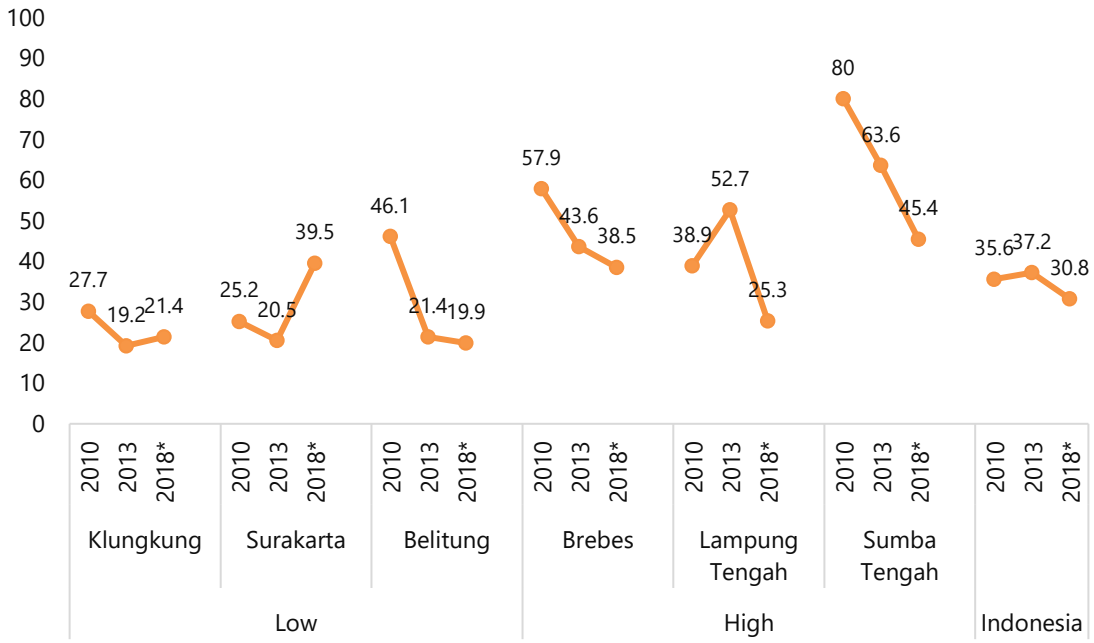
Based on Riskesdas 2013,[6] among the case study regions, the stunting level of Sumba Tengah was the highest of all, with 64% prevalence, followed by Lampung Tengah (53%) and Brebes (44%). The three districts were included in the group of 20 districts with the highest stunting level in Indonesia. Surakarta and Belitung belonged to the lowest stunting districts, yet with their 20% and 21% prevalences respectively, the severity of these two districts could be classified as high according to WHO standards.[7] Among those classified in the group of 20 districts with the lowest stunting subjected to the case study, only Klungkung had the a prevalence at 19% percent, considered low by WHO (Ministry of Health, 2013; de Onis, 2018; and WHO, UNICEF, and World Bank, 2019).

The preliminary calculation of Riskesdas 2018 showed that the stunting prevalence in districts classified as high stunting groups significantly decreased, nevertheless its prevalence was still considered high and extremely high according to WHO limit standard. The highest decrease was shown by Lampung Tengah, followed by Sumba Tengah and Brebes, whose prevalences in 2018 were 25.3%, 45.4%, and 38.5% respectively. The stunting prevalence increased instead among the low stunting case study districts, particularly Surakarta whose prevalence increased significantly to over 39.5%, far above the national prevalence which was merely 30.8%. Klungkung was also expected to have its stunting prevalence increased despite insignificantly, i.e. to 21.4% by 2018. On the contrary, among these low stunting study districts, only Belitung had its stunting prevalence decreased, to 19.9%.

[6]By the time this report was made, Riskesdas 2013 was still the main reference of data on kabupaten/kota-wide stunting.

[7]According to WHO, stunting is considered low if its prevalence <20%, medium if its prevalence is 20%-29%, high if its prevalence is 30%-39%, and extremely high if its prevalence ≥40%. Further information on nutrition standard classification according to WHO, can be seen at: http://who.int/ nutgrowthdb/ about/introduction/en/index5.html.

Figure 2. Stunting Prevalence in Six *Kabupaten/Kota*



Source: Laporan Riset Kesehatan Dasar (Riskesdas) 2010, 2013, and 2018, Ministry of Health 2018

Note: * temporary numbers

Population of high stunting districts encountered more obstacles to obtain better quality of life and degree of health condition.

From an economic perspective, these regions had higher poverty and unemployment levels. Furthermore, their education achievement and access to basic and health services were still low. On average, the year of schooling in regions belonging to high stunting group was lower than the low stunting group, ranging between 5.5 (Sumba Tengah) and 6.2 years (Brebes), except Lampung Tengah whose average year of schooling was 7.4 years. Two issues which explained the connection between education and stunting prevalence were parent's education (particularly mother) which affected their parenting pattern and children's cognitive ability-related education achievement. Children born from parents with lower education level had higher stunting risk, and stunted children were more likely to exhibit lower education achievement (Vollmer, et.al., 2016; Woldehanna Behrman Araya 2017; and Senbajo,et.al., 2018).

In relation to physical facility availability, access to electricity in these regions was fairly evenly-distributed, except in Kabupaten Sumba Tengah. However, in terms of access to sanitation and clean water, the high and low stunting regions were different. The proportion of households in high stunting regions with proper sanitation facilities (having defecating and feces final disposal facility in the form of septic tank) was relatively low, ranging from 13% (Sumba Tengah) to as high as 52% (Lampung Tengah). Only around 50% of households in Kabupaten Lampung tengah and Sumba tengah had adequate access to decent water (i.e. the water from protected sources such as plumber, protected well, and other protected water springs). Unlike the general trend, in terms of

access to clean water, Belitung which belonged to low stunting group had relatively low access, even if it was compared to Brebes which belonged to high stunting group. Meanwhile, the percentage of birth handled by skilled medical personnel seemed to have been evenly-distributed throughout the case study districts.

Table 3. Socioeconomic Condition of the Study Regions

Characteristic	District Group by Stunting Prevalence					
	Low			High		
	Klungkung	Surakarta	Belitung	Brebes	Lampung Tengah	Sumba Tengah
Poverty and Inequality						
Poverty (%)	6.9	10.8	8.3	19.7	13.3	36.2
Inequality (Gini)	0.35	0.37	0.3	0.33	0.3	0.28
Geography and Population						
Area (km^2)	315	44	2,294	1,658	4,790	1,869
Number of villages	59	51	49	297	311	65
Population	215,852	562,269	159,349	1,896,243	1,468,875	84,174
Life expectancy (year)	70.5	77.1	70.4	68.6	69.3	67.7
Education and Employment						
Average year of schooling (year)	7.5	10.4	8.1	6.2	7.4	5.5
Unemployment rate/TPT (%)	0.9	4.5	2.6	8.0	3.1	4.3
Access to Basic and Health Services						
Access to clean water (%)	97.1	82.99	64.1	73.5	50.5	46.8
Access to electricity (%)	99.9	100	99.4	100	99.7	65.9
Access to proper sanitation (%)	92.2	82.1	85	70.03	52.3	13.2
Birth attended by skilled health worker (%)	100	98.5	100	96.2	96.6	88.2

Box 1
Geographical Condition and Habits of Community Believed to Have Contribution to Stunting

The factors related to geographical conditions and local community habits were suggested by the local stakeholders to have some contribution in explaianing the stunting level differences. Surakarta and Klungkung represented urban context in which health facilities and services can be accessed more easily, despite the fairly complex urban poverty issue that Surakarta faced. Belitung was profited with its community habit in consuming sea fish whose supply was widely available.

The high stunting case study districts had hard-to-access remote areas. Lampung Tengah was the widest region among the case study regions and this at the same time depicted the greater challenge for access and affordability. In Brebes, the hard-to-access area was at its Southern part with its mountainous topography. This area was the main producers of onion, the regency's main featured commodity. Behind the economic value they obtained, excessive use of pesticide was believed by the stakeholders as one factor causing the high stunting in this area. This belief that the stakeholders held was supported by the result of research conducted by one university in Central Java.

> *"The poverty rate in Kabupaten Brebes is fairly high at 19.14 percent. This number is the third highest one in Central Java. Additionally, Brebes has its own unique characteristics in terms of its onion farmers in storing onions. They store onions on fireplace in the kitchen, and to preserve them they spray pesticide on them. The groceries they put in the kitchen will also be exposed to pesticide. This is allegedly one of the causes of malnourished children," Staff of Regional Government Secretariate of Kabupaten Brebes.*

Sumba Tengah faced a great challenge from its vast area and limited infrastructures. This district also faced a latent hurdle from the costly and time-consuming customary demands, which influenced the fulfillment of children nutritional needs. Cutomary parties as well as marriage with close relatives also frequently occured in Sumba Tengah.

> *"Usually by the end of the year, there is an evaluation, we will report the project target achievement to every kabupaten when the program targets are not achieved, we will also share the obstacles they encounter such as unfulfilled toddler weighing project number target due to the people being busy at their farms or they are having time-consuming customary events and for this reason the role played across sectors becomes important. Thus, in this case we merely provide information, that's all," Staff of Health Office of NTT Province.*

3.2 Local Government Commitment to Stunting Treatment Attempts

Stunting prevention began to be a priority issue in several study regions, especially in three kabupaten with high stunting level. This priority was assigned mainly by health OPDs and some non-health OPDs[8] in relation to stunting prevention efforts, be it through specific- and sensitive-nutrition intervention, as per the local government head instructions by the end of 2017 or early 2018. This initiative was encouraged by the central government who during that period invited many regional government heads to

[8]For example education department, fishery department, housing and residence department, and food resilience department.

Jakarta for early dissemination of stunting prevention efforts. In some regions, particularly those with high stunting level, a signing was made to the statement of commitment to accelerate stunting prevention between the local governments and TNP2K. This commitment statement was the local government's response to the stunting treatment priority kabupaten assignment by the central government.

Until 2018, all case study kabupaten/kota had no legal platform to accelerate their stunting prevention. However, in some districts, stunting had formally began to be priority in their 2018 planning and budget documents to be implemented in 2019. In general, local governments merely continued the existing regular programs by prioritizing stunting locus villages as the program beneficiaries; rather than organizing new programs specifically dealing with stunting. Nevertheless, the government in some case study districts were drafting regional government regulations or bupati/walikota regulations for stunting prevention, and one of them was Lampung Tengah. Among the case study districts, only Brebes had included stunting reduction in their 2017-2022 regional development planning document (Regional Medium-Term Development Plan or Rencana Pembangunan Jangka Menengah Daerah/RPJMD) as indicator of health sector achievement. Meanwhile, in Belitung, the local government's commitment in dealing with stunting was just about to be included in RPJMD 2019-2023.

All of the case study village governments had begun to allocate their budgets for stunting prevention acceleration project through allocation for health sector development. The fund was generally managed by posyandu cadres for procuring local meals for pregnant mothers and/or toddlers. In Brebes, the commitment of village government in stunting locus was seen from how they allocated over 4% of Village fund (APBDes) for health development, even though their local government recommended only 4%. This fund, among other things, was used to supply milk for pregnant mothers as a part of stunting treatment effort at village level. The government in this village had also built 4 points of clean water facilities and 135 household water closet and provided supplementary meals for early childhood education students. The allocation and use of APBDes for stunting prevention attempt would be highly dependent on the Village Chief's commitment and knowledge.

3.3 Local Stakeholder's Understanding

The comprehension of stakeholders in all sample districts on stunting were still varied. In addition to educational background and work experience, exposure to stunting issue from field of work and socialization explained the difference in their understanding.

The understanding of stakeholders in all study regions on stunting was still varied. The stakeholders who were actually dealing with stunting-related intervention, both who were tasked in health OPDs and the implementing agents below them, Bappeda, and non-health OPDs, had relatively better understanding than those who were unexposed to the stunting issue. The degree of understanding of these stakeholders might be different even if they worked for the same OPDs or institutions. This was influenced by the

stakeholders' exposure to stunting issue from their job duties and the socialization opportunity they had.

Generally, stunting was defined as a condition of toddlers or children with height under their age standards, due to their obstructed growth as a result of nutritional intake deficiency. Stakeholders in some study districts also mentioned that stunting could also result in disorders to children's cognitive abilities and its cause was not limited to nutritional problem and its treatment interventions were mostly contributed by non-health OPDs. Meanwhile, the comprehension of those stakeholders who were not dealing with stunting-related interventions, be it at kabupaten, kecamatan (puskesmas), and village level, were relatively limited. Generally, they defined stunting as short, skinny or malnourished children.

At village level, the understanding of stakeholders in stunting locus villages were relatively better than in non-locus villages. Better understanding in locus villages was not only seen in the implementing agents of health program such as midwives and posyandu cadres, rather it could also be observed in the village officers and implementing agents of non-health program such as PKK and Village Fund administrators. This was because generally speaking they had been involved for several times in dissemination on stunting and their villages also received a number of interventions from the central government in order to accelerate stunting prevention. On the other hand, the understanding of stakeholders in non-locus villages was relatively more limited since they were exposed to stunting issue at a minimum level. In non-locus village, only health personnel had relatively better understanding on stunting. Nevertheless, this did not apply in Sumba Tengah. The village health personnel in this kabupaten just heard the term stunting in 2018 through puskesmas officers. For health personnel in this village, the puskesmas nutrition officers were the most knowledgeable on stunting and stunting condition development in their villages. In Lampung Tengah, the stakeholders in non-locus villages who never heard of the term stunting thought that stunting was a medical check specifically addressed to women (such as IVA test or visual inspection with acetic acid) and some even thought that stunting was a water closet type/brand. The limited understanding of stakeholders at village level also influenced the extent of care and support that they gave to the stunting prevention acceleration attempt made by the program implementing agents.

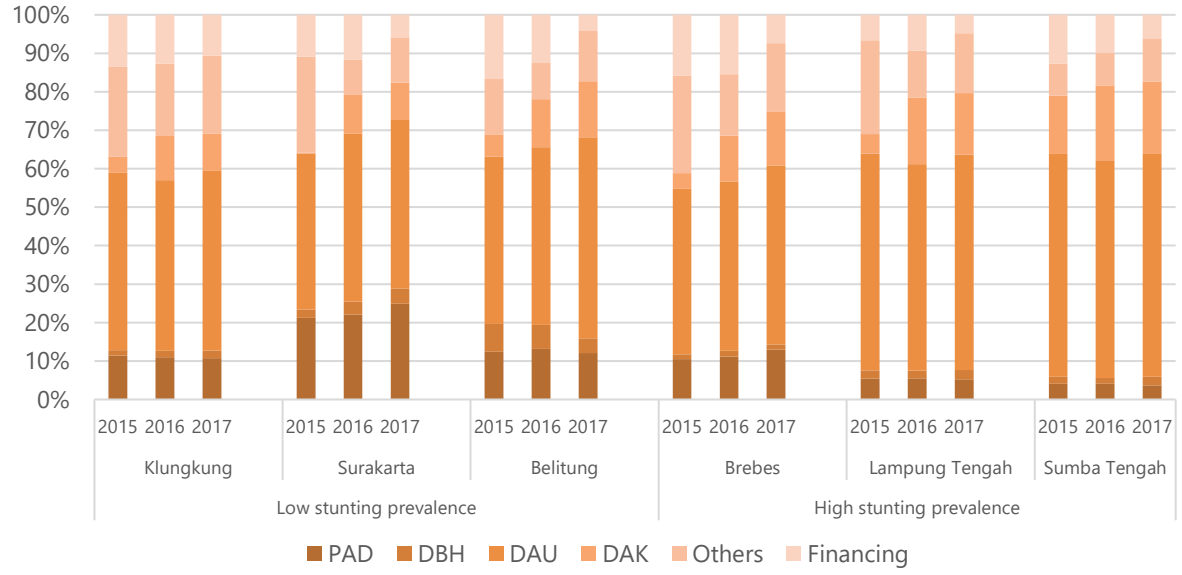
IV. Government Expenditure Analysis of Six *Kabupaten/Kota*

4.1 Local Government's Financial Policy and General Condition

The balancing fund from the central government was the main source of income for regions, with DAU being its largest component. However, there had been a significant increase in DAK allocation since 2016 in line with the central government's commitment to strengthen the role played by regions—particularly kabupaten/kota, to achieve the national development priority.

As other regions in Indonesia, the balancing fund from the central government was still the main source of income for the 6 case study kabupaten/kota. Among the case study districts, only Surakarta had locally generated income (PAD) over 20% and other regions ranged from 4% to 13%. General Allocation Fund (DAU) is the largest income component in these 6 kabupaten/kota, with its composition being around a half of total regional government income. The sources of income other than DAU showed varied contribution composition, be it among regions or among years. The largest variation was driven by significant increase in Special Allocation Fund (DAK) between 2015 and 2016, in all case study regions except Sumba Tengah which since the beginning its DAK income composition had been fairly great.

Figure 3. Government Earnings of Six *Kabupaten/Kota*, 2015 - 2017



Source: Local Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

Note: realized figure

This increased DAK composition was in line with the policy of central government who increased its allocation from 59 trillions in 2015 to 208 trillions in 2016, or increasing nearly 4-fold. This gave a significant contribution to the increase in total Regional Transfer and Village Fund (TKDD) which increased from Rp623 Trillions in 2015 to Rp765 Trillions in 2016. The increase in transfer to regions through special transfer fund was made to support the central government's commitment to strengthen the role played by regional governments in providing public services in order to achieve the national priorities. Starting from 2016, DAK policy was directed to support the acceleration of public infrastructure development in regions; support the fulfillment of education budget (20%) and health budget (10%); strengthen the affirmation policy of developing border, lagging, and outermost island areas; abolish the obligation of providing DAK matching fund; and reallocate other transfer funds into Non-physical DAK. For this purpose, in addition to determining a greater proportion of transfer to regions than budget for ministries and central government institutions, the central government also made some changes to TKDD posture, particularly to matching fund component. Until 2015, the matching fund posture was technically distinguished into Profit-Sharing Fund (DBH), DAU and DAK, and since 2016 it was sorted into general transfer fund (comprising of DBH and DAU) and special transfer fund (in the form of physical and non-physical DAKs).

