



Better Investment for Stunting Alleviation (BISA)

Exploratory Research
Phase 1.1 Immersion

Final Report, January 2020



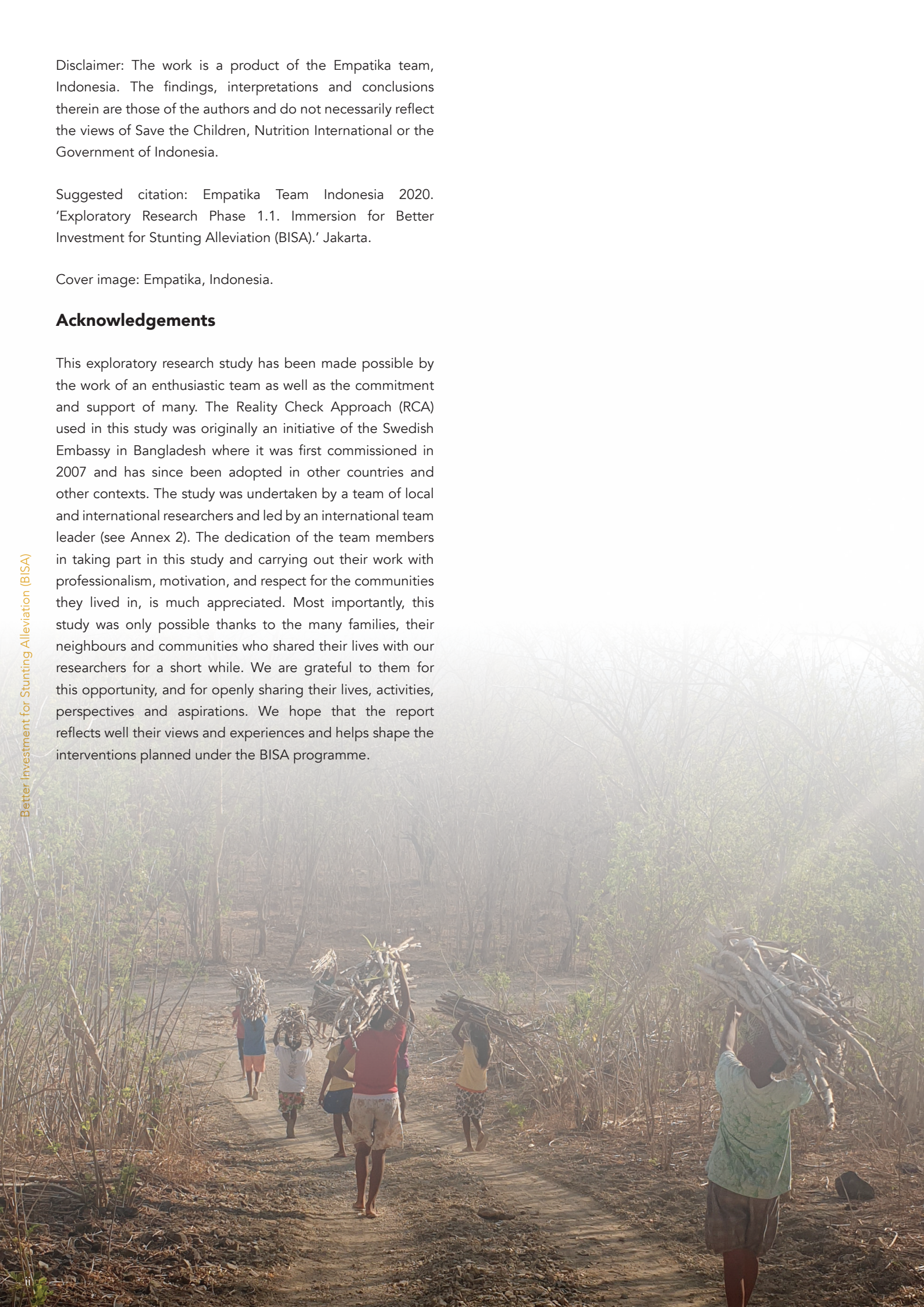
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Acronyms and Glossary

<i>Adat</i>	Custom
ANC	Ante-natal care
<i>Bidan</i>	Midwife
BISA	Better Investment for Stunting Alleviation
<i>Bose</i>	Maize, peanut and red bean stew, traditional food in NTT
<i>Bupati</i>	Regent
<i>Buku KIA</i>	<i>Buku Kesehatan Ibu dan Anak</i> ; Mother and Child Health Book (often referred to as the Pink Book)
Cadre	<i>Kader</i> (community health worker)
<i>Chiki</i>	Packaged snacks - rice puff balls in range of flavours
<i>Cilok</i>	Steamed tapioca balls with spicy peanut sauce or sweet sour chili sauce
CU2	Children under two years old
IDR	Indonesian rupiah
IFA tablets	Iron and folic acid tablets
<i>Katuk</i>	<i>Sauropus androgynus</i> - leaves are commonly cited as increasing breastmilk production
KPM	<i>Kader Pembangunan Manusia</i> (Human Development Worker)
<i>Krupuk</i>	Crackers made of starch and water (and flavourings)
<i>Magrib</i>	One of five obligatory prayer times for Muslims just after sunset
<i>MIYCN</i>	<i>Maternal, infant, and young child nutrition</i>
<i>Musrembang</i>	Community deliberation meeting – usually annual to agree the Village Fund budget
NTT	Nusa Tenggara Timur (East Nusa Tenggara)
PBHS	<i>Perilaku Hidup Bersih dan Sehat</i> (Clean and Healthy Life Behaviour)
PMT	<i>Pemberian Makanan Tambahan</i> (Food supplementation)
PNPM	<i>Program Nasional Pemberdayaan Masyarakat</i> (National Community Empowerment Programme)
<i>Polindes</i>	<i>Pondok bersalin desa</i> (Village maternity post)
<i>Posyandu</i>	<i>Pos pelayanan terpadu</i> - integrated health services e.g. clinic sessions for mothers and young children, the elderly etc.
RDA	Recommended daily allowance
SBC	Social behaviour change
SGM	A brand of baby formula and fortified powdered milk
<i>Sopi</i>	Local alcohol common in Eastern Indonesia, made from fermented sugar palm
TBA	Traditional birth attendant
<i>Tempe</i>	Indonesian fermented soybean
<i>Tofu</i>	Curdled soybean (bean curd)
TTU	Timur Tengah Utara
WASH	Water, sanitation and hygiene
USD	United States Dollar

Exchange Rate (January, 2020)

1 USD = 13,932 IDR

0.72 USD = 10,000 IDR

in all study locations, although least in the peri-urban location in West Java. The key effects were poorly diverse family diets (typically mostly rice with small amounts of salt fish without vegetables) and constrained sanitation and hygiene practices.

1.4. Both study districts have stunting prevalence rates higher than the national average but those in NTT are among the worst in the country. There is evidence of considerable recent local resourcing to address stunting issues in NTT but very little in West Java. For example, nearly half of the Village Funds budget for health in one NTT location has been allocated for stunting alleviation but a less than 2.5% has been allocated in one of the West Java locations as the Village Government does not see this as a priority. Most of the resources are funding feeding programmes and in one NTT location they plan a 150 day cash for food programme for all malnourished children. Understanding of the stunting problem remains weak across study locations and both families and local healthcare providers primarily cite inherited traits as the cause of small stature not nutrition and do not associate size with health. In West Java there is no sense of urgency to respond to the need of babies and infants whose growth charts indicate they are in the 'yellow' band on the growth charts, even though this suggests mild malnutrition. However, in one location in West Java, they did note a concern with the poor development of pre-school children and attributed this to them becoming 'picky eaters'.

1.5. Views vary across the study locations regarding what is good care during pregnancy. In some study locations activity is encouraged for pregnant women and in others it is discouraged. Myths and customs about what is healthy and what is not are prevalent across locations. Confirming other recent immersion studies, we found that no special diet is considered necessary for pregnant mothers who continue to eat the same as the family. Understandably, many pregnant women and recent mothers shared that they had reduced their eating in early pregnancy because of the off-putting smell of food and nausea. Women shared they commonly increase consumption of rice after the first 5 months but not generally other foods. Although women could describe a good diet, observations and conversations found that this knowledge was rarely put into practice because of the strong influence of older women who insist that what they practiced in their time was appropriate as well as cost and convenience.

Executive Summary

1.1. The Better Investment for Stunting Alleviation (BISA) programme is an integrated nutrition-specific and nutrition-sensitive programme designed jointly by Save the Children and Nutrition International to assist the Government of Indonesia to realize the goal of National Strategy to Accelerate Stunting Prevention (2018-2024). The BISA programme includes a Social and Behaviour Change Communication (SBCC) Package to improve maternal, infant, and young child nutrition as well as water, sanitation, and hygiene (WASH) practices of adolescents, pregnant and lactating women and caregivers of children under two. This report comprises findings of the first phase of formative research to help develop the SBCC package. This exploratory phase uses immersion research (living with families in their own homes and naturalistic interaction with those they engage with) in order to gather insights on the context and behaviours around nutrition and WASH.

1.2. The field immersion research was conducted in October 2019 in four locations; two in West Java (WJ) and two in Nusa Tenggara Timur (NTT). We lived with twelve families with pregnant mothers and/or children under two years but interacted with over 70 other mothers and 400 others living in the community including health service providers.

1.3. The research coincided with the end of the dry season, which was especially severe this year and both food and water availability were affected

In one West Java location the custom of reducing food intake in the last six weeks of pregnancy, which recent immersion studies have found has mostly been rejected elsewhere, was unusually still being followed to keep the birth weight down 'so we can give birth at home normally'.

1.6. Most women fall short of the recommended minimum of four ANC check-ups and, they do not see any need in attending unless they feel unwell. They mostly have their weight taken and blood pressure checked but received little advice about nutrition or care (except for general advice on eating well and taking rest). IFA tablet intake is affected by both erratic ANC attendance and low/lack of stock of IFA tablets. Mothers mostly associate the need to take IFA with low blood pressure, so if blood pressure is 'normal' they avoid taking these even when given them. IFA tablets are the most often provided supplement and the provision of other supplements varies considerably. Across locations, mothers shared that a good birth weight is about 3kg, not less than 2.5 kg and over 3.5 kg is considered a large baby.

1.7. The importance of the culture of '40 days' post giving birth was apparent across study locations but involved different practices. In some locations it was strictly enforced while in others it has become more flexible and relaxed in recent years. In particular, the efficacy of exposing babies to sunlight and the need to attend *posyandu* sessions has changed earlier stricter practices of confinement. While some of the traditional practices in NTT have a basis in good care, some are concerning such as burning charcoal under the mothers' bed. Those in one of the West Java locations are dictated purely by spiritual beliefs and involve talismans and rituals which are appear to be care-neutral.

1.8. As with pregnant mothers, there was little concern about the diet of breastfeeding mothers except some advice on eating certain leaves (especially *katuk*) which are believed to encourage milk flow. There was no understanding of any need to increase calorie and protein intake during breastfeeding. The *adat* practice of hot massages is near universal in one NTT location to encourage milk flow and reduce breast pain. In other locations, traditional birth attendants provided breast massage.

1.9. Although mothers are described as the main

caregivers, grandmothers take much of the care responsibility for babies under one year. In one West Java location where there is a high prevalence of young mothers working in Jakarta and Bandung, there is an entrenched expectation that grandmothers take care of children and mothers stop breastfeeding earlier than elsewhere. Very few breastfeeding mothers we met in the study were also working. We observed no attempt to pump or hand express and keep breast milk in any study location, even when families had fridges. Men frame their paternal role primarily in terms of providing for the family 'as long as we are giving money for the kitchen then OK'. However, we found a number of fathers we lived with who were very supportive, especially undertaking chores including laundry and, in particular, attending and comforting crying babies at night and when mothers needed to take food themselves when their babies were still small. However, fathers take more interest in play and interaction with babies over six months.

1.10. As other immersion studies have shown, mothers nearly always make the day to day household finance decisions and therefore the decisions on food purchase. Heavy chores are usually undertaken by others in the family on behalf of both pregnant women and those with children under two. We found no evidence of any mal-treatment of pregnant women or mothers but rather special consideration and support for their care roles. Female genital mutilation (FGM) is not practiced in the NTT study locations and has recently been transformed into a ritual pin-prick for girls under two years in the West Java locations. Teen pregnancy is said to be reducing and those whom we met who had married young expressed that this had been their choice and most intended to delay having children. We observed and talked about physical and psychological abuse and people shared that most serious disputes were rare but tended to be related to actual or suspected adultery -there was no suggestion that incidence of adultery was higher when the wife was pregnant or caring for young children.

1.11. As most mothers nowadays have institutional births, early initiation of breastfeeding has been encouraged. Unlike immersion studies conducted some years ago, we found almost nobody adhering to the notion that colostrum was 'dirty'. While mothers across study locations shared that they exclusively breastfeed in the first six months, we found this response is often shaped by social

desirability bias and as we lived in their homes it was clear this was rarely the case. They know the exclusive breastfeeding message and claim to midwives that this is what they follow to avoid reprimands. There is widespread assumption, more prevalent in the West Java locations, that a crying baby is a hungry baby so banana, rice porridge, mashed biscuits are often given to help the baby *'feel full'*.

1.12. Typically, watery rice porridge is provided as the first food often at about 5 months but sometimes earlier. It is mostly given before breastfeeding and the emphasis is on making babies feel full. Breastfeeding is often seen as providing liquids only (not regarded as a food) once complementary food is introduced and is seen as a way to get babies off to sleep. It is common to supplement breastfeeding with formula milk after 6 months (less often before 6 months), a practice adopted because mothers see TV advertisements and because SGM milk formula is provided in feeding programmes.

1.13. Across locations, little else is given other than plain rice porridge to infants between 6-8 months. Sometimes small amounts of carrots and leafy vegetables are stirred in and occasionally soft fruits such as banana and mango given in small quantities. Once porridge is provided mothers offer the breast less so diets are therefore low in both animal source and plant source protein and poorly diverse. Mothers across study locations generally prefer that infants do not feed themselves (except snacks) because *'they play and it is messy'*. We also observed that feeding young babies with packaged snacks (*chiki, krupuk, biscuits* etc) was seen as a way to *'keep them happy'* and as an appropriate food. Infants often had tantrums when they were not given snacks.

1.14. Across all the study locations, adolescents eat the same low protein diets (both animal and plant source protein) that their families eat. They too like and consume a lot of rice as this *'fills you up'*, provides energy and is a comfort food from their childhood. However, those who get pocket money for meals at school also consume more fried, sweetened and packaged foods but this can be constrained by seasonal disposable cash shortages. There was little to no knowledge of good nutrition especially for adolescents but also no dieting or skipping meals. Generally, adolescent girls shared that they felt they ate well and were unconcerned about this and there was

no evidence of girls eating differently from other members of the family. Even though adolescents could explain what healthy foods were, their own preferences emerging from preference ranking games always tended towards sweet and fried foods.

1.15. Only in three locations had adolescent girls received IFA tablets and this was only one time at school. Girls in one location said they recalled that they were advised to take these during their menstrual period, but they did not know where to get them and nobody was actually using them. In another location, girls were given IFA tablets at school but *'threw them away because they did not taste good'*. Conversations across these three study locations indicate that girls, like pregnant mothers, confused low blood pressure with anaemia.

1.16. Adolescent girls across study locations shared that they can access health services independently at about junior high school age, but it is normal for anyone of any age attending health services to be accompanied. There is very limited reproductive health information knowledge among adolescents across the study locations and mostly came from relatives and friends. School programmes are reduced to one or two short lessons/sessions.

1.17. As noted above there were very few teen pregnancies or teen mothers in any of the study locations. Across study locations the views on why numbers have been decreasing over the last few years were rather similar. Without exception people of all ages indicated that they supported the current trend of delaying having children until after 20 years. Many adolescents explained that intimate contact was common among girlfriends and boyfriends, but sex was uncommon. Access to contraceptives for adolescents is problematic as health facilities do not generally provide these for unmarried people.

