



NUTRITION CAPACITY ASSESSMENT in INDONESIA

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Acknowledgements

This assessment was designed and conducted by a team from the Institute for Economic and Social Research, University of Indonesia, comprising Khoirunurrofik, Prani Sastiono, Otte Santika, Uswatun Hasanah, Andhika Putra Pratama, Moslem Afrizal, Faradina Alifia Maizar, Lailatus Shofiyah, and Witri Indrayani.

The work was conducted under the overall technical guidance of UNICEF Indonesia: Jee Hyun Rah, Sri Sukotjo, and Fiona Watson.

We would also like to express our gratitude to the Government of Indonesia, firstly to Dr. Pungkas Bahjuri Ali and his team from the Ministry of National Development Planning (Bappenas), to Dr. Doddy Izwardy MA and his team from the Ministry of Health, and to Dr. Minarto for their valuable input and guidance.

Acronyms and Abbreviations

APBD	<i>Anggaran Pendapatan dan Belanja Daerah</i> - Local government revenue and expenditure budget
Bappeda	<i>Badan Perencanaan Pembangunan Daerah</i> - Sub-national Development Planning Agency
Bappenas	<i>Badan Perencanaan Pembangunan Nasional</i> - National Development Planning Agency
BMI	Body Mass Index
CED	Chronic Energy Deficiency
DAK	<i>Dana Alokasi Khusus</i> - Special Allocation Fund
DAU	<i>Dana Alokasi Umum</i> - General Allocation Fund
Germas	<i>Gerakan Masyarakat Hidup Sehat</i> - Community Movement for Healthy Life
IFA	Iron and Folic Acid
IYCF	Infant and Young Child Feeding
JKN	<i>Jaminan Kesehatan Nasional</i> – Health insurance scheme
Cadre	Community volunteer
MAM	Moderate Acute Malnutrition
MoH	Ministry of Health
MSS	<i>Standar Pelayanan Minimal (SPM)</i> – Minimum Service Standards
MUAC	Mid-Upper-Arm Circumference
MYCNSIA	Maternal and Young Child Nutrition Security in Asia
NCAI	Nutrition Capacity Assessment of Indonesia
NCDs	Non-Communicable Diseases
Polindes	<i>Pondok Bersalin Desa</i> - Village delivery house
Posbindu	<i>Pos Pembinaan Terpadu</i> - Integrated health post (for adults and elderly)
Poskesdes	<i>Pos Kesehatan Desa</i> - Village health centre
Posyandu	<i>Pos Pelayanan Terpadu</i> - Integrated health post
Puskesmas	<i>Pusat Kesehatan Masyarakat</i> - Community health centre
RENSTRA	<i>Rencana Strategis</i> - Ministry specific planning documents
RISKESDAS	<i>Riset Kesehatan Dasar</i> - Central Bureau of Statistics
RPJMN	<i>Rencana Pembangunan Jangka Menengah Nasional</i> - National Medium Term Development Plan
RPJMD	<i>Rencana Pembangunan Jangka Menengah Daerah</i> - Provincial/District Medium Term Development Plan
RPJPN	<i>Rencana Pembangunan Jangka Panjang Nasional</i> - National Long Term Development Plan
SAM	Severe Acute Malnutrition
SUN	Scaling Up Nutrition
UN	United Nations
UNICEF	United Nations Children's Fund
WHA	World Health Assembly
WHO	World Health Organization

Executive Summary

Indonesia suffers from high levels of undernutrition and growing rates of obesity. In response to these challenges, UNICEF, the National Development Planning Agency (*Bappenas*) and the Ministry of Health (MoH) commissioned a nutrition capacity assessment. The purpose of the assessment was “to examine the institutional arrangements and capacity of province and district government authorities to legislate, plan and manage the nutrition programme.” The assessment focused on stunting, reflecting the current political drive to reduce childhood stunting, and on the nutrition services provided through the health sector, which currently has the main responsibility for delivering the nutrition programme.

The Institute for Economic and Social Research, Faculty of Economics and Business, University of Indonesia designed and conducted the assessment. It was based on the conceptual framework developed by the UN Network for Scaling Up Nutrition, which consists of four capacity areas: (i) policies, plans and frameworks; (ii) resources and infrastructure; (iii) coordination and partnerships; and (iv) evidence-based decision-making. A mixed methods design was employed to collect quantitative and qualitative data which encompassed a desk review of relevant government and non-government documents, and primary data collection through focus group discussions and interviews. The primary data were collected in seven pre-selected provinces and seven pre-selected districts, representing a range of stunting prevalence values and geographical areas.

POLICIES, PLANS AND FRAMEWORKS

The assessment found that the Government of Indonesia has demonstrated strong political commitment to nutrition. Targets for reducing child stunting, child underweight and adult obesity have been included in Book I of the National Medium Term Development Plan (RPJMN) 2015–2019 thus setting the agenda and national priority for all sectors. However, nutrition targets have not been reflected in key sector planning documents (RENSTRA) with

the exception of the health sector where two targets (for low birth weight and exclusive breastfeeding) are included as performance indicators. Some supportive legislation for ensuring good nutrition is in place but it is incomplete and fails to fully protect Indonesians against poor nutrition. The capacity of sub-national authorities to plan, manage and monitor nutrition services is weak, resulting in an omission of nutrition outcome targets in provincial and district development plans (RPJMDs), a lack of up-to-date nutrition and food action plans (RAD-PGs), and a siloed approach to programming. Technical support has been proven to strengthen the capacity of sub-national authorities to plan, manage and monitor nutrition services. Only four of the ten nutrition-specific interventions essential for improving nutrition, suggested by *The Lancet*, are incorporated into current policy and minimum service standards (MSS) for health, while four others are partially covered, and two are not included at all.

RESOURCES AND INFRASTRUCTURE

Substantial financial resources from the central government budget and sub-national resources are potentially available to address malnutrition but there is no accountability system yet in place to calculate the cost of comprehensive plans, budget and track expenditure. The main challenge at sub-national level is not insufficient financial resources, but rather a lack of capacity to effectively plan, prioritize, and manage multiple funds aiming to deliver high quality nutrition services. A standardized budgeting format for a comprehensive set of nutrition-specific interventions could be developed to support more effective planning and budgeting. In terms of human resources, Indonesia has a ready supply of trained nutritionists but their employment in *Puskesmas* is uneven, while their role is often undervalued and lacks sufficient focus on the prevention of malnutrition in communities, managing the delivery of services, and mentoring staff. Health workers with limited training in nutrition are therefore left to deliver nutrition services at community level. Pre-service training for nutritionists is inconsistent and does not equip graduates with the competencies required to manage the nutrition

programme. Currently, there is no standard package of in-service nutrition training courses to equip the nutrition workforce to deliver up nutrition-specific services, while limited nutrition training is offered to staff working in key sectors outside health, such as agriculture, food security, social protection, and water, sanitation and hygiene.

COORDINATION AND PARTNERSHIPS

National coordination for nutrition is conducted through a government Task Force with key sectors represented. However, the present Task Force lacks authority over line ministries. Multi-stakeholder groups for nutrition are in place but lack a coordinating body and so collaboration is restricted. Sectoral coordination for nutrition is limited at sub-national level due to a lack of leadership, plans and shared understanding about malnutrition and how to tackle it. In general, there is

good collaboration between government authorities, development partners and academia.

EVIDENCE-BASED DECISION-MAKING

Regular cross-sectional surveys are conducted that provide robust data on progress to meet the nutrition targets set in the RPJMN. While large amounts of routine data are collected, through the health monitoring system, the capacity to analyse and use the information is limited at national and sub-national level. There are a number of different data collection systems that are not integrated but operate independently, so hampering the ability to design, plan and monitor interventions that are effective in addressing malnutrition. Embedding nutrition targets into RPJMDs and RAD-PGs would provide an incentive to gather and use high quality data to monitor progress to meet targets.

RECOMMENDATIONS

1. Strengthen the next RPJMN for 2020–2024 so that there is a clear agenda set for key sectors to include nutrition targets and indicators in their ministerial RENSTRA.
2. Advocate to electoral committees and candidates standing in local elections that they pledge to include nutrition targets in RPJMD.
3. Promote alignment among all national and sub-national plans and documents to reflect the national nutrition targets and programme.
4. Provide technical assistance, clear operational guidance and standardized formats to sub-national authorities to support the development of multi-sectoral planning and budgeting.
5. Update the MSS for health to include all essential nutrition-specific interventions based on the latest global evidence.
6. Develop an accounting system (national and sub-national) for addressing malnutrition in all its forms to clarify the ideal costs of comprehensive plans, the budget available and actual expenditure.
7. Update job descriptions for nutritionists to put sufficient focus on the prevention and treatment of malnutrition in communities, delivery of services and mentoring of staff.
8. Develop a minimum package of in-service nutrition training for the nutrition workforce through E-learning together with certification that becomes part of their competency credits.
9. Establish a high-level coordination body for nutrition convened in the Office of the President to lead Indonesia's multi-sectoral approach to addressing malnutrition in all its forms.
10. Establish multi-stakeholder coordination mechanisms at provincial and district level to engage sectors and non-government actors to work together to improve nutrition, under the office of governors and mayors.
11. Establish a national integrated nutrition information system.
12. Include a module on data collection, analysis and reporting in the minimum package of in-service nutrition training for nutritionists through E-learning.

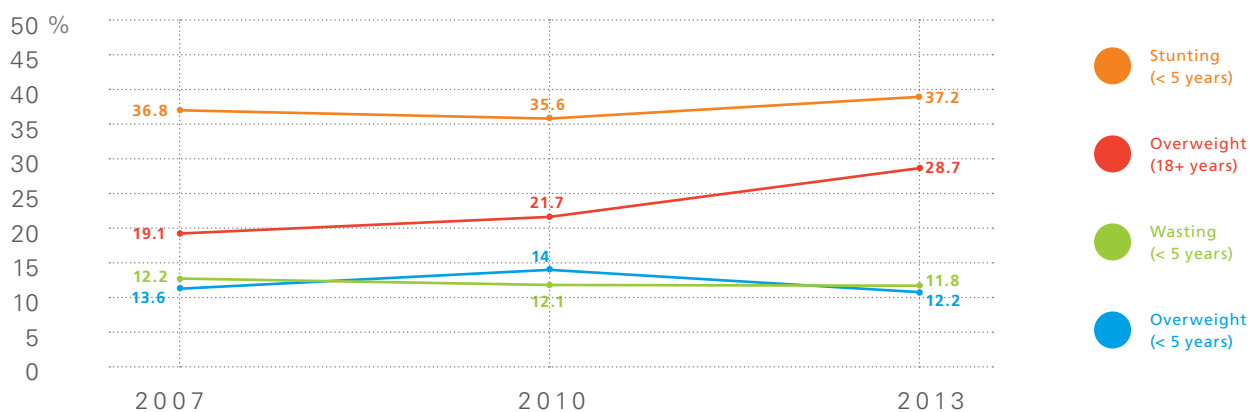
01 introduction

1.1 THE DOUBLE BURDEN OF MALNUTRITION

Despite dramatic economic growth in Indonesia, malnutrition remains a significant problem and there are limited signs that it is in decline. The country suffers from high levels of undernutrition and growing rates of overweight—the so-called ‘double burden of malnutrition’. Undernutrition in the form of stunting (low height for age) and wasting (low weight for height) among children under five years of age has remained static (see **Figure 1**). Around a quarter of pregnant women (24.2 per cent) are wasted (low mid-upper arm circumference) while anaemia affects 28.1 per cent of children under five years and 37.1 per cent of pregnant women (RISKESDAS 2013). In contrast, the prevalence of overweight among adults is rocketing upwards and is failing to decline in children under five years old.

The national averages mask considerable geographical and wealth differences (see **Appendix 1**). Stunting is particularly prevalent in the eastern and western extremes of the country, peaking at 51.7 per cent in East Nusa Tenggara. Stunting in children is much higher in the lowest compared to the highest wealth quintile, and the difference in prevalence between those quintiles increased from 11 percentage points in 2007 to 19 percentage points in 2013, when nearly half (48.4 per cent) of the poorest Indonesian children were stunted. Nevertheless, 29.0 per cent of children in the highest wealth quintile are stunted. The opposite trend is found for obesity and overweight, which affects the highest wealth quintiles more than lower wealth quintiles. However, overweight and obesity affects all wealth groups, with one in ten overweight children under five years in the lowest wealth quintile. Thus, the poorest in Indonesia suffer most from multiple forms of malnutrition.

Figure 1: Trends in Malnutrition, 2007-2013



Source: RISKESDAS 2007, 2010, 2013

1.2 CAUSES OF MALNUTRITION

The causes of malnutrition in Indonesia are multi-faceted. A recent literature review on child stunting in Indonesia found that it was associated with the following determinants: male sex, premature birth, short birth length, non-exclusive breastfeeding for the first six months, short maternal height, low maternal education, low household socio-economic status, living in a household with unimproved latrines and untreated drinking water, poor access to healthcare, and living in rural areas (Beal, Tumilowicz, Sutrisna, Izwardy, & Neufeld, 2018). Child stunting is also related to food insecurity, and provinces with poor access to food are also those with the highest stunting rates (SMERU, 2015). Another recent study examined the associations between child stunting in Indonesia and indicators of the three underlying causes of malnutrition as set out in UNICEF's conceptual framework: inadequate access to food, care for women and children, health services and a healthy environment (UNICEF, 1990). The study estimated that only one per cent of children under three years of age had sufficient access to all the services and provisions required to prevent stunting, and calculated that adequate access could result in a decrease of 10.9 percentage points in stunting levels in this age group (World Bank, 2017). Similarly, the causes of overweight and obesity in Indonesia are complex, involving health, food, physical and socio-cultural environments (Shrimpton & Rokx, 2013).