Box 2
Stunting-Related Special Allocated Funds

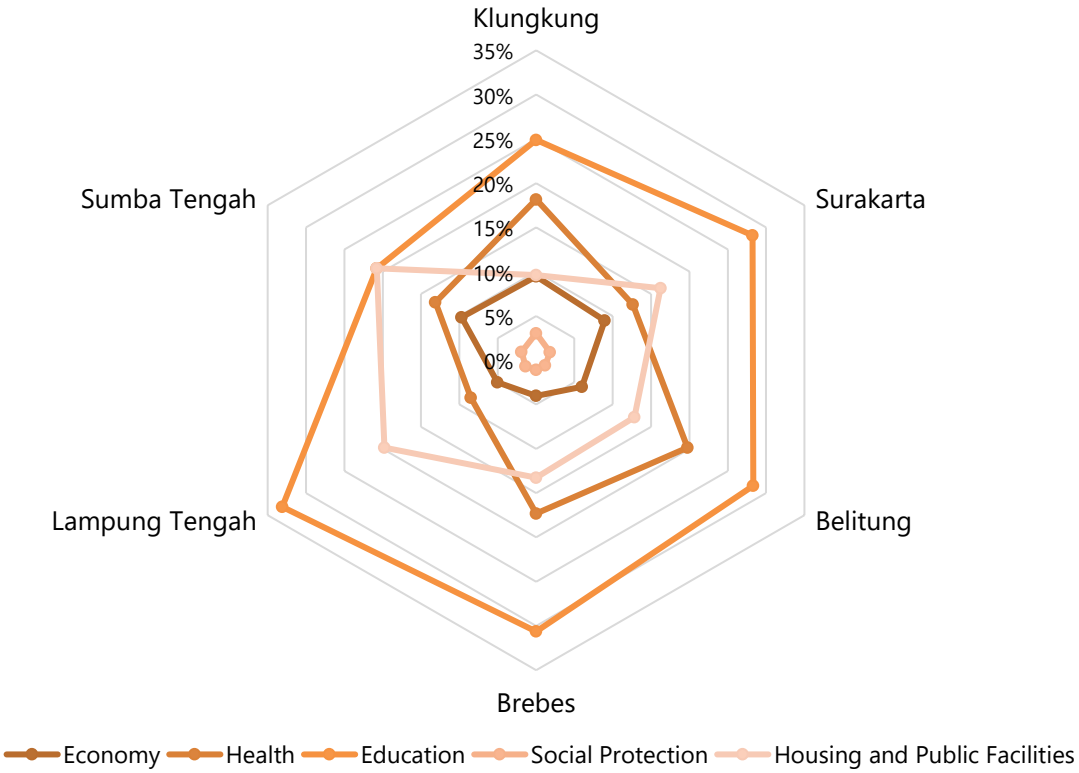
In the new TKDD posture, DAK was divided into physical and non-physical components, with an emphasis of its implementation lying in the regional government at kabupaten/kota level. Physical DAK consisted of regular and non-regular DAKs, the allotment of which were determined based on fields. Meanwhile, Non-physical DAK was intended for operational spendings--particularly for education and health fields; professional allowance and income of teacher with regional civil servant status (PNSD); and improvement of DAK management quality in infrastructure field. The detail of DAK and its components were shown in the table below. DAK related to stunting prevention effort was in bold.

Year 2015	Year 2016	Year 2017
Consisting of: (1) Regular DAK for regions which met general criteria, special criteria, and technical criteria; (2) Additional DAK for affirmation to lagging and border kabupaten/ kota areas with relatively low financial ability; (3) DAK for Working Cabinet's Priority Program Support (P3K2) and DAK proporsed by Regional Government approved by DPR RI.	Consisting of: 1. Physical DAK, including: a. Regular DAK, - Education - **Health and KB** - **Housing, Residence, Drinking Water & Sanitation** - **Food Sovereignty** - Environment and Forestry - Small-Scale Energy - **Marine and Fisheries** - Regional Government Infrastructure	Consisting of: 1. Physical DAK, including: a. Regular DAK, - Education - **Health** - Housing and Residence - **Agriculture** - **Marine and Fisheries** - Small and Medium Industries - Tourism b. DAK for Assignment - Vocational Education - **Health for Referral Hospital** - **Drinking Water**

Divided into: - DAK for Education - **DAK for Health** - DAK for Transportation - DAK for Infrastructure and Irrigation - **DAK for Drinking Water and Sanitation Infrastructure** - DAK for Regional Infrastructure and Government - DAK for Village Energy - **DAK for Marine and Fisheries** - **DAK for Agriculture** - DAK for Environment - **DAK for Family Planning** - DAK for Forestry - DAK for Trade Facilities - DAK for Housing and Residence	- Transportation - Trade, Small and Medium Industry & Tourism Facilities b. DAK for Regional Infrastructure and Public c. DAK for Affirmation	- **Sanitation** - Road - Market - Irrigation - Small-Scale Energy c. DAK for Affirmation - Housing and Residence - Transportation - **Health**
	2. Non-physical DAK, including: - School Operational Assistance (BOS) - Early Childhood Education Administration and Operational Assistance (BOP) - Professional Allowance for Teacher with PNSD status - Regional Government and Decentralization Project Fund - Additional Income for Teacher with PNSD status - **Health Operational Assistance (BOK)** - **Family Planning Operational Assistance (BOKB)** - Capacity Building Fund for Cooperative	2. Non-physical DAK, including: - School Operational Assistance (BOS) - Early Childhood Education Administration and Operational Assistance (BOP) - Professional Allowance for Teacher with PNSD status - Special Allowance for Teachers with PNSD status in Special Regions - Additional Income for Teacher with PNSD status - **Health Operational Assistance (BOK)** - **Family Planning Operational Assistance (BOKB)** - Capacity Building Fund for Cooperative and SME - Demographic Administrative Service Fund

From the perspective of regional government expenditure, the national priority was translated into several spendings by purposes and sectors which gave a picture of development priority at regional level. Judging from their purposes and sectors, the largest expenditure in almost all case study regions in 2017 was for purposes related to education sector, with an average composition of 28% of the regional government's total expenditure or having exceeded 20% target. The expenditure purposes of health and housing and public works alternately occupied the second and third places in different regions. As the main sector in stunting prevention specific interventions, the average expenditure for health in case study regions in 2017 reached 15% or exceeded the 10% target. Lampung Tengah was the region with the least health spending composition among the case study regions, with a percentage of only around 8%.

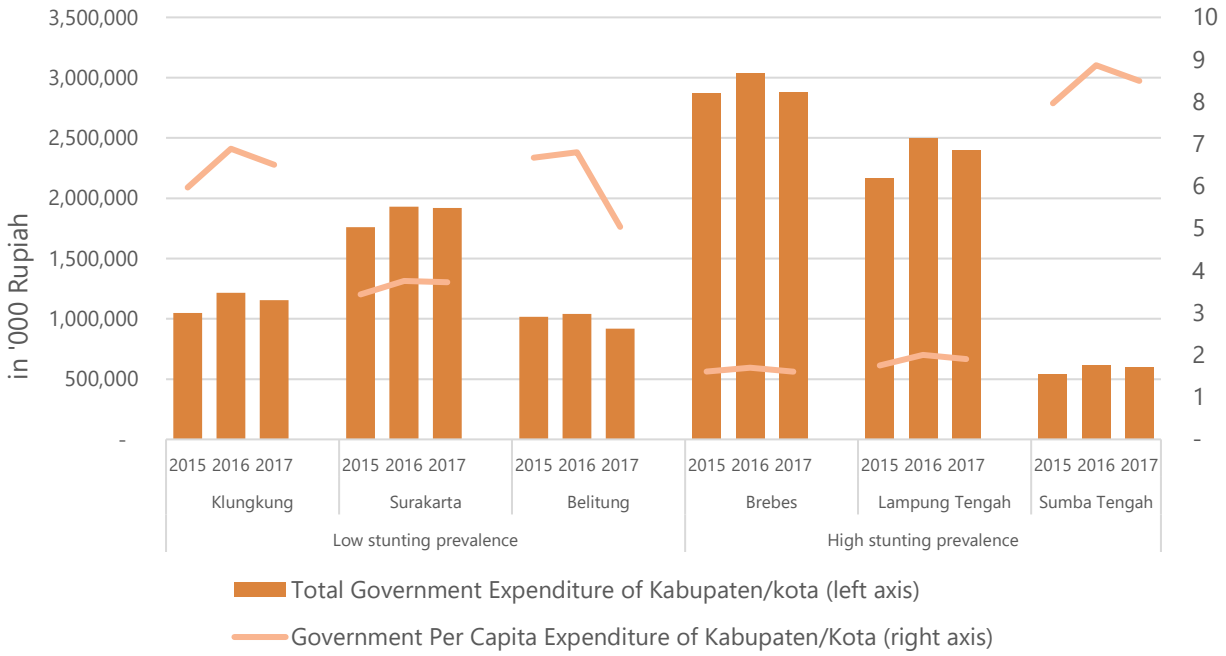
Figure 4. Spendings by Purpose in APBD, 2017



Source: Directorate General of Regional Government Financial Balancing, Ministry of Finance (per 18 September 2017).

Sumba Tengah's per capita expenditure was around Rp8.5 millions, much higher than the average per capita expenditure of all case study regions which amounted to approximately Rp4.5 millions in 2017. With this relatively large per capita expenditure, Sumba Tengah should have the biggest potential in funding their regional development—in this study context for stunting prevention. However, behind the fiscal potential that it had, Sumba Tengah had an extremely high stunting level, fairly complex poverty issue, and limited access to basic health services (Dinkes NTT, 2017; and Bappenas, 2017); Sumba Tengah also had the most inadequate infrastructures than other case study regions. Other regions with fairly great per capita expenditure were Klungkung and Belitung, which belonged to low stunting group. Meanwhile, as to the three other case study regions, namely Surakarta, Brebes, and Lampung Tengah, despite being the ones with largest total expenditure, their high number of population led to its low per capita expenditure.

Figure 5. Total Expenditure and Per Capita Expenditure of Six *Kabupaten/Kota*, 2015 - 2017



Source: Financial Statistics of Kabupaten/Kota Government 2015, 2016, dan 2017, BPS Indonesia

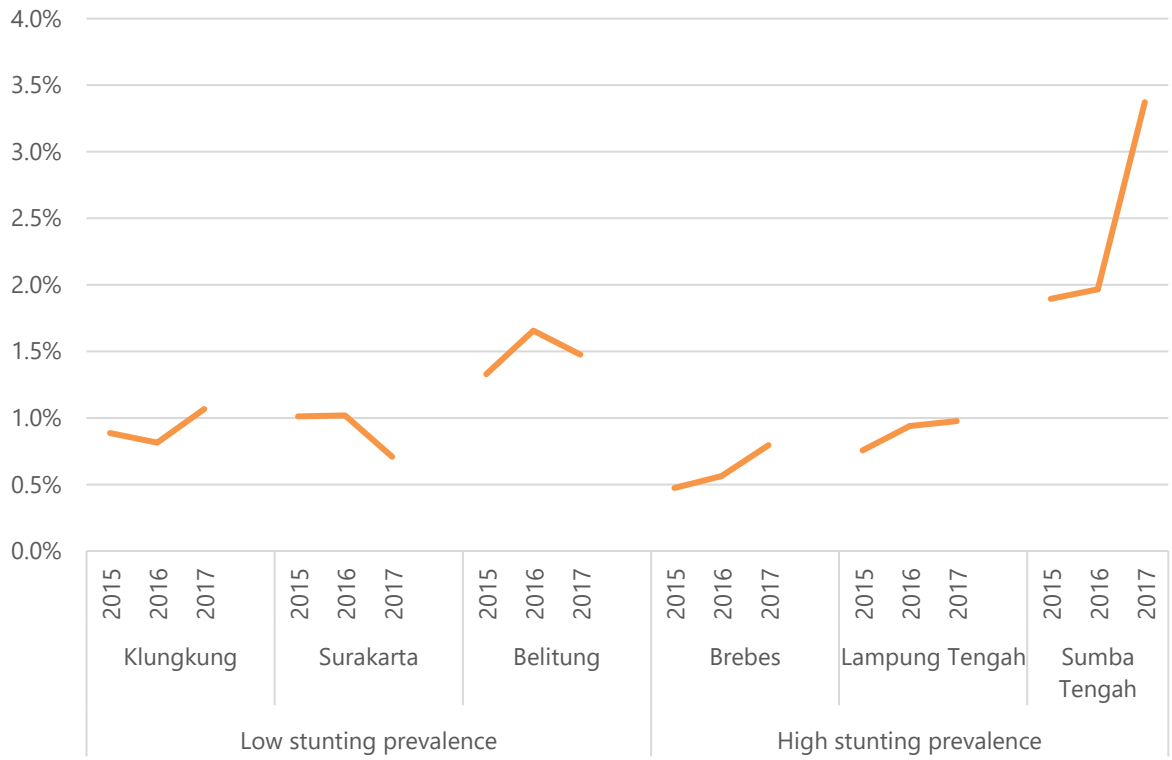
Note: realized figure

4.2 Regional Government Expenditure for Stunting-Related Intervention

The local governments of 6 case study kabupaten/kota still spend a small amount of their budget on stunting-related interventions. This could be seen from their average expenditure composition which was only about 1% of their total regional government expenditure for three years between 2015 and 2017.

Taking a look at the spending composition by purposes, the expenditure composition for stunting-related interventions only included a fragment of regional government expenditure for education, public works and housing, and health sectors which were the three sectors in charge of largest stunting budget in regions. The expenditure composition in high stunting group regions did show an increase, with the highest increase and largest expenditure composition being shown by Sumba Tengah. Nevertheless, even at its peak in 2017, the composition was not more than 3.5%. Other case study regions spent less than 2% of their total expenditure for stunting-related interventions. Two districts from the high stunting group, namely Brebes and Lampung Tengah, had the least composition, with an average of less than 1% since 2015 to 2017.

Figure 6. Expenditure Composition for Stunting-Related Interventions to Total Government Expenditure of Six *Kabupaten/Kota*, 2015 - 2017



Source: Accountability Report for Regional Government Budget (APBD) Implementation of Kabupaten/Kota, 2015 – 2017
Note: realized figure

The government expenditure of 6 kabupaten/kota for stunting-related interventions had its allocation spread for spendings in such sectors as health; demography and family planning; education; agriculture (including plantation, fisheries, and marine) and food resilience; public works and housing; social, and regional development planning. Successively, the regions with the largest expenditures for stunting-related interventions were Lampung Tengah, Brebes, Sumba Tengah, Surakarta, Belitung, and Klungkung.

Except in Jawa (Surakarta and Brebes), the largest expenditure was spent for projects in public works and housing sector, ranging from 32% to 67%. A fairly large expenditure for health sector was found in Brebes (45%), Klungkung (30%), and Surakarta (28%). Great amount of expenditure was also spent by the governments of case study regions for education sector. The detail of regional government expenditures and percentage of expenditure composition per sector in relation to stunting based on OPD sectors were shown in the table below.

Table 4. Stunting-Related Programs and Projects in Six *Kabupaten/Kota*, 2017

Stunting Level	Kabupaten /Kota	OPD Sector	Program	Project	Expenditure		Average Expenditure per Project
					Total	% per sector	
Low Stunting	Klungkung	**Health**	6	10	3,637,972,157	30%	363,797,216
		Demography and family planning	5	7	1,206,142,318	10%	172,306,045
		Education	1	3	2,671,961,716	22%	890,653,905
		Agriculture and Food resilience	1	14	695,963,747	6%	49,711,696
		Public works and housing	2	4	3,887,253,488	32%	971,813,372
		Social	1	1	206,311,700	2%	206,311,700
			16	**39**	**12,305,605,126**	100%	**315,528,337**
	Surakarta	**Health**	6	11	3,839,620,150	28%	349,056,377
		Demography and family planning	3	9	2,629,750,364	19%	292,194,485
		Education	1	4	59,527,000	0%	14,881,750
		Agriculture and Food resilience	1	6	6,921,233,398	51%	1,153,538,900
		Public works and housing	1	1	162,810,900	1%	162,810,900
			12	**31**	**13,612,941,812**	100%	**439,127,155**
	Belitung	**Health**	4	7	661,509,224	5%	94,501,318
		Development planning	1	2	184,588,784	1%	92,294,392
		Demography and family planning	5	10	2,112,882,219	16%	211,288,222
		Education	1	11	3,085,595,354	23%	280,508,669
		Agriculture and Food resilience	1	6	328,154,392	2%	54,692,399

Stunting Level	Kabupaten /Kota	OPD Sector	Program	Project	Expenditure		Average Expenditure per Project
					Total	% per sector	
		Public works and housing	1	5	7,095,962,182	52%	1,419,192,436
		Social	1	1	94,382,200	1%	94,382,200
			14	**42**	**13,563,074,355**	100%	**322,930,342**
High Stunting	**Brebes**	**Health**	6	15	10,279,046,615	45%	685,269,774
		Development planning	2	2	154,737,913	1%	77,368,957
		Demography and family planning	7	12	2,569,366,724	11%	214,113,894
		Education	1	5	4,017,355,000	18%	803,471,000
		Agriculture and Food resilience	1	12	784,529,545	3%	65,377,462
		Public works and housing	4	7	4,229,909,810	18%	604,272,830
		Social	2	3	892,323,093	4%	297,441,031
			23	**56**	**22,927,268,700**	100%	**409,415,513**
	Lampung Tengah	**Health**	6	12	1,555,410,343	7%	129,617,529
		Demography and family planning	6	20	2,628,053,611	11%	131,402,681
		Education	1	3	616,150,250	3%	205,383,417
		Agriculture and Food resilience	1	9	785,541,973	3%	87,282,441
		Public works and housing	2	5	15,609,505,752	67%	3,121,901,150
		Social	1	3	2,206,693,152	9%	735,564,384
			17	**52**	**23,401,355,081**	100%	**450,026,059**
		Health	5	11	1,027,486,806	5%	93,407,891

Stunting Level	Kabupaten /Kota	OPD Sector	Program	Project	Expenditure		Average Expenditure per Project
					Total	% per sector	
	Sumba Tengah	**Demography and family planning**	2	5	209,395,202	1%	41,879,040
		Education	1	6	5,112,780,200	25%	852,130,033
		Agriculture and Food resilience	1	8	408,415,100	2%	51,051,888
		Public works and housing	3	3	13,504,970,494	67%	4,501,656,831
			12	**33**	**20,263,047,802**	100%	**614,031,752**

Source: Accountability Report for Regional Government Budget (APBD) Implementation of Kabupaten/Kota, 2015 – 2017

Note:

- Realized figure
- nomenclature and name of each OPD were varied in each district, and what was shown in this table was OPD sector

4.2.1 Development and Composition of Regional Government Expenditure for Stunting-Related Interventions

The regional government expenditure of high stunting districts for each stunting target group community tended to increase from one year to another, yet its amount was relatively lower than what was spent by low stunting regions, except Sumba Tengah which had the highest expenditure among all case study regions.