1.18. The water shortages meant that toilets experienced by researchers were smelly and adults bathed only once or twice over the five days we lived with them. Babies were only doused with water poured, but this was also related to water shortages as extra water would be needed to wash off soap.

1.19. Water for washing and drinking in one West Java location and one NTT location was obtained from wells. In the peri-urban West Java location it

is piped to homes from a spring water storage tank and in the other NTT location, families collected water from a communal storage tank. Regardless of source, across study locations the norm was to boil water for drinking, a practice going back several generations, although in one NTT location the water was only brought to the boil. Water was stored in plastic jerrycans, plastic basins and buckets. Boiled water for drinking was stored in thermos flasks and lidded jugs.

1.20. Open defecation persists in all study locations despite toilet provisions. In one West Java location, men and elderly women preferred to use the river because there was plenty of water to wash with and it was felt to be 'fresher' than bathing at home. Baby poo was mostly disposed of by scooping up and putting in toilets. Handwashing after dealing with baby poo was rarely observed.

1.21. Across study locations cleanliness is associated with absence of dirt and dust, not being smelly or sweaty rather than for hygiene. Keeping the house and yard clean primarily involves sweeping. Almost no members of the families lived with washed hands before eating and if they did it was without soap. More frequently family members washed after eating in order to remove food smells. Across locations there is little done to ensure hygiene surrounding feeding of babies. There was no understanding of the idea of germs/pathogens and in one West Java location diarrhoea was blamed on spirits or spicy food. Across locations nobody made any connection between cleanliness and good health. No concern was raised regarding living in close proximity of animals and this was often explained as something they had done without problems for generations. There was no hand washing after playing with or touching animals.

1.22. The *adat* in one NTT location dictates much behaviour and, in particular, food norms and restrictions (especially not eating fish and certain types of bean) and is reinforced by the strong influence of mothers and grandmothers. Compared to the other locations and somewhat surprisingly in the peri-urban West Java location traditional beliefs prevail and information from the TBA and older generation women is extremely influential. Many said they like to check out information on the internet but in this West Java location nevertheless share their mothers' deep concerns about bad spirits and want to follow tradition.

1.23. The attendance and operations of *posyandu* observed in each study location varied. While some attended regularly, other mothers told us they would only come for immunization or if vitamins were being distributed (e.g. February is vitamin A distribution month). *Posyandu* were better attended in NTT than West Java. Across study locations we observed a focus on measurement at *posyandu* rather than providing advice. Cadres were concerned to fill in very many report templates leaving no time for answering questions or giving advice. We observed that filling in these templates was often inconsistent and poor across study locations. Cadres remuneration comes primarily from Village Funds and is not related to completion of forms but *puskesmas* level staff have to comply with performance targets that include timely and complete submission of data.

1.24. As villages in West Java are huge, midwives are not able to attend all the *posyandu* sessions. All *posyandu* sessions observed took place in the mornings, often when it was hottest and, except on the personal initiative of the head of cadre in one West Java location, did not provide drinking water. The presence of snack vendors in both the West Java locations undermined any positive nutrition behaviour advice which might have been given.

1.25. Provision of advice or opportunity to ask questions was constrained in all *posyandu*. If any advice was provided it was limited to written instructions in the *Buku KIA* (Mother and Child Health Book, often referred to as the Pink Book) to read relevant pages which generally mothers did not do, although literate.

1.26. Mothers generally get reminded about special immunization days conducted by *puskesmas* staff at *posyandu* and attendance increases even in one West Java location where normal attendance is poor. However, we found very few mothers actually knew what these immunizations were for and they shared that staff never explain but just record in the Pink Book. Fathers generally do not attend *posyandu* sessions. Involvement and support varied, although we found that they were less knowledgeable on modern medical practices some were diligent about insisting on their wives getting the required immunizations.

Introduction

The Better Investment for Stunting Alleviation (BISA) programme is an integrated nutrition-specific and nutrition-sensitive programme designed jointly by Save the Children and Nutrition International to assist the Government of Indonesia to realize the goal of National Strategy to Accelerate Stunting Prevention (2018-2024). The BISA programme targets two Provinces, West Java and Nusa Tenggara Timur (NTT). The BISA programmes include a (i) Social and Behaviour Change Communication Package to improve maternal, infant, and young child nutrition (MIYCN) as well as water, sanitation, and hygiene practices of adolescents, pregnant and lactating women and caregivers of children under two and (ii) technical assistance to District and Provincial government and health service providers to improve the delivery and enhance access to and use of iron-folic acid for pregnant women and for adolescent girls; vitamin A supplementation, zinc, and oral rehydration salts for children under five; and MIYCN counselling for pregnant and lactating women, adolescent girls and caregivers.

Alive & Thrive (February 2019) undertook a literature review of MIYCN and concluded that while there was much known about 'what', there was much less known about the 'why' and 'how' of shaping nutrition behaviours. Alive & Thrive subsequently undertook formative research with Empatika (March-November 2019) in six communities in six different provinces across Indonesia, including NTT and one in West Java. BISA is building on the Alive & Thrive research in two of the provinces where the Alive and Thrive work was conducted but has expanded the scope of research to include adolescent nutrition and WASH behaviours.

This report comprises the key findings from phase 1.1. of the study (see study phases diagram below), the exploratory phase. These insights were gathered through living with families in their own homes and interacting with them, their

neighbours and other members of the community they came in contact with over a four night/five day immersion process. The intention in using immersion research is to ensure that the social behaviour communication (SBC) approaches to be trialled later in the study are contextualised, culturally-based and 'owned' through identifying helping and hindering factors to positive behaviour change which will guide the identification of people-centred solutions. The dataset for this phase is extensive and a short report cannot do justice to the wealth of insights and data collected. However, the original full dataset will be drawn upon during the subsequent phases of the study by the research teams as they continue to work with the four study communities.

The findings have been arranged around the research topics identified through collaboration between Save the Children, Nutrition International and Empatika. We begin with describing key elements of the **context** (3.1) in each study location especially those elements which may influence nutrition and hygiene behaviours. Section 3.2 covers the current response at community level to the national and local **focus on stunting prevention** including resource allocations. The following sections are sequenced chronologically covering the first 1000 days (3.3. **care and nutrition of pregnant women**, 3.4. **care and nutrition of breastfeeding mothers** and 3.5 **feeding babies and infants (under two years)**). As this programme is particularly interested in **adolescents**, section 3.6. examines the insights from interactions with adolescent girls and boys. Section 3.7. consolidates observations on **gender in relation to care and nutrition** and section 3.8. presents the findings on **water, sanitation and hygiene**. Finally section 3.9. explores the informal **sources of information and support** during the 1000 days.

Graphic 1. Study Phases

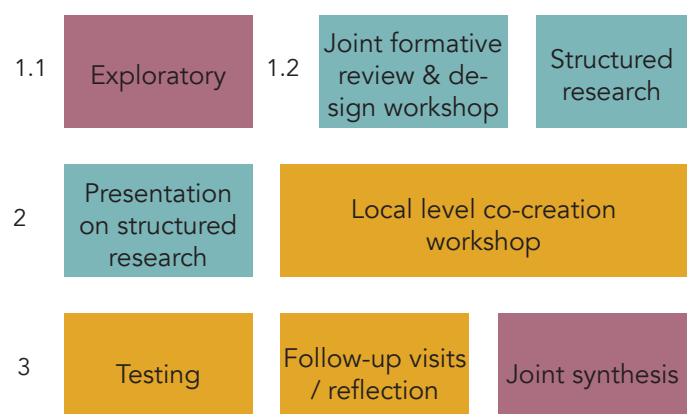


Table 1: Summary of phase 1.1. research approach

Research Approach	Key Process
<p>The Reality Check Approach (immersion research) was the core method for primary data collection. It is a qualitative research approach involving trained researchers living with people in their own homes and sharing in their everyday lives for a minimum period of five days and four nights</p>	Immersion
	Debriefing
	Analysis and reporting

Brief overview of the exploratory phase methodology

This formative research focuses on deep situational assessment to understand the knowledge, attitudes and practice of families regarding nutrition and care during the first 1000 days and factors affecting these. The entire study is strongly collaborative and puts the ‘target groups’ at the centre of identifying the need for change and co-designing the means for change.

Before phase 1.1 was conducted, a joint workshop was held with Save the Children, Nutrition International and Empatika primarily to clarify and agree on the criteria for location and study participant selection as well as to develop the Areas of Conversation that would guide informal conversations with study participants (see Annex 3). A further meeting was held with the Save the Children gender advisor to ensure that gender perspectives were highlighted in the approach to the immersion study.

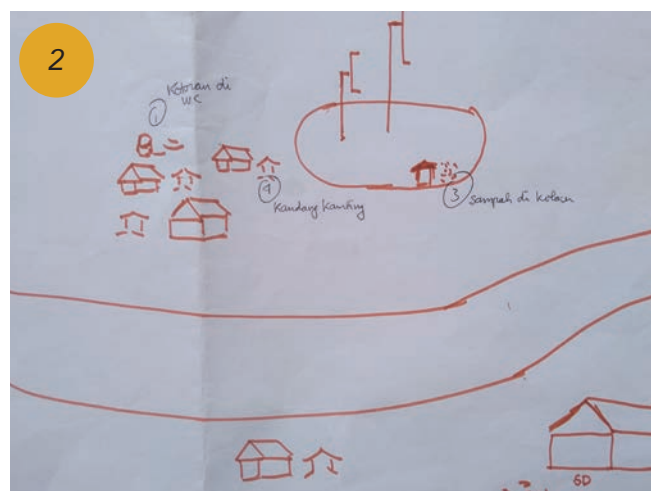
All study communities were relatively socially and economically homogenous as dictated by sharing similar livelihoods. We avoided households of salaried workers, especially civil servants and selected families to live with who derived livelihoods from modest agriculture endeavours, waged workers and small scale home-based enterprises (small kiosk owners, ojek drivers) typical of the community. Selection was primarily driven by the need to live with families with pregnant mothers, breast-feeding working mothers and first time mothers with children under two.

Table 2. Study participants

In each location; those we intended to live with were families with	In each location; Those we intended to interact with
Pregnant mother	Mothers with CU2 in nuclear families vs living with others in extended family*
First-time mother with children under 2 (CU2)	Women/men single parents of CU2
Breastfeeding working** mother	Pregnant adolescents
	Adolescent girls - in/out school
	Other working mothers with CU2
	Young mothers 16-20 years old with CU2
	Families with CU2 with livestock & poultry
	Families with CU2 with alternative (non-parental) caregivers
	Families with CU2 who have disabilities***
	Families whom the community feels experience challenges with their CU2
Other key study participants in the community	
Health cadres	
Human development workers	
Posyandu staff	
Kiosk owners/warung owners	
Market vendors/travelling vendors	
Community influencers – religious, village government, educationists etc.	

* Trying to understand locus of decision making, agency and influence.
 ** Mother who take their breastfeeding babies with them and those who leave in the care of others.
 *** Only disabilities which might affect nutrition/hygiene access/practice.

How is it conducted?
<p>Key tools of Reality Check Approach</p> <ul style="list-style-type: none"> • Informal conversation (see annex 3 Areas of Conversation (AoC) which guide these). • Observation and experience (see annex 1 Observation Guide). • Supplementary visuals and games <ol style="list-style-type: none"> 1. Family tree: diagramming members of the family lived with. 2. Food preferences and eating habits: pairwise ranking exercises whereby participants select typical foods they perceive to be healthy/ have nutritive value. 3. Seasonality diagrams: to understand coping mechanisms to managing seasonal challenges. 4. 'Smelly places' maps with children: maps of smelly places in the village to understand hygiene, water, animal care etc.
<ul style="list-style-type: none"> • A full-day facilitated debriefing with each sub-team to download, reflect on and triangulate all information gathered during the immersion • Exploration of AoC and recall of conversations, experiences and observations recorded in detail in written and coded de-briefing notes. • Analysis workshops with the research teams to explore emerging themes in more detail. • Detailed notes documenting this debriefing form the basis from which study findings were drawn (along with photographs, annotated visual exercises, socio-economic templates for households, etc.)
<ul style="list-style-type: none"> • Data analysed following a 'grounded theory' approach, providing the basis from which the study analytical framework was developed. • The established approach of Framework Analysis used to examine the large quantity of observational and conversational data from RCA fieldwork includes: <ol style="list-style-type: none"> 1. Familiarisation 2. Identification of thematic framework 3. Charting 4. Interpretation



1. Preference ranking exercises helped conversations about healthy and less healthy foods.

2. People defined what were unpleasant smelly/unhygienic places and made maps like this one which helped conversations about what people felt was hygienic or not.



Findings

3.1 Context

(i) Study locations; The two provinces and districts were pre-selected by Save the Children and are those planned to receive BISA Essential+ interventions (Bandung Barat in West Java and Timor Tengah Utara in NTT). Two study communities within these two districts were selected based on collaboratively agreed criteria and remain anonymised at this stage of the research.

The following provide brief comparative descriptions of the four study locations; two in West Java (coded as WJ1 and WJ2) and marked by the purple dot on the map and two in NTT (coded as NTT1 and NTT2) marked by the yellow dot on the map.

The study coincided with the end of the dry season, one which this year has been specially severe and long. Food availability and access is therefore a key issue and varied across study locations although it was the least felt in WJ1 largely because of its peri-urban status. NTT2 has the most severe seasonal limitations to food access as income is seasonal and dry seasons are typically severe. During dry seasons they mostly rely on rice and maize and cannot grow vegetables, although they do in the wet season (Dec-May). Even though vegetable vendors¹ come daily with

¹ Selling spinach, water spinach, tomatoes, eggplant and green papaya. Although they complained that it was difficult

fresh vegetables from outside the community they shared that very few and sometimes no families buy because people have little disposable cash. Across all four communities, families rarely bought fresh fish and those who did also noted seasonal and monthly price fluctuations which resulted in buying less when prices were high². In WJ2 vegetable consumption in the dry season was reduced to cassava leaves but they ate much more variety in the wet season.

Water access was particularly difficult during the research period which coincided with the end of the dry season. All but WJ1 (where water is piped to homes from large spring water tanks) were affected by water shortages which constrained sanitation and hygiene practices.

In terms of the dynamics of supportive environment, we have found that it is important to note whether the tradition in the community is for the husband to move into the wife's home or community or the other way around.

to keep these fresh as it was so hot in the dry season.

² e.g. in NTT2 'full moon' fish prices were double other times (IDR10,000 buys about 27 fish normally but only about 12 in 'full moon').

WJ2	Rural hills and forest	 
	Islam	
	High population: 2,500 HH	
	Main livelihoods – seasonal cash crops; high level women migration for work; plenty of short term waged work	
	Weekly market; plenty of warungs, Alfamart (small supermarket, despite remoteness)	
Wives come to husbands' home village		
WJ1	Peri-urban	 
	Islam	
	High population 3,000HH (research area 235 HH)	
	Main livelihoods: construction workers (many migrant men), factory workers, small business	
	Daily market; plenty of kiosks & mobile sellers	
Husbands move to wives' villages		
NTT1	Rural mountainous	
	Catholic	
	Small population; 114 HH	
	Main livelihoods; farming for own consumption; fruit seasonal cash crop	
	Weekly market; few small kiosks	
Husbands come to wives' village; usually families live separately		
NTT2	Rural hilly with many rivers	 
	Catholic	
	Small population: 220 HH	
	Main livelihoods; farming, livestock rearing, construction work	
	Weekly market; vegetable and fish sellers come to village	
Mostly marry within village		

(ii) Study households:

Six families we lived with are subsistence or small cash crop farmers. Two families derive livelihoods from construction work, two provide services (ojek driver and snack seller), one is a factory worker and one family is supported through *honor*-level civil servant honoraria. Several families have a number of supplementary income earning activities including weaving, small kiosks and dressmaking. Nine live in brick/cement block houses with zinc or tiled roofs while three live in wood houses with zinc or thatch roofs (two in NTT2 and one in WJ2). All have toilets, although one family shares with others. Two in NTT2 do not have electricity connections. Most cook with firewood though three also have gas. Half are recipients of social assistance (which implies lower socio-economic status). All, except one family, have mobile phones

and these include smartphones (despite their low economic status).