These findings emphasize the importance of taking a multi-sectoral approach to improving nutrition and ensuring that nutrition-specific interventions that tackle the immediate causes of malnutrition are in place, as well as nutrition-sensitive programmes that address the underlying causes.

The concept of 'double-duty actions' that have the potential to simultaneously reduce the burden of undernutrition and obesity is critical in the Indonesian context (WHO, 2017). Double-duty actions offer integrated solutions to meeting the Sustainable Development Goal (SDG) targets on ending malnutrition in all its forms (UN, 2015).

Child stunting is also related to food insecurity, and provinces with poor access to food are also those with the highest stunting rates (SMERU, 2015)



1.3 NUTRITION CAPACITY

UNICEF defines nutrition capacity as: “capacity at the human, institutional, organizational and infrastructural levels to implement nutrition programmes and strengthen nutrition governance” (UNICEF, 2014). A number of analyses have been undertaken in Indonesia over the last eight years that have assessed the capacity to deliver effective programmes to improve nutrition. Similar challenges have been noted in these analyses (see **Table 1**). In particular, the disconnect between national and sub-national levels after decentralization in 2001 has been highlighted, and critical bottlenecks in capacity at provincial and district level identified.



Table 1: Challenges Noted in Previous Analyses of Capacity for Nutrition

- **Lack of awareness** of all types of malnutrition and insufficient attention to nutrition by key sectors.
- **Lack of capacity** to plan and implement, particularly at sub-national level.
- **Unclear nutrition service standards** that fail to deliver essential nutrition-specific interventions.
- **Insufficient budget allocations** for nutrition, particularly at sub-national level.
- **Outdated pre-service training** and inadequate in-service training for those providing nutrition services.
- **Unequal distribution** across districts of nutritionists, who are undervalued and underutilized.
- **Lack of vertical coordination** between national and sub-national level.
- **Lack of inter-sectoral coordination** especially at sub-national level.
- **Weaknesses in capacity** to monitor and evaluate, particularly at sub-national level.

Source: RISKESDAS 2007, 2010, 2013

1.4 PURPOSE, FOCUS, LIMITATIONS, AND SCOPE

In response to the enduring challenges for nutrition in Indonesia, UNICEF, the National Development Planning Agency (*Bappenas*) and the Ministry of Health (MoH) commissioned a nutrition capacity assessment of Indonesia (NCAI). The purpose of the NCAI was “to examine the institutional arrangements and capacity of province and district government authorities to legislate, plan and manage the nutrition programme.”

The purpose is to examine the institutional arrangements and capacity of province and district government authorities to legislate, plan and manage the nutrition programme

The NCAI focused on nutrition services provided through the health sector (i.e. nutrition-specific interventions) more strongly than on nutrition-sensitive programming. This focus reflects the current Indonesian context, in which nutrition is widely perceived to be the responsibility of the health sector. There was also a particular focus on the management and allocation of financial resources at sub-national level, as this has been identified as a challenge in previous analyses of nutrition in Indonesia.

The limitations of the assessment were: (i) limited attention to capacity gaps in prevalent forms of malnutrition including overweight and obesity, and severe acute malnutrition, and (ii) minimum focus on nutrition-related sectors other than health.

This report starts by describing the conceptual framework and methods that were employed in the assessment. The findings on nutrition capacity in Indonesia are set out in four sections that equate to the four capacity areas of the conceptual framework. National and sub-national findings are described separately. Section 4 is a SWOT analysis and Section 5 presents the recommendations of the assessment.



02 methods



2.1 CONCEPTUAL FRAMEWORK

The NCAI adopted the conceptual framework presented in **Figure 2**, based on tools and resources for nutrition capacity assessment developed by the United Nations (UN) Network for Scaling Up Nutrition (SUN) (SUN UN Network, 2016). The conceptual framework consists of four capacity areas that all need to be in place in order to effectively deliver nutrition interventions and programmes.

Figure 2: Framework for NCAI



Based on: (SUN UN Network, 2016)

2.2 DESCRIPTION OF METHODS

The NCAI was designed by the Institute for Economic and Social Research (LPEM), Faculty of Economics and Business, University of Indonesia, who also carried out the data collection. UNICEF provided technical support to the design and implementation of NCAI and the findings were reviewed by the MoH and *Bappenas*. A mixed methods design was adopted to collect quantitative and qualitative data using two approaches:

Desk Review

A review of government policy and budgeting reports relating to the national level and selected provinces and districts was conducted. Relevant documents published by the United Nations, other agencies and in the academic literature were also appraised. A full list of documents reviewed can be found in the list of references.

Primary Data Collection

Focus group discussions and individual interviews were undertaken in pre-selected provinces and districts, and at the national level. Seven provinces were selected to represent a range of stunting prevalence values according to MoH 2015 surveillance data, and a range of geographical settings. In each of the seven provinces, one district was selected that had a stunting prevalence similar to that of the provincial average (see **Table 2**).

Table 2: Provinces and Districts Pre-Selected for Primary Data Collection in 2017

Province	% Stunting	District	% Stunting
East Nusa Tenggara	41.2	Sikka	40.1
South Kalimantan	37.2	Tanah Laut	38.5
South Sulawesi	34.1	Pinrang	34.8
Maluku	32.3	Maluku Tenggara Barat	35.1
West Papua	29.5	Kota Sorong	26.7
Central Java	24.8	Klaten	26.1
Lampung	22.6	Lampung Utara	24.6

The interviews and focus group discussions were semi-structured and based on a set of guiding questions that covered all four nutrition institutional capacity areas, following the guidance set out by the UN Network for SUN tools and resources (SUN UN Network, 2016). Responses were grouped thematically in order to identify consistent themes. A total of 390 participants took part in the NCAI, of whom 152 were provincial staff and 238 were district and community staff. This includes in depth interviews conducted at

district level with 20 nutritionists, 25 midwives and 42 community volunteers (*cadre*). Further details of the methods employed and tables of data can be found in **Appendix 2**.

03

capacity to deliver nutrition actions

3.1 POLICIES, PLANS AND FRAMEWORKS

3.1.1 Political Commitment and Development Plans

National Commitment to Nutrition

The Government of Indonesia has demonstrated strong political leadership and commitment to nutrition in recent years. It has pledged to meet the World Health Assembly (WHA) global nutrition targets by 2025 (WHO, 2012) and is a signatory to the Sustainable Development Goals, which include the six WHA infant and child nutrition targets to be met by 2030 (UN, 2015). In 2011, Indonesia joined the SUN Movement and government officials remain actively involved in global initiatives, such as the second International Conference on Nutrition (FAO & WHO, 2014).

The Government launched the National Movement on Accelerating Nutrition Improvement in the First Thousand Days of Life (*1,000 Hari Pertama Kehidupan*) in 2011 in recognition of the critical period for addressing malnutrition between pregnancy and a child's second birthday. In 2016, the Community Movement for Healthy Life (Germas) was initiated, which is a national public health programme taking a multi-sectoral approach and involving 18 line ministries and institutions. One of six main activities of Germas is the provision of healthy food and accelerated nutrition improvement. The Government of Indonesia is committed to reducing poverty and given the strong relationship between poverty and stunting, has identified a reduction in stunting as a key nutrition target. In 2017, the Government launched the National Strategy to Accelerate Stunting



Reduction—also called the anti-stunting movement. The aim is to strengthen political support and leadership for nutrition at all levels, and to strengthen coordination and convergence on the issue across multiple sectors. In 2018, the movement is being implemented in 100 priority districts with high poverty rates and prevalence of stunting, and the plan is to scale up to all 514 districts in the country by 2021.

National Development Plans

National level political commitment is expressed through the inclusion of nutrition targets in development plans. The responsibility for designing the plans falls under *Bappenas*. Indonesia is currently

following a Long-Term Development Plan (RPJPN 2005-2025), which expresses the overall development goals for Indonesia. The RPJPN is divided into four separate five-year medium-term plans.

Table 3: Global and Indonesian National Nutrition Targets

Indicators	WHA Targets (2025)	RPJMN Targets (2019)	Baseline (2013)
Stunting in children aged 0 - 59 months 	Reduction of 40%	–	37.2%
Anaemia in women of reproductive age 	Reduction of 50%	–	21.0%
Low birth weight of infants 	Reduction of 30%	8% (Book II)	10.2%
Overweight in children aged 0 - 59 months 	No increase	–	11.9%
Exclusive breastfeeding in infants aged < 6 months 	Increase to 50% (at least)	50% (Book II)	41.5%
Wasting in children aged 0 - 59 months 	Reduce to <5%	9.5% (Book II)	12.1%
	WHO Global Framework For NCDs (2020)		
Obesity and diabetes in 18+ adults	Halt the rise	15.4% (Book I)	15.4%
Underweight in children aged 0 - 59 months	–	17% (Book I)	19.6%
Stunting in children aged 0 - 23 months	–	28% (Book I)	32.9%
Anaemia in pregnant women	–	28% (Book II)	37.1%

Source: (WHO, 2012), (Bappenas, 2015) (RISKESDAS, 2013)

Book I of the present Medium-Term Development Plan (RPJMN 2015–2019) sets out the vision, mission and development targets for the country for the five year period. Two targets for reducing malnutrition (child stunting and underweight) and one target for adult obesity are included in Book I under the goals for Human Development, thus setting the agenda and national priority to meet these targets (see **Table 3**). The stunting target was deliberately confined to children under the age of two years to emphasize the critical 1,000 day window of opportunity to improve nutrition, while underweight was included as this was an important target in the Millennium Development Goals to be met by 2015. Book II of the RPJMN 2015–2019 provides strategic guidance which is then translated into ministerial strategic plans or RENSTRA. A further four nutrition targets are included in Book II. Three of these correspond to WHA targets. A target on reduction of overweight and obesity in adults is also included in the current RPJMN Book I and Book II, highlighting the Government's concern with rising levels of overweight.

National Ministerial Plans

The nutrition targets included in the RPJMN 2015–2019 are not reflected in ministerial plans, with the exception of the health sector. Nutrition in Indonesia is largely the responsibility of the health sector with the Directorate of Nutrition placed within the MoH, and nutrition included as part of the health sector by *Bappenas* in its planning activities. It would, therefore, be expected that the ministerial strategy (RENSTRA) for the health sector would directly reflect the nutrition targets in the RPJMN. However, this is not the case. The RPJMN nutrition targets are included as a table in the MoH RENSTRA, but only two targets, relating to reductions in low birthweight and increased exclusive breastfeeding, are included in the form of performance indicators (see **Appendix 3**). This highlights the limited attention that nutrition receives even within the health sector. The RPJMN nutrition targets are not included in any other key sector ministerial RENSTRA. This means that key sectors do not have direct responsibility for ensuring that nutrition targets are met through their sectoral actions and there is a mismatch between the targets set in the RPJMN and those included in the ministerial plans. A critical step to ensure that there is shared accountability and responsibility across sectors

for reaching the national nutrition targets will be to ensure that, at the very least, the stunting target is incorporated into the RENSTRA of all key ministries.

Sub-National Commitment and Plans for Nutrition

The commitment to address malnutrition, particularly stunting, has not yet been translated into Provincial or District Mid-Term Development Plans (RPJMD), again highlighting the mismatch between national commitment and plans. South Sulawesi was the only one of the seven provinces of the NCAI that included four out of six nutrition targets contained in the RPJMN (stunting in children aged 0 - 23 months, underweight and wasting in children aged 0 - 59 months, and adult obesity). Support for planning in South Sulawesi has been provided by a 'nutrition champion' from Hasanuddin University, highlighting the critical role that academia and national experts can play in facilitating planning processes at provincial and district level. Part of the reason for omitting nutrition targets in

The commitment to address malnutrition, particularly stunting, has not yet been translated into Provincial or District Mid-Term Development Plans



RPJMDs, is that the RPJMN was published in 2015 after some provincial RPJMD were already in place. Nevertheless, a target to reduce stunting from 37 per cent to 32 per cent was included in Book II of the RPJMN 2010–2014, so at the very least, stunting targets should have been reflected in all RPJMD published after 2010. A similar picture is found with regard to district RPJMD. Instances of commitment to nutrition by district authorities was noted by the NCAI, however. For example, the Governor's wife in South Kalimantan, herself a nutritionist, is providing good leadership, while the Provincial Secretary in Central Java has taken a lead role in multi-stakeholder coordination by bringing people together.



The NCAI confirmed the finding of previous analyses of the nutrition situation in Indonesia, which was that sub-national development planning agency (*Bappeda*) staff charged with the responsibility for planning the RPJMD do not necessarily have a clear idea of the scale and impact of malnutrition

or how to effectively address malnutrition through nutrition-specific and nutrition-sensitive actions. Rather, the emphasis on addressing malnutrition at sub-national level is on growth monitoring, supplementary feeding (i.e. distribution of high-energy biscuits) and treating severe malnutrition.¹ It should be noted, however, that the coverage and quality of these services is currently inadequate and they are not implemented in accordance with the global recommendations (see **Section 3.1.3**). There is less emphasis on prevention of stunting, maternal undernutrition, micronutrient deficiencies and obesity.

The RPJMDs at both provincial and district level have the potential to set the standard for a multi-sectoral approach if nutrition outcome targets are incorporated and then reflected in key sector plans and activities. The Ministry of Home Affairs is encouraging this approach by issuing, in March 2018, an instruction to the initial 100 districts of the National Stunting Reduction Movement programme (Government of Indonesia, 2017).

The instruction directs local authorities to integrate stunting reduction interventions from different line ministries into the RPJMD and to:

1. Implement all essential nutrition interventions.
2. Mobilize multi-stakeholders to implement stunting reduction.
3. Take convergent, multi-sectoral actions stunting activities to benefit target groups.
4. Routinely monitor all interventions.