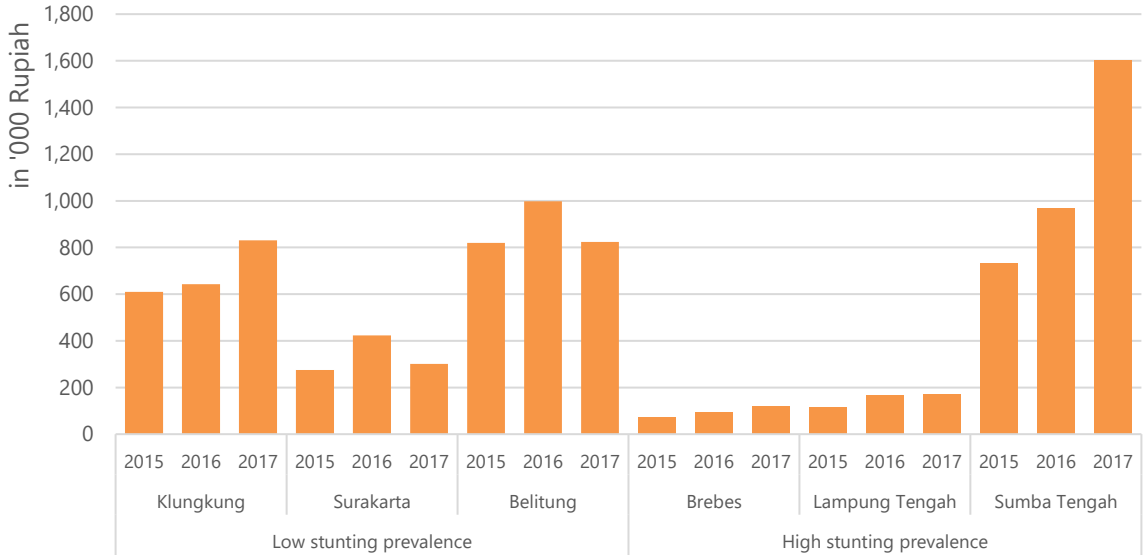
Successively, the governments of Kabupaten Sumba Tengah, Belitung, and Klungkung were the ones who spent the most of their budget for each stunting target community—pregnant women and children under five (toddlers).[9] They were followed by Surakarta, Lampung Tengah, and Brebes as the one spending the least. Sumba Tengah was the region with the highest stunting level, yet they spent the most of their budget for each stunting-related intervention target group community among all case study regions. From 2015 to 2017, the average per capita expenditure of this district for stunting-related interventions reached Rp1,100,000. The low number of population (stunting intervention target group) became the main explanation for the high per capita expenditure in Sumba Tengah.[10] On the contrary, two other regions in high stunting group—namely Brebes and Lampung Tengah, were the ones whose per capita expenditure for stunting-related interventions were the lowest among all, with an annual average of around Rp94,000 and Rp150,000. This number was far below the average expenditure in low stunting region group, i.e. about Rp645,000 per year. This relatively high average per capita expenditure among low stunting regions was mainly contributed by Belitung ad Klungkung whose average yearly per capita expenditures were around Rp694,000 and Rp881,000 respectively. In this region group, Surakarta had the lowest per capita expenditure for stunting, i.e. only around Rp363,000 per year.

Klungkung, Brebes, Lampung Tengah, and Sumba Tengah consistently showed per capita expenditure increase for stunting-related interventions, from one year to another. Except Klungkung, the other three districts belonged to high stunting region group. The highest increase was found in Sumba Tengah, averaging 49% per year. This expenditure increase was tightly related to matching fund allocation—particularly in special transfer fund component, in several purposes and priority regions. The high stunting regions in this study belonged to the national priority regions, and also among 100 stunting prevention priority regions. As for Surakarta and Belitung, which belonged to regions with low stunting, their per capita expenditure for stunting-related interventions in 2017 decreased by 17% and 29% respectively.

[9]In this report, the denominator to calculate per capita number was the number of pregnant women and toddlers, obtained from Health Profile Data of each district.

[10]In general, with its population being the least of all case study regions, the result of calculation of various per capita expenditures of Sumba Tengah was the highest—including the total per capita expenditure and per capita expenditure for stunting-related interventions.

Figure 7. Government Per Capita Expenditure of Six *Kabupaten/Kota* for Stunting-Related Interventions, 2015 - 2017



Source: Regional Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

Note: realized figure

4.2.2 Expenditure by intervention types: specific and sensitive

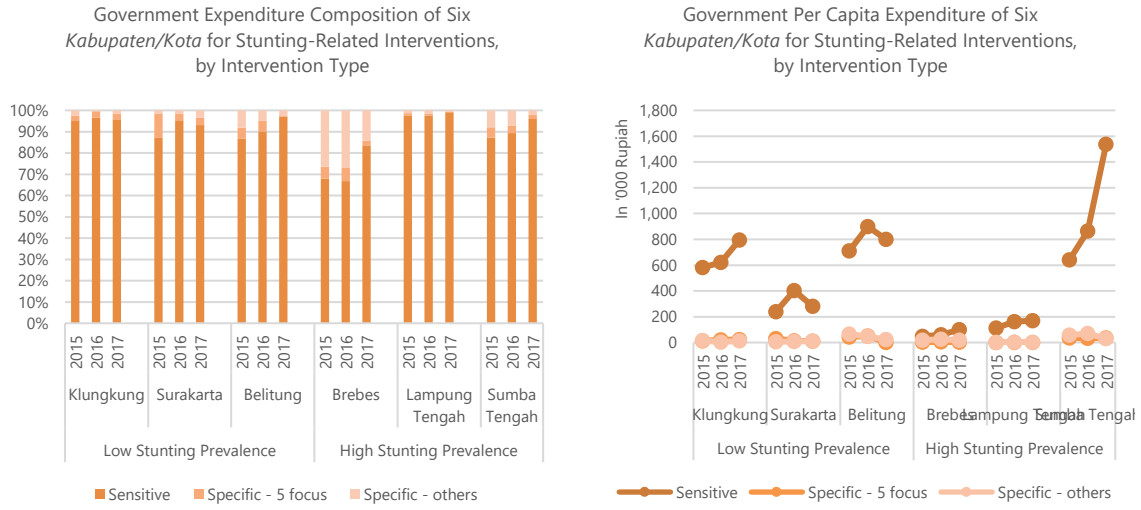
The largest expenditure was spent for sensitive intervention, which in many case study regions took the form of construction of infrastructure for clean water and early childhood education, and childbirth assurance (jampersal).

In general, the largest composition of stunting-related expenditure was used for sensitive interventions, with an average composition for each district ranging from 73% (Brebes—lowest) to 96% (Lampung Tengah—highest) for 2015 to 2017 period. The increased expenditure for sensitive interventions served as the main driver of increase in stunting-related expenditure in high stunting group regions. In these case study regions, the largest expenditure for sensitive interventions was spent for infrastructure construction and social security program, i.e. organization of clean water, childbirth assurance (jampersal), and organization of early childhood education (PAUD) facilities and infrastructures.

On the contrary, the expenditure for specific interventions ranged only from 4% (Lampung Tengah—lowest) to 27% (Brebes—highest), with the largest expenditure composition in nearly all regions being for other (non 5 focus) specific interventions. Surakarta, however, was excluded from this trend where in 2015 they spent fairly substantial amount of their specific intervention expenditure for the five focus specific interventions in the form of supplementary meal and vitamin provision projects. In regions with the largest specific intervention composition, i.e. Brebes, the specific intervention expenditure was used, among other things, for Nutritionally Deficient Community Information Mapping, Mothers' Health Improvement, and supplementary meal and vitamin provision projects.

From the perspective of their per capita expenditure value, the spending for sensitive interventions were greater than for the specific ones. As an illustration, per capita expenditure for sensitive interventions in 2017 ranged from Rp99,000—in Brebes as the smallest value—to Rp1,500,000—in Sumba Tengah as the largest one. Meanwhile, the per capita spending for specific interventions only ranged from Rp1,500—in Lampung Tengah as the least one—to Rp65,000—in Sumba Tengah as the largest one. This spending amount surely did not completely reflect the actual implementation of interventions, since some interventions received *inkind* transfer—be it in the form of goods and services—from the central and province governments. In addition, the implementation also received support ftom the village government. For the 5 focus interventions, all supplies were provided by the central government, allowing the regional government expenditure to be spent only for supporting components, such as local PMT. Additionally, in several regions, the large amount of expenditure was also directly proportional to the geographical challenges of their regions.

Figure 8. Government Expenditure Composition and Per Capita Expenditure of Six *Kabupaten/Kota* for Stunting-Related Interventions, by Intervention Type



Source: Accountability Report of Regional Government Budget (APBD) Implementation of Kabupaten/Kota, 2015 – 2017
Note: realized figure

4.2.3 Expenditure by sectors in charge

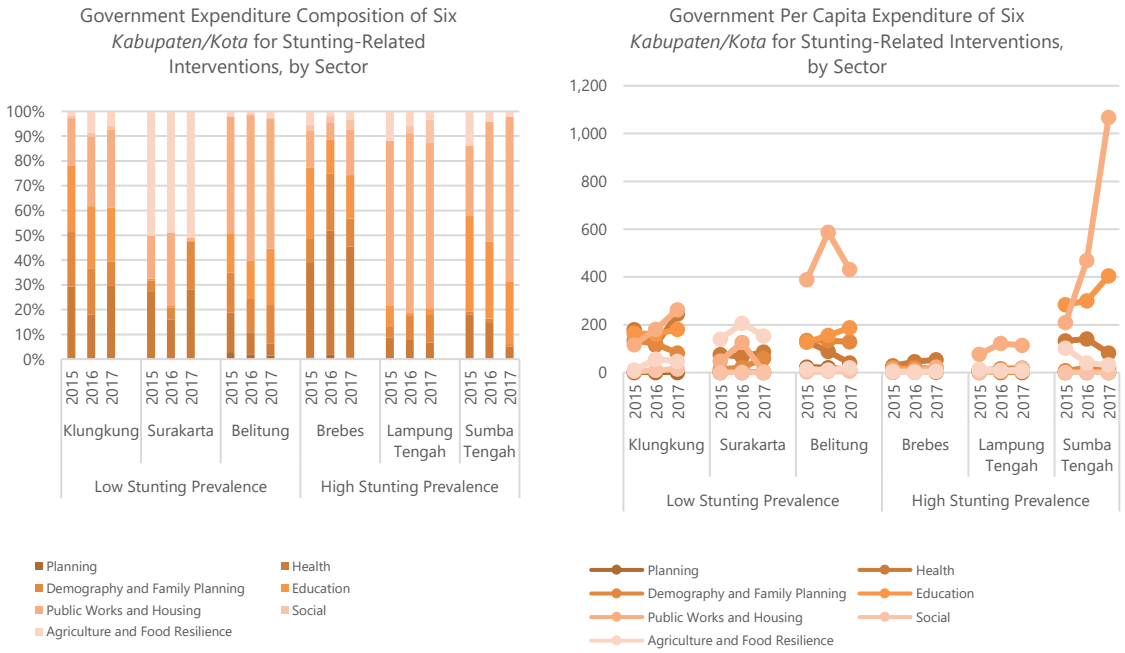
The role played by public works and housing sector was the most commonly seen in case study regions located beyond Java and Bali, through many sensitive intervention they managed. However, in Java and Bali, health sector played a fairly significant role. Another sector with significant role was education.

The departments or offices related to Public Works And Housing (PUPR) became the main parties in charge of managing the largest stunting-related expenditure, through various interventions of clean water and sanitation facility construction and development they performed. Meanwhile, main sectors in charge of stunting specific interventions was Health Department, yet among the case study regions, only

those regions in Java Island (Surakarta and Brebes) and Bali (Klungkung) had a fairly great expenditure composition for their health sector. This health sector's expenditure composition seemed to be inversely proportional to public works sector, which seemed to be greater instead in regions beyond Java Island. Another main sectors in charge of the largest stunting-related budget was Education Department through interventions related to infrastructure for organizing PAUD.

Deviating from the general trend, in Surakarta, the departments related to Agriculture and Food Resilience managed the largest stunting-related expenditure, which was used for local food reserve development project. Only in Klungkung a fairly balanced role played among sectors could be seen, with an expenditure composition not too different among public works, health, education, and demography and family planning sectors. The qualitative in-depth investigation of this study also found that the stakeholders in this region had a fairly good understanding on stunting, not just from those working for health sector, rather also from other sectors.

Figure 9. Government Expenditure Composition dan Per Capita Expenditure of Six *Kabupaten/Kota* for Stunting-Related Intervention, by Sector in Charge



Source: Accountability Report of Regional Government Budget (APBD) Implementation of Kabupaten/Kota, 2015 – 2017

Note: realized figure

4.2.4 Expenditure by type of spending

The spending type composition depended on the nature and purpose of intervention activities. Goods and services spending was found to make the largest composition in various projects in many regions. The capital spending component was commonly found in projects related to clean water and sanitation infrastructure construction in regions beyond Java Island and Bali. The employee spending component was commonly found in early childhood education project.

In nearly all case study regions, the largest composition of government expenditure for stunting-related interventions are in goods and services spending, with a total average for three years being around 66%. The only exception was in Belitung whose more than 50% of their budget was used to purchase capital goods. For health programs, the expenditure was generally spent for consumables and service payment. Some other portion was used to purchase long-lasting capital goods and the remaining was for employee/non-employee fees.

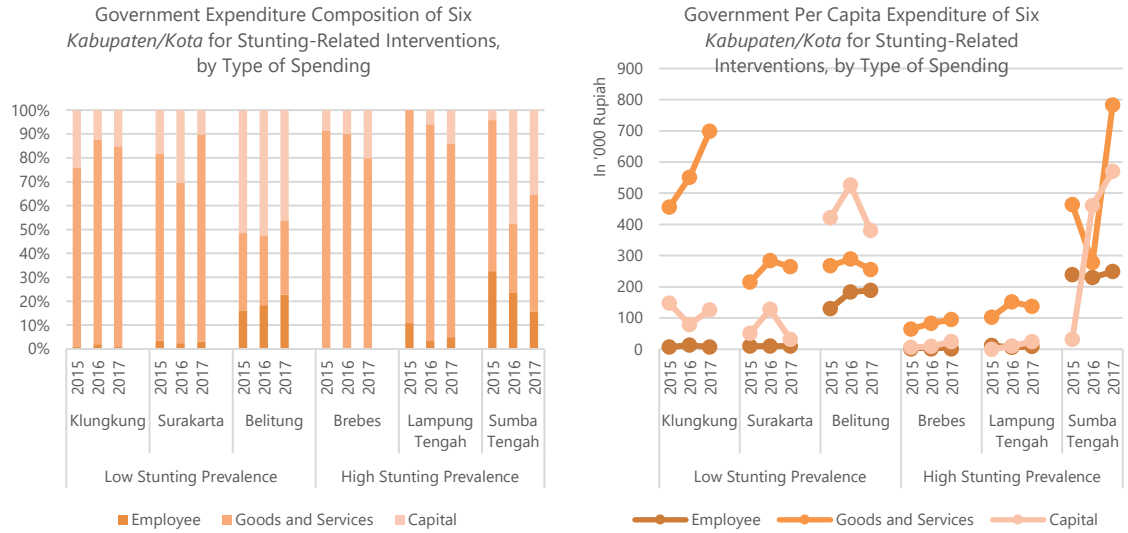
The composition of spending types depended on the nature and purpose of intervention activity spending. For example in Lampung Tengah, while their largest spending portion was for clean water and sanitation infrastructure operation, a fairly great portion of the budget was spent on consumables such as closet given to the community for water closet facility construction, thus it was classified as goods and services spending. Even though both Belitung and Sumba Tengah spent most of their budget for clean water and sanitation, their largest spending component was classified as capital spending. Belitung's capital spending was even deemed as the largest among the case study regions, used for constructing facilities, procuring drinking water network, connection network to houses, and equipment and machines.

Goods and services spending had the most varied components. In addition to intersecting with capital spending, personnel-related spending could also be classified into this type of spending. If a procurement of long-term nature was classified as capital spending, then the procurement of consumables was classified into goods and services spending. The support components, ranging from foods and drinks (consumption provided for projects) to printing and reproduction to stationery and to raw materials were classified to this spending type. As to personnel spending, for those with short-term or non-permanent working period such as consultant service, it was classified into goods and services spending. Another variation was personnel official travel, which in many projects became one of the largest portion than other expenditures.

Meanwhile, employee spending was found with the least composition in almost all case study regions. This employee spending was generally used for honorarium component (civil servant and non-civil servant monthly) in many aspects of a project such as procurement, monitoring, and even checking and overtime fee. One of the factors which made personnel spending relatively lesser was the fact that a portion of employee costs had been covered by indirect spending of each OPD, in the form of employee's salary and allowance. In the direct spending component, the relatively large composition of employee spending was found in projects related to early childhood education funded

by the Education Operational Assistance (BOP). In Belitung and Sumba Tengah, the relatively great composition of employee spending was related, among other things, to the existence of procurement and operation committee of infrastructure projects which were pretty massive in both regions, and this was also directly proportional to their equally large composition of capital spending.

Figure 10. Government Expenditure Composition and Per Capita Expenditure of Six *Kabupaten/Kota* for Stunting-Related Intervention, by Type of Spending



Source: Regional Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

Note: realized figure

4.3 Reliability of Regional Government Budget Planning and Expenditure

In every budget period, the local government tried to prepare and adjust their budget to make it more compliant with the regulations, to better fulfill their actual needs, and to make it more realistic for them to implement it. There were two important issues which reduced the reliability of regional government expenditure for stunting-related interventions. *The first issue* was the less reliable accuracy of budget planning. This could be seen from the deviation between original and revised budgets, as well as the fairly great deviation between revised and realized budgets. *The second issue* was the low absorption of regional government budget. This could be seen in the deviation between revised and realized budgets.

4.3.1 Budget planning accuracy

Preparing an accurate budget plan was still a problem for most case study regions. This budget inaccuracy was mostly driven by budgets of major projects and those funded by special fund transfer. This, in turn, showed that the local and central governments were out of sync in budget planning process.

a) Initial planning accuracy

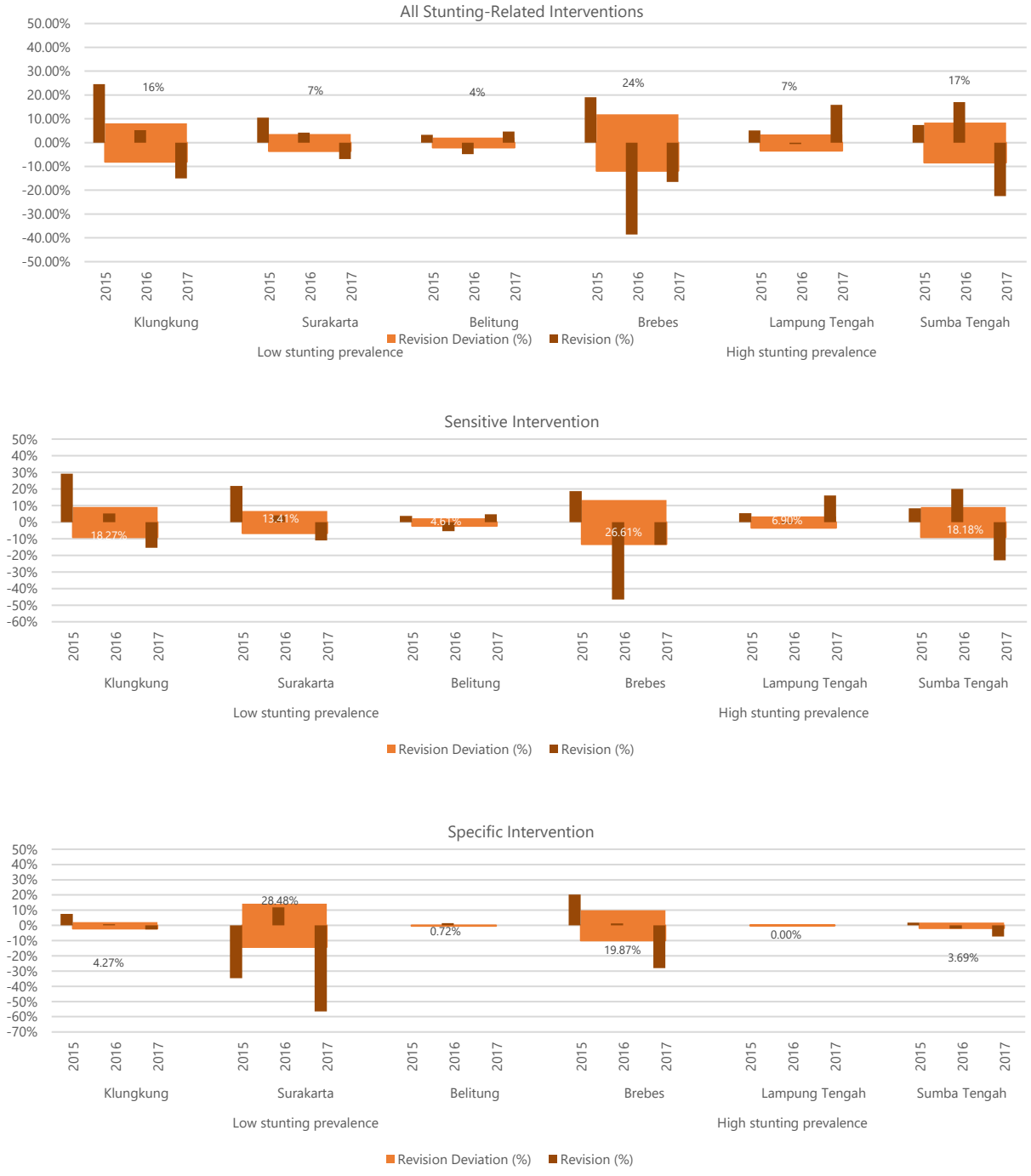
The accuracy of initial planning could be seen from the revision made to the original budget. On average, the revision of original budget made by the governments of all case study regions was relatively insignificant (1%). Nevertheless, as we observed the detail of each budget period, the revisions were fluctuative. Belitung's budget planning was relatively more accurate, hence not much revision was made to its original budget. Meanwhile, the revisions made to budgets of other five regions were fluctuative and highly fluctuative, be it due to *over-estimate* or *under-estimate* in their original budgets. This budget revision fluctuation could be seen from the value of standard deviations which on average ranged around 12% and even more than 15% in some regions.