In all families in WJ1 and WJ2 are Sundanese, families in NTT1 are Timor and NTT2 are Dawan.

Typical family meals

Four of the twelve families we lived with do not take meals together while eight usually eat together especially in the evening. In NTT, the norm is to cook fresh food (including vegetables) once per day and eat in three meals whereas in the WJ locations, more packaged food/convenience foods or purchased cooked food were included with less priority on including vegetables in every meal than observed in NTT.

In WJ locations the staple is rice which is eaten in



1. Maximum size of fish consumed per adult (NTT1)
2. Small portions of *tempe* (WJ2)
3. Borse made of maize, peanuts and red beans (NTT2)
4. Salt fish and *tempe* for four adults (each gets small strip of salt fish and tiny piece of *tempe*) (WJ2)

large quantities. In both NTT areas, rice or maize is the staple during the season we were living with the communities. Typically, adults fill their plate with about 4 ladle-fuls of cooked rice which is equivalent to around 200g. In NTT2, where maize was eaten as an alternative to rice, adults ate typically about 300g (mixed with peanuts and red beans known as *bose*) in a day.

Commonly, fresh fish or salted fish is added to rice but in small quantities (see photo) in all locations. This is no more than one small fish or a part of a larger fish weighing between 20-30g. In WJ locations, *tofu* or *tempe* is an alternative to fish and, like fish, is consumed in very small quantities (two small pieces per person). Eggs are another alternative but usually only 1-2 eggs are shared between several members of the family.

As we have found elsewhere in other immersion studies in Indonesia, people buy fish and vegetables by cost not by weight, usually with each family spending about IDR 10,000-20,000 on these per day. This means that when food prices are high (typically dry season) the amounts consumed reduce. This study was carried out towards the end of the dry season when food prices are highest and the food intake observations represent the lowest rates of consumption of fish, eggs and *tempe/tofu*. Although eggs only cost IDR 2,000-3,000 (USD 0.15-0.22) each, families would not spend on eggs what they would on fish (ie IDR 10,000, USD 0.75) as it would be considered extravagant for a family to consume more than three eggs at a mealtime. So, eggs are seen as a cheaper alternative. Some of our families only ate rice and green leafy vegetables for some meals.

These were mostly leaves collected locally (e.g. morning glory, *kelor*). In peri-urban WJ1, one of the families we lived with only ate rice and instant noodles each day.

Dairy³ is not traditionally consumed in any study location and, even when pregnant mothers had been advised to consume powdered pregnancy milk mothers shared that they are not used to drinking milk and don't really like to.

None of the study families eat meat except for special occasions (religious or social e.g. weddings). Meat is generally not available in markets in small portions, so for example it is not possible to buy anything but a whole chicken. Typically, following ceremonies which are participated in by large numbers of neighbours and relatives, there is food enough to consume for several days after. So, for example in WJ1, the day before our immersion there had been a ceremony⁴ for which families had contributed food and time to prepare and the leftover meat (chicken and mutton) was consumed in family meals over the following four days. As we noted in the RCA study on household financial management⁵, even families who keep chickens rarely consume these but rather rear them as savings ('easily liquefiable assets'). A chicken is worth IDR 50,000-100,000 (USD 3.7-7.4) and is therefore too valuable to be eaten by the family. In NTT1, the prolonged heat and drought had led to unexpected animal deaths and so families were unusually consuming meat during our immersion.

³ Cows and goats are raised for meat not dairy.

⁴ Maulud, birth of Muhammad.

⁵ Reality Check Approach, 2016 Perspectives, observations, experiences of people living in poverty on their household financial management.

Intuitively, the assumption would be that low consumption of protein-rich foods (animal source protein and legumes) relates to affordability. While meat is indeed regarded as too costly, this and other RCA studies in Indonesia does not support this assumption. Families prioritize cash for snacks (especially pocket money for children⁶), instant coffee and cigarettes and will spend at least as much (often more) on these as they spend on their main food. With the emphasis on rice consumption prevalent everywhere, fish, *tempe/soybean* etc. are regarded as adding flavour and interest to the rice rather than a key nutritious food.

The following table provides rough estimates of protein intake based on direct observations in this study (but resonates with observations we have made in other immersion studies in Indonesia). It does not include packaged and other snacks which may be consumed during the day but observation of ingredients listed on packets indicate that they have low protein content. The indications are that protein consumption is low on ordinary days and is occasionally supplemented when ceremonies are celebrated. Like other aspects of nutrition, people often know the requirements of a diverse diet but do not have any ideas about the quantities required to meet good dietary standards⁷.

Where maize and beans are eaten (NTT), this would appear to be a better source of protein as the typical 300g of *bose* eaten per adult would be expected to contain around 40g of protein (from maize, peanuts and red beans⁸) and amount to the RDA for an average woman. However, in NTT2 the *puskesmas* doctor advised that a new mother should not eat this until one month after delivery as it was 'too hard'.

Our findings indicate, as they have done elsewhere in Indonesia, that pregnant and breastfeeding mothers eat the same as the family, sometimes increasing rice intake towards the end of their pregnancy. The inadequacy of protein intake is marked and particularly concerning for pregnant and breastfeeding mothers.

⁶ IDR 5,000-15,000 per child as a norm.

⁷ In the Alive and Thrive study, we found that people felt that they were living by the messages in the *Isi Piringku* posters because they did eat some of each type of food but had not realised that the message was intended to imply daily consumption. So, for example, eating fruit once in a month was regarded as sufficient to comply with the poster's recommendations.

⁸ 8-11g/100g maize, approximately 25g/100g peanuts and red beans.

Table 3: Rough estimates of protein consumption based on meal observations

Typical meal	Amount/adult [^]	Protein/meal/adult (estimated) (g)	Protein/adult/day (estimated) (g)	% daily recommended allowance (RDA)		
				Woman RDA 40-45g	Pregnant woman RDA 70g	Breast-feeding woman RDA 60g
rice	200g	6*	12	26-30	17	20
One of the following (occasionally two)						
fish	20-30g	5-8**	5-16	11-40	7-23	8.5-27
salted fish	10g	6.2***				
egg	¼- ½	1.25-2.5****				
tempe	25g	4.5*****				
tofu	20-30g	2.5-4*****				
total			17-28g	38-62	24-40	28-47

[^]researchers were asked to describe typical amounts which we subsequently weighed to provide weight estimates

*3g/100g **26g/100g *** 62g/100g

**** 5-6 g/egg ***** 18g/100g ***** 13g/100g

3.2. Stunting focus and activities in the community

Both study districts have stunting prevalence rates higher than the national average (see Table 4) but those in NTT are among the worst in the country. The district health staff in Timor Tengah Utara (TTU) shared that initially priority had been given to villages with the highest rates of stunting but, given the severity of the problem, this has been recently revised to include all.

In both locations in NTT there is a strong orientation to stunting as a village priority which is intensively driven by the district administration. NTT1 and NTT2 have 24 and 33 children categorised as stunting.⁹ In NTT1, IDR 24 million¹⁰ of village funds

⁹ From 114 households and 220 households (average house size 8) respectively.

¹⁰ Approximately USD1750 and nearly half of the total budget for health activities in the village.

Table 4: Official data on study districts

Study districts	District Population	Stunting prevalence* (%)
Timor Tengah Utara (NTT)	246,685	43
Bandung Barat (West Java)	1,683,711	31

*Buku Saku Pemantauan Status Gizi, Ministry of Health, 2018: http://www.kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Hasil-risikesdas2018_1274.pdf

have been allocated specifically for stunting and as a result of the decision of their exceptionally well-supported *musrembang* (community deliberation meeting), this will be spent on providing food for all children under four (and comprises 30 eggs, 1 kg mung beans and 2 packs of SGM milk powder/month¹¹). In NTT2, the main response in addition to providing commercially packaged sweet biscuits to all children attending the *posyandu*, is a planned 150 day 'cash for food' programme for all malnourished children fully funded by the Village Funds and follows a 'successful' 20 day programme undertaken in June where those with stunted children were fed mung bean porridge, milk and brown sugar and eggs on a daily basis. Here, they also plan to address the seasonal water shortage by drilling for water.

'What will the Bupati think?'

- worries about insufficient progress being made to address stunting in NTT1.

Despite the concern in both NTT study locations, understanding of the stunting problem remains weak and both families and local healthcare providers primarily cite inherited traits as the cause of small stature not nutrition. For example, in NTT2 the midwife, nutritionist and cadres all joked that the '*Village Head is stunted*'. In NTT1, the support for the costly food distribution programme is widely supported from the perspective of provision of foodstuff but mothers shared that they were '*not really sure if this will improve health*'.

¹¹ The high budget is possible because the Village has decided to cut its programme for the elderly. Community people we met approved of this arrangement. However, the intention may be too costly as 50% of the budget was spent in first three months of the programme. The cadres also said that they did not provide SGM for babies under 6 months.

'How can I have a tall child from a short family?'

- mother, NTT1.

In West Java the district of Bandung Barat has not re-visited its original categorisation of villages by stunting prevalence (2018). People in the two study villages are not aware of the national stunting focus and did not feel they have a problem. However, in WJ2 the midwife indicated that there are ten malnourished babies¹² and teachers, fathers and others shared that they felt there was a problem with children as they reached pre-school age when they became '*sickly and thin*' and which was explained as a result of them becoming '*picky eaters*', eating too many snacks and '*mothers fail to provide nutritious food*'. Here, just IDR 1.2 million¹³ has been allocated for additional feeding¹⁴ for the year and is currently being used to buy commercially packaged biscuits and bread for distribution to all mothers and children attending the *posyandu*. Even though there are children '*on and below the yellow line*'¹⁵ in WJ1, there is no feeding programme and no budget from the Village Funds for any stunting or nutrition related activities. They also have not received advice from above to do this. With a strong infrastructure focus in the use of their Village Funds, they are actively trying to stop open defecation particularly as they see themselves as becoming more urbanised '*so we should not have open defecation*'.

For the first time in immersion studies across Indonesia, we finally met a human development worker (in NTT2) however she is newly appointed and is confused about her role and frames it entirely in terms of nutrition support. In NTT1, the midwife indicated that she had heard that there would be an appointment but saw this is in terms of the continuation of the PNPM Kader Generasi Sehat '*re-branded*' as *Kader Pembangunan Manusia* (KPM or Human Development Worker). There were no KPM in either of the West Java study locations.

¹² 10 in a *posyandu* catchment area of 18 RW.

¹³ IDR 1.2 million = USD 86.

¹⁴ *Makanan tambahan* (additional feeding programme).

¹⁵ The yellow line is marked on the growth charts in the Pink Book and below this is a red line. Within the yellow band means the child is mildly malnourished and below the red line means the child is moderate to severely malnourished.

3.3. Care and nutrition of pregnant women

Views vary across the study locations regarding what is good care during pregnancy. In NTT1, *adat* traditions prevail and pregnancy is regarded as a time when mothers should be relieved of strenuous chores¹⁶ and not work in the fields. By contrast and not that far away in NTT2, the norm is to keep active, continue with chores including some collecting of firewood (relatively small amounts twice per week) and water (jerry cans daily) and to walk barefoot to improve circulation in order to *'be strong enough to give birth'*. The main concern is breech birth and keeping active is seen as helping to avoid this. In WJ1, it is also traditional to reduce chores from the *'moment the mother knows she is pregnant'* and there were strongly expressed opinions against women working at all with several examples of women who worked in the city quitting their jobs on learning of their pregnancy with the full support of husbands and their mothers and grandmothers who take on domestic chores on their behalf. In WJ2, carrying anything heavy was to be avoided but otherwise it was considered important to *'stay active'* but it was also noted that this generation of mothers do not need to work in the fields as previous generations did. Like WJ1, those working outside usually come home as soon as they know

¹⁶ Continue to wash dishes and cook but not collect water or wash clothes.



In NTT2, the norm is to keep active throughout pregnancy but this contrasts with the views in other study locations.

they are pregnant and, in their words, *'just chat, laugh together and do little'*.

As we have found in other recent immersion studies¹⁷ generally no special diet is considered necessary for pregnant mothers who continue to eat the same as the family (see above). Understandably, many pregnant women and recent mothers shared that they had reduced their eating in early pregnancy because of the off-putting smell of food, nausea and fear of throwing up. Little help or advice was provided by *posyandu* staff and, even in one case where the mother had to be put on an IV drip because she was not eating well, there was no advice provided (NTT1). Women shared that it is common to increase the amount of rice eaten after the first 5 months but not generally other foods. Quite often we were told that a good diet should consist of fish/meat, vegetables and fruit but observations indicated that this knowledge was rarely put into practice. Mostly, taking advice and following the traditions of previous generations, pregnant mothers did not see a need to eat differently. Only in NTT1 where *adat* traditions dictate that mothers should eat special varieties of legumes (red beans and peanuts) was any other dispensation made. In WJ1, where old wives tales dominate current practice, there remains a concern¹⁸ that the baby should not get too large otherwise there will be difficulties giving birth. As a result, pregnant mothers are required to eat from a small plate but eat frequently and in practice here supplemented with a lot of snacking on packaged *krupuk*, *chiki* and biscuits. Nevertheless, in the last six weeks of pregnancy they do actively reduce food intake to keep the birth weight down *'so we can give birth at home normally'*¹⁹. Across study locations there were a number of food taboos in pregnancy (including not eating pineapple or durian as they are often connected to miscarriage) as well as suggestions of what is good (often couched in terms of *'cleansing'*) e.g. drink coconut water before giving birth or palm sugar cane.

¹⁷ Unicef Universal Child Grants Baseline Study 2018; Alive and Thrive Report of Experiential Immersion, 2019.

¹⁸ A concern we used to hear more widely in other parts of Indonesia more than five years ago but which has largely died out. The Alive and Thrive study found that people often referred to this as an old practice. However, the only location where this was still spoken about was also West Java where mothers were encouraged to eat less fattening foods after 7 months.

¹⁹ This kind of comment was more frequently shared in immersions over 5 years ago but was a shock to hear so widely adhered to in a peri-urban community nowadays.



'The pregnant mother I lived with ate four times as much as the amount of rice on my plate (pictured) every mealtime' (researcher notes, NTT2).

'When I felt like throwing up every day I ate less, but later added rice and this was healthier'

- pregnant mother, WJ1.

As we have found in other similar studies, mothers do not attend all the monthly ante-natal sessions and tend to go first when they want confirmation of their pregnancy (usually within two months, especially for first time mothers) and then sometimes again at about 5 months (half way) and, finally, near birth time to check all is well. This means that most fall short of the recommended minimum four ANC check-ups²⁰ (more detail provided in section 3.8). Mostly pregnant mothers do not see any need in attending unless they feel unwell. They all describe having their weight taken and blood pressure checked but received little advice about nutrition or care. For example, in WJ2 the midwife simply told mothers with low blood pressure to 'eat green vegetables and liver'²¹.

As ANC attendance is erratic and this is generally the only time mothers get IFA tablets (usually dispensed in one-month packs) they do not take the recommended minimum 90 tablets. In one *posyandu* they had run out of IFA tablets but the midwife brushed this off as she said none of the pregnant mothers needed them anyway. In another where the midwife does not come

²⁰ WJ1 was an exception where the norm is to attend four ANC session (confirming the pregnancy and then at four, seven and nine months).

²¹ Only chicken liver is occasionally available at the weekly market, mothers don't like the taste and said it makes them feel nauseous.



Mothers say that they just get their weight and blood pressure checked at the *posyandu* and 'not much else'.