¹ The term 'severe malnutrition' is broadly used in Indonesia to describe children who are severely underweight and/or wasted and eligible for treatment. Knowledge of severe acute malnutrition (SAM) or wasting, and requirements for therapeutic treatment are still not widely understood in parts of Indonesia.

3.1.2 Food and Nutrition Action Plans, and Supportive Legislation

National Food and Nutrition Plans

Nutrition-related actions to meet national targets are set out in the five-year National Food and Nutrition Action Plan (RAN-PG) 2015–2019 for which *Bappenas* is responsible through the mandate of a government regulation on food security and nutrition (No. 17, 2015). This plan provides the basis for other ministries and institutions to develop their sector-specific strategies and work plans. The current RAN-PG emphasizes that improved nutritional status will result from nutrition-specific interventions and nutrition-sensitive programmes, involving multiple sectors and focused on the first 1,000 days of life. Six of the seven nutrition targets (excluding adult obesity) included in the RPJMN are incorporated into the RAN-PG. *Bappenas* subsequently released an updated version of RAN-PG for the period 2017–2019.

National Legislation to Protect and Promote Good Nutrition

The RAN-PG is supported by national legislation to protect and promote good nutrition. Legislation covers the right to food (No. 18, 2012), protection of exclusive breastfeeding and control in the use of infant formula (No. 33, 2012), fortification of wheat flour with iron (No. 153, 2001) and iodization of salt (No. 69, 1994). While this is an encouraging sign that the Government of Indonesia is taking steps to ensure that its citizens have optimal access to good nutrition, the scope of legislation, enforcement and monitoring is still weak and not comprehensive. The household coverage of adequately iodized salt in Indonesia has remained at around 60 to 70 per cent since 1998, though the most recent survey data suggest a modest improvement to 77 per cent (RISKESDAS, 2013). Despite the fact that wheat-flour fortification is mandatory, WHO recommendations have not been followed (WHO, 2009). The regulations aiming to protect infant and young child feeding (IYCF) do not fully comply with the International Code on the Marketing of Breastmilk Substitutes (WHO, 1981), while there is very limited legislation to govern the advertising, labelling and sale of high fat, salty and sugary food and drinks, which is contributing to the obesity crisis.

Sub-National Food and Nutrition Plans

The government regulation on food security and nutrition (No. 17, 2015) also requires Food and Nutrition Action Plans to be developed at provincial and district level (RAD-PGs), under the responsibility of *Bappeda*. Of the seven provinces selected for the NCAI, only three had up-to-date plans, three had outdated plans and one had no plan at all. None of the seven selected districts had a current RAD-PG in place. Previous analyses have highlighted the lack of capacity at sub-national level to effectively plan for nutrition. Provincial and district *Bappeda* staff do not necessarily have the knowledge and expertise about nutrition to plan for a multi-sectoral approach. *Bappenas* has published an updated version of the current RAN-PG 2017–2019, which includes a guideline for the sub-national level to help them to develop up-to-date RAD-PGs. The information included is relatively broad, however, and without technical assistance to support sub-national staff, it is unclear whether this will result in improved RAD-PGs.

The NCAI highlighted further challenges with sub-national nutrition planning. Firstly, awareness about stunting as a national priority was lacking, and so there is no urgency to develop RAD-PGs as a multi-sectoral approach. Secondly, there is no linkage between RAD-PGs and budgets, and so there is a lack of incentive to plan without clear budget lines. Finally, there is an absence of technical support for provincial and district authorities on how to design and budget a practical food and nutrition plan that takes a multi-sectoral approach.

Sub-National Legislation to Protect and Promote Good Nutrition

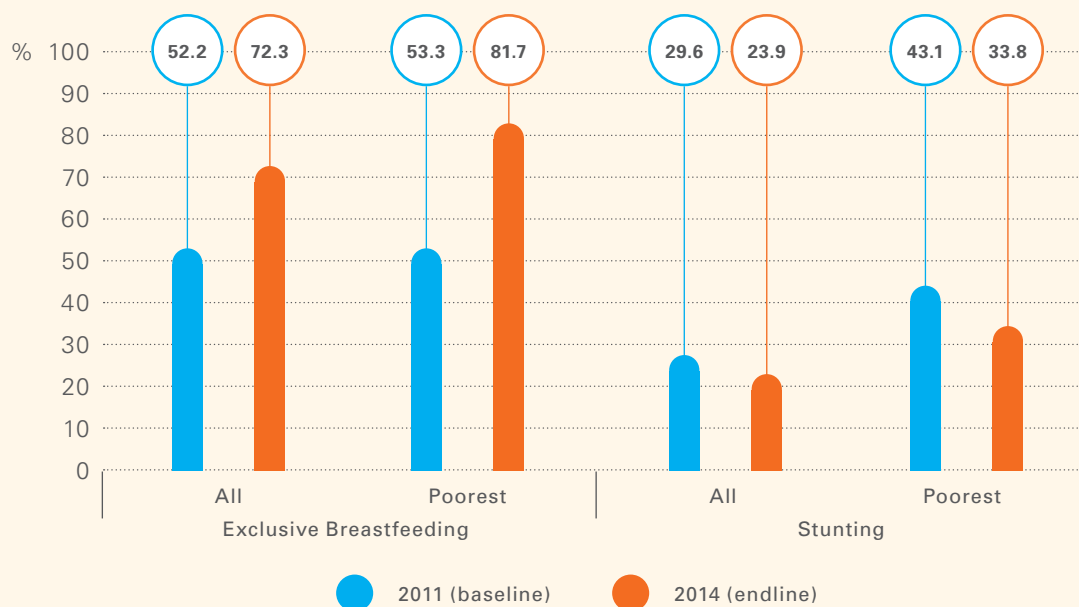
Despite the lack of RAD-PGs, in some areas there are signs that sub-national legislation is being successfully enacted to support national-level laws to promote good nutrition. This is particularly the case in terms of support for exclusive breastfeeding, with four of the seven selected provinces and two of the seven selected districts having legislation in place. Box 1 provides an example of how the introduction of enabling legislation and good planning improved breastfeeding rates at district level.

Box 1: Good Practice Example
Increasing Breastfeeding Through Enabling Legislation and Planning at District Level

Concerted action to improve nutrition was undertaken in the districts of Klaten, Sikka and Jayawijaya as part of the Maternal and Young Child Nutrition Security in Asia (MYCNSIA) programme from 2011 to 2014. The result was a 20 percentage point increase in exclusive breastfeeding rates and a 5 percentage point reduction in stunting rates, and the positive impact was even greater among the poorest. Legislation introduced to protect breastfeeding was one of the factors that contributed to the success of the programme. Government regulations adopted in 2012 (No. 33, 2012) prohibited the sale and promotion of infant formula in health facilities, specified the role of health workers in promoting and supporting breastfeeding, and obliged government and other

public sector employers to provide facilities for mothers to breastfeed. This national legislation was supported by district level regulations. For example, in Klaten, regulations were introduced in 2013 to promote breastfeeding including rewards for adherence (e.g. public recognition) and sanctions for health workers violating the law by promoting the use of formula milks. In addition, infant and young child feeding was prioritized in District Plans of Action of Food and Nutrition (RAD-PGs). Other success factors were identified as: implementing multi-sectoral approaches, establishing effective platforms for the most disadvantaged households, improving the knowledge and counselling skills of the community workforce, developing a responsive monitoring system, and working with partners.

Figure 3: Change in Rates of Exclusive Breastfeeding and Stunting in Three Mycnsia Districts 2011–2014



Source: (UNICEF, 2017)

3.1.3 Nutrition Services and Delivery System

Nutrition-Specific Interventions

Within the framework of the First 1,000 Days of Life Movement launched in 2013, the MoH has the responsibility to deliver the Community Nutrition Improvement Programme. The programme ensures a continuum of health and nutrition care, to prevent and treat malnutrition through appropriately organized facility-based, community-based and outreach services. The population groups for addressing undernutrition are adolescent girls, pregnant and breastfeeding women, and children under two years of age, while interventions to address obesity are targeted at the general population. The Directorate of Nutrition within the MoH has produced approximately 15 guidelines setting out the specific services that should be delivered to improve nutrition (see **Appendix 3**). In addition, provincial and district authorities are responsible for providing basic services for communities. These Minimum Service Standards (MSS) have been set by the Ministry of Home Affairs for five sectors. The MSS for the health sector are mandated under regulations (No. 43, 2016) and are operationalized by the MoH.

The connection between nutrition targets and the delivery of nutrition services is not straightforward and highlights the disconnect between plans and service standards. Appendix 3 presents the nutrition targets and services to be delivered to communities in Indonesia as set out in the RPJMN, MoH RENSTRA and the MoH MSS. They are categorized for three different population groups: **(i) women of reproductive age and pregnant women, (ii) infants and children, and (iii) the general population**. The Indonesia-specific targets and services are compared with the ten nutrition-specific interventions that are globally recognized as essential for addressing undernutrition (*The Lancet*, 2013).



The Community Nutrition Improvement Programme ensures a continuum of health and nutrition care, to prevent and treat malnutrition

A number of conclusions can be drawn. Firstly, not all of the ten nutrition-specific interventions recommended globally are incorporated in current nutrition policy and services in Indonesia:

- Four of the essential interventions are established in Indonesia, though the quality and coverage of implementation is poor in certain areas. These are: **(i) maternal balanced energy protein supplementation for underweight pregnant women, (ii) promotion of breastfeeding, (iii) vitamin A supplementation for young children, (iv) iodization of salt.**
- Four other interventions are partially implemented. These are: **(i) multiple micronutrient supplementation to all pregnant women** which is implemented through iron and folic acid (IFA) supplements rather than through multiple micronutrient, **(ii) appropriate complementary feeding education in food secure populations** which is theoretically undertaken at the *Posyandu* when children are measured as part of the growth monitoring programme, **(iii) management of moderate acute malnutrition (MAM)** involves identifying moderately malnourished children (the distinction between moderate wasting and moderate underweight is not always clear in Indonesia) and providing high-energy biscuits supplements. Other essential components of MAM management, such as breastfeeding promotion and support, education and nutrition counselling for families, are not necessarily provided, **(iv) management of SAM.** Children with severe malnutrition are, in theory, sent to health facilities for treatment, but frequently there is no accessible facility offering adequate treatment, and community management of SAM is not yet incorporated into policy.
- Two interventions: **(i) calcium supplementation to at risk mothers, and (ii) preventative zinc supplements for young children** are currently not established policy and are not routinely provided.

The ten nutrition interventions that are globally recommended are based on robust evidence and represent the minimum package of nutrition-specific interventions for improving nutrition. It seems, therefore, logical for these interventions to be clearly incorporated into Indonesian policy and guidance, and reflected in services delivered at sub-national level with full coverage.

Currently there is a mismatch between national development plans, ministerial and sub-national plans, and service standards

Secondly, nutrition services in Indonesia are currently guided by a variety of guidelines, policy documents and MSS. These are not consistent with each other and have the potential to cause confusion. A set of documents that clearly link the RPJMN targets with strategic outcomes, outputs and services would help district and provincial authorities to develop plans and implement services to improve nutrition.

Thirdly, it is crucial that interventions aiming to address undernutrition do not have the unintended consequence of contributing to overnutrition at a later date. For example, providing biscuits as a supplementary food to children and pregnant mothers without counselling on healthy diets may create the perception that biscuits are a substitute for local nutritious foods. This could lead to poor eating practices and potential overweight in the future. Rather, planners in Indonesia should be mindful of the concept of 'double-duty actions' that simultaneously reduce the burden of undernutrition and overweight (WHO, 2017).

Finally, it is critical that targets set out in the RPJMN are reflected in ministerial and sub-national plans, and that performance indicators and MSS are designed to meet the overall targets. Currently there is a mismatch between national development plans, ministerial and sub-national plans, and service standards.

Nutrition-Sensitive Actions

Nutrition-specific interventions are insufficient on their own to sustain nutritional improvements. Currently, however, there is no globally agreed equivalent package of nutrition-sensitive actions for improving nutrition. Rather, nutrition-sensitive interventions are context dependent. A detailed examination of nutrition-sensitive actions is beyond the scope of the NCAI.

The NCAI found that there was a disconnect between implementation of interventions by different sectors. For example, food security programmes did not target all families with under-5 children and pregnant women, while programmes providing clean water and improved latrines did not necessarily take place in areas where mothers are taught about hygiene behaviours, such as handwashing, as part of an infant and child feeding programme. Thus, while a multi-sectoral approach to nutrition is being advocated and championed at national level, the reality on the ground is that actions to combat malnutrition are not coordinated. Improved understanding about how to develop and budget practical multi-sectoral nutrition plans at district level could help to overcome the siloed approach being adopted currently.



System for Delivering Nutrition Services

In 2000, the Government of Indonesia replaced the system of centralized government and development planning with a decentralized system. The reforms gave greater authority, political power, and financial resources to districts and villages, bypassing the provinces. The powers transferred included the responsibility for delivery of services in a range of sectors including health, education, public works, environment, communication, transport, agriculture, manufacturing, and other economic sectors. The national government retains the role of leadership, coordination and monitoring.

With decentralization, the responsibility for delivering nutrition services shifted to district authorities and delivery is largely through the health system. Previous studies have noted, however, that the capacity of district governments to plan, manage and monitor nutrition services is weak (Friedman, Heywood, Marks, Saadah, & Choi, 2006), (*Bappenas*, 2010) (UNICEF, 2012), (*Bappenas*, 2014). The result is that district authorities often fail to provide the services that they are supposed to, especially services to the poor (SMERU, 2012). There are examples, however, where significant improvements in the planning and delivery of services have taken place resulting in reduced levels of malnutrition and improved nutrition practices. One such example is presented where a donor worked alongside national and local authorities to establish better systems (see **Box 1**, page 19). The key issue will be to ensure that improvements are sustained when donor support is withdrawn.