A generally relatively great deviation of budget revision occurred in three regions, namely Brebes (24%), Sumba Tengah (17%), and Klungkung (16%). This significant budget fluctuation was driven by the revised budget for sensitive interventions, in the form of infrastructure project whose unit cost was great and funded by special transfer fund, such as: clean water facility and infrastructure construction, PAUD operation from Education Operational Assistance for PAUD. In Brebes, in 2016 a drastic revision was also made to the childbirth assurance (Jampersal) budget which was revised from around Rp9 Billions to around Rp3 Billions. A break down on the amount of revision and its deviation by types of intervention gave a clearer picture of the budget fluctuation trend of each intervention group. The substantial fluctuation in sensitive interventions in Brebes, Sumba Tengah, and Klungkung explained the magnitude of stunting budget fluctuation in general in these three districts. Meanwhile, the largest fluctuation in budget for specific interventions occurred in Surakarta and Brebes. In both districts, the fluctuation was triggered by budget cut for supplementary meal and vitamin provision projects from around Rp2 Billions to only around Rp80 Millions in 2017 in Surakarta and from around Rp700 Millions to around Rp200 Millions in Brebes in the same year.

Three districts with largest overall deviation were from high and low stunting groups, meaning that this budget plan accuracy issue could take place anywhere regardless the stunting condition. With the fact that many of the regional intervention budgets and programs were initiated by the central government, it could be said that these issues were tightly related to the process and mechanism of planning and budgeting between the regional and central governments. The out-of-sync schedule between regional government's budget planning and central government's budget policy determinantion only allowed districts to have a little time to prepare a more suitable planning. At the end of the day, the districts prepared an original budget in reference to the previous year's one, and a revision was made to better suit the central

government policy. In some cases, the revision was made to adjust the planned budget with the determined ceiling and or technical guidance, wich usually came after the budget planning schedule in districts. In addition, several sources of funding also required a certain extent of absorption to make it disbursable.

Figure 11. Revision and Deviation of Revision between Original and Revised Budget, Stunting-Related Interventions 2015 – 2017



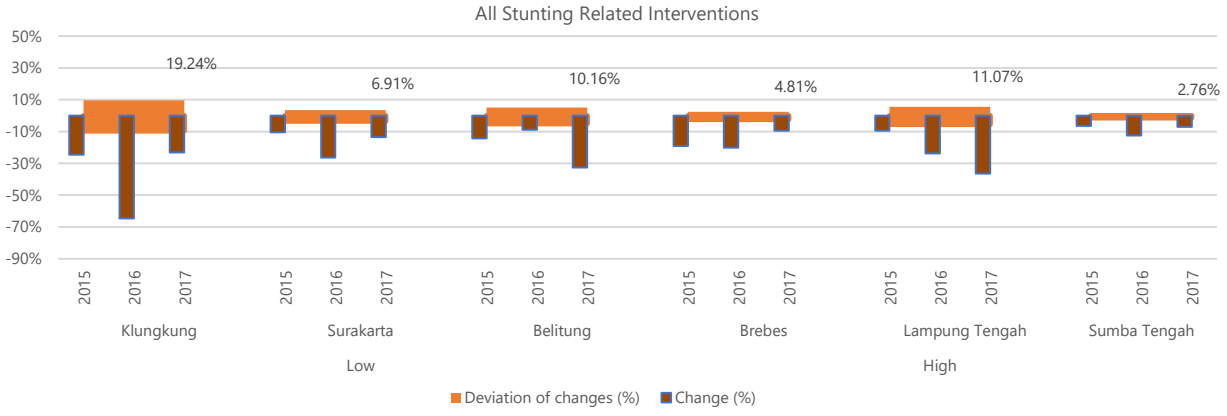
Source: Regional Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

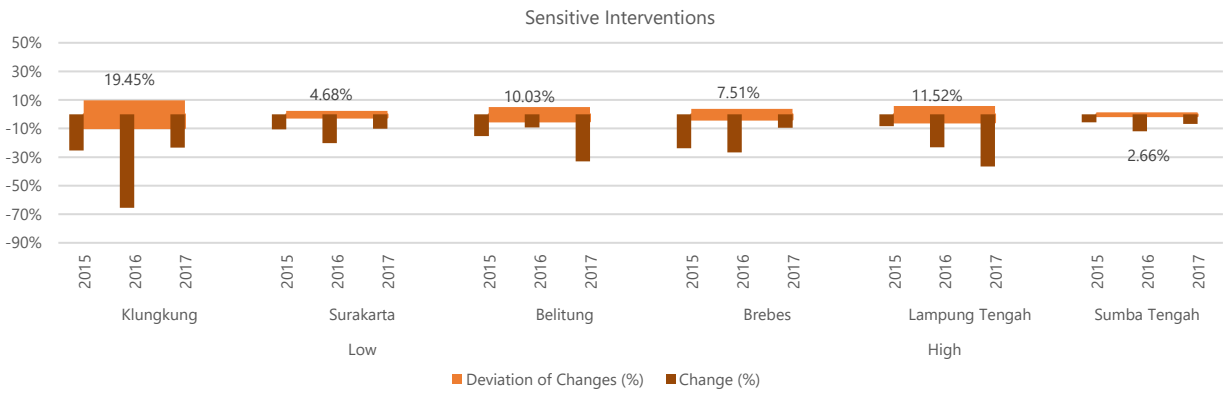
b) Accuracy of revised budget and estimation of regional government budget absorption ability

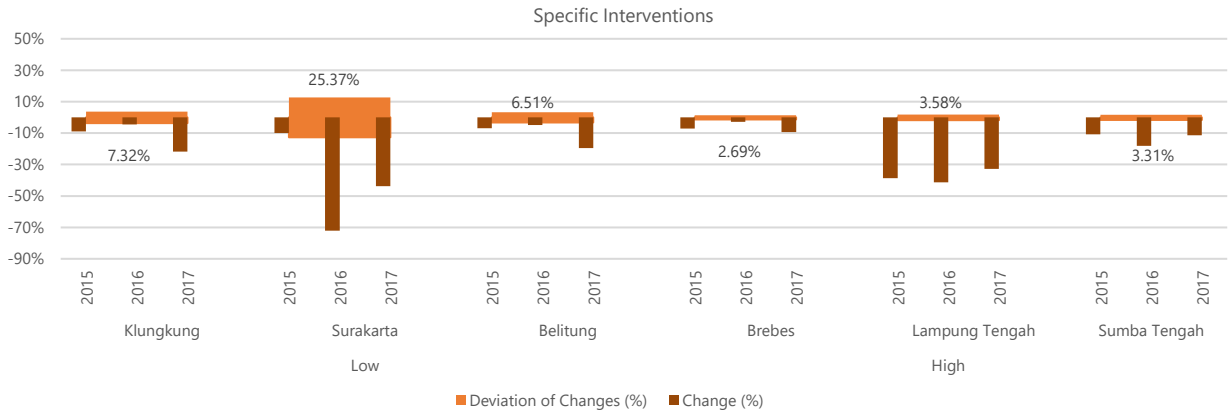
The accuracy of revised budget and estimation of regional government budget absorption ability could be seen from the revision and deviation between the revised and realized budgets. The average budget realization against the revised budget occuring in all case study regions from 2015 to 2017 was -20%, with 14% standard deviation. Unlike the revision between the original and revised budgets whose variation was fluctuating, the revision between the revised budget and its realization consistently decreased in all case study regions. This means the realization was always lower than the revised budget.

Klungkung, Lampung Tengah, and Belitung were the three regions with the highest average revision and deviation of revision between the revised and realized budgets. The deviation occured almost in all interventions, yet the main driver was sensitive interventions with large unit cost and coverage scale such as those interventions related to clean water and sanitation, PAUD operation, and Jampersal. The less accurate revision caused a burden to the budget implementation process at local level. However, these districts' own ability in performing the (revised) budget was also the main reason for the low budget absorption in many case study regions.

Figure 12. Revision and Deviation of Revision between Revised and Realized Budgets, Stunting-Related Intervention 2015 – 2017







Source: Regional Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

4.3.2 Budget absorption

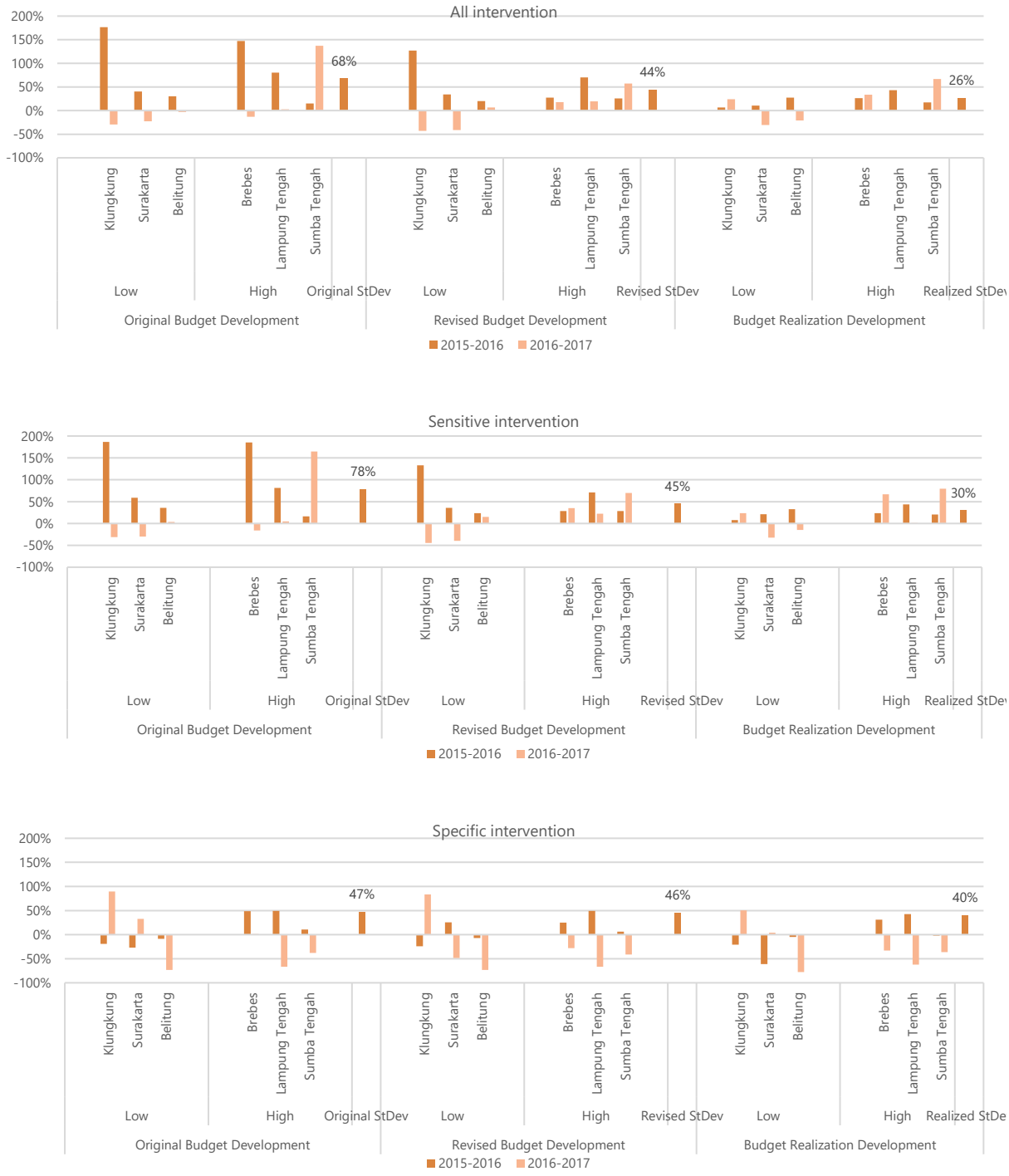
Low budget absorption had been an issue to all case study regions. Additionally, the varied development and fluctuation of original, revised and realized budgets also showed that there was no difference between high and low stunting regions in relation to capacity building in performing projects and absorbing budget.

The less accurate revision and low ability to utilise the budget caused the low budget absorption by the districts. In addition to obstacles in the implementation process, many issued during budget planning and revision stages also influenced the implementation time and eventually this affected the budget absorption. Another issue was the fact that the capacity of executing parties could not drastically change to follow the allocated budget. Personnel shortage (both in terms of their quanitity and capacity) had been frequently complained by stakeholders in regard to the obstacles encountered in implementing the intervention programs. This resulted in the budget absorption level (realization) not significantly changing, regardless the change made to the amount of budget allocation .

Judging from the development of stunting intervention budget in general for three years, the least average fluctuation occured in budget realization, with 26% deviation. This was then followed by revised budget the deviation of which was 44%, and the largest one was the fluctuation in the original budget whose deviation was as high as 64%. The average overall fluctuation of stunting interventions in all case study regions was 46%, predominantly driven by fluctuation in sensitive intervention budget whose average deviation was as high as 51%. Not too different from this overall fluctuation, the specific intervention budget had an average revision deviation of 44%. Just as the general trend, in both sensitive and specific interventions, the largest fluctuation occured in original budget, followed by the revised and realized budgets successively. Looking at it closer per district, the largest original budget fluctuation was experienced by Klungkung, Brebes, and Sumba Tengah. For budget realization, Brebes and Klungkung had the least fluctuation, and the other four districts had nearly similar fluctuation at 20% to 25% range.

The relatively small budget realization fluctuation showed that no significant improvement was made to the regional government's capacity in performing the programs and absorbing the budgets. Meanwhile, the relatively high fluctuation of original and revised budgets indicated that the budget planning did not pay enough attention to its ability to absorb regional government budget.

Figure 13. Budget Value Revision, Revised Budget, and Budget Realization, 2015 - 2017



Source: Regional Government Budget (APBD) of Kabupaten/Kota, 2015 – 2017

4.4 Case Study: Budget Allocation for PMT and Immunization

Budget allocation for intervention projects did not seem to correlate with their achievement indicators. The trend of allocation type in PMT intervention was relatively similar among districts, and on the contrary for immunization it was widely varied. However, both shared the failure to explain the variation of PMT and immunization intervention achievements.

Budget management and its allocation played an important role for an intervention to deliver the best outcome. Using a certain predetermined budget, the persons in charge of that budget strived for allocating it to make it cost-effective that significant results and impacts could be achieved (Pearson, et.al., 2018 dan Scott, et.al., 2017). PMT and immunization were two interventions with the largest budget among the other specific interventions this study case focused on. In relation to stunting, PMT served two main functions, i.e. as a preventive intervention and a curative one (recovery) to deal with malnutrition cases. Meanwhile, immunization was related more to preventive attempts, i.e. improving children's immunity to diseases, to prevent children from malnutrition risk. This part sees what both interventions had achieved and how the project budget in relation to these two interventions was allocated in each of the case study regions.[11]

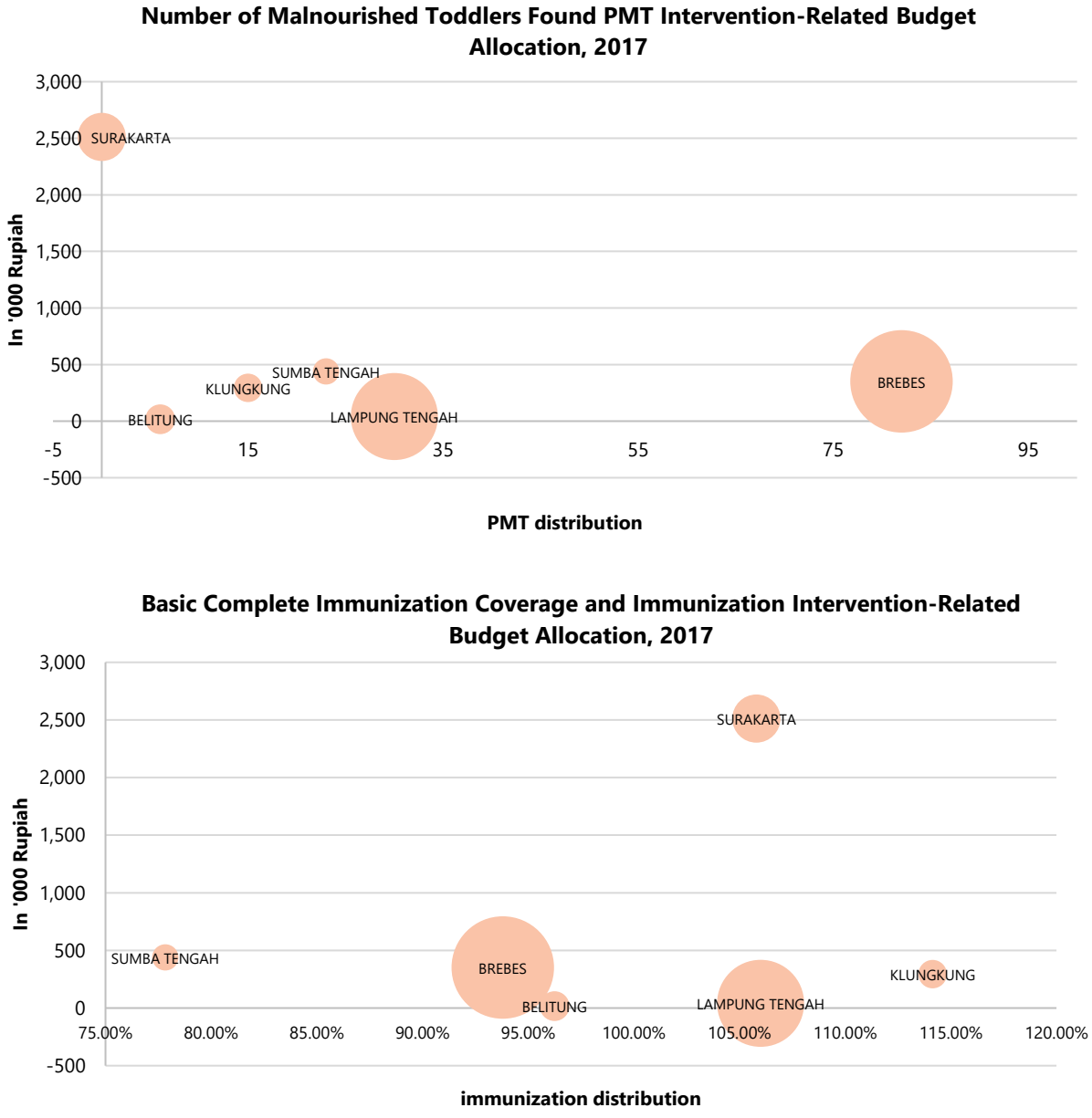
Apart from the allocated budget, there was a noticable variation between high and low stunting regions in the achievement indicator related to malnutrition intervention, yet not in immunization intervention which had been fairly high in all regions, except Sumba Tengah. In 2017, the lowest number of cases of malnourished toddlers found and receiving treatment was in Surakarta, Belitung, and Klungkung. The three were classified as regions with low stunting level. Meanwhile, the most cases were found in Brebes, followed by Lampung Tengah, and Sumba Tengah, which all belonged to high stunting group regions. For immunization, its achievement did not consider the districts' stunting condition. The highest coverage of basic complete immunization in 2017 was in Klungkung, Surakarta, and Lampung Tengah. It was then followed by Belitung, Brebes, and Sumba Tengah. Despite being the lowest in terms of its achievement, the IDL coverage in Sumba Tengah increased extremely significantly, almost four times its coverage in 2015.