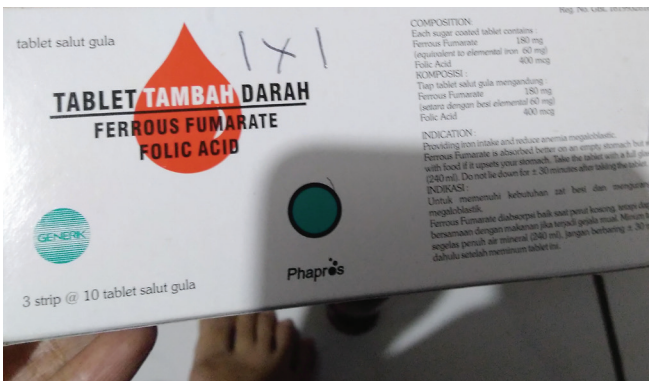
every month no IFA tablets are distributed in her absence. In WJ1 no pregnant women chatted with had ever been given IFA tablets. There is a strong perceived association among mothers with low blood pressure and the need to take iron tablets so if the blood pressure is 'normal' they avoid taking these even when given them. Some take because they think it is related to the loss of blood during childbirth, others say it will ensure the baby is a good weight. In NTT1 where understanding of the efficacy of IFA is poor, mothers shared that they have to bring the empty packets on return visits and will 'get yelled at and told 'do you love your baby or not?' if they have not taken them. One researcher asked the pregnant woman she was living with in NTT2 if she had asked for an explanation from the *posyandu* midwife about her low blood pressure and she replied, 'no, because I got tablets'.

'I don't take the iron tablets given out at the posyandu because my blood is sufficient already'

- mother, WJ1.

IFA tablets are the most often provided supplement and the provision of other supplements varies considerably. In NTT1, pregnant mothers were provided with milk powder (Lovamil), mung beans²² and eggs through a new programme funded by the Village Funds which started in August 2019. No supplements of any kind were distributed in NTT2. In WJ2, additional food (mungbean porridge or bread) was provided for pregnant

²² Replaced with rice for those whose *adat* prohibits consumption of mung beans.



The labelling of IFA tablets as '*tambah darah*' which literally means 'add blood' does not help in understanding of their purpose.

woman, particularly for those who have problems with food intake. During our observation of the *posyandu* government-supplied biscuits intended for pregnant women as '*a replacement food in case you are finding it difficult to eat regular food*' were distributed but cadres added that they only had one month left before expiry and should be consumed immediately. In WJ1, mothers who were recorded as underweight were given the government-supplied biscuits for pregnant women. There was one who was judged (rather than weighed) to be '*too skinny*'²³ and she was given these '*to gain weight*'.

Our observations of *posyandu* where ANC is conducted in parallel with the child clinics in this study and in other recent immersion studies suggest that the main focus is always on the babies and infants attending and less on pregnant women. Mothers across study locations describe the ANC sessions as a time when their weight and blood pressure is checked and the babies' heartbeat is recorded. If they are provided with any advice at all it is perfunctory such as to '*take rest*' or '*eat more vegetables*'. Although provided with the Pink Book on confirmation of the pregnancy very little reference, if at all, is made to the sections on pregnancy by the cadres and the book is only referred to by mothers nearing the time for delivery. Some advice about reducing salt and MSG intake and cutting down on fried foods during pregnancy is mostly ignored as '*there won't be any flavour*' (pregnant woman, NTT1). As we have found elsewhere there is widespread belief that consumption of pineapple and papaya in early pregnancy leads to miscarriage.

Across locations, mothers shared that a good birth weight is about 3kg, not less than 2.5kg and over

²³ In this village, the accepted norm is 'chubbiness' and our assessment of this mother was that she was not actually underweight.



Pregnant women received these biscuits in the observed *posyandu* session. The Midwife explained that the biscuits could replace food if the pregnant mother could not eat normal food. As the expiry date was imminent, she said they must be consumed immediately.

3.5kg is considered a large baby.²⁴ Occasionally, families attributed different birth weights of their children to their gender.

In NTT2 it is common for pregnant mothers to take tots of *sopi* (local palm alcohol) at 7-8 months to '*make the baby clean inside the womb*' despite cadres' advice not to. Researchers own tasting of this found this to be very high alcohol content despite the local view that it was not because '*it is made from the natural sap of a tree*'. Several pregnant women in NTT2 said they craved sweet coffee²⁵ even though they had not been coffee drinkers before pregnancy.

3.4. Maternal care and nutrition (first year)

The importance of the culture of '*40 days*'²⁶ post giving birth was apparent across study locations but involved different practices. *Adat* in NTT1 strictly adheres to this and requires that this be a period of rest and recuperation. In NTT2, some mothers say they should not come out the room for 30 days (because of '*bad wind*') but others emerge 3-7 days after giving birth. Here the midwife visits daily for the first three days and then weekly also reminding mothers to rest and to expose themselves and their babies to occasional sunlight. In WJ2, it was explained that the traditional practice had been for confinement for 30 days after giving birth but '*now if you feel strong enough then you can go outside*'. They used to practice *akikah* (sacrifice) but it is now considered too costly²⁷ and replaced by a naming

²⁴ World Health Organisation defines low birth weight (LBW) as under 2.5kg. source: https://www.who.int/nutrition/publications/globaltargets2025_policybrief_lbwt/en/ and adopted by GoI source https://reliefweb.int/sites/reliefweb.int/files/resources/Indonesia_0.pdf

²⁵ Made from sweetened instant individual servings in sachets and to which they add more sugar.

²⁶ Although, in effect often less than this.

²⁷ Requiring sacrifice of two goats.

ceremony. There was also an understanding that babies should be exposed to sunlight *'otherwise they will be yellow'* which had also changed this traditional practice. In WJ1 where, despite its peri-urban situation, traditional beliefs are hugely influential within the entire community, the 40 days is circumscribed by instructions from the TBA (including undertaking a range of rituals including massage, wearing amulets, spitting turmeric into every corner of the house daily etc). Nevertheless mothers are allowed to go out occasionally (to the *posyandu*, for example).

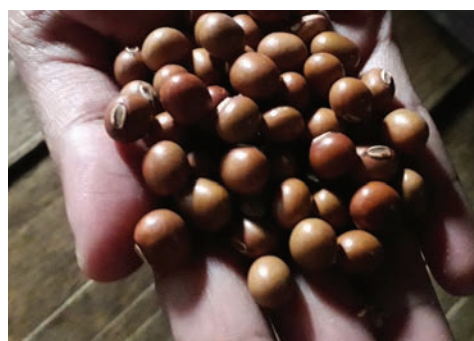
Just as we found for pregnant mothers there was little concern about the diet of breastfeeding mothers except some advice on eating certain leaves²⁸ (especially *katuk*) which are believed to encourage milk flow. In NTT1, breastfeeding mothers shared that they eat as they did before they were pregnant but *'perhaps drink more water'*. There are also restrictions on eating sour fruits and, in WJ1, ice and meatballs. Both in NTT1 and WJ1 where traditional beliefs predominate there was some encouragement to eat special beans²⁹ to help with breastfeeding. Apart from this and elsewhere there was no understanding of any need to increase calorie and protein intake during breastfeeding.

The *adat* practice of hot massages is universal in NTT1 to encourage milk flow and reduce breast pain. In WJ1 we lived with a mother with a one month baby who used a breast pump to relieve pain before the baby suckled and threw the expressed milk into an ash filled bucket *'to remove the smell'*. For others in WJ1, the TBA provided breast massage.

Although mothers are described as the main caregivers, in NTT1 grandmothers take most of the care responsibility for babies until they are

²⁸ e.g. *katuk* leaves *Sauropus androgynus* is widely believed to be good for pregnant and breastfeeding women.

²⁹ *Siki jaat* (most likely *Psophocarpus tetragonolobus* or winged beans) and *siki roay* (most likely *Phaseolus lunatus* or lima beans).



In WJ1, traditional beliefs promote consumption of local beans when breastfeeding.

three months and in NTT2 grandmothers are also very supportive and here child rearing was referred to as *'women's business'*³⁰. In WJ2, where there is a high prevalence of women migrating for work (specially older mothers) and young mothers working in Jakarta and Bandung (often as domestic helpers or factories), there is an entrenched expectation that grandmothers (or aunties) take care of children and will feed them porridge and formula milk. Even when the mothers were not working those we chatted to said, *'all I do is wake up, cook, watch TV and hangout with neighbours because usually my kid will be with grandma'*. Similarly, in WJ1, mothers have a lot of leisure time (watching soap operas on TV, snacking with friends) as there are many female relatives³¹ who take care of the babies. One grandmother here referring to the expectations of care of her grandchildren said, *'this is a burden for me as I had many children and now lots of grandchildren... I have never stopped taking care of babies'*.

Apart from WJ2, very few breastfeeding mothers we met in the study were also working. The norm is for mothers to breast feed and to remain at home for the first two years although there are exceptions. One teacher in NTT2 with a 13 month baby left her with her grandmother during the day, returning in recess to breastfeed. When fussing, the grandmother gave the baby sweet tea in a bottle as a pacifier and fed the baby rice porridge and the water from the beef soup. The mother was happy with this arrangement and when she had to attend a full day training programme outside of the village arranged for another mother to breastfeed her then 6 month baby for her³². We observed others who offered the breast when looking after another's child more as a pacifier than for nutrition. In WJ1 it is very rare for a mother to return to work with a young baby but grandmothers are expected to care for older babies (above 5 months) if the mother wants to work and formula milk is provided. Even when families have fridges, we observed no attempt to pump or hand express and keep breast milk in any study location. One mother (26) in WJ1 who has returned to her *honor* teaching job spends almost her entire honorarium on formula milk.

The focus for *posyandu* cadre and staff is, from observation, almost entirely on the babies and not on the welfare or care of new mothers.

³⁰ Something endorsed by husbands as *'we have to work'*.

³¹ In one sub village all 45 households were related to each other.

³² A practice we have observed elsewhere e.g. Aceh.

3.5. Feeding babies and infants under two years

Breastfeeding: The change in practice towards institutional births in all but WJ1, has meant that early initiation of breastfeeding has been encouraged. In NTT1, some mothers we chatted with about this did not really understand the reason and shared that the *puskesmas* gave their babies formula milk for the first couple of days as breastmilk *'was not coming through'*. Early initiation was nevertheless not a new practice for mothers in NTT1 as babies had always been encouraged to *'crawl to the breast immediately after birth'*. Unlike studies conducted some years ago, we found almost nobody³³ adhering to the notion that colostrum was *'dirty'*. However, in WJ1 where home delivery is preferred, there persists the notion that babies often do not take breast milk in the first two days.³⁴

The culture in study locations in NTT has been strongly supportive of breastfeeding for many generations and although formula milk is available it is rarely bought. Mothers in NTT1 were adamant that breastfeeding was best and one mother explained that when her six month baby had seemed less interested in breastfeeding she put water on her breast and gradually encouraged her to suckle again *'this is much better and much cheaper'*, she said. Here there was a common belief that girls were lazier at sucking and sleep more.

While mothers across study locations shared that they exclusively breastfeed in the first six months, we found this was often shaped by social desirability bias and as we lived in their homes it was clear this was rarely the case. When chatting about this, it was apparent that they know the exclusive breastfeeding message and will actively hide that they give other food to their babies for fear of reprimand from midwives in particular. For example, one mother in NTT1 said, *'I gave my three children food at around four months so they would feel happy and because the milk might not be enough'*. In WJ1, mothers repeated the exclusive breastfeeding until six months message but shared that actually they believed it was *'up to the baby'* and gave Marie Regal biscuits³⁵, SUN



Babies under 6 months were frequently bought sausages, including immediately outside the *posyandu*. Mothers shared that these were healthy - *'sausage is a good snack - better than chiki'* (packaged puffball rice snacks).

porridge Cerelac, Milna or homemade brown rice porridge from as early as one month. In WJ2, mothers talked about introducing foods early to experiment, for example trying Cerelac or crushed biscuits. In WJ2, it was noted that one of the first words infants uttered was *'jajan'* (snack) and in WJ1 pre-verbal babies actively pointed to snacks in kiosks³⁶ but in NTT1 we observed no babies taking snacks (except banana). As we have found in other studies, taking food (and snacks) early is often seen as a sign of an advanced development.

Particularly in WJ locations, there is an assumption that crying babies are hungry babies and mothers easily presume that they are failing to provide enough breastmilk. In these situations, older women relatives (but also some cadres) encourage mothers to give banana, porridge, *boder* (rice flour and water) or mashed biscuits in order to sate this presumed hunger.

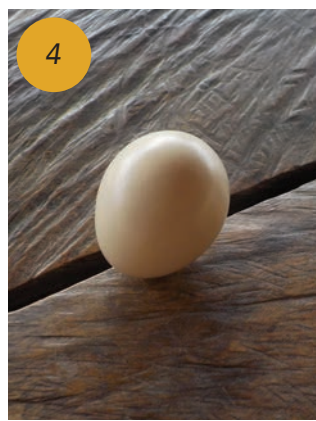
In NTT1, it is usual for mothers to sing to their breastfeeding babies but among other mothers in other study locations we observed little interaction while breastfeeding. A widespread assumption was that if the baby falls asleep on the breast they have had enough. Sometimes when the baby seems calm this it also seen as a sign the baby has had enough.

³³ An exception was WJ2 where the TBA had encouraged mothers to throw it away even though she had heard in training that it was good.

³⁴ One mother (25) with a 2 month baby shared that this was fine and her own mother had not fed her for the first seven days and *'I was fine'*.

³⁵ Crushed with boiled water.

³⁶ Typically IDR 5,000 (USD 0.37) per day was spent on snacks for toddlers. At the *posyandu* in WJ1, mothers were spending IDR 30,000-50,000 (USD2.2-3.7).



Complementary feeding: Typically, rice porridge is provided as the first food most often around five months but sometimes as early as one month. First porridge is very watery. It is mostly given before any breastfeeding and the emphasis is on making babies feel full. Breastfeeding is often seen as providing liquids only (not regarded as a food) once complementary food is introduced and is seen as a way to get babies off to sleep (comfort rather than nutrition). Our observations indicate that consequently the time given to breastfeeding once complementary food is given is often very short. In NTT1, it was common for mothers to use formula milk to supplement breast milk after 6 months, something they have internalised because SGM is provided in the feeding programmes.

Across locations, little else is given other than plain rice porridge between 6-8 months. This practice is strongly influenced by older generation women. For example, in WJ2, grandmothers advise *'don't worry about giving them meat or fish as they will take this when they are old enough on their own'*. Mothers generally buy and prepare food for their infants.

In WJ1 there was a strong belief in *'baby decides'*, in other words the baby will dictate if it wants to continue breastfeeding and when other foods need to be introduced and most mothers introduce complementary foods at around 3 months (as the crying is interpreted as a sign of hunger *'baby decides'*). Here mothers will try lots of different tastes (varying sweet and salty but not sour or spicy) to determine their baby's personal taste. Mothers here knew about adding carrots and green vegetables to porridge (*nasi tim*) but never actually do this -the closest being adding the water used to boil vegetables to the porridge. But here it was unusual for any member of the family to eat vegetables *'it is easier to cook rice and noodles'*. Talking with the vegetable sellers, they said that even though they bring a variety of vegetables *'people here only buy string beans'* unlike others in other villages. One mother here shared that she was very worried because her baby only liked vegetables *'if you don't eat rice -it doesn't count... it's not good food'*. In NTT2, vegetables were scarce anyway but even when available mothers were not feeding their babies vegetables (see photos). In NTT2, mothers had been encouraged to add eggs as this had been recommended in the feeding programme and a cadre shared how she tries to remind mothers when she makes home visits to add *tempe* or fish or egg to porridge interchangeably *'so the baby does not get bored'*.

1. Babies under 6 months are often provided *boder*, rice flour and water (WJ1).

2. Mother has just started her six month baby on watery rice porridge (NTT2).

3. Mother took this picture of spinach she grows when asked to take a photo of what is healthy food for babies. But she never mixes this with the porridge she feeds her 6 month baby and kept telling us *'not now'* (NTT2).