KEY MESSAGES

1. The Government of Indonesia has demonstrated strong political leadership and commitment to nutrition, most recently through the launch of the National Stunting Reduction Movement in 2017, which is promoting a multi-sectoral approach.
2. Targets for reducing child stunting, child underweight and adult obesity have been included in Book I of the RPJMN 2015–2019, thus setting the agenda and national priority. An ambitious plan (RAN-PG) sets out the national strategy for meeting the nutrition targets.
3. There is a mismatch between nutrition targets and commitments expressed in the RPJMN with actions and performance indicators included in ministerial, sub-national plans, and MSS. The health RENSTRA alone includes only two performance indicators that directly reflect the targets. This disconnect prevents the delivery of adequate and appropriate nutrition services to communities.
4. Malnutrition is widely perceived as primarily a 'health' problem though nutrition receives low priority within the health sector.
5. Some supportive legislation for ensuring good nutrition is in place but enforcement is weak, and it fails to fully protect Indonesians against poor nutrition.
6. The capacity of sub-national authorities to plan, manage and monitor nutrition services is weak, resulting in an omission of nutrition outcome targets in development plans (RPJMDs), a lack of up-to-date nutrition and food action plans (RAD-PGs) in districts, and a siloed approach to programming.
7. Technical support (from academics, donors, sub-national nutrition 'champions') has been proven to strengthen the capacity of sub-national authorities to plan, manage and monitor nutrition services.
8. Only 4 of 10 nutrition-specific interventions essential for improving nutrition from The Lancet are incorporated into current nutrition policy and MSS, while 4 others are partially covered, and 2 are not included at all.

3.2 RESOURCES AND INFRASTRUCTURE

3.2.1 Financial Resources

National Budget Allocations for Nutrition

It was beyond the scope of this assessment to estimate the current national budget for, and expenditure on nutrition, and there is no single source for this information. An exercise to cost nutrition plans in Indonesia was undertaken by the SUN Movement in 2015. The total annual cost was estimated as equivalent to \$2.3 billion (32.3 trillion rupiah at 2018 exchange rates) (SUN Movement, 2015). The majority (90 per cent) was the cost of nutrition-sensitive programmes, while only four per cent was the cost for nutrition-specific actions and six per cent was the cost of strengthening governance. This costing exercise was limited to undernutrition, and the cost of addressing the growing burden of obesity was not included.

More recently, the Ministry of Finance (MoF) has recalculated the budget allocations for nutrition to be consistent with the stunting reduction target contained in the RJPMN 2015–2019 (Ministry of Finance, 2018). According to this calculation, a total of 49.7 trillion rupiah will be allocated in 2018 to different ministries at a national level for stunting reduction, while 92.2 trillion rupiah will be allocated at a sub-national level. A significant allocation (20 per cent of the total) will go to the MoH with smaller proportions allocated to the Ministry of Social Affairs (ten per cent) and to the Ministry of Public Works (four per cent). The biggest allocation for stunting reduction (42 per cent) will be allocated to the village fund (see **Box 2**) indicating the government's intention to empower communities to plan and implement actions to reduce childhood stunting. Again, these estimations are limited to stunting and do not take account of the funding required to address other forms of malnutrition such as wasting and obesity.

The difference between the costs calculated by the SUN Movement and those of the MoF suggest that there is no agreed accounting system in place in Indonesia to calculate the theoretical cost of

effectively addressing nutrition in all its forms against actual expenditure. Rather, malnutrition is addressed through multiple government funding channels, and accurate estimations of required or actual expenditure are not available.

An integral part of the new National Stunting Reduction Movement will be a results-based financial monitoring system. Starting in the 100 target districts, the system will monitor 19 key results indicators of five priority service packages: (i) maternal and child health services, (ii) nutrition, hygiene and parenting counselling, (iii) water and sanitation, (iv) early childhood education and development, and (v) social protection (World Bank, 2017). The programme, however, only addresses stunting. An accounting system for addressing malnutrition in all its forms could usefully ensure that enough funds are made available to cover nutrition-specific and nutrition-sensitive actions.



Sub-National Budget Allocations for Nutrition

Decentralization led not only to the devolution of government functions, but to an increase in the transference of funds to sub-national authorities—from 13 per cent of central government expenditure in 2000 (before decentralization) to around 30 per cent in 2010 (SMERU, 2012). Sub-national authorities were also required to prioritize their local budget and expenditures on public services including health services. One result of decentralization has been much greater complexity in the funding arrangements for nutrition at sub-national level, with multiple sources available, making it difficult to ascertain the actual amount of funds disbursed for improving nutrition.

Provincial and district authority resources are allocated through the local government revenue and expenditure budget (APBD). The APBD is used for: (a) Indirect expenditure, including the salaries of civil servants working in health facilities; and (b) Direct expenditure, including the operation of health services and programmes, and allowances of staff when they deliver services.

There are three main sources of APBD:

1. Local authority's own source of revenue, which includes local tax and small amounts of revenue from profits of public enterprises owned by local governments, and revenue from their privatization and lease;
2. Tax and non-tax revenue sharing, which includes personal income tax, non-resident property tax, and natural resources revenue; and
3. Transfers from the central government that are channelled in two forms:
 - (a) General Allocation Fund (DAU) which is given to local authorities as an equalization grant and to finance the costs of service delivery. This fund mainly covers the salaries of civil servants;
 - (b) Special Allocation Fund (DAK) which largely finances the national priorities that should be delivered at sub-national level. There are two types of DAK: (i) Non-physical DAK which consists of a large number of highly specific grants for recurrent costs (e.g. health centre operations); (ii) Physical DAK that are specific capital grants, though in some sectors they are used to fund recurrent costs (e.g. cost of drugs or maintenance).

Puskesmas that deliver nutrition services have funding from local authorities as well as their own sources of funding, which can potentially be used to fund the nutrition programme.

There are three main sources of APBD, local authority's own source of revenue, tax and non-tax revenue sharing, and transfers from the central government

Potential resources available are:

1. General APBD funds (non-DAK) can be used for salary and allowance for civil servants, and operational funds.
2. Physical DAK funds can be used for procurement of pharmaceutical supplies.
3. Non-physical DAK funds can be used for the public health programme including nutrition.
4. Health Insurance Scheme (JKN) capitation funds that can be used to pay for pharmacy and medical supplies, health services including home visits, capacity building/training and meetings.
5. Village funds can be used for the public health programme in villages (see **Box 2**).
6. In addition to the above sources, nutrition inputs and services can also be provided through private donations (in-kind) and by external development partners.

Box 2: Potential Resources for Nutrition Through the Village Fund

The village fund (*Dana Desa*) is allocated annually to each village in Indonesia from the national budget. The exact amount for each village is calculated based on population, area and poverty rate (Government of Indonesia, 2014). The conditions governing the village fund are set out in a government regulation (No. 60, 2014) and specify that the village fund shall be used to fund the administration of government, development, community empowerment, and community activities.

The fund is allocated on the basis of village development goals that are agreed through a village meeting and in accordance with the priorities of district, provincial and national governments. Each village receives a list of sectoral activities from which they can choose to spend a portion of the allocation. The Ministry of Villages has recently published a Village Pocket Book for addressing stunting (Ministry of Villages, 2017). This sets out ten potential

categories and 48 sub-categories that could be financed by village funds. The categories include funding for: water and sanitation; incentives, training and travel costs for health staff and cadres; treatment and support for pregnant and lactating women; growth monitoring and nutrition of pre-school and school-aged children; and, community empowerment to promote healthy lifestyles. See **Appendix 4** for the entire list.

While these activities have the potential to reduce malnutrition, they also require to be linked. For example, building toilets and improving sanitary facilities in the absence of counselling on hygiene and handwashing will have a limited impact. In addition, there are many competing demands for village funds, and so advocacy for nutrition will be critical. The current capacity constraints at sub-national level suggest that without technical support, village authorities will find interpretation of guidance documents such as the Village Pocket Book difficult.

Under decentralization, provincial and district health managers, including the heads of *Puskesmas*, are responsible for planning and designing health and nutrition programmes to meet local priority needs while at the same time meeting MSS. Several policies and guidelines have been issued to assist *Puskesmas* to plan and manage the different funds available to them. In 2014, the Ministry of Home Affairs issued a circular letter/technical guidance on budgeting, management and accountability of capitation funds. The circular letter was used and translated into local government regulations to guide the budget preparation by *Puskesmas*. In 2016, the MoH issued another regulation to support *Puskesmas* in preparing the annual budget allocation under the coordination of the district health office on the use of capitation funds. Another guideline with a different menu of activities is in place to guide *Puskesmas* on the use of non-physical DAK.

The NCAI found that the main challenge for provincial and district health offices, and *Puskesmas*, was not insufficient financial resources, but rather how to effectively plan, prioritize, and manage multiple funds aiming to deliver high quality nutrition services. There was limited knowledge about nutrition among planners and policy makers, which meant that nutrition was not prioritized and therefore insufficient financial resources were allocated. *Puskesmas* staff did not receive any training about financial management, annual budget preparation or accounting, and there was limited technical assistance and supportive supervision from the district health office. The lack of capacity was exacerbated by the complex funding structure, which in some cases led to a disconnect between national policies and programme delivery. For example, national funding to support nutritional supplements is insufficient to cover all of those in need, but sub-national funding was not necessarily used to ensure full coverage. Political processes also

created challenges where local authority planning priorities did not necessarily include nutrition and it was therefore de-prioritized despite national prioritization. A further issue was late disbursement of funds. The NCAI found that in West Papua in 2017, for example, the local authority budget, which should have been received in the first quarter of the year, was only received close to the end of the budget year, creating uncertainty in local government cash flow management. The delay in transfer of funds affected the quality of health and nutrition service delivery.

Sub-National Expenditure on Nutrition Services

A further but different challenge is in ascertaining how funding allocated for nutrition is spent. Analysis was conducted by the NCAI on the activities for which nutrition funding was disbursed by the selected NCAI district and provincial offices. Although this analysis does not take account of funding/inputs

provided through all channels (e.g. funds going directly to *Puskesmas* and *Posyandu* or vitamin A and IFA supplements or high protein/energy biscuits that are supplied centrally), it does illustrate that a standard approach was not applied. The different categories under which funds were allocated are shown in **Table 4**. The category descriptions are not always clear, and some categories are very broad. In addition, the categories do not reflect the nutrition activities set out in the health MSS or the ten essential nutrition-specific actions recommended globally (see **Appendix 3**). Furthermore, district and provincial allocations per category differed widely. For example, while some local authorities had allocated nothing to monitoring and evaluation or training and coaching, others had allocated significant amounts. The conclusion that can be drawn from this brief analysis is that a lack of standardization is hampering district and provincial authorities from disbursing sufficient funds for nutrition activities.

Table 4: Categories and Descriptions of Provincial and District Health Budgets

- Nutrition improvement programme for chronic energy deficiency, anaemia, iodine deficiency, vitamin A deficiency, and other micronutrients
- Procurement and distribution of high protein/energy biscuits and vitamins
- Procurement and development of therapeutic feeding facilities
- Training and coaching
- Preparation of local nutrition status map
- Monitoring, evaluation and reporting
- Dissemination of nutrition improvement programme
- Improvement of nutrition status of mothers and baby
- Nutrition services for poor people
- Obesity programme
- Improvement of community nutrition status
- Improvement of the family nutrition programme

Nutrition Investment Model

An important finding of the NCAI was that insufficient financial resources were allocated to nutrition at sub-national level because of the lack of a standardized approach, and capacity to plan and budget effectively. The World Bank has developed a standardized investment framework for nutrition that estimates the cost of a comprehensive package of evidence-based interventions to address child undernutrition (World Bank, 2017). The framework focuses on the financing requirements for implementing a set of seven essential nutrition-specific interventions² and does not take account of nutrition-sensitive programmes. The estimates are based on unit costs

for 100 per cent coverage for each intervention and adjusted to reflect the costs in South-East Asia.

Using the World Bank standardized framework, an estimated cost was calculated of implementing a set of nutrition-specific interventions in two of the districts selected for the NCAI. Koto Sorong district has high levels of severe acute malnutrition (6.9 per cent) and undernutrition in pregnant women (38.4 per cent). In comparison, Lampung Utara has lower levels of severe acute malnutrition (3.2 per cent) and undernutrition in pregnant women (25.3 per cent). Figure 4 presents the proportion of the total cost that would need to be spent on each nutrition-specific intervention in the two districts.

Figure 4: Proportional Investments Required for Nutrition-Specific Actions in Two Districts

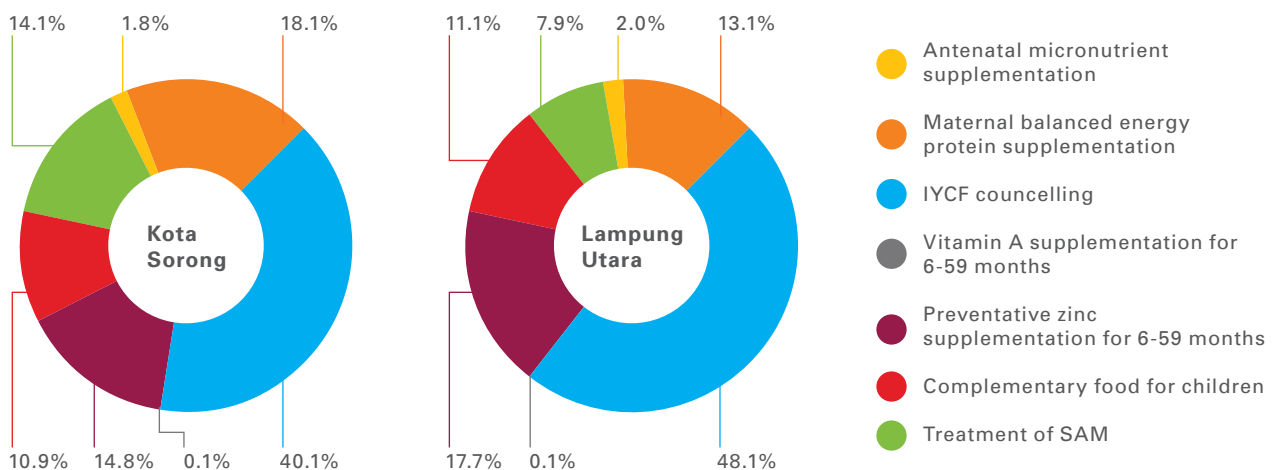


Figure 4 shows that in order to address child undernutrition effectively, most investment is required for IYCF programmes. Preventative zinc supplementation, which is not part of routine health care in Indonesia, also demands significant investment. Where the percentage of severe acute malnutrition and maternal undernutrition is high, a larger proportion of the costs will need to be reserved for the treatment of SAM and nutrition supplementation for pregnant women. It is noteworthy that the cost of vitamin A supplementation is tiny (0.1 per cent).