From the perspective of its achievement development, there was an increase in the number of malnourished children found in Lampung Tengah in 2017 than in 2015. A decrease was observed in Brebes and Sumba Tengah. And the low stunting regions tended to have stable number of cases. For immunization, the increase in IDL coverage

[11]To see the achievement of PMT, this report used the number of malnutrition cases found and receiving treatment. The data were obtained from the Regional Health Profile, which was the only indicator of output which could represent it, even if it only explained the curative effort of PMT provision. As to immunization, this report used the complete basic immunization (IDL) coverage which also came from the Regional Health Profile.

was found in all case study regions, yet the most significant one was shown by Sumba Tengah.

Figure 14. Illustration of Intervention Goal Achievement: Number of Malnourished Toddlers and Immunization Coverage, 2017

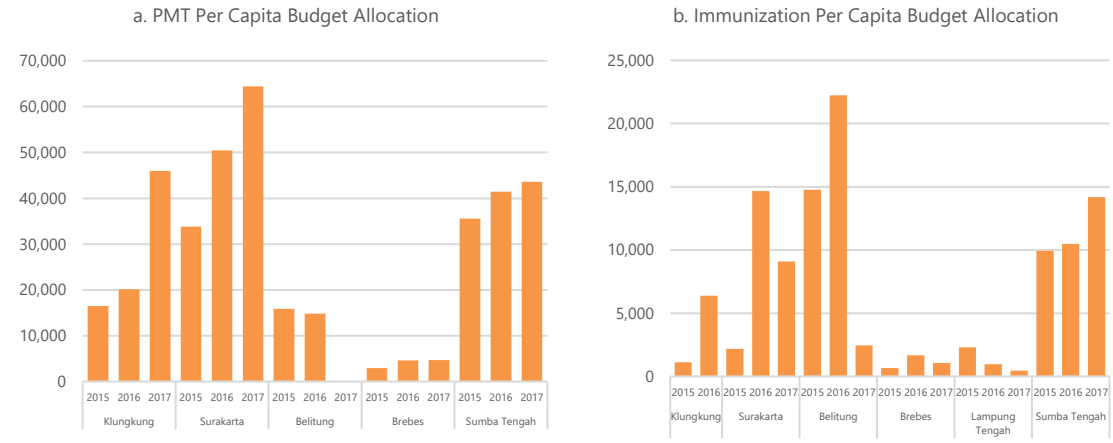


Source: 2015 – 2017 DPA and 2017 Regional Health Profile.

In terms of their per capita budget allocations, in Figure 15, Surakarta and Sumba Tengah were the kabupaten/kota that invested the largest amount of their budgets in PMT-related interventions. As for immunization, Belitung, Sumba Tengah, and Surakarta were the kabupaten/kota whose per capita budget allocations were the highest. This indicated that a substanstial budget allocation could be benefited by Sumba Tengah in the form of improved intervention achievement in 2017 as compared to the previous two years.

Meanwhile, for such regions as Surakarta and Belitung whose conditions had indeed been good, the larger budget was benefited mostly to maintain their current good condition. In general, what Brebes and Lampung Tengah were going throygh was explained by their limited budget allocation. Meanwhile, among the low stunting regions, Klungkung had lower per capita budget allocation yet they successfully reached nearly as good achievement as Surakarta and Belitung.

Figure 15. Per Capita Budget Allocation for PMT and Immunization-Related Interventions



Source: 2015-2017 DPA.

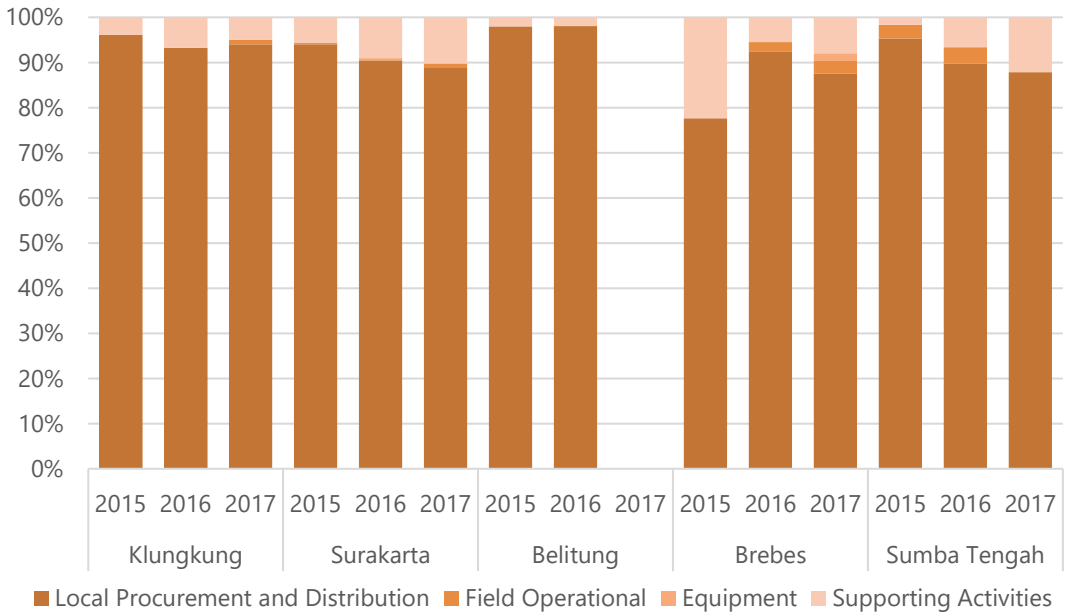
The budget for PMT in all case study regions increased from one year to another. This served as an indication the district's increasingly higher commitment in organizing local PMT. Nevertheless, this did not apply to Lampung Tengah which had no budget at all for PMT, and completely relied on the PMT supplied by the central government (Kemenkes). In 2017, the absence of PMT-related program budget in Belitung was due to the lack of communication with the central government in relation to the type of PMT to be launched by the central government.[12] The budget dedicated by Surakarta for PMT was the largest among all. Meanwhile, the amount of budget for PMT in high stunting group regions was fairly small than the number of beneficiary community, in this case severely malnourished children. The high intervention service standard seemed to explained the great amount of PMT budget allocation in Surakarta. Unlike other regions, the PMT intervention in Surakarta was given by health personnel directly to the beneficiary group, using processed meals prepared by catering service. Additionally, during certain period a doctor would accompany as the program was organized.

Most regions used PMT program budget to fund the program's main activity, particularly for material supply. The largest composition of support activity budget and field operation was observed in Brebes and Sumba Tengah. The large operation budget in these two regions was due to the remote locations, resulting in the need for local transportation costs. Among the low stunting regions, the largest support activity budget

[12]Belitung local government was concerned that there would be an overlapping since they thought that the PMT program from the central government would be given in the form of milk as what had been organized by the local government.

was allocated by Surakarta. The components of support activity budget consisted of dissemination and training, planning activity, and fees related to those activities.

Figure 16. Composition of PMT-Related Intervention Budget Allocation

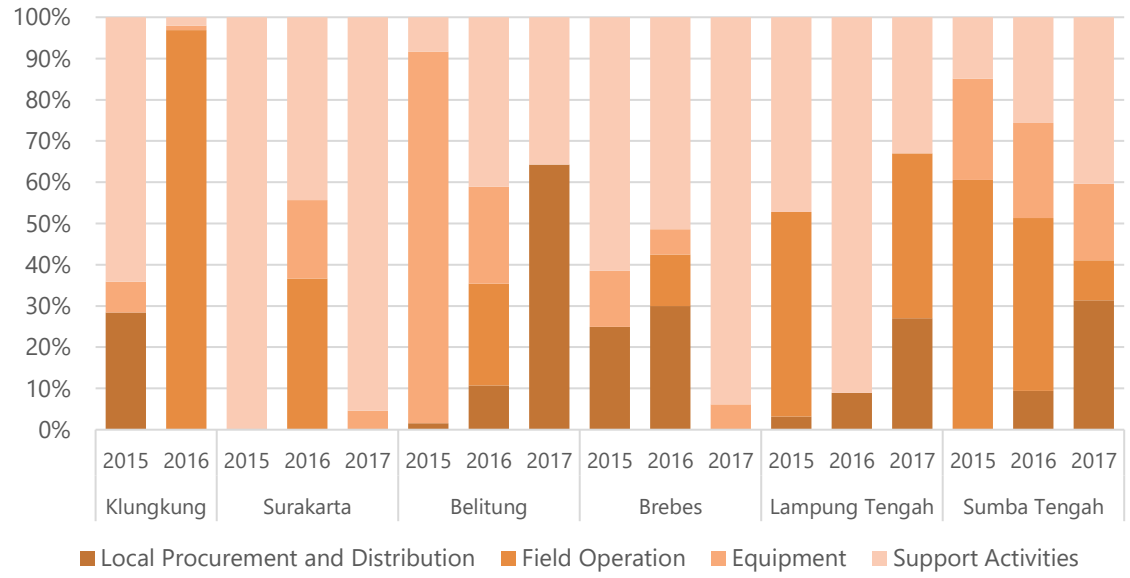


Source: 2015 – 2017 DPA.

Note: Local Procurement includes procurement of PMT materials, Operations include transportation for cadres who distribute and track nutritional cases for puskesmas, Equipment such as body length measurement tools, scales and microtois, and Supporting activities including office stationery, consumption activities, and others.

Unlike PMT program, the budget allocation for immunization program was highly varied and followed an unclear pattern. This occured in all regions except Sumba Tengah. The fluctuation occured not only in terms of its amount, rather it also happened to its allocation. This could be seen in the average proportion of spending related to the main activities against the total immunization program spending of 50.22% and standard deviation of 29.69%. This fluctuation occured not only between regions, but also between years in the same district. The fluctuation was caused, among other things, by procurement of storage facility in certain years. The largest portion of immunization budget in the case study regions was used for training and dissemination activities, as well as transportantion (for taking and delivering vaccine).

Figure 17. Budget Allocation Composition of Immunization-Related Intervention



Source: 2015 – 2017 DPA.

Note: Procurement such as vaccine collection and delivery, operations include conducting events such as National Immunization Week (PIN), Equipment includes the purchase and maintenance of equipment such as refrigerators and vaccine carriers, and supporting activities includes expenditure on stationery, consumption costs, and expenses related to meetings (outreach/planning).

V. Stunting Intervention Implementation within the Scope of Budget Use: A Case Study of Five Focus Interventions

The five focus interventions were direct interventions from the central government. The Central government, through the ministry of health, was responsible for organizing some activities, such as, providing implementation guidelines, planning the intervention goods need, determining the method for calculating the needs in districts, providing or purchasing intervention goods, distributing intervention goods at least to province level– especially for PMT to puskesmas, and performing socialization activities at least at province level.

The regional government received the focus interventions based on the type of interventions they had to give to the target group, i.e. in the form of supplementary meal (biscuit), vaccine and their supporting materials (diluent, syringe), Fe blood supplement tablet, vitamin A capsule, and zinc. These intervention goods were handed over by ministry of health to the Province Health Department. Then, the intervention goods were given to the kabupaten/kota government, with the district's Health Department as the one in charge of it, to be delivered to the target group through puskesmas and their personnel.

In addition to being the one in charge of organizing the interventions in their region, regional government was also responsible for administering support activities of managing intervention goods logistic and support activities for a succesful intervention. The support activities of managing logistic involved preparing need plan, storage, distribution, and reporting. Meanwhile, support activities for a successful intervention included, among other things, socialization to target beneficiaries, health personnel training, and monitoring and evaluation (monev).

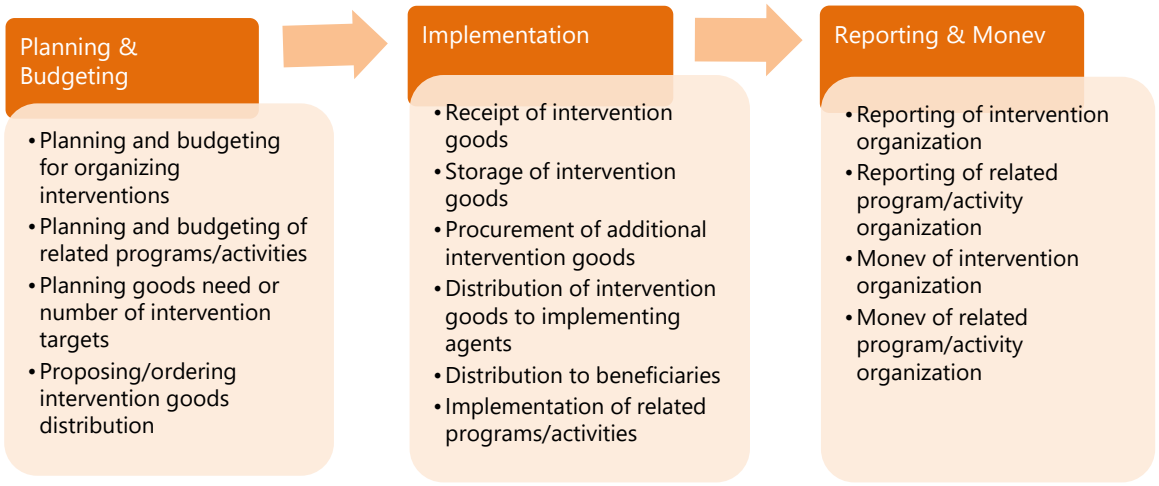
Some regional governments also procured the same or similar intervention goods, be it to complement/add the focus intervention goods or to be the districts' own program/activity. The additional focus intervention goods was usually procured by the local government since its distribution from the central government was delayed and the focus intervention goods supply was insufficient, or merely just in case those two events occured. Meanwhile, similar local government's program/project were mostly PMT in other forms such as milk and ready-to-eat meals.

In general, the focus intervention-related activities in the study regions were part of Community Nutrition Improvement Program, Medicine and Health Supply Program, Infectious Disease Prevention and Response Program, and Community Health Attempt Program. The classification was different in different regions or even

the same region for a different budget year. An example of different program umbrellas for the same intervention occured in immunization case; In Belitung, immunization fell under Community Health Attempt Program and in other kabupaten/kota it fell under Infectious Disease Prevention and Response Service Program.

Generally speaking, the organization of focus interventions and related programs/activities performed by the regional government included such stages as planning and budgeting, implementation, and reporting and monev. The implementation of all these activities followed a budget year's cycle. The types of activities in each stage of intervention organization were summarized in Figure 18.

Figure 18. Flow of Organization of Focus Interventions and Related Programs/ Activities in Districts



5.1 Planning and Budgeting

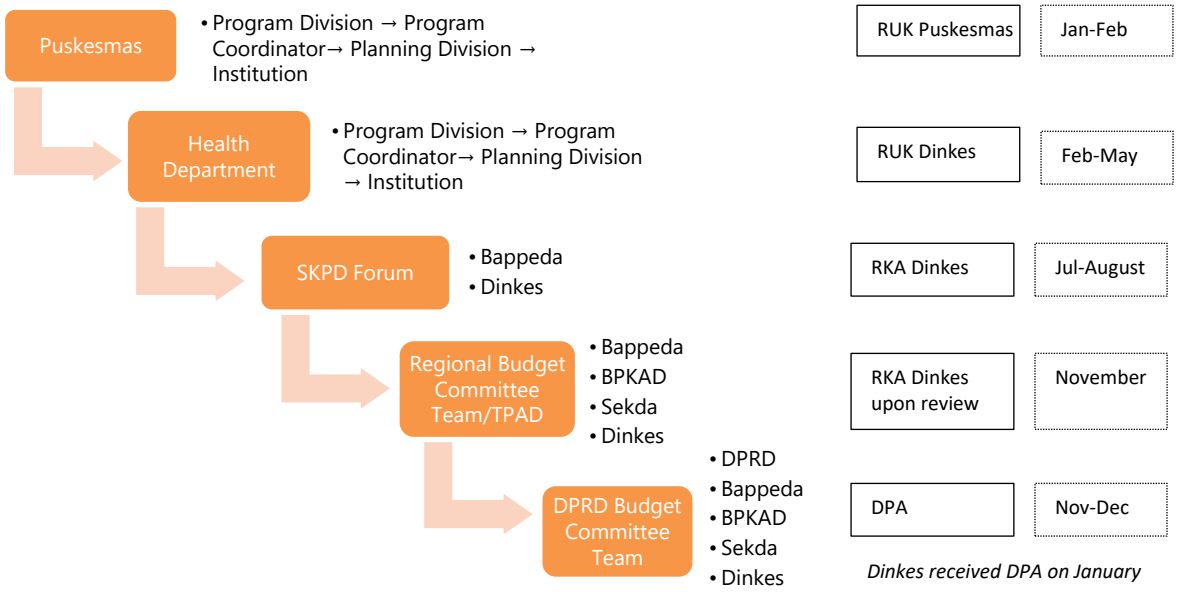
The local government's support for the organization of focus interventions and related programs/activities was funded from many sources, including APBD of PAD and transfer funds (DAK, DAU, and DBH). This resulted in a consequence for the Health Department of kabupaten/kota to prepare some planning and budgeting as per the provision of each source of funding in every budget year. For programs funded by DAK, the planning and budgeting needed to coordinate with the provincial (Health office and Regional development planning office) and central governments (ministry of health, Ministry of finance, and Ministry of national development planning) and use e-renggar application. Meanwhile, for projects funded by others in APBD, the planning and budgeting were coordinated with relevant OPDs at kabupaten/kota level (Bappeda, BPKAD, DPRD, and regional head) and Ministry of Home Affairs and used the planning and financial application of each district.