4. Another mother took a photo of an egg when asked to take a photo of healthy food for babies. Chatting with her she said this was *'power for babies'*. But they cost IDR 2,000-3,000 each. She had heard about eggs from the *posyandu* and had seen those who get PKH social assistance get eggs. She also regularly talked about vegetables being good for babies too. But during our stay, she only gave her 7 month baby homemade rice porridge with salt... no eggs and no vegetables (NTT2).

All families felt that rice was a good food for CU2. Eggs were noted in both NTT locations and WJ2 and this is strongly associated with the recent emphasis provided through *posyandu* feeding programmes and because it is also included in PKH social assistance. In NTT, families noted fish but this was not mentioned in WJ locations. Similarly only NTT families noted legumes such as mung beans and peanuts. All mentioned fruit (especially mango, banana and guava) but this did not translate into regular practice. Notably, only families in the peri-urban WJ1 identified packaged baby foods such as SUN and Milna as being good for babies as TV advertisements had confirmed to them and they also liked the convenience.

No family suggested that meat was good for CU2 and concerns were rather raised about this being difficult to chew and a choking hazard. Vegetables were not mentioned in either WJ location as good for CU2 (although *nasi tim* which typically includes carrots or pumpkin was noted in WJ1) but in both NTT locations green leafy vegetables such as spinach, cassava leaves and *kelor* were noted as good for CU2. Foods to avoid included spicy foods as these were associated with diarrhoea. In NTT1 *adat* food restrictions extended to CU2.

‘One mother in a group said that the first food she gave her baby was broccoli but she was clearly making this up as everyone laughed’

- Field notes, WJ1



Typical food for babies at about 12-24 months in WJ2.

In all four locations as noted in section 3.1., families ate low animal source and plant source protein diets, eating meat rarely and relying on *tofu*, *tempe* and dried fish and some eggs mostly. This means that babies were given very little amounts, for example in WJ1 tiny quantities of *tempe* or *tofu* might be mixed into porridge. As breastfeeding was only ever done if the child cried after taking porridge as a comfort, little protein would have been taken this way either.

As observed within the Alive and Thrive study, mothers did not track how much food their infants ate in a day and primarily fed when they cried rather than adhering to any kind of schedule.

Mothers across study locations generally prefer that infants do not feed themselves (except snacks) because *‘they play and it is messy’* although mothers in NTT1 said that they could feed themselves *‘as soon as they can sit’*. Observations at a PAUD in WJ1 found that even children as old as 4 years would still be fed by their mothers. Mostly, we observed little interaction between those feeding older children and the children themselves except in WJ1 where caregivers use encouraging words and eye contact. Unlike other areas, feeding of infants is always done at a different time from the mother eating.

With a high incidence of non-maternal caregiving in WJ2 we found the most use of formula milk and packaged baby food. We also observed that feeding young babies with packaged snacks was seen as a way to *‘keep them happy’* and as an appropriate food³⁷. Infants often had tantrums when they were not given snacks.

³⁷ Parents were not concerned about giving snacks from a nutrition perspective but from a cost perspective, although some did share that the high sugar content was *‘ruining teeth’*.



At a very young age children start to buy snacks (WJ2).

3.6. Adolescent nutrition and healthcare

We interacted with adolescents aged between 13 and 19 as this is the age group BISA is planning to provide interventions for in the future.

Across all the study locations, adolescents eat the low animal and plant source protein diets that their families eat. They too like and consume a lot of rice as this *'fills you up'*, provides energy and is a comfort food from their childhood. However, those who get pocket money for meals at school also consume more fried, sweetened and packaged foods but this can be constrained by seasonal disposable cash shortages (e.g. WJ2 and NTT2). Differences exist, for example in NTT1, adolescents all take breakfast and lunch at home partly because there are limited canteen options but also because they do not have pocket money.

There was no knowledge of good nutrition for adolescents but also no dieting or skipping meals. Generally, adolescent girls shared that they felt they ate well and were unconcerned about this and there was no evidence of girls eating differently than other members of the family.

Even though adolescents could explain what healthy foods were, their own preferences emerging from preference ranking games always tended towards sweet and fried foods. It was very unusual to observe adolescents eating fruits and these would only be ones which were in season and freely available and never purchased (e.g. mangoes in WJ1). An exception was WJ2 where some adolescents used pocket money to buy mangoes and watermelons to eat with *rujak* sauce³⁸.

'The food here is healthy that's why we are all curvy'

- adolescent girls, WJ1.

The culture of snacking varies considerably across study locations; in NTT1 it is low and limited to traditional cakes. In NTT2 there was a higher access to kiosks and because of the drinking water shortage, adolescents consumed large quantities of sweetened drinks in particular but compared to other places in Indonesia their snack

consumption was low³⁹. Here, adolescent girls who lived together in a dormitory shared that they cook for themselves and usually eat rice, eggs, small amounts of vegetables and packaged instant noodles. By contrast, in WJ1, adolescents consume snacks throughout the day typically spending IDR 10,000-20,000 (USD 0.75-1.5) per day.

'We eat whatever there is – not too picky'

- adolescent girls, NTT2.

Only in three locations had adolescent girls received IFA tablets and this was only one time at school. Girls in NTT1 said they recalled that they were advised to take during their menstrual period but they did not know where to get them and nobody was actually using them. *Puskesmas* staff told us that the pills should be available at the school clinic but nobody locally was aware of this and others said that they should have been provided with a months-worth of tablets for each student but only received enough *'from central'*⁴⁰ for one tablet per girl. In NTT2, girls shared they had had to take the IFA tablets in front of the teachers and said they were told it was because they menstruate and will have *'low blood levels'*. In WJ1, girls were given IFA tablets at school but *'threw them away because they did not taste good'*. Conversations across these three study locations indicate that girls, like pregnant mothers, confused low blood pressure with anaemia. Although some talk about early signs of pregnancy being *'white gums and pale face'* and girls knew that there was a state they might experience of *'weakness, pale skin, dizziness'* but linked this to *kurang darah* (less blood) rather than anaemia. The tablets for *kurang darah* were mostly considered unnecessary since these were not symptoms they experienced in menstruation. Those adolescents who had taken IFA tablets shared with us that they had not noticed any difference as a result and so did not see the point in taking the tablets which suggests that tablets are usually associated with a curative function.

Adolescent girls across study locations shared that they can access health services independently of their parents at about junior high school-age but it is normal for anyone attending health services

³⁸ Peanuts, palm sugar and chili.

³⁹ Donuts and candy occasionally rather than daily.

⁴⁰ Meaning district distribution centres.

to be accompanied. This entails visiting whatever services are the norm in the community which may be the local midwife (who practices primary health at home or in the *pustu*), *mantri*, *puskesmas* (if nearby) or buying medicines from kiosks or markets.

There is very limited reproductive health information knowledge among adolescents across the study locations. In NTT1, there was nothing provided at school, *posyandu* or through the Church. School teachers at all levels explained that there is no sex education in school because of religious norms and, like others, it is only cursorily included in biology lessons. High schools here have a single annual *socialization* on reproductive health provided by the district. In NTT2, the high school seemed to have a similar annual programme described as a male *puskesmas* staff member giving a talk to adolescents on '*cleaning our genitals, avoiding STDs and pre-marital sex*' but those we chatted with only recalled the STDs. In WJ1, school had only covered minimal biological explanations of reproduction which had been joked about by the students. The school, like many others we have come across in other studies, is reluctant to do more in the way of reproductive health teaching in case it encourages sexual activity. On Fridays, the school emphasises quranic teachings; '*my teacher tells us no dating, kissing or touching boys because this is not allowed in our religion*', explained one 16 year old girl.

There were very few adolescent⁴¹ pregnancies and adolescent mothers in any of the study locations. Across study locations the views on why numbers have been decreasing over the last few years were rather similar. Without exception people of all ages indicated that they supported the current trend of delaying having children until after 20 years and that in the last few years the trend had changed significantly. In NTT1, people spoke of a recent successful family planning programme, a desire to '*manage family life*', family encouragement of girls going into town to work⁴² between high school and marriage and the *adat* system of imposing fines (cash or pigs) for those who get young girls pregnant. One mother had to pay IDR 10 million to the senior high school when her daughter (17) became pregnant this year to '*preserve the reputation of the school*'. The acknowledgement of the situation through the *adat* system seems to

⁴¹ i.e. girls aged 13-19 years old.

⁴² For example, as shop assistants, cashiers. Families encourage another regular cash income albeit for a short time.

remove stigma and increases acceptance of the situation. Young women here shared that a '*good age to have first child is above 20 and 25 for boys as they should have a life first*' but older women felt that a good age for women was even older, above 25 years so they can '*support their parents a bit before they marry*'. In NTT2, people shared that '*accidental pregnancy*' (meaning before 20 years old) was '*rare as people want to get money first*' and this has been the situation over the last 10 years. Typical of others, one father said, '*in the past there was no choice but to marry early*'. Girls themselves shared that they did not want to '*think about sex now as we have plans ... to be nurses, midwives, flight attendant*' and '*we need to pursue our dreams first*'. In WJ1, girls were clear that they wanted to work first. In WJ2, people shared that in the past on reaching puberty the girl's family would start to '*look for a match*' but, as people explained, this was before there were schools in the area. Although WJ2 was the only location where teen marriage was relatively common, both boys and girls here were explicit that they mostly did not want to have children before 20 years old. Boys, in particular wanted to earn and to continue to hang out with their friends before having the responsibility of children and they actively dissuaded their young wives from wanting children young.

Many adolescents explained that intimate contact was common among girlfriends and boyfriends but sex was uncommon, especially in both NTT locations. This was explained in terms of strong religious norms and, in NTT1 also strong *adat* rules. In WJ2 which was the only location where teen marriage was still prevalent, early marriage was justified on the basis of legitimising sexual relations. Even though we did stay with two teenage mothers (a 14 year old⁴³ and a 17 year old) in WJ2, we were repeatedly told that having children at these young ages was unusual despite early marriage. However, our impression from conversations was that sexual relations before marriage was more common in WJ2 than all the other locations⁴⁴. There were known 'hotspots' where adolescent couples were rumoured to meet for sex in WJ1 too even though as several shared

⁴³ This girl had been left in the care of her great grand parents at 18 months.

⁴⁴ Girls knew about pregnancy testing kits, many alluded to liaisons in the forest, pointed out flirtatious girls, viewed photos of flirtatious women on their phones, were pre-occupied with make-up and talked about boys more than in other study locations. Boys hang out together and often talked about the best places to take girls and watched porn more than observed in other locations.

'these students attend the Islamic school' and there was talk about two girls who were expelled recently from senior high school because they were pregnant.

Generally, adolescent girls were shy to talk about reproductive health and shared that, apart from getting minimal information about menstruation⁴⁵ they also did not talk about this with their mothers. Some mothers, like school teachers, indicated that any further discussion is embarrassing and shared their concern that too much information would encourage sexual relations rather than discourage. Parents in WJ2 were the most restrictive of their adolescent daughters and expected them to spend their time at home mostly out of concern that they will spend time with boys and provoke gossip in the community. At home they look after younger siblings, do homework and domestic chores, watch TV and play on their phones. In both WJ locations, most adolescents have access to mobile phones and many have smartphones and there is a good signal so they are actively accessing information. For example, the 14 year old pregnant girl we lived with in WJ2 shared she used Google, Youtube and Facebook to get information on her pregnancy. Since there is considerable discomfort on both sides talking about these issues with adults, the preference expressed for accessing information is through neutral third parties (e.g. internet, social media) which can be accessed anonymously and confidentially but also more-informed sharing among peer groups. In NTT1, adolescents said they wanted more information about their reproductive development and '*how their bodies adjust to changes*' but currently talked rarely about these things and only within same-sex peer groups.

Access to contraceptives for adolescents is problematic as health facilities do not generally provide these for unmarried people. For example in WJ1, it was noted that contraceptives were available from the midwife if the couple were '*legally or religiously married only*'. Although condoms are available in stores in WJ1 (the only peri-urban location), adolescents do not buy because they feel shame and anyway women and girls feel it is they who have to take contraceptive decisions. In WJ1, where we were made aware of pre-marital sexual activity, pregnancy will lead to marriages being arranged but there were no cases of this recently.

⁴⁵ Usually little more than a warning it will happen and how to use sanitary pads.

Across locations, adolescent girls were mostly unconcerned about their body shape and rarely connected shape to diet. In WJ1, the prevalent chubbiness was celebrated using a common local saying that before they were '*langsing*' (slim) and now they are '*langseng*' (a large cooking pot in Sunda language) and all aspire to be '*langseng*'. But in the other locations, girls were much less chubby and felt this was fine. In both NTT study locations, girls were more worried about skin colour and curly hair⁴⁶. West Javan girls were also concerned about their skin colour and craved whiter skin. In WJ2, the girls wore make-up even to step outside.

3.7. Gender considerations in care and nutrition

Household decision making

The findings from this study confirm findings from other immersion studies we have conducted in Indonesia that the day to day decisions about household finances are almost always made by women. Furthermore, cash is mostly kept by women with earnings made by men generally handed over for household expenses, with men often only retaining cigarette money. The cash managed by women pays for food, snacks, toiletries, clothes, education and health costs and men generally ask their wives for money to pay for fuel, agricultural inputs and other needs. Bigger decisions such as investment in livestock, land and tertiary education are primarily joint decisions although in a few families men may dominate these decisions.

The control over the household expenses held by women means that they primarily make decisions about food and buy food themselves in the market or from kiosks and peripatetic vendors. There is very little input from men except the very occasional request for a favourite food. Prudent spending is regarded as an important quality of a '*good wife*' and where women live with in-laws this is sometimes a source of concern for daughter-in-laws who fear criticism.

Both the control over household expenses held by women and the traditional care role that women are expected to fill means that healthcare-seeking decisions are usually taken by them. They visit healthcare services, take their children for health care and purchase medicines if not provided through health insurance or if more convenient.

⁴⁶ Saying they were accused of being Papuan-like.

Feeding the family decisions

What is eaten in the family is decided by what they grow for their own consumption, what is available to gather (leaves, fish, molluscs, fruits etc), what is available in the market and levels of disposable income. Women we met do know from school and (increasingly) from health providers what constitutes a diverse/good diet but do not apply this knowledge in daily food provision. For families in NTT2, cashflow is highly dependent on the sale of agricultural products and this constrains their choice of food with access, cost and seasonal cashflow limiting fulfilment of diverse diets. By contrast, in the other study areas the main reason given for people not putting into practice their knowledge on good diet is because, they say, they prefer food that they are accustomed to (is traditional). In NTT1 there are *adat* rules forbidding some tribal groups from eating certain foods including mung bean and fish⁴⁷. Across study locations, mothers making the food choices default to traditional foods and avoid foods which might not be liked and risks being thrown away (once again indicating that prudent choices and minimising waste are valued). Cost and access to food are less of an issue in the study areas than in NTT2 but nevertheless are considerations. Preparation time and storage are other barriers related to diversifying family diets. In NTT1, women shared that although they had heard about the value of diverse diets, they had no direct experience of the benefits and therefore deferred to traditional foods. As noted elsewhere, these findings support the notion of risk aversion in deviating from social norms.

When families eat together, there is no preference given in terms of who eats what and families sit to eat at the same time. When families are eating at different times, the norm is to help oneself from food from what has already been prepared mindful of other family members needs.

Feeding pregnant women decisions

Although, there is common understanding among women and men that pregnancy requires better nutrition (sometimes a tacit understanding that the mother might need to 'eat for two') in practice, pregnant women generally eat as they did before pregnancy. Some young mothers (especially WJ2) shared that they had proactively accessed the internet to search information on

⁴⁷ Taboo foods being a key element of tribal identity.

nutrition in pregnancy and as they purchase family food had made decisions to include more fruit and vegetables. As we found in other immersion studies, husbands working outside the community often purchase additional food that they feel their pregnant wives will enjoy ('treats') such as bread and snacks. When handouts of left-over food are being made following ceremonies, pregnant women will often be prioritised. As noted elsewhere in this report, avoidance of particular foods in pregnancy is considered more important than eating better. Those with access to the internet found support for some of these unsubstantiated taboos.