While these estimates should be treated with extreme care, in that they are based on idealized and estimated costs rather than actual unit costs for Indonesia, they suggest that a standardized budgeting format for a full set of nutrition-specific interventions could be developed for Indonesia that would help district health offices to plan and budget more effectively.

² Two of the ten essential nutrition-specific interventions have not been costed. These are maternal calcium supplementation, which is not yet routinely provided in South-East Asia, and universal salt iodization as costs are absorbed by the private sector or at a national level. Two interventions—promotion of breastfeeding and promotion of appropriate complementary feeding—are merged under the heading of IYCF.

3.2.2 Human Resources

The Nutrition Workforce

Nutrition services are delivered by a range of health staff. Specially trained nutritionists are based in *Puskesmas* and are charged under a government regulation (No. 32, 2001) to carry out the nutrition services listed in Table 5. The list of services is broad and does not clearly set out how nutritionists should plan, manage and monitor their work. Thus, nutritionists are left to define their own areas of work without sufficient guidance. In practice, nutritionists

are involved in: (i) identifying pregnant women and children under five eligible for supplementary feeding, (ii) monitoring and reporting on the impact of supplementary feeding (based on reports of weight gain); (iii) identifying the requirements for vitamin A, IFA and other nutrition products, distribution of those products from pharmacies in *Puskesmas* to integrated health posts (*Posyandu*) in villages or other distribution points.

Table 5: Nutrition Services to be Discharged by Nutritionists

Nutrition services that should be provided:

- Prepare materials/tools for nutrition, food and dietetic services
- Assessment of nutrition and dietetic services
- Manage and treat malnutrition, dietary and dietetic problems
- Implement nutrition, dietary and dietetic services
- Monitor the implementation of nutrition, dietary and dietetic services
- Evaluate nutrition, food and dietetic services

Nutritionists can also be involved in professional development activities, such as:

- Develop scientific papers on nutrition, food and dietetics
- Translate/adapt books and other materials in the field of nutrition, diet and dietetics
- Provide technical guidance on nutrition, food and dietetics
- Develop manuals on programme implementation, technical guidance on nutrition, food and dietetics
- Develop appropriate technologies in the areas of nutrition, food and dietetics
- Formulate the most appropriate and up-to-date system of nutrition, food and dietetic services
- Develop standards/policies on nutrition, diet and dietetics

In addition, nutritionists can conduct activities to support nutrition, food & dietetic services, such as:

- Teach or train in the field of nutrition, food and dietetic services
- Attend seminars/workshops on nutrition, diet and dietetics, and health
- Become a member of professional organizations in the fields of nutrition, diet and dietetics, and health
- Become a member of the team to assess the competency of nutritionists
- Obtain other degrees
- Receive a reward for outstanding work



Several previous analyses of nutrition capacity in Indonesia have found that the employment of trained nutritionists throughout the country is uneven, with the most remote areas experiencing the highest levels of malnutrition particularly poorly served. Out of seven provinces participating in the NCAI, the ratio of nutrition worker to population ranged from 1 per 7,930 in Maluku to 1 per 65,788 in Lampung (see **Appendix 2, Table 4A**). In the seven districts assessed, 29 per cent of *Puskesmas* did not have a trained nutritionist. When there are nutritionists in post, they are frequently stretched and unable to visit and support *Posyandu* frequently, leaving other health staff, who do not necessarily have training in nutrition, to take responsibility for nutrition-related tasks. One of the reasons for the dearth of nutritionists in government employment is due to a moratorium on engagement of staff adopted in 2010, which left the MoH unable to recruit nutritionists. To resolve the problem, some nutritionists are employed on short-term contracts. Alternatively, midwives or other health professionals with no nutrition training take up the nutritionist post. An additional reason is that nutritionists who have received vocational training, rather than an academic training, lack incentives to remain within MoH employment as they cannot officially register and become licensed, so are unable to develop their careers. Therefore, they look for alternative employment opportunities in the private sector or in related professions.

Previous analyses have also noted that nutritionists are frequently undervalued and underused. There is too much focus on administrative functions and the treatment of severe underweight (rather than severe acute malnutrition), and insufficient attention to prevention of malnutrition in communities, managing the delivery of services, and mentoring nutrition service delivery staff. The focus on addressing obesity and overweight is particularly low. As noted above, nutritionists lack clear job descriptions, which makes it difficult for them to interpret their role and prioritize their responsibilities. Job descriptions need to be updated to reflect the focus on the first 1,000 days of life, the double burden of malnutrition, the requirement to take a multi-sectoral approach, and the importance of prevention and community engagement.

In recent years, the effectiveness of the *Posyandu* system has declined

Other health professionals also deliver nutrition services. Midwives provide nutrition-related functions during antenatal care sessions in *Puskesmas* and *Posyandu*. This includes: provision of IFA supplements; identification of undernourished pregnant women by mid-upper-arm circumference (MUAC); height and weight measurement; provision of supplementary food to undernourished pregnant women; and counselling on basic nutrition. Cadres working in *Posyandu* supervise growth monitoring, vitamin A supplementation and deworming tablets. They also provide IYCF counselling.

In recent years, the effectiveness of the *Posyandu* system has declined (*Bappenas*, 2014). One of the main challenges noted in the NCAI has been the lack of remuneration for cadres, who are expected to take on considerable responsibilities with minimal incentives.

The multiple challenges facing the nutrition workforce at sub-national level requires holistic reform with a renewed focus on current nutritional issues. This would involve updating job descriptions for nutritionists and other health workers, and ensuring that incentives are in place to permit career progression.

Pre-Service Training for Nutritionists

Indonesia has a ready supply of trained nutritionists. There are 122 schools of nutrition and about 4,000 nutritionists are trained per year (Ministry of Higher Education, 2014). There are currently two forms of training provided: vocational and academic. In addition, medical doctors can undertake nutrition training to become clinical nutritionists or community dietitians.

There are 122 schools of nutrition and about 4,000 nutritionists are trained per year

A previous study looked in detail at the quality and standards of pre-service nutrition training and found that there was a lack of consistency across academies (UNICEF, 2012). Compliance with the minimum 60 per cent core competencies is variable and low, reducing the likelihood that there is a minimum competency standard being achieved amongst nutrition graduates, while it is not clear how compliance is being monitored. In addition, the curricula are outdated and do not include critical competencies such as understanding of the multi-sectoral approach to nutrition, planning and budgeting. Opportunities to gain practical experience during pre-service training are limited. The study concluded that the differentiation between vocational and academic nutrition education was outdated and that current pre-service training did not match the requirements of a present-day nutrition workforce.

In-Service Training in Nutrition

A total of 13 nutrition-related in-service training courses were being run for nutritionists and midwives working at district and community level in the seven NCAI districts (see **Appendix 2, Table A5**). There was considerable variation in the amount of training undertaken by nutritionists. Some nutritionists had received no nutrition-related training during the past year while others had attended up to six training courses. Currently, there is no standard package for in-service nutrition training courses that covers the essential nutrition-specific actions that should

be delivered through the health service. Further challenges found by the NCAI was that the frequent staff turnover meant that in-service training was expensive, as training courses have to be rerun to train new staff, and the fact that training has to be done through Provincial Health Training Agencies, which do not necessarily have the adequate technical expertise to design and run courses. As a result, in-service training is inconsistent, and its benefits are unclear.

Currently, only limited in-service training with nutrition content is offered to staff working in key sectors such as agriculture; food security; social protection; or water, sanitation and hygiene. These include updated in-service training modules on stunting for staff working on water, sanitation and hygiene, and with the family development session for staff employed on the conditional cash transfer programme. The result is that nutrition remains the responsibility of the health sector and there is limited awareness of the role that other sectors can play in addressing malnutrition.



Given the size and geographical disparity of the nutrition workforce, E-learning offers a practical way of reaching a large number of staff with a standardized and up-to-date package of training.

Box 3 presents an example of how the MoH is working to strengthen human resources for nutrition in hard-to-reach areas.

Box 3: Potential Resources for Nutrition Through the Village Fund

The *Nusantara Sehat programme* aims to strengthen and sustain primary health care services by adopting an integrated approach to health promotion. An essential aspect is the retention of health staff employed in *Puskesmas*. Teams of health workers, consisting of doctors, dentists, nurses, midwives, community health workers, environmental health workers, medical laboratory technologists, nutritionists, and pharmaceutical staff, are sent to underdeveloped regions, borders and islands in Indonesia. In 2017, 960 health workers were sent to 120 *Puskesmas* in 48 areas of Indonesia. A team of health workers, including a nutritionist, had been sent to one of the *Puskesmas* assessed as part of the NCAI.

The nutritionist was proactive in reinvigorating nutrition services by:

- **Developing a clear job description for the nutritionist;**
- **Working closely with the midwife providing antenatal nutrition counselling;**
- **Establishing maternal support groups in *Posyandu*; and**
- **Providing individual counselling for undernourished children in *Posyandu*.**

3.2.3 Infrastructure

A major hindrance to institutional capacity in nutrition is the gap in health facility provision, which means that some of the poorest people in the country are unable to access health and nutrition services (see **Table 6**).

In addition, the capacity of health staff in *Puskesmas* is compromised by lack of clean water, electricity, communications and doctors.

Table 6: National Access to Infrastructure in 2011

Sub-districts with no <i>Puskesmas</i>	6.3
<i>Puskesmas</i> with no clean water supply	28.3
<i>Puskesmas</i> without 24-hour electricity	12.6
<i>Puskesmas</i> without telephones	16.0
<i>Puskesmas</i> without a physician	4.2

KEY MESSAGES

1. Currently there is no accounting system in place to calculate the cost of a comprehensive national plan for nutrition or to track budgets and expenditure on nutrition; however, an accountability system to link finance with reductions in stunting will be an integral part of the new National Stunting Reduction Movement.
2. More funds are potentially available to improve nutrition at sub-national level as a result of decentralization, and the village fund offers an opportunity for 'bottom-up' budgeting at community level.
3. The main challenge for provincial and district health offices and *Puskesmas* is not insufficient financial resources, but rather a lack of capacity to effectively plan, prioritize and manage multiple funds aiming to deliver high quality nutrition services.
4. A standardized budgeting format for a comprehensive set of nutrition-specific interventions, could be developed for Indonesia that would help provincial and district health offices and *Puskesmas* to plan and budget more effectively.
5. Indonesia has a ready supply of trained nutritionists but their employment in *Puskesmas* is uneven, while their role is often undervalued and lacks sufficient focus on the prevention of malnutrition in communities, managing the delivery of services, and mentoring staff.
6. About one third of *Puskesmas* covered by the assessment did not have a nutritionist in post. Nutritionists were frequently stretched and unable to visit and support *Posyandu* frequently, leaving other health staff, who may not have training, to deliver nutrition services.
7. A holistic reform of the nutrition workforce at sub-national level requires an update of job descriptions and incentives for nutrition service providers.
8. Pre-service training for nutritionists is inconsistent and does not equip graduates with the competencies required to manage the present-day nutrition programme.
9. There is no package of essential in-service training for the delivery of nutrition-specific interventions in place and as a result in-service training is inconsistent and its benefits are unclear.
10. Limited nutrition training is offered to staff working in key sectors such as agriculture; food security; social protection; and water, sanitation and hygiene, leaving the health sector with sole responsibility for addressing malnutrition.

3.3 COORDINATION AND PARTNERSHIPS

National Platforms for Nutrition

Multiple platforms, ministries and agencies are involved in nutrition in Indonesia. A Task Force has been established to coordinate and implement the National Movement on Accelerating Nutrition Improvement, with key sectors represented. The Task Force is composed of a steering committee and a technical team as shown in Table 7. A major drawback with the current system is that the capacity of line ministries to coordinate other line ministries is limited and as a result, sectors continue to plan, budget and implement independently. A higher-level government coordination body has the advantage of exerting authority over line ministries.

The President of Indonesia has said that he would like to, “emphasize that the reduction of stunting is a collaborative work which should involve all elements of society” (Widodo, 2018). The current National Stunting Reduction Movement is being coordinated by the Office of the Vice-President and line ministries are already showing an interest in addressing stunting more directly and in a coordinated fashion with other sectors. An opportunity to position nutrition within a higher-level coordination body is provided through the anti-poverty programme and would enhance the authority for nutrition.

In addition to the government platforms, there are non-governmental networks for nutrition. As part of the SUN Movement, a United Nations/donor network, civil society network, business network and science/academia network, have been established. These networks reinforce the point that responsibility for nutrition needs to be shared by everyone, including partners supporting the Government. However, collaboration and coordination across the different stakeholder groups remains limited, highlighting the need for a well-functioning multi-stakeholder coordination group.