5.1.1 Planning and budgeting mechanism

The planning and budgeting of focus intervention activities and related programs/activities followed a mechanism and schedule which had been

determined and implemented in stages. The planning and budgeting with a source of funding from APBD began from puskesmas by taking into account the suggestions from all divisions, including those for health personnel/facility within their working area, such as village midwives and nurse assigned to public health sub-centers or *puskesmas pembantu* (pustu), village health post or *pos kesehatan village* (poskesdes), and village maternity clinic or *pondok bersalin village* (polindes). The result of puskesmas's planning in the form of Proposed Program Plan (RUK) was delivered to kabupaten/kota health department for discussion and finishing together with the health department's internal proposal until RUK Dinkes was generated. Furthermore, this planning would have to pass through three discussion phases, i.e. SKPD forum to produce Work and Budget Plan (RKA), Regional Government Budget Committee Team to produce RKA upon review, and DPRD budget committee team to generate Budget Implementation Document (DPA). In general, the stages of this planning activity could be seen in Figure 19.

Figure 19. Stages of Activities and Schedules for APBD Planning and Budgeting



The planning and budgeting of DAK, both physical and non-physical DAKs, followed the APBD flow. However, in DAK, RKA upon review by TPAD was submitted to the province, then to the central government for processing. Particularly in non-physical DAK, such a mechanism was just recently applied since 2016; Previously, non-physical DAK was Health Operation Assistance (BOK) managed by the Ministry of Health using State Budget (APBN) mechanism.

All planning, including those related to focus interventions, basically referred to regional planning document prepared by taking into consideration the national planning documents. The regional planning document referred to was mainly Regional Government Work Plan (RKPD) which was prepared at the beginning of the year and was a breakdown of Regional Medium-Term Development Plan (RPJMD). RKPD had to be in sync with the central Government Work Plan (RKP) and provincial RKPD. Central RKP was

a further explanation of RPJMN by year. Meanwhile, RPJMD was prepared by considering the National Medium-Term Development Plan (RPJMN).

The planning and budgeting related to focus interventions also considered Minimum Service Standards (SPM) for health field or Strategic Plan (Renstra), achievement/performance/output of the previous year, and priority scale. Programs/activities would support SPM and local government would be sanctioned by the central government if they failed to perform SPM. The achievement/performance/output of the previous year as could be seen in health institution report would determine what programs/activities would be included in the planning; In Belitung for example, if the malaria-free target had been achieved, then what was needed was no longer curative activities, rather it was maintenance and control activities that they needed. Meanwhile, priority scale determined the program/activity types proposed and sequence of their proposal.

Determining the source of funding of a program/activity depended on several factors, including, the program/activity types suitability with the provision/technical guidelines of the source of funding and the amount of budget needed. The source of funding usually set a provision on the usage type to be referred to in planning, such as physical DAK to fund physical construction activity and non-physical DAK was intended, among other things, for service support activities and organization of program such as socialization, distribution, and monev. Judging from the amount of budget, the program/activity requiring large budget would usually be proposed to use budget other than APBD, such puskesmas construction through physical DAK.

5.1.2 Planning the needs for intervention goods

In relation to planning dan distribution of focus intervention goods provided by the central government, the kabupaten/kota's health department needed to prepare a goods need planning. This goods need planning consisted of two, namely annual planning and distribution planning. Annual planning was delivered by the end of year for the purpose of implementing the next year's programs, and distribution planning or a kind of *delivery order*, was delivered every time the goods was about to be distributed. This planning should refer to Toddler, Pregnant Mother and schoolchildren's Supplementary Meal Technical Guidance and to Public Medicine and Health Supply Guidelines issued by the Ministry of Health every year.

Except for PMT, the need planning of focus intervention goods, both for annual planning and distribution demand, was made in stages. The planning began from the program holder/division at puskesmas who calculated the estimated amount of goods need based on the target cohort. Their calculation result was then submitted to each divisions in kabupaten/kota's health department for estimation and their calculation result was handed over to the central government through provincial health department.

Despite being proposed in stages, the number of targets or amount of intervention goods need was not necessarily determined *bottom-up*. This *bottom up* proposal was usually made when proposing for goods distribution. In implementing this activity, the program holder/division at puskesmas proposed the need based on data on number of

target and goods stock at puskesmas along with its personnel, such as village midwives (poskesdes/polindes) and nurse (pustu). The data of posyandu register which contained the target group based on attendance and service at posyandu also served as support. Meanwhile, in annual planning, the number of intervention targets was usually not based on the real data, rather it was an estimate resulting from a formula and source of data determined by the central government.

The vaccine, vitamin A, and zinc need plan was included in medicine need plan (RKO). RKO was counted by Medicine Planner Team (TPO) or pharmaceutical division based on stock data at various health services, previous year's usage, and the need contained in Medicine Usage and Demand Sheet Report (LPLPO). RKO was proposed once a year, yet the request for supply was submitted every 1-3 months as the stock decreased. For Vitamin A, the proposal was submitted as the time for administering intervention drew closer every February and August.

The organization of immunization, including vaccine need plan, during 2015–2017 was set forth in Ministerial Regulation of Health (Permenkes) No.42/2013[13], which was implemented variably among districts. It was possible that this variation was due to the fact that this Permenkes stated that the number of newborn babies (for determining the number of beneficiary targets) was counted/determined based on the number issued by BPS or other official sources, and it could also be counted using formula CBR (Crude Birth Rate) multiplied by number of population. Therefore, some districts used BPS data and some others estimated it from their number of population. In Belitung and Surakarta, the kabupaten's health department estimated the number of beneficiary target based on data on their population obtained from the local demography and civil registry office since it was deemed capable of providing up-to-date data each year.

Particularly for PMT, until its implementation in 2018 no planning/proposal was made from the bottom, including from kabupaten/kota, since its allocation was determined by the central government. PMT allocation for pregnant mothers with KEK and skinny toddlers was determined using the formula of prevalence number multiplied by projected number of each district. Ministry of health used the prevalence number resulting from Nutritional Status Monitoring (PSG) for their 2016–2018 planning and used RISKESDAS 2018 data for their 2019 planning. Meanwhile, for the projected number, Ministry of health used its Pusdatin's data as set forth in Permenkes.

5.1.3 Supporting factors of planning and budgeting process

The availability of budget from various sources made the planning for organizing interventions and their supporting activities easier. The focus interventions which were the central government's program had a certainty in terms of availability of its budget, both the one provided by the central and local governments. The planners in the districts tended to concentrate on planning activites related to the organization of interventions and their supports.

[13]In 2017 this regulation was amended with Permenkes No.12/2017

The informal communication network built by those in charge of program/activity help accelerate the information spread. Information on budget ceiling and technical guidelines from the central government which was frequently late was often dealt with thanks to initial information or technical guidelines *softcopy* in nearly final version spread through this communication network, particularly WhatsApp messenger group. Through this network, the persons in charge at kabupaten/kota health department could coordinate with many puskesmas it was responsible for. This group was often used as media for rapid delivery of the necessary data, like in the case when the data needed during planning and budgeting discussion were incomplete.

Online application helped the planning process and improved the budgeting accountability. The ease offered by online application built by Ministry of health, Ministry of home affair, and Ministry of National Development Planning and its implementation in all study regions was that the planning process became faster and briefer. The budgeting process became more transparent and it could be verified faster. The application technical guidelines and manual were deemed easy to follow. The provided features were also found quite helpful. Particularly e-renggar, which did not just provide planning and budgeting feature, it also had monitoring and evaluation feature for its implementation. In addtion, there was e-desk which shortened the set of coordination meetings that a planning should go through. For vaccine and medicine supply, there was e-logistik and e-monevkatalog applications.

Coordination meetings (rakor) or usually called "desk" helped ensure the coordination in an institution and between agencies at different government administrative levels, and ensure that there was no overlapping. Rakor was organized from kabupaten/kota to national levels. The planning coordination meeting served such functions as (i) discussing proposed activitities, (ii) determining on which activities to be prioritized, (iii) discussing planning on fund usage, and (iv) ensuring that the proposed activity had the right source of funding. In addition, a coordination meeting convened at planning stage was intended to ensure that coordination did occur within the institution and among instititutions at different government administrative levels in order to minimize any potential overlapping activities.

5.1.4 Inhibiting factors of planning and budgeting process

The burden of planning various activities/programs and many sources of funding was not accompanied with adequate HR availability. Those in charge of programs, particularly at kabupaten/kota level, used a substantial amount of their time to fulfill various processes in relation to planning and budgeting, including the consultation-discussion-coordination set within an institution and with many agencies at regional and central levels, especially as the end of year drew near. At the same time, those in charge of programs should also fulfill their obligations for implementing the program/activity, including health service. These multiple burdens for apparatus and health personnel at various levels had made the activity planning less optimal. In some cases, those in charge and planners of programs/activities only copied and pasted the planning (activity and budget) from the previous year and made some adjustment. In regard to this burden, an informant said, among other things:

> "Our concentration was not on completing the application (note: application for planning), rather on dealing with the existing problems" (Surakarta, Woman, 50 years old).
>
> "I find it hard to keep up… the time is frequently close to deadline… (we) do not have the planning division, these are our only personnel… I should hold six programs (note: planning also for the six programs). Not to mention monthly report, cross-sectorall event attendance, and dekon funds in the province" (Belitung, woman, 43 years old).

In terms of human resources, in addition to quantity issue which led to multiple roles, there were also such issues as quality and high transfer of employees. The quality of human resources to make the planning was still limited. This could be seen from the extremely minimum number of program/activity innovations from the districts. These districts tended to only perform the programs/activities from the central government. This HR quality issue was also observed from the fact that some personnel was less capable of using the online planning application. Also observed was the better capacity of HR in Java. Beyond Java, some of them still used hard copy files, rather than online since they were unable to use it. On the other hand, the high transfer of employees was only found in Lampung and to make it worse no adequate transfer of information/knowledge was made to compensate this.

In relation to source of DAK funding, the central and local governments' schedules were out of sync in terms of determining the budget ceiling which disrupted the planning. Just like APBD, the planning and budgeting of non-physical DAK should be completed by kabupaten/kota by the end of the year. However, unlike APBD in which the information on its ceiling had been obtained by Dinkes on around September-October, the ceiling of non-physical DAK was usually received by Dinkes as the year end drew near. Thus, the person in charge of it in kabupaten/kota should revise the planning and budgeting they had made based on the previous year's ceiling within a short time. There was A case in one of kabupaten with low stunting where its Dinkes only had 10 days to revise, while the activity should actually go through proposal stage from several divisions.

The central and local governments' out-of-sync schedules also occured in the delivery of DAK technical guidelines. The technical guidelines of non-physical DAK which contained, among other things, budget usage guidance were usually received by the districts on February of the year when the program/activity was implemented. As to the planning, it had been completed by the end of previous year using previous year's technical guidelines as its reference. It had been common that new rules usually were different in some aspects from the previous one, despite its insignificance. This then required the persons in charge of the program to make some revision or adjustment around March and it should be submitted once again to another relevant institution.

Another issue which made it harder for planners was the sudden instruction from the regional head regarding efficiency. Kabupaten with high stunting were once given only a few days to make revision due to the budget efficiency instruction at short notice.

Meanwhile, the fairly great number of coordination meetings at various government levels consumed too much time and resources. Each coordination meeting should at least be attended by an operator and or a programmer, depending on

its purpose. Some meetings which needed to make decisions also required the attendance of officials in charge. If the meeting was convened beyond the district—in province or central government, then the apparatus in charge needed to put their routine job aside for a while. This disruption was more noticeable at puskesmas level, since while the person in charge of budget or program left for the meeting, their service job at puskesmas was abandoned.

Technical issues prevented the online application for planning from being used effectively. In some locations, the limited availability of computer and internet network facilities disrupted the use of online application. Another issue occured when the planning and budgeting application—particularly the independently developed one, was incompatible with the central government's application. In Kota Surakarta, the different format between central government's application and the one developed by the local government forced the operator to re-input the data, increasing their work load. Meanwhile, in Belitung a complaint regarding data supply overlapping emerged due to the request from many institutions at various government levels in their own different format, forcing the program implementer to re-input several times.

The reliability of data which were an important source for planning was still low, thus the data collected by the district were not necessarily used for planning and budgeting the central government's strategic programs. Most calculation of the amount of focus intervention need used estimate data, rather than the real ones. The existing real data contained some bias since they were calculated based on attendance and number of services given. The data collection process was not supported with adequate measuring facility and data input (computer). The health personnel on the frontline who were depended upon for collecting data were not all well-trained. Furthermore, the very existence of software capable of counting nutritional status was even deemed less helpful due to the absence of data export feature, requiring the village midwives to re-input their calculations manually.

Nevertheless, the planning which employed only estimate data on target also caused the problem of inconsistency with the actual need. The planning for vaccine which used estimation of kabupaten/kota's caclulation as per the central government's provision tended to have larget number of targets than the real number. As a result, the implementers in districts found it hard to achieve the coverage targets set by the central government. The PMT planning which was estimated at central level also tended to have greater targets, preventing the PMT from being distributed or making its distribution hitting incorrect targets. As a result, just like the case in Belitung, even 2017 PMT were still stacked at puskesmas and poskesdes.

Figure 20. 2017 PMT was Still Left when 2018 PMT Came

2017 PMT in puskesmas building

Some 2017 PMT at polindes

2018 PMT just recently came to puskesmas

5.2 Implementation

The know-how of focus intervention implementation among study regions tended to be not too different. The problem was that they had different supporting and inhibiting factors in their implementations, such as geographical access and storage facilities, which possibly influenced the intervention quality.

In general, the intervention goods from the central government did fulfill the regional needs and even tended to exceed them thanks to 10% buffer stock of the estimated needs. Only a few cases of supply deficiency or delay were found which led the kabupaten/kota's health department or puskesmas to independently procure it. This case was found once in Klungkung for zinc, vitamin A, and Fe supplies and in Surakarta for vitamin A and zinc supplies.

5.2.1 Distribution

The distribution was flowed in stages through health agencies at each government level, except for PMT which since 2018 had used a third party's service. In vaccine,

Fe, vitamin A, and zinc distributions, the central government sent them to the province, to be sent further to kabupaten/kota and puskesmas. Especially for PMT, after the central government built a partnership with a third party, the province and kabupaten/kota no longer served as a path of distribution physically—This third party directly distributed them to puskesmas. The province and kabupaten/kota were involved in their coordinations and ensure that PMT was safely stored and distributed by the third party to puskesmas in the right amount and well condition.

The ways they were distributed to provinces and puskesmas were varied among regions and among intervention types. In Fe, Vitamin A, and Zinc distributions in four study kabupaten/kota, namely Klungkung, Surakarta, Belitung, and Sumba Tengah, the provinces sent them to kabupaten/kota. Meanwhile, in Brebes and Lampung Tengah, it was the kabupaten who came to the province to take them. In their distribution from kabupaten/kota to puskesmas, in Klungkung, Belitung, and Sumba Tengah, it was the health departments who sent them to puskesmas, and in Surakarta, Brebes, and Lampung Tengah it was their puskesmas who came to kabupaten/kota to take them. In vaccine distribution, the puskesmas came to kabupaten/kota to take them, except in Sumba Tengah in which they were brought by kabupaten to puskesmas. It was possible that it was influenced by cold chain or vaccine carrier availability at puskesmas. These varied distribution methods resulted in costs since it had been a common practice that the institution delivering/taking the goods would bear the costs, thus they had to budget them from APBD or non-physical DAK.

Table 5. Flow of Distribution of Five Focus Interventions

	Klungkung	Surakarta	Belitung	Brebes	Lampung Tengah	Sumba Tengah
PMT	Until 2017: in stages Since 2018: Central government through a third party → puskesmas	Until 2017: in stages Since 2018: Central government through a third party → puskesmas	Until 2017: in stages Since 2018: Central government through a third party → puskesmas	Until 2017: in stages Since 2018: Central government through a third party → puskesmas	Until 2017: in stages Since 2018: Central government through a third party → puskesmas	Until 2017: in stages Since 2018: Central government through a third party → puskesmas
Immunization	In stages: Central government→ province ←kota ←puskesmas	In stages: Central government→ province→ kota ←puskesmas	In stages: Central government→ province→ kabupaten ←puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province→ kabupaten→ puskesmas
TTD: Fe	In stages: Central government→ province↔kota→ puskesmas	In stages: Central government→ province→ kota ←puskesmas	In stages: Central government→ province→ kabupaten→ puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province→ kabupaten↔ puskesmas
Vitamin A	In stages: Central government→ province→ kota→ puskesmas	In stages: Central government→ province→ kota ←puskesmas	In stages: Central government→ province→ kabupaten→ puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province → kabupaten→ puskesmas

	Klungkung	Surakarta	Belitung	Brebes	Lampung Tengah	Sumba Tengah
Zinc	In stages: Central government→ province→ kota→ puskesmas	In stages: Central government→ province→ kota ←puskesmas	In stages: Central government→ province→ kabupaten→ puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province ←kabupaten ←puskesmas	In stages: Central government→ province→ kabupaten→ puskesmas

Note: → send
← obtain
↔ send, yet the institution at lower government level could take it themselves if they had no stock anymore or if they took only a small amount of it

The methods of distribution from puskesmas to implementing institutions at community level were varied. In some cases, puskesmas brought the intervention goods, and even many of puskesmas personnel concurrently assuming the job of distributing the goods to beneficiary targets. In some other cases, the implementers at community level took the intervention goods to puskesmas. The budgeting of both distribution methods was managed by puskesmas using budget from APBD or non-physical DAK.

5.2.2 Storage

Each health agency/institution at province level and below stored their intervention goods for varied durations between agencies and intervention types. The health department at province level tended to store longer than the health agencies at lower government levels. This, among other things, was affected by regulations, availability of adequate storage, and institution's function as supplier for other institutions' needs in their working area.

All institutions had medicine storage room and this room was also to store intervention goods such as vitamin A, Fe, and zinc. In the province and kabupaten/kota's health department there was a special building or pharmaceutical warehouse. At puskesmas a special space like a drugstore was provided to serve the patients in case they needed some medicine. Meanwhile, at poskesdes and village midwives a medicine storage box was available.

Toddler and pregnant mother PMT storage rooms were not always compliant with the regulations. Since 2018 only puskesmas and health agencies/personnel below it could provide PMT storage room. To maintain their quality, PMT ought not to be stored directly in contact with the floor. However, due to the limited facility, particularly in Belitung, some puskesmas and poskesdes/village midwives were found placing PMT right on the floor with nothing to cover the floor.