Feeding of babies and young children decisions

Mothers and immediate female relatives make the decisions around breastfeeding and complementary feeding.

For breastfeeding mothers, generally there is emphasis on eating leaves (e.g. *katuk*) to stimulate breastmilk in the first few days⁴⁸ but once a pattern of breastfeeding is established then mothers shared they see no reason to eat differently. 'As long as I am healthy, then the baby is doing well'.

Decisions around feeding CU2, like maternal nutrition, are strongly influenced by women relatives (especially older women), neighbours and friends and is not generally something husbands get involved with except to ensure that the baby is eating well. Timing and composition of complementary feeding are decisions guided by the network of women influencers and based on their personal and normative experiences. Mothers seek out this advice and will follow local norms (home preparation vs purchasing packaged baby foods, testing out different textures, introducing snack foods etc) and are more likely to be influenced by the experience of others than advice from *posyandu* staff.

Care of babies

While men frame their paternal role primarily in terms of providing for the family 'as long as we are giving money for the kitchen then OK' (men, WJ1) generally, the care of young babies is regarded as 'women's responsibility'. Nevertheless, we observed through living in homes that fathers are concerned about mothers and do encourage them to take rest, help by holding babies while the mother eats and by trying to pacify crying

⁴⁸ Not beyond the first month.

babies⁴⁹ but rarely involve in bathing or changing clothes. They are engaged especially with babies over 6 months. For example, it is common in WJ2 to see fathers (and grandfathers) carrying young babies and infants to meet up with other men before *magrib*, taking an interest in ensuring they eat 'good things' and playing with their babies. In WJ1, families eat meals together and fathers are attentive to ensure that both mother and baby are eating well. In both NTT locations, fathers were keen to be involved and supportive whenever they are not at work. Some, especially in WJ1, like to post selfies of themselves playing with and carrying their babies on social media. Although most fathers did not attend to babies crying in the night in two families we lived with fathers did get up and try and help.

As observed in other immersion studies in Indonesia, babies and infants have few or no toys and are expected to play with other children once they are mobile. There is little culture of adults, mothers or fathers, playing games with and stimulating their young infants. There is no difference between the level of care provided for girls or boys although some families shared detailed observations of how boys and girls may differ in terms of development milestones, how boys and girls suckle differently (especially NTT1) and readiness to toilet train.

Work and motherhood

Across all four study locations, the norm is for mothers with CU2 not to take paid work outside the home⁵⁰. The very few whom we interacted with or heard about who were employed are often the subject of benign gossip. Others discuss whether they can be good mothers if they leave their children and wonder what motivates them to work when their responsibility is to care for their babies. The discussion between women primarily highlights the fact that these working mothers are different rather than being critical. In both WJ locations, husbands have access to construction work and reliable wages and this has created a norm that mothers of CU2 will nearly always stay at home. Even though there are plenty of work opportunities available (in small factories or piece work⁵¹ to do at home), mothers shared that they

⁴⁹ Although with the common assumption that crying is a sign of hunger, fathers defer to mothers.

⁵⁰ Although they may have had a job between school and motherhood and plan to resume working when the child starts school.

⁵¹ Packaging snacks, making false eyelashes etc.



Women can work at home or in small enterprises like this *krupuk* packaging work, but mothers with CU2 choose not to work, if they do not need to (WJ2).

do not take these jobs unless they 'really have to'. In NTT1 which only has agricultural work opportunities locally, there is a strong emphasis on girls education so that they can avail work outside (e.g. in Papua) and this delays marriage and pregnancy. Women return in order to have children and once they have CU2, it has been tradition for many generations that they will not be expected to work on family fields. Childcare is valued as mother's responsibility and only light post-harvest activities which can be carried out around childcare activities and at home are expected of them. In NTT2, the situation is more similar to the WJ locations as men are easily employed in construction and so mothers of CU2 do not work except a few who weave at home.

Household chores

Most of the household chores such as cleaning and cooking are undertaken by women. Clothes washing is undertaken weekly while dishes and sweeping the house and yard are daily activities. Only in NTT, did families have to collect water and this was generally undertaken by teenagers (boys and girls) who walked to water tanks/sources and collected water in jerry cans (carrying two by hand and sometimes a third on their head). Men help with collecting larger quantities of water and use motorbikes to do this. In NTT1, larger quantities of water had to be collected far from home and this was always done by men with motorbikes. In both NTT areas, people collect firewood for cooking but like water collection this is often a chore of teenagers (boys and girls). The amounts of firewood collected are relatively manageable as they can be collected regularly. Men will chop trees for firewood and women and teenagers generally carry the branches home.

With the prioritization given to care of CU2, it is



Teen girls and boys collect firewood in NTT 2.



Younger couples like this one living in their own home often share chores like cooking (WJ2).

expected that where possible others will undertake chores which might otherwise take mothers of CU2 away from home such as water and firewood collection. Although pregnant women sometimes are involved in these chores and there are differences in how different communities view the need to keep active in pregnancy, they are mostly absolved from heavy chores.

Planning for children

Family planning decisions are made jointly and most women and men we interacted with favour small families largely on the grounds of costs (especially education). Although the norm had been to expect to have children within the first year of marriage, we found couples often shared that they delayed this decision and that there was less social pressure than in the past.

Across study locations, parents have aspirations for their children to be better educated than they are and for them to be able to earn well, and often, to have a *'better life outside the village'*. These aspirations are shared by both mothers and fathers. We found that parents of very young children often do not think far ahead and are concerned about the immediate while older

parents with older children expressed stronger aspirations especially in regard to completing education. However, parents are not the only ones making decisions about their children as the extended family also intervenes, offers advice and opportunities with a view to ensure *'what is best for the child'*.

Female genital mutilation (FGM)

FGM is not practiced in NTT but is still practiced in a ritualised form in the WJ locations. Conversations indicated that the practice has changed recently and full cutting is rare⁵². In both WJ1 and WJ2, the more common practice is to make a small nick or pin-prick in the skin of the clitoris usually before the girl is 2 years old. It is regarded as a necessary compliance with Islamic belief in order to be *'noble'* and *'fully Islamic'*. Both parents decide whether they will pursue this for their daughters but women relatives are especially keen to follow this tradition to conform with social norms and organise celebrations around this event.

Marriage

Most young people we interacted with shared that they chose (would choose) their own partners and apart from WJ1 where there was much emphasis on the notion of *'shame'* and some expectations that dating should be discouraged and formal relations were preferable, parents neither arranged nor forced marriage. The few married teenage girls we met all indicated that they had married *'for love'* and that it had primarily been a decision they made together with their husband, who typically was about 4-6 years older than them. Generally, they explained that they had chosen to leave school themselves because they were finding it boring or they were not doing well and because they could not get jobs without school certificates they actively chose to marry. School teachers met shared similar views across study locations that perhaps one girl in SMP or SMA might become pregnant in any academic year⁵³.

⁵² The Government of Indonesia tried to ban FGM in 2006 but later, under pressure from Islamic clerics, reduced the ban to recommendations for it to be non-invasive and conducted under medical supervision. The FGM practiced in our WJ study locations would be classified under WHO as Type IV involving pricking/nicking and not a full clitoridectomy or excision.

⁵³ In NTT1, schools imposed large fines on parents of girls who become pregnant while at school (e.g. IDR 10 million). The intention is a deterrent but also a means of publicly accepting responsibility and shame which once fulfilled enables the family and the pregnant girl to be fully included once more in the community.

As noted elsewhere, early marriage does not necessarily lead to teen pregnancy and several young married couples discussed with us how they delayed their first child until they were more financially secure.

Voice and agency depends on whom one lives with

As noted elsewhere in this report, whether the wife moves to the husband's home or vice versa limits the voice and agency of the one, woman or man, moving to live with in laws. Where girls remain in their own village and husbands come to live with them (i.e. WJ1), it is easier for the young woman to make decisions. Women in WJ2 who moved into live with their husbands' families shared that they feel they have to comply with the norms of their husbands' families and feel more open to criticism. In both WJ locations even when couples can choose where they prefer to live, women generally prefer to remain with their own families for this reason. Men also feel that their influence is circumscribed by the dictates of their wives' relatives when they move into their wives' families but because they contribute wages their status may be higher than a wife within in-laws family. Older women, whether one's own family or in-laws family, are the most influential in terms of advice, information and even interference in the decisions made by young parents regarding pregnancy and the care of babies and infants.

Gender-based violence

We were particularly asked to gather insights on possible gender-based violence which might affect pregnant mothers and mothers of CU2. FGM and early marriage have already been discussed above so this section concentrates on physical, verbal and psychological abuse. We were able to talk about this during the last days of the immersion and found no evidence of gender-based violence linked to pregnancy and new motherhood. In communities where men come to live with their wife's family (WJ1, NTT1) or marry within the village (NTT2), people shared that social cohesion among the wives' relatives provides some level of protection against violence-against-women. Men were often vetted before marriage and many shared that they had less voice and the community would be hostile towards them if any problems occurred. In WJ1, people shared that *'in laws interfere a lot'*. There was much gossip in WJ1 about affairs especially because so many

men work away from home. Cheating happened on both sides but was more prevalent among men cheating on their wives and divorce is high but often encouraged in order to *'kick out'* the cheating man. In NTT2, we were told that there were domestic disputes often resulting from suspected cheating. In each case shared the wife physically assaulted their cheating husbands. In NTT1, strong language was often used between all members of families and regarded as normal and people were unperturbed by this. Despite most serious disputes being related to cheating, there was no suggestion that incidence of cheating was higher when the wife was pregnant or caring for young children. There were no cases here⁵⁴ of withholding food as punishment or other actions which might negatively affect pregnant and breast-feeding mothers.

3.8. Water, sanitation and hygiene

In both NTT1 and WJ2, water is obtained from wells, although since early 2019, a new PDAM run water tank has been installed in NTT1 which has helped to alleviate some of the water problems resulting from wells drying up in the dry season. In WJ2, during the dry season it is necessary to collect river water and sink new wells away from the houses. Spring water is collected in community tanks and piped to homes in peri-urban WJ1 and in NTT2, families collect water from a community tank. Only WJ1 has a consistent water supply throughout the year but nevertheless people do still bathe in creeks and rivers where there is open defecation.

The water shortage during the dry season in three of the four study locations (NTT1 and 2 and WJ2) impacts on sanitation and hygiene practices. For

⁵⁴ Nor have we ever come across in any other immersions in Indonesia.



Water shortages in NTT1 means that each house stores in open drums like these and use is limited.

example, toilets experienced by researchers in NTT1 were smelly and adults bathed only once or twice over the five days we lived with them. Likewise, in NTT2, adults took few baths and babies were washed by merely having water poured over them with a scoop⁵⁵. In WJ2, adults were not bathing and changed their clothes infrequently. A 2 month baby in one home we lived in was not bathed at all throughout the five days but only had her clothes changed. In NTT1 the shortage had some affect on drinking water and some were buying bottled water. Across study locations the norm was to boil water for drinking. However in NTT2 the water was only brought to boiling point and then stored in jerry cans. Elsewhere families had thermos flasks where they kept water for coffee and tea but this was also often reserved for infants to drink also.

Water for washing was stored in unlidded drums, plastic buckets and basins.

Open defecation was apparent in all study locations despite toilet provisions. In WJ1, there was concern to accelerate the toilet construction programme but more from the perspective of its peri-urban status rather than for health concerns. Here, especially men and elderly women preferred to use the river because there was plenty of water to wash with and it was *'fresher'*. Most families in NTT1 have their own toilets which they prefer to use but nevertheless will open defecate in fields. Where families had to share toilet facilities in NTT1, open defaecation was evident (covered with leaves) wherever there were few dogs which otherwise eat the faeces⁵⁶. In WJ2, the water

⁵⁵ e.g. A six month baby was washed in this way without soap throughout the researchers stay and in another family a 7 month baby was never washed throughout the five days with only a cursory bottom wipe after defecation and cleaning up by the pet dog.

⁵⁶ Immersion observations made throughout Indonesia have



Open toilet in WJ2.

shortage has exacerbated open defaecation as many (especially men) prefer to defecate near the temporary well.

Baby poo was mostly disposed of by scooping up and putting in toilets. Handwashing after dealing with baby poo was rarely observed. In NTT2, dogs were actively encouraged to eat the baby poo and clean babies bottoms. We observed soiled baby pants piled in corners of homes remaining there for several days.

Across study locations cleanliness is associated with absence of dirt and dust, not being smelly or sweaty rather than hygiene. Keeping the house and yard clean primarily involves sweeping. In WJ1 babies were washed in the river where others defecate but after drying were covered in talc and the resultant *'smelling nice'* was of key importance, even to the point of taking pride in babies looking *'pretty'* when covered in talc and scolding from female relatives of mothers whose babies were not talc covered. One young mother we lived with in WJ1 was dismayed that her baby was not washed at the *puskesmas* after birth as TBAs would have done *'I wanted my baby clean from the start'*. Water shortages means that families are keen to conserve water. In NTT1⁵⁷ this means they re-use water for washing dishes and clothes and in NTT2 clothes were only washed once per week and infants pants which had been peed on were dried in the sun and then put on again.

None of the study households washed hands before preparing food or eating but washed after eating in order to remove food smells. Food was generally prepared on wooden chopping boards on the floor and stored in open shelves, sometimes covered.

Across locations there is little done to ensure hygiene surrounding feeding of babies. We never observed mothers washing hands or nipples prior to breastfeeding and little attention was given to cleaning baby bottles, baby cups and utensils. Even in WJ1 where for the first time in all studies we have done we lived with a family that uses a proprietary cleaning solution⁵⁸, it was not used properly and after rinsing in the solution the bottles were left on the floor.

indicated that dogs eat human faeces and in some places this is actively encouraged.

⁵⁷ Pumped to homes just twice per week in the dry season.

⁵⁸ Slick costing IDR 25,000 and lasting one month.

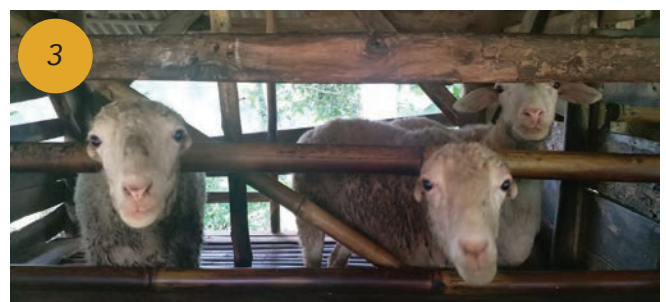
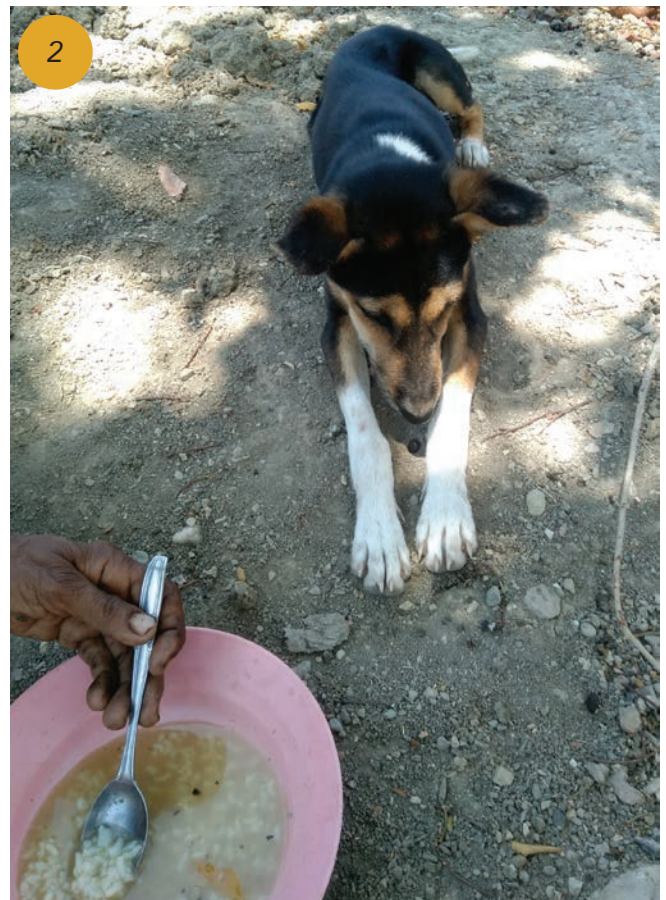
In WJ1, babies rarely wear diapers and only use disposable diapers when going out. One mother complained that when they held a ceremony at their house, the visiting mothers threw used disposable diapers behind the house *'it was so disgusting as this was not my kids poo and the chickens played around with it.'* Usually, mothers wipe soiled bottoms with the soiled pants or blankets or their hands and then wash off in the river (in preference to home toilets as it entails more work to keep clean). In NTT1, soiled disposable diapers are buried but burned in WJ2. No disposable diapers were used in NTT2 and kiosks confirmed that they rarely sold these. Across study locations pee is mopped up without water and pants changed but we never observed handwashing.