The reduction of stunting is a collaborative work which should involve all elements of society



Table 7: Composition of National Task Force for Nutrition

Vice Chair 1	Minister of Home Affairs	Deputy for Health Coordination, Population and Family Planning, Coordinating Ministry for People's Welfare
Vice Chair 2	Minister of Health	Director General of Nutrition and Maternal and Child Health, Ministry of Health
Secretary	Deputy for Human Resources and Culture, Ministry of National Development Planning / National Development Planning Agency	Secretary 1 Director of Community Health and Nutrition, Ministry of National Development Planning / National Development Planning Agency
		Secretary 2 Director of Nutrition, Ministry of Health
Members	Minister of National Development Planning / Head of National Development Planning Agency; Minister of Agriculture; Minister of Marine Affairs and Fisheries; Minister of Education and Culture; Minister of Industry; Minister of Trade; Minister of Social Affairs; Minister of Religious Affairs; Minister of Communication and Informatics; Minister of Women Empowerment and Child Protection; and Cabinet Secretary.	Government staff (appointed by the Chair of the Steering Committee)

Source: President Regulation No. 42, 2013

Sub-National Coordination for Nutrition

While coordination for nutrition is stressed at national level, it is lacking in the provinces and districts.

Bappeda are responsible for regularly bringing the different sectors together to coordinate and monitor the implementation of RAD-PGs. As has already been established, many provinces and most districts do not have an up-to-date RAD-PG in place, and so decisions on budgeting are being taken with no plans to guide them. Even when RAD-PGs are in place, the NCAI found that consideration is confined to budget expenditure with little attention given to how to coordinate and integrate a multi-sectoral programme for nutrition. A major obstacle for coordination across sectors, therefore, is the lack of understanding by *Bappeda* who frequently do not view malnutrition—except in its severest form—as a priority. In addition, the NCAI noted that the level of educational attainment of staff in *Bappeda* is not necessarily high and there was a lack of expertise in how to address the complex problem of malnutrition.



The lack of effective coordination means that sectors manage their programmes independently without proper integration. One example observed in the NCAI was where a district health office conducted a training on hygiene behaviour but the district office for public works had not yet established proper water and sanitation systems in the villages. Thus, the community received information and education but were unable to practise the new behaviour as facilities were not in place.

While horizontal coordination across sectors is limited, vertical coordination between national and sub-national levels is also limited. Since decentralization the provinces and districts have had much more independence, which has had the adverse effect of weakening national to sub-national links. Within the health sector, however, there are regular, annual national meetings that bring together the provincial heads of nutrition to discuss targets, planning and budgets. This provides an opportunity for strengthening linkages.

The NCAI also found that there was generally good coordination between government authorities, development partners and academia. An example from Central Java was collaboration that facilitated final year university students to go to villages and gain field work experience.

KEY MESSAGES

1. National coordination for nutrition is conducted through a government Task Force with key sectors represented.
2. The present Task Force lacks authority over line ministries, which can only be secured through the convening power of a higher government authority such as the Office of the President or Vice-President.
3. National multi-stakeholder groups for nutrition are in place but lack a coordinating body, so limiting collaboration.
4. There is limited vertical coordination between the national, provincial, district and village levels.
5. Sectoral coordination for nutrition is limited at sub-national level due to a lack of leadership, plans and shared understanding about malnutrition and how to tackle it.
6. In general, there is good collaboration between government authorities, development partners and academia.

3.4 EVIDENCE-BASED DECISION-MAKING

Information Available at National Level

Planning and budgeting are most effective when based on robust evidence. A number of surveys and data collection systems are employed in Indonesia to gather nutrition information (see **Appendix 5**). Cross-sectional surveys are carried out regularly. One of the most important is the Basic Health Research (RISKESDAS) survey, which is widely considered to be reliable. Because data are collected every five years, observations of trend can be ascertained. Indicators for all the nutrition targets of the WHA and those in the RPJMN 2015–2019 are collected through the RISKESDAS surveys, which means that progress toward the achievement of the targets can be monitored accurately. Furthermore, the RISKESDAS data are disaggregated by province and districts (for some indicators), and wealth quintile, allowing progress in particular population groups to be assessed.

A major challenge for Indonesia is the capacity to analyse and use the large amounts of data that are collected

In addition to the surveys, a number of other data collection tools are in place, which aim to monitor service coverage and progress. PSG (Nutrition Surveillance) is an annual survey conducted by the MoH, to assess district performance on nutrition indicators. A large quantity of data is also collected through different information systems. This includes nutrition data collected through the routine health surveillance system and the SMS Gateway tool that reports on cases of SAM.

A major challenge for Indonesia is the capacity to analyse and use the large amounts of data that are collected. In addition, data collection systems are not integrated, hampering the ability to design, plan and

monitor interventions that are effective in addressing malnutrition. The lack of an integrated information system also prevents an in-depth analysis of the causes and factors influencing malnutrition rates in different population groups. Rather, information systems operate separately collecting data on different population groups over different time periods. For example, data on food security and dietary diversity are not collected routinely, and findings from one-off surveys are published separately.



Information Collected and Used at Sub-National Level

The NCAI found that district authorities are generally not using nutrition-related information effectively in planning, monitoring and evaluating programmes. Rather, routine data are not analysed at district level but simply collated or passed upward. Because information is not being used at district level, there is no incentive to collect high quality data. This, together with low skill level, staff shortages and disinclination to report when there are high levels of malnutrition, means that data collected through routine systems are unreliable. If nutrition targets were embedded into RPJMD and RAD-PGs, the incentive to gather data in order to monitor the progress towards set targets would be increased.



KEY MESSAGES

1. Regular national-level cross-sectional surveys are conducted that provide robust data on progress to meeting the nutrition targets set in the RPJMN.
2. While large amounts of data are collected, the capacity to analyse and use the information is limited at national and sub-national level.
3. Different data collection systems are not integrated but operate independently so hampering the ability to design, plan and monitor interventions that are effective in addressing malnutrition.
4. Embedding nutrition targets into RPJMDs and RAD-PGs would provide an incentive to gather and use high quality data to monitor progress to meet the targets.

04

SWOT analysis

The strengths, weaknesses, opportunities and threats for institutional capacity for nutrition in Indonesia are summarized in Table 10.

Table 10: Summary SWOT Analysis of Institutional Capacity for Nutrition

Capacity Area	Strengths
Planning	<ul style="list-style-type: none"> National commitment to improving nutrition is strong at the highest level and reflected in the inclusion of nutrition targets in the RPJMN. Support from academics, donors/United Nations and nutrition 'champions' is effective in strengthening the capacity of sub-national authorities to plan, manage and monitor nutrition services.
Resources	<ul style="list-style-type: none"> Substantial financial resources are potentially available for nutrition at sub-national level and the village fund offers an opportunity for 'bottom-up' budgeting at community level. Indonesia has a ready supply of trained nutritionists while the <i>Nusantara Sehat</i> programme has strengthened the nutrition workforce in remote areas.
Coordination	<ul style="list-style-type: none"> A system of national coordination for nutrition is in place through a government Task Force with key sectors represented. Collaboration between government authorities, development partners and academia is generally good.
Evidence	<ul style="list-style-type: none"> Regular cross-sectional surveys are conducted that provide robust data on progress to meeting the nutrition targets set in the RPJMN.
	Weaknesses
Planning	<ul style="list-style-type: none"> Nutrition targets are not reflected in key sector RENSTRA, which means that cross-sectoral accountability is lacking. Legislation for ensuring good nutrition is not comprehensive. Nutrition targets are missing from sub-national development plans and there is a lack of up-to-date district nutrition and food action plans, so a siloed approach to programming continues. Only four of ten nutrition-specific interventions essential for improving nutrition from The Lancet are incorporated into current nutrition policy and MSS.

Capacity Area	Weaknesses
Resources	<ul style="list-style-type: none"> • Current capacity to plan and budget effectively for nutrition is weak at sub-national level. • The employment of nutritionists in <i>Puskesmas</i> is uneven, while their role is often undervalued and lacks sufficient focus on the prevention of malnutrition in communities, managing the delivery of services and mentoring staff. • Pre-service training for nutritionists is inconsistent and does not equip graduates with the competencies required to manage the present-day nutrition programme. • There are no guidelines in place on the essential in-service training on nutrition and as a result in-service training is inconsistent and its benefits are unclear. • Only limited nutrition training is offered to staff working in key sectors such as agriculture; food security; social protection; and water, sanitation and hygiene, leaving the health sector with sole responsibility for addressing malnutrition.
Coordination	<ul style="list-style-type: none"> • The Task Force to coordinate nutrition at national level lacks authority over line ministries. • Sectoral coordination for nutrition is limited at sub-national level due to a lack of leadership, plans and shared understanding about malnutrition and how to tackle it.
Evidence	<ul style="list-style-type: none"> • There is no integrated information system for nutrition which would allow an analysis of the causes and factors influencing malnutrition rates in different population groups. • Very limited analysis and use of nutrition data is undertaken at the district level. <p data-bbox="427 1167 592 1196">Opportunities</p>
Planning	<ul style="list-style-type: none"> • The next RPJMN (2020–2024) provides an opening to include clearer strategic guidance for all sectors to adopt nutrition targets in their RENSTRA and to revise MSS to include all essential nutrition actions.
Resources	<ul style="list-style-type: none"> • The National Stunting Reduction Movement launched in 2017 offers an opportunity to strengthen planning capacity in 100 target districts.
Coordination	<ul style="list-style-type: none"> • An opportunity to position nutrition within a higher-level coordination body is provided through the anti-poverty programme.
Evidence	<ul style="list-style-type: none"> • If nutrition targets were embedded into RPJMD and RAD-PGs, the incentive to gather data to monitor progress to meet targets would be increased. <p data-bbox="427 1727 517 1756">Threats</p>
Planning	<ul style="list-style-type: none"> • A change of government could undermine commitment and leadership for nutrition from a high level.
Resources	<ul style="list-style-type: none"> • Donor support is increasingly withdrawn as Indonesia experiences economic growth, and where gains in nutrition have been made due to donor support, they are not sustained.

05

recommendations

Policies, Plans, & Frameworks

1. Strengthen the next RPJMN for 2020–2024 so that there is a clear agenda set for key sectors to include nutrition targets and indicators in their ministerial RENSTRA.
2. Advocate to electoral committees and candidates standing in local elections that they pledge to include nutrition targets in RPJMD.
3. Promote alignment among all national and sub-national plans and documents to reflect the national nutrition targets and programme.
4. Provide technical assistance, clear operational guidance and standardized formats to sub-national authorities to support the development of multi-sectoral planning and budgeting.
5. Update the MSS for health to include all essential nutrition-specific interventions based on the latest global evidence.



Resources & Infrastructure

6. Develop an accounting system (national and sub-national) for addressing malnutrition in all its forms, to clarify the ideal costs of comprehensive plans, the budget available and actual expenditure.
7. Update job descriptions for nutritionists to put sufficient focus on the prevention and treatment of malnutrition in communities, delivery of services and mentoring of staff.
8. Develop a minimum package of in-service nutrition training for the nutrition workforce through E-learning together with certification that becomes part of their competency credits.



Coordination & Partnerships

9. Establish a high-level coordination body for nutrition convened in the Office of the President to lead Indonesia's multi-sectoral approach to addressing malnutrition in all its forms.
10. Establish multi-stakeholder coordination mechanisms at provincial and district level to engage sectors and non-government actors to work together to improve nutrition, under the office of governors and mayors.

Evidence-based Decision-making

11. Establish a national integrated nutrition information system.
12. Include a module on data collection, analysis and reporting in the minimum package of in-service nutrition training for nutritionists through E-learning.

Appendix 1

Provincial Differences and Wealth Inequalities in Malnutrition Rates

Figure A1: Child Undernutrition by Wealth Quintile in 2013 (Source: RISKESDAS 2013)

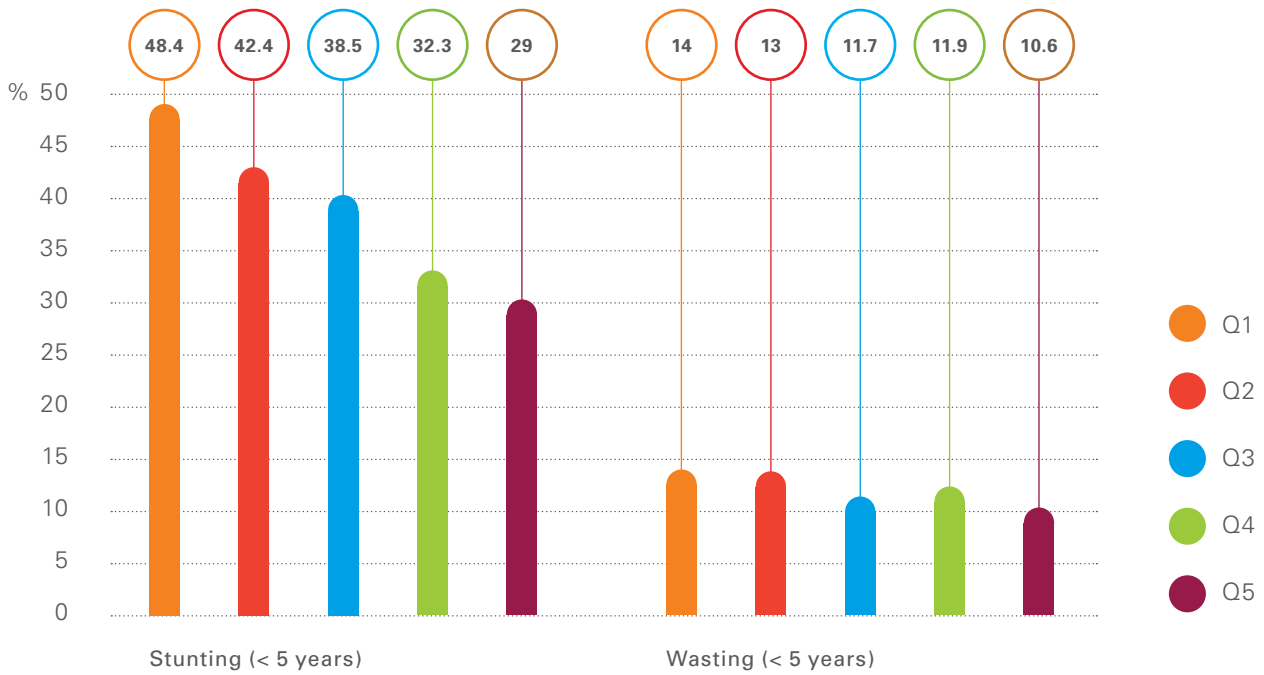


Figure A2: Child Overweight and Adult Obesity by Wealth Quintile in 2013 (Source: RISKESDAS 2013)