Particularly for vaccine which should be stored using a tighter procedure, kabupaten/kota health department and puskesmas along with their personnel had no special storage and in hard-to-access regions problems related to delivery and storage existed. In health departments and puskesmas, the vaccine was stored in a big cooling box, similar to refrigerator with an opening on its top. When brought by the implementers (village midwives), the vaccine was usually stored in a small cool box. Ideally, these implementers ought to bring the vaccine from puskesmas on the same day as the vaccine was given to the targets and brought back the remaining to puskesmas also on the same day. However, in the case where a village was far away from puskesmas, as in a case in Brebes and Lampung Tengah, the vaccine needed to stay 1-2 nights prior to its adiministration and was stored in a special cool box or regular refrigerator. In Sumba Tengah, even to just reach kabupaten, it took the vaccine around a week since it was transported using a ship—In its distribution to villages remotely located from puskesmas, access and transportation had been obstacles, forcing the vaccine to take longer time on the road. This elongated time on their way to beneficiaries might compromise the vaccine quality despite the informant's statement that the vaccine was still in good condition.

5.2.3 Distribution to target group

The distribution of focus interventions to the target group was slightly varied between intervention types and regions. In all districts, village midwives and posyandu cadres were the frontliners of focus intervention distribution. In villages which had nurse/pustu, these health personnel were also involved, especially in zinc distribution. Puskesmas also distributed the intervention goods to the beneficiaries, particularly to those having themselves checked at puskesmas. Particularly for toddler PMT, puskesmas handed it over to posyandu together with posyandu activities.

Table 6. Mechanism for Providing Focus Intervention Goods to Beneficiaries

Intervention Type	Provision Method
Toddler PMT	Given by puskesmas personnel when organizing posyandu. For beneficiaries who did not make it to posyandu, it was given through posyandu cadres
Pregnant mother PMT	Varied between districts: • Klungkung and Sumba: provided by puskesmas upon examination or referral from village midwives • Surakarta and Brebes: provided by puskesmas or through midwives and posyandu cadres upon examination • Belitung: provided by village or puskesmas midwives through examination • Lampung Tengah: provided by midwives or posyandu cadres based on result of examination by midwives
Immunization	• In Klungkung: provided at poskesdes on weekly basis by village midwives • Other five districts: provided at posyandu on monthly basis by village midwives and puskesmas • In all districts: also provided at - puskesmas. - practicing midwives, practicing doctor, clinic, and hospital by paying the service fee.
TTD: Fe	Provided on monthly basis by village midwives and puskesmas to pregnant mothers who had their pregnancies examined or who came to posyandu and attended pregnant mother class
Vitamin A	Provided by health personnel at village level (nurse/midwife) or puskesmas personnel asisted by posyandu cadres every February and August
Zinc	Provided by health personnel at village level (nurse/midwife) or puskesmas to toddlers suffering from diarrhea who came to have themselves examined

The beneficiary targets were determined by puskesmas and their personnel, assisted by posyandu cadres. In PMT interventions, the targets were determined after being weighed for toddlers and their upper arm circumference was measured and their weight was weighed for pregnant mothers. In zinc intervention, the beneficiaries were determined based on on the condition of toddlers who visited for medication due to diarrhea

complaint. Meanwhile, in vitamin A, immunization, and Fe interventions no determination was made since the target group had been clear, i.e. toddlers and pregnant mothers.

In general, the focus intervention beneficiaries were as per the target criteria, except in some PMT cases. The vaccine, vitamin A, Fe, and zinc intervention type which was to cure or prevent diseases had made the health personnel and community brave enough to only give/accept an amount as per the regulations on dose and targets of each intervention. Meanwhile, in PMT in the form of biscuit which could be consumed by anyone, the target was found to a little bit missing. In Klungkung, Surakarta, and Belitung there was a case of toddler PMT being given to all toddlers visiting posyandu even if the amount of biscuit given to those toddlers other than the targets was not too large. In Klungkung, a case also occured where pregnant mother PMT was given to pregnant mothers who did not suffer from KEK who attended pregnant mother class in a small amount and not on regular basis.

Not all beneficiaries received the intervention or in a dose as required by the regulation.

- The targeted pregnant mothers and toddlers usually received PMT on monthly basis. In pregnant mother PMT, some pregnant mothers received the entire amount allocated for them at one time. There was a case in Belitung where the health personnel would give the next PMT only if the PMT they provided before was all/nearly used up. Hence, if the beneficiaries did not complete consume the PMT, then the amount of PMT they received would be lower than required.
- In nearly all districts, despite the relatively small portion, some toddlers did not receive the basic immunization due to their parents' refusal.
- In all districts, zinc was only given to toddlers suffering from diarrhea who visited health personnel or facility for examination. This means, even if a toddler was suffering from diarrhea they would not receive the tablet unless they visited the health personnel or facility.

Not all beneficiaries used the interventions as per regulation

- Not all targeted pregnant mothers and toddlers consumed PMT as required since they were merely bored or disliked the taste. It was also often the case the PMT was consumed by other family members, and was even served as snack when a guest visited them. In Belitung, some pregnant mothers refused the next PMT provision since they still have the previously provided PMT, and some even returned the PMT in excess after giving birth to their children.
- For TTD Fe intervention, some pregnant mothers did not completely consume it for being too sensitive with the tablet odor.
- In zinc intervention, the tablets which should be consumed in 10 days in a row were not consumed at all or consumed only when they were suffering from diarrhea. The reason was that the children had recovered and refused to take it.

5.2.4 Supporting factor of implementation

In all study regions, some health personnel and facilities at village/kelurahan level were supported by relatively active posyandu and its cadres. The personnel and facilities at village/kelurahan level were the frontliner of intervention implementation. In performing their duties, the existence of posyandu in every dusun/RW/neighborhood was highly helpful. With cadres as their driving force, posyadu usually organized their regular activities on monthly basis. Posyandu became the main place for focus intervention distribution, particularly for PMT, immunization, and vitamin A.

The budget for implementing interventions was available from numerous sources. The availability of budget substantially lent a helping hand in the successful implementation of intervention, since it supported those in charge of programs in implementing interventions, including distributing goods until it was received by the target group. In Klungkung and Surakarta, the local governments even allocated a special fund for additional supply, giving a better ensurance of the goods availability.

The sweeping practice by health personnel and cadres supported the implementation target achievement. The posyandu cadres in the study regions performed the so-called sweeping from one house to another to improve the target coverage. They suggested the target beneficiaries who had not received intervention to visit health facility or reported it to poskesdes/polindes/puskesmas. Some cadres even directly came to give PMT, TTD Fe, and vitamin A to the target beneficiary at the request, in coordination with, or with an assistance from a health personnel. In Belitung, the sweeping for vitamin A was also performed to PAUD and kindergarten by asking the students' parents for confirmation. In Sumba Tengah, the sweeping was performed to the target beneficiary's house and asked them to gather at a predetermined time and venue, yet this attempt was less successful since many of them were reluctant to come.

The informal communication network of those in charge of programs/activities could accelerate the delivery of information and helped increase the number of and access to target groups. Through a communication network, those in charge of programs could obtain information on the existence of community targeted by the interventions. For example, information on pregnant mothers with KEK who visited a hospital to have themselves examined could be shared in WhatsApp Messenger group to allow a follow-up by puskesmas/midwives for PMT provision.

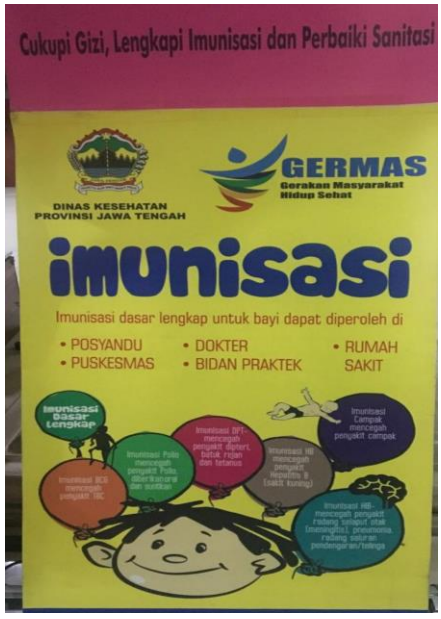
5.2.5 Inhibiting factors of implementation

In budget coming from non-physical DAK, there was inconsistency between disbursement schedule and service activity to the community. The non-physical DAK was only transferred in February, while the service had been provided since early January. Therefore, those services of routine nature, such as administration of immunization, were implemented using the institution's reserve fund or health personnel's personal fund. After the DAK was disbursed, the fund would be imbursed as long as it was compliant with the rules in technical guidelines. Meanwhile, for non-routine activity such as socialization, the implementation was delayed until the budget was available while waiting for the technical

guidelines to arrive to ensure that activity was consistent with the technical guidelines and could be funded.

Socialization or promotion of focus interventions to the community was highly limited. This was mainly due to the limited availability of health personnel. Meanwhile, the available flyers were usually only at puskesmas and provided limited information. As a result, the purpose of intervention and the importance of utilizing intervention goods as per regulations could not be widely understood, including by the intervention beneficiaries. This led some portions of the community in the study regions to refuse intervention immunization since they thought that vaccine was *haram* (religiously forbidden), caused illness to children, or that being immunized or not made no difference. This also led fairly large number of target group to not consume PMT, zinc, and Fe completely as required. If a comparison was to be made among study regions, it could be said that the socialization in Kota Surakarta was relatively better. In this district, at least at puskesmas numerous posters related to focus interventions and health in general were available. Even if there was no information on the benefits of intervention, flyers on the targets, officers, activity schedule, and location of interventions were available.

Figure 21. Flyers/Posters Related to Focus Interventions and Health at Puskesmas in Kota Surakarta



The taste and aroma were the factors behind the incomplete consumption of intervention goods. PMT which consisted only of one taste was deemed as boring to be consumed every day. The community also complained about PMT, particularly PMT for pregnant mothers which was too sweet and hard. Nevertheless, some target informants we met kept on consuming it since they were concerned about the baby they conceived. Some informants suggested that the biscuit had a practical shape and could be stored for a long time. For Fe tablet, the odor tended to cause inconvenience and made some pregnant mothers nauseous.

In terms of its procurement, the central and local governments' coordination was not too effective yet, leading to frequent abundant/deficient or delayed supply. In Belitung, a fairly large amount of pregnant mother PMT was not distributed since the supply they received was more than the target number. PMT with 2017 logo was still available at puskesmas and poskesdes, all while 2018 PMT had come. Meanwhile, in Klungkung some intervention goods came too late that the local government had to supply it themselves.

Geographical access influenced the distribution ease and quality of intervention goods. In three districts with low stunting level (Klungkung, Surakarta, and Belitung) access became a supporting factor since the easy access from kabupaten/kota to puskesmas and from puskesmas to village/kelurahan allowed the interventions to be distributed with no significant obstacles. The same did not apply to regions with high stunting level (Brebes, Lampung Tengah, and Sumba Tengah) whose some of their villages were far away from puskesmas.

Particularly in Sumba Tengah, their posyandu cadres frequently changed. Together with their limited training, it was highly likely to influence the quality.

5.3 Reporting

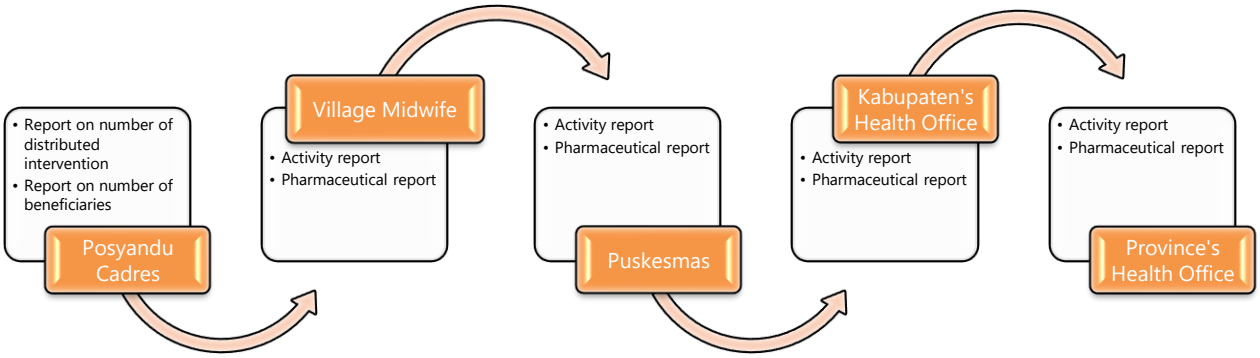
5.3.1 Reporting mechanism

In all study regions, no specific reporting mechanism was determined for the implementation of the five focus interventions, rather they were combined with other program/activity reportings in general. Basically, there were two types of reporting, namely reporting in relation to program implementation which was delivered to the program division and the one related to medicine use and need which was delivered to the pharmaceutical division. Ideally, the reporting could be used as a consideration for planning programs for the following year. However, this reporting was not necessarily delivered in timely manner, forcing the process of planning for the following year to be made by referring to the previous year's activity planning; rather than to the current year's reporting. In relation to the five focus interventions, the reporting on pregnant mothers and toddlers would determine the needs for PMT/MP-ASI, vitamin A, TTD, and vaccine, and the reporting of diarrhea illness/incidence would determine the needs for zinc. In general, the reporting mechanism in all study regions was integrated with planning application and made based on the template of each source of funding, without

separating the reporting for general program and specific program of the five focus interventions.

The program in all study regions, including the five focus intervention program, was reported in stages and bottom-up. In its process, the reporting mechanism involved many parties at some administrative levels, starting from village to central governments. At village level, informal reporting began with posyandu cadres who reported the program implementation to village midwives. This reporting was made after the intervention product was distributed, such as, after the distribution of PMT/MP-ASI or vitamin A. Generally, posyandu cadres reported the data on implementation, amount of intervention product distributed, and number of beneficiaries. Even though it was not necesarrily formally reported, the report from posyandu cadres was considered by village midwives to prepare an activity report, including the five focus interventions, which would be reported to puskesmas. Every month, the village midwives must prepare a number of reports to be submitted to each program implementer at puskesmas. The most commonly-made reports by village midwives were KIA and nutrition reports. Puskesmas then would made a periodic report to be submitted to the kabupaten's health office and later it was submitted in stages to the province's health office and Ministry of Health. Figure 22 presented a bottom-up scheme in the reporting system in stages commonly occuring in all study regions, including the special reporting for the five focus interventions. Formally, the reporting duty began with village midwives. Yet, informally, this duty was also performed by posyandu cadres who reported how an intervention activity was implemented to village midwives.

Figure 22. General Chain of Reporting at Regional Level



The health office in all study regions had begun to report online, both for general and specific five focus intervention programs. Previously, they reported manually (offline) by completing relevant forms based on Permenkes. Especially the nutrition program, there was an online reporting application via electronic Community-Based Nutrition Recording and Reporting (*e*-PPGBM).[14] This application was intended for nutrition program

[14]e-PPGBM application is a part of integrated nutrition information system intended to obtain nutritional status information of an individual, both toddlers and pregnant mothers, in a fast, accurate, systematic, and continuous manner for the preparation of nutrition policy planning and formulation. This application contains data on (i) target individual identity, (ii) measurement which include weighing, body height, and arm circumference, and (iii) individual performance, be it exclusive ASI, vitamin A, blood supplement tablet, and supplementary meal provision. This e-PPGBM application is helpful for (i) obtaining data of target individual, (ii)finding out individual's nutritional status in a fast and accurate fashion, (iii) quickly figuring out

implementers at kabupaten, kecamatan, and village levels. In Lampung Tengah, for example, PMT/MP-ASI had been reported online via *e*-PPGBM since 2018. In general, the use of this application was deemed effective and potentially capable of improving the program reporting accountability. Nevertheless, using an online application was highly dependent on the availability of various supporting devices such as computer, health personnel capacity, and server condition.

5.3.2 Factors influencing reporting effectiveness

Reporting is a part of monitoring and evaluation process. Thanks to the cooperation of program implementers at different administrative levels in producing a good and punctual reporting, the stakeholders could take preventive and curative actions of stunting as early as possible. In Klungkung, for example, puskesmas could immediately take both preventive and curative actions based on midwives' reports. Thanks to this monthly report from midwives, when there was a case of pregnant mothers with arm circumference less than 23.5 cm or identified suffering from KEK, puskesmas could as soon as possible follow it up by provding PMT. The provision of PMT for pregnant mothers with KEK was one attempt of preventing this mother from giving birth to stunted baby.

However, reporting mechanism did not necessarily run well. This study found that some factors influence the reporting effectiveness.

5.3.3 Supporting factors

1. **The use of social media as a means for fast reporting informally in all study regions**
   Generally, puskesmas in Lampung Tengah was less disciplined to submit a report to the health office. Some puskesmas only submitted a report once a year or even no report at all. However, they usually kept on gave a brief report via e-mail or WhatsApp message. While it was neither ideal nor a formal reporting mechanism, initial reporting via social media was deemed fairly helpful in dealing with report delay from puskesmas, better than no report at all.

   > "(We) once passed a punishment in P2P. No report means no vaccine will be delivered. And puskes(mas) replies, ok, fine.. no immunization will be given, then. When a sanction was passed on, they're happy instead. But after WA group was established, at least we have initial reports." (woman, FGD health office, Kabupaten Lampung Tengah, 2018)

   Not just in Lampung Tengah, the use of social media such as e-mail and WhatsApp group as a means of fast or initial reporting was found in all study regions. The difference was that in other study regions the informal reporting via social media was eventually followed up with periodic formal reporting.

   The use of social media (e-mail and WhatsApp group) as an informal reporting mechanism was deemed helpful in a fast or initial reporting process. This mechanism applied between the health office and puskesmas, between puskesmas and village

malnourished toddlers who have to be referred to or treated, (iv) discovering toddler's growth, and (v) monitoring supplementary meal provision (Ministry of health, 2017: 1-2).

midwives, and between village midwives and posyandu cadres. In Brebes, for example, village midwives shared diarrhea case they treated to puskesmas via WhatsApp group, allowing puskesmas to immediately record and recapitulate it into the report.

2. **Implementation of disincentive scheme in Sumba Tengah to support punctual reporting**
   To deal with report delay from the village, one of puskesmas in Sumba Tengah took the initiative to hold the fee for village midwives who had not submitted regular reports. As a result, the village midwives were motivated to submit report to puskesmas punctually, both general report and special report for the five focus interventions.

5.3.4 Inhibiting factors

1. **Successive delayed reporting (delay in stages)**
   While it did not occur in all study regions, reporting mechanism in stages had the risk of delay in these stages. When a delay occured at one point, then this delay would affect the reporting at the final point. Generally, when a report was delayed by a level below, the health office would use the previous planning to make a planning for the following year. This had been the common adaptation found in all study regions.