Most households across study locations burn trash periodically or bury it.

There was no understanding of the idea of germs/pathogens and in WJ 1 diarrhoea was blamed on spirits or spicy food. In NTT1 it was blamed on vaccinations and the *'chemicals in packaged food'*. Across locations nobody made any connection between cleanliness and good health.

Across study locations no concern was raised regarding living in close proximity of animals and this was often explained as something they had done without problems for generations. In WJ1, despite its peri-urban location about half of households kept goats in pens near their homes *'less effort to feed them when they are in pens close to the house'*. Children play with those which were freely grazing and only avoided animals that were *'smelly'*.

Just a few hunting dogs roam and sleep under the stilted houses. The situation was similar in WJ2 with about half of the families keeping goats and about $\frac{3}{4}$ having chickens. Here since many years ago there is a regulation to keep goats in pens. Owners collect the goat droppings once per week and use as fertiliser. Some older boys like to play with the goats but younger children often play with the chickens and cats. Here there are just a few stray dogs. While pigs and goats are penned or tethered and generally not played with in NTT2, there are many dogs kept as guard dogs and children love to play with these. As noted above they are encouraged to clean up baby faeces. In NTT1 there are also many guard dogs and cats and children play with them as well as with pigs and chickens and, like other study locations, no hand washing after playing with the animals.



1. Many cats played with in WJ2.
2. Many dogs always around in NTT2.
3. families keeping goats in pens (WJ).

Researchers commented that they did not observe rats or evidence of rat activity in homes they lived in and explained this by the prevalence of cats.

3.9. Providing information, advice and services

In NTT1, *adat* tradition requires the wife to adopt the *adat* of the husband so it is important that they are from the same *adat* tradition especially as husbands are expected to live in the wife's village. The *adat* dictates much behaviour and, in particular, food norms and restrictions⁵⁹ and is reinforced by the strong influence of mothers and grandmothers. Formerly, new husbands were required to live with their in-laws but we were told that this practice is changing in favour of young couples setting up home alone as the dominance of the wives' families was 'creating a lot of issues'.

'Sometimes it's confusing to know what to follow, the adat or the new'

- young mother, 18, NTT1.

Despite its peri-urban situation traditional beliefs prevail in WJ1 and the elderly TBA is hugely influential. Here, the preference is for a 'normal' birth at home and where there may be complications to invite the midwife to be present too. Meeting the TBA, she is an extremely affectionate and caring person and mothers told us this is in stark contrast to the midwife who is 'impatient and cold'. Young mothers shared that while they fully trust the TBA and their mothers' advice sometimes they feel conflicted. For example, it is taboo to eat fish or egg after delivering a baby to avoid a smell which might attract spirits and fruit consumption is said to delay healing but one mother shared that she had googled this and found that it was 'actually Ok'. When she passed this information on to her mother the reply was 'Who do you believe most? Me with experience or Google?' and the mother shared with us, 'I can't argue with my mother because I am worried something might happen'. Others, all of whom are high school graduates, said they like to check out information on the internet but nevertheless share their mothers deep concerns about bad spirits and want to follow tradition. An elderly women explained 'it is illogical because it is about faith'.

⁵⁹ Some prohibit eating fish, green beans, moringa, 'food that gets rained on' especially at certain times such as planting season.

'One young mother we lived with changed her one month old baby's name in the middle of the night because she was advised to do this by the shaman because the baby would not stop crying. The father was cross and felt this was unnecessary but because he lives with his in-laws, he felt he had to keep quiet'

- Field notes, WJ1.

Recently institutional birth has been strongly promoted and various approaches are taken to encourage institutional birth. In NTT1 and NTT2, substantial fines⁶⁰ are threatened for those who continue to use the TBA (or even the *polindes*⁶¹) as all births are required to take place at the *puskesmas*. However, in WJ1 where there are continuing tensions between old wisdom and modern health provision, mothers prefer to give birth at home with the much trusted TBA. The role of TBA in locations other than WJ1 have been reduced to provision of massage.

In NTT1, *adat* tradition requires mothers and their newborns to stay inside 'in warmth'⁶² for the first 40 days. Unlike the 40 day restrictions we have observed in some other parts of Indonesia⁶³, here the emphasis is on rest, recuperation and care for the mother with grandmothers taking

⁶⁰ ~IDR 500,000 in NTT1, IDR 250,000 NTT2.

⁶¹ Even though it has a resident midwife in NTT1 paid for by the Village Funds, she did not attend regularly or for more than an hour or two when she was there. Primarily she dispensed basic medicines.

⁶² Note, this is a mountainous location and night temperatures can be quite low.

⁶³ Elsewhere we have observed mothers prohibited from going outside (including making visits to *posyandu*), from eating anything but rice.



In WJ1 there remains (unusually) a strong attachment to traditional beliefs, for example a turmeric tika placed on the babies forehead protects against bad spirits.

exceptional care of baby (for the first 3 months) and the domestic chores (until 4 months). The ritual practice of 'tatobi' (applying hot compresses) is central to the care of the mother and encouraging breastfeeding. While this has a basis in modern approaches, the tradition of burning charcoal under the mother and baby's bed, discouraged by health staff, is widespread and our experience of spending time in these rooms found that the level of smoke is likely to be detrimental to respiratory health. Some compromises have been made recently to enable babies to come out of the room to expose them to sunshine and *puskesmas* staff shared that it was important to recognise and accommodate *adat* while encouraging such compromises.

All study locations have cadres who were mostly paid for through Village Funds and *puskesmas*.

The attendance and operations of *posyandu* observed in each study location varied. In NTT1, there are no reminders as 'everyone will just come'⁶⁴. In NTT2, fines⁶⁵ are threatened for non-attendance and 'since we have these fines no one has missed'. In WJ2 announcements from the mosque remind mothers but here less than

⁶⁴ On the day we observed however, there had been a death in the community and attendance was down. Nevertheless 35/45 registered babies and infants attended.

⁶⁵ IDR 25,000 per session missed.



Pregnant women in WJ1 are encouraged to wear amulets to protect them.

half attended⁶⁶ and almost no children over 2 years. Mothers told us they would only come for immunization or if vitamins were being distributed⁶⁷.

Across study locations we observed a focus on measurement rather than providing advice. Cadres were concerned to fill in very many report templates leaving no time for answering questions or giving advice. For example, in WJ2 the data was filled in away from the mothers and no explanations given. We observed that filling in these templates was often inconsistent and poor across study locations.

⁶⁶ 20/53 in one *posyandu* and 12/32 in another and this was actually an immunization day.

⁶⁷ E.g. the February vitamin A distribution.

Table 5: Health service providers in the study location

Location	Cadres	Cadre payment/ annum	Midwife	TBA
NTT1	6 (4)	350,000	two*	One elderly, banned from assisting at births
NTT2	5	900,000		Two
WJ1	5	1,000,000	two**	One, preferred home deliveries here with her
WJ2	6	600,000***	One	Few (including a male leader). Still a preference for home births in parts of the village because cheaper and TBA attends the birth quicker

* One is 'private'

** One is 'private'

*** Since July 2019



1. All *posyandu* across study locations use this system (in this case seen in NTT2) for weighing babies and it generally causes distress.
2. Lining up for weighing (WJ2).
3. Struggling to put the distressed baby in the measuring sack (NTT1).
4. Dacin scales measure to 100g accuracy.

Across all study locations the *posyandu* sessions were long and were characterised by crying babies who were frightened of being weighed in the sacks, objected to various forms of height measurement and were upset by other babies crying. Not only were the sessions noisy and distressing but not conducive to mothers asking questions as they were more concerned about consoling and distracting their babies and infants.

Only one *posyandu* (WJ1) provided any drinking water and this was packaged in small sealed cups and provided and paid for by the head of cadre. Handwashing facilities at the *posyandu* was absent⁶⁸ and there were no arrangements to dispose of baby faeces⁶⁹.

All the *posyandu* use the traditional sack and beam measuring device (known as dacin scales) for weighing babies and infants which measures to 100g accuracy. From our observations the way babies and infants are placed in the hanging sack causes distress as the child is completely enclosed by the cloth. Furthermore, when the baby or infant struggles with distress it is very difficult to make an accurate measurement. The measurements are recorded in the Pink book and plotted in the

⁶⁸ WJ1 had a public washroom nearby with toilet, basin and soap.

⁶⁹ In *posyandu* observations in other immersion studies, we have noted discarded disposable diapers behind *posyandu* buildings.

growth chart but observations indicate that even when the weight is in the lower yellow range or below the 'red line', advice or opportunities for the mother to share difficulties she is experiencing with feeding her child are extremely limited.

During 2019, we observed a marked increase in height measurements being routinely taken in *posyandu* sessions where earlier observations had indicated this rarely, if ever, happened. There is no table to record these in the Pink Book and measurements are recorded on hand drawn matrices on loose sheets of paper which are submitted to the *puskesmas* (often the nutrition staff). This system makes it difficult to trace back to the children concerned should any follow up be required. Heights are measured in a number of different ways including tailors' cloth tapes, horizontal measuring tables and stadiometers (for children who can stand unaided). As with weight measurements, we observed babies and infants typically become quite distressed. This sometimes leads to cadres abandoning attempts to measure the child or excessive manhandling. Measurements with cloth tapes clearly result in large measurement errors.

The guidelines for *posyandu* advise that there are five tables including one for counselling. This key element of the *posyandu* was nearly always absent. Even where there were malnourished



Measuring height across study locations.

babies, the counselling table was not used⁷⁰. One midwife (WJ1) said that although she knew about the 'five tables' it did not mean they needed to have them and 'since no children are under the red line here we don't give counselling'.

Any information dissemination provided was done with the whole group of mothers in a didactic manner, often requiring mothers to repeat back messages. We did not observe any one-on-one counselling, discussion or opportunities for mothers to ask questions and there were no facilities for confidential counselling.

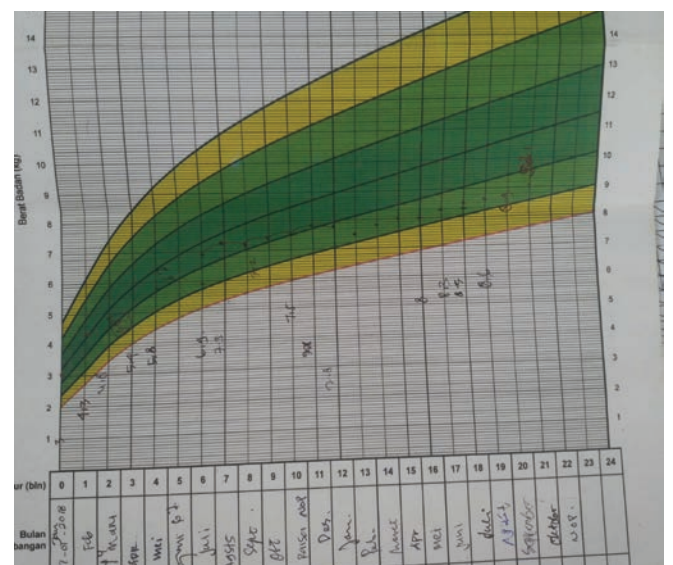
Mothers generally felt that they were not able to ask questions but rather were given instructions and told off. In WJ1 mothers felt the midwife was unfriendly and they worried that if they asked questions they would be told off and preferred the TBA who was described as *affectionate and friendly*. Because of the huge village size, the midwife only attended *posyandu* sessions every quarter as she had a rota. A further problem lay in the fact that the cadres were mostly relatives and mothers shared that this sometimes makes it difficult to share things. Even when the community likes and respects the 'kind' midwife, such as in NTT2, there is reluctance to ask for her advice.

All *posyandu* sessions observed took place in the mornings, often when it was hottest. The way they are managed with different activities in strict sequence required mothers to stay for at least two hours and in some cases longer.

The presence of snack vendors in both the West Java locations undermined any positive nutrition behaviour advice which might have been given. In WJ2, there were fried bananas and *cilok* sellers

but even more elaborate arrangements were made for selling snacks in WJ1.

Most mothers across locations rarely consult the Pink Book and in one *posyandu* in NTT2 mothers do not keep them 'we are afraid the books will be damaged' (cadres explaining why they retain the Pink Books). Sometimes *posyandu* run out of stock of Pink Books. The best known page are the growth charts which mothers generally only check to be satisfied there is an increase in weight. Mothers shared that they often could not decipher the handwriting when instructions were written in the Pink Book but, as we found in other recent studies, the notes usually only remind mothers to read particular pages of the book and are not followed. In WJ1, however, mothers were tested the following month to check if they had read the pages as instructed. Although they memorised the answers, we found that they rarely practiced what was advised.



Even though this child has been consistently 'under the red line', no special advice was provided in WJ1 *posyandu* session.

⁷⁰ E.g. in NTT2, there were seven malnourished babies at the observed *posyandu* and not one mother was given any advice.



Snacks laid out for sale at the posyandu in WJ1.

‘They want our children to be healthy so (what they do) must be good’

- grandma explaining that they don't usually understand what staff at the *posyandu* do but nevertheless trust them (NTT1).

Mothers generally get reminded about special immunization days conducted by *puskesmas* staff at *posyandu* and attendance increases even in WJ2 where normal attendance is poor. However, we found very few mothers actually knew what these immunizations were for and they shared that staff never explain but just record in the Pink Book. For example, in NTT2 the midwife simply said that as she was immunizing the babies ‘I am giving you a present’ and mothers shared that the



This midwife uses her own equipment to measure babies' heartbeats (WJ2).

BCG was administered to ‘increase appetite’ and polio vaccine ‘so the baby is not sick’.

ANC

In NTT1, ANC was provided only at the *puskesmas*⁷¹ because a local decision had been taken to not provide this in parallel with baby *posyandu* sessions in the village in order to ensure adequate resources and services. In NTT2, the small numbers of pregnant women were checked by the midwife at the *polindes* rather than the *posyandu*.

Only the two WJ locations actually ran ANC sessions at the *posyandu*.

Compliance with Pink Book guidelines

As noted before, pregnant mothers rarely attend the minimum recommended four sessions during their pregnancies. In the *posyandu* sessions observed between 5-10 pregnant women attended (WJ1 and WJ2). The Pink Book⁷² indicates what should be checked (see photo and translation). While weights are checked and recorded at all sessions in the mothers' own Pink Book, only where ANC was conducted at the *puskesmas* (NTT1) was this discussed and the main message retained was for mothers not to gain too much weight as they would risk having to have a C-section.

Blood pressure was not taken in WJ1 and in the other locations where it was taken there was no information or explanations provided except where it was high or too low when limited diet advice was given. As noted above, blood pressure measurements are associated with provision of IFA and confusion about the need for IFA regardless of blood pressure levels prevails. IFA tablets were provided in two of the *posyandu* sessions (not NTT2 or WJ2) but no explanation was provided in WJ1 and understanding from the ANC sessions held at the *puskesmas* in NTT1 was that these ‘prepare the mother for delivery’.