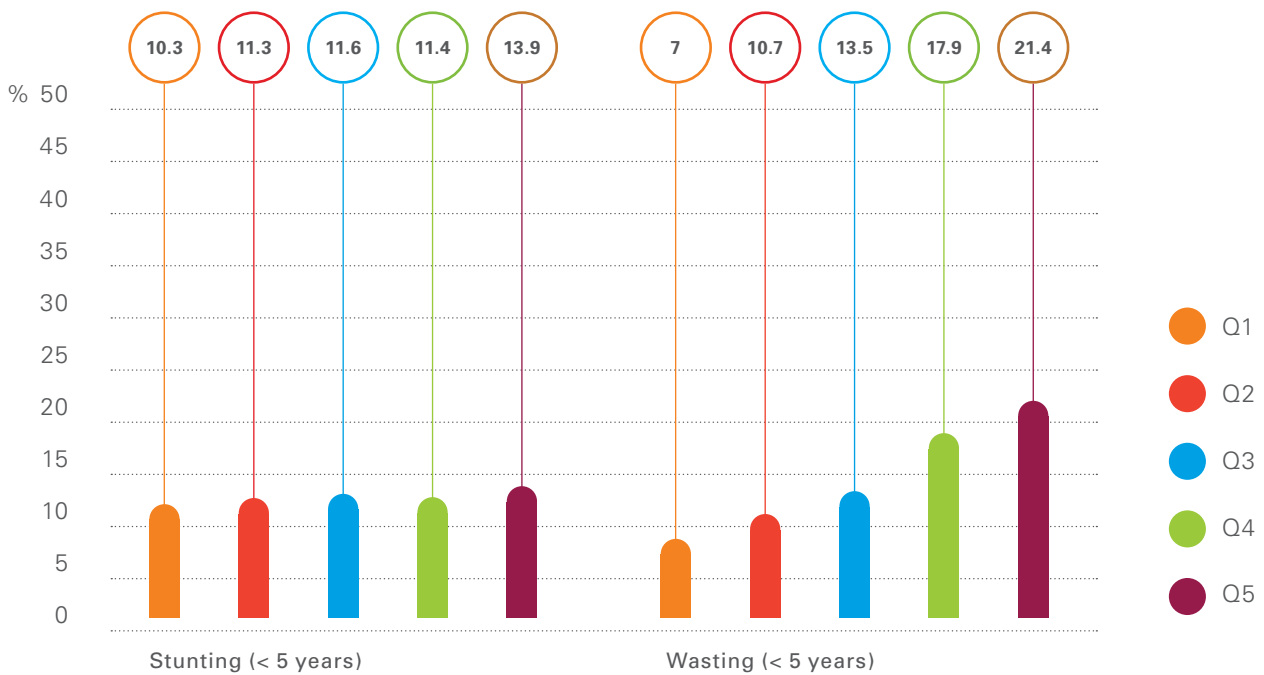
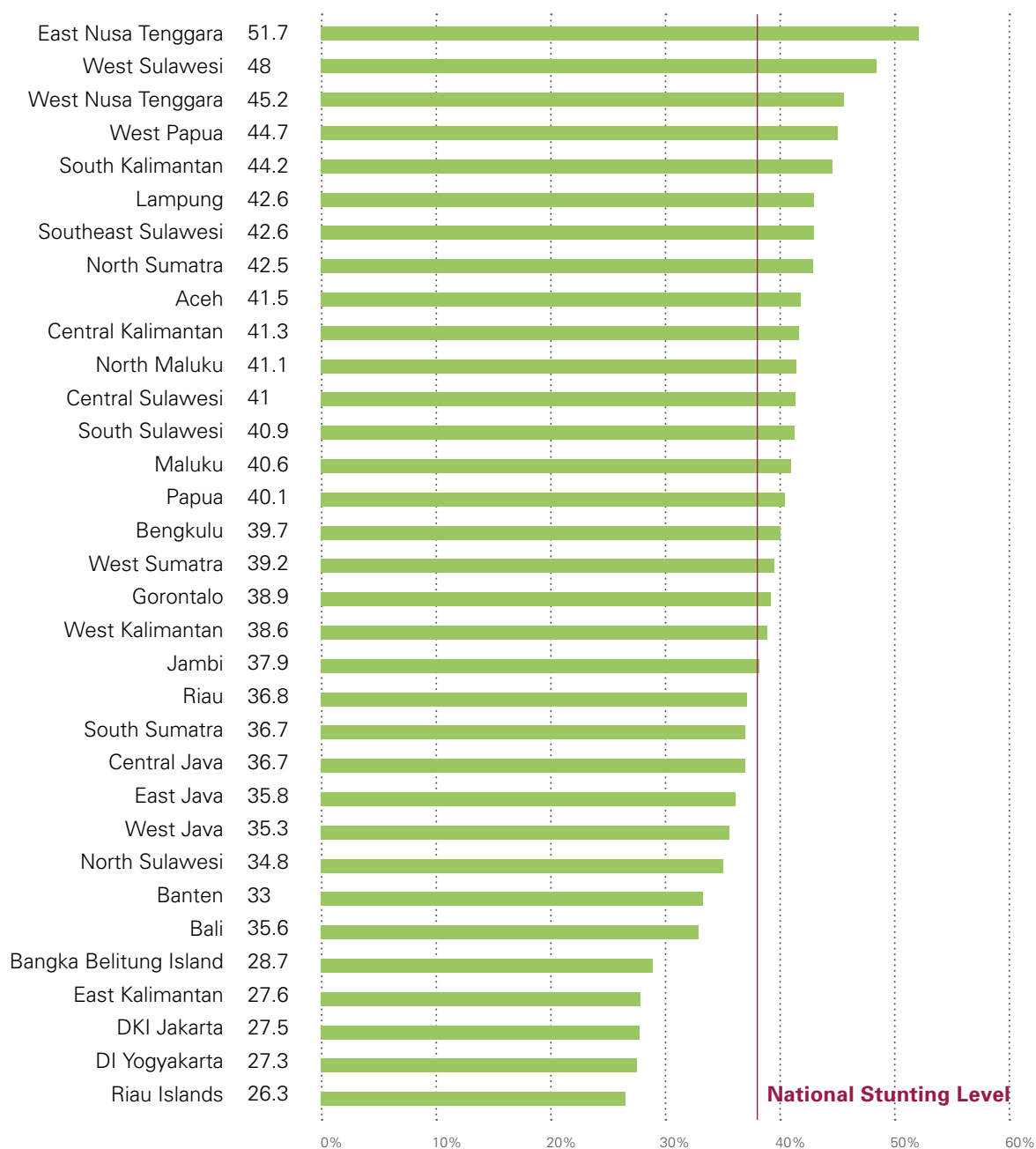


Figure A3: Stunting Levels by Province in 2013 (Source: RISKESDAS 2013)



Indicators of Malnutrition

- Stunting** (children <5 years) = Height for Age <-2 Z scores
- Wasting** (children <5 years) = Weight for Height <-2 Z scores
- Underweight** (children <5 years) = Weight for Age <-2 Z scores
- Overweight** (children <5 years) = Weight for Height >2 Z scores
- Anaemia** (children <5 years) = Hb <110 g/l
- Obese** (adults 18+ years) = BMI ≥27
- Overweight** (adults 18+ years) = BMI ≥25 - <27
- Undernutrition** (pregnant women) = MUAC <23.5 cm
- Anaemia** (pregnant women) = Hb <110 g/l

Appendix 2

Assessment Methods

The assessment was guided by a framework developed by the UN Network for SUN, which includes four capacity areas that are essential for delivering good quality nutrition services. The four capacity areas are:

1. Policies, Programmes and Framework

This capacity area represents the political will and commitments to nutrition, capacity to put in place and operationalize relevant policies, strategies, legislation and plans at national and sub-national level.

2. Resources and Infrastructure

This capacity area covers human and financial resources and availability of relevant infrastructure to support scaling up of nutrition efforts.

3. Coordination and Partnership

This capacity area covers the ability to engage all stakeholders horizontally (between different Offices) and vertically (from national to sub-national level, and vice versa).

4. Evidence-based Decision-making

This capacity includes having in place effective nutrition information systems, linked to M&E systems for nutrition.

A mixed-methods approach was adopted to document the background situation and to observe consistency of commitments and policy decisions from national to sub-national level, and how those policies are translated into meaningful actions at district level.

Desk Review

A review of documents was carried out of: a) relevant policies; b) programme, planning and financial documents; c) demographic and health surveys, national nutrition surveys and programme monitoring data.

The documents were collected from: a) government and non-government websites; and b) through direct requests to the MoH, *Bappenas*, MoF and other related ministries, sub-national *Bappeda* and related offices. Documents were grouped into four areas as per the framework mentioned above. Data collected included the name of documents; year of release; objectives; targeting of nutrition; type of nutrition issue(s) being addressed, such as stunting and wasting; as well as

the inclusion of details on planning, implementation, resources (financial and human), coordination, budgeting and monitoring and evaluation. A full set of documents reviewed can be found in the References list.

Primary Data Collection

Primary data were collected through focus group discussions and individual interviews at national and sub-national level. The purpose was to obtain qualitative data to triangulate views, perspective and experiences on the role of different partners in nutrition programme planning, implementation and monitoring/reporting. The discussions and interviews were semi-structured and based on a set of guiding questions which covered all four of the institutional capacity areas for nutrition.

The research team conducted 14 focus group discussions; seven at provincial and seven at district level. The average duration of each focus group discussion was around two hours with an average of 12 people participating in each discussion group. Participants were government officials from different sectoral offices, members of professional organizations, academics and parliamentarians. The format was able to accommodate a variety of experiences and opinions, and focused mostly on capacity area 1 (policy, plans and frameworks) area 3 (coordination). Each focus group discussion was facilitated by two members of the research team, one as facilitator and the other member team as co-facilitator/note-taker.

In addition, the research team conducted 106 in-depth interviews (eight interviews at national level, 34 interviews at provincial level, 29 at district level, and 35 at the level of health centre/*Puskesmas*). In each of the districts, the District Health Office identified health centres that were either performing well or poorly with regard to their health and nutrition programme. Participants included 42 *Posyandu cadres*, 25 midwives, 20 nutritionists, district, provincial and national level staff from the health and planning sectors plus staff from other sectors and bodies. The average time for an in-depth interview was one hour. The questionnaires used for the interviews consisted of open-ended questions and were confined as far as possible to

objective questions. There were also closed-ended questions such as multiple-choice questions, questions where the respondent was required to rank or prioritize, and questions where the respondent was asked to choose her/his level of agreement/disagreement.

The research team obtained clearance for the assessment from National Unity and Community Protection Agency, Ministry of Home Affairs. Health and Planning authorities at national, province and district level provided their fullest support for the study. At the start of each interview, the research team explained the objective of the assessment, the process of data collection, and the right to decline participation. Participants received a printed information sheet, including contact information of the researchers, prior to obtaining verbal consent.

The in-depth interview and focus group discussion guides were pretested prior to the data collection in Depok District, West Java Province. All interviews and focus group discussions were held in Indonesian and recorded. Transcription notes from the interviews and focus group discussions were collated in an Excel file using a separate matrix and grouped under the four thematic areas from the framework.

Seven provinces and seven districts were pre-selected as locations for the primary data collection. They were selected to represent a range of stunting prevalence values according to MoH 2015 surveillance data. In each of the seven provinces, one district was selected that had a stunting prevalence similar to that of the provincial average (see **Table A1**).

Table A1: Provinces and Districts Pre-selected for Primary Data Collection in 2017

Province	% Stunting	District	% Stunting
East Nusa Tenggara	41.2	Sikka	40.1
South Kalimantan	37.2	Tanah Laut	38.5
South Sulawesi	34.1	Pinrang	34.8
Maluku	32.3	Maluku Tenggara Barat	35.1
West Papua	29.5	Kota Sorong	26.7
Central Java	24.8	Klaten	26.1
Lampung	22.6	Lampung Utara	24.6

Participation

A total of 390 people contributed to the assessment (see **Table A2**). They represented 15 government bodies and four non-government institutions (see **Table**

A3). Participants included 42 *Posyandu cadres*, 25 midwives, 20 nutritionists, district and provincial staff from the health and planning sectors, plus staff from other sectors and bodies.