2. **Limited HR, both in terms of quality and quantity**
   In most study regions, the limited HR quality and quantity also contributed to the reporting delay. The limited HR forced one officer to hold several programs or to perform some functional and administrative jobs at the same time. The more programs they handled, the more reports of these programs they had to make. Such was the case found mainly in program implementers in stunting locus. It was worsened by the fact that not all health officers were well-trained in making various administrative reports. In Lampung Tengah and Sumba Tengah, the limited HR was influenced by the high level of program implementer transfer both at community level (posyandu cadres), village (midwives), kecamatan (puskesmas officers), and kabupaten levels (health office). In Sumba Tengah, the limited HR eventually influenced the report quality, rendering it unusable at some points for consideration in the following year's planning and budgeting.

   While currently the reporting mechanism had been integrated with technology through an online reporting system, in fact it was not necessarily responded positively by the program implementers since not all of them were technologically literate, particularly the program implementers at puskesmas level and below. The puskesmas in Sumba Tengah, for example, mentioned that online reporting using SIKDA, instead of being a solution, had been a problem in itself since not all program staff could operate it, and the staff who had been trained on using SIKDA were transferred to regional hospital. Meanwhile, in Brebes, even if the use of online reporting application was deemed as quite helpful, the program staff both at health office and puskesmas and village midwives still had to assume a heavy burden due to the many programs they had to handle. Therefore, there was a need for integrating and simplifying the reporting system in various institutions at different administrative levels to save time and resources.

3. **Particularly in Lampung Tengah, not all puskesmas had the awareness of making periodic report yet and no disincentive schema had been effectively applied**
   In Lampung Tengah, reporting delay was also caused by the low awareness or willingness of puskesmas in making reports. Puskesmas accreditaion could actually be a solution to motivate them to make reports punctually. However, so far puskesmas accreditation was deemed more as a contest, thus it had/did not change them to show a good (punctual) administrative behavior. The health office had once applied incentive provision mechanism to puskesmas with the best reporting (or best administration). Yet, this incentive was deemed less attractive since it was given only to one person. On the other hand, disincentive mechanism was also once applied in their effort of encouring punctual reporting, but still it was ineffective since it was not thought to cause losses to puskesmas.

Meanwhile, the existence of online reporting application actually had the potential of supporting an effective reporting process. Prior to online reporting application via *e*-PPGBM, the reporting was done manually. This application which began to be introduced in 2017 was deemed helpful for program managers in monitoring infant growths, toddlers, and pregnant mothers, as well as observing three nutritional status indicators. According to program implementers in Lampung Tengah, the use of *e*-PPGBM application since 2018 could improve the effectiveness and accountability of program reporting.

However, implementing this online reporting application required qualified HR in terms of both quality and quantity. Currently, the online reporting mechanism had neither been integrated nor informed well to all program staff nor equipped with an adequate support system (such as capacity building training to make online reporting, procurement of computer/laptop as the means to make reports, and stable servers). In some study regions, such as Sumba Tengah, some officers were transferred right after receiving training on completing online reporting, preventing the knowledge they obtained in training from being implemented.

In Lampung Tengah, the use of *e*-pus as an online application to monitor puskesmas's reporting was introduced in 2017 and afterward it was ceased and they returned to offline reporting system. This was due to the fact that not all puskesmas operators had the ability to use this application.

5.4 Monitoring and Evaluation

5.4.1 Monitoring and evaluation mechanism

In terms of its procedure, monitoring and evaluation implementation was included in the routine cycle of an activity program. However, monitoring and evaluation were not always done on regular basis in all study regions. In general, there were four paths of monitoring and evaluation, namely through reporting, meeting, field visit, and online monitoring application. Monitoring through written report and routine meeting was found in all study regions. Both occured at puskesmas and health office levels. In this case, the monitoring through meeting could be in the form of coordination meeting or discussion for validating reports, technical coaching, and mini workshop.

Monitoring through field visit was found in some study regions and mostly occured in those districts with low stunting level. This field visit was generally done when the activity was being done at puskesmas or posyandu levels. In Belitung, the health office sometimes made an impromptu visit to the houses of family with stunting case to directly monitor their health and environment conditions. However, this monitoring through field visit had not been regularly done and only to several locations due to the limited budget, time, and personnel. In Sumba Tengah, the monitoring was sometimes done together by the program and pharmaceutical divisions when an activity was being organized. This was intended to make both ends meet due to the limited budget. Usually, the monitoring through field visit paid greater attention to buildings physically, availability of equipments, availability of medicine, number of targets attending, and checking administrative report. Meanwhile, monitoring through online application was found in some study regions, including Brebes and Lampung Tengah. This online monitoring was usually done using an online reporting application implemented by the health office in the responding kabupaten.

The monitoring of focus intervention utilization had been performed, even though not to the five focus interventions and not in all study regions yet. So far, program monitoring by the health office and puskesmas tended to be done limited to fulfillment of distribution target and work achievement. Meanwhile, the monitoring of intervention beneficiary's compliance in utilizing the program as required had relatively not been done optimally. On the other hand, the intervention product did not always match what the intervention target wished or was interested in, especially in terms of its taste. As a result, the consumption level by beneficiary was not necessarily 100%, even if the distribution level had been 100%. For example, while PMT/MP-ASI intervention had been given to the intervention targets, the intervention was not always consumed completely by the targets. This study found how PMT/MP-ASI was consumed by other members of the family, their relatives/neighbors, or even served for snacks to a visiting guest.

The monitoring of consumption compliance in all study regions was still limited to vitamin A provision intervention. This was because vitamin A was usually consumed on the spot when the activity was regularly organized at posyandu. In addition, posyandu cadres visited houses where toddlers resided in and provided vitamin A capsule personally to the toddlers to ensure that the capsule was consumed by the intervention target.

In Lampung Tengah, the monitoring of compliance in consuming PMT/MP-ASI and TTD began to be implemented in 2018. This monitoring was directed personally by the health office since stunting prevention intervention was implemented. At village level, the monitoring of compliance was done by posyandu cadres under the supervision of village midwives. The monitoring of PMT/MP-ASI was performed by weighing and recording weight before and after receiving the intervention biscuit on monthly basis. Meanwhile, the monitoring of TTD was performed to see the pregnant mothers' compliance level to consume TTD, i.e. by observing the pregnant mothers' intensity in taking TTD (Fe 1 and Fe 3). Previously, the monitoring of PMT/MP-ASI and TTD was limited to the distribution of that intervention product; rather than to whether or not the product was consumed. By organizing the monitoring of utilization of intervention in particular, the program implementers could discover the impact and effectiveness of these interventions to the target group.

In Klungkung, immunization and diarrhea illness/incidence pattern in toddlers were monitored. The health office performed this monitoring and evaluation by inspecting in an impromptu manner (*sidak*) when several programs were being organized, for example, mass immunization. While it was not done on regular basis, *sidak* was the local government's attempt to directly monitor the intervention target's participation. Meanwhile, the monitoring of diarrhea illness/incidence pattern in toddlers was done on a more regular basis. This monitoring was performed when the posyandu monthly activity was being organized. When weighing, the midwives would asked each toddler being weighed whether or not they were suffering from diarrhea within this last month. This was an attempt to identify the diarrhea pattern in toddlers, to allow preventive actions to be taken in the future by providing zinc.

In some study regions, a monitoring was made on local PMT menu, despite its lack of thorough implementation. This monitoring was performed by puskesmas on the local PMT menu managed by posyandu cadres. However, it could only be done to a certain local PMT. In Sumba Tengah, for example, puskesmas had monitored the local PMT menu funded from BOK, yet they did not monitor the local PMT menu funded from the village finance. As a result, the nutrition of local PMT from BOK fund was better ensured since it had been calculated by the puskesmas's nutritionists. However, the menu was deemed boring for being the same all the time. Meanwhile, the local PMT menu funded from the village's finance was more varied, yet their nutrition contained was less ensured since no nutrition checking nor calculation was made by any health officer. In general, one of the causes was the limited number of nutritionist at puskesmas.

5.4.2 Factors influencing monitoring and evaluation effectiveness

In general, the monitoring and evaluation of activities in districts with low stunting level was relatively better than in those districts with high stunting level. In addition to resources issue, it was also influenced by the good road infrastructure and relatively smaller geographical area, thus allowing an easier access. On the contrary, in districts with high stunting level, the road infrastructure which had not been entirely too good and the vast geographical area became obstacles on their own in performing the monitoring. It was therefore safe to say that infrastructure and geographic conditions were two contributors to the effective implementation of monitoring. In addition, there were also other factors which influenced the effectiveness of monitoring and evaluation.

5.4.3 Supporting factors

1. **Posyandu cadres' active role as program implementers at community level**
   Posyandu cadres were the village midwives' representatives in monitoring how programs were implemented at community level, including the five focus intervention programs. In several study regions, posyandu cadres did the so-called sweeping to houses with toddlers who did not visit posyandu for immunization, vitamin A, and local PMT. When doing this sweeping, they would even directly watch the toddlers consuming vitamin A to ensure that the intervention hit the right target. Posyandu cadres monitored the target group as directed by the village midwives and puskesmas. Posyandu cadres also the frontliners who submitted real report to the village midwives regarding the implementation of focus interventions until the target group received

them. In Surakarta, the posyandu cadres also helped the village midwives record while they were measuring toddlers' weight and height, and picked PMT. Due to the limited number of health personnel in villages, the existence and activeness of posyandu cadres could help the intervention program to be effectively implemented at village and community levels.

5.4.4 Inhibiting factors

1. **Limited budget and HR**

   The limited budget and HR were two obstacles which led to the absence of monitoring and evaluation to the five focus intervention programs. Generally, the monitoring was performed in conjunction with other activities such as technical coaching, coordination meetings, and field visit of program implementation to puskesmas or posyandu, rendering it less focused and ineffective. Furthermore, the monitoring of an activity tended to emphasize on checking administrative completeness, equipment, medicines, and physical condition of buildings. At village level, the puskesmas officers relatively did nothing to the menu and nutritional status of local PMT prepared by the posyandu cadres using the Village Fund.

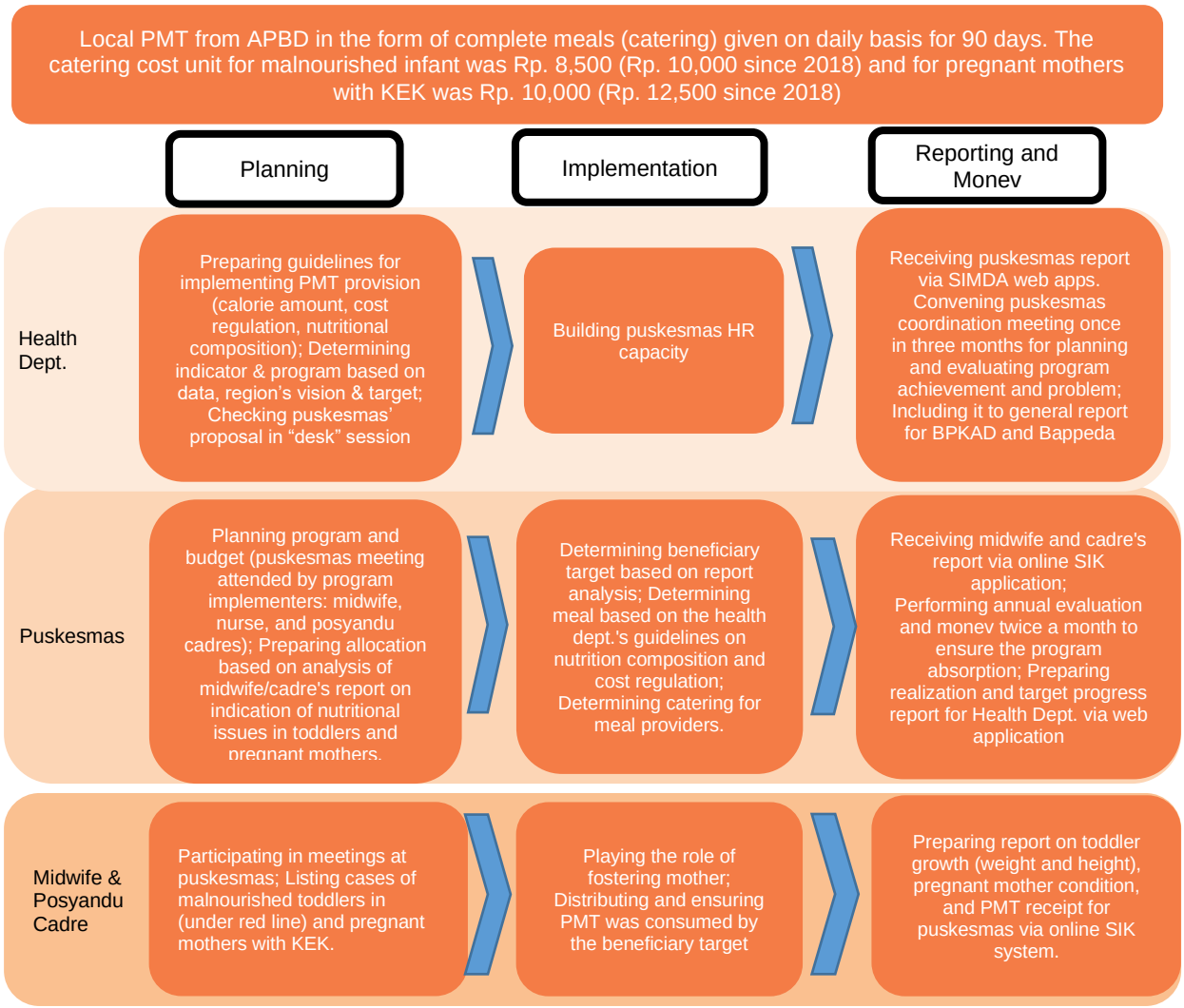
   The program monitoring and evaluation was more likely to received fewer budget portion than the implementation and promotion activities. In Sumba Tengah, for example, the budget for monitoring and evaluation was even reduced, thus this activity could only be done three times from previously six times a year. In 2017, the health department of Sumba Tengah only had Rp50 millions budget for monitoring and evaluation when the amount they proposed was Rp200 millions. In addition, the monitoring by the Health Office of Sumba Tengah often found an incomplete freezer for vaccine and incorrect vaccine storage temperature. However, in addition to oral warning, no systematic improvement was made since it was repeatedly found in the next monitoring. Hence, the monitoring of activity they performed was merely a routine and not substantial. Meanwhile, the special monitoring and evaluation of the five focus interventions was seriously needed to see the impacts and effectiveness of the intervention which had been performed.

2. **Utilization of program was at household or individual level**

   So far, the monitoring tended to see the availability and distribution of intervention products; rather than to its utilization yet. Even if in a few study regions the monitoring had begun to be made to its utilization, it had not been applied to the five focus interventions. On one hand, the consumption or utilization of program was within household or individual coverage. On the other hand, the program implementers' working area in the villages was within the village or community coverage; and they were not provided with budget to monitor the utilization at householf or individual level. Therefore, a mechanism which could support the program implementers at village and community levels to monitor the program utilization down to household and individual levels was needed, and one of these mechanisms was incentive provision.

In brief, the organization of a program, beginning from planning to monitoring and evaluation could be seen in the Figure 23 which showed a case in Surakarta for local PMT program.

Figure 23. Stages and Role of Institutions in the Organization of Local PMT Program in Kota Surakarta



VI. Conclusion and Recommendations

The central government sets stunting prevention attempt as a national priority. In fiscal decentralization context, its implementation will substantially rely on kabupaten/kota governments. The budget at kabupaten/kota level serves as the main resources for many interventions for stunting prevention in the future.

The analysis of budget in this study showed that regional government budget/expenditure was not good enough in explaining the stunting condition. The amount of regional government's per capita budget for stunting-related interventions was not necessarily directly proportional to the region's stunting level reduction. Regions with low stunting spent relatively large per capita budget, yet their stunting level reduction was lesser than those with high stunting level; and even Surakarta and Klungkung witnessed an increase.

This low correlation between budget and stunting reduction could be explained from two perspectives, they were:

(1) Low budget effectiveness due to the overdependence on transfer from the central government and not supported by the central-local synchronization in high-quality planning and budgeting, and capable of reflecting the needs at community level; capability to implement the budget; and the accountability burden for budget implementation which was more of administrative nature, preventing the implementers from working optimally.

(2) Low utilization of intervention outcome due to the absence of supporting factors, particularly for non-physical interventions. A fairly significant stunting reduction occured in regions which allocated fairly large budget for clean water and sanitation construction and this could be directly utilized in actual sense by the community. This was different from non-physical interventions which required other factors such as a change to mindset and service quality at community level to be successful.

Meanwhile, the qualitative study found that local governments encountered various obstacles which eventually influenced the outcome of budget that they spent. These obstacles had something to do, among other things, with (i) regional government's financial management; (ii) attempt to maintain accountability which brought upon substantial administrative burden; (iii) communication and coordination between regional and central governments; and (iv) regional government's capacity in planning, managing, implementing, and performing monitoring evaluation on the budget which all fell under their responsibility.

Improvements need to be done to the set of stages of budget/expenditure organization, including:

1. Institution:
   - Improving campaign and advocation of stunting issues, including the impact and methods for preventing them, in an extensive and systematic manner to everyone,

including the community to make these stunting issues the development priority and to change the community's less supportive behavior.
- Improving cross-sectoral coordination and improving their program/activity convergence to increase their leverage in the effort of reducing stunting.

2. Planning and Budgeting
   - Improving information distribution management related to budget ceiling and technical guidelines to allow enough time for the local governments to prepare high-quality planning and budgeting; and to prevent any disruption to the intervention implementation process.
   - Improving the mechanism for determining budget allocation to ensure that the allocation is based on intensive communication with the local governments and carefully considers the local government's capacity in managing it.
   - Using real data collected by the regional government in estimating the intervention targets, rather than merely population data. This policy is followed with an improvement to the data collection procedure and support equipment to collect the data which supports the availability of accurate and up-to-date data.

3. Budget disbursement
   - Synchronization of schedule for fund transfer from the central government (non-physical DAK) and schedule for implementing the community service activity.
   - Ensuring that the budget covers costs and incentives for implementers at local level—particularly posyandu cadres.
   - Improving the mechanism for supply, storage, logistic, and distribution to allow better assurance of delivery time, goods quality, and intervention continuance.

4. Intervention delivery
   - Improving the campaign and socialization on benefits of intervention goods to increase the target groups' utilization and access.
   - Improving product design by supplying intervention goods in more varied tastes (PMT) and more pleasant aroma/taste (Fe) to make it less boring and more acceptable to the target groups and, therefore, increase its utilization level.

5. Reporting, monitoring, and evaluation
   - Ensuring the implementation of e-reporting as well as ensuring the local government's capacity and access to infrastructure to implement this reporting system.
   - Streamlining reporting/data processes and channels by making one single integrated reporting format for all institutions at different government levels.
   - Building incentive and disincentive schemes to ensure that the data collection/reporting mechanism matches the schedule and can produce quality data/information to make it usable for supporting the following year's planning and budget.
   - Applying a special scheme and allocation to monitor the intervention beneficiary's compliance in utilizing the program as required, including the involvement of posyandu cadre as monitoring agent at household and individual levels formally.

- Applying efficiency and effectiveness analyses as part of local government's performance report; the evaluation guidelines currently set forth in GR Number 39 of 2006 and GR Number 17 of 2017 should be subjected to re-adjustment.

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