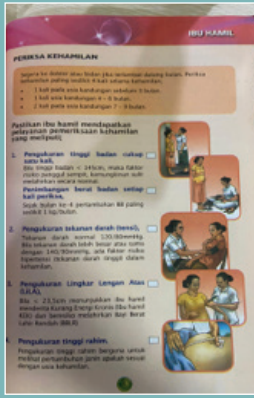
We did not observe upper arm measurements being taken in any *posyandu* observed.⁷³ No fundal height measurement or babies' heartbeat were taken in WJ1. In other ANC sessions, while these were taken there was no discussion of these measurements.

Midwives are influential in providing trusted

⁷¹ A 10 minute ojek/motorbike journey.

⁷² 2018 version page 1-3.

⁷³ Consistent with observations in other parts of Indonesia.



Pregnancy Check Up

Go to see doctor or midwife if you miss your period. Check your condition at least 4 times during pregnancy:

- 1 time before 3 months of pregnancy
- 1 time between 4-6 months
- 2 times between 7-9 months

Make sure pregnant mothers get ANC which includes:

1. Height measure one time: If the height is less than 145cm, there will be risk of small pelvis and difficulties in natural birth. Weight measure every visit: Should gain 1kg at least after the 4th month of pregnancy.
2. Blood pressure: Normal would be 120/80mmHg. If it is higher than that or equal to 140/90mmHg, there will be risk of hypertension during pregnancy.
3. Upper arm measurement: If it is <23,5 cm, indicates chronic lack of energy and having risk of low birth weight babies.
4. Measurement: This is useful to see the fetus development whether it grows according to pregnancy months.

information but as the table 6 indicates, so are female relatives and this can lead to tensions.

Fathers involvement and support varied. In NTT1, *adat* traditions expect fathers to be supportive during pregnancy, birth and during breastfeeding. Although we found that they were less knowledgeable on modern medical practices many were diligent about insisting on their wives getting the required immunizations. While in both NTT locations fathers supported immunization in WJ2, some fathers felt these *'made children sick'*. Some fathers especially in WJ locations actively *'googled'* for information on care and nutrition. Fathers across locations described their responsibilities primarily in terms of *'busy looking for cash for the family'* and women, for example in WJ1 said such things as *'he just plays mobile games'* or *'he cares more about football than my*

Table 6: Key influencers on all decisions related to care and nutrition in first 1000 days

Location	Most influential
NTT 1	Mothers/grandmothers (<i>adat</i>)
NTT2	Midwife, own mother
WJ1	TBA, older female relatives
WJ2	Midwife, other mothers

pregnancy'. However, we did meet some hands-on fathers who were anxious to support and have access to more information on how to do this.

Fathers do not attend *posyandu* sessions which are deemed women's business, except one or two exceptionally. The *suami siaga* (literally 'standby husband') programme delivered at the *posyandu* in WJ1 was targeted only at women and suggested they asked their husbands to be *'more thoughtful, cuddling and ready'*. Cadres were unconcerned that fathers were not included in *posyandu* sessions in any way.

There were no male cadres⁷⁴ although in NTT2 one man, a former PAUD teacher, was considering becoming one having been asked on the initiative of the village head.

TV watching especially among teenage girls in WJ2⁷⁵ was a common pastime. However, watching with them indicated that they took no notice of TV advertisements or information on healthy behaviours sponsored by the Ministry of Health.

Some PAUDs were observed to be trying to encourage healthy eating. For example, in WJ1, mothers were told their children should bring food from home comprising rice, noodles and egg (or tinned sardines) but the children ate only 2-3 spoonfuls and their mothers finished them off.

⁷⁴ Empatika has only ever found one community from many studies where male cadres were actively encouraged and were specifically expected to interact with fathers.

⁷⁵ Who like to watch soap operas.



Across locations fathers almost never come to *posyandu* sessions, this was a rare occasion in WJ1.

Next Steps

Following the immersion phase, a structured research phase is planned. This will be informed by a joint workshop with Empatika, Save the Children and Nutrition International where the needs for further research are identified. This further research is intended to fill gaps and provide more detail on context, knowledge, attitudes and behaviours in order to further shape the subsequent human-centred design (HCD) phase of the programme.

Members of the immersion teams will re-visit the communities where they undertook immersion and spend further days in the community working with the community to collect further data and gather additional insights into behaviour and entry points for positive behaviour change.

As this phase proceeds, it has been flagged that we are still at an early stage in the process, we should continue to keep an open mind about what HCD prototypes ('how might we' challenges) might emerge and therefore conduct the same structured research across all four locations, rather than narrowing the scope at this stage.

Annexes



Annex 1:

Observation Guide

Study participants:

While those stayed with (left hand column) should be from lower socio-economic (but not the poorest), there needs to be a wider socio-economic mix of those interacted with (right hand column).

In each location: those we intended to live with were families with	In each location; Those we intended to interact with
Pregnant mother	Mothers with CU2 in nuclear families vs living with others in extended family*
First-time mother with children under 2 (CU2)	Women/men single parents of CU2
Breastfeeding working** mother	Pregnant adolescents
	Adolescent girls - in/out school
	Other working mothers with CU2
	Young mothers 16-20 years old with CU2
	Families with CU2 with livestock & poultry
	Families with CU2 with alternative (non-parental) caregivers
	Families with CU2 who have disabilities***
Families whom the community feels experience challenges with their CU2	
Other key study participants in the community	
Health cadres	
Human development workers	
Posyandu staff	
Kiosk owners/warung owners	
Market vendors/travelling vendors	
Community influencers – religious, village government, educationists etc	

* Trying to understand locus of decision making, agency and influence

** Mother who take their breastfeeding babies with them and those who leave in the care of others

*** Only disabilities which might affect nutrition/hygiene access/practice

Notes: **Human Development Workers** – a new programme and apparently targeting ‘locus villages’ first. So far, Empatika researchers have never found one in the field and nobody has mentioned the term but we need to explore this as they may only just have been trained and deployed. This is what World Bank says about them... ‘A vital part of the government’s stunting reduction program is the Human Development Worker pilot – a collaboration between the government and the World Bank. The pilot will contract 3,105 human development workers tasked to ensure the delivery of interventions to address stunting. The workers will **help identify gaps in the services while at the same time encourage community members to use those services more often..... (they) support the convergence of services in villages by ensuring that pregnant mothers have regular prenatal check-ups, take iron supplements, consume healthy, nutritious food and have access to clean water.** They are supposed to use the length mat to measure height, and promote sanitation and complementary feeding. They are supposed to help advise on use of the dana desa (of which 30% is supposed to be allocated to stunting). They are supposed to co-ordinate with other cadres and village level service providers.

Note: As baby feeding is very different at different age stages please make sure you think terms of the following 4 phases:

- 0-6 months
- 6-9 months
- 9-12 months
- 12-23 months

1. Observations

Note: This sort of immersion requires more observations than other types of immersion study.

General:

- WASH status- usual practices, gender differences
- Eating – usual practices (timing, eating together/not; home-cooking/purchase; gender differences in amount/diversity of food eaten)
- Market functioning and availability of food; community food purchasing preferences/ use of own produce Food gathering/purchasing behaviour (day to day)

Pregnant women and breast-feeding women (also those ‘trying for a baby’)

- Eating behaviour
 - Type, diversity, frequency and quantity of foods being eaten routinely
 - Foods/drinks avoided
 - Foods/drinks specially included because they are pregnant/breast feeding
 - Food taking dynamics in the family (e.g. which foods taken/given to others, eating in the kitchen, leftovers, snacking etc.)
 - Homecooked/convenience/warung
 - Pica (pregnancy)

- Interactions at posyandu
 - response to health cadres and midwives (dynamics, understanding and acceptance of advice)
 - perceived links between measurements taken and nutrition

- taking of supplements (actual behaviour- iron tablets, vitamins, pregna-milk etc)/observation of explanations
- reaction to food provided by posyandu to take home from/feeding programmes at posyandu
- physical exertion
 - work, rest, types of physical activity encouraged/discouraged. (not just physical exertion but also time and space for rest periods.)
- IFA tablets (frequency being taken – for pregnant women and/or adolescent girls)

Complementary feeding

- Timing and frequency- any means to track how much the baby/infant consumes
- Consistency of the food and quantities
- Diversity of diet
 - Food groups/types eaten daily
 - Fortified foods (READ LABELS to know what fortified means and instructions for use) and observe if instructions for use are followed properly
 - Continued breast feeding – frequency
 - Snack foods (healthy/less healthy)
 - Additives (salt, sugar, spice, MSG)
 - Exposure to sunlight (vit D)
- Hygiene practices related to feeding (perhaps also hygiene related to cooking/food prep and food storage/ time lapse between food prep and consumption)
 - Use of and cleanliness of bottles, spoons, hands
 - Breast feeding hygiene
- Responsive feeding (feeding to 'keep children happy and quiet')
 - Who feeds, how they feed, environment
 - Encouragement, eye contact, interaction
 - Feeding sick babies/infants
- Other early childhood development aspects
 - Range of caregivers-frequency, nature and quality of interactions
 - Stimulation, play
 - Alternatives to giving food when baby fusses

WASH and babies/infants

- Management of pee/poo
 - Use of pants/disposable diapers- frequency of changing, day/night
 - Cleaning pants/ disposal of diapers
 - Disposal of infant faeces
 - Handwashing connected to infant faecal disposal etc
- Bathing /washing
 - Frequency, efficacy, perceived purpose
 - Washing hands- teething, snacking, mouth contact

- Hygiene
 - Attention to hygiene-areas where babies move/play, toys
 - Interaction with animals/livestock

Food diaries

Researchers will record in food diaries in real time what (variety and quantity of) food is eaten by

- babies and infants under 23 months
- pregnant/breast-feeding mothers over a period of 24 hours.

This involves recording EVERYTHING that is consumed (put in mouth) over a period of 24 hours (suggest do this on final 24hours but it has to be a typical day)

Insights on existing communication material

We will gather insights into communication /information sources and everyday interaction with communications (e.g. (radio), TV, social media, official sources). We will also examine the following together with mothers/caregivers, relatives in order to understand how these are valued and interpreted. Also existing communication platforms - so groups attended, community sessions etc. Not just the materials.

- Baby books- The Pink Book (where kept, value given, use and understanding)
- Nutrition communication resources at posyandu (and elsewhere) (recall, effect)
- Posters (nutrition) (recall , effect)
- Social media
- TV slots, programmes and advertisements (how the nutrition/baby hygiene messages are perceived) (Gol and private sector messages)
- Baby/infant food packaging -interpretation of pictures and labels

Photos

You will be taking photos to support the immersion research, especially those which demonstrate behaviour (e.g. responsive feeding, managing baby poo, dishes of food) and access to resources (e.g. WASH resources, markets, active posyandus etc). Please also get mothers to take photos (which also become focus of conversations) of

- What they perceive to be best foods for babies and infants
- What makes a baby happy

And take notes on why they decided to take these particular photos. Don't rush them to take the photos , they may need time to think about this.

Community data and basic household data

Rural/peri-urban; Remoteness / topography /physical access to towns, health facilities, market

Size of community, main livelihoods, culture/religion, access and use of local facilities (esp. related to health, early childhood education and support)

Access to markets, food sources (seasonal) , financial services (income smoothing) . Self-assessment of community socio-economic status.

Annex 2:

Study Team

Team Leader

Dr Dee Jupp, PhD

Project Director

Iqbal Abisaputra

Team Members

Amalina Azzahra

Krisman Pandiangan

Olivia Syafitri

Rizqan Adhima

Sauqina

Sarah Monica

Siti Alifah Farhana

Thalia Shelyndra

Victor Matanggaran

Yarra Regita

Yeni Indra

Zaenatul Nafisah

Annex 3:

Areas of Conversation

Pregnant women care and nutrition. Perceptions of own health and nutrition status; local norms re good health & wellbeing for pregnant women (healthy weight gain, signs of good health, physical exertion (workload)/rest). Views of, access to and use of antenatal care (posyandu, check-ups, USG) reasons to miss ANC; perception of advice provided, receipt and understanding of supplements, fortified food, immunization. Own purchase of supplements. 'Good' and 'bad' foods for pregnant women. Understanding of risk factors (e.g. anaemia). Religious/spiritual/old time beliefs and persisting traditions related to pregnant women. Perceptions of what is a good birth weight. Fathers views on care in pregnancy.

WASH environment for babies and infants. perceptions on cleanliness (hygiene vs dirt vs 'smelling nice'), perceptions of what hygiene provisions are needed; understanding of /protection from risk factors (pathways for pathogens). Views (positive /negative) of living in proximity of animals. (Triangulate all this with observations).

Adolescent girls and food. Attitudes and behaviours around food; knowledge of good nutrition for adolescence. Knowledge and prevention of anaemia Adolescents and sex, marriage and birth; boys and girls views & basis of views; own intentions/aspirations (priorities-education, work etc); concerns. Stigma around pre-marital sex; views on early marriage & early pregnancies; GBV as a hindrance to accessing maternal services/support; their perceptions of most disadvantaged & access to advice. Interaction with advisory services at school, posyandu, informal sources etc.

Stunting focus and activities in the community: Perceptions of the stunting issue- view of it as a priority for them; Extent to which village facilities/ services (posyandu, cadre) are resourced, knowledge of role of HDW, activities undertaken by HDWs, current perceptions and use of Village Funds (Dana Desa), especially the amount allocated for stunting activities (early childhood and other related activities e.g. WASH). Voice and accountability in allocating stunting funds & appropriateness of response.

Feeding babies and infants under 2. Early initiation of breast feeding (within 1 hr), understanding of colostrum provision; practice of exclusive breast feeding in first 6mths; views on breastfeeding- frequency/ time-scale (nutrition vs. comfort); views and use of milk formula; introduction of other foods (why , what, when and how). Views on feeding practices (where, frequency, interaction, child- led, gender differences). Views on snacking (good /bad); pestering/ response to child's food demands; basis of feeding practices- convenience, comfort, taste, availability/accessibility of food, desirability (individual and social desirability- 'perceptions of being a good mum'). Views on responsive feeding, play, stimulation, being outside (vitD) .Perception of good role models, others who struggle. Feeding 'picky eaters', sick children, those with disabilities.

Maternal care and nutrition (first year). Access and use of post-natal care (posyandu), perception of advice & supplements provided for mothers & babies, immunization, deworming practices, understanding of baby measurements (height, weight & baby books). Support & guidance given to exclusively breast feed & when there are feeding challenges,; trusted influencers & sources of information (personal, social media, health service providers etc). Disconnects between information/advice provided & practice. Barriers /obstacles to changing behaviour (knowing vs doing) from mothers perspectives. Mothers stress (physical, emotional and psychological)- working mothers (breast-feeding, managing care). Parenting roles/expectations (gender dynamics). Fathers views on maternal care.

Nutrition and care services. Knowledge/attitudes and practice of informal & formal service providers towards mothers (trust, friendliness, time, patience etc) home visits. Disconnects between information/ advice provided & practice (provider views). Counselling vs lecturing; interaction with adolescent mothers, adolescent girls (hindering/helping factors for adolescents to be supported); nature and value of support provided during 1000 days/frequency of interactions; mothers/fathers perceptions of health providers and HDWs. Motivation/incentives for health staff to support 'first 1000 days'.

Gender and gender-based violence. Women's experience of GBV whilst pregnant (increase / decrease, causes, as described by women and men). GBV as a barrier to self-care – does it prevent women from getting rest and sharing HH tasks. Knowledge and attitude of service providers towards GBV. Willingness to support / report. Women's experience of GBV during first year w/ new baby, including increase/decrease, causes. Contribution of GBV to mothers' stress. Girls' and boys' attitudes to gender roles in the home (responsibility for sharing HH tasks, child- care etc.)