Table A2: Participants by Area Involved in Primary Data Collection in 2017

Province	No. of Participant	District	No. of Participant
East Nusa Tenggara	28	Sikka	32
Central Java	19	Klaten	29
Lampung	29	Lampung Utara	38
Maluku	17	Maluku Tenggara Barat	38
South Kalimantan	23	Tanah Laut	36
South Sulawesi	22	Pinrang	36
West Papua	14	Sorong	29
Total	152	Total	238

Table A3: Participating Sectors and Institutions in Primary Data Collection in 2017

Government Sectors	Other Institutions
Ministry of Health	Universities/polytechnics
Ministry of Planning	Family welfare movement
Ministry of Education	Indonesian nutritionist association
Ministry of Social Welfare	Research & development agency
Ministry of Industry	Food security office
Ministry of Women's Empowerment & Child Protection	Civil service staffing agency
Ministry of Community Empowerment & Rural Development	
Ministry of Public Works	
Ministry of Agriculture	
Ministry of Manpower & Transmigration	
Ministry of Trade	
Ministry of Human Resources & Development	
House of representatives/Local government	

Data analysis

Data were analysed by integrating all the findings from the desk review, the in-depth interviews and focus group discussions under the four thematic headings to address the overarching research questions. The research members in each province and district who conducted the focus group discussions and in-depth interviews

did the preliminary coding independently. A common set of codes for both focus group discussions and in-depth interviews was developed and used in the analysis. Data were triangulated between focus group discussions, in-depth interviews at all levels, and regulations. Finally, the team leader compared results from each district and province to identify emerging themes coming from the study.

Table A4: Nutrition Worker To Population Ratio In 2017

Province	No. of nutrition workers	Total population	Population per nutrition worker (per 1,000)	Population of pregnant mothers & under five children	Pregnant mothers & under five children per nutrition worker (per 1,000)
East Nusa Tenggara	418	5,036,900	12.05	770,088	1.84
Central Java	777	33,522,700	43.14	3,348,912	4.31
Lampung	122	8,026,200	65.79	975,138	7.99
Maluku	209	1,657,400	7.93	248,495	1.19
South Kalimantan	241	3,922,800	16.28	502,303	2.08
South Sulawesi	554	8,432,200	15.22	1,026,942	1.85
West Papua	74	849,800	11.48	119,309	1.61

Source: Projection of Indonesian Population by Indonesia Statistics (BPS) and estimated by Data and Research Center (Pusdatin) MoH

Table A5: Nutrition-Related Training Courses Completed In Previous Five Years

Trainings	Nutritionist (n=17)	Midwives (n=27)	Cadres (n=46)
Maternal nutrition	2	6	32
Breastfeeding counselling	6	14	38
IYCF counselling	5	10	35
Complementary feeding counselling	9	7	34
Integrated management of childhood diseases (and diarrhoea)	1	8	0
Vitamin A supplementation (maternal and children under five years)	2	4	0
Micronutrient supplementation for pregnant and lactating mothers.	2	4	0
Growth monitoring	7	10	0
Management of severe malnutrition	9	1	0
Breastfeeding counselling and HIV/AIDS	1	8	0
Promotion of balanced nutritious diets	2	5	0
Non-communicable disease prevention	1	4	0
Nutrition surveillance	7	0	0

Appendix 3

Nutrition Targets, Services, and Guidelines

Population Group	Women of reproductive age and pregnant women	Infants and children	General population
RPJMN Targets 2015–2019	<ul style="list-style-type: none"> Prevalence of anaemia in pregnant women (Book II) 	<p>Book I:</p> <ul style="list-style-type: none"> Underweight in children <5 years Stunting in children <2 years <p>Book II:</p> <ul style="list-style-type: none"> Prevalence of low birthweight Prevalence of exclusive breastfeeding <6 months Prevalence of wasting in children <5 years 	<p>Book I:</p> <p>Obesity in adults 18+ years</p>
MoH RENSTRA 2014	<p>Strategic Outcome:</p> <ul style="list-style-type: none"> Prevalence of chronic energy deficiency (CED) in pregnant women <p>Output:</p> <ul style="list-style-type: none"> Percentage of pregnant women with CED receiving supplementary feeding (target 95%) Percentage of pregnant women receiving iron and folic acid supplements (target 98%) <p>Impact</p> <ul style="list-style-type: none"> Decrease in LBW (target 8%) 	<p>Output:</p> <ul style="list-style-type: none"> Percentage of exclusive breastfeeding <6 months (target 50%) Percentage of early initiation (target 50%) Percentage of wasted children <5 years receiving supplementary feeding (target 90%). Note: no differentiation between moderate and severe wasting Percentage of adolescent girls receiving iron and folic acid supplements (target 30%) 	<p>Strategic Outcome:</p> <ul style="list-style-type: none"> Reduction of morbidity and mortality due to non-communicable disease <p>Output:</p> <ul style="list-style-type: none"> No indicator for obesity
MoH MSS 2016	<p>Antenatal Services:</p> <ul style="list-style-type: none"> Measuring weight and height, and MUAC Haemoglobin check Iron and folic acid supplementation (minimum 90 tabs) Management of cases (health and nutrition including treatment of CED pregnant women) 	<p>Neonates Services:</p> <ul style="list-style-type: none"> Essential newborn care services (referred to guideline) <p>Under-5 Children Services:</p> <ul style="list-style-type: none"> Growth monitoring (minimum 8 times a year) Vitamin A supplementation (twice a year) 	<ul style="list-style-type: none"> Early detection of obesity among 15–49 age group through weight/height and waist circumference
The Lancet 2013	<ol style="list-style-type: none"> Multiple micronutrient supplementation to all pregnant women Calcium supplementation to mothers at risk of low intake Maternal balanced energy protein supplementation as needed 	<ol style="list-style-type: none"> Promotion of exclusive breastfeeding to 6 months and continued breastfeeding to 24 months Appropriate complementary feeding education in food-secure populations and additional complementary food supplements for food-insecure populations Vitamin A supplementation for 6–59 months Preventative zinc supplements for 12–59 month olds Management of MAM Management of SAM 	<ol style="list-style-type: none"> Iodization of salt

Population Group	Technical Guidelines
Women of reproductive age and pregnant women	<ul style="list-style-type: none"> • Pocket book for basic maternal health services in primary health care (2013) • Guideline on management of pregnant mothers with CED (2015) • Guideline for supplementary feeding for pregnant mothers and children under 5 years with CED (2012) • Technical guideline for supplementary feeding programme (2017) • Technical guideline for anaemia control for adolescent and women of reproductive age (2016)
Infants and children	<ul style="list-style-type: none"> • Technical guideline essential newborn care services in primary health care (2018) • Technical guideline on the use of maternal and child health book (2015) • Management of vitamin A supplementation (2009) • Management of SAM (2011, 2013) • Technical guideline for supplementary feeding programme (2017) • Management of diarrhoea for children under five years (2011) • Technical guideline for anthelmintic/deworming programme (2012)
General population	<ul style="list-style-type: none"> • Technical guideline for early detection of NCD at health post <i>Posbindu</i> (2012) • Technical guideline on NCD surveillance (2015) • Technical guideline on nutrition care at <i>Puskesmas</i> (2017)

Appendix 4

Village Pocket Book for Addressing Stunting

Priority Options for Village Budget Allocation 2018 Health Section

1. Clean water at village level
 - (a) Clean water
 - (b) Facilitation on the planning for the safe water programme
 - (c) Provision of clean water appropriate technology
2. Environmental sanitation
 - (a) Healthy sanitation
 - (b) Construction of toilets and handwashing facilities
 - (c) Community-based trash and waste management
 - (d) Community-based sanitation (e.g. village-market sanitation, etc.)
 - (e) Provision of sanitation appropriate technology (e.g. floating septic tank)
3. Incentive for Community Health Workers
 - (a) Honorarium/incentive/reward for community volunteers
 - (b) Honorarium for Community Health Worker
 - (c) Community Health Worker assistance for 30–59 years old women for breast cancer and screening at *Posyandu*
 - (d) Honorarium for village gym instructor
4. Training (knowledge and skill improvement) for Community Health Worker
 - (a) Knowledge and skill improvement
 - (b) Orientation for health workers organized by the village
5. Travel expenses for Community Health Worker
 - (a) For clean and healthy lifestyle improvement programme
 - (b) For elderly health post *Posbindu*
 - (c) For home visits
 - (d) For communicable and non-communicable disease assistance programme, and cancer assistance
 - (e) To obtain data on target groups for the immunization programme
6. Technical support for pregnant and lactating women by Community Health Worker
 - (a) Support for pregnant and lactating women
 - (b) Support for community worker to collect data from pregnant women and young children
 - (c) Assistance programme for pregnancy planning, childbirth and prevention of complications
7. Growth monitoring and supplementary feeding programme for young children and schoolchildren by Community Health Worker
 - (a) Growth monitoring and provision of supplementary food for young children and schoolchildren
 - (b) Home visit follow-up after growth monitoring

8. Development and management of community-based health programme (*Puskesmas, Poskesdes, Polindes, Posbindu and Posyandu*, and other health posts)
 - (a) Development, management and support for the community-based health effort
 - (b) Provision of goods
 - (c) Provision of IEC (information, education and communication) materials
 - (d) Implementation of community-based health programme
 - (e) Provision of elderly health post *Posbindu* tools and materials for the village community
 - (f) Provision of additional nutrition for elderly in *Posyandu* and *Posbindu*
 - (g) Promotive and preventive activity development for elderly at *Posyandu* and *Posbindu*

9. Community empowerment and enforcement in promoting health and Healthy Lifestyle Movement (GERMAS)
 - (a) Community empowerment in promoting health and the healthy lifestyle movement
 - (b) Provision of sports facilities
 - (c) Community Health Worker meetings
 - (d) Health counselling programme by the village administrator
 - (e) Smoke-free areas in places of worship
 - (f) Community empowerment on appropriate drugs consumption
 - (g) Education on prevention and early-detection of disease
 - (h) Promotion of vegetables, fruits and fish consumption
 - (i) Promotion of group exercise
 - (j) Land utilization for traditional medicinal plants at household level and irrigation to reduce flooding and improve nutrition status
 - (k) Stimulation-park for elderly and children
 - (l) Sports-field

10. Healthy Lifestyle Campaign and Promotion (clean and healthy lifestyle improvement to avoid sexually-transmitted diseases, HIV, tuberculosis, hypertension, diabetes mellitus and mental disorders)
 - (a) Clean and Healthy Lifestyle Improvement
 - (b) Drug monitoring (blood supplements, tuberculosis, HIV, malaria drugs, etc) by Community Health Workers
 - (c) Promotion/counselling and provision of communication, information, and education media
 - (d) Motivational home visits to encourage attendance at the *Posyandu*
 - (e) Positive and creative activity for teenagers, youth and sexually active groups

Source: (Ministry of Villages, 2017)

Appendix 5

Nutrition Surveys and Data Collection Systems

	Agency	Frequency	Method and type of data collected	Reporting & challenges
Basic Health Research Surveys	RISKESDAS	5-yearly	Cross-sectional survey of approximately 300,000 households. Nutrition indicators: <ol style="list-style-type: none"> 1. anthropometry (children <5 years) 2. breastfeeding 3. micronutrient intake (pregnant women IFA & vitamin A, children <5 years vitamin A) 4. treatment (for diarrhoea & zinc supplementation) 5. iodized salt (urinary samples collected in 2007 & 2013) 	Information widely used for planning and to measure impact.
Indonesia Demographic and Health Survey	Central Bureau of Statistics Indonesia	3-yearly	Cross-sectional survey of approximately 45,000 households. Nutrition indicators: <ol style="list-style-type: none"> 1. IYCF (breastfeeding & complementary feeding practices) 2. micronutrient intake (maternal & children <5 years) 3. treatment of diarrhoea (with oral rehydration solutions and zinc supplements) 	
National Socio-Economic Survey (Susenas)	BPS Statistics Indonesia	Twice per year	Cross-sectional survey of approximately 300,000 households in March and 75,000 households in September. Household consumption/expenditure data collected. Nutrition indicators collected include: <ol style="list-style-type: none"> 1. breastfeeding practices 	Used to calculate poverty rates and as a monitoring tool for development.
Total Diet Survey	National Institute for Health Research & Development & MoH	One-off survey	Cross-sectional survey of 191,524 individuals from 51,127 households. Data collected on: <ol style="list-style-type: none"> 1. individual food consumption 2. food chemical contamination analysis 	Used to establish patterns of food consumption & nutritional adequacy of the diet, food processing & cooking techniques.
Nutrition surveillance	Community Nutrition Directorate, MoH	Annual	Cross-sectional survey through 30 cluster sampling technique at district level. Data collected on children <5 years and pregnant women. Total of 15 nutrition indicators collected including: <ol style="list-style-type: none"> 1. anthropometric indicators for children <5 years 2. breastfeeding practices 3. maternal iron supplementation 4. vitamin A supplementation of children 5. moderately malnourished children & pregnant women receiving biscuits 6. MUAC of women of reproductive age 7. iodized salt testing 	Used to monitor nutrition status of pregnant women and children for planning and monitoring.

	Agency	Frequency	Method and type of data collected	Reporting & challenges
Routine health surveillance system	MoH	Monthly	Data collected through community health service facilities. Indicators include coverage of: <ol style="list-style-type: none"> 1. growth monitoring (weight for age only) 2. cases of acute malnutrition treated 3. vitamin A supplementation of children 4. maternal iron supplementation 5. exclusive breastfeeding 6. iodized salt consumption 	No obligation for districts to report on the indicators so not all public health facilities report. Very slow data compilation and feedback.
SMS-Gateway (Real-time Nutrition Case- SAM-Reporting System)	Community Nutrition Directorate, MoH		Launched in 2011, the real-time reporting of SAM is reported by Community Health Workers or midwife through mobile phone devices. Reports are accepted by server to be entered into database which is then displayed through the Internet in real time (http://gizi.depkes.go.id/sms-gateway/)	Low response rate. Anecdotal evidence that district authorities are not keen to report high numbers of cases.
Electronic system for reporting nutrition indicators (E-PPGBM)	Community Nutrition Directorate, MoH		E-PPGBM is an application for recording and reporting the nutrition status of children and pregnant women quickly, accurately, regularly and continuously, for the preparation of nutrition policy planning and formulation. Nutrition indicators: <ol style="list-style-type: none"> 1. anthropometry 2. exclusive breastfeeding 3. vitamin A, IFA and supplementary feeding coverage 	No evaluation yet on the effectiveness of this application.

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